

INFORMATION HANDOUT

**For Contract No. 07-2159U4
At 07-LA,Ora-5-0.0/1.5, 44.3/44.4**

**Identified by
Project ID 0715000160**

PERMITS

United States Army Corps of Engineers - Section 408

United States Army Corps of Engineers - Section 404

Los Angeles County Department of Public Work Permit # PCFL 201404500

Los Angeles County Department of Public Works Permit # PCFL 201202742

Los Angeles County Department of Public Works Permit # PCFL 201300613

Los Angeles Regional Water Quality Control Board

ENCROACHMENT PERMITS

Orange County Department of Public Works

RAILROAD RELATIONS

Railroad Relations

07-2159U4
07-LA,Ora-5-0.0/1.5, 44.3/44.4
Project ID 0715000160

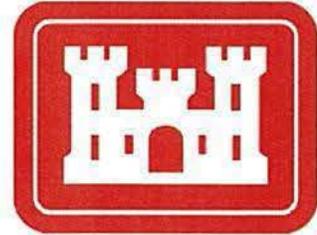
MATERIALS INFORMATION

Revised Foundation Report for Valley View OH/OC (replace), Bridge No. 53-3045, dated 7/11/2013
Revised Foundation Report for Valley View Avenue SB Off Ramp, Bridge No. 53-3058K, dated 7/11/2013
Revised Foundation Report for Valley View Avenue SB On Ramp, Bridge No. 53-3059K, dated 7/11/2013
Foundation Report for NB Valley View Avenue/S. Firestone Blvd., Bridge No. 53C-2295, dated 8/29/2013
Foundation Report for SB Valley View Avenue/S. Firestone Blvd., Bridge No. 53C-2296, dated 07/02/2015
Foundation Report for N. Firestone Blvd. Bridge, Bridge No. 53C-2194, dated 5/30/2013
Foundation Report for Coyote Creek Bridge (replace), Bridge No. 53-3044, dated 5/30/2013
Addendum Foundation Report - Coyote Creek Bridge, Bridge No. 53-3044, dated 6/24/15
Revised Foundation Report for Retaining Walls 52, 55, 68, 69, 70, 73, 80, VA85, SF3, SF4, DW87, DW88, VA87, VA88, VA103, VA104, VA107, VA108, VA109, DW108, NF65, DW109, NF66, dated 07/16/2013
Foundation Report for Retaining Walls RWFIR4 & RWFIR5 dated 08/29/2013
Revised Foundation Report for Retaining Walls RWFIR7 & RWFIR8 dated 07/02/2015
Revised Foundation Report for Retaining Walls 2, 8, NF 60, AC62, AC63, NF62 & TR3 dated 06/20/2013,
Final Hydraulic Report (Coyote Creek Bridge (replace), Bridge No. 53-3044) dated 12/23/2011
Foundation Report (Addendum) for Retaining Wall 2 and 8 dated 12/3/2013
Supplemental Report for 5 Valley View bridges, North Firestone & Coyote Creek Bridges dated 1/6/2014
Foundation Report (Addendum) for Valley View OH/OC (replace), Bridge No. 53-3045, dated 3/17/2014
Aerially Deposited Lead Investigation Report
Right-of-Way Information
Geotechnical Design Report for Trenchless Culvert

**UNITED STATES ARMY
CORPS OF ENGINEERS
Section 408**



DEPARTMENT OF THE ARMY
33 U.S.C. § 408 PERMIT
U. S. Army Corps of Engineers
Los Angeles District



PERMITTEE/LOCAL SPONSOR: County of Orange, P.O. Box 4048, Santa Ana, California 92702-4048

PERMIT NUMBER: EE2011-075

ISSUING OFFICE: U.S. Army Corps of Engineers, Los Angeles District, Engineering Division

CORPS PERMIT COORDINATOR: Ms. Huma Nisar, (213) 452-3665,
spl.408permits@usace.army.mil

AFFECTED FEDERAL PROJECT AND DESCRIPTION: Coyote Creek Channel

LOCATION: LAT 33.88094N (33° 51' 10.14"N) , LON 118.02304W (118° 02' 00.11"W)

APPROVED MODIFICATION OR ALTERATION OF THE FEDERAL PROJECT:
Permission is granted to the California Department of Transportation (Caltrans) to construct and maintain a 110 foot bridge extension (Bridge No. 53-3044) and relocate the North Firestone Blvd Bridge (Bridge No.53C2 194) for the Interstate Route 5 (I-5) Widening Project within a portion of Orange County Flood Control District's Coyote Creek Channel right-of-way.

PERMIT CONDITIONS

I. General Conditions

1. The United States shall not be responsible for damages to property or injuries to persons which may arise from or be incident to the construction, operation, maintenance, repair, rehabilitation and replacement of the Authorized Activity, or for damages to the Federal Project. Permittee shall hold the United States harmless from any and all such claims not including damages due to the fault or negligence of the United States or its contractors.
2. Permittee shall comply with all applicable federal laws and regulations and with all applicable laws, ordinances and regulations of the state, county and municipality wherein the Federal Project is located, including, but not limited to, those regarding construction, health, safety, water supply, sanitation, use of pesticides, and licenses or permits necessary for the Authorized Activity.

3. Permittee shall maintain the Authorized Activity in good condition and in conformance with the terms and conditions of this Permit. Permittee shall not be relieved of this requirement even if the Authorized Activity is abandoned. Should the Permittee wish to cease to maintain the Authorized Activity or desire to abandon it, Permittee must obtain from the Corps a modification of this permit, which may require additional construction activities to abandon the facility.
4. If previously unknown historic or archeological remains are discovered in carrying out the Authorized Activity, Permittee must cease activity, protect the site and immediately notify the Corps. The Corps will initiate Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
5. If the scope or details of the Authorized Activity change from the approved plans and specifications upon which this Permit is based, the Permittee must resubmit the permit application with the permit number and revisions clearly identified. Work associated with the Authorized Activity that does not pertain to the revised portion of the project, may continue while the revisions are being reviewed unless the Corps indicates otherwise.
6. Permittee shall keep the Permit Coordinator apprised of anticipated start and completion date of construction to the Permit Coordinator.
7. Permittee is required to invite the Permit Coordinator to an onsite kickoff meeting after the construction contract is awarded and prior to the date work is expected to begin. Permittee shall provide the Corps with the date, time and location of the meeting at least one week prior to the meeting, along with a copy of the construction schedule.
8. Permittee is required to allow Corps representatives to inspect the Authorized Activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of this Permit.
9. Permittee shall oversee the conduct of the work and ensure the Authorized Activity is being constructed in accordance with the approved plans and specifications.
10. Upon completion of the Authorized Activity, Permittee shall submit electronic copies of the as-built plans of the Authorized Activity to the Corps, which are signed by the Permittee's engineer of record. Electronic copies of the as-built plans shall be in pdf format.
11. Granting of this Permit does not authorize work in waters of the United States. Work shall not begin in waters of the United States until Permittee first obtains a Department of the Army permit for activities which involve the discharge of dredge or fill material or the placement of fixed structures in the waters of the

United States, pursuant to the provisions of Section 10 of the Rivers and Harbors Act of (33 USC 403), and Section 404 of the Clean Water Act (33 USC 1344).

12. Should construction activities fail to commence within two (2) years after execution of the effective date of this Permit, this Permit shall be temporarily revoked upon further examination by the Corps. Work shall not begin until the Corps has examined this Permit and determines that the Permit conditions are sufficient or until new Permit conditions are incorporated.

II. Special Conditions

1. The Permittee must submit a completed Site Access Coordination form found here:
[\[http://www.spl.usace.army.mil/Missions/CivilWorks/ReservoirRegulation.aspx\]](http://www.spl.usace.army.mil/Missions/CivilWorks/ReservoirRegulation.aspx), under 'Contact Us' see "LAD Site Access Form"].
2. The field Point-of-Contact (POC) identified in the Site Access Form must contact the Reservoir Operations Center (ROC) at least two (2) business days prior to commencement of work by either calling (213) 452-3623 (leave a message) or email [ROC-LA@usace.army.mil].
3. Construction schedule must adhere to CESPL-ED-HH policy "Channel Improvement Construction Limitations for Permits", dated April 2008. Attached

By signing this 33 U.S.C. Section 408 Permit, you are accepting the terms and conditions contained within the General Conditions and Special Conditions of this Permit.


 Kevin Onuma, P.E.
 Deputy Director
 OC Infrastructure Programs Manager

1/22/15
 Date


 Richard J. Leifield, P.E.
 Chief, Engineering Division
 Los Angeles District
 U.S. Army Corps of Engineers

2/17/15
 Date

**UNITED STATES ARMY
CORPS OF ENGINEERS
Section 404**



DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, U.S. ARMY CORPS OF ENGINEERS
915 WILSHIRE BOULEVARD, SUITE 930
LOS ANGELES, CALIFORNIA 90017-3401

June 2, 2015

Paul D. Caron, Senior District Biologist
California Department of Transportation, District 7
ATTN: Mary Ngo
100 South Main Street, MS-16A
Los Angeles, California 90012

DEPARTMENT OF THE ARMY NATIONWIDE PERMIT VERIFICATION

Dear Mr. Caron:

This letter is in reply to your request (SPL-2014-00714-SJH), dated March 26, 2015, for a Department of the Army permit for your proposed project, Caltrans Interstate (I) 5, Segment 2 Bridge Widening over Coyote Creek Channel. The proposed project is located on I-5, at Post Mile 0.34 and Coyote Creek Bridge, within the concrete-lined Coyote Creek Flood Control Channel, in the community of La Mirada, Los Angeles County, California.

Because this project would result in a temporary discharge of fill material into waters of the United States, a Department of the Army permit is required pursuant to section 404 of the Clean Water Act (33 USC 1344; 33 CFR parts 323 and 330).

I have determined construction of your proposed project, if constructed as described in your application, would comply with Nationwide Permit (NWP) 14, Linear Transportation Projects. Specifically, and as shown on the enclosed drawings, you are authorized to:

1. Temporarily impact 0.97 acre (595 feet) of concrete-lined flood control channel associated with the widening of Coyote Creek Bridge and placement of a 60-inch and a 30-inch reinforced-concrete pipe (RCP) storm drain connection to the existing outlet structures. A total of 1,325 cubic yards of fill material will be removed for these activities.

For this NWP verification letter to be valid, you must comply with all of the terms and conditions in Enclosure 1. Furthermore, you must comply with the non-discretionary Special Conditions listed below:

1. The Permittee shall comply with the terms and conditions of the Technically-Conditioned Clean Water Act, section 401 Water Quality Certification (12-046) issued on 26 May 2015.
2. The Permittee shall comply with the terms and conditions of the U.S. Army Corps of Engineers, Section 408 (33 U.S.C. Section 408 or Section 14 of the Rivers and Harbors Act) permit number: EE2011-075, dated 17 February 2015.

3. Prior to initiating construction in waters of the U.S., the Permittee shall submit to the Corps Regulatory Division a complete set of final detailed grading/construction plans showing all work and structures in waters of the U.S. All plans shall be in compliance with the Final Map and Drawing Standards for the South Pacific Division Regulatory Program dated August 6, 2012 (<http://www.spd.usace.army.mil/Portals/13/docs/regulatory/standards/map.pdf>). All plan sheets shall be signed, dated, and submitted on paper no larger than 11x 17 inches. No work in waters of the U.S. is authorized until the Permittee receives, in writing (by letter or e-mail), Corps Regulatory Division approval of the final detailed grading/construction plans. The Permittee shall ensure that the project is built in accordance with the Corps Regulatory Division-approved plans.
4. The Permittee shall clearly mark the limits of the workspace with flagging or similar means to ensure mechanized equipment does not enter avoided waters of the U.S. Adverse impacts to waters of the U.S. beyond the Corps Regulatory Division-approved construction footprint are not authorized. Such impacts could result in permit suspension and revocation, administrative, civil or criminal penalties, and/or substantial, additional, compensatory mitigation requirements
5. No later than one month following completion of authorized work in waters of the U.S., the Permittee shall ensure all sites within waters of the U.S. subject to authorized, temporary impacts are restored to pre-project alignments, elevation contours, and conditions to the maximum extent practicable to ensure expeditious resumption of aquatic resource functions. No later than 45 calendar days following completion of authorized work in waters of the U.S., the Permittee shall submit a memorandum documenting compliance with this special condition.

This verification is valid through **March 18, 2017**. If on March 18, 2017 you have commenced or are under contract to commence the permitted activity you will have an additional twelve (12) months to complete the activity under the present NWP terms and conditions. However, if I discover noncompliance or unauthorized activities associated with the permitted activity I may request the use of discretionary authority in accordance with procedures in 33 CFR § 330.4(e) and 33 CFR §§ 330.5(c) or (d) to modify, suspend, or revoke this specific verification at an earlier date. Additionally, at the national level the Chief of Engineers, any time prior to March 18, 2017, may choose to modify, suspend, or revoke the nationwide use of a NWP after following procedures set forth in 33 CFR § 330.5. It is incumbent upon you to comply with all of the terms and conditions of this NWP verification and to remain informed of any change to the NWPs.

A NWP does not grant any property rights or exclusive privileges. Additionally, it does not authorize any injury to the property, rights of others, nor does it authorize interference with any existing or proposed Federal project. Furthermore, it does not obviate the need to obtain other Federal, state, or local authorizations required by law.

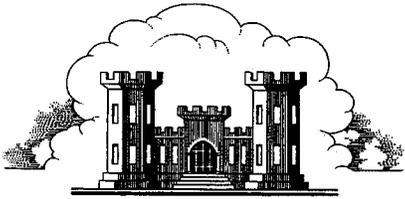
Thank you for participating in the regulatory program. If you have any questions, please contact Stephanie Hall at (213) 452-3410 or via e-mail at Stephanie.J.Hall@usace.army.mil. Please help me to evaluate and improve the regulatory experience for others by completing the customer survey form at http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey.

Sincerely,

A handwritten signature in black ink, appearing to read 'D. Swenson', with a long horizontal flourish extending to the right.

Daniel P. Swenson, D. Env.
Acting Deputy Chief, Regulatory Division

Enclosures



**LOS ANGELES DISTRICT
U.S. ARMY CORPS OF ENGINEERS**

**CERTIFICATE OF COMPLIANCE WITH
DEPARTMENT OF THE ARMY NATIONWIDE PERMIT**

Permit Number: *SPL-2014-00714-SJH*

Name of Permittee: *California Department of Transportation, District 7 (POC: Paul Caron)*

Date of Issuance: June 2, 2015

Upon completion of the activity authorized by this permit and the mitigation required by this permit, sign this certificate, and return it by **ONE** of the following methods;

1) Email a digital scan of the signed certificate to Stephanie.J.Hall@usace.army.mil
OR

2) Mail the signed certificate to
U.S. Army Corps of Engineers, Los Angeles District
ATTN: Regulatory Division, SPL-2014-00714-SJH
915 Wilshire Boulevard, Suite 930
Los Angeles, California 90017-3401

I hereby certify that the authorized work and any required compensatory mitigation has been completed in accordance with the NWP authorization, including all general, regional, or activity-specific conditions. Furthermore, if credits from a mitigation bank or in-lieu fee program were used to satisfy compensatory mitigation requirements I have attached the documentation required by 33 CFR § 332.3(l)(3) to confirm that the appropriate number and resource type of credits have been secured.

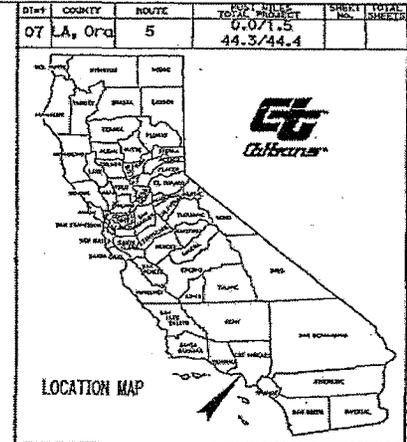
Signature of Permittee

Date

INDEX OF PLANS

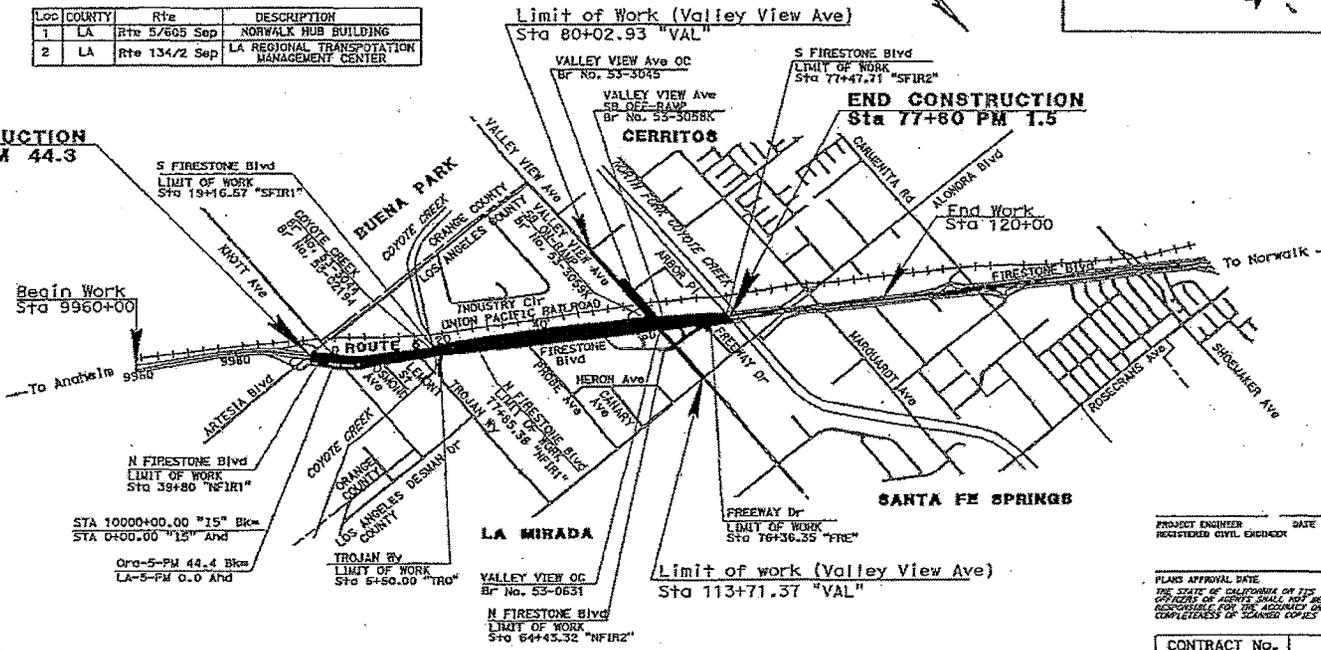
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN LOS ANGELES AND ORANGE COUNTIES
IN BUENA PARK, LA MIRADA, CERRITOS AND SANTA FE SPRINGS
FROM ARTESIA BOULEVARD UNDERCROSSING
TO NORTH FORK COYOTE CREEK
AND AT THE LOS ANGELES REGIONAL TRANSPORTATION
MANAGEMENT CENTER AND AT THE NORWALK HUB BUILDING

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2010



Loc	County	Rte	DESCRIPTION
1	LA	Rte 5/605 Sep	NORWALK HUB BUILDING
2	LA	Rte 134/2 Sep	LA REGIONAL TRANSPORTATION MANAGEMENT CENTER

BEGIN CONSTRUCTION
Sta 9994+15 PM 44.3



PROJECT ENGINEER
DIANA YASSER

PROJECT ENGINEER: DATE: REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE: THE STATE OF CALIFORNIA ON ITS OFFICIALS OF RECORD SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

CONTRACT No.	07-215924
PROJECT ID	070001832

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

BORDER LAST REVISED 7/2/2010 CALTRANS WEB SITE IS: [HTTP://WWW.DOT.CA.GOV/](http://www.dot.ca.gov/)

RELATIVE BORDER SCALE 0 1 2 3

USERNAME → s111401 DFN FILE → 1215222001.dgn

UNIT 1795 PROJECT NUMBER & PHASE 0700018321

2010 07 21 11:40:01
DIA YASSER → 08:35
07-00-00-00

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Ed Caltan
 HYDRAULICS

FUNCTIONAL SUPERVISOR

REVISOR BY
 DATE REVISED

CALCULATED-CHECKED BY
 CHECKED BY

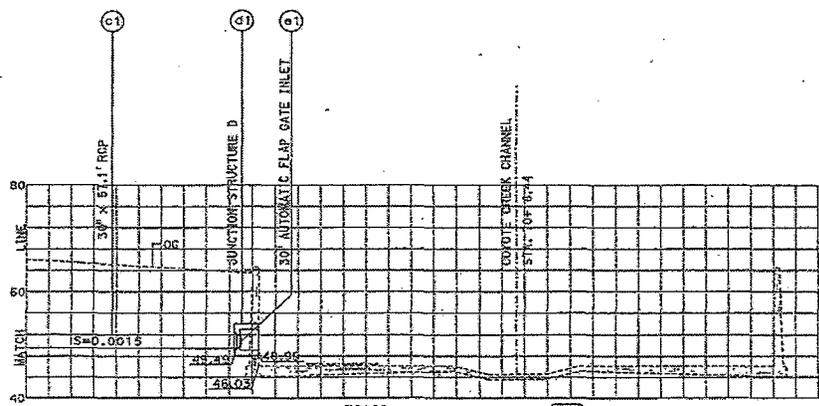
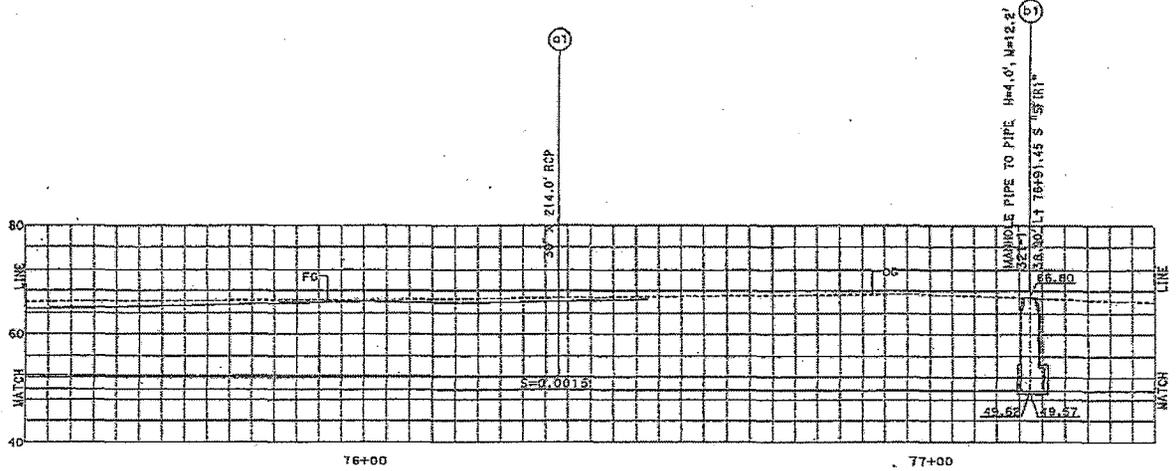
Dist	COUNTY	ROUTE	PROJECT MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA, Orc	05	0.0/1.5 43.3/44.4		

REGISTERED CIVIL ENGINEER DATE _____
 PLANS APPROVAL DATE _____

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.



NOTE: THE CONTRACTOR SHALL VERIFY LOCATIONS AND ELEVATIONS OF EXISTING DRAINAGE SYSTEMS BEFORE COMMENCEMENT OF WORK.

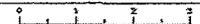


DRAINAGE SYSTEM No. 16-3
 SCALE: 1"=10' Horiz
 1"=10' Vert

DRAINAGE PROFILE
 SCALE: AS SHOWN
 DP-XX

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE
 15 IN INCHES



USERNAME: cu127850
 DGN FILE: cu127850.dgn

CU 07312

EA 219921

CALIFORNIA REGISTERED PROFESSIONAL ENGINEER
 00-00-00, THIS COPIED 02-13-16

Temporary Construction Access Routes

North Fork Channel Access to Invert at Confluence with North Fork



Enclosure 1: NATIONWIDE PERMIT NUMBER(S) NWP 14 Linear Transportation Projects. TERMS AND CONDITIONS

1. Nationwide Permit(s) NWP 14 Linear Transportation Projects. Terms:

Your activity is authorized under Nationwide Permit Number(s) NWP 14 Linear Transportation Projects, subject to the following terms:

14. Linear Transportation Projects. Activities required for the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge cannot cause the loss of greater than 1/2-acre of waters of the United States. For linear transportation projects in tidal waters, the discharge cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project. This NWP also authorizes temporary structures, fills, and work necessary to construct the linear transportation project. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate. This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars. Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10 acre; or (2) there is a discharge in a special aquatic site, including wetlands. (See general condition 27.) (Sections 10 and 404) Note: Some discharges for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under Section 404(f) of the Clean Water Act (see 33 CFR 323.4).

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as appropriate, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP.

2. Nationwide Permit General Conditions: The following general conditions must be followed in order for any authorization by an NWP to be valid:

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.
(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.
(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of

the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species.
3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.
4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.
5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.
6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).
7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.
8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.
9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).
10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.
12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.
13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.
14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.
15. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.
16. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).
17. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.
18. Endangered Species. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.
(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address ESA compliance for the NWP activity, or whether additional ESA consultation is necessary.
(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the

project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that might be affected by the proposed work or that utilize the designated critical habitat that might be affected by the proposed work. The district engineer will determine whether the proposed activity “may affect” or will have “no effect” to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps’ determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have “no effect” on listed species or critical habitat, or until Section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWP.

(e) Authorization of an activity by a NWP does not authorize the “take” of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with “incidental take” provisions, etc.) from the U.S. FWS or the NMFS, The Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word “harm” in the definition of “take” means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide web pages at <http://www.fws.gov/> or <http://www.fws.gov/ipac> and <http://www.noaa.gov/fisheries.html> respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for obtaining any “take” permits required under the U.S. Fish and Wildlife Service’s regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The permittee should contact the appropriate local office of the U.S. Fish and Wildlife Service to determine if such “take” permits are required for a particular activity.
20. Historic Properties. (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.
- (b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address section 106 compliance for the NWP activity, or whether additional section 106 consultation is necessary.
- (c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed on,

determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of Section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties on which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters. Critical resource waters include NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.
- (a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.
- (b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 31, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.
23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:
- (a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).
- (b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.
- (c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse effects of the proposed activity are minimal, and provides a project-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.
- (1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in minimal adverse effects on the aquatic environment.
- (2) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.
- (3) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) – (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)).

(4) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided.

(5) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream rehabilitation, enhancement, or preservation, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the restoration or establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to establish a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or establishing a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(g) Permittees may propose the use of mitigation banks, in-lieu fee programs, or separate permittee-responsible mitigation. For activities resulting in the loss of marine or estuarine resources, permittee-responsible compensatory mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.
26. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.
27. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.
28. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.
29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

“When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.”

(Transferee)

(Date)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and any required

compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

- (a) A statement that the authorized work was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;
- (b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and
- (c) The signature of the permittee certifying the completion of the work and mitigation.

31. Pre-Construction Notification. (a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

- (1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or
 - (2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer.
- However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 20 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

- (1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed project;

(3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause, including the anticipated amount of loss of water of the United States expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(4) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(5) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse effects are minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

(7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

(2) For all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States, for NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300

linear feet of intermittent and ephemeral stream bed, and for all NWP 48 activities that require pre-construction notification, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects to the aquatic environment of the proposed activity are minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(4) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

3. Regional Conditions for the Los Angeles District:

In accordance with General Condition Number 27, "Regional and Case-by-Case Conditions," the following Regional Conditions, as added by the Division Engineer, must be met in order for an authorization by any Nationwide to be valid:

1. For all activities in waters of the U.S. that are suitable habitat for federally listed fish species, the permittee shall design all road crossings to ensure that the passage and/or spawning of fish is not hindered. In these areas, the permittee shall employ bridge designs that span the stream or river, including pier- or pile-supported spans, or designs that use a bottomless arch culvert with a natural stream bed, unless determined to be impracticable by the Corps.
2. Nationwide Permits (NWP) 3, 7, 12-15, 17-19, 21, 23, 25, 29, 35, 36, or 39-46, 48-52 cannot be used to authorize structures, work, and/or the discharge of dredged or fill material that would result in the "loss" of wetlands, mudflats, vegetated shallows or riffle and pool complexes as defined at 40 CFR Part 230.40-45. The definition of "loss" for this regional condition is the same as the definition of "loss of waters of the United States" used for the Nationwide Permit Program. Furthermore, this regional condition applies only within the State of Arizona and within the Mojave and Sonoran (Colorado) desert

regions of California. The desert regions in California are limited to four USGS Hydrologic Unit Code (HUC) accounting units (Lower Colorado -150301, Northern Mojave-180902, Southern Mojave-181001, and Salton Sea-181002).

3. When a pre-construction notification (PCN) is required, the appropriate U.S. Army Corps of Engineers (Corps) District shall be notified in accordance with General Condition 31 using either the South Pacific Division PCN Checklist or a signed application form (ENG Form 4345) with an attachment providing information on compliance with all of the General and Regional Conditions. The PCN Checklist and application form are available at: <http://www.spl.usace.army.mil/missions/regulatory>. In addition, the PCN shall include:
 - a. A written statement describing how the activity has been designed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States;
 - b. Drawings, including plan and cross-section views, clearly depicting the location, size and dimensions of the proposed activity as well as the location of delineated waters of the U.S. on the site. The drawings shall contain a title block, legend and scale, amount (in cubic yards) and area (in acres) of fill in Corps jurisdiction, including both permanent and temporary fills/structures. The ordinary high water mark or, if tidal waters, the mean high water mark and high tide line, should be shown (in feet), based on National Geodetic Vertical Datum (NGVD) or other appropriate referenced elevation. All drawings for projects located within the boundaries of the Los Angeles District shall comply with the most current version of the *Map and Drawing Standards for the Los Angeles District Regulatory Division* (available on the Los Angeles District Regulatory Division website at: www.spl.usace.army.mil/missions/regulatory/); and
 - c. Numbered and dated pre-project color photographs showing a representative sample of waters proposed to be impacted on the project site, and all waters proposed to be avoided on and immediately adjacent to the project site. The compass angle and position of each photograph shall be documented on the plan-view drawing required in subpart b of this regional condition.
4. Submission of a PCN pursuant to General Condition 31 and Regional Condition 3 shall be required for all regulated activities in the following locations:
 - a. All perennial waterbodies and special aquatic sites within the State of Arizona and within the Mojave and Sonoran (Colorado) desert regions of California, excluding the Colorado River in Arizona from Davis Dam to River Mile 261 (northern boundary of the Fort Mojave Indian Tribe Reservation). The desert region in California is limited to four USGS HUC accounting units (Lower Colorado -150301, Northern Mojave-180902, Southern Mojave-181001, and Salton Sea-181002).
 - b. All areas designated as Essential Fish Habitat (EFH) by the Pacific Fishery Management Council (i.e., all tidally influenced areas - Federal Register dated March 12, 2007 (72 FR 11092)), in which case the PCN shall include an EFH assessment and extent of proposed impacts to EFH. Examples of EFH habitat assessments can be found at: <http://www.swr.noaa.gov/efh.htm>.
 - c. All watersheds in the Santa Monica Mountains in Los Angeles and Ventura counties bounded by Calleguas Creek on the west, by Highway 101 on the north and east, and by Sunset Boulevard and Pacific Ocean on the south.
 - d. The Santa Clara River watershed in Los Angeles and Ventura counties, including but not limited to Aliso Canyon, Agua Dulce Canyon, Sand Canyon, Bouquet Canyon, Mint Canyon, South Fork of the Santa Clara River, San Francisquito Canyon, Castaic Creek, Piru Creek, Sespe Creek and the main-stem of the Santa Clara River.

5. Individual Permits shall be required for all discharges of fill material in jurisdictional vernal pools, with the exception that discharges for the purpose of restoration, enhancement, management or scientific study of vernal pools may be authorized under NWP 5, 6, and 27 with the submission of a PCN in accordance with General Condition 31 and Regional Condition 3.
6. Individual Permits shall be required in Murrieta Creek and Temecula Creek watersheds in Riverside County for new permanent fills in perennial and intermittent watercourses otherwise authorized under NWP 29, 39, 42 and 43, and in ephemeral watercourses for these NWP 14 is used in conjunction with residential, commercial, or industrial developments the 0.1 acre limit would also apply.
7. Individual Permits (Standard Individual Permit or 404 Letter of Permission) shall be required in San Luis Obispo Creek and Santa Rosa Creek in San Luis Obispo County for bank stabilization projects, and in Gaviota Creek, Mission Creek and Carpinteria Creek in Santa Barbara County for bank stabilization projects and grade control structures.
8. In conjunction with the Los Angeles District's Special Area Management Plans (SAMPs) for the San Diego Creek Watershed and San Juan Creek/Western San Mateo Creek Watersheds in Orange County, California, the Corps' Division Engineer, through his discretionary authority has revoked the use of the following 26 selected NWP within these SAMP watersheds: 03, 07, 12, 13, 14, 16, 17, 18, 19, 21, 25, 27, 29, 31, 33, 39, 40, 41, 42, 43, 44, 46, 49, and 50. Consequently, these NWP are no longer available in those watersheds to authorize impacts to waters of the United States from discharges of dredged or fill material under the Corps' Clean Water Act section 404 authority.
9. Any requests to waive the 300 linear foot limitation for intermittent and ephemeral streams for NWP 29, 39, 40 and 42, 43, 44, 51 and 52 or to waive the 500 linear foot limitation along the bank for NWP 13, must include the following:
 - a. A narrative description of the stream. This should include known information on: volume and duration of flow; the approximate length, width, and depth of the waterbody and characters observed associated with an Ordinary High Water Mark (e.g. bed and bank, wrack line, or scour marks); a description of the adjacent vegetation community and a statement regarding the wetland status of the associated vegetation community (i.e. wetland, non-wetland); surrounding land use; water quality; issues related to cumulative impacts in the watershed, and; any other relevant information.
 - b. An analysis of the proposed impacts to the waterbody in accordance with General Condition 31 and Regional Condition 3;
 - c. Measures taken to avoid and minimize losses, including other methods of constructing the proposed project; and
 - d. A compensatory mitigation plan describing how the unavoidable losses are proposed to be compensated, in accordance with 33 CFR Part 332.
10. The permittee shall complete the construction of any compensatory mitigation required by special condition(s) of the NWP verification before or concurrent with commencement of construction of the authorized activity, except when specifically determined to be impracticable by the Corps. When mitigation involves use of a mitigation bank or in-lieu fee program, the permittee shall submit proof of payment to the Corps prior to commencement of construction of the authorized activity.

4. Further information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:
 - () Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
 - (X) Section 404 of the Clean Water Act (33 U.S.C. 1344).
 - () Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).
2. Limits of this authorization.
 - (a) This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
 - (b) This permit does not grant any property rights or exclusive privileges.
 - (c) This permit does not authorize any injury to the property or rights of others.
 - (d) This permit does not authorize interference with any existing or proposed Federal project.
3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:
 - (a) Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
 - (b) Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
 - (c) Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
 - (d) Design or construction deficiencies associated with the permitted work.
 - (e) Damage claims associated with any future modification, suspension, or revocation of this permit.
4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.
5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:
 - (a) You fail to comply with the terms and conditions of this permit.
 - (b) The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
 - (c) Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 330.5 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measure ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. This letter of verification is valid for a period not to exceed two years unless the nationwide permit is modified, reissued, revoked, or expires before that time.
7. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition H below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
8. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished with the terms and conditions of your permit.

**NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND
REQUEST FOR APPEAL**

Applicant: California Department of Transportation District 7		File Number: SPL-2014-00714-SJH	Date: June 2, 2015
Attached is:			See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A	
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B	
	PERMIT DENIAL	C	
	APPROVED JURISDICTIONAL DETERMINATION	D	
X	PRELIMINARY JURISDICTIONAL DETERMINATION	E	

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/cecw/pages/reg_materials.aspx or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

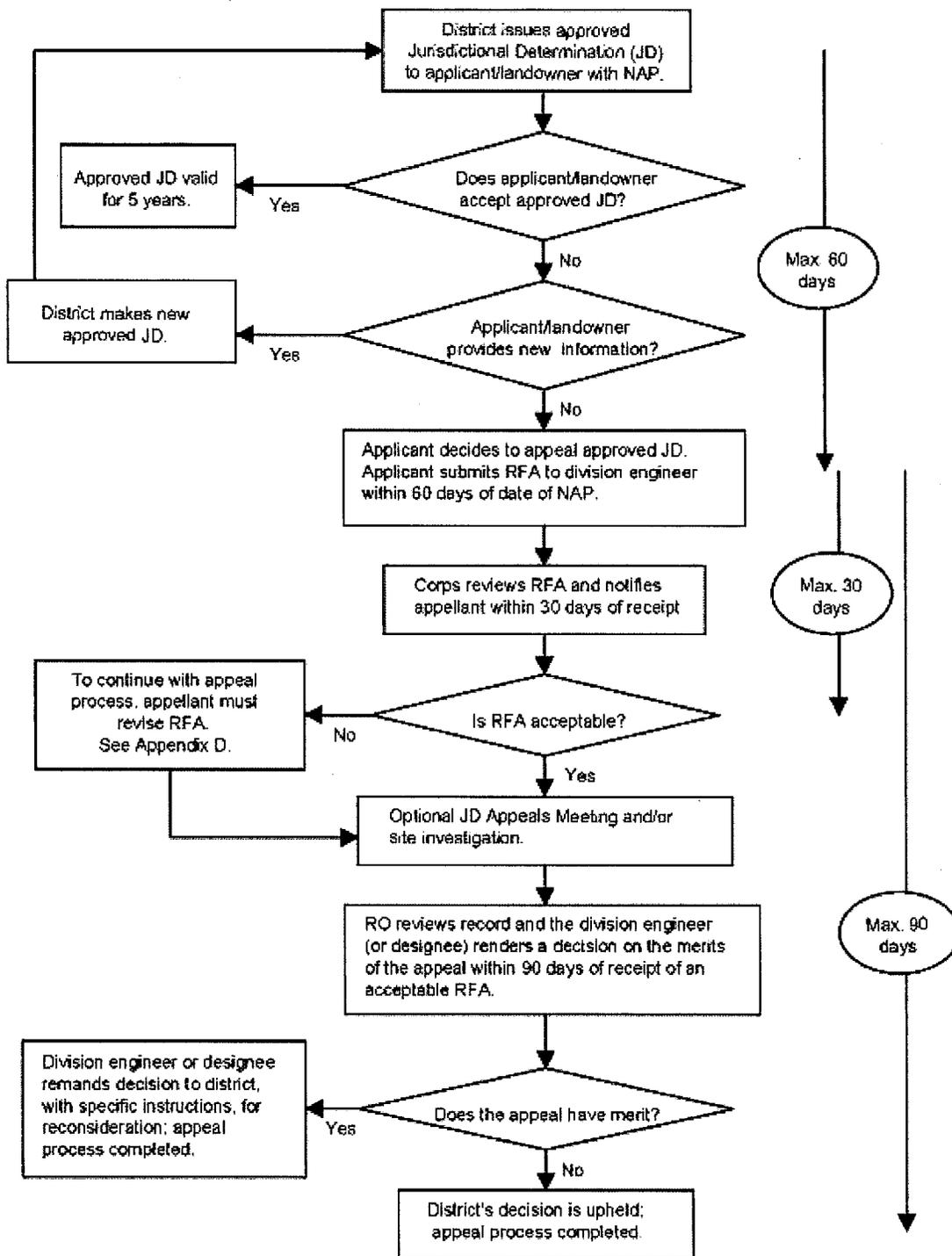
If you have questions regarding this decision and/or the appeal process you may contact: Stephanie Hall
Senior Project Manager
U.S. Army Corps of Engineers
Los Angeles District
915 Wilshire Blvd., Suite 930
Los Angeles, California 90017-3401
Phone: (213) 452-3410
Email: stephanie.j.hall@usace.army.mil

If you only have questions regarding the appeal process you may also contact: Thomas J. Cavanaugh
Administrative Appeal Review Officer,
U.S. Army Corps of Engineers
South Pacific Division
1455 Market Street, 2052B
San Francisco, California 94103-1399
Phone: (415) 503-6574 Fax: (415) 503-6646
Email: thomas.j.cavanaugh@usace.army.mil

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

<hr/> Signature of appellant or agent.	Date:	Telephone number:
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Administrative Appeal Process for Approved Jurisdictional Determinations



Appendix C

**LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC
WORKS PERMIT # PCFL
201404500**

Tract #:



Permit #: **PCFL 201404500**

EXTENDED 10/26/2015

Issued By: WNEZART
Issued Date: 06-APR-15

Permit Office: 6

PC-OVERBUI	COUNTY OF LOS ANGELES-DPW
OVEBUILD WITHIN OR	Department Of Public Works
ACROSS FLOOD FACILITY	Alhambra, CA 91803 - (626)458-3129
	Flood Control District Permit

<u>Individual's / Company Name</u>	<u>Address / City, State Zip</u>	<u>Work Phone</u>	<u>Home Phone</u>
(APP) STATE OF CALIFORNIA (DOT)	100 S. MAIN ST., STE 100, MS13	213 897 6332	
MARVIN DAVIS/ M. NOURI (CNT)	LOS ANGELES, CA 90012		

Emergency Contact

Location

Site Address:

Description: COYOTE CREEK: INT. OF FIRESTONE BL AND TROJAN WAY, LA MIRADA

Scope of Work

PERMIT PURPOSE: To authorize access into the Los Angeles County Flood Control District's right-of-way to perform the work described below, affecting the subject Orange County Flood Control District maintained facility, in accordance with the submitted plans, Los Angeles County Flood Control District Drawing Nos. 46-F1043.1 to .17 (Los Angeles County Department of Public Works Drawing Nos. PF571674 to PF571688B).

WORK DESCRIPTION: Widen existing I-5 Freeway, and perform appurtenant work (Firestone Blvd. Bridge relocation, modify channel access road, etc.), within District's property, per submitted plans.

Permittee must obtain a construction permit from Orange County Flood Control District and a 408 permit from US Army Corps of Engineers prior to start of work. Permittee shall be responsible for and hold the County and District harmless from any liability resulting from the permitted work/activities. Permittee is advised that clearance from other agencies may be required regarding the proposed activities. Permittee shall prevent unauthorized access into the District's right of way while exercising this permit. During the period of operations conducted under the permit, Permittee shall maintain in effect an insurance policy (minimum limit of \$1 million) naming the District/County as additional insured with respect to these operations. Upon completion of the work authorized under this permit, Permittee shall restore the area to the satisfaction of the District's representative. Permittee shall contact the District's representative to make arrangements to enter the District's right of way. Once operations under this permit are initiated, work shall be conducted in a diligent manner until completed. The Permittee shall not hold the District responsible for any damage due to flows within the channel.

WORK SHALL NOT START UNTIL THE DISTRICT HAS APPROVED THE CONTRACTOR'S INSURANCE (INCLUDING ADDITIONAL INSURED ENDORSEMENT).

PERMITTEE MUST NOTIFY PERMIT OFFICE NO. 4 (7:00 AM TO 3:30 PM) AT TELEPHONE (562) 861-3580 AT THE START AND COMPLETION OF THE PROJECT. FAILURE TO NOTIFY THE PERMIT OFFICE IS CAUSE FOR REVOCATION OF PERMIT. SHOULD PERMITTEE FAIL TO TAKE ACTION WITHIN ONE YEAR FROM DATE OF ISSUANCE OF THIS PERMIT OR FAIL TO ACTIVELY AND DILIGENTLY EXERCISE THE PRIVILEGES OF THIS PERMIT, THE PERMIT BECOMES NULL AND VOID.

Attachments: Conditions of Approval; Standard Flood Control Permit Provisions

CC: U.S. Army Corps of Engineers; City of La Mirada; Design (Ho, Zandieh); Flood Maintenance (South); Survey/Mapping and Property Management (Rothman); Watershed Management (Ghazarian); Water Resources (Araiza); Land Development (Madrid, P.O. 4, Garcia)

Permit Detail

FILE CODE NO. :	46.032
FLOOD FACILITY NAME :	COYOTE CREEK
FLOOD STATION :	-490+00
INSPECTION CHARGE #:	L201404500
LOCATION 1:	INT. OF FIRESTONE BL AND TROJAN WAY, LA MIRADA
THOMAS GUIDE :	737-F6

Comments

EGARCIA 26-OCT-15 EXTENSION OF 10/26/2015: Permit extended until April 30, 2016. All the existing provisions of this permit are still effective and in force.



Tract #:



Permit #: **PCFL 201404500**

EXTENDED 10/26/2015

Issued By: WNEZART
Issued Date: 06-APR-15

Permit Office: 6

<u>Fees</u>	<u>Fee Code</u>	<u>Account Code</u>	<u>Amount</u>
			\$0.00
Total Fees:			\$0.00

Permittee is hereby permitted to perform the scope of work described above at the location described above, subject to all applicable provisions of the Flood Control Channels Ordinance (Chapter 20.94 of Title 20, Los Angeles County Code), the Flood Control District Code, and/or any municipal code or ordinance governing the area where this work is to be done. Permittee's activities in connection with this Permit shall also be subject to the provisions and conditions contained in the attachments to this Permit, which are incorporated herein. This Permit is revocable by the District if the District determines that the public interest and welfare require such revocation and shall be deemed void if the permittee is not in compliance with Section 3800 of the Labor Code.

Performance of the work of activity under this permit is tantamount to agreeing to the conditions of this permit. A copy of this permit shall be kept at the work site during the period of operation within District right of way and shall be shown to the District's representative or any law enforcement officer upon demand.

INSPECTION REQUIRED

CALL PERMIT OFFICE AT LEAST ONE (1) WORKING DAY BEFORE STARTING WORK UNDER THIS PERMIT. FAILURE TO DO SO IS CAUSE FOR REVOCATION OF THIS PERMIT. THIS PERMIT IS VOID IF WORK IS NOT STARTED WITHIN 180 DAYS FROM THE DATE OF ISSUANCE.

PERMIT OFFICE NO. 4
 Hollydale Office
 11282 SOUTH GARFIELD AVENUE
 HOLLYDALE, CA 90242
 PHONE NO. 562-869-0218
 FAX NO. 562-869-2895



Tract #:



Permit #: **PCFL 201404500**

Issued By: WNEZART
Issued Date: 06-APR-15

Permit Office: 6

PC-OVERBUI OVEBUILD WITHIN OR ACROSS FLOOD FACILITY	COUNTY OF LOS ANGELES-DPW Department Of Public Works Alhambra, CA 91803 - (626)458-3129 Flood Control District Permit
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<u>Individual's / Company Name</u>	<u>Address / City, State Zip</u>	<u>Work Phone</u>	<u>Home Phone</u>
(APP) STATE OF CALIFORNIA (DOT) MARVIN DAVIS/ M. NOURI (CNT)	100 S. MAIN ST., STE 100, MS13 LOS ANGELES, CA 90012	213 897 6332	

Emergency Contact

Location

Site Address:
Description: COYOTE CREEK: INT. OF FIRESTONE BL AND TROJAN WAY, LA MIRADA

Scope of Work

PERMIT PURPOSE: To authorize access into the Los Angeles County Flood Control District's right-of-way to perform the work described below, affecting the subject Orange County Flood Control District maintained facility, in accordance with the submitted plans, Los Angeles County Flood Control District Drawing Nos. 46-F1043.1 to .15 (Los Angeles County Department of Public Works Drawing Nos. PF571674 to PF571688).

WORK DESCRIPTION: Widen existing I-5 Freeway, and perform appurtenant work (Firestone Blvd. Bridge relocation, modify channel access road, etc.), within District's property, per submitted plans.

Permittee must obtain a construction permit from Orange County Flood Control District and a 408 permit from US Army Corps of Engineers prior to start of work. Permittee shall be responsible for and hold the County and District harmless from any liability resulting from the permitted work/activities. Permittee is advised that clearance from other agencies may be required regarding the proposed activities. Permittee shall prevent unauthorized access into the District's right of way while exercising this permit. During the period of operations conducted under the permit, Permittee shall maintain in effect an insurance policy (minimum limit of \$1 million) naming the District/County as additional insured with respect to these operations. Upon completion of the work authorized under this permit, Permittee shall restore the area to the satisfaction of the District's representative. Permittee shall contact the District's representative to make arrangements to enter the District's right of way. Once operations under this permit are initiated, work shall be conducted in a diligent manner until completed. The Permittee shall not hold the District responsible for any damage due to flows within the channel.

WORK SHALL NOT START UNTIL THE DISTRICT HAS APPROVED THE CONTRACTOR'S INSURANCE (INCLUDING ADDITIONAL INSURED ENDORSEMENT).

PERMITTEE MUST NOTIFY PERMIT OFFICE NO. 4 (7:00 AM TO 3:30 PM) AT TELEPHONE (562) 861-3580 AT THE START AND COMPLETION OF THE PROJECT. FAILURE TO NOTIFY THE PERMIT OFFICE IS CAUSE FOR REVOCATION OF PERMIT. SHOULD PERMITTEE FAIL TO TAKE ACTION WITHIN ONE YEAR FROM DATE OF ISSUANCE OF THIS PERMIT OR FAIL TO ACTIVELY AND DILIGENTLY EXERCISE THE PRIVILEGES OF THIS PERMIT, THE PERMIT BECOMES NULL AND VOID.

Attachments: Conditions of Approval; Standard Flood Control Permit Provisions

CC: U.S. Army Corps of Engineers; City of La Mirada; Design (Ho, Zandieh); Flood Maintenance (South); Survey/Mapping and Property Management (Rothman); Watershed Management (Ghazarian); Water Resources (Araiza); Land Development (Madrid, P.O. 4, Garcia)

Permit Detail

FILE CODE NO. :	46.032
FLOOD FACILITY NAME :	COYOTE CREEK
FLOOD STATION :	~490+00
INSPECTION CHARGE #:	L201404500
LOCATION 1:	INT. OF FIRESTONE BL AND TROJAN WAY, LA MIRADA
THOMAS GUIDE :	737-F6

Comments



Tract #:



Permit #: **PCFL 201404500**

Issued By: WNEZART
Issued Date: 06-APR-15

Permit Office: 6

<u>Fees</u>	<u>Fee Code</u>	<u>Account Code</u>	<u>Amount</u>
			\$0.00
Total Fees:			\$0.00

Permittee is hereby permitted to perform the scope of work described above at the location described above, subject to all applicable provisions of the Flood Control Channels Ordinance (Chapter 20.94 of Title 20, Los Angeles County Code), the Flood Control District Code, and/or any municipal code or ordinance governing the area where this work is to be done. Permittee's activities in connection with this Permit shall also be subject to the provisions and conditions contained in the attachments to this Permit, which are incorporated herein. This Permit is revocable by the District if the District determines that the public interest and welfare require such revocation and shall be deemed void if the permittee is not in compliance with Section 3800 of the Labor Code.

Performance of the work of activity under this permit is tantamount to agreeing to the conditions of this permit. A copy of this permit shall be kept at the work site during the period of operation within District right of way and shall be shown to the District's representative or any law enforcement officer upon demand.

INSPECTION REQUIRED

CALL PERMIT OFFICE AT LEAST ONE (1) WORKING DAY BEFORE STARTING WORK UNDER THIS PERMIT. FAILURE TO DO SO IS CAUSE FOR REVOCATION OF THIS PERMIT. THIS PERMIT IS VOID IF WORK IS NOT STARTED WITHIN 180 DAYS FROM THE DATE OF ISSUANCE.

PERMIT OFFICE NO. 4
Hollydale Office
11282 SOUTH GARFIELD AVENUE
HOLLYDALE, CA 90242
PHONE NO. 562-869-0218
FAX NO. 562-869-2895





Date: 04/06/2015

Permit No: PCFL 201404500

STANDARD FLOOD CONTROL PERMIT PROVISIONS

A. This permit is valid only for the purpose specified herein. No change of purpose as outlined in application or drawings submitted with application is permitted except upon written permission of the Chief Engineer or his representative.

B. Activities and uses authorized under this permit are subject to any instructions of the Chief Engineer or his representative. **ALL INSTRUCTIONS MUST BE STRICTLY OBSERVED.**

C. Permittee (including its contractors and subcontractors) shall indemnify, defend (with counsel reasonably satisfactory to District and the County of Los Angeles), and hold harmless District and the County of Los Angeles, and their elected and appointed officers, employees and agents, from and against any and all claims, expenses (including court costs and reasonable attorney and expert witness fees) demands, liabilities, losses, or causes of action of whatsoever nature or character, for injury, illness or death or loss of, damage to or destruction of property which arises out of, or is in any way connected to, the activities of Permittee described in this Permit.

This indemnification shall survive in its entirety the termination or revocation of this Permit, and shall remain in full force and effect in perpetuity, unless agreed to otherwise in writing by the District.

D. Any damage caused to Flood Control structures by reason of exercise of this permit shall be repaired, at the permittee's sole expense, to the satisfaction of the District. Should the permittee neglect to promptly make repairs, the District may perform such work or have others perform the work, and the permittee agrees to reimburse the District for all costs of the work so performed upon receipt of a statement thereof.

E. Any structure or portions thereof or plantings placed on District rights of way or which affect District structures must be removed, revised, and/or relocated by permittee without cost to the District, or any other public agency the District shall so designate, should future activities or policy so require.

F. This permit is valid only to the extent of District jurisdiction. Acquisition of permits required by other affected agencies and consent of underlying fee owner(s) of District easement lands are the responsibility of the permittee. **NOTHING CONTAINED IN THIS PERMIT SHALL BE CONSTRUED AS A RELINQUISHMENT OF ANY RIGHTS NOW HELD BY THE DISTRICT.**

G. This permit is subject to all prior unexpired permits, agreements, easements, privileges, or other rights, whether recorded or unrecorded, in the area specified by this permit. Permittee shall make his own arrangements with holders of such prior rights.

H. Unless otherwise specified herein, this permit may be revoked or canceled at any time by the Chief Engineer or his representative when required for District purposes.

I. Upon written notice of cancellation or revocation of this permit for any cause whatsoever, permittee shall restore District right of way and structures to their condition prior to the issuance of the permit and then shall vacate District property. Should permittee neglect to restore the premises or structures to a condition satisfactory to the Chief Engineer or his representative, the District may perform such work or have others perform the work, and the permittee agrees to reimburse the District for all costs of the work so performed upon receipt of a statement thereof.

J. In the event of a District employee work stoppage, the Chief Engineer or his representative reserves the right to suspend all activity authorized under this permit which requires inspection by the District. Activity authorized by the

permit shall not resume until District approval to do so is given.

K. Unless otherwise specifically provided, all costs incurred by permittee as a result of the conditions of the permit or exercise by District of any right, authority, or reservation contained therein shall be the sole responsibility of and shall be borne entirely by the permittee.



Conditions of Approval By Permit

Permit: PCFL - 201404500

The following Conditions of Approval are required to complete the permit:

Condition of Approval	Entered	By	Completed	By
GENERAL FLOOD PROVISION NO. 1 Use of District's right of way under this permit is tantamount to agreeing to the conditions herein.(G1)	26-NOV-14	EGARCIA		
GENERAL PROVISION NO.2 Permittee shall be responsible for notifying their contractor and all subcontractors of the provisions of this permit. No work shall start until a copy of this permit is at the work site.(G2)	26-NOV-14	EGARCIA		
GENERAL PROVISION NO.3 Permittee is notified that in accordance with the STATE OF CALIFORNIA CONSTRUCTION SAFETY ORDERS, Section 1503. the permittee or their contractor must have a permit from CAL/OSHA if the excavation authorized herein more than 5 feet deep.(G3)	26-NOV-14	EGARCIA		
GENERAL PROVISION NO. 4 Unless otherwise indicated in this permit, all work authorized by this permit shall conform to the latest edition of the Standard Specifications for Public Work Construction (Greenbook), as amended and the latest edition of the Los Angeles County Department of Public Works "Additions and Amendments to the Standard Specifications for Public Works Construction" (Greenbook), as amended.(G4)	26-NOV-14	EGARCIA		
GENERAL PROVISION NO.8 Issuance of this permit shall not be construed as an obligation on the part of this District for the operation and maintenance of the proposed facilities.(G8)	26-NOV-14	EGARCIA		
GENERAL PROVISION NO. 14 Upon completion of work authorized under this permit, permittee shall restore the area to the satisfaction of the District's representative.(G14)	26-NOV-14	EGARCIA		
GENERAL PROVISION NO. 18 Permittee shall not use District's right of way for the temporary or permanent storage of excavated materials, rock, sand, cement, or other material, or any equipment. except as specifically noted.(G18)	26-NOV-14	EGARCIA		
GENERAL PROVISION NO. 32 Vehicular traffic within the District's right of way shall not exceed a speed limit of 15 miles per hour.(G32)	26-NOV-14	EGARCIA		
GENERAL PROVISION NO. 24 as co-insured with respect to the permitted operations. A copy of this policy shall be submitted to the District for inclusion in it's files for the duration of the permit. Expiration or cancellation of the insurance policy shall result in revocation of this permit.(G24)	26-NOV-14	EGARCIA		
PROVISION POLUTION NO. 02 Permittee shall be responsible for the selection and implementation of Best Management Practices (BMP's) for construction activities. If the District's representative determines that additional BMP's or corrective steps for existing ones are necessary, permittee shall immediately comply with the requests. (P2)	02-APR-15	EGARCIA		
GENERAL PROVISION NO. 50 All activities covered by this permit are subject to final approval by the City of La Mirada.(G50)	02-APR-15	EGARCIA		

**LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC
WORKS PERMIT # PCFL
201202742**

Tract #:



Permit #: **PCFL 201202742**

EXTENDED 10/26/2015

Issued By: GASANCHEZ
Issued Date: 24-FEB-15

Permit Office: 6

PC-CONNECT CONNECTION INTO FLOOD CONTROL FACILITY	COUNTY OF LOS ANGELES-DPW Department Of Public Works Alhambra, CA 91803 - (626)458-3129	Flood Control District Permit
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<u>Individual's / Company Name</u>	<u>Address / City, State Zip</u>	<u>Work Phone</u>	<u>Home Phone</u>
(APP) CALTRANS	100 SOUTH MAIN ST., #100, MS13	213 897-6362	
MIKE NOURI (CNT)	LOS ANGELES, CA 90012		

Emergency Contact

Location
Site Address:
Description: COYOTE CREEK NORTH FORK: NEAR INT. OF VALLEY VIEW AVE. AND ALONDRA BLVD., SANTA FE SPRINGS

Scope of Work
 PERMIT PURPOSE: To authorize the work described below affecting the subject stream in accordance with the submitted plans, Los Angeles County Flood Control District Drawing Nos. 46-F1042.1 to .6 (Los Angeles County Department of Public Works Drawing Nos. PF571315 to PF571320).
 WORK DESCRIPTION: Construct a 42-inch RCP (3000D) connection per US Army Corps of Engineers Junction Structure "D".
 Facility Modification Agreement No. MOA201202742 (Exhibit 1) and US Army Corps of Engineers Permit No. EE2012-91 (Exhibit 2) are attached to this Permit. Permittee must comply with all conditions attached to this permit.
 No work is allowed within the District's right-of-way between October 15 and April 15. If any damages are identified as a result of the proposed work, immediate repair/replacement will be required at the Permittee's expense. Work shall not start until the District has approved the contractor's insurance (including additional insured endorsement).
 PERMITTEE MUST NOTIFY PERMIT OFFICE NO. 4 (7:00 AM to 3:30 PM) AT (562) 861-3580 AT LEAST 48 HOURS BEFORE STARTING ANY WORK UNDER THIS PERMIT. FAILURE TO NOTIFY THE PERMIT OFFICE IS CAUSE FOR REVOCATION OF PERMIT. SHOULD PERMITTEE FAIL TO TAKE ACTION WITHIN 180 DAYS FROM DATE OF ISSUANCE OF THIS PERMIT OR FAIL TO ACTIVELY AND DILIGENTLY EXERCISE THE PRIVILEGES OF THIS PERMIT, THE PERMIT BECOMES NULL AND VOID. A COPY OF THIS PERMIT SHALL BE KEPT AT THE WORK SITE DURING ALL PERIODS OF OPERATION WITHIN DISTRICT'S RIGHT OF WAY AND SHALL BE SHOWN TO ANY DISTRICT REPRESENTATIVE OR LAW ENFORCEMENT OFFICER UPON DEMAND.
 Attachments: Exhibit 1; Exhibit 2; Conditions of Approval; Standard Flood Control Permit Provisions
 CC: US Army Corps of Engineers; City of Santa Fe Springs; Flood Maintenance (South); Land Development (Madrid, P.O. 4, Berhan, Marjanian)

Permit Detail

FILE CODE NO. :	46.032
FLOOD FACILITY NAME :	COYOTE CREEK NORTH FORK
FLOOD STATION :	~70+18
INSPECTION CHARGE #:	L201202742
INSURANCE EXPIRE :	TBD
LOCATION 1:	NEAR INT. OF VALLEY VIEW AVE. AND ALONDRA BLVD., SANTA FE SPRINGS
THOMAS GUIDE :	737 D5

Comments
 EGARCIA 26-OCT-15 EXTENSION OF 10/26/2015: Permit extended until April 30, 2016. All the existing provisions of this permit are still effective and in force.



Tract #:



Permit #: **PCFL 201202742**

EXTENDED 10/26/2015

Issued By: GASANCHEZ
Issued Date: 24-FEB-15

Permit Office: 6

<u>Fees</u>	<u>Fee Code</u>	<u>Account Code</u>	<u>Amount</u>
CAL TRANS PLAN CHECK - FLOOD R/W NO FEE	PCALTRNPLC	B07_8371	\$0.00
Total Fees:			\$0.00

Permittee is hereby permitted to perform the scope of work described above at the location described above, subject to all applicable provisions of the Flood Control Channels Ordinance (Chapter 20.94 of Title 20, Los Angeles County Code), the Flood Control District Code, and/or any municipal code or ordinance governing the area where this work is to be done. Permittee's activities in connection with this Permit shall also be subject to the provisions and conditions contained in the attachments to this Permit, which are incorporated herein. This Permit is revocable by the District if the District determines that the public interest and welfare require such revocation and shall be deemed void if the permittee is not in compliance with Section 3800 of the Labor Code.

Performance of the work of activity under this permit is tantamount to agreeing to the conditions of this permit. A copy of this permit shall be kept at the work site during the period of operation within District right of way and shall be shown to the District's representative or any law enforcement officer upon demand.

INSPECTION REQUIRED

CALL PERMIT OFFICE AT LEAST ONE (1) WORKING DAY BEFORE STARTING WORK UNDER THIS PERMIT. FAILURE TO DO SO IS CAUSE FOR REVOCATION OF THIS PERMIT. THIS PERMIT IS VOID IF WORK IS NOT STARTED WITHIN 180 DAYS FROM THE DATE OF ISSUANCE.

PERMIT OFFICE NO. 4
Hollydale Office
11282 SOUTH GARFIELD AVENUE
HOLLYDALE, CA 90242
PHONE NO. 562-869-0218
FAX NO. 562-869-2895



Tract #:



Permit #: PCFL 201202742

Issued By: GASANCHEZ
Issued Date: 24-FEB-15

Permit Office: 6

PC-CONNECT
 CONNECTION INTO FLOOD
 CONTROL FACILITY

COUNTY OF LOS ANGELES-DPW
 Department Of Public Works
 Alhambra, CA 91803 - (626)458-3129

Flood Control District Permit

<u>Individual's / Company Name</u>	<u>Address / City, State Zip</u>	<u>Work Phone</u>	<u>Home Phone</u>
(APP) CALTRANS	100 SOUTH MAIN ST., #100, MS13	213 897-6362	
MIKE NOURI	LOS ANGELES, CA 90012		
(CNT)			

Emergency Contact

Location

Site Address:

Description: COYOTE CREEK NORTH FORK: NEAR INT. OF VALLEY VIEW AVE. AND ALONDRA BLVD., SANTA FE SPRINGS

Scope of Work

PERMIT PURPOSE: To authorize the work described below affecting the subject stream in accordance with the submitted plans, Los Angeles County Flood Control District Drawing Nos. 46-F1042.1 to .6 (Los Angeles County Department of Public Works Drawing Nos. PF571315 to PF571320).

WORK DESCRIPTION: Construct a 42-inch RCP (3000D) connection per US Army Corps of Engineers Junction Structure "D".

Facility Modification Agreement No. MOA201202742 (Exhibit 1) and US Army Corps of Engineers Permit No. EE2012-91 (Exhibit 2) are attached to this Permit. Permittee must comply with all conditions attached to this permit.

No work is allowed within the District's right-of-way between October 15 and April 15. If any damages are identified as a result of the proposed work, immediate repair/replacement will be required at the Permittee's expense. Work shall not start until the District has approved the contractor's insurance (including additional insured endorsement).

PERMITTEE MUST NOTIFY PERMIT OFFICE NO. 4 (7:00 AM TO 3:30 PM) AT (562) 861-3580 AT LEAST 48 HOURS BEFORE STARTING ANY WORK UNDER THIS PERMIT. FAILURE TO NOTIFY THE PERMIT OFFICE IS CAUSE FOR REVOCATION OF PERMIT. SHOULD PERMITTEE FAIL TO TAKE ACTION WITHIN 180 DAYS FROM DATE OF ISSUANCE OF THIS PERMIT OR FAIL TO ACTIVELY AND DILIGENTLY EXERCISE THE PRIVILEGES OF THIS PERMIT, THE PERMIT BECOMES NULL AND VOID. A COPY OF THIS PERMIT SHALL BE KEPT AT THE WORK SITE DURING ALL PERIODS OF OPERATION WITHIN DISTRICT'S RIGHT OF WAY AND SHALL BE SHOWN TO ANY DISTRICT REPRESENTATIVE OR LAW ENFORCEMENT OFFICER UPON DEMAND.

Attachments: Exhibit 1; Exhibit 2; Conditions of Approval; Standard Flood Control Permit Provisions

CC: US Army Corps of Engineers; City of Santa Fe Springs; Flood Maintenance (South); Land Development (Madrid, P.O. 4, Berhan, Marjanian)

Permit Detail

FILE CODE NO. : 46.032
 FLOOD FACILITY NAME : COYOTE CREEK NORTH FORK
 FLOOD STATION : ~70+18
 INSPECTION CHARGE #: L201202742
 INSURANCE EXPIRE : TBD
 LOCATION 1: NEAR INT. OF VALLEY VIEW AVE. AND ALONDRA BLVD.,
 SANTA FE SPRINGS
 THOMAS GUIDE : 737 D5

Comments

<u>Fees</u>	<u>Fee Code</u>	<u>Account Code</u>	<u>Amount</u>
CAL TRANS PLAN CHECK - FLOOD R/W NO FEE	PCALTRNPLC	B07_8371	\$0.00
Total Fees:			\$0.00



Tract #:



Permit #: **PCFL 201202742**

Issued By: GASANCHEZ
Issued Date: 24-FEB-15

Permit Office: 6

Permittee is hereby permitted to perform the scope of work described above at the location described above, subject to all applicable provisions of the Flood Control Channels Ordinance (Chapter 20.94 of Title 20, Los Angeles County Code), the Flood Control District Code, and/or any municipal code or ordinance governing the area where this work is to be done. Permittee's activities in connection with this Permit shall also be subject to the provisions and conditions contained in the attachments to this Permit, which are incorporated herein. This Permit is revocable by the District if the District determines that the public interest and welfare require such revocation and shall be deemed void if the permittee is not in compliance with Section 3800 of the Labor Code.

Performance of the work of activity under this permit is tantamount to agreeing to the conditions of this permit. A copy of this permit shall be kept at the work site during the period of operation within District right of way and shall be shown to the District's representative or any law enforcement officer upon demand.

INSPECTION REQUIRED

CALL PERMIT OFFICE AT LEAST ONE (1) WORKING DAY BEFORE STARTING WORK UNDER THIS PERMIT. FAILURE TO DO SO IS CAUSE FOR REVOCATION OF THIS PERMIT. THIS PERMIT IS VOID IF WORK IS NOT STARTED WITHIN 180 DAYS FROM THE DATE OF ISSUANCE.

PERMIT OFFICE NO. 4
Hollydale Office
11282 SOUTH GARFIELD AVENUE
HOLLYDALE, CA 90242
PHONE NO. 562-869-0218
FAX NO. 562-869-2895





COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

Date: 02/24/2015

Permit No: PCFL 201202742

STANDARD FLOOD CONTROL PERMIT PROVISIONS

A. This permit is valid only for the purpose specified herein. No change of purpose as outlined in application or drawings submitted with application is permitted except upon written permission of the Chief Engineer or his representative.

B. Activities and uses authorized under this permit are subject to any instructions of the Chief Engineer or his representative. **ALL INSTRUCTIONS MUST BE STRICTLY OBSERVED.**

C. Permittee (including its contractors and subcontractors) shall indemnify, defend (with counsel reasonably satisfactory to District and the County of Los Angeles), and hold harmless District and the County of Los Angeles, and their elected and appointed officers, employees and agents, from and against any and all claims, expenses (including court costs and reasonable attorney and expert witness fees) demands, liabilities, losses, or causes of action of whatsoever nature or character, for injury, illness or death or loss of, damage to or destruction of property which arises out of, or is in any way connected to, the activities of Permittee described in this Permit.

This indemnification shall survive in its entirety the termination or revocation of this Permit, and shall remain in full force and effect in perpetuity, unless agreed to otherwise in writing by the District.

D. Any damage caused to Flood Control structures by reason of exercise of this permit shall be repaired, at the permittee's sole expense, to the satisfaction of the District. Should the permittee neglect to promptly make repairs, the District may perform such work or have others perform the work, and the permittee agrees to reimburse the District for all costs of the work so performed upon receipt of a statement thereof.

E. Any structure or portions thereof or plantings placed on District rights of way or which affect District structures must be removed, revised, and/or relocated by permittee without cost to the District, or any other public agency the District shall so designate, should future activities or policy so require.

F. This permit is valid only to the extent of District jurisdiction. Acquisition of permits required by other affected agencies and consent of underlying fee owner(s) of District easement lands are the responsibility of the permittee. **NOTHING CONTAINED IN THIS PERMIT SHALL BE CONSTRUED AS A RELINQUISHMENT OF ANY RIGHTS NOW HELD BY THE DISTRICT.**

G. This permit is subject to all prior unexpired permits, agreements, easements, privileges, or other rights, whether recorded or unrecorded, in the area specified by this permit. Permittee shall make his own arrangements with holders of such prior rights.

H. Unless otherwise specified herein, this permit may be revoked or canceled at any time by the Chief Engineer or his representative when required for District purposes.

I. Upon written notice of cancellation or revocation of this permit for any cause whatsoever, permittee shall restore District right of way and structures to their condition prior to the issuance of the permit and then shall vacate District property. Should permittee neglect to restore the premises or structures to a condition satisfactory to the Chief Engineer or his representative, the District may perform such work or have others perform the work, and the permittee agrees to reimburse the District for all costs of the work so performed upon receipt of a statement thereof.

J. In the event of a District employee work stoppage, the Chief Engineer or his representative reserves the right to suspend all activity authorized under this permit which requires inspection by the District. Activity authorized by the

permit shall not resume until District approval to do so is given.

K. Unless otherwise specifically provided, all costs incurred by permittee as a result of the conditions of the permit or exercise by District of any right, authority, or reservation contained therein shall be the sole responsibility of and shall be borne entirely by the permittee.



Conditions of Approval By Permit

Permit: PCFL - 201202742

The following Conditions of Approval are required to complete the permit:

Condition of Approval	Entered	By	Completed	By
GENERAL FLOOD PROVISION NO. 1 Use of District's right of way for the construction or activity authorized under this permit is tantamount to agreeing to the conditions herein.(G1)	23-JUL-12	EGARCIA		
GENERAL PROVISION NO.2 Permittee shall be responsible for notifying his contractor and all subcontractors of the provisions of this permit. No work will be started until a copy of this permit is given to the contractor and each of his subcontractors. Further, the copy will be left at the site of the work being done by each contractor.(G2)	23-JUL-12	EGARCIA		
GENERAL PROVISION NO.3 Permittee is notified that in accordance with the STATE OF CALIFORNIA CONSTRUCTION SAFETY ORDERS, Section 1503, the permittee or his contractor may be required to acquire a permit from CAL/OSHA if the work authorized herein more than 5-feet deep. The inspection provided by the District can in no way be construed as a safety inspection.(G3)	23-JUL-12	EGARCIA		
GENERAL PROVISION NO. 4 Unless otherwise indicated in this permit, all work authorized by this permit shall conform to the latest edition of the Standard Specifications for Public Work Construction (Greenbook) as amended and the latest edition of the Los Angeles County Department of Public Works "Additions and Amendments to the Standard Specifications for Public Works Construction" (Greenbook), as amended.(G4)	23-JUL-12	EGARCIA		
GENERAL PROVISION NO.5 This permit is subject to such further conditions as the Director or his representative may issue during the period of this use. When possible, such additional conditions shall be promptly delivered in writing to the address shown on page one of this permit. Conditions delivered orally of necessity shall be promptly confirmed in writing.(G5)	23-JUL-12	EGARCIA		
PROVISION CONNECTION NO. 1 The only authorized discharge is storm run-off.(C1)	23-JUL-12	EGARCIA		
GENERAL PROVISION NO.8 Issuance of this permit shall not be construed as an obligation on the part of this District for the operation and maintenance of the proposed facilities.(G8)	23-JUL-12	EGARCIA		
PROVISION CONNECTION NO. 3 The discharge of industrial waste or sewage is prohibited.(C3)	23-JUL-12	EGARCIA		
PROVISION CONNECTION NO. 6 Should work take place between October 15 and April 15, permittee shall obtain a long-range clear weather forecast before breaking into the main line storm drain. Construction of facilities connecting to the main line will be permitted only during a clear weather forecast that is acceptable to this District's representative. Once operations under this permit are initiated, the work shall be conducted in a continuous manner until completed.(C6)	23-JUL-12	EGARCIA		
PROVISION CONNECTION NO.16 All work involving removal and restoration of the channel structure shall be accomplished during the period April 15 to October 15.(C16)	23-JUL-12	EGARCIA		
PROVISION CONNECTION NO.22 The District shall not be responsible for the operations and maintenance of the proposed connector pipe.(C22)	23-JUL-12	EGARCIA		
PROVISION CONNECTION NO.23 Permittee shall take all precautions to prevent unauthorized discharge of pollutants into the District's channel.(C23)	23-JUL-12	EGARCIA		
PROVISION CONNECTION NO.24 No flushing water or pressure test water should be discharged to the District's facility without a current permit from the California Regional Water Quality Control Board.(C24)	23-JUL-12	EGARCIA		
PROVISION CONNECTION NO.25 Permittee is hereby advised that he will be subject to fines from the California Regional Water Quality Control Board, the State Department of Fish and Game, and the United States Coast Guard for any water pollution resulting from these activities.(C25)	23-JUL-12	EGARCIA		
PROVISION CONNECTION NO.28 Issuance of this permit shall not be construed as an obligation on the part of the District to assume responsibility for any damages incurred to the permittee's improvements in the event of storm drain and/or channel failure or flooding from rain storms.(C28)	23-JUL-12	EGARCIA		
PROVISION POLUTION NO. 02 Permittee shall be responsible for the selection and implementation of Best Management Practices (BMP's) for construction activities. If the Director or authorized representative determines that additional BMP's or corrective steps for existing ones are necessary, permittee shall immediately comply with the requests. (P2)	23-JUL-12	EGARCIA		



Conditions of Approval By Permit

Permit: PCFL - 201202742

The following Conditions of Approval are required to complete the permit:

Condition of Approval	Entered	By	Completed	By
GENERAL PROVISION NO. 50 All activities covered by this permit are subject to final approval by the City of Santa Fe Springs.(G50)	18-FEB-15	SMARJANIAN		
GENERAL PROVISION NO. 24 During the period of operations conducted under the permit. Permittee shall maintain in effect an insurance policy (minimum limit \$ ONE million) naming the Los Angeles County Flood Control District/Los Angeles County Department of Public Works and/or U.S. Army Corps of Engineers as co-insured with respect to these operations. A copy of this policy shall be submitted to the District for inclusion in the District file copy of this permit. Expiration or cancellation of the insurance policy shall constitute revocation of this permit.(G24)	23-JUL-12	EGARCIA		

**LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC
WORKS PERMIT # PCFL
201300613**

Tract #:



Permit #: **PCFL 201300613**

EXTENDED 10/26/2015

Issued By: GASANCHEZ
Issued Date: 03-NOV-14

Permit Office: 6

PC-MODIFIC MODIFICATION OF FLOOD CONTROL FACILITY	COUNTY OF LOS ANGELES-DFW Department Of Public Works Alhambra, CA 91803 - (626)458-3129 Flood Control District Permit
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<u>Individual's / Company Name</u>	<u>Address / City, State Zip</u>	<u>Work Phone</u>	<u>Home Phone</u>
(APP) CALTRANS MIKE NOURI (CNT)	100 SOUTH MAIN ST. SUITE 100, LOS ANGELES, CA 90012	213 897-6362	
<u>Emergency Contact</u>			

Location

Site Address:
Description: PD 314: NEAR FIRESTONE BLVD. & TROJAN WAY, LA MIRADA

Scope of Work

PURPOSE OF PERMIT: To authorize the work described below affecting the subject stream in accordance with the submitted plans, Los Angeles County Flood Control District Drawing Nos. 46-F1040.1 to .5 (Los Angeles County Department of Public Works Drawing Nos. PF569401 to PF569405).

WORK DESCRIPTION: Realign approx. 587 feet of the District's 87-inch RCP (2000D). Construct a concrete collar per SPPWC Std. Plan No. 380-4, (2) manholes per SPPWC Std. Plan No. 320-2, a catch basin per SPPWC Std. Plan No. 300-3 (W=7', V=4.5') and its 18-inch RCP (1000D) connector pipe per Std. Plan No. 335-2 and, (2) Caltrans maintained 18-inch RCP (1000D) connections per SPPWC Std. Plan No. 335-2. Relocate an existing catch basin per SPPWC Std. Plan No. 300-3 (W=3.5', V=4.8'), and its 18-inch RCP (1000D) connector pipe per Std. Plan No. 380-4. Remove a catch basin and its connector pipe and seal the mainline per SPPWC Std. Plan No. 381-2.

Permittee must contact Geotechnical and Materials Engineering Division at telephone (626) 458-1707 to schedule a pipe inspection prior to ordering pipes.

Replacement/removal of the existing District's storm drain shall NOT take place during the storm season, from October 15 to April 15. Removal of the District's existing storm drain shall NOT take place until the Department has approved a Diversion Plan. The District will assume the operation and maintenance of the relocated facility upon formal acceptance of work and submittal of as-built plans. Permittee shall maintain the new storm drain until formally transferred to the District.

WORK SHALL NOT START UNTIL THE DISTRICT HAS APPROVED THE CONTRACTOR'S INSURANCE (INCLUDING ADDITIONAL ENDORSEMENT).

PERMITTEE MUST NOTIFY PERMIT OFFICE NO. 4 (7:00 AM TO 3:30 PM) AT TELEPHONE (662) 861-3580 AT LEAST 24 HOURS BEFORE STARTING WORK UNDER THIS PERMIT. FAILURE TO SO NOTIFY THE PERMIT OFFICE IS CAUSE FOR REVOCATION OF PERMIT. SHOULD PERMITTEE FAIL TO TAKE ACTION WITHIN 180 DAYS FROM DATE OF ISSUANCE OF THIS PERMIT OR FAIL TO ACTIVELY AND DILIGENTLY EXERCISE THE PRIVILEGES OF THIS PERMIT, THE PERMIT BECOMES NULL AND VOID. A COPY OF THIS PERMIT SHALL BE KEPT AT THE WORK SITE DURING ALL PERIODS OF OPERATION WITHIN THE DISTRICTS RIGHT OF WAY AND SHALL BE SHOWN TO ANY DISTRICT REPRESENTATIVE OR LAW ENFORCEMENT OFFICER UPON DEMAND.

Attachments: Conditions of Approval; Standard Provisions for Flood Permits
CC: City of La Mirada; Flood Maintenance (South); Land Development (Madrid, P.O. 4, Garcia)

Permit Detail

FILE CODE NO. :	46.032
FLOOD FACILITY NAME :	PRIVATE DRAIN NO. 314
FLOOD STATION :	+0+45 TO 18+00
INSPECTION CHARGE #:	L201300613
INSURANCE EXPIRE :	TBD
LOCATION 1:	NEAR FIRESTONE BLVD. & TROJAN WAY, LA MIRADA
THOMAS GUIDE :	737-F6

Comments

EGARCIA 26-OCT-15 EXTENSION OF 10/26/2015: Permit extended until April 30, 2016. All the existing provisions of this permit are still effective and in force.



Tract #:



Permit #: **PCFL 201300613**

EXTENDED 10/26/2015

Issued By: GASANCHEZ
Issued Date: 03-NOV-14

Permit Office: 6

<u>Fees</u>	<u>Fee Code</u>	<u>Account Code</u>	<u>Amount</u>
PLN CK OF CALTRANS PROJ.-ROAD R/W-NO FEE	PCADOTPLCK	B03_0003	\$0.00
Total Fees:			\$0.00

Permittee is hereby permitted to perform the scope of work described above at the location described above, subject to all applicable provisions of the Flood Control Channels Ordinance (Chapter 20.94 of Title 20, Los Angeles County Code), the Flood Control District Code, and/or any municipal code or ordinance governing the area where this work is to be done. Permittee's activities in connection with this Permit shall also be subject to the provisions and conditions contained in the attachments to this Permit, which are incorporated herein. This Permit is revocable by the District if the District determines that the public interest and welfare require such revocation and shall be deemed void if the permittee is not in compliance with Section 3800 of the Labor Code.

Performance of the work of activity under this permit is tantamount to agreeing to the conditions of this permit. A copy of this permit shall be kept at the work site during the period of operation within District right of way and shall be shown to the District's representative or any law enforcement officer upon demand.

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PERMIT OFFICE NO. 4
 Hollydale Office
 11282 SOUTH GARFIELD AVENUE
 HOLLYDALE, CA 90242
 PHONE NO. 562-869-0218
 FAX NO. 562-869-2895



Tract #:



Permit #: **PCFL 201300613**

Issued By: GASANCHEZ
Issued Date: 03-NOV-14

Permit Office: 6

PC-MODIFIC MODIFICATION OF FLOOD CONTROL FACILITY	COUNTY OF LOS ANGELES-DPW Department Of Public Works Alhambra, CA 91803 - (626)458-3129 Flood Control District Permit
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<u>Individual's / Company Name</u>	<u>Address / City, State Zip</u>	<u>Work Phone</u>	<u>Home Phone</u>
(APP) CALTRANS MIKE NOURI (CNT)	100 SOUTH MAIN ST. SUITE 100, LOS ANGELES, CA 90012	213 897-6362.	
<u>Emergency Contact</u>			

Location

Site Address:

Description: PD 314: NEAR FIRESTONE BLVD. & TROJAN WAY, LA MIRADA

Scope of Work

PURPOSE OF PERMIT: To authorize the work described below affecting the subject stream in accordance with the submitted plans, Los Angeles County Flood Control District Drawing Nos. 46-F1040.1 to .5 (Los Angeles County Department of Public Works Drawing Nos. PF569401 to PF569405).

WORK DESCRIPTION: Realign approx. 587 feet of the District's 87-inch RCP (2000D). Construct a concrete collar per SPPWC Std. Plan No. 380-4, (2) manholes per SPPWC Std. Plan No. 320-2, a catch basin per SPPWC Std. Plan No. 300-3 (W=7', V=4.5') and its 18-inch RCP (1000D) connector pipe per Std. Plan No. 335-2 and, (2) Caltrans maintained 18-inch RCP (1000D) connections per SPPWC Std. Plan No. 335-2. Relocate an existing catch basin per SPPWC Std. Plan No. 300-3 (W=3.5', V=4.8'), and its 18-inch RCP (1000D) connector pipe per Std. Plan No. 380-4. Remove a catch basin and its connector pipe and seal the mainline per SPPWC Std. Plan No. 381-2.

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WORK SHALL NOT START UNTIL THE DISTRICT HAS APPROVED THE CONTRACTOR'S INSURANCE (INCLUDING ADDITIONAL ENDORSEMENT).

PERMITTEE MUST NOTIFY PERMIT OFFICE NO. 4 (7:00 AM TO 3:30 PM) AT TELEPHONE (562) 861-3580 AT LEAST 24 HOURS BEFORE STARTING WORK UNDER THIS PERMIT. FAILURE TO SO NOTIFY THE PERMIT OFFICE IS CAUSE FOR REVOCATION OF PERMIT. SHOULD PERMITTEE FAIL TO TAKE ACTION WITHIN 180 DAYS FROM DATE OF ISSUANCE OF THIS PERMIT OR FAIL TO ACTIVELY AND DILIGENTLY EXERCISE THE PRIVILEGES OF THIS PERMIT, THE PERMIT BECOMES NULL AND VOID. A COPY OF THIS PERMIT SHALL BE KEPT AT THE WORK SITE DURING ALL PERIODS OF OPERATION WITHIN THE DISTRICTS RIGHT OF WAY AND SHALL BE SHOWN TO ANY DISTRICT REPRESENTATIVE OR LAW ENFORCEMENT OFFICER UPON DEMAND.

Attachments: Conditions of Approval; Standard Provisions for Flood Permits
CC: City of La Mirada; Flood Maintenance (South); Land Development (Madrid, P.O. 4, Garcia)

Permit Detail

FILE CODE NO. :	46.032
FLOOD FACILITY NAME :	PRIVATE DRAIN NO. 314
FLOOD STATION :	-0+45 TO 18+00
INSPECTION CHARGE #:	L201300613
INSURANCE EXPIRE :	TBD
LOCATION 1:	NEAR FIRESTONE BLVD. & TROJAN WAY, LA MIRADA
THOMAS GUIDE :	737-F6

Comments

EGARCIA 24-SEP-14 NON BILLING PCA L201300613 WAS SET UP.



Tract #:



Permit #: PCFL 201300613

Issued By: GASANCHEZ
Issued Date: 03-NOV-14

Permit Office: 6

<u>Fees</u>	<u>Fee Code</u>	<u>Account Code</u>	<u>Amount</u>
PLN CK OF CALTRANS PROJ.-ROAD R/W-NO FEE	PCADOTPLCK	B03_0003	\$0.00
Total Fees:			\$0.00

Permittee is hereby permitted to perform the scope of work described above at the location described above, subject to all applicable provisions of the Flood Control Channels Ordinance (Chapter 20.94 of Title 20, Los Angeles County Code), the Flood Control District Code, and/or any municipal code or ordinance governing the area where this work is to be done. Permittee's activities in connection with this Permit shall also be subject to the provisions and conditions contained in the attachments to this Permit, which are incorporated herein. This Permit is revocable by the District if the District determines that the public interest and welfare require such revocation and shall be deemed void if the permittee is not in compliance with Section 3800 of the Labor Code.

Performance of the work of activity under this permit is tantamount to agreeing to the conditions of this permit. A copy of this permit shall be kept at the work site during the period of operation within District right of way and shall be shown to the District's representative or any law enforcement officer upon demand.

INSPECTION REQUIRED

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PERMIT OFFICE NO. 4
Hollydale Office
11282 SOUTH GARFIELD AVENUE
HOLLYDALE, CA 90242
PHONE NO. 562-869-0218
FAX NO. 562-869-2895





COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

Date: 11/12/2014

Permit No: PCFL 201300613

STANDARD FLOOD CONTROL PERMIT PROVISIONS

A. This permit is valid only for the purpose specified herein. No change of purpose as outlined in application or drawings submitted with application is permitted except upon written permission of the Chief Engineer or his representative.

B. Activities and uses authorized under this permit are subject to any instructions of the Chief Engineer or his representative. **ALL INSTRUCTIONS MUST BE STRICTLY OBSERVED.**

C. Permittee (including its contractors and subcontractors) shall indemnify, defend (with counsel reasonably satisfactory to District and the County of Los Angeles), and hold harmless District and the County of Los Angeles, and their elected and appointed officers, employees and agents, from and against any and all claims, expenses (including court costs and reasonable attorney and expert witness fees) demands, liabilities, losses, or causes of action of whatsoever nature or character, for injury, illness or death or loss of, damage to or destruction of property which arises out of, or is in any way connected to, the activities of Permittee described in this Permit.

This indemnification shall survive in its entirety the termination or revocation of this Permit, and shall remain in full force and effect in perpetuity, unless agreed to otherwise in writing by the District.

D. Any damage caused to Flood Control structures by reason of exercise of this permit shall be repaired, at the permittee's sole expense, to the satisfaction of the District. Should the permittee neglect to promptly make repairs, the District may perform such work or have others perform the work, and the permittee agrees to reimburse the District for all costs of the work so performed upon receipt of a statement thereof.

E. Any structure or portions thereof or plantings placed on District rights of way or which affect District structures must be removed, revised, and/or relocated by permittee without cost to the District, or any other public agency the District shall so designate, should future activities or policy so require.

F. This permit is valid only to the extent of District jurisdiction. Acquisition of permits required by other affected agencies and consent of underlying fee owner(s) of District easement lands are the responsibility of the permittee. **NOTHING CONTAINED IN THIS PERMIT SHALL BE CONSTRUED AS A RELINQUISHMENT OF ANY RIGHTS NOW HELD BY THE DISTRICT.**

G. This permit is subject to all prior unexpired permits, agreements, easements, privileges, or other rights, whether recorded or unrecorded, in the area specified by this permit. Permittee shall make his own arrangements with holders of such prior rights.

H. Unless otherwise specified herein, this permit may be revoked or canceled at any time by the Chief Engineer or his representative when required for District purposes.

I. Upon written notice of cancellation or revocation of this permit for any cause whatsoever, permittee shall restore District right of way and structures to their condition prior to the issuance of the permit and then shall vacate District property. Should permittee neglect to restore the premises or structures to a condition satisfactory to the Chief Engineer or his representative, the District may perform such work or have others perform the work, and the permittee agrees to reimburse the District for all costs of the work so performed upon receipt of a statement thereof.

J. In the event of a District employee work stoppage, the Chief Engineer or his representative reserves the right to suspend all activity authorized under this permit which requires inspection by the District. Activity authorized by the

permit shall not resume until District approval to do so is given.

K. Unless otherwise specifically provided, all costs incurred by permittee as a result of the conditions of the permit or exercise by District of any right, authority, or reservation contained therein shall be the sole responsibility of and shall be borne entirely by the permittee.



Conditions of Approval By Permit

Permit: PCFL - 201300613

The following Conditions of Approval are required to complete the permit:

Condition of Approval	Entered	By	Completed	By
GENERAL FLOOD PROVISION NO. 1 Use of District's right of way under this permit is tantamount to agreeing to the conditions herein.(G1)	14-FEB-13	HPARAOAN		
GENERAL PROVISION NO.2 Permittee shall be responsible for notifying their contractor and all subcontractors of the provisions of this permit. No work shall start until a copy of this permit is at the work site.(G2)	14-FEB-13	HPARAOAN		
GENERAL PROVISION NO. 4 Unless otherwise indicated in this permit, all work authorized by this permit shall conform to the latest edition of the Standard Specifications for Public Work Construction (Greenbook) as amended, and the latest edition of the Los Angeles County Department of Public Works "Additions and Amendments to the Standard Specifications for Public Works Construction" (Greenbook), as amended.(G4)	14-FEB-13	HPARAOAN		
GENERAL PROVISION NO.5 This permit is subject to such further conditions as the Director or his representative may issue during the period of this use. When possible, such additional conditions shall be promptly delivered in writing to the address shown on page one of this permit. Conditions delivered orally of necessity shall be promptly confirmed in writing.(G5)	14-FEB-13	HPARAOAN		
GENERAL PROVISION NO. 14 Upon completion of work authorized under this permit, permittee shall restore the area to the satisfaction of the District's representative.(G14)	14-FEB-13	HPARAOAN		
GENERAL PROVISION NO. 17 Permittee shall keep District right of way clear of obstructions for through access at all times and shall not interfere with the activities of the District's employees or the District's contractors.(G17)	14-FEB-13	HPARAOAN		
GENERAL PROVISION NO. 18 Permittee shall not use District's right of way for the temporary or permanent storage of excavated materials, rock, sand, cement, or other material, or any equipment, except as specifically noted.(G18)	14-FEB-13	HPARAOAN		
GENERAL PROVISION NO. 24 During the period of operations conducted under the permit, permittee shall maintain in effect an insurance policy (minimum limit \$ 1 million) naming the Los Angeles County Flood Control District and Los Angeles County as co-insured with respect to the permitted operations. A copy of this policy shall be submitted to the District for inclusion in it's files for the duration of the permit. Expiration or cancellation of the insurance policy shall result in revocation of this permit.(G24)	14-FEB-13	HPARAOAN		
GENERAL PROVISION NO.3 Permittee is notified that in accordance with the STATE OF CALIFORNIA CONSTRUCTION SAFETY ORDERS, Section 1503, the permittee or their contractor must have a permit from CAL/OSHA if the excavation authorized herein more than 5 feet deep.(G3)	24-SEP-14	EGARCIA		
PROVISION POLUTION NO. 02 Permittee shall be responsible for the selection and implementation of Best Management Practices (BMP's) for construction activities. If the District's representative determines that additional BMP's or corrective steps for existing ones are necessary, permittee shall immediately comply with the requests. (P2)	24-SEP-14	EGARCIA		
GENERAL PROVISION NO. 50 All activities covered by this permit are subject to final approval by the City of La Mirada.(G50)	24-SEP-14	EGARCIA		

**LOS ANGELES REGIONAL
WATER QUALITY
CONTROL BOARD**



EDMUND G. BROWN JR.
GOVERNOR



MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Los Angeles Regional Water Quality Control Board

Mr. Paul Caron
Caltrans District 7
100 S. Main St.
Los Angeles, CA 90012

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED
No. 7009 2820 0001 6537 7351

TECHNICALLY CONDITIONED WATER QUALITY CERTIFICATION FOR PROPOSED I-5 FREEWAY WIDENING AND RECONSTRUCTION PROJECT-SEGMENT 2 PROJECT (Corps' Project No. 2014-00714-SJH), COYOTE CREEK AND NORTH FORK COYOTE CREEK, CITY OF LA MIRADA AND SANTA FE SPRINGS, LOS ANGELES COUNTY (File No. 12-046)

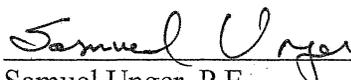
Dear Mr. Caron:

Board staff has reviewed your request on behalf of Caltrans (Applicant) for a Clean Water Act Section 401 Water Quality Certification for the above-referenced project. Your application was deemed complete May 4, 2015.

I hereby issue an order certifying that any discharge from the referenced project will comply with the applicable provisions of sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 303 (Water Quality Standards and Implementation Plans), 306 (National Standards of Performance), and 307 (Toxic and Pretreatment Effluent Standards) of the Clean Water Act, and with other applicable requirements of State law. This discharge is also regulated under State Water Resources Control Board Order No. 2003 - 0017 - DWQ, "General Waste Discharge Requirements for Dredge and Fill Discharges that have received State Water Quality Certification" which requires compliance with all conditions of this Water Quality Certification.

Please read this entire document carefully. The Applicant shall be liable civilly for any violations of this Certification in accordance with the California Water Code. This Certification does not eliminate the Applicant's responsibility to comply with any other applicable laws, requirements and/or permits.

Should you have questions concerning this Certification action, please contact DanaCole, Section 401 Program, at (213) 576-5733.



Samuel Unger, P.E.
Executive Officer

May 26, 2015
Date

DISTRIBUTION LIST

Mary Ngo
Caltrans District 7
100 S. Main St.
Los Angeles, CA 90012

Bill Orme (via electronic copy)
State Water Resources Control Board
Division of Water Quality
P.O. Box 944213
Sacramento, CA 94244-2130

Kelly Schmoker (via electronic copy)
California Department of Fish and Game
Streambed Alteration Team
4949 View Ridge Avenue
San Diego, CA 92123

Stephanie Hall
U.S. Army Corps of Engineers
Regulatory Branch, Los Angeles District
P.O. Box 532711
Los Angeles, CA 90053-2325

Paul Amato (via electronic copy)
U.S. Environmental Protection Agency, Region 9
WRT-2-4
75 Hawthorne Street
San Francisco, CA 94105

G. Mendel Stewart
Johnathan Snyder
U.S. Fish and Wildlife Service
2177 Salk Ave. Carlsbad Ca, 92008

ATTACHMENT A

Project Information File No. 12-046

1. Applicant: Paul Caron
Caltrans District 7
100 S. Main St.
Los Angeles, CA 90012

Phone: (213) 897-0610 Fax: (213) 897-0685
2. Applicant's Agent: Mary Ngo
Caltrans District 7
100 S. Main St.
Los Angeles, CA 90012

Phone: (213) 897-8081 Fax: (213) 897-0685
3. Project Name: I-5 Freeway Widening and Reconstruction Project- Segment 2
4. Project Location: La Mirada and Santa Fe Springs, Los Angeles County
- | <u>Latitude</u> | <u>Longitude</u> |
|-----------------|------------------|
| 33.877892 | -118.016269 |
| 33.877486 | -118.015801 |
| 33.876941 | -118.016404 |
| 33.876855 | -118.017088 |
| 33.885298 | -118.032927 |
| 33.885986 | -118.032922 |
| 33.886013 | -118.032862 |
| 33.885647 | -118.017088 |
5. Type of Project: Road, freeway and bridge expansion
6. Project Purpose: The increased traffic demand from population and employment growth has led to increased traffic congestion and delays throughout the Interstate 5 (I-5) Corridor. The I-5 Reconstruction and Widening Project (Project) will require bridge replacements and improved storm drain connections and will increase capacity, reduce congestion, and improve safety.

ATTACHMENT A

Project Information File No. 12-046

7. Project Description:

The proposed widening for I-5, Segment 2 consists of adding one High Occupancy Vehicle (HOV) lane, one mixed-flow lane (MFL), and one CHP Enforcement Area, in each direction, and upgrading the inside and outside shoulders. All of the structures, interchanges, and affected frontage roads will be reconstructed or modified to accommodate the widening. North Firestone Bridge (Bridge No. 53C2194) and Coyote Creek Bridge (Bridge No. 53-3044) will be replaced. The work in the channels will be overseen by Caltrans and performed by a third-party contractor.

The north side Firestone Bridge and I-5 Coyote Creek Bridge will be constructed over the Coyote Creek Channel. Firestone Bridge is located at the intersection of Firestone Blvd and Trojan Way. The I-5 Coyote Creek Bridge is located at I-5 Fwy and Coyote Creek Channel. Stormdrain connections (60- and 30-inch reinforced concrete pipes) will be extended to existing outlet structures.

The north side Firestone Bridge will be 44-feet wide, with one lane in each direction composed of Precast and Pre-stressed (PC/PS) Concrete Slab (33 Concrete Slabs) with a Cast In Place or Precast (CIP/PC) Concrete Overlay (87 Concrete Overlays) on Pre-stressed (PS) Class 140 piles (98 piles), two piers, and three abutments. The I-5 Coyote Creek bridge will be 205-feet wide, with six lanes in each direction, with CIP/PC on Pre-stressed Class 140 piles (362 piles), three abutments, and two piers in the channel.

Temporary impacts will include the in-stream travel route for heavy equipment and will begin at the channel entrance located at the Coyote Creek, North Fork Coyote Creek confluence. This entrance is sloped for heavy equipment to enter. Heavy equipment will either be lowered down from Firestone Blvd (when it has been permanently closed) or it will be driven down the access road. Equipment will not cross into the low flow portion of the channel.

Caltrans will work with the contractor to determine the appropriate location of heavy equipment such as 100-200 ton track crane, a backhoe, and an average sized dump truck within the temporary impact footprint described above.

Water will be diverted around the bridge construction area in Coyote Creek Channel beginning at the northern end of the in-

ATTACHMENT A

Project Information

File No. 12-046

channel walls (this section of Coyote Creek has channel walls and an additional set of inner walls). The water diversion will end at the southern end of in-channel walls. The contractor will place k-rail with an impermeable membrane that will be tapered from the left in-channel wall to center of channel. Temporary gravel bag berms will be placed along the bottom of the k-rail, from beginning to the end. Water will not be allowed to encounter construction equipment and activities.

Construction work within Coyote Creek Channel and North Fork Coyote Creek Channel will be limited to the dry season of April 1 through October 31. Construction is scheduled to begin April 1, 2016 and to be completed October 31, 2020.

Impacts from additional shading from the bridge replacements will be 0.5117 acres.

8. Federal Agency/Permit: U.S. Army Corps of Engineers
NWP No. 14 (Permit No. 2014-00714-SJH)
9. Other Required Regulatory Approvals: California Department of Fish and Game
1601 Streambed Alteration

Los Angeles County Flood Control District
General Construction Permit
10. California Environmental Quality Act Compliance: Caltrans approved the project's Final Environmental Impact Report (Report No. FHWA-CA-EIS-06-11-F, SCH No. 2001111151) on June 19, 2007. The Notice of Determination was filed on June 16, 2008.
11. Receiving Water: Coyote Creek and North Fork Coyote Creek, San Gabriel River Watershed (Hydrologic Unit No. 180701060506)
12. Designated Beneficial Uses: MUN*, IND, PROC, REC-1, REC-2, WARM, WILD, RARE

*Conditional beneficial use

ATTACHMENT A

Project Information File No. 12-046

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*Conditional beneficial use

ATTACHMENT A

Project Information

File No. 12-046

- Fueling, lubrication, maintenance, operation, and storage of vehicles and equipment shall not result in a discharge or a threatened discharge to waters of the State.
- At no time shall the Applicant use any vehicle or equipment which leaks any substance that may impact water quality.
- Staging and storage for vehicles and equipment shall be located outside of waters of the State.
- Material delivery procedures and practices for the proper handling and storage of material in a manner that eliminates the discharge of these materials to the storm drain systems or to water courses will be used.
- Stockpiling procedures will be used to eliminate storm water pollution from stock piles of soil and paving materials such as portland cement, asphalt binder, concrete, asphalt, or aggregate sub-base rubble, and pressure treated wood.
- Spill prevention and control will be implemented to prevent and control spills in a manner that prevents the discharge of spilled material to the drainage system or watercourse.
- Solid waste management procedures will be used to eliminate the discharge of pollutants to the drainage system or to watercourse as a result of creation, stockpiling or removal of construction site wastes.
- Concrete waste management procedures will be used to eliminate the discharge of concrete waste materials within the waters.
- Any construction equipment entering the channel will be equipped with rubber ties, and screens, traps to prevent construction debris from entering the channel.

17. Proposed
Compensatory
Mitigation:

The Applicant has not proposed any compensatory mitigation due to the temporary nature of impacts associated with the project and the location of the project within a concrete lined channel.

18. Required

The Project will widen existing bridges and the channel is devoid of

ATTACHMENT A

Project Information File No. 12-046

Compensatory Mitigation:

vegetation. The channel cross-section and capacity will not be modified by the project. While permanently widened, the bridges do not seal the channel below and the channel remains open to air. Since the project impacts are temporary in nature, the Regional Board will not require any compensatory mitigation.

See *Attachment B, Conditions of Certifications, Additional Conditions* for modifications and additions to the above proposed compensatory mitigation.

ATTACHMENT B

Conditions of Certification File No. 12-046

STANDARD CONDITIONS

Pursuant to §3860 of Title 23 of the California Code of Regulations (23 CCR), the following three standard conditions shall apply to this project:

1. This Certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to §13330 of the California Water Code and Article 6 (commencing with 23 CCR §3867).
2. This Certification action is not intended and shall not be construed to apply to any activity involving a hydroelectric facility and requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent Certification application was filed pursuant to 23 CCR Subsection 3855(b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.
3. Certification is conditioned upon total payment of any fee required pursuant to 23 CCR Chapter 28 and owed by the Applicant.

ADDITIONAL CONDITIONS

Pursuant to 23 CCR §3859(a), the Applicant shall comply with the following additional conditions:

1. The Applicant shall submit to this Regional Board copies of any other final permits and agreements required for this project, including, but not limited to, the U.S. Army Corps of Engineers' (ACOE) Section 404 Permit. **These documents shall be submitted prior to any discharge to waters of the State.**
2. The Applicant shall adhere to the most stringent conditions indicated with either this Certification or the ACOE Section 404 Permit.
3. The Applicant shall comply with all water quality objectives, prohibitions, and policies set forth in the *Water Quality Control Plan, Los Angeles Region (1994)*, as amended.
4. The Avoidance/Minimization activities proposed by the Applicant as described in Attachment A, No. 16, are incorporated as additional conditions herein.
5. The Applicant and all contractors employed by the Applicant shall have copies of this Certification, and all other regulatory approvals for this project on site at all times and shall be familiar with all conditions set forth.

ATTACHMENT B

Conditions of Certification

File No. 12-046

6. Fueling, lubrication, maintenance, operation, and storage of vehicles and equipment shall not result in a discharge or a threatened discharge to waters of the State. At no time shall the Applicant use any vehicle or equipment which leaks any substance that may impact water quality. Staging and storage areas for vehicles and equipment shall be located outside of waters of the State.
7. All excavation, construction, or maintenance activities shall follow best management practices to minimize impacts to water quality and beneficial uses. Dust control activities shall be conducted in such a manner that will not produce downstream runoff.
8. No construction material, spoils, debris, or any other substances associated with this project that may adversely impact water quality standards, shall be located in a manner which may result in a discharge or a threatened discharge to waters of the State. Designated spoil and waste areas shall be visually marked prior to any excavation and/or construction activity, and storage of the materials shall be confined to these areas.
9. All waste or dredged material removed shall be relocated to a legal point of disposal if applicable. A legal point of disposal is defined as one for which Waste Discharge Requirements have been established by a California Regional Water Quality Control Board, and is in full compliance therewith.
10. The Applicant shall implement all necessary control measures to prevent the degradation of water quality from the proposed project in order to maintain compliance with the Basin Plan. The discharge shall meet all effluent limitations and toxic and effluent standards established to comply with the applicable water quality standards and other appropriate requirements, including the provisions of Sections 301, 302, 303, 306, and 307 of the Clean Water Act. This Certification does not authorize the discharge by the applicant for any other activity than specifically described in the 404 Permit.
11. The discharge shall not: a) degrade surface water communities and populations including vertebrate, invertebrate, and plant species; b) promote the breeding of mosquitoes, gnats, black flies, midges, or other pests; c) alter the color, create visual contrast with the natural appearance, nor cause aesthetically undesirable discoloration of the receiving waters; d) cause formation of sludge deposits; or e) adversely affect any designated beneficial uses.
12. The Applicant shall allow the Regional Board and its authorized representative entry to the premises, including all mitigation sites, to inspect and undertake any activity to determine compliance with this Certification, or as otherwise authorized by the California Water Code.
13. The Applicant shall not conduct any construction activities within waters of the State during a rainfall event. The Applicant shall maintain a **five-day (5-day) clear weather forecast** before conducting any operations within waters of the State.

ATTACHMENT B

Conditions of Certification

File No. 12-046

14. If rain is predicted after operations have begun, grading activities must cease immediately and the site must be stabilized to prevent impacts to water quality, and minimize erosion and runoff from the site.
15. The grading, stabilization and re-vegetation will be phased to limit the exposed or working face such that the graded area can be stabilized within 24 hours after the first prediction of rain during the 5-day forecast or within 24 hours after final grading of the phased area.
16. No activities shall involve wet excavations (i.e., no excavations shall occur below the seasonal high water table). A minimum **5-foot** buffer zone shall be maintained above the existing groundwater level. If construction or groundwater dewatering is proposed or anticipated, the Applicant shall file a **Report of Waste Discharge (ROWD)** to this Regional Board and obtain any necessary NPDES permits/Waste Discharge Requirements prior to discharging waste.

Sufficient time should be allowed to obtain any such permits (generally 180 days). If groundwater is encountered without the benefit of appropriate permits, the Applicant shall cease all activities in the areas where groundwater is present, file a Report of Waste Discharge to this Regional Board, and obtain any necessary permits prior to discharging waste.

17. All project and construction activities not included in this Certification, and which may require a permit must be reported to the Regional Board for appropriate permitting. Bank stabilization and grading as well as any other ground disturbances are subject to restoration and revegetation requirements, and may require additional Certification action.
18. All surface waters, including ponded waters, shall be diverted away from areas undergoing grading, construction, excavation, vegetation removal, and any other activity which may result in a discharge to the receiving water. If surface water diversions are anticipated, the Applicant shall develop and submit a **Surface Water Diversion Plan (Plan)** to this Regional Board **for approval prior to implementation** of any surface water diversions. The Plan shall include (1) narrative that describes the proposed method and duration of diversion activities, (2) the structure configuration, (3) construction materials, (4) all heavy equipment used for implementation, (5) the erosion and sediment controls, (6) a map or drawing indicating the locations of diversion and discharge points, and (7) the contingency measures that shall be a part of this plan to address various flow rates.

If surface flows are present, then upstream and downstream monitoring for the following shall be implemented:

- pH
- temperature

ATTACHMENT B

Conditions of Certification File No. 12-046

- dissolved oxygen
- turbidity
- total suspended solids(TSS)

Analyses must be performed using approved US Environmental Protection Agency methods, where applicable. These constituents shall be measured at least once prior to diversion and then monitored for on a daily basis during the first week of diversion and/or dewatering activities, and then on a weekly basis, thereafter, until the in-stream work is complete.

Results of the analyses shall be submitted to this Regional Board by the 15th day of each subsequent sampling month. A map or drawing indicating the locations of sampling points shall be included with each submittal. Diversion activities shall not result in the degradation of beneficial uses or exceedance of water quality objectives of the receiving waters. Downstream TSS shall be maintained at ambient levels. Where natural turbidity is between 0 and 50 Nephelometric Turbidity Units (NTU), increases shall not exceed 20%. Where natural turbidity is greater than 50 NTU, increases shall not exceed 10%. Any such violations may result in corrective and/or enforcement actions, including increased monitoring and sample collection.

19. The Applicant shall restore **all areas** of TEMPORARY IMPACTS to waters of the United States and all other areas of temporary disturbance which could result in a discharge or a threatened discharge to waters of the State.
20. The Applicant shall submit to this Regional Board **Annual Monitoring Reports** (Annual Reports) by **January 1st** of each year for a minimum period of **five (5) years** following this issuance of 401 Certification until project completion and documented. The Annual Reports shall describe in detail all of the project or construction activities performed during the previous year. The Annual Reports shall describe the status of other agreements or any delays in the process. At a minimum the Annual Reports shall include the following documentation and answered appropriately whether or not mitigation has been performed:
 - (a) Color photo documentation of the pre- and post-project and mitigation site conditions;
 - (b) Geographical Positioning System (GPS) coordinates in decimal-degrees format outlining the boundary of the project and mitigation areas;
 - (c) The overall status of project including whether or not work has begun on the Project and a detailed schedule;
 - (d) Copies of all permits revised as required in Additional Condition 1;
 - (e) Water quality monitoring results for each reach (as required) compiled in a spreadsheet format;

ATTACHMENT B

Conditions of Certification
File No. 12-046

- (f) A certified Statement of “no net loss” of wetlands associated with this project;
 - (g) Discussion of any monitoring activities and exotic plant control efforts; and
 - (h) A certified Statement from the permittee or his/her representative that all conditions of this Certification have been met.
21. All applications, reports, or information submitted to the Regional Board shall be signed:
- (a) For corporations, by a principal executive officer at least of the level of vice president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which discharge originates.
 - (b) For a partnership, by a general partner.
 - (c) For a sole proprietorship, by the proprietor.
 - (d) For a municipal, State, or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.
22. Each and any report submitted in accordance with this Certification shall contain the following completed declaration:
- “I declare under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who managed the system or those directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.
- Executed on the _____ day of _____ at _____.
- _____ (Signature)
_____ (Title)”
23. All communications regarding this project and submitted to this Regional Board shall identify the Project File Number **12-046**. Submittals shall be sent to the attention of the 401 Certification Unit.
24. Any modifications of the proposed project may require submittal of a new Clean Water Act Section 401 Water Quality Certification application and appropriate filing fee.

ATTACHMENT B

Conditions of Certification

File No. 12-046

25. The project shall comply with the local regulations associated with the Regional Board's **Municipal Stormwater Permit** issued to the Department of Transportation (Caltrans) under NPDES No. CAS000003 and Waste Discharge Requirements Order No. 2012-0011 - DWQ.
26. The project shall comply with all requirements of the National Pollutant Discharge Elimination System (NPDES) **General Permit** for Storm Water Discharges Associated with Construction Activity, Order No. 2012-0011-DWQ. All stormwater treatment systems shall be located outside of any water of the State and shall not be used as a wetland or riparian mitigation credit.
27. Coverage under this Certification may be transferred to the extent the underlying federal permit may legally be transferred and further provided that the Applicant notifies the Executive Officer at least 30 days before the proposed transfer date, and the notice includes a written agreement between the existing and new Applicants containing a specific date of coverage, responsibility for compliance with this Certification, and liability between them.
28. The Applicant or their agents shall report any noncompliance. Any such information shall be provided verbally to the Executive Officer within 24 hours from the time the Applicant becomes aware of the circumstances. A written submission shall also be provided within five days of the time the Applicant becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue and steps taken or planned to reduce, eliminate and prevent recurrence of the noncompliance. The Executive Officer, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.
29. *Enforcement:*
 - (a) In the event of any violation or threatened violation of the conditions of this Certification, the violation or threatened violation shall be subject to any remedies, penalties, process or sanctions as provided for under State law. For purposes of section 401(d) of the Clean Water Act, the applicability of any State law authorizing remedies, penalties, process or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this Certification.
 - (b) In response to a suspected violation of any condition of this Certification, the State Water Resources Control Board (SWRCB) or Regional Water Quality Control Board (RWQCB) may require the holder of any permit or license subject to this Certification to furnish, under penalty of perjury, any technical or monitoring reports the SWRCB deems appropriate, provided that the burden, including costs, of the reports shall be a

ATTACHMENT B

Conditions of Certification File No. 12-046

reasonable relationship to the need for the reports and the benefits to be obtained from the reports.

- (c) In response to any violation of the conditions of this Certification, the SWRCB or RWQCB may add to or modify the conditions of this Certification as appropriate to ensure compliance.
30. This Certification shall expire **five (5) years** from date of this Certification. The Applicant shall submit a complete application at least 90 days prior to termination of this Certification if renewal is requested.

**ORANGE COUNTY
DEPARTMENT OF PUBLIC
WORKS**

COUNTY PROPERTY PERMIT

2011-00493

Ngo, Andy 11:05:45 AM

ENCROACHMENT PERMIT RIDER # 1

10/29/2015

COUNTY OF ORANGE

OC Public Works/ OC Planning/ County Property Permits

Permit No: **2011-00493**

INSPECTION PHONE

714-245-4550

Effective Date: **10/28/2015**

12:00 AM

Inspection office shall be notified at least **TWO (2) WORK DAYS PRIOR** to commencing permitted use. **FAILURE TO OBTAIN INSPECTION SHALL VOID THIS PERMIT**

Main Office: 300 North Flower Street,
Santa Ana, California 92703-5001
or P.O. Box 4048, Santa Ana, California 92702-4048
(714) 667-8888
Fax: (714) 667-8885

Expiration Date: **10/28/2016**
Applicant assumes sole responsibility for obtaining a rider (extension) prior to this date
12:00 AM

PERMITTEE

California Department of Transportation, District 7 (Caltrans)
100 South Main Street, Suite 100

Los Angeles, CA 90012
213-897-3768

Contact Person Richard C. Chiang
Telephone No. 213-897-3768

FACILITY

Type	Facility Name	Number
	COYOTE CREEK CHANNEL	A01

Permittee Ref No.: I-5 South HOV Project Segment 2 / 2014-00759

PERMITTED USE:

The following changes are hereby made to the original Permit:

Rider #1: To extend the expiration date.

Temporary access to construct and maintain a 110-foot I-5 Coyote Creek bridge extension (Bridge No. 53-3044) and to relocate North Firestone Blvd. Bridge (Bridge No. 53C2194) for the Inter-State Route 5 (I-5) Widening Project within a portion of Orange County Flood Control District's Coyote Creek Channel (A01) right-of-way, per attached plans, provisions, and to the satisfaction of the assigned County inspection personnel.

PERMITTED USE NOT EFFECTIVE UNTIL APPROVED BY THE ASSIGNED COUNTY INSPECTOR.

THIS PERMIT IS NOT VALID UNTIL THE PERMITTEE FIRST OBTAINS A RIDER TO THIS PERMIT TO ADD THE SELECTED CONTRACTOR AND POST A SURETY BOND, AND \$5,000.00 DEPOSIT FOR TIME AND MATERIAL INSPECTION CHARGE, AND SUBMIT THE CONTRACTOR'S VALID INSURANCE THAT MEETS COUNTY INSURANCE REQUIREMENTS TO COUNTY PROPERTY PERMITS.

CEQA Code 1

SWPPP: Yes

LOCATION OF WORK:

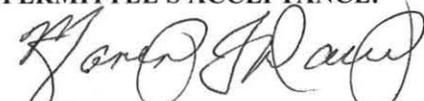
Coyote Creek Channel (A01) at I-5

Dimension/Type: 4-lane bridge extension (110-ft)

Thomas Brother: 737; F6

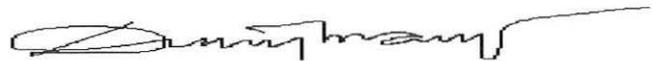
Area: La Mirada

PERMITTEE'S ACCEPTANCE:


Marvin J. Davis

10/29/15

COUNTY APPROVAL:



Ngo, Andy

10/29/2015

PERMIT AND APPROVED PLANS SHALL BE MAINTAINED ON JOB SITE. PERMITTEE SHALL COMPLY WITH REGULATIONS PRINTED ON REVERSE SIDE OF PERMIT AND ATTACHMENTS. ALL UNDERGROUND WORK REQUIRES PRIOR 'UNDERGROUND SERVICE ALERT' COMPLIANCE. THIS PERMIT IS NON-TRANSFERABLE.

Note: Surety will not be refunded until Final Inspection is performed and submitted to County Property Permits.

ENCROACHMENT PERMIT

CONSIDERATION:

<u>Types</u>	<u>PWO#</u>	<u>Permit Fees</u>	<u>Surety</u>	<u>Penalty</u>	<u>Total</u>	Total Fees: 0.00
FE	EF68120	0.00 (2071)	0.00 (2091)	0.00	0.00	

Surety Paid By:

TUF Invoice Paid By:

Contractor: TBD

Engineer:

Inspection: OC Inspections

CC: Operations & Maintenance

PERMIT INSPECTORS REPORT:

DATE WORK COMPLETED: _____

The permitted work was completed in satisfactory manner per instructions and/or the as-built plans and inspectors report submitted herewith for county files

Remarks:

Inspector:

Date

Permit Superintendent:

Date

Refund Recommended By:

Date

Refund Approved By:

Date:

COUNTY PROPERTY PERMIT

2011-00493

ENCROACHMENT PERMIT

4/28/2015

3:45:28 PM
INSPECTION PHONE

714-245-4550

COUNTY OF ORANGE
OC Public Works/ OC Planning/ County Property Permits

Permit No: 2011-00493

Effective Date: 4/28/2015

12:00 AM

Inspection office shall be notified at least TWO (2) WORK DAYS PRIOR to commencing permitted use. FAILURE TO OBTAIN INSPECTION SHALL VOID THIS PERMIT

Main Office: 300 North Flower Street,
Santa Ana, California 92703-5001
or P.O. Box 4048, Santa Ana, California 92702-4048

(714) 667-8888

Fax: (714) 667-8885

Expiration Date: 10/28/2015
Applicant assumes sole responsibility for obtaining a rider (extension) prior to this date
12:00 AM

PERMITTEE

California Department of Transportation, District 7 (Caltrans)
100 South Main Street, Suite 100

Los Angeles, CA 90012
213-897-3768

Contact Person Richard C. Chiang
Telephone No. 213-897-3768

FACILITY

Type	Facility Name	Number
	COYOTE CREEK CHANNEL	A01

Permittee Ref No.: I-5 South HOV Project Segment 2 / 2014-00759

PERMITTED USE:

User of County property is hereby authorized as follows, subject to provisions attached hereto:

Temporary access to construct and maintain a 110-foot I-5 Coyote Creek bridge extension (Bridge No. 53-3044) and to relocate North Firestone Blvd. Bridge (Bridge No. 53C2194) for the Inter-State Route 5 (I-5) Widening Project within a portion of Orange County Flood Control District's Coyote Creek Channel (A01) right-of-way, per attached plans, provisions, and to the satisfaction of the assigned County inspection personnel.

PERMITTED USE NOT EFFECTIVE UNTIL APPROVED BY THE ASSIGNED COUNTY INSPECTOR.

THIS PERMIT IS NOT VALID UNTIL THE PERMITTEE FIRST OBTAINS A RIDER TO THIS PERMIT TO ADD THE SELECTED CONTRACTOR AND POST A SURETY BOND, AND \$5,000.00 DEPOSIT FOR TIME AND MATERIAL INSPECTION CHARGE, AND SUBMIT THE CONTRACTOR'S VALID INSURANCE THAT MEETS COUNTY INSURANCE REQUIREMENTS TO COUNTY PROPERTY PERMITS.

CEQA Code 1

SWPPP: Yes

LOCATION OF WORK:

Coyote Creek Channel (A01) at I-5

Dimension/Type: 4-lane bridge extension (110-ft)

Thomas Brother: 737; F6

Area: La Mirada

CONSIDERATION:

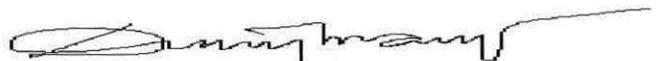
Types	PWO#	Permit Fees	Surety	Penalty	Total	Total Fees: 0.00
FE	EF68120	0.00 (2071)	0.00 (2091)	0.00	0.00	

PERMITTEE'S ACCEPTANCE:


Marvin J. Davis

4/28/15

COUNTY APPROVAL:



Ngo, Andy

4/28/2015

PERMIT AND APPROVED PLANS SHALL BE MAINTAINED ON JOB SITE. PERMITTEE SHALL COMPLY WITH REGULATIONS PRINTED ON REVERSE SIDE OF PERMIT AND ATTACHMENTS. ALL UNDERGROUND WORK REQUIRES PRIOR 'UNDERGROUND SERVICE ALERT' COMPLIANCE. THIS PERMIT IS NON-TRANSFERABLE.

Note: Surety will not be refunded until Final Inspection is performed and submitted to County Property Permits.

Orange County Flood Control District
Right-of-Way Encroachment Permit
Special Provision Attachment
2011-00493

1. All Orange County Flood Control District (hereinafter "District") improvements disturbed, damaged, vandalized or removed as a result of Permittee's activities within, upon, under or over District Right-of-Way (ROW) shall be repaired, restored or replaced at Permittee's expense in conformance with Orange County Public Works (hereinafter "OC Public Works") Standard Plans and to the satisfaction of the Director of OC Public Works or his designee (hereinafter "Director") within sixty (60) calendar days of the issuance of written notice by Director. If Permittee fails to repair, restore or replace District's improvements within 60 calendar days, Director may, in his sole and absolute discretion, cause the repair, restoration or replacement of District's improvements to be completed by District personnel or outside contractors and Permittee shall be solely responsible for these cost and expenses. Permittee agrees that in an emergency situation which threatens the public's health, safety or welfare as determined by Director in his sole absolute discretion, Director shall be permitted to cause the repair, replacement or restoration of District's improvements without prior notice to and Permittee shall be solely responsible for the cost of such repair, restoration or replacement in accordance with the procedures described above.
2. Permittee agrees that if any of Permittee's improvements are disturbed, damaged or removed by District during the course of District's operating, maintaining, repairing, improving, restoring, or enlarging District's improvements within, upon, over or under District's ROW Permittee shall be responsible for replacing, repairing, restoring or removing Permittee's improvements to the satisfaction of Director solely at Permittee's expense within sixty (60) calendar days of receiving written notice from Director.
3. Permittee's activities within District ROW allowed by this permit shall be performed during the NON-STORM-SEASON (May 1st through September 30th). No work shall be performed between October 1st and April 30th without prior authorization and approval obtained from the assigned County inspector.
4. Permittee, its assigns or successors shall be solely responsible for the operation, maintenance, repair and/or replacement of Permittee's improvements within District ROW.
5. Permittee agrees that it shall indemnify, defend with counsel approved in writing by District, and hold District, the County of Orange, their elected and appointed officials, officers employees agents and contractors (hereinafter "District/County Indemnities") harmless from any and all liability for injury or damage to third persons or property arising from Permittee's activities and/or improvements placed within, upon, under or over District's ROW unless such injury or damage is caused by the gross negligence or willful misconduct of District, County or the District/County Indemnities.
6. Permittee shall not allow any non-District motorized vehicles to operate within District ROW. This permit does not authorize the use of motorized vehicles.
7. Permittee shall ensure that all laws and regulations are enforced and obeyed during event by Permittee and all participants.

8. Any chain link fencing including gates that are damaged during the approved permit activities are to be restored, repaired or replaced by Permittee to satisfaction of Director and in compliance with OC Public Works Standard Plan 600-1-OC.
9. Permittee acknowledges that the improvement installed within District ROW approved under the provisions of the permit is non-transferable. Therefore, the Permittee agrees that upon sale or transfer of the subject property the Permittee shall be required to remove improvements installed within the District's ROW and restore the District's ROW to an acceptable pre-existing condition meeting the satisfaction of the assigned District inspector. If the Permittee's assign and/or successor desires to continue to operate and maintain the approved permit improvements, the assign and/or successor will be required to obtain a new encroachment permit from OC Public Works/OC Engineering/County Property Permits.
10. If at anytime, District intends to modify, enlarge, reconstruct, repair and/or replace District facilities, Permittee agrees to remove and/or relocate interfering portions of Permittee's improvements within sixty (60) calendar days of the date of District's written notification to Permittee. Upon receipt of written notification from District, Permittee shall obtain an encroachment permit from District covering Permittee's plans to remove and relocate Permittee's interfering improvements. District agrees to expedite review of Permittee's encroachment permit application. Permittee shall be responsible for all financial charges associated with satisfying this permit special provision. If Permittee fails to remove its interfering improvements within the time period required, Director, in his sole and absolute discretion, may cause the removal of Permittee's interfering improvement to be completed by District staff or by outside contractor. Permittee agrees that it shall be solely responsible for the cost of such removal and shall reimburse District for all of its cost and expenses within sixty (60) calendar days of the mailing of an invoice by Director.
11. Nothing in this Permit is intended nor shall anything in this permit be construed to transfer to District or its successors and assigns or to relieve Permittee or their successors and assigns or predecessors in title of any responsibility or liability Permittee now has, has had, or comes to have with respect to human health or the environment, including, but not limited to responsibility or liability related to hazardous or toxic substances or materials (as such terms as those used in this sentence are defined by statute, ordinance, case law, governmental regulation other provision of the law). Furthermore, District may exercise its right under law to bring action, if necessary, to recover clean up costs and penalties paid, if any, from Permittee or any others who are ultimately determined to have responsibility for said toxic or hazardous materials.
12. Permittee's use of District ROW which includes material deliveries shall be coordinated with the assigned inspector. **NO VEHICULAR ACCESS WITHIN DISTRICT ROW IS APPROVED EXCEPT FOR MAKING CONSTRUCTION MATERIAL DELIVERIES. ANY VIOLATION OF THIS PROVISION SHALL VOID PERMIT.**
13. No construction materials are to be stored in a way that impedes and/or interferes with bikeway use, channel inspection or maintenance operations.
14. **PERMITTEE ACKNOWLEDGES THAT IT SHALL BE RESPONSIBLE FOR OBTAINING ALL APPLICABLE REGULATORY PERMIT AGREEMENTS AND SATIFYING ALL RESOURCE AGENCY REQUIREMENTS. FUTHERMORE PERMITTEE ACKNOWLEDGES THAT NEITHER THE COUNTY OF ORANGE NOR**

THE DISTRICT SHALL BE CO-NAMED IN ANY REGULATORY PERMIT AGREEMENTS OR OBLIGATED TO SATISFY ANY OF THE TERMS, CONDITIONS, PROVISIONS MITIGATION, OR MONITORING REQUIRED BY THE RESOURCE AGENCIES VIA THE REGULATORY PERMIT AGREEMENTS. PERMITTEE SHALL PROVIDE OC PUBLIC WORKS/OC ENGINEERING/COUNTY PROPERTY PERMITS WITH COPIES OF ALL REGULATORY PERMIT AGREEMENTS AND CONDITIONS AND MAINTAIN COPIES AT THE JOB SITE FOR INSPECTION PURPOSES. (25)

15. In the event of an emergency, the Permittee acknowledges that the District retains the right at the District's sole and absolute discretion to remove sediment and debris, perform channel repairs or conduct other maintenance activities within the approved permit area. In such cases, Permittee acknowledges that the District will not be required to restore the Permittee's approved improvements within the District's ROW, nor will the District be obligated to satisfy any of the Permittee's regulatory permit agreement terms, conditions or mitigation requirements.
16. Permittee shall provide emergency access to Police, Fire and District personnel during permit period.
17. District access gates are to be immediately locked upon entering or exiting District channel ROW.
18. Permittee acknowledges that the use of earthen District access roads is prohibited during rainstorm conditions or when the District's earthen access roads are wet. When Districts earthen access roads are wet the Permittee's access will be limited to pedestrian access only. **IN CASES WHEN THE EARTHEN ACCESS ROAD BECOMES WET AUTHORIZED VEHICULAR ACCESS SHALL NOT BE COMMENCED PRIOR TO THE EARTHEN ACCESS ROAD DRYING SUFFICIENTLY TO THE SATISFACTION OF THE ASSIGNED DISTRICT INSPECTOR. ANY DAMAGE TO DISTRICT EARTHEN ACCESS ROADS CAUSED BY PERMITTEE'S MISUSE OF SUCH ROADS SHALL BE REPAIRED PROMPTLY BY PERMITTEE AT ITS SOLE EXPENSE. IF PERMITTEE FAILS TO PROMPTLY REPAIR DISTRICTS EARTHEN ACCESS ROADS, DIRECTOR, IN HIS SOLE AND ABSOLUTE DISCRETION, MAY CAUSE THE REPAIR OF THE DISTRICT'S EARTHEN ACCESS ROAD TO BE COMPLETED BY DISTRICT STAFF OR BY OUTSIDE CONTRACTOR. PERMITTEE AGREES THAT IT SHALL BE SOLEY RESPONSIBLE FOR THE COST OF SUCH REPAIR AND SHALL REIMBURSE DISTRICT FOR ALL OF ITS COSTS AND EXPENSES WITHIN SIXTY (60) CALENDAR DAYS OF THE MAILING OF AN INVOICE BY DIRECTOR.**
19. Any violation of the permit provision by Permittee and/or assigned contractor shall be adequate cause for immediate revocation of the permit by District.
20. Permittee shall comply with the requirements of State, County, and City Water Quality Ordinances and shall implement Best Management Practices (BMP's) to prevent all materials, including debris associated with the proposed project, from entering into the channel and/or District maintained areas.
21. The following requirements shall apply for approval to work in OCFCD R.O.W. during the "storm season" (October 1 to April 30):

- The contractor shall be advised that if either dewatering or diversion is necessitated the Permittee may be required to obtain a DeMinimis Permit from the governing Regional Water Quality Control Board (RWQCB), Santa Ana or San Diego. If the project entails either action, the Permittee will have to provide proof of coverage to the assigned Inspector.
- Any temporary, in-channel flow diversion (pumped or gravity flow) or discharge from dewatering shall be contained in a pipe/flume. In the event of dewatering, a desilting basin is required in at least one location.
- Clear water diversions and dewatering operations shall be constructed in accordance with policies and guidelines outlined in the Caltrans Storm Water Quality Handbook, The Construction Site Best Management Practices Manual (BMP fact sheets, NS-2 and NS-5) or the California Stormwater Quality Association (CASQA) Stormwater Best Management Practice Handbook — Construction (BMP fact sheets, NS-2 and NS-5).
- Any diversion/dewatering system chosen shall relieve seepage pressure, drain the channel invert, and keep the subgrade free from water.
- The Contractor/Permittee shall submit a diversion/dewatering plan to County for review and acceptance prior to any construction.
- In County R/W, all materials testing shall be done by the OC Public Works Materials Lab, including soil compaction testing. All backfill in County R/W shall be per the Standard Specifications for Public Works Construction 2006 Edition.
- In County R/W, the contractor shall submit all concrete mix designs, material submittals and all certifications to the County for review and approval.
- In County R/W, on slopes/ground areas that have been removed or destroyed, Crushed Aggregate Base (C.A.B.) per the “Greenbook” section 200-2 shall be placed and compacted to 95%, 6” thick.
- Working within Orange County Flood Control Facilities is restricted in the period of October 1 to April 30. A request for working in OCFCD R/W during October 1 – April 30 needs to be completed and approved by the County in order to work in OCFCD R/W during this time.
- In County R/W, any concrete removals that may be needed shall be removed to the limits specified by the Construction Inspector.
- No construction materials are to be stored in a way that impedes and/or interferes with access road use, channel inspection, maintenance of the OCFCD facilities or emergency vehicle access.
- Permittee shall comply with the requirements of State, County, and City Water Quality Ordinances and shall implement Best Management Practices (BMP’s) to prevent all materials, including debris associated with the proposed project, from entering into the channel and/or District maintained areas.
- Runoff from equipment and vehicle washing shall be contained at construction sites unless treated to reduce or remove sediment and other pollutants

Signature: _____

Marvin J. Davis

Date: _____

4/28/15

Print Name: _____

Marvin J. Davis

STANDARD PROVISIONS

TO BE ATTACHED TO AND MADE A PART OF PERMIT NO. 2011-00493

1. Permits issued by this Department are pursuant to the authority vested by the Board of Supervisors for the County of Orange, Orange County Flood Control District, any one or all of which are hereinafter referred to as County.
2. Permittee agrees to save County, its agencies, districts, etc., including its officers, agents or employees, harmless from any and all penalties, liabilities or loss resulting from claims or court actions, arising directly out of any damage or injury to persons or property by reason of the acts or omissions of Permittee, its agents, employees or independent contractors in exercising any of the privileges herein granted or in consequence thereof.

The Permittee shall file a written accident report with the County of Orange for any property damage, death or injuries on project site within 48 hours after such incident occurs. The accident report shall include, but is not limited to, the following information, if available: time and date, location, nature of accident, names of people injured, description of property damage, police report number, and description of job site condition at the time of accident.

Failure to file an accident report shall be considered a violation of the permit provisions and may cause revocation of this permit.

Accident report shall be filed with the Inspection section assigned to the project. Contact can be made at the following telephone numbers:

Permits Inspection (714) 245-4550
1152 E. Fruit Street
Santa Ana, CA 92702

Operations Inspection (714) 955-0213
2301 Glassell
Orange, Ca 92865

3. Should any damage or injury to County works occur during initial use and/or as a result of this permitted use, either through the acts of agents, servants, or employees of Permittee or by any independent contractor of Permittee in the exercise of the rights herein granted, Permittee shall immediately, upon the written demand of County, restore such works to the condition of same on the date of the occurrence of said damage or injury at Permittee's cost or expense. The question as to whether or not any such damage or injury has been caused to the works shall be determined by the Director of OC Public Works (OCPW) and his determination shall be final. In the event repair by County is necessary, Permittee shall pay County the cost of such repairs.
4. County reserves the right unto itself to perform any work, upon any portion or all of the area covered by this permit, or to do any other work necessary at any time. Such work may be performed without incurring any liability of any nature whatsoever to the Permittee. It is further understood and agreed that County reserves unto itself the rights of ingress over all or any portion of the subject area.
5. Neither this permit nor any of the rights herein granted shall be assigned without the prior written approval of the County.
6. By acceptance of this permit, Permittee acknowledges and assumes all responsibility for compliance with requirements of other regulatory governing agencies including, but not limited to, zoning regulations, applicable ordinances and laws, etc., of the County of Orange, the State of California, or others having regulatory control over the use granted herein.
7. A copy of this permit and approved plans, if applicable, shall be maintained at the site of work and be shown to any authorized representative of the County or other regulatory governing agency upon request.
8. No access or work shall be performed within County rights of way without the full knowledge of County's inspector, who shall be given not less than two work days' advance notice of the initiation of permitted use. Failure of Permittee to obtain inspection shall void this permit and necessitate reapplication by Permittee.
9. This permit may be immediately revoked for reasons in the best interest of the County, including violation of permit provisions or other applicable rules and regulations or for the creation of a nuisance upon notice given by the Director of OC Public Works or authorized representative. In the event of such revocation, Permittee shall immediately cease all operations and restore County right of way as directed by County's inspector.
10. Any construction performed within County properties shall be in accordance with OC Public Works (OCPW) Standard Plans and established criteria. Any deviation must be specifically detailed and highlighted on plans in a manner meeting the approval of County Property Permits.

No uses other than that as stated on this permit shall be exercised. Public right of way shall not be used for administrative operations or storage of equipment, materials, supplies, etc.

ADDITIONAL STANDARD PROVISIONS

(Codified Ordinances, Title 6, Section 6-1-1, et seq., of the County of Orange)

11. **RIGHT OF WAY RESERVATIONS:** The permission granted hereby extends only to those which the County of Orange has in the real property and no warranty of any kind is made hereby that the said County possessed any or all of the rights of title necessary for Permittee to accomplish work under this permit, and Permittee is cautioned to satisfy itself that it has obtained all necessary rights or permits prior to commencement of work. This permit shall not constitute a grant of any interest in or to real property belonging to the County of Orange or any other person or entity. References to Director signify the Director, OC Public Works (OCPW), or his assignees.
12. **WORKING HOURS:** All work shall be performed within working hours of Orange County Public Works (OCPW) permit inspection group, unless prior arrangements have been made with the inspection group.
13. **SURVEY MONUMENTS:** It is imperative that Permittees NOTIFY THE SURVEY OFFICE, telephone 714-955-0152, of OC Public Works at least 48 hours prior to removing or replacing any Survey monuments. All monuments shall be replaced at Permittee's expense and MUST be replaced in kind within 0.01 feet of their original horizontal and vertical location, unless otherwise specified in writing.

CONSTRUCTION REQUIREMENTS

14. **RESURFACING BY PERMITTEE OR COUNTY SPECIFICATIONS:** Temporary patching of trench is required on lateral cuts in surfaced streets immediately after backfilling. Permanent pavement shall be placed within thirty (30) working days after completion of backfilling operations. All excavations shall be backfilled or covered or otherwise protected, in a manner meeting the approval of the inspector, at the end of each work day. The inspector may require any pavement removal to be patched with temporary AC immediately after backfilling.

Where pavement or surfacing has been removed by acceptable method, as determined by inspector, and trench edges sawed, Permittee shall replace it with a structural section the same as that removed plus an additional one inch (1") of AC. In no case shall the replacement structural section be less than 5" AC/NS or 3" AC/6" PMB per Standard Plans. The inspector shall approve all structural sections prior to placement. Where Portland Cement Concrete pavement is removed or damaged, it shall first be sawed at excavation limits, providing distance to the next joint is more than five (5) feet away; if not, then it shall be removed to next joint without damaging adjacent pavement and subsequently replaced with Portland Cement Concrete.

15. **LOCATION OF PIPES AND CONDUITS:** All pipes and conduits laid parallel to the roadway at least five (5) feet from edge of the pavement or graded traveled roadway, unless otherwise authorized in writing by the Director.
16. **MINIMUM COVER:** The uppermost portion of any pipeline or other facility shall be installed NOT LESS THAN thirty (30) inches below the lowest portion of the roadway surface or ditch, unless otherwise authorized in writing by the Director.
17. **STANDARD SPECIFICATIONS:** Unless otherwise indicated on permit, all work shall be done in accordance with OC Public Works (OCPW) Department Standard Plans and the Standard Specifications for Public Works Construction latest issues.
18. **COUNTY PROJECTS:** This permit DOES NOT give Permittee permission to delay or interfere with the construction of County projects. Installation shall be subject to the approval of and at the convenience of County's contractor. Prior to any excavation, written permission must be obtained from said contractor and presented to resident engineer, stating that installation will NOT DELAY or interfere with said contractor's operation. If permission is DENIED, then work shall be delayed until completion of said contract.
19. **TUNNELING OR BORING:** All improved streets, as shown on Master Plan of Arterial Highways, MUST be bored or tunneled. All boring, tunneling and placing conduits, casing and pipelines shall be done in such a manner that the existing driving lanes will NOT be disturbed. If a casing is installed to receive conduit or pipeline, all voids between casing and conduit shall be filled with grout or sand. Bore pit shall not encroach within five (5) feet from edge of pavement.
20. **OPEN CUT METHOD:** Open cutting of local streets may be permitted. NOT more than one-half (1/2) of the width of a traveled way shall be disturbed at one time and the remaining width shall be kept open to traffic. Two-way traffic shall be maintained on pavement at all times.
 - A. Minimum clearance of two (2) feet adjacent to any surface obstruction and a five (5) foot clearance between excavation and traveled way shall be maintained.
 - B. Backfill material shall be subject to OCPW inspector's approval prior to placement. OCPW inspector may require 2-sack cement slurry backfill. PERMANENT A.C. PATCH shall be placed within thirty (30) working days after completion of backfilling operations.
21. **COMPACTION:** All backfill replaced in excavation within road right of way shall be compacted until relative compaction is NOT LESS than ninety percent (90%), as determined by the Relative Compaction Test as specified in the OC Public Works (OCPW) Department Standard Plans. PMB (aggregate base) shall be compacted to a relative compaction of NOT LESS than ninety-five percent (95%).

After completion of backfill and compaction operations and before permanent paving is replaced, contractor shall call for compaction tests

to be performed and shall provide for test holes at locations and as directed by the inspector. In lieu of test holes as specified above, contractor may elect to call for compaction tests in successive lifts of backfill not to exceed two (2) feet vertically in time each lift of backfill is placed and compacted.

22. REPLACING ENTIRE DRIVING AND/OR BIKE LANE: If surfacing or pavement within driving lanes of a highway, as shown on the Master Plan of Arterial Highways or within a bikeway, is removed or damaged by Permittee's operation, existing surfacing or pavement for width of the driving or bike lane and for the length of the damaged surfacing shall be removed and replaced to a distance of not less than one hundred (100) feet. Such removal and replacement shall be to the satisfaction of the Director.
23. OIL-MIXED SHOULDERS: Improved oil-mixed shoulders are to be remixed to minimum depth of four (4) inches with an approved oil-mixing machine using approximately ½ gallon to 2½ gallons of SC 800 per square yard as determined by the Director. In lieu of the former, the entire width of the shoulder may be removed to a minimum depth of two (2) inches and replaced with a minimum of two (2) inches of AC.
24. CONCRETE SIDEWALK OR CURB: All concrete sidewalks or curbs shall be saw-cut to the nearest control joint and replaced in conformance with applicable provisions of the OC Public Works (OCPW) Department Standard Plans and Standard Specifications for Public Works Construction. Sidewalk removal and replacement shall be to the satisfaction of the Inspector.
25. CARE OF DRAINAGE: If the work herein contemplated shall interfere with established drainage, ample provision shall be made by the Permittee to provide for it, as may be required by the Director.

All roadside drainage ditches shall be restored to original grades and inlet and outlet ends of all culverts shall be left free and clear.

26. COMPLIANCE WITH TERMS OF PERMIT: Permittee shall not make or cause to be made any excavation, or construct, place upon, maintain, or leave any obstruction or impediment to travel, or pile or place any material in or upon any highway, under the surface of any highway, at any location or in any manner other than that described in application as approved by the Director, or contrary to terms of permit or of any provision of the Ordinance hereinbefore referenced.

Permittee agrees that if installation of any nature or kind placed in the excavation, fill or obstruction, for which permit is issued, which shall at any time in the future interfere with use, repair, improvements, widening or change of grade of highway, Permittee or his successors or assigns, with ten (10) days after receipt of written notice from the Director to do so, at his own expense, either remove such installation or relocate to a site which may be designated by the Director.

Permittee hereby agrees to do all work and otherwise comply with provisions of Orange County Codified Ordinances Title 6, Section 6-1-1, et seq., as amended, terms and conditions of this permit, and all applicable rules and regulations of the County of Orange. All work shall be performed in accordance with provisions of this Ordinance and of all applicable laws, rules and regulations of Orange County and to the satisfaction of the Director.

After work has been completed, all debris and excess material from excavation and backfill operations shall be removed from right of way and the roadway left in a neat and orderly condition. All approaches to private driveways and intersecting highways and streets shall be kept open to traffic at all times. Excess materials which adhere to roadway surfacing, as a result of construction operations, shall be removed by approved methods to the satisfaction of the Director.

TRAFFIC

27. ARTERIAL HIGHWAY TRAFFIC LANES: Two-way traffic shall be maintained at all times. At no time between the hours of 7:00 a.m. and 8:30 a.m. and between the hours of 4:00 p.m. and 6:00 p.m., Monday through Friday (excluding legal holidays), shall there be any obstruction of an arterial highway traffic lane. Said restriction shall apply to vehicles, equipment, material, traffic control devices, excavation, stockpile or any other form of obstruction. Any exceptions must be approved specifically by a traffic control plan and by County-designated Supervising Construction Inspector.
28. PROTECTION OF TRAVELING PUBLIC: Permittee shall take adequate precautions for protection of the traveling public. Barricades, flashing amber lights and warning signs, together with flagmen, where necessary, shall be placed and maintained in accordance with the State of California Manual of Traffic Controls, For Construction and Maintenance Work Zones until the excavation is refilled, the obstruction removed, and roadway is safe for use of traveling public. The Director may specify, as a condition of the issuance of the permit, safety devices or measures to be used by Permittee, but failure of Director to so specify the devices or measures to be used shall not relieve Permittee of his obligation hereunder.

Trenching for installation across any intersecting roadway open to traffic shall be progressive. NOT more than one-half (1/2) of the width of a traveled way shall be disturbed at one time, and the remaining width shall be kept open to traffic by bridging or backfilling.

29. SIGNALIZED INTERSECTION: Permittee shall notify OC Public Works/Traffic Section at 714-245-4580, at least 72 hours in advance of any excavation within one hundred (100) feet of a signalized intersection. Permittee and/or his contractor shall assume cost and responsibility for maintaining existing and temporary electrical systems or any other item or portion of work, as may be deemed necessary or advisable for protection of highway and traveling public and payment of all costs incurred by the County of Orange in repairing facilities damaged during construction. Applicant shall immediately repair or replace any damaged traffic control devices and/or striping facilities.

PERMITTEE'S OBLIGATION

30. RESTORATION: APPLICANT SHALL RESTORE THE ROADWAY TO ITS ORIGINAL OR BETTER CONDITION AND CAUSE ANY PERMANENT PAVING TO BE COMPLETED AS SOON AS POSSIBLE. Immediately upon completion of the work necessitating the excavation or obstruction authorized by any permit issued pursuant to the aforementioned Ordinance, Permittee shall promptly, and in a workmanlike manner, refill the excavation or remove the obstruction to the satisfaction of the Director.

If Permittee fails or refuses to refill any excavation which he has made or remove any obstruction which he has placed on any highway, the Director may do so and Permittee shall promptly reimburse County the cost thereof. If any anytime subsequent to first repair of a surface of a highway damaged or destroyed by any excavation or obstruction in such highway, it becomes necessary again to repair such surface due to settlement or any other cause directly attributable to such excavation or obstruction, Permittee shall pay to County the cost of such additional repairs made by the Director. Cost shall be computed by the Director as provided in Section 6-3-47 or Section 6-3-49 of the aforementioned Ordinance, whichever, in the judgment of the Director, will most fairly compensate County for expenses incurred by it.

31. PERMITTEE TO PAY DEFICIENCY. If any deposit is insufficient to pay all fees and costs herein provided, Permittee shall, upon demand, pay to the Director an amount equal to the deficiency.
32. EFFECT OF FAILURE TO PAY COSTS OF DEFICIENCY: If Permittee, upon demand, fails to pay any deficiency as provided in Section 6-3-77 of the aforementioned Ordinance, or shall fail to pay any other costs due County hereunder for which no deposit has been made, County may recover same by an action in any court or competent jurisdiction. Until such deficiency or costs are paid in full, a permit hereunder shall not thereafter be issued to Permittee.
33. TAXABLE POSSESSORY INTEREST: Permittee acknowledges that a taxable possessory interest may have been created by this permit and that Permittee may be subject to payment of property taxes levied on such interest. (Reference is made to California Revenue and Taxation Code, Sections 107, 107.4 and 107.6.)
34. ADDITIONAL COST: Any additional cost incurred by Permittee incidental to this work NOT shown on the face of the permit, shall be borne by Permittee.
35. COMPLIANCE: Any CONDITIONS shown in regulations, attachments, and/or provisions of Codified Ordinance and all applicable laws, rules and/or regulations of Orange County or any other regulatory governing agency pertinent to work on the face of this permit MUST be complied with.

Section 6424 of the California Labor Code requires contractors planning excavation or trench work to obtain a permit for such work from the State of California, Department of Industrial Relations, DIVISION OF INDUSTRIAL SAFETY.

CONDITION: OC PUBLIC WORKS DOES NOT PERFORM ANY INSPECTION UNDER THIS PERMIT PERTAINING TO THE PROTECTION AND SAFETY OF PERSONNEL OR EQUIPMENT. THIS IS THE RESPONSIBILITY OF PERMITTEE.

The Director may, either at the time of the issuance of the permit or at any time thereafter until completion of the work, prescribe such additional conditions as he may deem reasonably necessary for the protection of the highway or for the prevention of undue interference with traffic or to assure the safety of persons using the highway.

The Permittee shall make proper arrangements satisfactory to the Director for and bear the cost of relocating any structure, public utility, tree or shrub where such relocation is made necessary by the proposed work for which a permit is issued. Permittee is aware of Ordinance No. 2717 concerning the registration and disclosure of lobbyists

RAILROAD RELATIONS

EXHIBIT F

EXHIBIT F

Information Handout Document to Project Construction Contract Documents:

"RAILROAD RELATIONS AND INSURANCE REQUIREMENTS"

1.01 GENERAL

The term "Railroad" shall mean Union Pacific Railroad Company.

It is expected that the Railroad will cooperate with the Contractor to the end that the work may be handled in an efficient manner. However, except for the additional compensation provided for hereinafter for delays in completion of specific unit of work to be performed by the Railroad, and except as provided in Public Contracts Code Section 7102, the Contractor shall have no claim for damages, extension of time, or extra compensation in the event his work is held up by railroad train operations or other work performed by the Railroad.

The Contractor must understand the Contractor's right to enter the Railroad's property is subject to the absolute right of the Railroad to cause the Contractor's work on the Railroad's property to cease if, in the opinion of the Railroad, the Contractor's activities create a hazard to the Railroad's property, employees, and operations.

The Contractor acknowledges its receipt from the State of a copy of the Contractor's Right of Entry Agreement that has been executed by the Railroad and the State. The Contractor agrees to execute and deliver to the Railroad the Contractor's Endorsement that is attached hereto as Appendix 1 and to provide to the State and/or the Railroad all insurance policies, binders, certificates or endorsements that are set forth in Exhibits B and C of the Contractor's Right of Entry Agreement.

1.02 RAILROAD REQUIREMENTS

The Contractor shall provide to Mr. Chris Keckeisen, Senior Railroad's Manager, Industry and Public Projects, 2015 S. Willow Avenue, Bloomington, California 92316, and State's Resident Engineer (Engineer) in writing, the advance notice requirements set forth in Section 1 of **Exhibit B** of the Right of Entry Agreement before performing any work on, or adjacent to the property or tracks of the Railroad.

Contractor shall cooperate with the Railroad where work is over or under the tracks, or within the limits of the Railroad property to expedite the work and avoid interference with the operation of railroad equipment.

Contractor shall comply with the rules and regulations of the Railroad or the instructions of its representatives in relation to protecting the tracks and property of the Railroad and the traffic moving on such tracks, as well as the wires, signals and other property of the Railroad, its tenants or licensees, at and in the vicinity of the work during the period of construction. The responsibility of the Contractor for safe conduct and adequate policing and supervision of its work at the job site shall not be lessened or

otherwise affected by the presence at the work site of the Railroad representatives, or by the Contractor's compliance with any requests or recommendations made by the Railroad representatives.

Contractor shall perform work so as not to endanger or interfere with the safe operation of the tracks and property of the Railroad and traffic moving on such tracks, as well as wires, signals and other property of the Railroad, its tenants or licensees, at or in the vicinity of the work.

Contractor shall take protective measures to keep the Railroad facilities, including track ballast, free of sand or debris resulting from his operations. Damage to the Railroad facilities resulting from the Contractor's operations will be repaired or replaced by the Railroad and the cost of such repairs or replacement shall be deducted from the Contractor's progress and final pay estimates.

Contractor shall contact the Railroad's "Call Before You Dig" at least forty-eight (48) hours prior to commencing work, at 1-800-336-9193 during normal business hours (7:00 a.m. to 9:00 p.m. Central Time, Monday through Friday, except holidays – also a 24-hour, 7-day number for emergency calls) to determine location of fiber optics. If a telecommunications system is buried anywhere on or near the Railroad property, the Contractor will coordinate with the Railroad and the Telecommunication Company (ies) to arrange for relocation or other protection of the system prior to beginning any work on or near Railroad property.

Contractor shall not pile or store any materials nor park any equipment closer than 25'-0" to the centerline of the nearest track, unless directed by the Railroad's representative.

Contractor shall also abide by the following temporary clearances during the course of construction:

- 12'-0" horizontally from centerline of track
- 21'-6" vertically above top of rail

The temporary vertical construction clearance above provided will not be permitted until authorized by the California Public Utilities Commission. It is anticipated that authorization will be received not later than fifteen (15) days after the approval of the highway contract by the Attorney General. In the event authorization is not received by the time specified, and, if in the opinion of the Engineer, the Contractor's operations are delayed or interfered with by reason of authorization not being received by the said time, the Licensee will compensate the Contractor for such delay to the extent provided in Section 8-1.07, "Delays," of the 2010 Standard Specifications and not otherwise.

Walkways with railing shall be constructed by the Contractor over open excavation areas when in close proximity of tracks, and railings shall not be closer than 8'-6" horizontally from centerline of the nearest track, if tangent, or 9'-6" if curved.

Infringement on the above temporary construction clearances by the Contractor's operations shall be submitted to the Railroad by the Engineer, and shall not be

undertaken until approved by the Railroad, and until the Engineer has obtained any necessary authorization from any governmental body or bodies having jurisdiction there-over. No extension of time or extra compensation will be allowed in the event the Contractor's work is delayed pending Railroad approval and governmental authorization.

When the temporary vertical clearance is less than 22'-6" above top of rail, the Railroad shall have the option of installing tell-tales or other protective devices the Railroad deems necessary for protection of the Railroad trainmen or rail traffic.

Four (4) sets of plans, in 11" x 17" format, and two (2) sets of calculations showing details of construction affecting the Railroad's tracks and property not included in the contract plans, including but not limited to shoring and falsework, shall be submitted to the Engineer for review prior to submittal to the Railroad for final approval. At Railroad's option, these plans and calculations may be submitted electronically via email or be mailed with appropriate CD or DVD disk. Falsework shall comply with the Railroad guidelines. Demolition of existing structures shall comply with the Railroad guidelines. Shoring shall be designed in accordance with the Railroad's shoring requirement of UPRR Drawing No. 106613 and guidelines for shoring and falsework, latest edition, issued by the Railroad's Office of Chief Engineer. Shoring and falsework plans and calculations shall be prepared and signed by a professional engineer registered in California. This work shall not be undertaken until such time as the Railroad has given such approval; review by the Railroad may take up to six (6) weeks after receipt of necessary information.

Contractor shall notify the Engineer in writing, at least twenty-five (25) calendar days but not more than forty (40) days in advance of the starting date of installing temporary work with less than permanent clearance at each structure site. The Contractor shall not be permitted to proceed with work across railroad tracks until this requirement has been met. No extension of time or extra compensation will be allowed if the Contractor's work is delayed due to failure to comply with the requirements in this paragraph.

Blasting will be permitted only when approved by the Railroad.

Contractor shall, upon completion of the work covered by this Contract to be performed by the Contractor upon the premises or over or beneath the tracks of the Railroad, promptly remove from the premises of the Railroad, the Contractor's tools, implements and other materials, whether brought upon said premises and cause said premises to be left in a clean and presentable condition.

Under track pipeline installations (if required) shall be constructed in accordance with the Railroad's current standards that may be obtained from the Railroad. The general guidelines are as follows:

Edges of jacking or boring pit excavations shall be a minimum of 25 feet from the centerline of the nearest track.

If the pipe to be installed under the track is 4 inches in diameter or less, the top of the pipe shall be at least 42 inches below base of rail.

If the pipe diameter is greater than 4 inches in diameter, it shall be encased and the top of the steel pipe casing shall be at least 66 inches below base of rail.

Installation of pipe or conduit under the Railroad's tracks shall be done by dry bore and jack method.

Hydraulic jacking or boring will not be permitted.

Safety of personnel, property, rail operations and the public is of paramount importance. As reinforcement and in furtherance of overall safety measures to be observed by the Contractor (and not by way of limitation), the following special safety rules shall be followed:

- (a) Contractor shall keep the job site free from safety and health hazards and ensure that its employees are competent and adequately trained in all safety and health aspects of the job. Contractor shall have proper first aid supplies available on the job site so that prompt first aid services can be provided to any person that may be injured on the job site. Contractor shall promptly notify the Railroad of any U.S. Occupational Safety and Health Administration reportable injuries occurring to any person that may arise during the work performed on the job site. Contractor shall have a non-delegable duty to control its employees while they are on the job site or any other property of the Railroad to be certain they do not use, be under the influence of, or have in their possession any alcoholic beverage, drug, narcotic or other substance that may inhibit the safe performance of work by the employee.
- (b) Employees of the Contractor shall be suitably dressed to perform their duties safely and in a manner that will not interfere with their vision, hearing or free use of their hands or feet. Only waist length shirts with sleeves and trousers that cover the entire leg are to be worn. If flare-legged trousers are worn, the trouser bottoms must be tied to prevent catching. Employees should wear sturdy and protective work boots and at least the following protective equipment:
 - (1) Protective headgear that meets American National Standard-Z89.1-latest revision. It is suggested that all hardhats be affixed with the Contractor's or the subcontractor's company logo or name.
 - (2) Eye protection that meets American National Standard for occupational and educational eye and face protection, Z87.1-latest revision. Additional eye protection must be provided to meet specific job situations such as welding, grinding, burning, etc.; and
 - (3) Hearing protection that affords enough attenuation to give protection from noise levels that will be occurring on the job site.
- (c) All heavy equipment provided or leased by the Contractor shall be equipped with audible back-up warning devices. If in the opinion of the Railroad Representative

any of the Contractor's or the subcontractor's equipment is unsafe for use on the Railroad's right-of-way, the Contractor, at the request of the Railroad representative, shall remove such equipment from the Railroad's right-of-way.

1.03 PROTECTION OF RAILROAD FACILITIES

Upon the advance notification provided to the Railroad as set forth in Section 1 of Exhibit B of the Contractor's Right of Entry Agreement, the Railroad representatives, conductors, flagmen or watchmen will be provided by the Railroad to protect its facilities, property and movements of its trains or engines. Notice shall be made to the Railroad's Manager of Track Maintenance at **(909)685-2469**. At the time of notification, the Contractor shall provide the Railroad with a schedule of dates that flagging services will be needed, as well as times, if outside normal working hours. Subsequent deviation from the schedule shall require ten (10) working days' advance notice from the first affected date. The Railroad will furnish such personnel or other protective devices:

- (a) When equipment is standing or being operated within 25 feet, measured horizontally, from centerline of any track on which trains may operate, or when any erection or construction activities are in progress within such limits, regardless of elevation above or below track.
- (b) For any excavation below elevation of track subgrade if, in the opinion of the Railroad's representative, track or other Railroad facilities may be subject to settlement or movement.
- (c) During any clearing, grubbing, grading or blasting in proximity to the Railroad which, in the opinion of the Railroad's representative, may endanger the Railroad facilities or operations.
- (d) During any of the Contractor's operations when, in the opinion of the Railroad's representatives, the Railroad facilities, including, but not limited to, tracks, buildings, signals, wire lines or pipe lines, may be endangered.

The cost of flagging and inspection provided by the Railroad during the period of constructing that portion of the project located on or near the Railroad property, as deemed necessary for the protection of the Railroad's facilities and trains, will be borne by the State. The Railroad has indicated that its estimated flagging rate will be around One Thousand Three Hundred Dollars (\$1,300.00) per day and that the State has estimated a total of one hundred twenty (120) days of flagging. The State shall pay the Railroad for all actual flagging costs incurred by the Railroad under this Project.

1.04 WORK BY RAILROAD

The following work by the Railroad will be performed by Railroad forces and is not a part of the work under this Contract.

- (a) Railroad will perform preliminary engineering and inspection (if any) construction inspection, plan change review (if any) and falsework plan review and flagging as specified in Section 1.03 "Protection of Railroad Facilities," of these special provisions.
- (b) Temporary crossings at grade over tracks of Railroad for the purpose of hauling earth, rock, paving or other materials will require approval by railroad in advance. If the Contractor, for the purpose of constructing highway-railway grade separation structures, including construction ramps thereto, desires to move equipment or materials across Railroad's tracks, the Contractor shall first obtain permission from Railroad (at possible additional cost) via the State Engineer. Should Railroad approve the temporary crossings, State shall execute a Service Contract with Railroad for Railroad to construct the temporary crossing. Under the Service Contract, State shall bear the cost of the crossing surface, warning devices and other components that might be required. Notwithstanding State's Service Contract with Railroad, the Contractor is required to execute Railroad's form of Contractor's Haul Road Crossing Agreement. Railroad, at State's expense, shall provide flagmen to control movements of vehicles across the temporary crossing. State and its Contractor shall prevent the use of such temporary crossing by unauthorized persons and vehicles.

1.05 DELAYS DUE TO WORK BY RAILROAD.

If delays due to work by the Railroad occur, and the Contractor sustains loss which, in the opinion of the Engineer, could not have been avoided by the judicious handling of forces, equipment and plant, the amount of said loss shall be determined as provided in Section 8-1.07, "Delays," of the 2010 Standard Specifications.

If a delay due to work by the Railroad occurs, an extension of time determined pursuant to the provisions in Section 8-1.10, "Liquidated Damages," of the 2010 Standard Specifications will be granted.

1.06 LEGAL RELATIONS

The provisions of Section 1, "Relations with Railroad Company," and the provisions of Section 2, "Railroad Protective Insurance," of these special provisions shall inure directly to the benefit of the Railroad.

2.0 RAILROAD PROTECTIVE INSURANCE

In addition to any other form of insurance or bonds required under the terms of the contract and specifications, the Contractor will be required to carry insurance of the kinds and in the amounts hereinafter specified.

Such insurance shall be approved by the Railroad before any work is performed on the Railroad's property and shall be carried until all work required to be performed on or adjacent to the Railroad's property under the terms of the contract is satisfactorily completed as determined by the Engineer, and thereafter until all tools, equipment and

materials have been removed from the Railroad's property and such property is left in a clean and presentable condition.

Full compensation for all premiums which the Contractor is required to pay on all the insurance described hereinafter shall be considered as included in the prices paid for the various items of work to be performed under the contract, and no additional allowance will be made thereof or for additional premiums which may be required by extensions of the policies of insurance.

The following insurance coverage will be required:

- A. **Commercial General Liability** insurance. Commercial general liability (CGL) with a limit of not less than \$5,000,000 each occurrence and an aggregate limit of not less than \$10,000,000. CGL insurance must be written on ISO occurrence form CG 00 01 12 04 (or a substitute form providing equivalent coverage).

The policy must also contain the following endorsement, which must be stated on the certificate of insurance:

- Contractual Liability Railroads ISO form CG 24 17 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Railroad Company Property" as the Designated Job Site.

- B. **Business Automobile Coverage** insurance. Business auto coverage written on ISO form CA 00 01 (or a substitute form providing equivalent liability coverage) with a combined single limit of not less \$5,000,000 for each accident. The policy must contain the following endorsements, which must be stated on the certificate of insurance:

- Coverage For Certain Operations In Connection With Railroads ISO form CA 20 70 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Property" as the Designated Job Site.
- Motor Carrier Act Endorsement - Hazardous materials clean up (MCS-90) if required by law.

- C. **Workers' Compensation and Employers' Liability** insurance. Coverage must include but not be limited to:

- Contractor's statutory liability under the workers' compensation laws of the State of California.
- Employers' Liability (Part B) with limits of at least \$500,000 each accident, \$500,000 disease policy limit \$500,000 each employee.

If Contractor is self-insured, evidence of state approval and excess workers compensation coverage must be provided. Coverage must include liability arising out of the U. S. Longshoremen's and Harbor Workers' Act, the Jones Act, and the Outer Continental Shelf Land Act, if applicable.

The policy must contain the following endorsement, which must be stated on the certificate of insurance:

- Alternate Employer endorsement ISO form WC 00 03 01 A (or a substitute form providing equivalent coverage) showing Railroad in the schedule as the alternate employer (or a substitute form providing equivalent coverage).

- D. **Railroad Protective Liability Insurance.** Contractor must maintain Railroad Protective Liability insurance written on ISO occurrence form CG 00 35 12 04 (or a substitute form providing equivalent coverage) on behalf of Railroad as named insured, with a limit of not less than \$2,000,000 per occurrence and an aggregate of \$6,000,000. A binder stating the policy is in place must be submitted to Railroad before the work may be commenced and until the original policy is forwarded to Railroad.
- E. **Umbrella or Excess** insurance. If Contractor utilizes umbrella or excess policies, these policies must "follow form" and afford no less coverage than the primary policy.
- F. **Pollution Liability** insurance. Pollution liability coverage must be written on ISO form Pollution Liability Coverage Form Designated Sites CG 00 39 12 04 (or a substitute form providing equivalent liability coverage), with limits of at least \$5,000,000 per occurrence and an aggregate limit of \$10,000,000.

If the scope of work as defined in this Agreement includes the disposal of any hazardous or non-hazardous materials from the job site, Contractor must furnish to Railroad evidence of pollution legal liability insurance maintained by the disposal site operator for losses arising from the insured facility accepting the materials, with coverage in minimum amounts of \$1,000,000 per loss, and an annual aggregate of \$2,000,000.

Other Requirements

- G. All policy(ies) required above (except worker's compensation and employers liability) must include Railroad as "Additional Insured" using ISO Additional Insured Endorsements CG 20 26, and CA 20 48 (or substitute forms providing equivalent coverage). The coverage provided to Railroad as additional insured shall, to the extent provided under ISO Additional Insured Endorsement CG 20 26, and CA 20 48 provide coverage for Railroad's negligence whether sole or partial, active or passive, and shall not be limited by Contractor's liability under the indemnity provisions of this Agreement.
- H. Punitive damages exclusion, if any, must be deleted (and the deletion indicated on the certificate of insurance), unless the law governing this Agreement prohibits all punitive damages that might arise under this Agreement.
- I. Contractor waives all rights of recovery, and its insurers also waive all rights of subrogation of damages against Railroad and its agents, officers, directors and employees. This waiver must be stated on the certificate of insurance.

- J. Prior to commencing the work, Contractor shall furnish Railroad with a certificate(s) of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements in this Agreement.
- K. All insurance policies must be written by a reputable insurance company acceptable to Railroad or with a current Best's Insurance Guide Rating of A- and Class VII or better, and authorized to do business in the State of California.
- L. The fact that insurance is obtained by Contractor or by Railroad on behalf of Contractor will not be deemed to release or diminish the liability of Contractor, including, without limitation, liability under the indemnity provisions of this Agreement. Damages recoverable by Railroad from Contractor or any third party will not be limited by the amount of the required insurance coverage.

APPENDIX 1

CONTRACTOR'S ENDORSEMENT

A. As a condition to entering upon the Railroad's right-of-way to perform Work pursuant to this agreement, State's contractor, _____

(Name of Contractor)

whose address is _____
(Contractor's Mailing Address)

(hereinafter "Contractor"), agrees to comply with and be bound by all the terms and provisions of the attached Caltrans Right of Entry Agreement that was signed by Union Pacific Railroad Company ("Railroad") and the State of California, Department of Transportation ("State") relating to the Work to be performed and the insurance requirements set forth in Exhibits B and C of the Right of Entry Agreement. The Contractor further acknowledges and agrees that the reference to Cal. Gov. Code §14662.5 in Sections 5.b) and 8.b) of Exhibit B to the Right of Entry Agreement does not apply to the Contractor and in no way limits the indemnities set forth in those provisions, to which the Contractor agrees to be bound.

B. Before the Contractor commences any Work, the Contractor will provide the Railroad with (i) a binder of insurance for the Railroad Protective Liability Insurance described in Section 2 of the Contract Special Provisions, hereto attached, and the original policy, or a certified duplicate original policy when available, and (ii) a certificate issued by its insurance carrier providing the other insurance coverage and endorsements required pursuant to Section 2 of the Contract Special Provisions.

C. All insurance correspondence, binders or originals shall be directed to:

Union Pacific Railroad Company
Attn: Real Estate Department
1400 Douglas Street, MS 1690
Omaha, Nebraska
Attn.: Senior Manager-Contracts
Folder No. 2804-73

D. Please note that fiber optic cable may be buried on the Railroad's property. **Prior to commencing any work, the Contractor agrees to contact the Railroad's Telecommunications Operation Center as provided in Section 5 of Exhibit A of the Right of Entry Agreement to determine if any fiber optic cable is located on the Railroad's property on or near the location where the work is to be performed.** If there is, the Contractor must comply with the terms and conditions of Section 5 of Exhibit A before commencing any work on the Railroad's property.

E. **The Contractor agrees to also provide to the Railroad's Manager-Track Maintenance at (909)685-2469 the advance notice required in Section 1 of Exhibit B of the Right of Entry Agreement prior to working on the Railroad's property in order for the Railroad to coordinate the Contractor's work with the Railroad's operations and to make arrangements for flagging protection (if applicable).**

This endorsement shall be completed and sent to the person named in Paragraph C above.

(Name of Contractor)

By _____

Title: _____

Date: _____

EXHIBIT G

EXHIBIT G

Information Handout Document to Project Construction Contract Documents:

UNION PACIFIC RAILROAD MINIMUM REQUIREMENTS

PART 1 – GENERAL

1.01 DESCRIPTION

This project includes construction work within the Right-of-Way and/or properties of the Union Pacific Railroad “UPRR” and adjacent to tracks, wire lines and other facilities. This section describes the special requirements for coordination with railroad when work by the Contractor will be performed upon, over or under the railroad right-of-way or may impact current or future railroad operations. The Contractor will coordinate with railroad while performing the work outlined in this Contract, and shall afford the same cooperation with railroad as it does with the Agency. The Railroad Designated Representative shall complete all submittals and work in accordance with railroad guidelines and AREMA recommendations as modified by these minimum special requirements or as directed in writing.

For purposes of this project, the Railroad Designated Representative shall be the person or persons designated by railroad to handle specific tasks related to the project.

1.02 DEFINITION OF AGENCY AND CONTRACTOR

As used in these railroad requirements, the term "Agency" shall mean the State of California, by and through its Department of Transportation.

As used in these railroad requirements, the term "Contractor" shall mean the contractor or contractor's hired by the Agency to perform any project work on any portion of railroad's property and shall also include the contractor's subcontractors and the contractor's and subcontractor's respective officer, agents and employees, and others acting under its or their authority.

1.03 UPRR CONTACTS

The primary point of contact for this project is:

Mr. Chris T. Keckeisen
Senior Manager Industry and Public Projects
Union Pacific Railroad Company
2015 S. Willow Avenue
Bloomington, CA 92316
Phone: (909) 685-2264
E-mail: ctkecke@up.com

For UPRR railroad flagging services and track work, contact:

Silvio Molina
Manager of Track Maintenance
Union Pacific Railroad Company
11406 South Los Nietos Road
Santa Fe Springs, CA 90670
(909) 685-2469

1.04 REQUEST FOR INFORMATION / CLARIFICATION

All Requests for Information ("RFI") involving work within any railroad right-of-way shall be in accordance with the procedures listed elsewhere in these bid documents. All RFI's shall be submitted to the Engineer of Record. The Engineer of Record will submit the RFI to the Railroad Designated Representative for review and approval for corresponding to work within the railroad right-of-way. The Contractor shall allow four (4) weeks for the review and approval process by railroad.

1.05 PLANS / SPECIFICATIONS

The plans and specifications for this project, affecting the railroad, are subject to the written approval by the railroad and changes in the plans may be required after award of the Contract. Such changes are subject to the approval of the Agency and Railroad.

PART 2 – UTILITIES AND FIBER OPTIC

2.01 UTILITIES AND FIBER OPTIC

All installations shall be constructed in accordance with current AREMA recommendations and railroad specifications and requirements. UPRR general guidelines and the required application forms for utility installations can be found on the UPRR website at www.uprr.com.

3.01 GENERAL

- A. Contractor shall perform all work in compliance with all applicable Railroad and FRA rules and regulations. Contractor shall arrange and conduct all work in such manner and at such times as shall not endanger or interfere with the safe operation of the tracks and property of railroad and the traffic moving on such tracks, or the wires, signals and other property of railroad, its tenants or licensees, at or in the vicinity of the work. Railroad shall be reimbursed by Contractor or Agency for train delay costs and lost revenue claims due to any delays or interruption of train operations resulting from Contractor's construction work or other activities.

- B. Construction activities will be permitted within 12 feet of the centerline of operational tracks only if absolutely necessary and Railroad's Designated Representative grants approval. Construction activities within 12 feet of the operational track(s) must allow the tracks to stay operational.
- C. Track protection is required for all work equipment (including rubber tired equipment) operating within 25 feet from nearest rail.
- D. The Contractor is also advised that new railroad facilities within the project may be built by UPRR and that certain Contractor's activities cannot proceed until that work is completed. The Contractor shall be aware of the limits of responsibilities and allow sufficient time in the schedule for that work to be accomplished and shall coordinate its efforts with UPRR.

3.02 RAILROAD OPERATIONS

- A. The Contractor shall be advised that trains and/or equipment are expected on any track, at any time, in either direction. Contractor shall become familiar with the train schedules in this location and structure its bid assuming intermittent track windows in this period, as defined in Paragraph B below.
- B. All railroad tracks within and adjacent to the Contract Site are active, and rail traffic over these facilities shall be maintained throughout the Project. Activities may include both through moves and switching moves to local customers. Railroad traffic and operations will occur continuously throughout the day and night on these tracks and shall be maintained at all times as defined herein. The Contractor shall coordinate and schedule the work so that construction activities do not interfere with railroad operations.
- C. Work windows for this Contract shall be coordinated with the Agency's and the UPRR Designated Representatives. Types of work windows include Conditional Work Windows and Absolute Work Windows, as defined below:
 - 1. Conditional Work Window: A Conditional Work Window is a period of time that railroad operations have priority over construction activities. When construction activities may occur on and adjacent to the railroad tracks within 25 feet of the nearest track center line, an UPRR flag person will be required. At the direction of the UPRR flag person, upon approach of a train, and when trains are present on the tracks, the tracks must be cleared (i.e., no construction equipment, materials or personnel within 25 feet, or as directed by the UPRR Designated Representative, from the tracks). Conditional Work Windows are available for the Project.
 - 2. Absolute Work Window: An Absolute Work Window is a period of time that construction activities are given priority over railroad operations. During this time frame the designated railroad track(s) will be inactive for train

movements and may be fouled by the Contractor. At the end of an Absolute Work Window the railroad tracks and/or signals must be completely operational for train operations and all UPRR, Public Utilities Commission (PUC) and Federal Railroad Administration (FRA) requirements, codes and regulations for operational tracks must be complied with. In the situation where the operating tracks and/or signals have been affected, the UPRR will perform inspections of the work prior to placing that track back into service. UPRR flag persons will be required for construction activities requiring an Absolute Work Window. **Absolute Work Windows will not generally be granted. Any request will require a detailed explanation for UPRR review.**

3.03 RIGHT OF ENTRY, ADVANCE NOTICE AND WORK STOPPAGES

- A. Prior to beginning any work on or over the property of, or affecting the facilities of, UPRR, Contractor shall execute the Contractor's Endorsement that is a part of the Right of Entry Agreement to be signed by UPRR and Agency. Contractor shall submit a copy of the executed agreement and the insurance policies, binders, certificates and endorsements set forth therein to the Agency prior to commencing work on UPRR property. The right of entry agreement shall specify working time frames, flagging and inspection requirements, and any other items specified by UPRR.
- B. The Contractor shall give the advance notice to UPRR as required in the Right of Entry Agreement before commencing work in connection with construction upon or over UPRR Right-of-Way and shall observe UPRR rules and regulations with respect thereto.
- C. All work upon UPRR Right-of-Way shall be done at such times and in such manner so as not to interfere with or endanger the operations of UPRR. Whenever work may affect the operations or safety of trains, the method of doing such work shall first be submitted to UPRR's Designated Representative for approval, but such approval shall not relieve the Contractor from liability. Any work to be performed by the Contractor, which requires flagging and/or inspection service, shall be deferred until the flagging protection required by UPRR is available at the job site. See Section 3.18 for railroad flagging requirements.
- D. The Contractor shall make requests in writing for both Absolute and Conditional Work Windows, at least two weeks in advance of any work. The written request must include:
 - 1. Exactly what the work entails.
 - 2. The days and hours that work will be performed.
 - 3. The exact location of work, and proximity to the tracks.
 - 4. The type of window requested and the amount of time requested.
 - 5. The designated contact person.

Contractor shall provide a written confirmation notice to UPRR at least 48 hours before commencing work in connection with approved work windows when work will be performed within 25 feet of any track center line. All work shall be performed in accordance with previously approved work plans.

- E. Should a condition arising from, or in connection with the work, require that immediate and unusual provisions be made to protect operations and property of UPRR, Contractor shall make such provisions. If in the judgment of UPRR's Designated Representative such provisions are insufficient, the UPRR Designated Representative may require or provide such provisions as deemed necessary. In any event, such provisions shall be at the Contractor's expense and without cost to UPRR. UPRR or the Agency shall have the right to order Contractor to temporarily cease operations in the event of an emergency or, if in the opinion of the UPRR's Designated Representative, the Contractor's operations could endanger UPRR operations. In the event such an order is given, Contractor shall immediately notify the Agency of the order.

3.04 INSURANCE

Contractor shall not begin work upon or over UPRR Right-of-Way until UPRR has been furnished the insurance policies, binders, certificates and endorsements required by the Right-of-Entry Agreement and UPRR's Designated Representative has advised the Agency that such insurance is in accordance with the Agreement. The required insurance shall be kept in full force and effect during the performance of work and thereafter until Contractor removes all tools, equipment, and material from UPRR's property and cleans the premises in a manner reasonably satisfactory to UPRR.

3.05 RAILROAD SAFETY ORIENTATION

All personnel employed by the Contractor and all subcontractors must complete the UPRR or equivalent course "Orientation for Contractor's Safety", and be registered prior to working on UPRR property. This orientation is available at www.contractororientation.com. This course is required to be completed annually.

3.06 COOPERATION

UPRR will cooperate with Contractor so that work may be conducted in an efficient manner, and will cooperate with Contractor in enabling use of UPRR's right-of-way in performing the work.

3.07 MINIMUM CONSTRUCTION CLEARANCES FOR FALSEWORK AND OTHER TEMPORARY STRUCTURES

The Contractor shall abide by the following minimum temporary clearances during the course of construction:

- 12’ – 0” horizontal from centerline of track
- 21’ – 6” vertically above top of rail.

For construction clearance less than listed above, local Operating Unit review and approval are required.

3.08 APPROVAL OF REDUCED CLEARANCES

- A. The minimum track clearances to be maintained by the Contractor during construction are specified in Section 3.07 herein.
- B. Any proposed infringement on the specified minimum clearances due to the Contractor’s operations shall be submitted to UPRR’s Designated Representative through the Agency at least 30 days in advance of the work and shall not be undertaken until approved in writing by UPRR’s Designated Representative.
- C. No work shall commence until the Contractor receives in writing assurance from UPRR’s Designated Representative that arrangements have been made for flagging service, as may be necessary and receives permission from UPRR’s Designated Representative to proceed with the work.

3.09 CONSTRUCTION AND AS-BUILT SUBMITTALS

- A. Submittals are required for construction materials and procedures as outlined below. The submittals shall include all review comments from the Agency and the Engineer of Record. All design submittals shall be stamped and signed by a Professional Engineer registered in the State of California.
- B. The tables below provide UPRR’s minimum submittal requirements for the construction items noted. Submittal requirements are in addition to those specified elsewhere in these bid documents. The minimum review times indicated below represent UPRR’s requirements only. The Contractor shall allow additional time for the Agency’s review time as stated elsewhere in these bid documents.
- C. Submittals shall be made by the Agency to UPRR’s designated representative unless otherwise directed by the Railroad. Items in Table 1 shall be submitted for both railroad overpass and underpass projects, as applicable. Items in Table 2 shall be submitted for railroad underpass projects only.

TABLE 1*

ITEM	DESCRIPTION	SETS REQD.	UPRR’s MINIMUM REVIEW TIME
1	Shoring design and details	4	4 weeks
2	Falsework design and details	4	4 weeks

3	Drainage design provisions	4	4 weeks
4	Erection diagrams and sequence	4	4 weeks
5	Demolition diagram and sequence	4	4 weeks

*Note:

1. *New submittals and resubmittals are treated the same and will require a minimum of 4 weeks for UPRR to review. Once the Contractor is notified to resubmit, the Contractor must make all necessary required changes within 20 days of this notice and must provide the revised submittal to the State Resident Engineer for preapproval prior to the start of UPRR's review.*
2. *Prior to or during construction of railroad's viaduct bridge structure, UPRR requires the review of drawings, reports, test data and material data sheets to determine compliance with the specifications. Product information for items noted in Table 2 be submitted to UPRR's Designated Representative through the Agency for their own review and approval of the material. UPRR or their consultant will review the signed submittal and the Agency's review comments. If a consultant performs the reviews, the consultant may reply directly to the Agency or its Designated Representative after consultation with UPRR. Review of the submittals will not be conducted until after review by the Agency or its Designated Representative. Review of the submittal items will require a minimum of four (4) weeks after receipt from the Agency.*

TABLE 2

ITEM	DESCRIPTION	SETS REQD.	NOTES
1	Shop drawings	4	Steel and Concrete members
2	Bearings	4	For entire structures
3	Concrete Mix Designs	4	For entire structures
4	Rebar & Strand certifications	4	For superstructure only
5	28 day concrete strength	4	For superstructure only
6	Waterproofing material certifications and installation procedure	4	Waterproofing & protective boards
7	Structural steel certifications	4	All fracture critical members & other members requiring improved notch toughness
8	Fabrication and Test reports	4	All fracture critical members & other members requiring improved notch toughness
9	Welding Procedures and Welder Certification	4	AWS requirements
10	Foundation Construction Reports	4	Pile driving, drilled shaft construction, bearing

			pressure test reports for spread footings
11	Compaction testing reports for backfill at abutments	4	Must meet 95% maximum dry density, Modified Proctor ASTM D1557

D. As-Built Records shall be submitted to UPRR within 60 days of completion of the structures. These records shall consist of the following items:

Overpass Projects

1. Electronic files of all structure design drawings with as-constructed modifications shown, in Microstation J or Acrobat .PDF format.
2. Hard copies of all structure design drawings with as-constructed modifications shown.

Underpass Projects

1. Electronic files of all structure design drawings with as-constructed modifications shown, in Microstation J or Acrobat .PDF format.
2. Hard copies of all structure design drawings with as-constructed modifications shown.
3. Final approved copies of shop drawings for concrete and steel members.
4. Foundation Construction Reports
5. Compaction testing reports for backfill at abutments

E. Hard copies of all structure design drawings with as-constructed modifications shown.

F. Final approved copies of shop drawings for concrete and steel members.

G. Foundation Construction Reports

H. Compaction testing reports for backfill at abutments

3.10 APPROVAL OF DETAILS

The details of the construction affecting UPRR tracks and property not already included in the Contract Plans shall be submitted to UPRR’s Designated Representative through the Agency for UPRR’s review and written approval before such work is undertaken. Review and approval of these submittals will require a minimum of four (4) weeks in addition to the Agency’s review time as stated elsewhere in these bid documents.

3.11 MAINTENANCE OF RAILROAD FACILITIES

A. The Contractor shall be required to maintain all ditches and drainage structures free of silt or other obstructions which may result from Contractor’s operations; to

promptly repair eroded areas within UPRR's right of way and to repair any other damage to the property of UPRR, or its tenants.

- B. All such maintenance and repair of damages due to the Contractor's operations shall be done at the Contractor's expense.
- C. The Contractor must submit a proposed method of erosion control and have the method reviewed by UPRR prior to beginning any grading on the Project Site. Erosion control methods must comply with all applicable local, state and federal regulations.

3.12 SITE INSPECTIONS BY UPRR's DESIGNATED REPRESENTATIVE

- A. In addition to the office reviews of construction submittals, site inspections may be performed by UPRR's Designated Representative at significant points during construction, including but not limited to the following:
 - 1. Preconstruction meetings.
 - 2. Pile driving, drilling of caissons or drilled shafts.
 - 3. Reinforcement and concrete placement for railroad bridge substructure and/or superstructure.
 - 4. Erection of precast concrete or steel bridge superstructure.
 - 5. Placement of waterproofing (prior to placing ballast on bridge deck).
 - 6. Completion of the bridge structure.
- B. Site inspection is not limited to the milestone events listed above. Site visits to check progress of the work may be performed at any time throughout the construction as deemed necessary by UPRR.
- C. A detailed construction schedule, including the proposed temporary horizontal and vertical clearances and construction sequence for all work to be performed, shall be provided to the Agency for submittal to UPRR's Designated Representative for review prior to commencement of work. This schedule shall also include the anticipated dates when the above listed events will occur. This schedule shall be updated for the above listed events as necessary, but at least monthly so that site visits may be scheduled.

3.13 UPRR's REPRESENTATIVES

- A. UPRR representatives, conductors, flag person or watch person will be provided by UPRR at expense of the Agency or Contractor (as stated elsewhere in these bid

documents) to protect UPRR facilities, property and movements of its trains or engines. In general, UPRR will furnish such personnel or other protective services as follows:

1. When any part of any equipment is standing or being operated within 25 feet, measured horizontally, from centerline of any track on which trains may operate, or when any object is off the ground and any dimension thereof could extend inside the 25 foot limit, or when any erection or construction activities are in progress within such limits, regardless of elevation above or below track.
2. For any excavation below elevation of track subgrade if, in the opinion of UPRR's Designated Representative, track or other UPRR facilities may be subject to settlement or movement.
3. During any clearing, grubbing, excavation or grading in proximity to UPRR facilities, which, in the opinion of UPRR's Designated Representative, may endanger UPRR facilities or operations.
4. During any contractor's operations when, in the opinion of UPRR's Designated Representative, UPRR facilities, including, but not limited to, tracks, buildings, signals, wire lines, or pipe lines, may be endangered.
5. The Contractor shall arrange with the UPRR Designated Representative to provide the adequate number of flag persons to accomplish the work.

3.14 WALKWAYS REQUIRED

Along the outer side of each exterior track of multiple operated track, and on each side of single operated track, an unobstructed continuous space suitable for trainman's use in walking along trains, extending to a line not less than twelve feet (12') from centerline of track, shall be maintained. Any temporary impediments to walkways and track drainage encroachments or obstructions allowed during work hours while UPRR's flagman service is provided shall be removed before the close of each work day. Walkways with railings shall be constructed by Contractor over open excavation areas when in close proximity of track, and railings shall not be closer than 8' – 6" horizontally from centerline of tangent track or 9' – 6" horizontally from centerline of curved track.

3.15 COMMUNICATIONS AND SIGNAL LINES

If required, UPRR will rearrange its communications and signal lines, its grade crossing warning devices, train signals and tracks, and facilities that are in use and maintained by UPRR's forces in connection with its operation at expense of the Agency. This work by UPRR will be done by its own forces and it is not a part of the Work under this Contract.

3.16 TRAFFIC CONTROL

Contractor's operations that control traffic across or around UPRR facilities shall be coordinated with and approved by the UPRR's Designated Representative.

3.17 CONSTRUCTION EXCAVATIONS

- A. The Contractor shall be required to take special precaution and care in connection with excavating and shoring. Excavations for construction of footings, piers, columns, walls or other facilities that require shoring shall comply with requirements of OSHA, AREMA and "Guidelines for Temporary Shoring".
- B. The Contractor shall contact UPRR's "Call Before Your Dig" at least 48 hours prior to commencing work at 1-800-336-9193 during normal business hours (6:30 a.m. to 8:00 p.m. central time, Monday through Friday, except holidays - also a 24 hour, 7 day a week number for emergency calls) to determine location of fiber optics. If a telecommunications system is buried anywhere on or near UPRR property, the Contractor will co-ordinate with UPRR and the Telecommunication Company(ies) to arrange for relocation or other protection of the system prior to beginning any work on or near UPRR property.

3.18 RAILROAD FLAGGING

Performance of any work by the Contractor in which person(s) or equipment will be within twenty-five (25) feet of any track, or will be near enough to any track that any equipment extension (such as, but not limited to, a crane boom) will reach within twenty-five (25) feet of any track, may require railroad flagging services or other protective measures. Contractor shall give the advance notice to the UPRR as required in the "Contractor's Right of Entry Agreement" before commencing any such work, so that the UPRR may determine the need for flagging or other protective measures to ensure the safety of the railroad's operations. Contractor shall comply with all other requirements regarding flagging services covered by the "Contractor's Right of Entry Agreement". Any costs associated with failure to abide by these requirements will be borne by the Contractor.

3.19 CLEANING OF RIGHT-OF-WAY

Contractor shall, upon completion of the work to be performed by Contractor upon the premises, over or beneath the tracks of UPRR, promptly remove from the Right-of-Way of UPRR all of Contractor's tools, implements, and other materials whether brought upon the Right-of-Way by Contractor or any subcontractors, employee or agent of Contractor or of any subcontractor, and leave the Right-of-Way in a clean and presentable condition to satisfaction of UPRR.

3.20 GUIDELINES FOR RAILROAD GRADE SEPARATION PROJECTS

The "Guidelines for Railroad Grade Separation Project" shall be followed and is a part of the Railroad's minimum requirements by reference to the following website address:

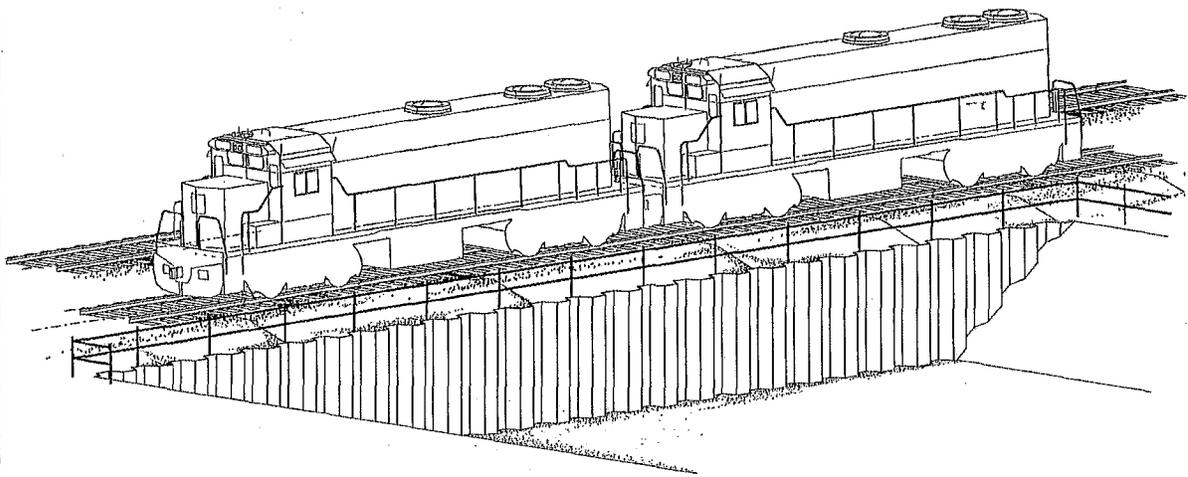
http://www.uprr.com/aboutup/operations/specs/attachments/grade_separation.pdf

EXHIBIT H

Railroad's Guidelines for Temporary Shoring

Information Handout Document to Project Construction Contract Documents:

GUIDELINES FOR TEMPORARY SHORING



"CALL BEFORE YOU DIG!"
1-800-533-2891

ASSISTANT DIRECTOR STRUCTURE DESIGN
4515 KANSAS AVE
KANSAS CITY, KS 66106-1124



BUILDING AMERICA™

"CALL BEFORE YOU DIG!"
1-800-336-9193

OFFICE AVP ENGINEERING - DESIGN
1400 DOUGLAS ST. STOP 0910
OMAHA, NE 68179-0910

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GUIDELINES FOR TEMPORARY SHORING

1. SCOPE

The scope of these guidelines is to inform public agencies, design engineers, contractors and inspectors of current Railroad standards and requirements concerning design and construction of temporary shoring.

1. The term **Railroad** refers to the Burlington Northern & Santa Fe Railway (BNSF) and/or the Union Pacific Railroad (UPRR). The term **Contractor** is defined as any party gaining access to work on Railroad right-of-way or other Railroad operating locations.
2. These guidelines are provided as a reference and may not be taken as authority to construct without prior review and written approval of the Railroad. These guidelines supersede all previous guidelines for temporary shoring and are subject to revision without notice.
3. These guidelines supplement the current, American Railway Engineering and Maintenance-of-Way Association (AREMA) Manual of Recommended Practice. The 2002 AREMA Manual was utilized in developing this guideline. The AREMA Manual is available from:

American Railway Engineering and Maintenance-of-Way Association
8201 Corporate Drive, Suite 1125
Landover, MD 20785-2230
Phone: (301) 459-3200
FAX: (301) 459-8077
www.arema.org

4. The specific requirements for temporary shoring addressed in this document shall be followed for all locations where the Railroad operates, regardless of track ownership.
5. Any items not covered specifically herein shall be in accordance with the AREMA Manual and subject to the review and approval of the Railroad. Where conflicts exist, the most stringent specification should be applied.
6. All excavations shall also be governed by Railroad requirements, Federal, State and Local laws, rules, and regulations concerning construction safety.
7. Safe rail operations shall be required for the duration of the project. All personnel, railroad tracks and property shall be protected at all times.
8. To expedite the review process of the temporary shoring plans, drawings submitted by the Contractors are required to adhere to the project specifications, AREMA and other Railroad requirements.

2. GENERAL CRITERIA

The Contractor must not begin construction of any component of the shoring system affecting the Railroad right-of-way until written Railroad approval has been received.

1. All excavations shall be in compliance with applicable OSHA regulations and shall be shored where there is any danger to tracks, structures or personnel regardless of depth.

2. The Contractor is responsible for planning and executing all procedures necessary to construct, maintain and remove the temporary shoring system in a safe and controlled manner.
3. Emergency Railroad phone numbers are to be obtained from the Railroad representative in charge of the project prior to the start of any work and shall be posted at the job site.
4. The Contractor must obtain a valid right of entry permit from the Railroad and comply with all Railroad requirements when working on Railroad property.
5. The Contractor is required to meet minimum safety standards as defined by the Railroad.
6. All temporary shoring systems that support or impact the Railroad's tracks or operations shall be designed and constructed to provide safe and adequate rigidity.
7. The Railroad requirements, construction submittal review times and review criteria should be discussed at the pre-construction meeting with the Contractor.
8. A flagman is required when any work is performed within 25 feet of track centerline. If the Railroad provides flagging or other services, the Contractor shall not be relieved of any responsibilities or liabilities as set forth in any document authorizing the work. No work is allowed within 50 feet of track centerline when a train passes the work site and all personnel must clear the area within 25 feet of track centerline and secure all equipment when trains are present.
9. Appropriate measures for the installation and protection of fiber optic cables shall be addressed in the plans and contract documents. For specific Railroad requirements and additional information refer to:

www.bnsf.com or call 1-800-533-2891.

www.uprr.com, call 1-800-336-9193 or refer to UPRR Fiber Optic Engineering, Construction and Maintenance Standards.
10. Relocation of utilities or communication lines not owned by the Railroad shall be coordinated with the utility owners. The utility relocation plans must then be submitted to the Railroad utility representative for approval. The shoring plans must include the correct contact for the Railroad, State or Local utility locating service provider. The Railroad will not be responsible for cost associated with any utility, signal, or communication line relocation or adjustments.

3. CONTRACTOR RESPONSIBILITIES

The Contractor shall be solely responsible for the design, construction and performance of the temporary structure. **(AREMA 8.28.1.3)**

1. The Contractor's work shall in no way impede the train operations of the Railroad and must be coordinated with the local Railroad operating department.
2. The Contractor shall develop a work plan that enables the track(s) to remain open to train traffic at all times.
3. The Contractor shall comply with all State and Federal Laws, county or municipal ordinances and regulations which in any manner affect the work.
4. All removed soils will become the responsibility of the Contractor and shall be disposed of outside the Railroad right-of-way according to the applicable Federal, State and Local regulations.
5. The Project Engineer and the Contractor shall evaluate the quality of materials furnished and work performed.

6. The Contractor is responsible to protect the Railroad ballast and subballast from contamination.
7. The Contractor must monitor and record top of rail elevations and track alignment for the duration of the project. The movement shall be within the limits defined in **Table 1, Deflection Criteria** on page 10. Displacements exceeding the limits defined in **Table 1** must be immediately reported to the Railroad. All work on the project must stop and the Railroad may take any action necessary to ensure safe passage of trains. The Contractor must immediately submit a corrective action plan to the Railroad for review and approval. The Railroad must review and approve the proposed repair procedure. The repair must be inspected by the Railroad before the track can be placed back in service.
8. Any damage to Railroad property such as track, signal equipment or structure could result in a train derailment. All damage must be reported immediately to the Railroad representative in charge of the project and to the Railroad Manager of Track Maintenance (MTM).

4. INFORMATION REQUIRED

Plans and calculations shall be submitted, signed and stamped by a Registered Professional Engineer familiar with Railroad loadings and who is licensed in the state where the shoring system is intended for use. Shoring design plans and calculations shall be in English units. If Metric units are used, all controlling dimensions, elevations, design criteria assumptions, and material stresses shall be expressed in dual units, with English units to be in parentheses. Information shall be assembled concerning right-of-way boundary, clearances, proposed grades of tracks and roads, and all other factors that may influence the controlling dimensions of the proposed shoring system. See section 10 for additional requirements.

1. Field Survey.

Sufficient information shall be shown on the plans in the form of profiles, cross sections and topographical maps to determine general design and structural requirements. Field survey information of critical or key dimensions shall be referenced to the centerline of track(s) and top of rail elevations. Existing and proposed grades and alignment of tracks and roads shall be indicated together with a record of controlling elevation of water surfaces or ground water. Show the location of existing/proposed utilities and construction history of the area which might hamper proper installation of the piling, soldier beams, or ground anchors.

2. Geotechnical Report shall provide:

- a. Elevation and location of soil boring in reference to the track(s) centerline and top of rail elevations.
- b. Classification of all soils encountered.
- c. Internal angle of soil friction.
- d. Dry and wet unit weights of soil.
- e. Active and passive soil coefficients, pressure diagram for multiple soil strata.
- f. Bearing capacity and unconfined compression strength of soil.
- g. Backfill and compaction recommendations.
- h. Optimum moisture content of fill material.
- i. Maximum density of fill material.
- j. Minimum recommended factor of safety.
- k. Water table elevation on both sides of the shoring system.
- l. Dewatering wells and proposed flownets or zones of influence.
- m. In seismic areas, evaluation of liquefaction potential of various soil strata.

3. Loads.

All design criteria, temporary and permanent loading must be clearly stated in the design calculations and on the contract and record plans. Temporary loads include, but are not limited to: construction equipment, construction materials and lower water levels adjoining the bulkhead causing unbalanced hydrostatic pressure. Permanent loads include, but are not limited to: future grading and paving, Railroads or highways, structures, material storage piles, snow and earthquake. The allowable live load after construction should be clearly shown in the plans and painted on the pavements behind the bulkheads or shown on signs at the site and also recorded on the record plans. Some of the loads are:

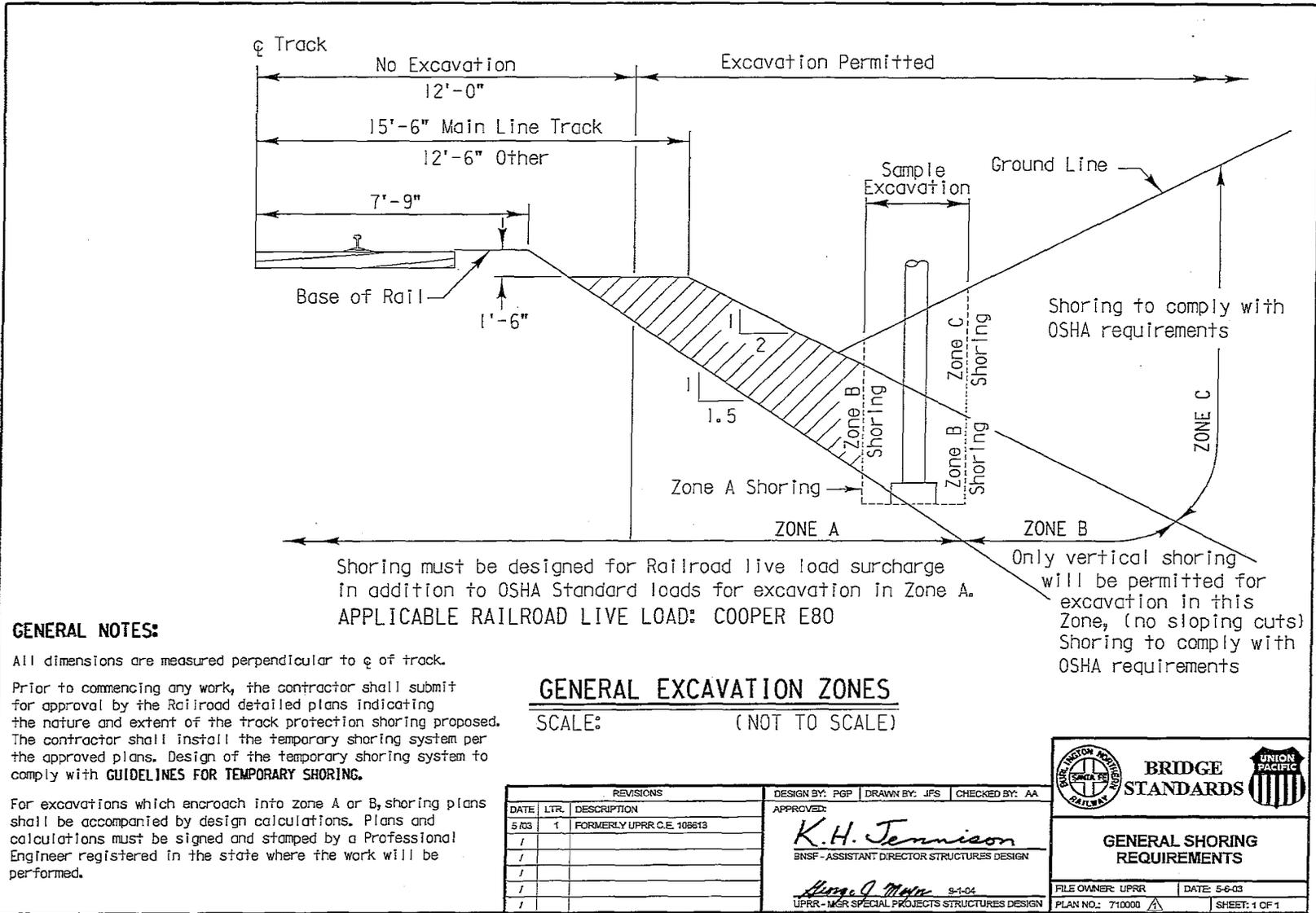
- a. Live load pressure due to E80 loading for track parallel to shoring system.
 - b. Live load pressure due to E80 loading for track at right angle to shoring system.
 - c. Other live loads.
 - d. Active earth pressure due to soil.
 - e. Passive earth pressure due to soil.
 - f. Active earth pressure due to surcharge loads.
 - g. Active pressure due to sloped embankment.
 - h. Dead load.
 - i. Buoyancy.
 - j. Longitudinal force from live load.
 - k. Centrifugal forces.
 - l. Shrinkage.
 - m. Temperature.
 - n. Earthquake.
 - o. Stream flow pressure.
 - p. Ice pressure.
4. Drainage. (AREMA 8.20.2.4)
- a. The drainage pattern of the site before and after construction should be analyzed and adequate drainage provisions should be incorporated into the plans and specifications. Consideration should be given to groundwater as well as surface drainage.
 - b. Drainage provisions for backfill should be compatible with the assumed water conditions in design.
5. Structural design calculations.
- a. List all assumptions used to design the temporary shoring system.
 - b. Determine E80 live load lateral pressure using the Boussinesq strip load equation. See **Figure 2** which illustrates Plan Number **710001 "LIVE LOAD PRESSURE DUE TO COOPER E80"**.
 - c. Computerized calculations and programs must clearly indicate the input and output data. List all equations used in determining the output.
 - d. Example calculations with values must be provided to support computerized output and match the calculated computer result.
 - e. Provide a simple free body diagram showing all controlling dimensions and applied loads on the temporary shoring system.
 - f. Calculated lateral deflections of the shoring and effects to the rail system must be included. See section 8, Part 6. Include the elastic deflection of the wall as well as the deflection due to the passive deflection of the resisting soil mass.
 - g. Documents and manufacturer's recommendations which support the design assumptions must be included with the calculations.

5. TYPES OF TEMPORARY SHORING

1. A shoring box is a prefabricated shoring system which is installed as the excavation progresses. This shoring system is not accepted by the Railroad. This system is allowed in special applications only, typically where Railroad live load surcharge is not present. The shoring box is moved down into the excavation by gravity or by applying vertical loading from excavation equipment.
2. Anchored systems with tiebacks are discouraged. The tiebacks will be an obstruction to future utility installations and may also damage existing utilities. Tiebacks must be removed per Railroad direction. Removal of tieback assemblies is problematic.
3. An anchored sheet pile wall is a structure designed to provide lateral support for a soil mass and derives stability from passive resistance of the soil in which the sheet pile is embedded and the tensile resistance of the anchors.
 - a. For purposes of these guidelines, ground anchors shall be cement-grouted tiebacks designed, furnished, installed, tested and stressed in accordance with the project specifications and AREMA requirements.
4. An anchored soldier beam with lagging wall is a structure designed to provide lateral support for a soil mass and derives stability from passive resistance of the soil in which the soldier beam is embedded and from the tensile resistance of the ground anchors.
 - a. Anchored soldier beam with lagging walls are generally designed as flexible structures which have sufficient lateral movement to mobilize active earth pressures and a portion of the passive pressure.
 - b. For purposes of these specifications, soldier beams include steel H-piles, wide flange sections or other fabricated sections that are driven or set in drilled holes. Lagging refers to the members spanning between soldier beams.
5. A cantilever sheet pile wall is a structure designed to provide lateral support for a soil mass and derives stability from passive resistance of the soil in which the sheet pile is embedded. If cantilever sheet pile is used for shoring adjacent to an operating track, the shoring system shall be at least 12'-0" away from the centerline of track. Cantilever sheet pile walls shall be used only in granular soils or stiff clays.
6. A cantilever soldier beam with lagging wall is a structure designed to provide lateral support for a soil mass and derives stability from passive resistance of the soil in which the soldier beam is embedded.
7. A braced excavation is a structure designed to provide lateral support for a soil mass and derives stability from passive resistance of the soil in which the vertical members are embedded and from the structural capacity of the bracing members.
 - a. For purposes of these guidelines, the vertical members of the braced excavation system include steel sheet piling or soldier beams comprised of steel H-piles, wide flange sections, or other fabricated sections that are driven or installed in drilled holes. Wales are horizontal structural members designed to transfer lateral loads from the vertical members to the struts. Struts are structural compression members that support the lateral loads from the wales.
8. A cofferdam is an enclosed temporary structure used to keep water and soil out of an excavation for a permanent structure such as a bridge pier or abutment or similar structure. Cofferdams may be constructed of timber, steel, concrete or a combination of these. These guidelines consider cofferdams primarily constructed with steel sheet piles.

6. GENERAL SHORING REQUIREMENTS

For general shoring requirements and specific applications of the following items refer to **Figure 1** on the next page which illustrates Plan Number 710000 "GENERAL SHORING REQUIREMENTS".



GENERAL NOTES:

All dimensions are measured perpendicular to ☉ of track.

Prior to commencing any work, the contractor shall submit for approval by the Railroad detailed plans indicating the nature and extent of the track protection shoring proposed. The contractor shall install the temporary shoring system per the approved plans. Design of the temporary shoring system to comply with **GUIDELINES FOR TEMPORARY SHORING**.

For excavations which encroach into zone A or B, shoring plans shall be accompanied by design calculations. Plans and calculations must be signed and stamped by a Professional Engineer registered in the state where the work will be performed.

GENERAL EXCAVATION ZONES

SCALE: (NOT TO SCALE)

REVISIONS		
DATE	LTR.	DESCRIPTION
5/03	1	FORMERLY UPRR C.E. 106613
/		
/		
/		
/		

DESIGN BY: PGP | DRAWN BY: JFS | CHECKED BY: AA
 APPROVED:
K.H. Jennison
 BNSF - ASSISTANT DIRECTOR STRUCTURES DESIGN
Steve J. Meyer 9-1-04
 UPRR - MGR SPECIAL PROJECTS STRUCTURES DESIGN

BRIDGE STANDARDS

GENERAL SHORING REQUIREMENTS

FILE OWNER: UPRR	DATE: 5-6-03
PLAN NO.: 710000	SHEET: 1 OF 1

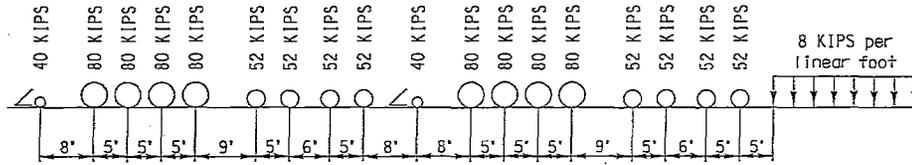
PLOTED: \$\$\$DATE\$\$\$ \$TIME

Figure 1

1. No excavation shall be permitted closer than 12'-0" measured at a right angle from the centerline of track to the trackside of shoring system. If existing conditions preclude the installation of shoring at the required minimum distance, the shifting of tracks or temporary removal of tracks shall be investigated prior to any approval. All costs associated with track shifting or traffic interruption shall be at Contractor's expense.
2. Evaluate slope and stability conditions to ensure the Railroad embankment will not be adversely affected. Local and global stability conditions must also be evaluated.
3. All shoring within the limits of Zone A or Zone B must be placed prior to the start of excavation.
4. Lateral clearances must provide sufficient space for construction of the required ditches parallel to the standard roadbed section. The size of ditches will vary depending upon the flow and terrain and should be designed accordingly.
5. The shoring system must be designed to support the theoretical embankment shown for zones A and B.
6. Any excavation, holes or trenches on the Railroad property shall be covered, guarded and/or protected. Handrails, fence, or other barrier methods must meet OSHA and FRA requirements. Temporary lighting may also be required by the Railroad to identify tripping hazards to train crewmen and other Railroad personnel.
7. The most stringent project specifications of the Public Utilities Commission Orders, Department of Industrial Safety, OSHA, FRA, AREMA, BNSF, UPRR or other governmental agencies shall be used.
8. Secondhand material is not acceptable unless the Engineer of Record submits a full inspection report which verifies the material properties and condition of the secondhand material. The report must be signed and sealed by the Engineer of Record.
9. All components of the shoring system are to be removed when the shoring is no longer needed. All voids must be filled and drainage facilities restored. See compaction requirements section 9, Part 4.
10. Slurry type materials are not acceptable as fill for soldier piles in drilled holes. Concrete and flowable backfill may prevent removal of the shoring system. Use compacted peagravel material.

7. COMPUTATION OF APPLIED FORCES

1. Railroad live load and lateral forces.
 - a. For specific applications of the Coopers E80 live load refer to **Figure 2** on the next page which illustrates Plan Number **710001 "LIVE LOAD PRESSURE DUE TO COOPER E80"**. Supplemental information and sample calculations are provided in the Appendix pages A-1 through A-4.
2. Dead load.
 - a. Spoil pile: must be included assuming a minimum height of two feet of soil adjacent to the excavation.
 - b. Track: use 200 lbs/linear ft for rails, inside guardrails and fasteners.
 - c. Roadbed: ballast, including track ties, use 120 lb per cubic foot.



COOPER E80 LOAD
SCALE: (NOT TO SCALE)

Vertical pressure q shall be based on a distribution width L_d .
 L_d is the length of tie plus H_2 .
 H_2 is the height from the bottom of tie to the top of shoring.
 H_1 is the depth of point being evaluated with the Boussinesq equation.
 S is a distance perpendicular from centerline of track to the face of shoring.
 D is from top of shoring to one foot below dredge line.
 Z_p is the minimum embedment depth.
 Length of tie is 9 feet
 q is the intensity of strip load due to E80 Railroad live load and shall be calculated as follows:

For $H_2 = 0$ $L_d = \text{length of tie}$; therefore, $q = \frac{80,000 \text{ lb}}{(5 \text{ feet})(9 \text{ feet})} = 1,778 \text{ psf}$

For $H_2 > 0$ $L_d = \text{length of tie} + H_2$; therefore, $q = \frac{80,000 \text{ lb}}{(5 \text{ feet})(L_d)}$

CASE 1: Lateral live load pressure P_s , due to E80 loading for track parallel to shoring system is calculated using the Boussinesq Strip Load Equation.

$$P_s = \frac{2q}{\pi} (\beta + \sin \beta \sin^2 \alpha - \sin \beta \cos^2 \alpha)$$

The above equation can be simplified into the following equivalent form:

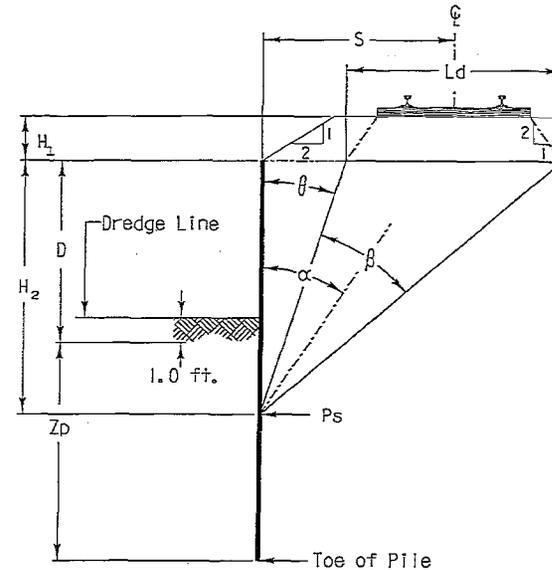
$$P_s = \frac{2q}{\pi} [\beta - \sin \beta \cos(2\alpha)]$$

α and β are angles measured in radians, $\alpha = \theta + \frac{\beta}{2}$

CASE 2: Live load pressure due to E80 loading for track at a right angle to the shoring system can be calculated using the following equation.

$$P_s = K_A q$$

where $K_A = \tan^2(45 - \frac{\phi}{2})$
 ϕ is the angle of internal friction in degrees



PLAN
SCALE: (NOT TO SCALE)

REVISIONS		
DATE	LTR.	DESCRIPTION
/		
/		
/		
/		
/		
/		

DESIGN BY: PGP | DRAWN BY: JFS | CHECKED BY: AA
 APPROVED:
K.H. Jennison
 BNSF - ASSISTANT DIRECTOR STRUCTURES DESIGN
Steve J. Miller 9-1-04
 UPRR - MGR SPECIAL PROJECTS STRUCTURES DESIGN

BRIDGE SHORING STANDARDS

LIVE LOAD PRESSURE DUE TO COOPER E80

FILE OWNER: UPRR	DATE:
PLAN NO.: 710001	SHEET: 1 OF 1

PLOTTER: 5970D/555 5T16

Figure 2

3. Active earth pressure.

a. The active earth pressure due to the soil may be computed by the Coulomb Theory or other approved method.

b. The active earth pressure at depth "z_a" is:

$$P_A = K_A \gamma z_a, \text{ where } K_A = \tan^2(45 - \frac{\phi}{2})$$

z_a = depth of soil influencing the active pressure.

4. Active earth pressure due to unbalanced water pressure.

a. When bulkheads are used for waterfront construction, the bulkhead is subjected to a maximum earth pressure at the low water stage. During a rainstorm or a rapidly receding high water, the water level behind the bulkhead may be several feet higher than in front of the bulkhead.

b. Drained conditions in backfill apply when clean sand or clean sand and gravel are used and adequate permanent drainage outlets are provided. Where drained conditions exist, the design water level may be assumed at the drainage outlet elevation.

5. Active earth pressure due to surcharge load.

The active earth pressure due to surcharge load q':

$$P_U = K_A q', \text{ where } K_A = \tan^2(45 - \frac{\phi}{2})$$

6. Passive earth pressure.

The passive earth pressure, P_p, in front of the bulkhead may also be computed by the Coulomb Theory.

$$P_p = K_p \gamma z_p, \text{ where } K_p = \tan^2(45 + \frac{\phi}{2})$$

z_p = vertical distance beginning one foot below dredge line but not to exceed embedment depth

7. Pressure due to embankment surcharges.

Conventional analysis (Rankine, Coulomb, or Log-Spiral) should be used to determine the additional surcharge from embankment slopes.

8. Additional analysis for centrifugal force calculations as described in **AREMA Chapter 15, Part 1, Section 1.3, Article 1.3.6** Centrifugal Loads are required where track curvature exceeds three degrees.

9. Include and compute all other loads that are impacting the shoring system such as a typical Railroad service vehicle (HS-20 truck).

8. STRUCTURAL INTEGRITY

Structures and structural members shall be designed to have design strengths at all sections at least equal to the required strengths calculated for the loads and forces in such combinations as stipulated in **AREMA Chapter 8 Part 2 Article 2.2.4b**, which represents various combinations of loads and forces to which a structure may be subjected. Each part of the structure shall be proportioned for the group loads that are applicable, and the maximum design required shall be used.

1. Embedment depth.

a. Calculated depth of embedment is the embedment depth required to maintain static equilibrium.

- b. Minimum depth of embedment is the total depth of embedment required to provide static equilibrium plus additional embedment due to the minimum factor of safety.
 - 1. Embedment depth factor of safety for well-defined loading conditions and thoroughly determined soil parameters is generally 1.3 for most temporary shoring systems. (See **AREMA 8.20.4.1.c**)
 - 2. All anchored shoring systems require a minimum embedment depth of 1.5 times the calculated depth of embedment. Shallow penetration into strong soil layers is not acceptable. (See **AREMA 8.20.5.1**)
- 2. The allowable stresses based on AREMA requirements are as follows:
 - Structural Steel: $0.55F_y$ for Compression in extreme fiber. (**AREMA Ch.15 Table 1-11**)
 - Structural Steel: $0.35F_y$ for Shear. (**AREMA Ch.15 Table 1-11**)
 - Sheet Pile Sections: $2/3$ of yield strength for steel. (**AREMA 8.20.5.7**)
 - Concrete: $1/3$ of Compressive strength. (**AREMA 8.20.5.7**)
 - Anchor Rods: $1/2$ of yield strength for steel. (**AREMA 8.20.5.7**)
- 3. AISC allowances for increasing allowable stress due to temporary loading conditions are not acceptable.
- 4. Gravity type temporary shoring systems must also be analyzed for overturning, sliding and global stability.
- 5. The contractor is responsible for providing an approved test method to verify the capacity of anchored or tieback systems. The manufacturers recommendations for testing must be satisfied. Systems which support the Railroad embankment will be considered high risk in determining the percentage of elements to be proof tested.
- 6. Calculated deflections of temporary shoring system and top of rail elevation shall not exceed the criteria outlined in **Table 1 Deflection Criteria**.

Table 1 Deflection Criteria

Horizontal distance from shoring to track C/L measured at a right angle from track	Maximum horizontal movement of shoring system	Maximum acceptable horizontal or vertical movement of rail
$12' < S < 18'$	$3/8''$	$1/4''$
$18' < S < 24'$	$1/2''$	$1/4''$

9. SOIL CHARACTERISTICS

- 1. Subsurface Exploration. (**AREMA 8.5.2.2**)
 - a. Sufficient borings shall be made along the length of the structure to determine, with a reasonable degree of certainty, the subsurface conditions. Irregularities found during the initial soil boring program may dictate that additional borings be taken.
 - b. The subsurface investigation shall be made in accordance with the provisions of **AREMA Chapter 8 Part 22, Geotechnical Subsurface Investigation**.
- 2. Type of backfill.
 - a. Backfill is defined as material behind the wall, whether undisturbed ground or fill, that contributes to the pressure against the wall.

- b. The backfill shall be investigated and classified with reference to the soil types described in **AREMA Table 8-5-1**.
- c. Types 4 and 5 backfill shall be used only with the permission of the Engineer. In all cases the wall design shall be based on the type of backfill used.

Table 8-5-1 (AREMA) Types of Backfill for Retaining Walls

Backfill Type	Backfill Description
1	Coarse-grained soil without admixture of fine soil particles, very free-draining (clean sand, gravel or broken stone).
2	Coarse-grained soil of low permeability due to admixture of particles of silt size.
3	Fine silty sand; granular materials with conspicuous clay content; or residual soil with stones.
4	Soft or very soft clay, organic silt; or soft silty clay.
5	Medium or stiff clay that may be placed in such a way that a negligible amount of water will enter the spaces between the chunks during floods or heavy rains.

3. Computation of backfill pressure. (AREMA 8.5.3.2a)

- a. Values of the unit weight, cohesion, and angle of internal friction of the backfill material shall be determined directly by means of soil tests or, if the expense of such tests is not justifiable, by means of **AREMA Table 8-5-2** referring to the soil types defined in **AREMA Table 8-5-1**. Unless the minimum cohesive strength of the backfill material can be evaluated reliably, the cohesion shall be neglected and only the internal friction considered. See Appendix page A-6 for AREMA generic soil properties.

Table 8-5-2 (AREMA) Properties of Backfill Materials

Type of Backfill	Unit Weight Lb. Per Cu. Ft.	Cohesion "c"	Angle of Internal Friction
1	105	0	33°-42°(38°for broken stone)
2	110	0	30°
3	125	0	28°
4	100	0	0°
5	120	240	0°

4. Compaction.

- a. The backfill shall preferably be placed in loose layers not to exceed 8 inches in thickness. Each layer shall be compacted before placing the next, but over compaction shall be avoided.
- b. It is required that backfill be compacted to no less than 95% of maximum dry density at a moisture content within 2% of optimum and tested using Modified Proctor ASTM D1557.
- c. Fill within 100 feet of bridge ends or 20 feet outside culverts shall be placed and compacted to not less than 100% of maximum.
- d. No dumping of backfill material shall be permitted in such a way that the successive layers slope downward toward the wall. The layers shall be horizontal or shall slope downward away from the wall.

10. PLANS

The shoring plans must completely identify the site constraints and the shoring system. Use the design templates provided in the appendix as an example to show the required information, specifications and drawings. The specific requirements of the plan submittals are as follows:

1. General plan view should show:
 - a. Railroad right-of-way and North arrow.
 - b. Position of all Railroad tracks and identify each track as mainline, siding, spur, etc.
 - c. Spacing between all existing tracks.
 - d. Location of all access roadways, drainage ditches and direction of flow.
 - e. Footprint of proposed structure, proposed shoring system and any existing structures if applicable.
 - f. Proposed horizontal construction clearances. The minimum allowable is 12 feet measured at a right angle from centerline of track.
 - g. Location of existing and proposed utilities.
 - h. Drawings must be signed and stamped by a Licensed Professional Engineer, registered in the state where the work will be performed.
 - i. Railroad and other "CALL BEFORE YOU DIG" numbers.
 - j. Detailed view of shoring along with controlling elevations and dimensions.
2. Typical section and elevation should show:
 - a. Top of rail elevations for all tracks.
 - b. Offset from the face of shoring system to the centerline of all tracks at all changes in horizontal alignment.
 - c. All structural components, controlling elevations and dimensions of shoring system.
 - d. All drainage ditches and controlling dimensions.
 - e. All slopes, existing structures and other facilities which may surcharge the shoring system.
 - f. Location of all existing and proposed utilities.
 - g. Total depth of shoring system.
3. General criteria
 - a. Design loads to be based on the AREMA manual and Cooper E80 loading.
 - b. Pressure due to embankment surcharges.
 - c. ASTM designation and yield strength for each material.
 - d. Maximum allowable bending stress for structural steel is $0.55F_y$.
 - e. Temporary overstress allowances are not acceptable.
 - f. All timber members shall be Douglas Fir grade 2 or better.
 - g. Insitu soil classification.
 - h. Backfill soil classification.
 - i. Internal angle of friction and unit weight of the soil.
 - j. Active and passive soil coefficients.
 - k. Fill within 100 feet of bridge ends or 20 feet outside culverts shall be placed and compacted to a minimum of 100% of maximum dry density tested per Modified Proctor ASTM D1557.
 - l. Slopes without shoring shall not be steeper than 2 horizontal to 1 vertical

- m. Dredge line elevation.
 - n. Shoring deflection to be calculated and meet Railroad requirements.
4. Miscellaneous:
- a. Project name, location, GPS coordinates, track owner, Railroad line segment, milepost and subdivision in the title block.
 - b. Procedure outlining the installation and removal of the temporary shoring system.
 - c. General notes specifying material requirements, design data, details, dimensions, cross-sections, sequence of construction etc.
 - d. A description of the tieback installation including drilling, grouting, stressing information and testing procedures, anchor capacity, type of tendon, anchorage hardware, minimum unbonded lengths, minimum anchor lengths, angle of installation, tieback locations and spacing.
 - e. All details for construction of drainage facilities associated with the shoring system shall be clearly indicated.
 - f. Details and descriptions of all shoring system members and connection details.
 - g. Settlement and displacement calculations.
 - h. Handrail and protective fence details along the excavation.
 - i. Drawings must be signed and stamped by a Licensed Professional Engineer, registered in the state where the work will be performed.
 - j. Call before you dig number.
 - k. Construction clearance diagram.

11. SUBMITTALS

The Contractor will be responsible for any and all cost associated with the review of plans by the Railroad. Review of design submittals by the Railroad will require a minimum of four (4) weeks. To avoid impacting the construction schedule, the Contractor must schedule submittals well in advance. Partial, incomplete or inadequate designs will be rejected, thus delaying the approval. Revised submittals will follow the same procedure as the initial submittal until all issues are resolved. Submit a minimum of three sets of shoring plans and two sets of calculations with manufacturers' specifications. Drawings and calculations must be signed and stamped by a Registered Professional Engineer familiar with Railway loadings and who is licensed in the state where the shoring system is intended for use. Drawings accompanying the shoring plans shall be submitted on 11" x 17" or 8½" x 11" sized paper.

1. Contractor review.

The Contractor must review the temporary shoring plans to ensure that the proposed method of construction is compatible with the existing site and soil conditions. The Contractor's work plan must be developed to allow train traffic to remain in service. Removal of the shoring system must also be addressed.

2. Applicant and or Engineer of Record review.

The applicant and or Engineer of Record must review and approve the submittal for compliance with the project specifications, AREMA Manual, these guidelines and structural capacity before forwarding the submittal to the Railroad.

3. Review process.

All design submittals shall be forwarded to the Railroad Representative who will send them to the Structures Design Department. The Structures Design Department shall review or have an outside consultant review said submittals. If a Railroad consultant performs said review, the consultant may reply directly to the applicant or their representative after consultation with the Structures Design Department. A copy of the reply will be mailed to the Railroad Representative. During the review process the Railroad Representative is the point of contact to resolve outstanding issues.

12. APPENDIX

ITEM	PAGE
1. SAMPLE PROBLEM	A-1 & A-2
2. CHART A	A-3 & A-4
3. GUIDELINE & WEBSITE DIRECTORY	A-5
4. TABLES	A-6
AREMA Table 8-20-1. Granular Soils	
AREMA Table 8-20-2. Silt and Clay Soils	
AREMA Table 8-20-3. Unit Weights of Soils, and Coefficients of Earth Pressure	
5. TEMPLATES	
GENERAL CRITERIA AND MISCELLANEOUS	A-7
GENERAL PLAN VIEW	A-8
TYPICAL SECTION & ELEVATION VIEW	A-9

13. BIBLIOGRAPHY

The following list of references used in these guidelines are placed here in alphabetical order for your convenience.

1. *Manual for Railway Engineering*, 2002 American Railway Engineering and Maintenance-of-Way Association.
2. *TRENCHING AND SHORING MANUAL*, January 1990, Revision 11/12/96. State of California Department of Transportation, Office of Structures Construction.

SAMPLE PROBLEM

Point in question: $S = 12 \text{ ft}$ $H = 6 \text{ ft}$

$$q = \frac{80,000 \text{ lbs}}{(5 \text{ ft})(9 \text{ ft})} = 1778 \text{ psf for E80 loading, axle spacing} = 5 \text{ ft, tie length } b = 9 \text{ ft}$$

$$\text{Solve for } X_1 = S - b/2 = 7.5 \text{ ft}$$

$$\text{Solve for } X_2 = S + b/2 = 16.5 \text{ ft}$$

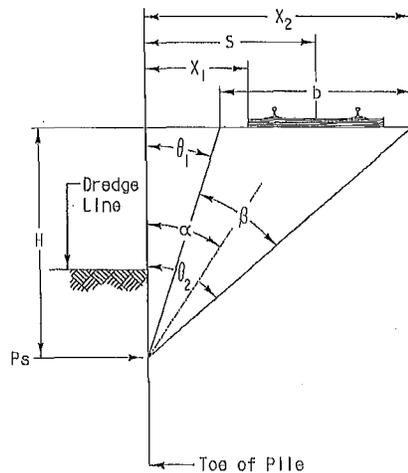
$$\text{Solve for } \theta_1 = \arctan\left(\frac{X_1}{H}\right) = 0.896 \text{ radians}$$

$$\text{Solve for } \theta_2 = \arctan\left(\frac{X_2}{H}\right) = 1.222 \text{ radians}$$

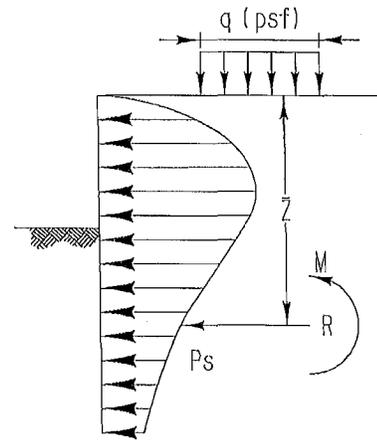
$$\text{Solve for } \beta = \theta_2 - \theta_1 = 0.326 \text{ radians}$$

$$\text{Solve for } \alpha = \frac{\theta_1 + \theta_2}{2} = 1.059 \text{ radians}$$

Note: $\tan \alpha \neq \frac{S}{H}$



PRESSURE DISTRIBUTION FOR STRIP LOAD



EQUIVALENT LOADING

- Pressure, P_s due to E80 liveload at the above-identified point:

$$P_s = \frac{2q}{\pi} (\beta - \sin \beta \cos 2\alpha) = \frac{2 * 1778}{\pi} (0.326 - \sin(0.326) \cos(2 * 1.059)) = 558 \text{ psf}$$

- Shear due to E80 liveload at the above-identified point:

$$R_x = \frac{2qH\beta}{\pi} = \frac{2 * 1778 * 6 * 0.326}{\pi} = 2214 \text{ lbs /ft}$$

- Depth \bar{z} from base of tie:

$$\bar{z} = \frac{H^2 \beta - bH + X_2^2 \left(\frac{\pi}{2} - \theta_2\right) - X_1^2 \left(\frac{\pi}{2} - \theta_1\right)}{2H\beta} = \frac{6^2 * 0.326 - 9 * 6 + 16.5^2 \left(\frac{\pi}{2} - 1.222\right) - 7.5^2 \left(\frac{\pi}{2} - 0.896\right)}{2 * 6 * 0.326} = 3.77 \text{ ft}$$

SAMPLE PROBLEM (CONTINUED)

- Moment due to E80 liveload at the above identified point:

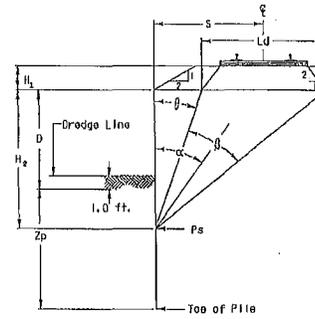
$$M = R_x (H - \bar{z}) = 2214 * (6 - 3.77) = 4940 \text{ ft-lbs/ft}$$

Use the above equations to determine P_s , M , R_x & \bar{z} due to the E80 liveload along the **entire** depth of the shoring system. Typically the equations are evaluated on 6" increments to determine the maximum values along the depth of the shoring system. The resultants must be combined with other applicable pressures and loads to evaluate the total loading on the shoring system for the entire depth of the system. Determine the minimum embedment depth required and the minimum cross sectional properties of the shoring system based on the allowable stresses and the required factors of safety.

CHART A

This chart identifies the active pressure and resulting forces due to E80 live load. See "SAMPLE PROBLEM" sheet for definitions of variables and equations.

1. Select distance S from track centerline to face of shoring.
2. Select depth H₂ below base of tie.
3. Read P_s, M, R and Z from the table.
4. Use the procedure outlined in the sample problem to determine values at non-tabulated points.



$$P_s = \frac{2q}{\pi} [\beta - \sin \beta \cos(2\alpha)]$$

where q = 1778 psf

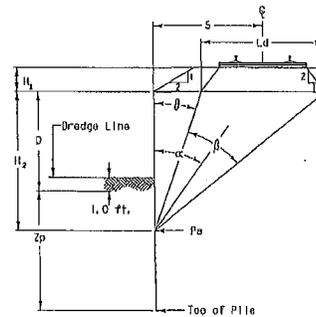
Boussinesq surcharge pressure E80 live load for H₁=0

Depth below top of shoring H ₂ (ft)	Variables	Horizontal distance (S) from shoring to track CL measured at a right angle									
		12	14	16	18	20	22	24	26	28	30
2	P _s (psf)	305	220	166	130	105	86	72	61	53	46
	α (radians)	1.38	1.41	1.44	1.45	1.47	1.48	1.48	1.49	1.50	1.50
	β (radians)	0.14	0.10	0.07	0.06	0.05	0.04	0.03	0.03	0.02	0.02
	Z (ft)	1.32	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
	M (ft-lbs/ft)	215	152	114	89	71	58	49	41	36	31
R (lbs/ft)	317	226	170	132	106	87	73	62	53	46	
4	P _s (psf)	496	381	299	240	197	164	138	118	102	89
	α (radians)	1.21	1.27	1.31	1.34	1.36	1.38	1.40	1.41	1.43	1.44
	β (radians)	0.25	0.19	0.14	0.11	0.09	0.07	0.06	0.05	0.05	0.04
	Z (ft)	2.69	2.61	2.63	2.64	2.64	2.65	2.65	2.65	2.65	2.66
	M (ft-lbs/ft)	1,609	1,165	882	692	557	459	384	327	281	244
R (lbs/ft)	1,141	840	643	508	411	339	285	242	209	182	
6	P _s (psf)	558	461	381	317	266	225	193	167	146	128
	α (radians)	1.06	1.13	1.19	1.23	1.27	1.29	1.32	1.34	1.35	1.37
	β (radians)	0.33	0.25	0.20	0.16	0.13	0.11	0.09	0.08	0.07	0.06
	Z (ft)	3.77	3.83	3.88	3.90	3.92	3.94	3.95	3.96	3.96	3.97
	M (ft-lbs/ft)	4,944	3,674	2,830	2,244	1,822	1,508	1,269	1,082	933	813
R (lbs/ft)	2,214	1,696	1,332	1,070	877	731	618	529	458	400	
8	P _s (psf)	535	476	414	358	309	268	234	205	181	160
	α (radians)	0.94	1.02	1.08	1.13	1.17	1.21	1.24	1.26	1.29	1.30
	β (radians)	0.37	0.29	0.24	0.19	0.16	0.14	0.12	0.10	0.09	0.08
	Z (ft)	4.84	4.97	5.06	5.11	5.16	5.19	5.21	5.23	5.24	5.26
	M (ft-lbs/ft)	10,481	8,006	6,286	5,051	4,141	3,452	2,920	2,501	2,165	1,892
R (lbs/ft)	3,316	2,641	2,134	1,761	1,456	1,228	1,047	903	786	689	
10	P _s (psf)	474	449	411	370	329	293	260	232	207	186
	α (radians)	0.83	0.92	0.99	1.04	1.09	1.13	1.17	1.19	1.22	1.24
	β (radians)	0.38	0.32	0.26	0.22	0.19	0.16	0.14	0.12	0.10	0.09
	Z (ft)	5.81	6.02	6.16	6.26	6.34	6.39	6.44	6.47	6.50	6.52
	M (ft-lbs/ft)	18,145	14,227	11,385	9,280	7,689	6,463	5,502	4,736	4,117	3,610
R (lbs/ft)	4,328	3,571	2,964	2,482	2,099	1,792	1,544	1,341	1,175	1,037	
12	P _s (psf)	404	403	386	360	331	302	274	248	225	204
	α (radians)	0.75	0.83	0.90	0.96	1.01	1.06	1.10	1.13	1.16	1.18
	β (radians)	0.38	0.33	0.28	0.24	0.20	0.18	0.15	0.13	0.12	0.11
	Z (ft)	6.68	6.97	7.18	7.34	7.46	7.55	7.61	7.67	7.71	7.76
	M (ft-lbs/ft)	27,703	22,237	18,121	14,980	12,550	10,641	9,121	7,895	6,894	6,068
R (lbs/ft)	6,207	4,424	3,763	3,214	2,762	2,389	2,080	1,823	1,608	1,427	
14	P _s (psf)	338	351	349	337	319	298	276	255	234	215
	α (radians)	0.68	0.76	0.83	0.89	0.94	0.99	1.03	1.07	1.10	1.13
	β (radians)	0.38	0.33	0.28	0.25	0.22	0.19	0.17	0.15	0.13	0.12
	Z (ft)	7.46	7.85	8.13	8.35	8.51	8.64	8.74	8.82	8.89	8.94
	M (ft-lbs/ft)	38,880	31,856	26,395	22,116	18,729	16,021	13,831	12,043	10,568	9,339
R (lbs/ft)	5,948	5,178	4,499	3,913	3,414	2,990	2,631	2,327	2,068	1,847	
16	P _s (psf)	280	301	310	308	300	286	271	254	237	220
	α (radians)	0.62	0.70	0.77	0.83	0.88	0.93	0.97	1.01	1.04	1.07
	β (radians)	0.36	0.32	0.28	0.25	0.22	0.20	0.18	0.16	0.14	0.13
	Z (ft)	8.17	8.64	9.01	9.29	9.51	9.68	9.82	9.93	10.03	10.10
	M (ft-lbs/ft)	51,411	42,880	36,066	30,598	26,183	22,590	19,644	17,207	15,175	13,468
R (lbs/ft)	6,563	5,829	5,158	4,560	4,034	3,576	3,179	2,837	2,540	2,284	

CHART A continued

This chart identifies the active pressure and resulting forces due to E80 live load. See "SAMPLE PROBLEM" sheet for definitions of variables and equations.

1. Select distance S from track centerline to face of shoring.
2. Select depth H₂ below base of tie.
3. Read P_s, M, R and Z̄ from the table.
4. Use the procedure outlined in the sample problem to determine values at non-tabulated points.



$$P_s = \frac{2q}{\pi} [\beta - \sin \beta \cos(2\alpha)]$$

where q = 1778 psf

Boussinesq surcharge pressure E80 live load for H₁=0

Depth below top of shoring H ₂ (ft)	Variables	Horizontal distance (S) from shoring to track CL measured at a right angle									
		12	14	16	18	20	22	24	26	28	30
18	P _s (psf)	231	256	271	277	276	269	259	247	234	220
	α (radians)	0.57	0.64	0.71	0.77	0.82	0.87	0.92	0.96	0.99	1.02
	β (radians)	0.35	0.31	0.28	0.25	0.23	0.20	0.18	0.16	0.15	0.13
	Z̄ (ft)	8.80	9.37	9.81	10.16	10.44	10.67	10.85	11.00	11.12	11.22
	M (ft-lbs/ft)	65,062	65,110	46,976	40,313	34,834	30,304	26,536	23,384	20,728	18,477
	R (lbs/ft)	7,072	6,386	5,739	5,145	4,609	4,132	3,710	3,338	3,012	2,725
20	P _s (psf)	191	217	236	246	250	249	244	237	227	217
	α (radians)	0.52	0.59	0.66	0.72	0.77	0.82	0.87	0.91	0.94	0.98
	β (radians)	0.33	0.30	0.28	0.25	0.23	0.21	0.19	0.17	0.15	0.14
	Z̄ (ft)	9.37	10.03	10.56	10.98	11.32	11.69	11.82	12.01	12.16	12.30
	M (ft-lbs/ft)	79,641	68,368	58,973	51,137	44,586	39,093	34,465	30,548	27,216	24,367
	R (lbs/ft)	7,493	6,859	6,245	5,668	5,135	4,651	4,214	3,822	3,474	3,163
22	P _s (psf)	159	184	204	217	225	228	227	223	217	210
	α (radians)	0.49	0.55	0.62	0.67	0.73	0.77	0.82	0.86	0.90	0.93
	β (radians)	0.31	0.29	0.27	0.25	0.23	0.21	0.19	0.17	0.16	0.14
	Z̄ (ft)	9.89	10.64	11.24	11.73	12.14	12.47	12.74	12.97	13.17	13.33
	M (ft-lbs/ft)	94,986	82,497	71,913	62,945	55,341	48,878	43,370	38,658	34,611	31,122
	R (lbs/ft)	7,842	7,260	6,684	6,131	5,611	5,128	4,685	4,283	3,918	3,590
24	P _s (psf)	133	157	176	191	202	207	210	209	206	201
	α (radians)	0.45	0.52	0.58	0.63	0.68	0.73	0.78	0.82	0.85	0.89
	β (radians)	0.30	0.28	0.26	0.24	0.22	0.20	0.19	0.17	0.16	0.15
	Z̄ (ft)	10.35	11.19	11.87	12.44	12.90	13.29	13.62	13.89	14.13	14.32
	M (ft-lbs/ft)	110,969	97,366	85,670	75,625	66,997	59,577	53,183	47,661	42,875	38,716
	R (lbs/ft)	8,132	7,600	7,064	6,540	6,037	5,564	5,122	4,715	4,342	4,001
26	P _s (psf)	112	134	153	168	180	188	192	194	193	191
	α (radians)	0.42	0.48	0.54	0.60	0.65	0.69	0.74	0.78	0.82	0.85
	β (radians)	0.28	0.27	0.25	0.23	0.22	0.20	0.19	0.17	0.16	0.15
	Z̄ (ft)	10.78	11.69	12.45	13.09	13.62	14.07	14.44	14.77	15.04	15.28
	M (ft-lbs/ft)	127,485	112,863	100,135	89,071	79,460	71,105	63,836	57,499	51,963	47,113
	R (lbs/ft)	8,376	7,890	7,393	6,899	6,418	5,959	5,524	5,118	4,741	4,393
28	P _s (psf)	94	114	132	148	160	169	175	179	180	180
	α (radians)	0.40	0.46	0.51	0.56	0.61	0.66	0.70	0.74	0.78	0.81
	β (radians)	0.27	0.26	0.24	0.23	0.21	0.20	0.19	0.17	0.16	0.15
	Z̄ (ft)	11.17	12.16	12.99	13.70	14.29	14.80	15.23	15.60	15.91	16.19
	M (ft-lbs/ft)	144,448	128,896	115,211	103,191	92,642	83,385	75,258	68,113	61,823	56,274
	R (lbs/ft)	8,581	8,137	7,677	7,214	6,758	6,315	5,892	5,491	5,115	4,764
30	P _s (psf)	80	98	115	130	142	152	160	165	167	168
	α (radians)	0.37	0.43	0.48	0.53	0.58	0.63	0.67	0.71	0.74	0.78
	β (radians)	0.26	0.25	0.23	0.22	0.21	0.20	0.18	0.17	0.16	0.15
	Z̄ (ft)	11.52	12.59	13.49	14.26	14.92	15.48	15.97	16.38	16.75	17.06
	M (ft-lbs/ft)	161,789	145,388	130,819	117,903	106,466	96,343	87,381	79,443	72,404	66,153
	R (lbs/ft)	8,755	8,349	7,925	7,492	7,060	6,636	6,227	5,834	5,462	5,112
32	P _s (psf)	69	85	101	115	127	137	145	151	155	157
	α (radians)	0.35	0.41	0.46	0.51	0.55	0.60	0.64	0.68	0.71	0.75
	β (radians)	0.25	0.24	0.22	0.21	0.20	0.19	0.18	0.17	0.16	0.15
	Z̄ (ft)	11.85	12.98	13.95	14.79	15.51	16.13	16.67	17.13	17.54	17.89
	M (ft-lbs/ft)	179,452	162,274	146,888	133,136	120,859	109,909	100,144	91,432	83,655	76,706
	R (lbs/ft)	8,904	8,532	8,140	7,736	7,329	6,925	6,531	6,150	5,785	5,438

GUIDELINE & WEBSITE DIRECTORY

BNSF guidelines are as follows:

- a. Guidelines for Design and Construction of Grade Separation Structures.

UPRR guidelines are as follows:

- a. **Underpass Structures** – “Guidelines for Design and Construction of Grade Separation Underpass Structures.”
- b. **Overhead Grade Separation** – “Guidelines for Design of Highway Separation Structures Over Railroad (Overhead Grade Separation).”
- c. **Demolition** – “Guidelines for Preparation of a Bridge Demolition and Removal Plan for Structures Over Railroad.”
- d. **Shoofly** – “Guidelines for Design and Construction of Shoofly (Detour) Tracks.”
- e. **Fiber Optic** – “UPRR Fiber Optic Engineering, Construction And Maintenance Standards.”
1/1/2002
- f. **Pipeline** – “Pipeline Installation” available at www.uprr.com.
- g. **Industry Track** – “Technical Specification for Construction of Industrial Tracks”

WEBSITE DIRECTORY:

1. www.astm.org
2. www.arena.org
3. www.bnsf.com
4. www.pilespecs.com
5. www.uprr.com

AREMA Table 8-20-1. Granular Soils

Descriptive Term for Relative Density	Standard Penetration Test Blows per Foot "N"
Very Loose	0 - 4
Loose	4 - 10
Medium	10 - 30
Dense	30 - 50
Very Dense	Over 50

AREMA Table 8-20-2. Silt and Clay Soils

Descriptive Term for Consistency	Unconfined Compressive Strength Tons per Square Foot
Very Soft	Less than 0.25
Soft	0.25 - 0.50
Medium	0.50 - 1.00
Stiff	1.00 - 2.00
Very Stiff	2.00 - 4.00
Hard	Over 4.00

AREMA Table 8-20-3. Unit Weights of Soils, and Coefficients of Earth Pressure

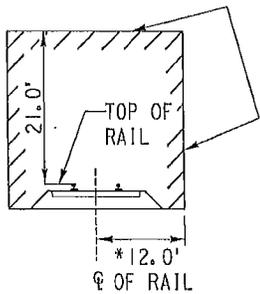
Type of Soil	Unit Weight of Moist Soil, γ (Note 1)		Unit Weight of Submerged Soil, γ' (Note 1)		Coefficient of Active Earth Pressure, K_A				Coefficient of Passive Earth Pressure, K_p		
					For Backfill	For Soils in Place	Friction Angles (Note 2)		For Soils in Place	Friction Angles (Note 2)	
	Minimum	Maximum	Minimum	Maximum			ϕ	δ		ϕ	δ
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Clean Sand:											
Dense	110	140	65	78		0.20	38	20	9.0	38	25
Medium	110	130	60	68		0.25	34	17	7.0	34	23
Loose	90	125	56	63	0.35	0.30	30	15	5.0	30	20
Silty Sand:											
Dense	110	150	70	88		0.25			7.0		
Medium	95	130	60	68		0.30			5.0		
Loose	80	125	50	63	0.50	0.35			3.0		
Silt and Clay (Note 3)	$\frac{165(1+w)}{1+2.65w}$		$\frac{103}{1+2.65w}$		1.00	$1 - \frac{q_u}{p + \gamma z}$			$1 + \frac{q_u}{p + \gamma z}$		
<p>Note 1: In pounds per cubic foot.</p> <p>Note 2: These angles, expressed in degrees, are ϕ, the angle of internal friction, and δ, the angle of wall friction, and are used in estimating the coefficients under which they are listed.</p> <p>Note 3: The symbol γ represents γ or γ', whichever is applicable; p is the effective unit pressure on the top surface of the stratum; q_u is the unconfined compressive strength; w is the natural water content, in percentage of dry weight; and z is the depth below the top surface of the stratum.</p>											

General criteria:

- a. Design loads to be based on the AREMA manual and Cooper E80 loading.
- b. Pressure due to embankment surcharges.
- c. ASTM designation and yield strength for each material.
- d. Maximum allowable bending stress for steel is $0.55F_y$.
- e. Temporary overstress allowances are not acceptable.
- f. All timber members shall be Douglas Fir Grade 2 or better.
- g. In situ soil classification.
- h. Backfill soil classification.
- i. Internal angle of friction and unit weight of soil.
- j. Active and passive soil coefficients.
- k. Backfill compacted to a minimum of 95% Proctor density per ASTM D-1557.
- l. Slopes without shoring shall not be steeper than 2 horizontal to 1 vertical.
- m. Dredge line elevation.
- n. Shoring deflection to be calculated and meet Railroad requirements.

Miscellaneous:

- a. Project name, location, GPS coordinates, track owner, Railroad line segment, milepost and subdivision in the title block.
- b. Procedure outlining the installation and removal of the temporary shoring system.
- c. General notes specifying material requirements, design data, details, dimensions and cross-sections, sequence of construction etc.
- d. A description of tieback installation including drilling, grouting, stressing information and testing procedures, anchor capacity, type of tendon, anchorage hardware, minimum unbonded lengths, minimum anchor lengths, angle of installation, tieback locations and spacing.
- e. All details for construction of drainage facilities associated with the shoring system shall be clearly indicated.
- f. Details and descriptions of all shoring system members and connection details.
- g. Settlement and displacement calculations.
- h. Handrail and protective fence details along the excavations.
- i. Drawings must be signed and stamped by a Licensed Professional Engineer, registered in the state where the work will be performed.
- j. Call before you dig number.
- k. Construction clearances diagram as shown below.



NO CONSTRUCTION ACTIVITIES OR OTHER OBSTRUCTIONS MAY BE PLACED WITHIN THESE LIMITS.

*ADD 1.5 INCHES PER DEGREE OF TRACK CURVATURE TO THE HORIZONTAL CLEARANCE DISTANCE.

MINIMUM CONSTRUCTION

CLEARANCES (NORMAL TO RAILROAD) Not to scale	DESIGN BY:	NAME & LOGO OF ENGINEERING FIRM OR PROJECT OWNER
	DRAWN BY:	
	SCALE:	GENERAL CRITERIA AND MISCELLANEOUS
	DRAWING NO:	RR M.P. SUBDIVISION
	SHEET: 1 of 3	CITY COUNTY STATE
	DOT#:	PROJECT NAME & LOCATION
	DATE:	

General plan view should show:

- a. Railroad right-of-way and North arrow.
- b. Position of all Railroad tracks and identify each track as mainline, siding, spur, etc.
- c. Spacing between all existing tracks.
- d. Location of all access roadways, drainage ditches and direction of flow.
- e. Footprint of proposed structure, proposed shoring system and any existing structures if applicable.
- f. Proposed horizontal construction clearances. The minimum allowable is 12 feet measured at a right angle from centerline of track.
- g. Location of existing and proposed utilities.
- h. Drawings must be signed and stamped by a Licensed Professional Engineer, registered in the state where the work will be performed.
- i. Railroad and other "CALL BEFORE YOU DIG" numbers.
- j. Detailed view of shoring along with controlling elevations and dimensions.

DESIGN BY:	NAME & LOGO OF ENGINEERING FIRM OR PROJECT OWNER		
DRAWN BY:			
SCALE:	GENERAL PLAN VIEW		
DRAWING NO:			
SHEET: 2 OF 3	RR M.P.		SUBDIVISION
DOT#:	city	COUNTY	STATE
DATE:	PROJECT NAME & LOCATION		

Typical section and elevation should show:

- a. Top of rail elevations for all tracks.
- b. Offset from the face of shoring system to the centerline of all tracks at all changes in horizontal alignment.
- c. All structural components, controlling elevations and dimensions of shoring system.
- d. All drainage ditches and controlling dimensions.
- e. All slopes, existing structures and other facilities which may surcharge the shoring system.
- f. Location of all existing and proposed utilities.
- g. Total depth of shoring system.

DESIGN BY:	NAME & LOGO OF ENGINEERING FIRM OR PROJECT OWNER		
DRAWN BY:			
SCALE:	TYPICAL SECTION & ELEVATION VIEW		
DRAWING NO:			
SHEET: 3 of 3	RR M.P.	SUBDIVISION	
DOT#:	CITY	COUNTY	STATE
DATE:	PROJECT NAME & LOCATION		



December 7, 2015

UPRR Folder No. 2804-73

**HERIBERTO SALAZAR
CALTRANS-R/W ACQUISITIONS
100 SOUTH MAIN ST. MS-6
LOS ANGELES, CA 90012-9800**

RE: Caltrans Right of Entry for DOT 441020D in Cerritos, CA.

Dear Ms. Cruz

Enclosed is a fully executed original of the above-referenced Right of Entry agreement.

In accordance with the terms of the Agreement, you are required to notify the following Railroad Company's Manager and the ("Call Before You Dig") number at least 10 days in advance of the date you plan on entering the right of way for further instructions and approval to commence construction.

CHRIS KECKEISEN
SR. MGR. IND. & PUB.
PROJ.
2015 S. Willow
Bloomington, CA 92316
(909) 685-2264

Telecommunications ("Call Before You Dig"): 1-800-336-9193

Real Estate Department
UNION PACIFIC RAILROAD COMPANY
1400 Douglas Street, MS 1690
Omaha, Nebraska 68179-1690
fax: 402.501.0340



If you have any questions, please contact me at (402) 544-8623.

Sincerely yours,

A handwritten signature in blue ink, appearing to read "D. LaPlante".

David C. LaPlante
Senior Manager - Contracts - Real Estate
phone: (402) 544-8563
e-mail: dclaplante@up.com

CALTRANS
RIGHT OF ENTRY AGREEMENT

THIS AGREEMENT is made and entered into as of the 7th day of December, 2015 by and between **UNION PACIFIC RAILROAD COMPANY (UPRR)** (hereinafter "Railroad") and **STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION** (hereinafter "Licensee").

IT IS MUTUALLY AGREED BY AND BETWEEN THE PARTIES HERETO AS FOLLOWS:

ARTICLE 1 - DEFINITION OF LICENSEE

For purposes of this Agreement, all references in this Agreement to Licensee shall include Licensee's contractors, subcontractors, officers, agents and employees, and others acting under its or their authority.

ARTICLE 2 - RIGHT GRANTED; PURPOSE

Railroad hereby grants to Licensee the right, during the term hereinafter stated and upon and subject to each and all of the terms, provisions and conditions herein contained, to enter upon and have ingress to and egress from the portion of Railroad's property located at or near Milepost 502.30, on Railroad's Santa Ana Industrial Lead Subdivision located near Cerritos City, Los Angeles County, California, for the purpose of performing work relating to construction, reconstruction, use, maintenance and repair of a freeway viaduct bridge structure for United States Interstate 5 (the "Work") as such location is also shown on the print, marked **Exhibit A**, attached hereto and hereby made a part hereof. The right herein granted to Licensee is limited to those portions of Railroad's property specifically described herein, or designated by the Railroad representative named in Article 4.

ARTICLE 3 - TERMS AND CONDITIONS CONTAINED IN EXHIBITS A, B, C AND D

The terms and conditions contained in **Exhibit A**, **Exhibit B**, **Exhibit C** and **Exhibit D**, attached hereto, are hereby made a part of this agreement.

ARTICLE 4 - ALL EXPENSES TO BE BORNE BY LICENSEE; RAILROAD REPRESENTATIVE

A. Licensee shall bear any and all costs and expenses associated with any work performed by Licensee, or any costs or expenses incurred by Railroad relating to this Agreement.

B. Licensee shall coordinate all of its work with the following Railroad representative or his/her duly authorized representative (the "Railroad Representative"):

Mr. Chris T. Keckeisen
Senior Manager Industry and Public Projects
Union Pacific Railroad Company
2015 S. Willow Avenue
Bloomington, CA 92316
Phone: (909) 685-2264
E-mail: ctkecke@up.com

C. Licensee, at its own expense, shall adequately police and supervise all Work to be performed by Licensee and shall ensure that such Work is performed in a safe manner as set forth in Section 7 of **Exhibit B**. The responsibility of Licensee for safe conduct and adequate policing and supervision of Licensee's work shall not be lessened or otherwise affected by Railroad's approval of the plans and specifications involving the Work, or by Railroad's collaboration in performance of any of the Work, or by the presence at the work site of a Railroad Representative, or by compliance by Licensee with any requests or recommendations made by the Railroad Representative.

ARTICLE 5 - TERM; TERMINATION

A. The grant of right herein made to Licensee shall commence on the date of this Agreement, and continue until acceptance of project by State, unless sooner terminated as herein provided, or at such time as Licensee has completed its Work on Railroad's property, whichever is earlier. Licensee agrees to notify the Railroad Representative in writing when it has completed its Work on Railroad's property.

B. Railroad may terminate this Agreement if it reasonably determines in good faith that Licensee has failed to comply with any of the material terms and conditions of this Agreement and has not cured such failure within ten (10) days after receiving notice (oral or written) from Railroad describing such failure in reasonable detail.

ARTICLE 6 - INSURANCE; CONTRACTOR'S ENDORSEMENT.

A. Licensee is self-insured. Licensee shall provide Railroad defense and indemnification at least equal to the defense, indemnification and insurance provisions (including the endorsements) contained in **Exhibit B**. Nothing herein shall be deemed to insure Railroad against its sole negligence or willful misconduct.

B. In the event any of the Work to be done upon the property of Railroad is to be done by a contractor or subcontractor of Licensee, said contractor or subcontractor may have the benefit of the license herein granted, while performing work for Licensee, provided such contractor or subcontractor agrees to be subject to and bound by the terms and conditions of this Agreement by: (1) executing an endorsement to this Agreement in the form set forth in Contractor's Endorsement marked **Exhibit E**, attached hereto, and (2) providing to Railroad the insurance policies, certificates, binders, and/or endorsements described in **Exhibit B**.

C. All insurance correspondence, certificates, binders or originals shall be sent to:

Union Pacific Railroad Company
Senior Manager Contracts
1400 Douglas Street, MS 1690
Omaha, NE 68179-1690
Railroad Folder No.: 2804-73

ARTICLE 7 - CHOICE OF FORUM

Unless otherwise preempted by applicable federal laws, rules or regulations, this Agreement shall be governed, construed and enforced in accordance with the laws of the State of California. Litigation arising out of or connected with this Agreement may be instituted and maintained in the courts of the State of California only, and the parties consent to jurisdiction over their person and over the subject matter of any such litigation, in those courts, and consent to service of process issued by such courts.

ARTICLE 8 - REMOVAL OF CONTRACTOR/SUBCONTRACTOR EMPLOYEE

At the request of Railroad, Licensee shall remove from Railroad property any contractor, subcontractor, officer, agent and/or employee of Licensee who fails to conform to the instructions of the Railroad Representative in connection with the Work on Railroad's property, and any right of Licensee shall be suspended until such removal has occurred. Licensee shall indemnify Railroad against any claims arising from the removal of any such contractor, subcontractor, officer, agent and/or employee from Railroad property.

ARTICLE 9 - ADMINISTRATIVE FEE

Upon the execution and delivery of this Agreement, Licensee shall pay to Railroad Five Hundred Dollars (\$500.00) as reimbursement for clerical, administrative and handling expenses in connection with the processing of this Agreement.

ARTICLE 10 -SPECIAL PROVISIONS

A. No additional vehicular crossings (including temporary haul roads) or pedestrian crossings over Railroad's trackage shall be installed or used by Licensee without the prior written permission of Railroad.

B. Explosives or other highly flammable substances shall not be stored on Railroad property without the prior written approval of the Railroad Representative.

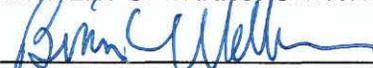
C. The parties agree that this agreement is not, and is not intended to be, a construction contract for purposes of Cal. Civ. Code § 2782(a). Accordingly, to the maximum extent permitted by law, the provisions of Cal. Civ. Code § 2782(a), as interpreted by the California courts in Southern Pacific Transportation Co. v. Sandyland Protective Association, 224 Cal.App.3d 1494, 274 Cal.Rptr. 626 (1990), and in other past and future cases, shall not apply to this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement in duplicate as of the date first herein written.

UNION PACIFIC RAILROAD COMPANY

By: 
Title: Sr. Mgr. Real Estate

**STATE OF CALIFORNIA,
DEPARTMENT OF TRANSPORTATION**

By: 
Title: Brian C. Wallace

Senior R/W Agent Local Programs & Railroads

EXHIBIT A
TO
CALTRANS RIGHT OF ENTRY AGREEMENT

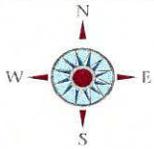
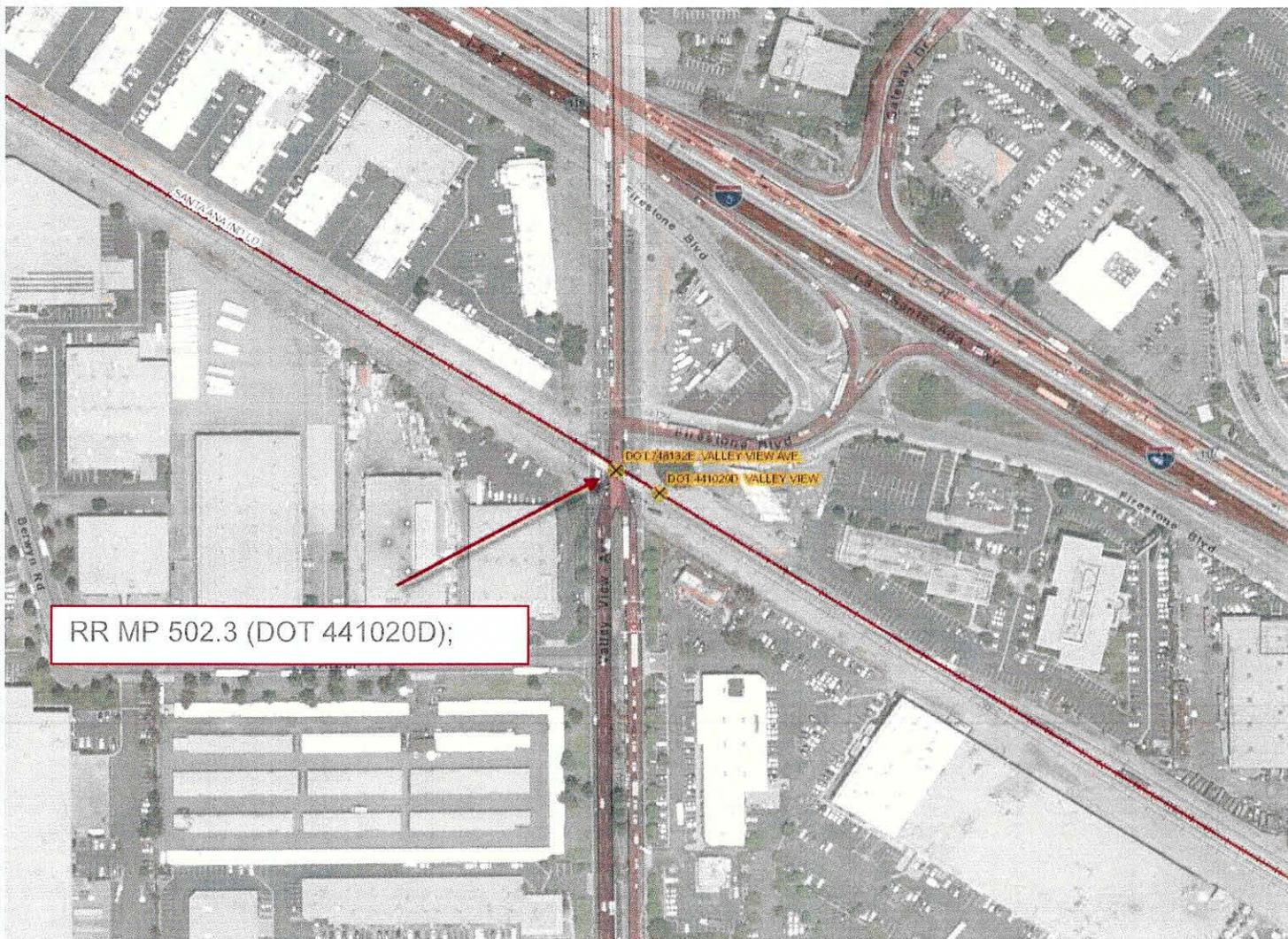


EXHIBIT "A"
RAILROAD LOCATION PRINT
ACCOMPANYING A
CONSTRUCTION & MAINTENANCE AGREEMENT/CONTRACTOR'S
RIGHT OF ENTRY AGREEMENT



RR MP 502.3 (DOT 441020D);

UNION PACIFIC RAILROAD COMPANY
SANTA ANA IND. LEAD
RAILROAD MILE POST 502.3
LA MIRADA (Cerritos), LOS ANGELES COUNTY, CA
To accompany an Agreement with
CALIFORNIA DEPT. OF TRANSPORTATION and its
Contractors

UPRR Folder No. 2804-73

Date: December 9, 2015

WARNING

IN ALL OCCASIONS, U.P. COMMUNICATIONS DEPARTMENT MUST BE CONTACTED IN ADVANCE OF ANY WORK TO DETERMINE EXISTENCE AND LOCATION OF FIBER OPTIC CABLE.

PHONE: 1-(800) 336-9193

**EXHIBIT B
TO
CALTRANS RIGHT OF ENTRY AGREEMENT**

Section 1. NOTICE OF COMMENCEMENT OF WORK - FLAGGING.

a. Licensee agrees to notify the Railroad Representative at least ten (10) working days in advance of Licensee commencing its Work and at least ten (10) working days in advance of proposed performance of any Work by Licensee in which any person or equipment will be within twenty-five (25) feet of any track, or will be near enough to any track that any equipment extension (such as, but not limited to, a crane boom) will reach to within twenty-five (25) feet of any track. No Work of any kind shall be performed, and no person, equipment, machinery, tool(s), material(s), vehicle(s), or thing(s) shall be located, operated, placed, or stored within twenty-five (25) feet of any of Railroad's track(s) at any time, for any reason, unless and until a Railroad flagman is provided to watch for trains. Upon receipt of such 10-day notice, the Railroad Representative will determine and inform Licensee whether a flagman need be present and whether Licensee need implement any special protective or safety measures. If flagging or other special protective or safety measures are performed by Railroad, such services will be provided at Licensee's expense with the understanding that if Railroad provides any flagging or other services, Licensee shall not be relieved of any of its responsibilities or liabilities set forth herein. Licensee shall promptly pay to Railroad all charges connected with such services within 30 days after presentation of a bill therefore.

b. The rate of pay per hour for each flagman will be the prevailing hourly rate in effect for an eight hour day for the class of persons used during regularly assigned hours and overtime in accordance with Labor Agreements and Schedules in effect at the time the Work is performed. In addition to the cost of such labor, a composite charge for vacation, holiday, health & welfare, supplemental sickness, Railroad Retirement & UC, supplemental pension, Employee's Liability & Property Damage and Administration will be included, computed on actual payroll. The composite charge will be the prevailing composite charge in effect at the time the work is performed. One and one-half times the current hourly rate is paid for overtime, Saturdays and Sundays and two and one-half times current hourly rate for holidays. Wage rates are subject to change, at any time, by law or by agreement between Railroad and its employees, and may be retroactive as a result of negotiations or a ruling of an authorized governmental agency. Additional charges on labor are also subject to change. If the wage rate or additional charges are changed, Licensee shall pay on the basis of the new rates and charges.

c. Reimbursement to Railroad will be required covering the full eight hour day during which any flagman is furnished, unless the flagman can be assigned to other Railroad work during a portion of such day, in which event reimbursement will not be required for the portion of the day during which the flagman is engaged in other Railroad work. Reimbursement will also be required for any day not actually worked by the flagman following the flagman's assignment to work on the project for which Railroad is required to pay the flagman and which could not reasonably be avoided by Railroad by assignment of such flagman to other work, even though the Licensee may not be working during such time. When it becomes necessary for Railroad to bulletin and

assign an employee to a flagging position in compliance with union collective bargaining agreements, Licensee must provide Railroad a minimum of five (5) days notice prior to the cessation of the need for a flagman. If five (5) days notice of cessation is not given, Licensee will still be required to pay flagging charges for the five (5) day notice period required by union agreement to be given to the employee, even though flagging is not required for that period. An additional ten (10) days-notice must then be given to Railroad if flagging services are needed again after such five (5) day cessation notice has been given to Railroad.

Section 2. LIMITATION AND SUBORDINATION OF RIGHTS GRANTED

a. The foregoing grant of right is subject and subordinate to the prior and continuing right and obligation of Railroad to use and maintain its entire property including the right and power of Railroad to construct, maintain, repair, renew, use, operate, change, modify or relocate railroad tracks, roadways, signal, communication, fiber optics, or other wire lines, pipelines and other facilities upon, along or across any or all parts of its property, all or any of which may be reasonably done at any time or times by Railroad without liability to Licensee or to any other party for compensation or damages.

b. The foregoing grant is also subject to all outstanding superior rights (including those in favor of licensees and lessees of Railroad's property, and others) and the right of Railroad to renew and extend the same, and is made without covenant of title or for quiet enjoyment.

Section 3. NO INTERFERENCE WITH OPERATION OF RAILROAD AND ITS TENANTS.

a. Licensee shall conduct its operations so as not to interfere with the continuous and uninterrupted use and operation of the railroad tracks and property of Railroad, including, without limitation, the operations of Railroad's lessees, licensees or others, unless specifically authorized in advance by the Railroad Representative. Nothing shall be done or permitted to be done by Licensee at any time that would in any manner impair the safety of such operations. When not in use, Licensee's machinery and materials shall be kept at least fifty (50) feet from the centerline of Railroad's nearest track, and there shall be no vehicular crossings of Railroad's tracks except at existing open public crossings.

b. Operations of Railroad and work performed by Railroad personnel and delays in the work to be performed by Licensee caused by such railroad operations and work are expected by Licensee, and Licensee agrees that Railroad shall have no liability to Licensee, or any other person or entity for any such delays. Licensee shall coordinate its activities with those of Railroad and third parties so as to avoid interference with railroad operations. The safe operation of Railroad train movements and other activities by Railroad takes precedence over any work to be performed by Licensee.

Section 4. LIENS.

Licensee shall pay in full all persons who perform labor or provide materials for the work to be performed by Licensee. Licensee shall not create, permit or suffer any mechanic's or materialmen's liens of any kind or nature to be created or enforced

against any property of Railroad for any such work performed. Licensee shall indemnify and hold harmless Railroad from and against any and all liens, claims, demands, costs or expenses of whatsoever nature in any way connected with or growing out of such work done, labor performed, or materials furnished.

Section 5. PROTECTION OF FIBER OPTIC CABLE SYSTEMS.

a. Fiber optic cable systems may be buried on Railroad's property. Protection of the fiber optic cable systems is of extreme importance since any break could disrupt service to users resulting in business interruption and loss of revenue and profits. Licensee shall telephone Railroad during normal business hours (7:00 a.m. to 9:00 p.m. Central Time, Monday through Friday, except holidays) at 1-800-336-9193 (also a 24-hour, 7-day number for emergency calls) to determine if fiber optic cable is buried anywhere on Railroad's property to be used by Licensee. If it is, Licensee shall telephone the telecommunications company (ies) involved, arrange for a cable locator, make arrangements for relocation or other protection of the fiber optic cable, and shall commence no work on the right of way until all such protection or relocation has been accomplished.

b. In addition to other indemnity provisions in this Agreement, Licensee shall, pursuant to Cal. Gov. Code §14662.5, indemnify and hold Railroad harmless from and against all costs, liability and expense whatsoever (including, without limitation, attorneys' fees, court costs and expenses) arising out of any act or omission of Licensee and its employees that proximately causes or contributes to (1) any damage to or destruction of any telecommunications system on Railroad's property, and/or (2) any injury to or death of any person employed by or on behalf of any telecommunications company, and/or its contractors, agents and/or employees, on Railroad's property. Licensee shall not have or seek recourse against Railroad for any claim or cause of action for alleged loss of profits or revenue or loss of service or other consequential damage to a telecommunication company using Railroad's property or a customer or user of services of the fiber optic cable on Railroad's property.

Section 6. PERMITS - COMPLIANCE WITH LAWS.

In the prosecution of the work covered by this Agreement, Licensee shall secure any and all necessary permits and shall comply with all applicable federal, state and local laws, regulations and enactments affecting the work, including, without limitation, all applicable Federal Railroad Administration regulations.

Section 7. SAFETY.

a. Safety of personnel, property, rail operations and the public is of paramount importance in the prosecution of the work performed by Licensee. Licensee shall be responsible for initiating, maintaining and supervising all safety, operations and programs in connection with the work. Licensee shall at a minimum comply with Railroad's safety standards listed in **Exhibit C**, hereto attached, to ensure uniformity with the safety standards followed by Railroad's own forces. As a part of Licensee's safety responsibilities, Licensee shall notify Railroad if Licensee determines that any of Railroad's safety standards are contrary to good safety practices. Licensee shall furnish copies of **Exhibit C** to each of its employees before they enter the job site.

b. Without limitation of the provisions of paragraph A above, Licensee shall keep the job site free from safety and health hazards and ensure that its employees are competent and adequately trained in all safety and health aspects of the job.

c. Licensee shall have proper first aid supplies available on the job site so that prompt first aid services may be provided to any person injured on the job site. Licensee shall promptly notify Railroad of any U.S. Occupational Safety and Health Administration reportable injuries. Licensee shall have a non-delegable duty to control its employees while they are on the job site or any other property of Railroad, and to be certain they do not use, be under the influence of, or have in their possession any alcoholic beverage, drug or other substance that may inhibit the safe performance of any work.

d. If and when requested by Railroad, Licensee shall deliver to Railroad a copy of Railroad's safety plan for conducting the work (the "Safety Plan"). Railroad shall have the right, but not the obligation, to require Licensee to correct any deficiencies in the Safety Plan. The terms of this Agreement shall control if there are any inconsistencies between this Agreement and the Safety Plan.

Section 8. INDEMNITY.

a. To the extent not prohibited by Cal. Gov. Code §14662.5, Licensee shall indemnify, defend and hold harmless Railroad, its affiliates, and its and their officers, agents and employees ("Indemnified Parties") from and against any and all loss, damage, injury, liability, claim, demand, cost or expense (including, without limitation, attorney's, consultant's and expert's fees, and court costs), fine or penalty (collectively, "Loss") incurred by any person (including, without limitation, any Indemnified Party, Licensee, or any employee of Licensee or of any Indemnified Party) arising out of or in any manner connected with (i) any Work performed by Licensee, or (ii) any act or omission of Licensee, its officers, agents or employees, or (iii) any breach of this agreement by Licensee.

b. To the extent not prohibited by Cal. Gov. Code §14662.5, the right to indemnity under this Section 8 shall accrue upon occurrence of the event giving rise to the Loss, and shall apply regardless of any negligence or strict liability of any Indemnified Party, except where the Loss is caused by the sole active negligence or willful misconduct of an Indemnified Party as established by the final judgment of a court of competent jurisdiction. The sole active negligence or willful misconduct of any Indemnified Party shall not bar the recovery of any other Indemnified Party.

c. To the extent not prohibited by Cal. Gov. Code §14662.5, Licensee expressly and specifically assumes potential liability under this Section 8 for claims or actions brought by Licensee's own employees. Licensee waives any immunity it may have under worker's compensation or industrial insurance acts to indemnify Railroad under this Section 8. Licensee acknowledges that this waiver was mutually negotiated by the parties hereto.

d. To the extent not prohibited by Cal. Gov. Code §14662.5, no court or jury findings in any employee's suit pursuant to any worker's compensation act or the Federal Employer's Liability Act against a party to this Agreement may be relied upon or used by Licensee in any attempt to assert liability against Railroad.

e. The provisions of this Section 8 shall survive the completion of any Work performed by Licensee or the termination or expiration of this Agreement. To the extent not prohibited by Cal. Gov. Code §14662.5, in no event shall this Section 8 or any other provision of this Agreement be deemed to limit any liability Licensee may have to any Indemnified Party by statute or under common law.

Section 9. RESTORATION OF PROPERTY.

In the event Railroad authorizes Licensee to take down any fence of Railroad or in any manner move or disturb any of the other property of Railroad in connection with the Work to be performed by Licensee, then in that event Licensee shall, as soon as possible and at Licensee's sole expense, restore such fence and other property to the same condition as the same were in before such fence was taken down or such other property was moved or disturbed. Licensee shall remove all of Licensee's tools, equipment and materials from Railroad's property promptly upon completion of the Work, restoring Railroad's property to the same state and condition as when Licensee entered thereon.

Section 10. WAIVER OF DEFAULT.

Waiver by Railroad of any breach or default of any condition, covenant or agreement herein contained to be kept, observed and performed by Licensee shall in no way impair the right of Railroad to avail itself of any remedy for any subsequent breach or default.

Section 11. MODIFICATION - ENTIRE AGREEMENT.

No modification of this Agreement shall be effective unless made in writing and signed by Licensee and Railroad. This Agreement and the exhibits attached hereto and made a part hereof constitute the entire understanding between Licensee and Railroad and cancel and supersede any prior negotiations, understandings or agreements, whether written or oral, with respect to the work to be performed by Licensee.

Section 12. ASSIGNMENT.

Licensee shall not assign or subcontract this Agreement, or any interest therein, without the written consent of Railroad.

**EXHIBIT C
TO
CALTRANS RIGHT OF ENTRY AGREEMENT**

INSURANCE PROVISIONS

Contractor shall, at its sole cost and expense, procure and maintain during the course of the Project and until all Project work on Railroad's property has been completed and Contractor has removed all equipment and materials from Railroad's property and has cleaned and restored Railroad's property to Railroad's satisfaction, the following insurance coverage:

- A. Commercial General Liability Insurance.** Commercial general liability (CGL) with a limit of not less than \$5,000,000 each occurrence and an aggregate limit of not less than \$10,000,000. CGL insurance must be written on ISO occurrence form CG 00 01 12 04 (or a substitute form providing equivalent coverage).

The policy must also contain the following endorsement, which must be stated on the certificate of insurance:

- Contractual Liability Railroads ISO form CG 24 17 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Railroad Company Property" as the Designated Job Site.

- B. Business Automobile Coverage Insurance.** Business auto coverage written on ISO form CA 00 01 (or a substitute form providing equivalent liability coverage) with a combined single limit of not less \$5,000,000 for each accident.

The policy must contain the following endorsements, which must be stated on the certificate of insurance:

- Coverage For Certain Operations In Connection With Railroads ISO form CA 20 70 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Property" as the Designated Job Site.
- Motor Carrier Act Endorsement - Hazardous materials clean up (MCS-90) if required by law.

- C. Workers' Compensation and Employers' Liability insurance.** Coverage must include but not be limited to:

- Contractor's statutory liability under the workers' compensation laws of the State of California.
- Employers' Liability (Part B) with limits of at least \$500,000 each accident, \$500,000 disease policy limit \$500,000 each employee.

If Contractor is self-insured, evidence of state approval and excess workers compensation coverage must be provided. Coverage must include liability arising out of the U. S. Longshoremen's and Harbor Workers' Act, the Jones Act, and the Outer Continental Shelf Land Act, if applicable.

Policy must contain the following endorsement, which must be stated on certificate of insurance:

- Alternate Employer endorsement ISO form WC 00 03 01 A (or a substitute form providing equivalent coverage) showing Railroad in the schedule as

the alternate employer (or a substitute form providing equivalent coverage).

- D. **Railroad Protective Liability Insurance.** Contractor must maintain Railroad Protective Liability insurance written on ISO occurrence form CG 00 35 12 04 (or a substitute form providing equivalent coverage) on behalf of Railroad as named insured, with a limit of not less than \$2,000,000 per occurrence and an aggregate of \$6,000,000. A binder stating the policy is in place must be submitted to Railroad before the work may be commenced and until the original policy is forwarded to Railroad.
- E. **Umbrella or Excess** insurance. If Contractor utilizes umbrella or excess policies, these policies must "follow form" and afford no less coverage than the primary policy.
- F. **Pollution Liability** insurance. Pollution liability coverage must be written on ISO form Pollution Liability Coverage Form Designated Sites CG 00 39 12 04 (or a substitute form providing equivalent liability coverage), with limits of at least \$5,000,000 per occurrence and an aggregate limit of \$10,000,000. If the scope of work as defined in this Agreement includes the disposal of any hazardous or non-hazardous materials from the job site, Contractor must furnish to Railroad evidence of pollution legal liability insurance maintained by the disposal site operator for losses arising from the insured facility accepting the materials, with coverage in minimum amounts of \$1,000,000 per loss, and an annual aggregate of \$2,000,000.

Other Requirements

- G. All policy (ies) required above (except worker's compensation and employers liability) must include Railroad as "Additional Insured" using ISO Additional Insured Endorsements CG 20 26, and CA 20 48 (or substitute forms providing equivalent coverage). The coverage provided to Railroad as additional insured shall, to the extent provided under ISO Additional Insured Endorsement CG 20 26, and CA 20 48 provide coverage for Railroad's negligence whether sole or partial, active or passive, and shall not be limited by Contractor's liability under the indemnity provisions of this Agreement.
- H. Punitive damages exclusion, if any, must be deleted (and the deletion indicated on the certificate of insurance), unless the law governing this Agreement prohibits all punitive damages that might arise under this Agreement.
- I. Contractor waives all rights of recovery, and its insurers also waive all rights of subrogation of damages against Railroad and its agents, officers, directors and employees. This waiver must be stated on the certificate of insurance.
- J. Prior to commencing the work, Contractor shall furnish Railroad with a certificate(s) of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements in this Agreement.

- K.** All insurance policies must be written by a reputable insurance company acceptable to Railroad or with a current Best's Insurance Guide Rating of A- and Class VII or better, and authorized to do business in the State of California.
- L.** The fact that insurance is obtained by Contractor or by Railroad on behalf of Contractor will not be deemed to release or diminish the liability of Contractor, including, without limitation, liability under the indemnity provisions of this Agreement. Damages recoverable by Railroad from Contractor or any third party will not be limited by the amount of the required insurance coverage.

**Revised Foundation Report for
Valley View OH/OC (replace),
Bridge No. 53-3045, dated 7/11/2013**

Memorandum

*Flex your power!
Be energy efficient!*

To: Mr. RAMIN RASHEDI, CHIEF
Bridge Design Branch 11
Office of Bridge Design South 1

Date: July 11, 2013
File: 07-LA-5- PM 1.21
0700001832 (07-215921)

Att: Mr. Bill Kemp

From: DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Geotechnical Services
Office of Geotechnical Design – South 1 MS # 18

VALLEY VIEW AVE
OH/OC (REPLACE)
BRIDGE NO. 53-3045

Subject: Revised Foundation Report

Introduction

In response to June 27, 2013 email submittal from Office of Bridge Design South 1 (OBDS1), new pile tips are provided for Abutment 11, due to increased loads and CIDH pile diameter from 24” to 42”. This revised report includes the entire original report dated 5-30-13, in addition to new pile tips at Abutment 11 and corrections/modifications made based on design review comments received 6-7-13. Foundation recommendations presented herein are for the proposed Valley View OH/OC Bridge No. 53-3045 which will replace the existing Valley View OC Bridge No. 53-0631RL. Email attachments received from Mr. Bill Kemp on listed dates for updated bridge foundation design loads (1-29-13 Frame 1, 2-1-13 Frame 2, 10-24-12 & 6-27-13 Frame 3, 12-27-11 Slab Bridge) and latest Plans for entire structure with various revision dates on 5-21-12, and for Frame 2 on 11-26-12. The proposed structure is designed as three different bridge types including, slab bridge in-lieu of begin approach embankment, PC/PS Bulb-T Girders, and cast-in-place for main structure in three separate frames including, Abutment 1 to Bent 4 (Frame 1), Bents 5 to 7 (Frame 2) and Pier 8 to Abutment 11 (Frame 3). Existing and future Railroad tracks with active utilities are located under span 4 and existing Firestone Blvd. will be relocated to span 6.

1.0 Scope of Work

This revised report supersedes the Preliminary Foundation Report for Valley View OH/OC (Replace) dated 5-25-10 and the Foundation Report dated 5-30-13. A review of the following resources and prepared data provided information for the foundation evaluation and site condition.

- ◆ Review of the revised General Plans (2 sheets), Foundation Plans, Structure Plans (4 sheets), bent layouts and footing details, for Slab and Frames 1, 2, 3, received 5-21-12. Original foundation design loads and data sheets for Frames 1 & 2 received 10-21-11, 12-21-11, 4-27-12 & 11-26-12, Frame 3, 3-26-12, 4-2-12, 4-25-12 & 5-9-12, and Slab Bridge 12-27-11. Updated loads received 1-29-13 (Frame 1), 2-1-13 (Frame 2), 10-24-12 (Frame 3). Abutment 11 loads and CIDH pile diameters were revised on 6-27-13.

- ◆ Review of the “As Built” Log of Test Borings for original Valley View OC Bridge No. 53-0631 (later numbered 53-0631L), dated January 25, 1954; construction of right structure Bridge No. 53-0631R November 26, 1973; earthquake retrofit of bridge No. 53-0631L March 26, 1998, and “As Built” file maintained in Los Angeles Office.
- ◆ Review of the sampled borings and cone penetration tests (CPT) completed by URS in 2008 to 2012 for the proposed Valley View OH/OC Bridge No. 53-3045 and adjacent structures. Also one boring and one CPT completed for Frame 3 by Caltrans in 2012.
- ◆ Preparation and presentation of the results of investigations and interpretation of subsurface soil, writing of this report in accordance with Caltrans “Guidelines for Structures Foundation Reports, Ver. 2.0”, and “Foundation Report Preparation for Bridge Foundations” Dec. 2009.

2.0 Project Description

The I-5 Corridor Improvement project proposes to reconstruct the I-5 freeway including bridge replacements, retaining walls and sound walls, between Los Angeles/Orange County line to the north of I-605, crossing cities of Norwalk, Santa Fe Springs, Cerritos and unincorporated cities. Replacement of the existing Valley View OC is part of the Segment 2 of I-5 Corridor Improvement in Cities of Santa Fe Springs and Cerritos, which covers an area from south of North Fork Coyote Creek (PM 1.47) to north of Artesia Blvd./County line (PM 0.00). Segment 2 encompasses four new structures (Valley View SB On Ramp #53-3059K, Valley View SB Off Ramp # 53-3058K, NB Valley View Ave/S. Firestone Blvd. #53C-2295, SB Valley View Ave/S. Firestone Blvd. #53C-2296), three bridge replacements (Valley View OH/OC #53-3045, Coyote Creek #53-3044 and North Firestone Blvd. #53C-2194), and approximately 34 Type 1 retaining walls. All elevations referenced in this report are based on 1988 NAVD datum. All elevations on the As-Built Log of Test Borings are referenced to the 1929 NGVD which can be converted to NAVD '88 elevations by adding 2.35 feet to the NGVD '29 elevations.

3.0 Field Investigation and Testing Program

The site specific field investigations were performed in 2008 to 2012 by URS Corporation, and in 2012 by Caltrans drilling services (one wet rotary boring and two CPT soundings). The investigation included drilling seventeen, wet rotary borings and six CPT soundings. Soils were continuously logged and classified in accordance with the Unified Soil Classification System. Modifications of soil descriptions to reflect laboratory test results are presented in the Log of Test Borings. Bulk and relatively undisturbed (ring) soil samples were collected for laboratory tests. Ring samples were obtained using Modified California split spoon sampler with 2.0 inch inner diameter. In addition, soil samples were obtained at 5 foot intervals from Standard Penetration test (SPT) split spoon sampler with 1.4 inch inner diameter. Blow counts (SPT N-values) were performed at 5 ft intervals in accordance with ASTM Test Method D1586-84 using a 1.4 inch sampler with a 140 lb safety hammer dropped 30 inches. An electronic file of the new Log of Test Borings along with As-Built Log of Test Borings was sent to Designer from URS Corporation drafting for inclusion in the contract plans.

4.0 Laboratory Testing Program

Selected representative soil samples were tested in URS laboratories in Orange County to obtain or derive relevant physical and engineering soil properties. All laboratory tests were performed in general accordance with California Test Methods (CTM) or American Society for Testing and Materials (ASTM) Standards. Field and laboratory testing intervals are shown on the Log of Test Boring sheets. The summarized laboratory tests data are shown in Table 1.

Table 1. Summary of Laboratory Tests

Testing Type	ASTM/CTM Designation	Testing Purpose
Consolidation Test	ASTM D2435	Long Term Settlement
Particle Size Analysis	ASTM C117, C136 or D422, D2216	Soil Classification
Atterberg Limits	ASTM D4318	Soil Classification
Corrosion	CTM 417, 422, 532, 643	Corrosion Potential
Direct Shear	ASTM D3080	Shear Strength
Unconfined Compression	ASTM D2166	Compression Strength
Unconsolidated Undrained Triaxial Compression Test	ASTM D2850	Compression Strength
Swell Test	ASTM D4546, Method B	Swell Potential

5.0 Site Geology and Subsurface conditions

The entire I-5 corridor project between county line and I-605 is located within the Central groundwater Basin of the Coastal Plain of Los Angeles County, as defined by the California Department of Water Resources (DWR, 1961). The proposed site is located within the Los Angeles Basin with physiographic of a lowland coastal plain. The Coastal Plain is bounded on the east and southeast by the Santa Ana Mountains and San Joaquin Hills and on the north by the Santa Monica and San Gabriel Mountains, and Palos Verdes Hills on the south. The bridge site is situated in a relatively flat southwest sloping Holocene to Late Pleistocene alluvial fan and valley deposits consisting of mostly lean clay with interbeds of fat clay, sandy silt and clayey sand to about 95 feet below surface, then underlain by dense to very dense sand with intermittent interbeds of sandy lean clay. This alluvium was deposited primarily by San Gabriel River floods emanating from the mountains and hills to the north of the project site. Depth to rock-like material is estimated to be greater than 400 feet.

Based on information from the site investigations, different soil units are encountered at the proposed bridge supports, as characterized below (given elevations are approximate).

Boring R-11-239 (Slab Bridge): Surface to elevation +56 silty sand and asphalt concrete (roadway base); elevation +56 to +46 soft to very soft fat clay; elevation +46 to +42 medium dense silty sand; elevation +42 to +27 stiff to very stiff silt with sand with interbeds of stiff lean and fat clay and medium dense silty sand; elevation +27 to + 7 stiff to very stiff lean clay; elevation +7 to +1 very dense clayey sand; elevation +1 to -3 (max. boring depth) interbeds of very stiff silt and lean clay.

Boring R-10-231 (Abut. 1 & Bent 2): Surface to elevation +46 medium stiff to very stiff lean clay with sand; +46 to +33 stiff fat clay; +33 to +3.0 soft to hard sandy lean clay; +3.0 to -7.0 very dense clayey sand; -7.0 to -24 very stiff to hard sandy lean clay with interbed of dense clayey sand; -24 to -61 (max. boring depth) very dense poorly graded sand and clayey sand with interbed of very stiff sandy lean clay.

Boring R-10-217 (Bent 3): Surface to elevation +59 clayey sand to sandy lean clay (fill material); +59 to +49 very soft to stiff lean clay and silt; +49 to +44 medium dense silty sand; +44 to +36 medium stiff fat clay; +36 to +5 stiff to hard lean clay; +5 to -1 dense clayey sand; -1 to -29 very stiff to hard lean clay with interbed of clayey sand; -29 to 39.5 (max. boring depth) very dense poorly graded sand and clayey sand.

Boring R-10-234 (Bent 4): Surface to elevation +58 medium dense clayey sand (fill); +58 to +48 stiff fat clay; +48 to 0.00 stiff to very stiff lean clay with interbeds of medium dense to very dense silty and clayey sand; 0.00 to -30 stiff to very stiff lean clay; -30 to -50 very dense fine and medium sand with interbed of (2 ft thick) very stiff lean clay; -50 to -69 (max. boring depth) very stiff lean clay with interbeds of very dense sand and clayey sand.

Boring R-10-238 (Bent 5): Surface to elevation +55 medium dense clayey sand with interbed (2 ft thick) of very stiff lean clay with sand; +55 to +47 medium stiff to stiff fat clay; +47 to +35 medium dense clayey sand; +35 to +30 stiff fat clay; +30 to -35 medium stiff to very stiff sandy lean clay/lean clay with sand with interbeds of (2 ft thick) medium dense clayey sand and (3 ft thick) very dense sand; -35 to -59 (max. boring depth) very dense sand and clayey sand with interbeds (3-4 ft thick) very stiff lean clay/sandy lean clay.

Boring R-10-236 (Bents 5A, 5B, 5C, 5D & 6): Surface to elevation +59 medium dense to very dense clayey sand with aggregate and concrete on top (fill material); +59 to 54 dense clayey gravel (fill material); +54 to +39 medium stiff to stiff fat clay with interbeds of lean clay and clayey sand; +39 to +19 interbeds of medium stiff to stiff lean clay and medium dense silty and clayey sand; +19 to -16 stiff to very stiff lean clay; -16 to -55 (max. boring depth) interbeds of dense to very dense poorly graded sand, clayey sand and stiff to very stiff lean clay.

Boring R-10-235 (Bent 7): Surface to elevation +71 clayey sand with concrete on top (fill); +71 to +62 very stiff lean clay (fill); +62 to +56 clayey sand overlain asphalt and gravel (fill); +56 to +45 medium stiff to stiff lean clay with interbed of medium stiff fat clay; +45 to +40 medium dense clayey sand; +40 to +35 very stiff sandy silt; +35 to -16 stiff to hard lean clay; -16 to -67 (max. depth) interbeds of very dense clayey sand, poorly graded sand and hard lean clay.

Boring R-10-237 (Bent 7A, 7B): Surface to elevation +51 medium dense clayey sand and sand with 3 ft thick interbed of very stiff sandy lean clay (fill material); +51 to +42 very stiff sandy lean clay with 3 ft thick interbed of medium dense clayey sand; +42 to +35 soft to medium stiff fat clay; +35 to -18 stiff to hard sandy lean clay with interbeds of (2-5 ft thick) medium dense to very dense clayey sand; -18 to -38 very dense sand with clay; -38 to -47 (max. boring depth) interbeds of dense clayey sand and very stiff lean clay.

Boring R-12-242 (Bent 7C, 7D): Surface to elevation +45 medium stiff to stiff lean clay with 2 ft thick interbeds of silt; elevation +45 to +12 stiff to very stiff lean clay with 3 ft thick interbed of dense clayey sand; elevation +12 to -37 very dense sand with silt and silty sand; elevation -37 to -58 (max. boring depth) very stiff silt with interbeds of dense silty sand and very stiff lean clay.

Boring R-08-017 (Pier 8): Surface to elevation +56 stiff sandy lean clay; +56 to +41 stiff fat clay with 5 ft thick interbed of dense clayey sand; +41 to +16 very stiff sandy lean clay with thin interbed of medium dense fine sand; elevation +16 to +1.0 medium dense clayey sand: elevation +1.0 to -29 very dense silty sand with 5 ft thick interbed of hard silt; elevation -29 to -38 (max. Boring depth) interbeds of very dense sand and hard sandy lean clay.

Boring R-09-219 (Bent 9): Surface to elevation +56 very stiff lean clay (fill material); +56 to +51 soft fat clay; +51 to +36 stiff to hard lean clay; +36 to +26 stiff to hard fat clay with sand; +26 to +6.0 stiff to hard lean clay with sand and 5 ft thick interbed of stiff silt; +6.0 to -9.0 very dense fine and medium sand; -9.0 to -24 interbeds of stiff lean clay, very stiff sandy silt and dense clayey sand; -24 to -44 very dense clayey sand; -44 to -57 (max. boring depth) very dense sand with silt and gravel and interbed of very dense silty sand.

Boring R-12-245 (Bent 10): Surface to elevation +55 loose silty fine sand; +55 to +47 interbeds of medium stiff fat clay, silt and lean clay; +47 to +42 loose silty fine sand; +42 to +37 stiff silt; +37 to +10 stiff to very stiff sandy lean clay with thin interbeds of silt; +10 to -10 dense to very dense silty sand; -10 to -22 interbeds of very stiff to hard lean clay and silt; -22 to -39 (max. boring depth) dense to very dense silty sand with thin interbed of silt.

Boring R-09-220 (Abut. 11): Surface to elevation +60 stiff to very stiff sandy clay with interbed of very dense clayey sand (fill material); +60 to +55 very soft silty clay with gravel; +55 to +50 stiff fat clay; +50 to +40 interbeds of medium dense clayey sand and stiff lean clay; +40 to +35 stiff fat clay; +35 to +10 stiff to hard sandy lean clay with interbed of medium stiff silty clay; +10 to -10 very dense sand and clayey sand; -10 to -20 interbeds of hard sandy lean clay and stiff silt; -20 to -30 very dense sand with silt; -30 to -44 (max. boring depth) interbeds of very dense silty sand, clayey sand and very stiff lean clay.

5.1 Groundwater

There is a shallow water bearing zone called “perched groundwater” with varying depths of 12 to 24 feet below ground surface, measured in recent borings and As Built Log of Test Borings for the existing bridge. The lateral extent of the perched groundwater has not been defined. There is also a deeper confined groundwater zone called “Exposition-Artesia” aquifer with about 22 feet of hydraulic head, between 70 to 75 feet below ground surface. Movement in perched groundwater is a west-northwest direction, and in deeper groundwater zones is generally to the southwest (DWR, 1961). The historical high groundwater levels has been mapped between 8 to 10 feet below ground surface over the entire length of the project corridor (CGS 1997, 1998a, 1998b). It should be noted that groundwater levels could fluctuate with the change of season and other factors. According to preliminary groundwater data evaluation (8-9-11) provided by Caltrans Hazardous Waste Branch, South Region, any groundwater encountered less than 30 feet below ground surface should be considered contaminated with hazardous substance or petroleum products. If dewatering of the shallow groundwater is planned, measures must be taken to properly manage and dispose of the water in compliance with applicable local, state and federal regulations. Shallow groundwater and deep groundwater (aquifer) where measured are presented in Table 2. **A design groundwater elevation of 46.0 was used for all bridge support pile tips and settlement calculations.**

Table 2. Recent and As Built Groundwater Information

Support Location	Boring No.	Depth to Groundwater (Below Ground Surface) (ft)	Groundwater Surface Elevation (ft)	Date of Water Measurement
Frame 2	B-1, B-2	21.0 ⁽¹⁾	41.7 ⁽¹⁾	1953
	B-7	21.0 ⁽¹⁾	41.6 ⁽¹⁾	1953
	B-2	18.0 ⁽¹⁾	43.8 ⁽¹⁾	1972
	B-5	16.1 ⁽¹⁾	43.6 ⁽¹⁾	1972
	B-2	14.4 ⁽¹⁾	47.2 ⁽¹⁾	1996
	R-09-218	24.5 ⁽¹⁾ 40.2 ⁽²⁾	46.4 ⁽¹⁾ 30.7 ⁽²⁾	2012
Frame 3	B-3	21.0 ⁽¹⁾	41.3 ⁽¹⁾	1953
	B-4	21.0 ⁽¹⁾	41.1 ⁽¹⁾	1953
	B-5	21.0 ⁽¹⁾	41.2 ⁽¹⁾	1953
	B-6	21.0 ⁽¹⁾	41.6 ⁽¹⁾	1953
	B-3	18.2 ⁽¹⁾	43.8 ⁽¹⁾	1972
	B-4	21.7 ⁽¹⁾	39.9 ⁽¹⁾	1972
	B-1	15.9 ⁽¹⁾	46.7 ⁽¹⁾	1996
	R-09-220	32.2 ⁽¹⁾ 48.3 ⁽²⁾	46.2 ⁽¹⁾ 30.1 ⁽²⁾	2010
	R-12-245	19.0 ⁽¹⁾ 51.0 ⁽²⁾	45.3 ⁽¹⁾ 13.3 ⁽²⁾	2012

⁽¹⁾ Perched ⁽²⁾ Aquifer

6.0 Corrosion Evaluation

Composite soil samples taken from recent exploratory borings at different intervals were tested by URS laboratory for corrosion testing. The test results indicate a corrosive environment at the proposed bridge site based on the chloride test result in Boring R-09-219. Other test results indicate non-corrosive conditions; however, the majority of sample interval ranges are very broad (up to the entire boring depth) which could dilute sample test results. Upper soils show sporadic increase in concentration of soluble salts which would indicate potential higher corrosivity. Construction resistant design and construction material are advised. Office of Structural Materials, Corrosion and Field Investigations Branch should be consulted regarding specific questions concerning corrosion recommendations and mitigation measures. Refer to Table 3 for specific test results.

Table 3. Corrosion Test Summary

Boring No.	Depth Interval (ft)	Minimum Resistivity (Ohm-Cm)	pH	Chloride Content (ppm)	Sulfate Content (ppm)
R-08-001	0.0-5.0	4500	8.1	135	210
R-08-017	0.0-5.0	3500	7.9	240	732
R-08-023	0.0-5.0	4400	7.7	45	45
R-09-217	0.0-10.0	305	6.98	480	18
	15.0-40.0	965	6.7	270	21
R-09-218	5.0-20.0	780	6.39	345	411
	20.0-40.0	910	6.5	120	Not Detected
R-09-219	5.0-15.0	610	6.48	1500	6
R-09-220	5.0-35.0	725	6.52	345	762
R-10-231	5.0-120.0	1250	8.2	120	195
R-10-232	5.0-110.0	940	8.3	180	372
R-10-233	5.0-120.0	1500	8.3	90	162
R-10-234	5.0-130.0	1650	8.2	90	177
R-10-235	5.0-140.0	1300	8.2	150	168
R-10-236	5.0-120.0	900	8.2	195	315
R-10-237	5.0-120.0	1500	8.3	75	327
R-10-238	5.0-120.0	520	8.4	165	351
R-11-239	5.0-61.0	465	7.4	330	954

Note: It is the practice of Caltrans Corrosion Technology Section (with the exception of MSE walls) that if the minimum resistivity of the sample is greater than 1000 ohm-cm and the pH is greater than 5.5, the sample is considered noncorrosive. Caltrans currently considers a site to be corrosive to foundation elements if one or more of the following conditions exist for representative soil and/or water samples taken at the site. Chloride concentration is greater or equal to 500 ppm, sulfate concentration is greater than or equal to 2000 ppm, or the pH is 5.5 or less.

7.0 Seismic Recommendations

The proposed bridge site is not within an Alquist-Priolo Earthquake Fault Zone. An analysis was performed to develop and recommend ground motion parameters for the seismic design of the above referenced bridge structure. This analysis was performed in accordance with requirements specified in Appendix B of the Caltrans’ 2009 Seismic Design Criteria (SDC, Version 1.6, August 2009) and utilizing the “Caltrans ARS Online” and other tools available at the internet sites. The average shear wave velocity (V_{s30}) for the upper 100 feet of the subsurface profile was estimated to be about 210.0 m/sec (689 ft/sec) based on recent field investigation. The closest fault to the site is the Puente Hills Thrust Fault oriented as a low angle north dipping thrust fault approximately 3.2 miles north of the site. The significant faults and fault zones are summarized in Table 4.

Table 4. Summary of Faults

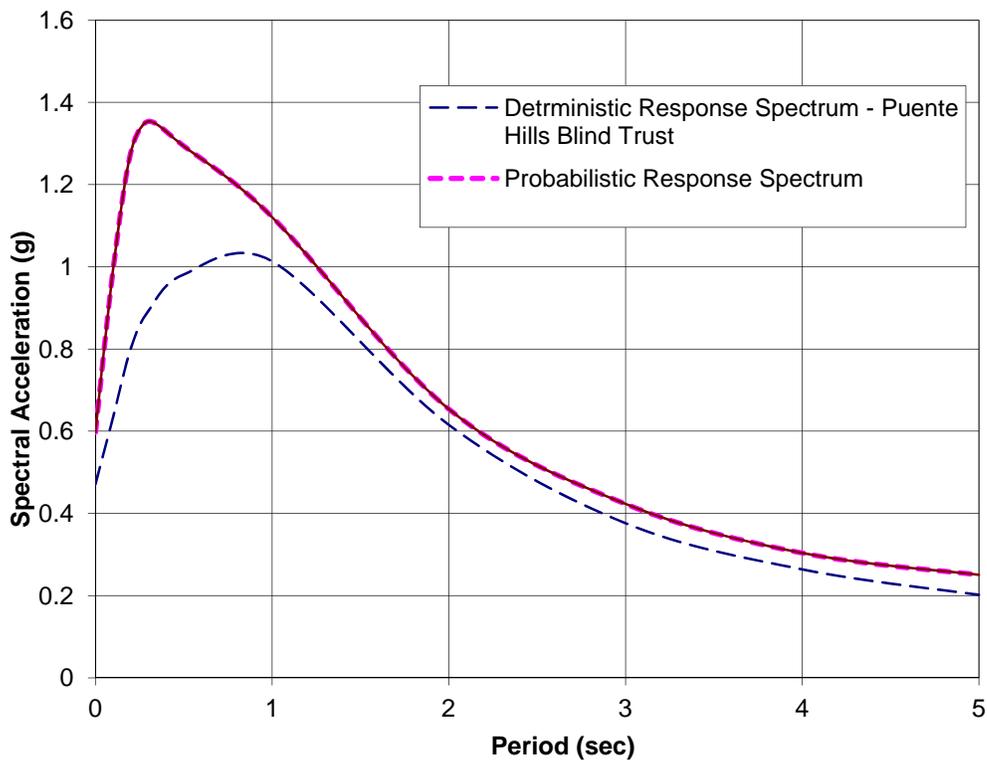
Fault Name	Type	M_{max}	R_x	R_{JB}	R_{RUP}
Puente Hills Blind Thrust	R	7.3	3.2 mile (5.2 km)	3.2 mile (5.2 km)	3.7 mile (6.0 km)
Elsinore Fault Zone (Whittier Section)	RLSS	7.6	6.4 mile (10.4 km)	6.4 mile (10.4 km)	6.4 mile (10.4 km)
Newport Inglewood – Rose Canyon Fault Zone	RLSS	7.5	9.6 mile (15.4 km)	9.6 mile (15.4 km)	9.6 mile (15.4 km)
Compton-Los Alamitos Blind Thrust	R	6.8	13.2 mile (21.3 km)	4.7 mile (7.6 km)	7.8 mile (12.6 km)

Notes: R_x = Horizontal distance to the fault trace
 R_{JB} = Shortest horizontal distance to the surface projection of the rupture area
 R_{RUP} = Closest distance to the fault rupture plane
 RLSS = Right Lateral Strike Slip
 R = Reverse

The design deterministic as well as the probabilistic acceleration response spectrum (ARS) curves developed are shown in Figure 1. The probabilistic ARS curve corresponds to a ground motion return period (RP) of 975-year (i.e., 5% probability of exceedance in 50 years). It should be noted that the design deterministic ARS curve shown in Figure 1 is due to an earthquake event of magnitude $M=7.3$ and site to fault rupture surface distance of 5.2 Km associated with the Puente Hills Blind thrust fault. Since all the site to fault distance measures (e.g., R_{rup} , R_x and R_{jb} etc.) used in the attenuation relationships utilized in this analysis are within 25 Km, the ARS curves shown in Figure 1 include the near fault effects as specified in the Seismic Design Criteria (SDC 2009).

In addition, the project site being located in the Los Angeles Basin also includes basin effects ($Z_{1.0} = 715$ m and $Z_{2.5} = 3.92$ km). ARS curves were developed according to the Caltrans Geotechnical Services-Design Manual (Version 1.0, August 2009). The design Peak Ground Acceleration (PGA) for the project site is 0.6g. The design ARS curve is an envelope of deterministic and probabilistic ARS curves (Figure 1).

**Figure 1. RECOMMENDED DESIGN ACCELERATION
RESPONSE SPECTRUM (ARS)
for Valley View OH/OC Bridge No. 53-3045
Damping Ratio = 5%; $V_{s30} = 210$ m/sec**



8.0 Liquefaction

Based on current field investigation, the liquefaction potential at the bridge site is low due to presence of cohesive soil with intermittent interbeds of dense to medium dense granular soil overlying very dense granular material. Accordingly, the potential for seismically induced settlement and lateral spreading are also considered to be low.

9.0 As Built Foundation Data

The existing Valley View OC Bridge No. 53-0631 (later numbered 53-0631L) was built in 1955 and consists of a six span steel girders, supported on driven concrete piles. In 1976 a four span Right Structure Bridge No. 53-0631R was built. In 1996 the Left Structure Bridge No. 53-0631L (original structure) was retrofitted at Bents 3 and 5 by adding steel pipe piles. The "As Built" foundation data are shown in Tables 5, 6 & 7.

Table 5. 1996 Left Bridge # 53-0631L Retrofit - "As Built" Foundation Data

Support Location	Foundation Support	Design Load	Bottom of Pile Footing Elev. (ft)	Specified Pile Tip Elev. (ft)	Average Pile Tip Elev. (ft)
Bent 3	PP14x0.375	45 ton	56.5±	-4.0	-4.5
Bent 5	PP14x0.375	45 ton	55.5±	-11.0	-5.1

Table 6. 1955 Original Structure (Left Bridge # 53-0631L) - "As Built" Foundation Data

Support Location	Foundation Support	Design Load	Bottom of Pile footing Elevation (ft)	Pile Length (ft)	Minimum Pile Tip Elev. (ft)
Abut. 1	Concrete Pile Alt. "Z"	32 ton	73.5±	43.5±	30.0
Bent 2R Bent 2L			57.5± 55.5±	35.0±	NA
Bent 3R Bent 3L			57.5± 55.5±	35.0±	NA
Bent 4R Bent 4L			58.5± 55.5±	35.0±	NA
Bent 5R Bent 5L			58.0± 55.5±	35.0±	NA
Bent 6R Bent 6L			57.5± 55.5±	35.0±	NA
Abut. 7			72.5±	42.5±	30.0

Table 7. 1976 Right Bridge # 53-0631R - "As Built" Foundation Data

Support Location	Foundation Support	Design Load	Bottom of Pile Footing Elev. (ft)	Specified Pile Tip Elev. (ft)	Average Pile Tip Elev. (ft)
Abut. 1	Class 70 Concrete Pile	70 ton	69.5	5.0	5.4
Bent 2			55.5	5.0	5.0
Bent 3			56.5	5.0	5.6
Bent 4			55.5	5.0	5.1
Abut. 5			69.0	5.0	6.5

10.0 Foundation Recommendations

The proposed bridge replacement is a combination of CIP/RC Slab Bridge (to eliminate approach embankment at Abutment 1, which would cause excessive settlement), and a ten span CIP/PS Box Girder & PC/PS Bulb-T Girder with seat type abutments and flare octagonal column bents. There is a conflict between existing and new foundations at Pier 8 and Bent 10, existing utilities and Frames 1 & 2 support locations. Although many of the utilities are assumed to be abandoned or relocated, the remaining should be protected, and existing foundations should be avoided or removed.

The following recommendations are developed by Office of Geotechnical Design South 1 (OGDS1) based on 1) Log of Test Borings and interpreted subsurface conditions and design parameters established through laboratory tests and field data, 2) updated Bridge Plans and design loads provided by Office of Bridge Design South 1 (OBDS1) as referenced in page 1, and 3) email correspondences and personal communications with Mr. Bill Kemp (OBDS1).

10.1 Deep Foundations

Due to high lateral load demand (5-27-10 email, OBDS1) and environmental concerns, it is proposed to use 200 kips 24x0.5 Cast-in-Steel-Shell (CISS) concrete pile extensions at all support locations of CIP/RC Slab Bridge; for CIP/PS Box Girder & PC/PS Bulb-T Girder, 200 kips PP24x0.5 open ended steel pipe piles at Abutment 1 through Bent 10 and plumb, 42-inch diameter, cast-in-drilled hole (CIDH) piles at Abutment 11. Based on subsurface conditions obtained from recent field investigations, OGDS1 concurs with the feasibility of proposed pile types to support the new structure. Pile lengths required to resist the provided loads are computed based on Service-I Limit State load (Abutments SB1, SB21 & Abutment 1) and Strength Limit State (all bents and Pier 8) using computer program APILE (version 5.0), and Service-I Limit State at Abutment 11 using computer program SHAFT (version 5.0). The calculated axial geotechnical capacities of driven piles (CISS & open ended steel pipe piles) are based mainly on skin friction and minor contribution from end bearing. The calculated axial geotechnical capacities of the CIDH pile shafts are based on full skin friction within the soil from one pile diameter below the cut off elevation. End bearing was not considered in CIDH piles due to excessive settlement of the piles before mobilizing the end bearing and hard to clean out bottom of the pile borings. General Foundation Information and Design Loads are provided by OBDS1 and presented in Tables 8, 9, 10, 11. Recommended design and specified pile tip elevations for abutments and bents provided in Tables 12, 13, 14, 15, 16 are prepared by OGDS1.

Table 8. General Foundation Information For Slab Bridge Provided By OBDS1

Support Location	Design Method	Pile Type	Finished Grade Elevation (ft)	Cut-off Elevation (ft)	Permissible Settlement under Service Load*	Number of Piles per Support
Abut. SA1	WSD	CISS Piles NPS 24x0.5	61.58	59.83	1"	14
Bent SB2	LRFD		61.68	60.18	1"	14
Bent SB3	LRFD		61.65	60.15	1"	14
Bent SB4	LRFD		61.73	60.23	1"	19
Bent SB5	LRFD		61.89	60.39	1"	19
Bent SB6	LRFD		61.80	60.30	1"	19
Bent SB7	LRFD		61.69	60.19	1"	16
Bent SB8	LRFD		61.68	60.18	1"	9
Bent SB9	LRFD		61.83	60.33	1"	6
Bent SB10	LRFD		61.53	60.03	1"	3
Bent SB11	LRFD		61.53	60.03	1"	10
Bent SB12	LRFD		60.18	58.68	1"	12

Table 8. General Foundation Information For Slab Bridge (continued)

Support Location	Design Method	Pile Type	Finished Grade Elevation (ft)	Cut-off Elevation (ft)	Permissible Settlement under Service Load*	Number of Piles per Support
Bent SB13	LRFD	CISS Piles NPS 24x0.5	59.91	58.41	1"	10
Bent SB14	LRFD		59.70	58.20	1"	10
Bent SB15	LRFD		59.69	58.19	1"	10
Bent SB16	LRFD		59.77	58.27	1"	10
Bent SB17	LRFD		59.62	58.12	1"	10
Bent SB18	LRFD		59.53	57.85	1"	10
Bent SB19	LRFD		58.94	57.44	1"	9
Bent SB20	LRFD		59.09	57.59	1"	9
Abut. SA21	WSD		59.24	57.49	1"	9

Table 9. Design Loads For Slab Bridge Provided By OBDS1

Support Location	Service-1 Limit State (kips)			Strength Limit State (Controlling Group, kips)				Extreme Event Limit State (Controlling Group, kips)			
	Total Load		Permanent Loads	Compression		Tension		Compression		Tension	
	Per Support	Max Per Pile		Per Support	Max Per Pile	Per Support	Max Per Pile	Per Support	Max Per Pile	Per Support	Max Per Pile
Abut. SA1	210	30	140	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bent SB2	630	90	510	910	130	0	0	630	90	0	0
Bent SB3	770	110	580	980	140	0	0	700	100	0	110
Bent SB4	960	80	760	1200	100	0	0	840	70	0	0
Bent SB5	960	80	780	1320	110	0	0	840	70	0	0
Bent SB6	960	80	760	1200	100	0	0	840	70	0	0
Bent SB7	810	90	650	1080	120	0	0	720	80	0	0
Bent SB8	560	80	440	770	110	0	0	490	70	0	0
Bent SB9	420	70	250	540	90	0	0	360	60	0	0
Bent SB10	270	90	90	390	130	0	0	210	70	0	0
Bent SB11	900	90	300	1300	130	0	0	700	70	0	0
Bent SB12	480	40	310	600	50	0	0	360	30	0	0
Bent SB13	960	120	760	1280	160	0	0	880	110	0	0
Bent SB14	560	70	390	800	100	0	0	480	60	0	0
Bent SB15	800	100	530	960	120	0	0	640	80	0	0
Bent SB16	800	100	510	960	120	0	0	640	80	0	0
Bent SB17	800	100	520	960	120	0	0	640	80	0	0
Bent SB18	720	90	500	960	120	0	0	640	80	0	0
Bent SB19	720	90	460	880	110	0	0	560	70	0	0
Bent SB20	720	90	520	960	120	0	0	400	50	0	0
Abut. SA21	240	30	180	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 10. General Foundation Information For Frames 1, 2, 3 Provided By OBDS1

Support Location	Design Method	Pile Type	Finished Grade Elevation (ft)	Cut-off Elevation (ft)	Pile Cap Size (ft)		Permissible Settlement under Service Load*	Number of Piles per Support
					B	L		
Abut. 1	WSD	Pipe Piles PP24x0.5	61.75	55.92	12.0	129.5	1"	40
Bent 2	LRFD		61.50	49.42	19.0	19.0	1"	16 per column (4 columns)
Bent 3	LRFD		61.50	50.67	26.0	26.0	1"	25 per column (4 columns)
Bent 4	LRFD		62.00	52.67	26.0	26.0	1"	25 per column (4 columns)
Bent 5	LRFD		59.00	55.42	24.0	24.0	1"	25 per column (4 columns)
Bent 5Rt Extension	LRFD			53.42				
Bent 5A	LRFD		61.80	54.92	19.0	19.0	1"	16 per column (3 columns)
Bent 5B	LRFD		61.00	56.92	19.0	19.0	1"	16 per column (2 columns)
Bent 5C	LRFD		62.00	54.92	19.0	19.0	1"	16 per column (3 columns)
Bent 5D	LRFD		62.00	56.92	19.0	19.0	1"	16 per column (2 columns)
Bent 6	LRFD		57.80	54.22	24.0	24.0	1"	25 per column (4 columns)
Bent 7	LRFD		59.40	55.82	24.0	24.0	1"	25 per column (4 columns)
Bent 7A	LRFD		59.40	55.22	24.0	24.0	1"	25 per column (2 columns)
Bent 7B	LRFD		59.40	54.72	24.0	24.0	1"	25 per column (2 columns)
Bent 7C	LRFD		62.00	55.42	24.0	24.0	1"	25 per column (2 columns)
Bent 7D	LRFD		62.00	56.42	24.0	24.0	1"	25 per column (2 columns)
Pier 8	LRFD		61.50 62.10	55.92	25.0	144.0	1"	79
Bent 9	LRFD		64.00	57.92	24.0	65.0	1"	52
Bent 10	LRFD		64.00	57.92	24.0	65.0	1"	52
Abut. 11	WSD		42-inch CIDH Piles	63.00 Lt 65.50 Rt	57.75 Lt 60.25 Rt	24.0	80.0	1"

* Based on CALTRANS' current practice, the total permissible settlement is one inch for multi-span structures with continuous spans or multi-column bents, one inch for single span structures with diaphragm abutments, and two inches for single span structures with seat abutments. Different permissible settlement under service loads may be allowed if a structural analysis verifies that required level of serviceability is met.

Table 11. Design Loads For Frames 1, 2, 3 Provided By OBDS1

Support Location	Service-1 Limit State (kips)		Strength Limit State (Controlling Group, kips)				Extreme Event Limit State (Controlling Group, kips)				
	Total Load		Permanent Loads	Compression		Tension		Compression		Tension	
	Per Support	Max Per Pile		Per Support	Max Per Pile	Per Support	Max Per Pile	Per Support	Max Per Pile	Per Support	Max Per Pile
Abut. 1	5300	200	4500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bent 2	2600	N/A	1750	3800	280	0	0	4100	400	0	100
Bent 3	3000		2320	4300	250	0	0	3900	350	0	110
Bent 4	3775		3020	5220	315	0	10	4750	440	0	160
Bent 5	2800		2000	4300	280	1750	140	2300	410	1000	140
Bent 5Rt Extension											
Bent 5A	2200		1800	3000	220	0	0	2500	380	0	170
Bent 5B	1900		1600	2700	200	0	0	2500	380	0	170
Bent 5C	2200		1800	3000	220	0	0	2500	380	0	170
Bent 5D	1900		1600	2700	200	0	0	2500	380	0	170
Bent 6	2500		1700	4000	280	1600	140	2300	400	1000	140
Bent 7	2400		1600	3800	280	1500	140	2300	400	1000	140
Bent 7A	2000		1300	3200	280	1300	140	2300	400	1000	140
Bent 7B	2700		1800	4000	280	1600	140	2300	400	1000	140
Bent 7C	2000		1300	3200	280	1300	140	2300	400	1000	140
Bent 7D	2700		1800	4000	280	1600	140	2300	400	1000	140
Pier 8	9475		8246	12551	204	0	0	8246	396	3800	190
Bent 9	7155	6325	8935	266	0	0	6145	360	0	90	
Bent 10	7290	6460	8935	266	0	0	6145	360	0	90	
Abut. 11	7000	450	6725	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 12. Foundation Recommendations For All Abutments

Support Location	Pile Type	Cut-off Elevation (ft)	LRFD Service-1 Limit State Load (kips) Per Support		LRFD Service-1 Limit State Total Load (kips) Per Pile (Compression)	Nominal Resistance (kips)	Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
			Total	Permanent					
Abut. SA1	CISS Piles NPS 24X0.5	59.83	210	140	30	60	+40 (a) +46 (c)	+40	60
Abut. SA21		57.49	240	180	30	60	+38 (a) +44 (c)	+38	60
Abut. 1	Pipe Piles PP24x0.5	55.92	5300	4500	200	400	+1 (a) +21 (c)	+1	400
Abut. 11	42-inch CIDH Piles	57.75 Lt 60.25 Rt	7000	6725	450	900	-10(a) +8(c)	-10	N/A

- Notes: 1. Design tip elevations for Abutment are controlled by (a) Compression, (c) Settlement, (d) Lateral Load (SD).
 2. The specified tip elevation shall not be raised above the design tip elevations for lateral, and tolerable settlement.
 3. Design tip elevation for Lateral Load is typically provided by Structure Design.

Table 13. Foundation Recommendations For Slab Bridge Bents

Support Location	Pile Type	Cut-off Elevation (ft)	Service-1 Limit State Load (kips) Per Support	Total Permissible Support Settlement	Required Factored Nominal Resistance (kips)				Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
					Strength Limit		Extreme Event				
					Comp. (Ø=0.7)	Tension (Ø=0.7)	Comp. (Ø= 1)	Tension (Ø= 1)			
Bent SB2	CISS Piles NPS 24x0.5	60.18	630	1"	130	0	90	0	+20 (a-I) +35 (a-II) +33 (c)	+20	190
Bent SB3		60.15	770	1"	140	0	100	0	+19 (a-I) +33 (a-II) +30 (c)	+19	200
Bent SB4		60.23	960	1"	100	0	70	0	+25 (a-I) +39 (a-II) +35 (c)	+25	150
Bent SB5		60.39	960	1"	110	0	70	0	+24 (a-I) +39 (a-II) +35 (c)	+24	160
Bent SB6		60.30	960	1"	100	0	70	0	+25 (a-I) +39 (a-II) +35 (c)	+25	150
Bent SB7		60.19	810	1"	120	0	80	0	+22 (a-I) +37 (a-II) +33 (c)	+22	180

Table 13. Foundation Recommendations For Slab Bridge Bents (continued)

Support Location	Pile Type	Cut-off Elevation (ft)	Service-1 Limit State Load (kips) Per Support	Total Permissible Support Settlement	Required Factored Nominal Resistance (kips)				Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
					Strength Limit		Extreme Event				
					Comp. (Ø=0.7)	Tension (Ø=0.7)	Comp. (Ø= 1)	Tension (Ø= 1)			
Bent SB8	CISS Piles NPS 24x0.5	60.18	560	1"	110	0	70	0	+24 (a-I) +39 (a-II) +35 (c)	+24	160
Bent SB9		60.33	420	1"	90	0	60	0	+23 (a-I) +41 (a-II) +38 (c)	+23	170
Bent SB10		60.03	270	1"	130	0	70	0	+14 (a-I) +39 (a-II) +33 (c)	+14	240
Bent SB11		60.03	900	1"	130	0	70	0	+20 (a-I) +39 (a-II) +33 (c)	+20	190
Bent SB12		58.68	480	1"	50	0	30	0	+32 (a-I) +46 (a-II) +43 (c)	+32	100
Bent SB13		58.41	960	1"	160	0	110	0	+13 (a-I) +29 (a-II) +26 (c)	+13	230
Bent SB14		58.20	560	1"	100	0	60	0	+24 (a-I) +39 (a-II) +36 (c)	+24	150
Bent SB15		58.19	800	1"	120	0	80	0	+20 (a-I) +35 (a-II) +30 (c)	+20	180
Bent SB16		58.27	800	1"	120	0	80	0	+20 (a-I) +35 (a-II) +30 (c)	+20	180
Bent SB17		58.12	800	1"	120	0	80	0	+20 (a-I) +35 (a-II) +30 (c)	+20	180
Bent SB18		57.85	720	1"	120	0	80	0	+19 (a-I) +35 (a-II) +31 (c)	+19	180
Bent SB19		57.44	720	1"	110	0	70	0	+20 (a-I) +36 (a-II) +30 (c)	+20	160
Bent SB20		57.59	720	1"	120	0	50	0	+16 (a-I) +41 (a-II) +31 (c)	+16	200

Table 14. Foundation Recommendations For Frames 1, 2, 3 Bents

Support Location	Pile Type	Cut-off Elevation (ft)	Service-1 Limit State Load (kips) Per Support	Total Permissible Support Settlement	Required Factored Nominal Resistance (kips)				Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
					Strength Limit		Extreme Event				
					Comp. (Ø=0.7)	Tension (Ø=0.7)	Comp. (Ø= 1)	Tension (Ø= 1)			
Bent 2	Pipe Piles PP24x0.5	49.42	2600	1"	280	0	400	100	-1.0 (a-I) -1.0 (a-II) +33.0 (b-II) +9.0 (c)	-1.0	400
Bent 3		50.67	3000	1"	250	0	350	110	+6.0 (a-I) +7.0 (a-II) +28.0 (b-II) +16.0 (c)	+6.0	360
Bent 4		52.67	3775	1"	315	0	440	160	-3.0 (a-I) -1.0 (a-II) +44.0 (b-I) +23.0 (b-II) +13.0 (c)	-3.0	450
Bent 5		55.42	2800	1"	280	140	400	140	-7.0 (a-I) -7.0 (a-II) +14.0 (b-I) +23.0 (b-II) +15.0 (c)	-7.0	400
Bent 5Rt Extension		53.42									
Bent 5A		54.92	2200	1"	220	0	380	170	+5.0 (a-I) -1.0 (a-II) +20.0 (b-II) +12.0 (c)	-1.0	380
Bent 5B		56.92	1900	1"	200	0	380	170	+8.0 (a-I) -1.0 (a-II) +19.0 (b-II) +12.0 (c)	-1.0	380
Bent 5C		54.92	2200	1"	220	0	380	170	+5.0 (a-I) -1.0 (a-II) +20.0 (b-II) +12.0 (c)	-1.0	380
Bent 5D		56.92	1900	1"	200	0	380	170	+8.0 (a-I) -1.0 (a-II) +19.0 (b-II) +12.0 (c)	-1.0	380
Bent 6		54.22	2500	1"	280	140	400	140	-5.0 (a-I) -5.0 (a-II) +14.0 (b-I) +22.0 (b-II) +14.0 (c)	-5.0	400

Table 14. Foundation Recommendations For Frames 1, 2, 3 Bents (continued)

Support Location	Pile Type	Cut-off Elevation (ft)	Service-1 Limit State Load (kips) Per Support	Total Permissible Support Settlement	Required Factored Nominal Resistance (kips)				Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
					Strength Limit		Extreme Event				
					Comp. (Ø=0.7)	Tension (Ø=0.7)	Comp. (Ø= 1)	Tension (Ø= 1)			
Bent 7	Pipe Piles PP24x0.5	55.82	2400	1"	280	140	400	140	-1.0 (a-I) -1.0 (a-II) +20.0 (b-I) +28.0 (b-II) +16.0 (c)	-1.0	400
Bent 7A		55.22	2000	1"	280	140	400	140	-1.0 (a-I) -1.0 (a-II) +17.0 (b-I) +25.0 (b-II) +15.0 (c)	-1.0	400
Bent 7B		54.72	2700	1"	280	140	400	140	-1.0 (a-I) -1.0 (a-II) 17.0 (b-I) +25.0 (b-II) +10.0 (c)	-1.0	400
Bent 7C		55.42	2000	1"	280	140	400	140	-1.0 (a-I) -1.0 (a-II) +17.0 (b-I) +25.0 (b-II) +15.0 (c)	-1.0	400
Bent 7D		56.42	2700	1"	280	140	400	140	-1.0 (a-I) -1.0 (a-II) +17.0 (b-I) +25.0 (b-II) +10.0 (c)	-1.0	400
Pier 8		55.92	9475	1"	204	0	396	190	+6 (a-I) -3.0 (a-II) +11.0 (b-II) +7.0 (c)	-3.0	400
Bent 9		57.92	7155	1"	266	0	360	90	+3.0 (a-I) +6.0 (a-II) +34.0 (b-II) +10.0 (c)	+3.0	380
Bent 10		57.92	7290	1"	266	0	360	90	+2.0 (a-I) +5.0 (a-II) +34.0 (b-II) +9.0 (c)	+2.0	380

- Notes:
1. Design tip elevations are controlled by: (a-I) Compression (Strength Limit), (a-II) Compression (Extreme Event), (b-I) Tension (Strength Limit), (b-II) Tension (Extreme Event), (c) Settlement, (d) Lateral Load.
 2. The specified tip elevation shall not be raised above the design tip elevations for tension, lateral (SD) and tolerable settlement.
 3. Due to close proximity of utilities and Rail Road tracks, driven piles at Bent 4 and Bent 5 (including 5A, 5B, 5C & 5D) should be predrilled to elevations 48 and 50, respectively, according to 2010 Standard Specifications, Section 49-2.01C(4).
 4. Design tip elevation for Lateral Load is typically provided by Structure Design (SD).

Table 15. Pile Data Table – Slab Bridge

Support Location	Pile Type	Nominal Resistance (kips)		Design Pile Tip Elevations (ft)	Specified Pile Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
		Compression	Tension			
Abut. SA1	CISS Piles NPS 24x0.5	60	0	+40.0 (a) +46.0 (c)	+40.0	60
Bent SB2		190	0	+20.0 (a) +33.0 (c)	+20.0	190
Bent SB3		200	0	+19.0 (a) +30.0 (c)	+19.0	200
Bent SB4		150	0	+25.0 (a) +35.0 (c)	+25.0	150
Bent SB5		160	0	+24.0 (a) +35.0 (c)	+24.0	160
Bent SB6		150	0	25.0 (a) +35.0 (c)	+25.0	150
Bent SB7		180	0	+22.0 (a) +33.0 (c)	+22.0	180
Bent SB8		160	0	+24.0 (a) +35.0 (c)	+24.0	160
Bent SB9		130	0	+23.0 (a) +38.0 (c)	+23.0	170
Bent SB10		190	0	+14.0 (a) +33.0 (c)	+14.0	240
Bent SB11		190	0	+20.0 (a) +33.0 (c)	+20.0	190
Bent SB12		80	0	+32.0 (a) +43.0 (c)	+32.0	100
Bent SB13		230	0	+13.0 (a) +26.0 (c)	+13.0	230
Bent SB14		150	0	+24.0 (a) +36.0 (c)	+24.0	150
Bent SB15		180	0	+20.0 (a) +30.0 (c)	+20.0	180
Bent SB16		180	0	+20.0 (a) +30.0 (c)	+20.0	180
Bent SB17		180	0	+20.0 (a) +30.0 (c)	+20.0	180
Bent SB18		180	0	+19.0 (a) +31.0 (c)	+19.0	180
Bent SB19		160	0	+20.0 (a) +30.0 (c)	+20.0	160
Bent SB20		180	0	+16.0 (a) +31.0 (c)	+16.0	200
Abut. SA21	60	0	+38.0 (a) +44.0 (c)	+38.0	60	

Table 16. Pile Data Table – Frames 1, 2, 3

Support Location	Pile Type	Nominal Resistance (kips)		Design Pile Tip Elevations (ft)	Specified Pile Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
		Compression	Tension			
Abut. 1	Pipe Piles PP24x0.5	400	0	+1.0 (a) +21.0 (c)	+1.0	400
Bent 2		400	100	-1.0 (a) +33.0 (b) +9.0 (c)	-1.0	400
Bent 3		360	110	+6.0 (a) +28.0 (b) +16.0 (c)	+6.0	360
Bent 4		450	160	-3.0 (a) +23.0 (b) +13.0 (c)	-3.0	450
Bent 5		400	140	-7.0 (a) +14.0 (b) +15.0 (c)	-7.0	400
Bent 5Rt Extension						
Bent 5A		380	170	-1.0 (a) +20.0 (b) +12.0 (c)	-1.0	380
Bent 5B		380	170	-1.0 (a) +19.0 (b) +12.0 (c)	-1.0	380
Bent 5C		380	170	-1.0 (a) +20.0 (b) +12.0 (c)	-1.0	380
Bent 5D		380	170	-1.0 (a) +19.0 (b) +12.0 (c)	-1.0	380
Bent 6		400	140	-5.0 (a) +14.0 (b) +14.0 (c)	-5.0	400
Bent 7		400	140	-1.0 (a) +20.0 (b) +16.0 (c)	-1.0	400
Bent 7A		400	140	-1.0 (a) +17.0 (b) +15.0 (c)	-1.0	400
Bent 7B		400	140	-1.0 (a) +17.0 (b) +10.0 (c)	-1.0	400
Bent 7C		400	140	-1.0 (a) +17.0 (b) +15.0 (c)	-1.0	400
Bent 7D		400	140	-1.0 (a) +17.0 (b) +10.0 (c)	-1.0	400

Table 16. Pile Data Table – Frames 1, 2, 3 (continued)

Support Location	Pile Type	Nominal Resistance (kips)		Design Pile Tip Elevations (ft)	Specified Pile Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
		Compression	Tension			
Pier 8	Pipe Piles PP24x0.5	400	190	-3.0 (a) +11.0 (b) +7.0 (c)	-3.0	400
Bent 9		380	90	+3.0 (a) +34.0 (b) +10.0 (c)	+3.0	380
Bent 10		380	90	+2.0 (a) +34.0 (b) +9.0 (c)	+2.0	380
Abut 11	42-inch CIDH	900	0	-10.0(a) +8.0(c)	-10.0	N/A

- Notes: 1. Design tip elevations for Abutments are controlled by (a) Compression, (c) Settlement, (d) Lateral Load.
 2. Design tip elevations for Bents are controlled by: (a) Compression, (b) Tension (c) Settlement, (d) Lateral Load (provided by Structure Design for all supports).
 3. The specified tip elevation shall not be raised above the design tip elevations for tension load, lateral load, and tolerable settlement.
 4. Due to close proximity of utilities and Rail Road tracks, driven piles at Bent 4 and Bent 5 (including 5A, 5B, 5C & 5D) should be predrilled to elevations 48 and 50, respectively, according to 2010 Standard Specifications, Section 49-2.01C(4).

10.2 Approach Fill Earthwork

Abutments SA1 & SA21

Based on project plans, the new approach embankment fill at Abutment SA1 will be confined by retaining walls VA87 and VA88, and at Abutment SA21 by retaining walls SF3 and SF4. The 7-foot high embankment fill at Abutment SA1, and 6-foot high at Abutment SA21 will cause a vertical consolidation settlements of approximately 2 and 1 inches, respectively. In order to complete the settlement prior to construction of the abutments and retaining walls foundations, a 90-days settlement period for preloading the embankment fill with surcharges of 7-foot at Abutment SA1 and 5-foot at Abutment SA21, above the grading plane are recommended.

Abutment 11

Based on project plans, the existing approach embankment height at Abutment 11 will be raised from existing 13 feet to 23 feet, and the top width expanded from existing 90 feet to 130 feet. The new approach embankment fill at Abutment 11 will be confined by retaining walls VA103 (west side) and VA104 (east side). The west and east half of the embankment will be expanded during the first and second construction stages, respectively. The expansion of embankment fill will cause vertical settlement consisting of immediate settlement (short term) and consolidation settlement (long term). Considering soil profile and engineering properties of subsurface material at Abutment 11, obtained through field exploration, maximum settlements of 10 inches at first stage and 5 inches at second stage constructions are anticipated due to expansion of embankment.

In order to complete the settlement prior to construction of the abutment and retaining walls foundations, a 90-days settlement period for preloading the embankment fill with 7-foot surcharge, above the grading plane is recommended at each stage. However, limited area in second stage require only 2-foot surcharge, in order to reduce the impact of second stage fill on portion of the Abutment 11 built in first stage. The 2-foot surcharge should be limited to 40 feet from stage transition line transversely, and 50 feet from centerline of Abutment 11 longitudinally. The 7-foot surcharge should be extended 75 feet from Abutment 11.

According to 2010 Standard Plans (A62B), the surcharge length at all abutment locations (Abut. SA1, Abut. SA21, & Abut. 11), should be extended to a minimum distance of 75 feet from abutment centerlines. Settlement monitoring in the field is strongly recommended at all mentioned abutment locations, and the actual settlement period may be adjusted by the structure representative on the basis of settlement data in the field.

11.0 Notes to Designer

1. Design pile tip elevation for lateral load at bent locations are to be determined by designer. The specified pile tip elevation for each support location is to be controlled by the deepest design tip elevation for either compression or lateral loads. Should the design pile tip elevation required to meet lateral load demands exceed the specified pile tip elevation given within this report, OGDS1 must be contacted for further recommendations.
2. Contractor's driving system should be examined to verify the driving system is capable of installing the proposed piles at all support locations, before commencement of pile driving.
3. A drivability analysis has been requested from the Foundation Testing Branch of the Office of Geotechnical Support and the results will be forwarded when complete.
4. The recommendations contained in this report are based on specific project information that has been provided by OBDS1-Branch 11. If any conceptual changes are made during final project design, OGDS1-Branch C should review those changes to determine if these foundation recommendations are still applicable.

12.0 Construction Considerations

DRIVEN PILES

1. Due to the irregular distribution of soil units, variable and erratic driving should be anticipated with possible hard driving at Bent 2 (elev. +3 to -7); Bent 4 (elev. +5 to 0.0); Bent 6 (elev. +48 to +43); Bent 7 (elev. -2 to tip); Pier 8 (elev. ± 10 to tip); Bent 9 (elev. ± 7 to tip); Bent 10 (elev. ± 10 to tip). Center relief drilling (drilling through the center of open ended pipe piles) to facilitate pile driving, may be considered to within five (5) feet (for pipe piles) and four (4) pile diameter (for CISS piles at Slab Bridge) above the pile tip. Subsurface material through which the piles will be driven at support locations are summarized below.

ABUT. 1: pile cap to elevation 33, interbeds of medium stiff to very stiff lean clay/dense silty sand/stiff fat clay; 33 to pile tip medium stiff to hard lean clay.

BENT 2: pile cap to elevation 33, interbeds of very stiff lean clay/dense silty sand/stiff fat clay; 33 to pile tip medium stiff to hard lean clay with interbed of very dense clayey sand.

BENT 3: pile cap to elevation 40, interbeds of stiff fat clay and medium dense silty sand; 40 to pile tip, stiff to hard lean clay.

BENT 4: pile cap to elevation 40, interbeds of stiff fat clay/medium dense silty and clayey sand; 40 to pile tip stiff to very stiff lean clay with interbeds of medium dense clayey sand and very dense silty sand.

BENT 5: pile cap to elevation 30, interbeds of stiff fat clay/medium dense clayey sand; 30 to pile tip stiff to very stiff lean clay with interbed of very dense sand with clay.

BENT 6: pile cap to elevation 30, interbeds of soft to stiff fat clay/dense clayey sand/medium dense silty sand; 30 to pile tip stiff to very stiff lean clay.

BENT 7: pile cap to elevation 32, interbeds of dense sand with clay/very stiff lean clay/soft to medium stiff fat clay/medium dense clayey sand; 32 to pile tip medium stiff to hard lean clay, tipping into 2-3 feet of very dense clayey sand.

PIER 8: pile cap to elevation 40, interbeds of dense clayey sand/stiff fat clay/stiff to very stiff lean clay; 40 to 15 stiff to very stiff lean clay; 15 to pile tip medium dense to very dense clayey sand.

BENT 9: pile cap to elevation 7, interbeds of soft to very stiff fat clay and stiff to hard lean clay; 7 to pile tip very dense fine to medium sand.

BENT 10: pile cap to elevation 47, interbeds of medium stiff to stiff lean clay/fat clay/silt; 47 to 42 loose silty sand; 42 to 10 stiff to hard silt and lean clay; 10 to pile tip dense silty sand.

2. Subsurface characterization is based on the borings performed at particular accessible locations. Subsurface conditions between borings are interpolated between those points. Therefore, if conditions encountered during construction, excavation, or pile driving/drilling, are different than those assumed in the foundation design, OGDS1 should be notified to evaluate the impact on current recommendations and make appropriate modifications, if required.
3. Splicing of the steel pipe piles may be needed if bearing is not achieved at the specified tip elevation. With approval of Structure Representative, any driven pile achieving refusal within 4.0 feet or less above specified pile tip elevation may be considered satisfactory.

4. At times, steel pipe piles may not attain minimum bearing at specified tip elevation, even after re-driving. When this situation arises the only option is to splice on additional pile length and continue driving to a point where the nominal resistance is achieved. OGDS1 should be consulted to confirm the selected method.
5. In order to verify the required axial nominal resistance, OGDS1 recommends performing dynamic pile testing such as Pile Driving Analyzer (PDA). **This recommendation will be incorporated in the Special Provisions in order to supersede the 2010 Standard Specifications 49-2.01A(4)(b).** It is recommended that at least one pile at Bent 2 (SB2), Bent 5 (SB5), Bent 15 (SB15) and Bent 20 (SB20) of the Slab Bridge, and one pile at Abutment 1 through Bent 10 of the Mean Structure (OH/OC) for the first construction staging phase be PDA tested when the pile is initially driven. OGDS1 recommends first driving and performing PDA analysis to 1-foot above specified pile tip elevation (SPTE). Due to Caltrans Foundation Testing Branch requirement that testing sensors (2-accelerometers and 2-strain gauges) should be placed two (2) pile diameters below top of the pile (i.e. 4 feet) requiring a 4-5 foot deep trench, and possible existence of shallow groundwater below the pile caps, it is recommended that each test pile have additional 4-foot length for ease of testing and avoiding possible caving and water intrusion.

After a pile set-up period of approx. 24 to 48 hours, re-drive and perform PDA analysis on the same pile and stop 6-inches above the SPTE and review the re-strike pile resistance. If pile bearing resistance is adequate then finish driving to the recommended pile tip. If bearing resistance is not adequate from the first re-strike then a 10-day to 2-week pile set-up period is recommended (from initial pile driving date) before re-driving and PDA analysis to SPTE. Modified Gates should still be run for each pile including the PDA tested pile to compare the results between PDA tested and remaining untested driven piles. **Field acceptance criteria should be based on PDA test results.**

6. Dewatering construction methods may be necessary during CISS pile placement at all Slab Bridge support locations. If conditions render it impossible or inadvisable in the opinion of the Engineer to dewater the open ended CISS piles prior to placing reinforcement and concrete, then the bottom of the shell shall be sealed in conformance with the provisions in Section 51-1.03D(3) of the 2010 Standard Specifications. The sealed shell shall then be cleaned and concrete infill and reinforcement be placed in dry condition.
7. The designer should identify on the plans, removal limits of the existing bridge structures and supporting elements (i.e. footings, piles). In general, all members of existing structures should be removed to a minimum of 3 feet below intended finish grade. If existing structure members are interfering with new construction, they should be removed in their entirety. When choosing to abandon or remove an existing foundation such as a pile cap, considerations should be given to the effect that the removal would have on any adjacent utilities.

8. The contractor should monitor adjacent structures or properties for vibrations to prevent potential damage due to pile driving. The contractor should take necessary precautions to minimize the impact on adjacent structures or properties.

The designer may choose to abandon such elements but should consider potential interference with future planned work such as utility installation. Structure elements that are to remain should not prohibit proper compaction or uniform consolidation of new earth fills. The designer's removal plan should be forwarded to OGDS1 for concurrence. The Structure Representative should adjust proposed pile locations when necessary to avoid encountering abandoned piles. If a proposed pile needs to be relocated, the Structure Representative should consult with OBDS1 and OGDS1 to insure adequate foundation design is maintained.

DRILLED PILES

9. There is a likelihood of minor to moderate caving and/or sloughing of the hole sidewall during CIDH piles installation. Caving could happen readily within shallow loose and/or saturated sand and silt.
10. Groundwater will be encountered during CIDH pile drilling. **Dewatering and/or slurry displacement construction methods would be necessary.**
11. If slurry displacement method is used, requirements in Standard Special Provisions 49-310, CIDH shall be followed. If temporary casing is used to prevent caving or facilitate dewatering, provisions in Section 49-3.02C(3), "Temporary Steel Casings" of the 2010 Standard Specifications shall be followed.
12. Removal of in place piles at existing Abutments 1L & possibly 1R (for proposed Pier 8), Abutment 7L & Bent 4R (for proposed Bent 10), could cause excessive caving and over size holes. Contractor should be prepared to back fill with approval of Structure Representative and OGDS1, then drive piles and possible shoring for protection of embankment fill.

EARTHWORK

13. The new approach fill at abutments is to be constructed in accordance with Sections 19-5.03B and 19-6.03C of the 2010 Standard Specifications and other requirements as directed by the Design Engineer. End dumping is not to be permitted.
14. Temporary shoring may be required at Bent 2 through Pier 8 & Bent 10 to retain existing fill, and at Abutment 11 to retain existing and new embankment fill. Shoring could be supported by sheet piles and/or soldier piles with or without lagging. However, method of shoring construction is the contractor's responsibility.

15. There is a possibility of perch water intrusion during pile cap construction at Bents 2, 3 & 4, requiring seal course or other methods of dewatering. Perch water has been measured at elevation 46+ and could vary at different support locations.
16. In conclusion, the commentary and recommendations in this report should not be considered an offering or implying an opinion of, or an approval concerning the foundation design and/or method of construction.

Any questions regarding the above comments should be directed to Faramarz Gerami at 213-620-2149 or Ted Liu at 213-620-2136. However, specific questions regarding Frame 3 and Abutment 11 approach fill should be directed to Chungkeun Lee at 213-620-2148, or Deepa Wathugala at 213-620-2134 for Slab Bridge and abutments SA1 & SA21 approach fills.

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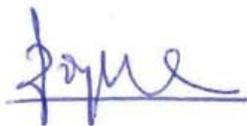
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Attachments: Generalized soil profile and design strength parameters

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GS Corporate – Shira_Rajendra@dot.ca.gov

Appendix 1 – Generalized soil profile and design strength parameters

Slab Bridge (Boring R-11-239)

Elevation Intervals (ft)	Soil Type	Average Blow Count (N_{60})	Effective Unit Weight (pcf)	Friction Angle (degree)	Undrained Shear Strength (psf)
60.0-56.0	Silty sand (SM)	-	115	30	-
56.0-51.0	Fat clay (CH)	-	105	-	500
51.0-46.0	Fat clay (CH)	14	113	-	1000
46.0-42.0	Silty sand (SM)	34	64	33	-
42.0-7.0	Silt/Lean clay/Fat clay (ML/CL/CH)	-	57	-	1700
7.0-0.0	Clayey fine sand (SC)	66	68	35	-
0.0-(-3.0)	Silt/Lean clay (ML/CL)	35	63	-	3000

Abut. 1 & Bent 2 (Boring R-10-231)

Elevation Intervals (ft)	Soil Type	Average Blow Count (N_{60})	Effective Unit Weight (pcf)	Friction Angle (degree)	Undrained Shear Strength (psf)
61.0-57.0	Clayey sand (SC)	-	115	30	-
57.0-48.0	Lean clay (CL)	9	113	-	800
48.0-46.0	Silty sand (SM)	34	125	34	-
46.0-43.0	Silty sand (SM)	34	63	34	-
43.0-8.0	Fat clay/Lean clay (CH/CL)	-	60	-	2400
8.0-3.0	Sandy lean clay (CL)	8	47	-	500
3.0-(-7.0)	Clayey sand (SC)	49	67	37	-
(-7.0)-(-32.0)	Sandy lean clay (CL)	-	60	-	2700
(-32.0)-(-45.0)	Poorly graded sand (SP)	72	72	40	-
(-45.0)-(-61.0)	Clayey sand (SC)	94	74	40	-

Bent 3 (Boring R-09-217)

Elevation Intervals (ft)	Soil Type	Average Blow Count (N ₆₀)	Effective Unit Weight (pcf)	Friction Angle (degree)	Undrained Shear Strength (psf)
62.0-59.0	Clayey sand (SC)	-	115	30	-
59.0-54.0	Lean clay (CL)	2	110	-	500
54.0-49.0	Lean clay (CL)	-	113	-	1000
49.0-46.0	Silty sand (SM)	14	120	32	-
46.0-44.0	Silty sand (SM)	14	57	32	-
44.0-34.0	Fat clay (CH)	7	47	-	800
34.0-5.0	Lean clay (CL)	-	60	-	2300
5.0-(-1.0)	Clayey sand (SC)	31	63	34	-
(-1.0)-(-31.0)	Lean clay (CL)	-	60	-	2600
(-31.0)-(-40.0)	Poorly graded sand (SP)	>100	74	40	-

Bent 4 (Boring R-10-234)

Elevation Intervals (ft)	Soil Type	Average Blow Count (N ₆₀)	Effective Unit Weight (pcf)	Friction Angle (degree)	Undrained Shear Strength (psf)
63.0-58.0	Silty sand (SM)	-	115	30	-
58.0-48.0	Fat clay (CH)	5	113	-	800
48.0-46.0	Silty sand (SM)	-	120	31	-
46.0-20.0	Lean clay (CL)	-	57	-	1800
20.0-15.0	Clayey sand (SC)	-	58	32	-
15.0-5.0	Lean clay (CL)	-	60	-	2250
5.0-0.0	Silty sand (SM)	69	70	37	-
0.0-(-30.0)	Lean clay (CL)	-	60	-	2200
(-30.0)-(-48.0)	Poorly graded sand (SP)	95	72	40	-
(-48.0)-(-70.0)	Lean clay (CL)	63	63	-	3000

Bent 5 (Boring R-10-238)

Elevation Intervals (ft)	Soil Type	Average Blow Count (N ₆₀)	Effective Unit Weight (pcf)	Friction Angle (degree)	Undrained Shear Strength (psf)
59.0-56.0	Clayey sand (SC)	-	115	30	-
56.0-49.0	Sandy Fat clay (CH)	2	110	-	500
49.0-46.0	Clayey sand (SC)	26	120	32	-
46.0-36.0	Clayey sand (SC)	26	55	32	-
36.0-(-34.0)	Fat clay/lean clay (CH/CL)	-	57	-	1750
(-34.0)-(-45.0)	Poorly graded sand (SP)	79	74	40	-
(-45.0)-(-50.0)	Clayey sand (SC)	68	67	36	-
(-50.0)-(-58.0)	Lean clay (CL)	50	60	-	3200

Bent 5A, 5B, 5C, 5D & Bent 6 (Boring R-10-236)

Elevation Intervals (ft)	Soil Type	Average Blow Count (N ₆₀)	Effective Unit Weight (pcf)	Friction Angle (degree)	Undrained Shear Strength (psf)
62.0-54.0	Silty sand (SM)	59	120	33	-
54.0-46.0	Lean/Fat clay (CL/CH)	9	116	-	1100
46.0-44.0	Clayey sand (SC)	-	53	33	-
44.0-35.0	Fat clay/lean clay (CH/CL)	-	53	-	1200
35.0-31.0	Silty sand (SM)	16	53	33	-
31.0-26.0	Lean clay (CL)	-	47	-	600
26.0-19.0	Clayey sand (SC)	16	53	33	-
19.0-(-16.0)	Lean clay (CL)	-	57	-	2000
(-16.0)-(-21.0)	Poorly graded sand (SP)	87	70	37	-
(-21.0)-(-36.0)	Clayey sand (SC)	41	67	35	-
(-36.0)-(-41.0)	Poorly graded sand (SP)	>100	70	37	-
(-41.0)-(-55.0)	Lean clay (CL)	50	57	-	2000

Bent 7 (Boring R-10-235)

Elevation Intervals (ft)	Soil Type	Average Blow Count (N ₆₀)	Effective Unit Weight (pcf)	Friction Angle (degree)	Undrained Shear Strength (psf)
60.0-57.0	Clayey sand (SC)	25	120	32	-
57.0-54.0	Lean clay (CL)	-	110	-	500
54.0-49.0	Fat clay (CH)	7	113	-	1000
49.0-46.0	Sandy lean clay (CL)	-	57	-	2000
46.0-40.0	Clayey sand (SC)	18	57	32	-
40.0-(-16.0)	Silt/lean clay (ML/CL)	-	60	-	2200
(-16.0)-(-33.0)	Poorly graded sand/clayey sand (SP/SC)	71	72	38	-
(-33.0)-(-40.0)	Lean clay (CL)	55	66	-	4200
(-40.0)-(-67.0)	Poorly graded sand (SP)	95	74	40	-

Bent 7A & 7B (Boring R-10-237)

Elevation Intervals (ft)	Soil Type	Average Blow Count (N ₆₀)	Effective Unit Weight (pcf)	Friction Angle (degree)	Undrained Shear Strength (psf)
60.0-51.0	Poorly graded sand (SP)	34	115	32	-
51.0-46.0	Lean clay (CL)	14	116	-	1500
46.0-42.0	Clayey sand (SC)	14	60	32	-
42.0-35.0	Fat clay (CH)	-	47	-	500
35.0-7.0	Lean clay (CL)	-	60	-	2100
7.0-(-3.0)	Lean clay (CL)	13	47	-	700
(-3.0)-(-8.0)	Clayey sand (SC)	82	72	40	-
(-8.0)-(-21.0)	Sandy lean clay (CL)	43	66	-	3600
(-21.0)-(-38.0)	Poorly graded sand (SP)	96	73	40	-
(-38.0)-(-47.0)	Lean clay (CL)	46	63	-	3000

Bent 7C & 7D (Boring R-12-242)

Elevation Intervals (ft)	Soil Type	Average Blow Count (N ₆₀)	Effective Unit Weight (pcf)	Friction Angle (degree)	Undrained Shear Strength (psf)
64.0-58.0	Silt/lean clay (ML/CL)	-	110	-	500
58.0-47.0	Lean clay/Fat clay (CL/CH)	11	110	-	700
47.0-44.0	Silt (ML)	-	47	-	500
44.0-38.0	Silty sand (SM)	10	51	30	-
38.0-22.0	Lean clay (CL)	-	53	-	1400
22.0-18.0	Clayey sand (SC)	33	64	34	-
18.0-6.0	Lean clay (CL)	-	60	-	2300
6.0-(-4.0)	Poorly graded sand (SP)	34	67	35	-
(-4.0)-(-39.0)	Poorly graded sand (SP)	75	70	38	-
(-39.0)-(-58.0)	Silt/Lean clay (ML/CL)	-	60	-	2300

Pier 8 (Borings R-08-017, R-10-235, R-10-237 and CPT-08-133)

Elevation Intervals (ft)	Soil Type	Average Blow Count (N ₆₀)	Effective Unit Weight (pcf)	Friction Angle (degree)	Undrained Shear Strength (psf)
63.5 - 55.5	Silty sand/silt (SM/ML)	14	120	31	-
55.5 - 50.5	Fat clay (CH)	7	120	-	850
50.5 - 45.5	Clayey sand (SC)	28	120	34	-
45.5 - 40.5	Fat clay (CH)	7	60	-	850
40.5 - 22.5	Lean clay (CL)	9	60	-	1100
22.5 - 6.5	Lean clay (CL)	11	60	-	1500
6.5 - 3.5	Lean clay (CL)	23	60	-	3000
3.5 - 0.5	Clayey sand (SC)	29	60	35	-
0.5 - (-11.5)	Silty sand (SM)	68	60	38	-
(-11.5) - (-19.5)	Lean clay (CL)	21	60	-	2800
(-19.5) - (-33.5)	Silty sand or Sand with silt (SM or SP-SM)	48	60	38	-

Bent 9 (Borings R-08-017, R-09-219 and CPT-08-076, CPT-08-133)

Elevation Intervals (ft)	Soil Type	Average Blow Count (N ₆₀)	Effective Unit Weight (pcf)	Friction Angle (degree)	Undrained Shear Strength (psf)
64.5 - 56.5	Lean clay (CL)	14	120	-	1800
56.5 - 49.5	Fat clay (CH)	5	120	-	600
49.5 - 46.0	Lean clay (CL)	11	120	-	1400
46.0 - 41.5	Lean clay (CL)	11	60	-	1400
41.5 - 36.5	Lean clay (CL)	7	60	-	800
36.5 - 26.5	Fat clay (CH)	8	60	-	1200
26.5 - 11.5	Lean clay (CL)	14	60	-	1800
11.5 - 6.5	Silty sand/silt (SM/ML)	17	60	32	-
6.5 - (-11.5)	Sand/clayey sand (SP/SC)	38	60	36	-
(-11.5) - (-22.5)	Lean clay/silt (CL/ML)	21	60	-	2800

Bent 10 (Borings R-12-245, R-08-001, R-09-220 and CPT-08-012, CPT-08-125)

Elevation Intervals (ft)	Soil Type	Average Blow Count (N ₆₀)	Effective Unit Weight (pcf)	Friction Angle (degree)	Undrained Shear Strength (psf)
64.5 - 56.5	Clayey sand (SC)	15	120	31	-
56.5 - 49.5	Fat clay (CH)	4	120	-	500
49.5 - 46.0	Clayey sand (SC)	27	120	34	-
46.0 - 44.5	Clayey sand (SC)	27	60	34	-
44.5 - 37.5	Lean clay (CL)	10	60	-	1300
37.5 - 25.5	Lean clay (CL)	8	60	-	1000
25.5 - 16.5	Lean clay (CL)	14	60	-	2000
16.5 - 11.5	Lean clay (CL)	6	60	-	800
11.5 - 6.5	Silty sand (SM)	27	60	34	-
6.5 - (-3.5)	Sand with silt (SP-SM)	41	60	38	-
(-3.5) - (-12.5)	Clayey sand (SC)	29	60	35	-
(-12.5) - (-22.5)	Lean clay (CL)	30	60	-	3000

Abut. 11 (Borings R-08-001, R-09-220 and CPT-08-125)

Elevation Intervals (ft)	Soil Type	Average Blow Count (N ₆₀)	Effective Unit Weight (pcf)	Friction Angle (degree)	Undrained Shear Strength (psf)
65.5 - 60.5	Clayey sand (SC)	15	120	31	-
60.5 - 50.5	Lean clay or Fat clay (CL or CH)	3	120	-	400
50.5 - 45.5	Clayey sand (SC)	27	120	34	-
45.5 - 30.5	Lean clay or Fat clay (CL or CH)	12	60	-	1500
30.5 - 15.5	Lean clay (CL)	16	60	-	2000
15.5 - 10.5	Lean clay (CL)	10	60	-	1300
10.5 - 5.5	Silty sand (SM)	27	60	34	-
5.5 - (-4.5)	Clayey sand (SC)	55	60	38	-
(-4.5) - (-9.5)	Clayey sand (SC)	35	60	36	-
(-9.5) - (-14.5)	Lean clay (CL)	28	60	-	3700
(-14.5) - (-19.5)	Lean clay (CL)	-	60	-	1800
(-19.5) - (-29.5)	Sand with silt (SP-SM)	>70	72	38	-

**Revised Foundation Report for
Valley View Avenue SB Off Ramp,
Bridge No. 53-3058K, dated
7/11/2013**

Memorandum

*Flex your power!
Be energy efficient!*

To: Mr. RAMIN RASHEDI, CHIEF
Bridge Design Branch 11
Office of Bridge Design South 1

Date: July 11, 2013
File: 07-LA-5- PM 1.21
0700001832 (07-215921)

Att: Mr. Bill Kemp

From: DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Geotechnical Services
Office of Geotechnical Design – South 1 MS # 18

VALLEY VIEW AVENUE
SOUTH BOUND OFF RAMP
BRIDGE NO. 53-3058K

Subject: Revised Foundation Report

Introduction

This revised report which includes the entire original report dated 5-30-13, presents the foundation recommendations for the proposed Valley View Ave SB Off Ramp Bridge No. 53-3058K, in addition to corrections/modifications made based on Office of Bridge Design South 1 (OBDS1) review comments received 6-7-13. Email attachments of bridge foundation design loads, and latest Plans with various revision dates were received from Mr. Bill Kemp on May 21, 2012. The proposed structure is designed as a four span CIP/RC Box Girder, with only end bridge abutment and three bents. The begin bridge will be supported by Bents 7A & 7B of Valley View Ave OH/OC Bridge No. 53-3045. The existing Firestone Blvd. will be relocated to the left side of the proposed bridge.

1.0 Scope of Work

This report supersedes the Preliminary Foundation Report (PFR) dated 5-25-12, and the Foundation Report dated 5-30-13. The PFR was written for combination of 4-bridges, Valley View Ave OC # 53-3045, Valley View Ave OH. # 53C-2193, Valley View Ave SB On Ramp and Valley View Ave SB Off Ramp. A review of the following resources and prepared data, provided information for foundation evaluation and site condition.

- ◆ Review of the sampled borings (two borings) completed by URS Corporation in 2010, for the Valley View Ave SB Off Ramp Bridge No. 53-3058K.
- ◆ Review of the General Plan revised 7-12-11 & 10-04-11, Foundation Plan revised 2-14-12, abutment layout and details revised 3-9-12, bent footing details revised 7-25-11, bent layout revised 10-27-11, original foundation design loads and data sheets dated 10-27-11, received 2-6-12 from Ms. Deepa Wathugala (emailed on 12-27-11 from Mr. Bill Kemp), and updated loads received 5-28-13.
- ◆ Preparation of geologic profiles, geotechnical recommendations and engineering parameters for design and construction of the bridge foundations.

- ◆ Preparation and presentation of the results of investigations and interpretation of subsurface soil, writing of this report in accordance with Caltrans “Guidelines for Structures Foundation Reports, Ver. 2.0”, and “Foundation Report Preparation for Bridge Foundations” Dec. 2009.

2.0 Project Description

The I-5 Corridor Improvement project proposes to reconstruct the I-5 freeway including bridge replacements, retaining walls and sound walls, between Los Angeles/Orange County line to the north of I-605, crossing cities of Norwalk, Santa Fe Springs, Cerritos and unincorporated cities. Construction of Valley View Ave. SB Off Ramp is part of the Segment 2 of I-5 Corridor Improvement in Cities of Santa Fe Springs and Cerritos, which covers an area from south of North Fork Coyote Creek (PM 1.47) to north of Artesia Blvd./County line (PM 0.00). Segment 2 encompasses four new structures (Valley View Ave. SB On Ramp #53-3059K, Valley View Ave. Off Ramp #53-3058K, NB Valley View Ave/S. Firestone Blvd. # 53C-2295, SB Valley View Ave/S. Firestone Blvd. # 53C-2296), three bridge replacements (Valley View Ave. OH/OC #53-3045, Coyote Creek #53-3044 and North Firestone Blvd. #53C-2194), and approximately 34 Type 1 retaining walls. All elevations referenced in this report are based on 1988 NAVD datum.

3.0 Field Investigation and Testing Program

The site specific field investigations were performed in 2010 by URS Corporation. The investigation included drilling two, wet rotary borings. Soils were continuously logged and classified in accordance with the Unified Soil Classification System. Modifications of soil descriptions to reflect laboratory test results are presented in the Log of Test Borings. Bulk and relatively undisturbed (ring) soil samples were collected for laboratory tests. Ring samples were obtained using Modified California split spoon sampler with 2.0 inch inner diameter. In addition, soil samples were obtained at 5 foot intervals from Standard Penetration test (SPT) split spoon sampler with 1.4 inch inner diameter. Blow counts (SPT N-values) were performed at 5 foot intervals in accordance with ASTM Test Method D1586-84 using a 1.4 inch sampler with a 140 lb safety hammer dropped 30 inches. An electronic file of the new Log of Test Borings will be sent to Designer from URS Corporation drafting for inclusion in the contract plans.

4.0 Laboratory Testing Program

Selected representative soil samples were tested in URS laboratories in Orange County to obtain or derive relevant physical and engineering soil properties. All laboratory tests were performed in general accordance with California Test Methods (CTM) or American Society for Testing and Materials (ASTM) Standards. Field and laboratory testing intervals are shown on the Log of Test Boring sheets. The summarized laboratory tests data are shown in Table 1.

Table 1. Summary of Laboratory Tests

Testing Type	ASTM/CTM Designation	Testing Purpose
Consolidation Test	ASTM D2435	Long Term Settlement
Particle Size Analysis	ASTM C117, C136 or D422, D2216	Soil Classification
Atterberg Limits	ASTM D4318	Soil Classification
Corrosion	CTM 417, 422, 532, 643	Corrosion Potential
Direct Shear	ASTM D3080	Shear Strength
Unconfined Compression	ASTM D2166	Compression Strength
Swell Test	ASTM D4546, Method B	Swell Potential

5.0 Site Geology and Subsurface conditions

The entire I-5 corridor project between county line and I-605 is located within the Central groundwater Basin of the Coastal Plain of Los Angeles County, as defined by the California Department of Water Resources (DWR, 1961). The proposed site is located within the Los Angeles Basin with physiographic of a lowland coastal plain. The Coastal Plain is bounded on the east and southeast by the Santa Ana Mountains and San Joaquin Hills and on the north by the Santa Monica and San Gabriel Mountains, and Palos Verdes Hills on the south. The bridge site is situated in a relatively flat southwest sloping Holocene to Late Pleistocene alluvial fan and valley deposits consisting of mostly lean clay with interbeds of fat clay, sandy silt and clayey sand to about 95 feet below surface, then underlain by dense to very dense sand with intermittent interbeds of sandy lean clay. This alluvium was deposited primarily by San Gabriel River floods emanating from the mountains and hills to the north of the project site. Depth to rock-like material is estimated to be greater than 400 feet.

Based on information from the site investigations, different soil units are encountered at the proposed bridge supports, as characterized below (given elevations are approximate).

Boring R-10-225 (Bents 1 & 2): Surface to elevation +54 medium stiff sandy lean clay; elevation +54 to +49 medium stiff fat clay; elevation +49 to +36 medium stiff to stiff lean clay with interbeds (2 ft thick) of loose to medium dense clayey sand; elevation +36 to -9 stiff to very stiff lean clay with sand; elevation -9 to -24 very dense clayey sand; elevation -24 to -29 stiff lean clay with sand; elevation -29 to -39 very dense poorly graded sand with clay; elevation -39 to -54 dense to very dense clayey sand interbedded with very stiff lean clay; elevation -54 to -63 (max. boring depth) very dense poorly graded sand with clay.

Boring R-10-226 (Bent 3 & Abut. 4): Surface to elevation +55 medium dense clayey and silty sand; elevation +55 to +52 soft fat clay; elevation +52 to +37 medium dense clayey and silty sand with interbed (2 ft thick) of stiff lean clay with sand; elevation +37 to +32 stiff fat clay; elevation +32 to +27 very stiff/medium dense sandy lean clay to clayey sand; elevation +27 to -18 stiff to hard lean clay with sand; elevation -18 to -23 very dense clayey sand; elevation -23 to -38 very dense poorly graded sand with clay with 2 ft thick interbed of lean clay; elevation -38 to -43 very stiff lean clay; elevation -43 to -62 (max. boring depth) very dense clayey sand with interbed of very dense sand with clay.

5.1 Groundwater

There is a shallow water bearing zone called “perched groundwater” with varying depths of 12 to 24 feet below ground surface, measured in recent borings in adjacent replacement bridge (Valley View Ave. OH/OC # 53-3045) and As Built Log of Test Borings (adjacent existing Valley View Ave. OC # 53-0631RL). The lateral extent of the perched groundwater has not been defined. There is also a deeper confined groundwater zone called “Exposition-Artesia” aquifer with about 22 feet of hydraulic head, between 70 to 75 feet below ground surface. Movement in perched groundwater is a west-northwest direction, and in deeper groundwater zones is generally to the southwest (DWR, 1961). The historical high groundwater levels has been mapped between 8 to 10 feet below ground surface over the entire length of the project corridor (CGS 1997, 1998a, 1998b). It should be noted that groundwater levels could fluctuate with the change of season and other factors. According to preliminary groundwater data evaluation (August 9, 2011) provided by Caltrans Hazardous Waste Branch, South Region, any groundwater encountered less than 30 feet below ground surface should be considered contaminated with hazardous substance or petroleum products. If dewatering of the shallow groundwater is planned, measures must be taken to properly manage and dispose of the water in compliance with applicable local, state and federal regulations. Shallow groundwater (perched) and deep groundwater (aquifer) where measured are presented in Table 2. **A design groundwater elevation of 46.0 was used for all bridge support pile tip and settlement calculations.**

Table 2. Recent and Previous Groundwater Information

Boring Location	Boring No.	Depth to Groundwater (Below Ground Surface) (ft)	Groundwater Surface Elevation (ft)	Date of Water Measurement
Abut. 7L (53-0631L)	B-1	21.0 ⁽¹⁾	41.7 ⁽¹⁾	1953
Bent 6R (53-0631L)	B-2	21.0 ⁽¹⁾	41.7 ⁽¹⁾	1953
Bent 5R (53-0631L)	B-7	21.0 ⁽¹⁾	41.6 ⁽¹⁾	1953
Bent 2R (53-0631R)	B-2	18.0 ⁽¹⁾	43.8 ⁽¹⁾	1972
Abut. 1R (53-0631R)	B-5	16.1 ⁽¹⁾	43.6 ⁽¹⁾	1972
Bent 2L (53-0631L)	B-2	14.4 ⁽¹⁾	47.2 ⁽¹⁾	1996

Table 2. (continued)

Boring Location	Boring No.	Depth to Groundwater (Below Ground Surface) (ft)	Groundwater Surface Elevation (ft)	Date of Water Measurement
Bent 6 (53-3045)	R-09-218*	24.5 ⁽¹⁾ 40.2 ⁽²⁾	46.4 ⁽¹⁾ 30.7 ⁽²⁾	2012
Abut. 1R (53-0631L)	B-3	21.0 ⁽¹⁾	41.3 ⁽¹⁾	1953
Bent 2L (53-0631L)	B-4	21.0 ⁽¹⁾	41.1 ⁽¹⁾	1953
Bent 3R (53-0631L)	B-5	21.0 ⁽¹⁾	41.2 ⁽¹⁾	1953
Bent 4L (53-0631L)	B-6	21.0 ⁽¹⁾	41.6 ⁽¹⁾	1953
Bent 3R (53-0631R)	B-3	18.2 ⁽¹⁾	43.8 ⁽¹⁾	1972
Abut. 5R (53-0631R)	B-4	21.7 ⁽¹⁾	39.9 ⁽¹⁾	1972
Bent 6L (53-0631L)	B-1	15.9 ⁽¹⁾	46.7 ⁽¹⁾	1996
Abut. 11 (53-3045)	R-09-220*	32.2 ⁽¹⁾ 48.3 ⁽²⁾	46.2 ⁽¹⁾ 30.1 ⁽²⁾	2012
Bent 10 (53-3045)	R-12-245*	19.0 ⁽¹⁾ 51.0 ⁽²⁾	45.3 ⁽¹⁾ 13.3 ⁽²⁾	2012

⁽¹⁾ Perched ⁽²⁾ Aquifer * Recent borings

6.0 Corrosion Evaluation

Composite soil samples taken from recent exploratory borings at different intervals were tested by URS laboratory for corrosion testing. The test results indicate a non-corrosive environment at the proposed bridge site. Normal construction material and design are advised. Refer to Table 3 for specific test results.

Table 3. Corrosion Test Summary

Boring No.	Depth Interval (ft)	Minimum Resistivity (Ohm-Cm)	pH	Chloride Content (ppm)	Sulfate Content (ppm)
R-10-225	5.0-120.0	1250	8.0	105	405
R-10-226	5.0-120.0	1750	8.1	90	360

Note: It is the practice of Caltrans Corrosion Technology Section (with the exception of MSE walls) that if the minimum resistivity of the sample is greater than 1000 ohm-cm and the pH is greater than 5.5, the sample is considered noncorrosive. Caltrans currently considers a site to be corrosive to foundation elements if one or more of the following conditions exist for representative soil and/or water samples taken at the site. Chloride concentration is greater or equal to 500 ppm, sulfate concentration is greater than or equal to 2000 ppm, or the pH is 5.5 or less.

7.0 Seismic Recommendations

The proposed bridge site is not within an Alquist-Priolo Earthquake Fault Zone. An analysis was performed to develop and recommend ground motion parameters for the seismic design of the above referenced bridge structure. This analysis was performed in accordance with requirements specified in Appendix B of the Caltrans’ 2009 Seismic Design Criteria (SDC, Version 1.6, August 2009) and utilizing the “Caltrans ARS Online” and other tools available at the internet sites. The average shear wave velocity (V_{s30}) for the upper 100 feet of the subsurface profile was estimated to be about 210.0 m/sec (689 ft/sec) based on recent field investigation. The closest fault to the site is the Puente Hills Thrust Fault oriented as a low angle north dipping thrust fault approximately 3.2 miles north of the site. The significant faults and fault zones are summarized in Table 4.

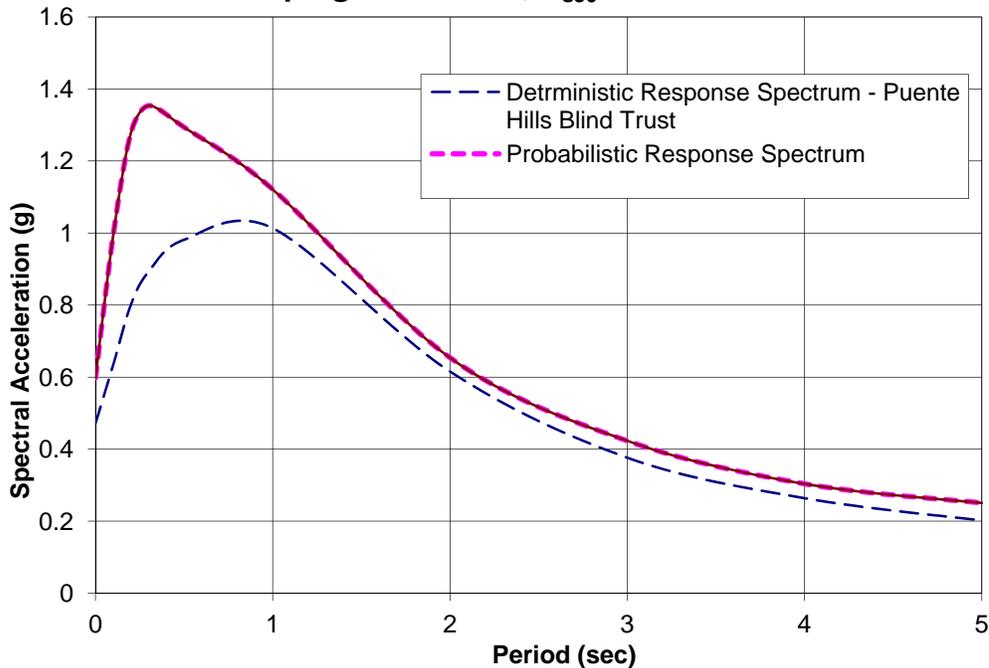
Table 4. Summary of Faults

Fault Name	Type	M_{max}	R_x	R_{JB}	R_{RUP}
Puente Hills Blind Thrust	R	7.3	3.2 mile (5.2 km)	3.2 mile (5.2 km)	3.7 mile (6.0 km)
Elsinore Fault Zone (Whittier Section)	RLSS	7.6	6.4 mile (10.4 km)	6.4 mile (10.4 km)	6.4 mile (10.4 km)
Newport Inglewood – Rose Canyon Fault Zone	RLSS	7.5	9.6 mile (15.4 km)	9.6 mile (15.4 km)	9.6 mile (15.4 km)
Compton-Los Alamitos Blind Thrust	R	6.8	13.2 mile (21.3 km)	4.7 mile (7.6 km)	7.8 mile (12.6 km)

Notes: R_x = Horizontal distance to the fault trace
 R_{JB} = Shortest horizontal distance to the surface projection of the rupture area
 R_{RUP} = Closest distance to the fault rupture plane
 RLSS = Right Lateral Strike Slip
 R = Reverse

The design deterministic as well as the probabilistic acceleration response spectrum (ARS) curves developed are shown in Figure 1. The probabilistic ARS curve corresponds to a ground motion return period (RP) of 975-year (i.e., 5% probability of exceedance in 50 years). It should be noted that the design deterministic ARS curve shown in Figure 1 is due to an earthquake event of magnitude $M=7.3$ and site to fault rupture surface distance of 5.2 Km associated with the Puente Hills Blind thrust fault. Since all the site to fault distance measures (e.g., R_{rup} , R_x and R_{jb} etc.) used in the attenuation relationships utilized in this analysis are within 25 Km, the ARS curves shown in Figure 1 include the near fault effects as specified in the Seismic Design Criteria (SDC 2009). In addition, the project site being located in the Los Angeles Basin also includes basin effects ($Z_{1.0}= 715$ m and $Z_{2.5}= 3.92$ km). ARS curves were developed according to the Caltrans Geotechnical Services-Design Manual (Version 1.0, Aug. 2009). The design Peak Ground Acceleration (PGA) for the project site is 0.6g. The design ARS curve is an envelope of deterministic and probabilistic ARS curves (Figure 1).

**Figure 1. RECOMMENDED DESIGN ACCELERATION
RESPONSE SPECTRUM (ARS)
Valley View Ave SB Off Ramp Bridge No. 53-3058K
Damping Ratio = 5%; $V_{s30} = 210$ m/sec**



8.0 Liquefaction Potential

Based on current field investigation, the liquefaction potential at the bridge site is low due to presence of cohesive soil with intermittent interbeds of dense to medium dense granular soil overlying very dense granular material. Accordingly, the potential for seismically induced settlement and lateral spreading are also considered to be low.

9.0 Foundation Recommendations

The proposed new bridge is a four span CIP/RC Box Girder with seat type abutment and flare octagonal, 2-column bents. The begin bridge will be supported by Bents 7A & 7B of Valley View Ave OH/OC Bridge No. 53-3045. The following recommendations are developed by OGDS1 based on 1) Log of Test Borings and interpreted subsurface conditions and design parameters established through laboratory tests and field data, 2) updated Structure Plans and design loads provided by OBDS1 as referenced in page 1, and 3) email correspondences and personal communications with Mr. Bill Kemp (OBDS1).

9.1 Deep Foundations

Due to high lateral demand (5-27-10 email OBDS1) and environmental concerns, it is proposed to use 200 kips PP24x0.5 open ended pipe piles at all support locations. Based on subsurface conditions obtained from recent field investigations, OGDS1 concurs with the feasibility of proposed pile types to support the new structure. Pile lengths required to resist the provided loads are computed based on Service-I Limit State load (Abutment 4) and Strength Limit State (all bents) using computer program APILE (version 5.0). The calculated axial geotechnical capacities of driven piles (PP24x0.5) are based mainly on skin friction and minor contribution from end bearing. General Foundation Information and Design Loads are provided by OBDS1 and presented in Tables 5 & 6. Recommended design and specified pile tip elevations for abutments and bents provided in Tables 7, 8, & 9 are prepared by OGDS1.

Table 5. General Foundation Information Provided By Structure Design

Support Location	Design Method	Pile Type	Finished Grade Elevation (ft)	Cut-off Elevation (ft)	Pile Cap Size (ft)		Permissible Settlement under Service Load *	Number of Piles per Support
					B	L		
Bent 1	LRFD	PP24x0.5	59.0	55.17	19.0	19.0	1"	16 per column
Bent 2	LRFD		59.0	55.17	19.0	19.0	1"	16 per column
Bent 3	LRFD		60.0	48.17	19.0	19.0	1"	16 per column
Abut. 4	WSD		60.0	55.20	10.5	56.0	1"	28

* Based on CALTRANS' current practice, the total permissible settlement is one inch for multi-span structures with continuous spans or multi-column bents, one inch for single span structures with diaphragm abutments, and two inches for single span structures with seat abutments. Different permissible settlement under service loads may be allowed if a structural analysis verifies that required level of serviceability is met.

Table 6. Design Loads Provided By Structure Design

Support Location	Service-I Limit State (kips)			Strength Limit State (Controlling Group, kips)				Extreme Event Limit State (Controlling Group, kips)			
	Total Load		Permanent Loads	Compression		Tension		Compression		Tension	
	Per Support	Max Per Pile		Per Support	Max Per Pile	Per Support	Max Per Pile	Per Support	Max Per Pile	Per Support	Max Per Pile
Bent 1	1465	200	996	2270	212	0	0	2094	345	1047	148
Bent 2	1542		1130	2381	165	0	0	1982	327	992	125
Bent 3	1545		1042	2390	225	0	0	2136	305	0	0
Abut 4	2142	115	1770	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 7. Foundation Recommendations For Abutment 4

Support Location	Pile Type	Cut-off Elevation (ft)	LRFD Service-1 Limit State Load (kips) Per Support		LRFD Service-1 Limit State Total Load (kips) Per Pile (Compression)	Nominal Resistance (kips)	Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
			Total	Permanent					
Abut. 4	PP24x0.5	55.20	2142	1770	115	230	+17 (a) +21 (c)	+17	230

- Notes: 1. Design tip elevations for abutment are controlled by (a) Compression, (c) Settlement.
 2. The specified tip elevation shall not be raised above the design tip elevations for settlement.

Table 8. Foundation Recommendations For Bents

Support Location	Pile Type	Cut-off Elevation (ft)	Service-1 Limit State Load (kips) Per Support	Total Permissible Support Settlement	Required Factored Nominal Resistance (kips)				Design Tip Elevations (ft)	Specified Tip Elevation (ft)
					Strength Limit		Extreme Event			
					Comp. (Ø=0.7)	Tension (Ø=0.7)	Comp. (Ø=1)	Tension (Ø=1)		
Bent 1	PP24x0.5	55.17	1465	1"	212	0	345	148	+10.0 (a-I) +7.0 (a-II) +24.0 (b-II) +22.0 (c)	+7.0
Bent 2		55.17	1542	1"	165	0	327	125	+18.0 (a-I) +9.0 (a-II) +27.0 (b-II) +21.0 (c)	+9.0
Bent 3		48.17	1545	1"	225	0	305	0	+5.0 (a-I) +10.0 (a-II) +22.0 (c)	+5.0

- Notes: 1. Design tip elevations are controlled by: (a-I) Compression (Strength Limit), (a-II) Compression (Extreme Event), (b-II) Tension (Extreme Event), (c) Settlement.
 2. The specified tip elevation shall not be raised above the design tip elevations for tension, lateral and tolerable settlement.

Table 9. Pile Data Table

Support Location	Pile Type	Nominal Resistance (kips)		Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance (kips)
		Compression	Tension			
Bent 1	PP24x0.5	350	150	+7.0 (a) +24.0 (b) +22.0 (c)	+7.0	350
Bent 2		330	130	+9.0 (a) +27.0 (b) +21.0 (c)	+9.0	330
Bent 3		330	0	+5.0 (a) +22.0 (c)	+5.0	330
Abut. 4		230	0	+17.0 (a) +21.0 (c)	+17.0	230

- Notes: 1. Design tip elevations for abutment are controlled by (a) Compression, (c) Settlement.
 2. Design tip elevations for bents are controlled by: (a) Compression, (b) Tension (c) Settlement.
 3. The specified tip elevation shall not be raised above the design tip elevations for tension load, lateral load, and tolerable settlement.
 4. Design tip elevation for Lateral Load is typically provided by Structure Design.

9.2 Approach Fill Earthwork

New approach embankment fill placed at Abutment 4 for the new structure as part of the Off Ramp grade separation, will be retained by parallel retaining wall Nos. 68 & 69. Based on project plans, the embankment fill dimensions contained between two retaining walls will be about 16 ft high and 56 ft wide. The embankment fill will cause vertical settlement consisting of immediate settlement (short term) and consolidation settlement (long term). Considering soil profile and engineering properties of subsurface material obtained through field exploration at Abutment 4, a maximum total settlement of 6 to 8 inches is anticipated in subsurface soil, after embankment fill placement. In order to complete the settlement prior to construction of the abutment and retaining wall foundations, a 90-days settlement period for preloading the embankment fill with 12 feet surcharge above the grading plane is recommended. Settlement monitoring in the field is strongly recommended and the actual settlement period will be determined by the structure representative on the basis of settlement data in the field.

10.0 Notes to Designer

1. Contractor's driving system should be examined to verify the driving system is capable of installing the proposed piles at all support locations, before commencement of pile driving.
2. A drivability analysis has been requested from the Foundation Testing Branch of the Office of Geotechnical Support and the results will be forwarded when complete.
3. Design pile tip elevation for lateral load at bent locations are to be determined by designer. The specified pile tip elevation for each support location is to be controlled by the deepest design tip elevation for either compression or lateral loads. Should the design pile tip elevation required to meet lateral load demands exceed the specified pile tip elevation given within this report, OGDS1 must be contacted for further recommendations.
4. The recommendations contained in this report are based on specific project information that has been provided by OBDS1-Branch 11. If any conceptual changes are made during final project design, OGDS1-Branch C should review those changes to determine if these foundation recommendations are still applicable.

11.0 Construction Considerations

DRIVEN PILES

1. Due to the irregular distribution of soil units, variable and erratic driving should be anticipated. Center relief drilling (drilling through the center of open ended pipe pile) to facilitate pile driving, may be considered to within five (5) feet above the pile tip. Subsurface material through which the piles will be driven at support locations are summarized below.

BENTS 1 & 2: Pile cap to elevation 49, medium stiff fat clay; 49 to pile tip stiff to very stiff lean clay with sand with intermittent interbeds of 2 ft thick medium dense clayey sand.

BENT 3: Pile cap to elevation 32, interbeds of medium dense silty/clayey sand/very stiff lean clay/stiff fat clay; 32 to pile tip medium stiff to very stiff lean clay with sand.

ABUT. 4: Pile cap to elevation 32, interbeds of soft to stiff fat clay/medium dense silty and clayey sand/stiff lean clay; 32 to pile tip medium stiff to very stiff lean clay with sand.

2. Subsurface characterization is based on the borings performed at particular accessible locations. Subsurface conditions between borings are interpolated between those points. Therefore, if conditions encountered during construction, excavation, or pile driving, are different than those assumed in the foundation design, OGDS1 should be notified to evaluate the impact on current recommendations and make appropriate modifications, if required.
3. Splicing of the steel pipe piles may be needed if bearing is not achieved at the specified tip elevation. With approval of Structure Representative, any driven pile achieving refusal within 4.0 feet or less above specified pile tip elevation may be considered satisfactory.
4. At times, steel pipe piles may not attain minimum bearing at specified tip elevation, even after re-driving. When this situation arises the only option is to splice on additional pile length and continue driving to a point where the nominal resistance is achieved. OGDS1 should be consulted to confirm the selected method.
5. In order to verify the required axial nominal resistance, OGDS1 recommends performing dynamic pile testing such as Pile Driving Analyzer (PDA). **This recommendation will be incorporated in the Special Provisions in order to supersede the 2010 Standard Specifications 49-2.01A(4)(b).** It is recommended that at least one pile at each bridge support be PDA tested when the pile is initially driven. OGDS1 recommends first driving and performing PDA analysis to 1-foot above specified pile tip elevation (SPTE). Due to Caltrans Foundation Testing Branch requirement that testing sensors (2-accelerometers and 2-strain gauges) should be placed two (2) pile diameters below top of the pile (i.e. 4 feet) requiring a 4-5 foot deep trench, and possible existence of shallow groundwater below the pile caps, it is recommended that each test pile have additional 4-foot length for ease of testing and avoiding possible caving and water intrusion.

After a pile set-up period of approx. 24 to 48 hours, re-drive and perform PDA analysis on the same pile and stop 6-inches above the SPTE and review the re-strike pile resistance. If pile bearing resistance is adequate then finish driving to the recommended pile tip. If bearing resistance is not adequate from the first re-strike then a 10-day to 2-week pile set-up period is recommended (from initial pile driving date) before re-driving and PDA analysis to SPTE. Modified Gates should still be run for each pile including the PDA tested pile to compare the results between PDA tested and remaining untested driven piles. **Field acceptance criteria should be based on PDA test results.**

6. The contractor should monitor adjacent structures or properties for vibrations to prevent potential damage due to pile driving. The contractor should take necessary precautions to minimize the impact on adjacent structures or properties.

EARTHWORK

7. In order to accelerate the predicted settlement within the recommended waiting period of 90 days, placement of embankment fill with 12 feet surcharge from grading plane, should precede construction of abutment and wall foundations. This procedure would substantially reduce the post construction settlement, potential down drag effects on the abutment and retaining wall piles and differential settlement of the walls. Where there is no right of way restriction, the extent of the surcharge hinge point should coincide with wall layout lines and abutment centerline (2010 Standard Plans-A62B). The longitudinal limit of the surcharge should include abutment and wall heights of up to 10 feet, then taper down to 8' above grading plane at the end of both retaining walls 68 and 69.
8. Temporary shoring may be required at locations where there is right of way restrictions. Shoring could be supported by sheet piles and/or soldier piles with or without lagging; however, method of shoring construction is the contractor's responsibility.
9. The new approach fill at abutment 4 is to be constructed in accordance with Sections 19-5.03B and 19-6.03C of the 2010 Standard Specifications and other requirements as directed by the Design Engineer. End dumping is not to be permitted.
10. There is a possibility of perch water intrusion during pile cap construction at Bents 3, requiring seal course or other methods of dewatering. Perch water has been measured at elevation 46± and could vary at different support locations.
11. In conclusion, the commentary and recommendations in this report should not be considered an offering or implying an opinion of, or an approval concerning the foundation design and/or method of construction.

Any questions regarding the above comments should be directed to Faramarz Gerami at 213-620-2149 or Ted Liu at 213-620-2136. However, specific questions regarding surcharge and settlement period at abutments should be directed to Deepa Wathugala at 213-620-2134.

Report by:



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Attachments: Generalized soil profile and design strength parameters

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- District Materials Engineer – Kirsten_Stahl@dot.ca.gov
- Structure Design – Bill_Kemp@dot.ca.gov
- GS Corporate – Shira_Rajendra@dot.ca.gov

Appendix 1 – Generalized soil profile and design strength parameters

Bents 1 & 2 (Boring R-10-225)

Elevation Intervals (ft)	Soil Type	Average Blow Count (N ₆₀)	Effective Unit Weight (pcf)	Friction Angle (degree)	Undrained Shear Strength (psf)
60.0-46.0	Lean/fat clay (CL/CH)	-	110	-	650
46.0-(-9.0)	Lean clay (CL)	-	60	-	2400
(-9.0)-(-24.0)	Clayey sand (SC)	65	70	37	-
(-24.0)-(-29.0)	Lean clay (CL)	-	53	-	1500
(-29.0)-(-39.0)	Poorly graded sand (SP)	>100	74	40	-
(-39.0)-(-47.0)	Clayey sand (SC)	90	72	40	-
(-47.0)-(-51.0)	Lean clay (CL)	-	60	-	2700
(-51.0)-(-55.0)	Clayey sand (SC)	39	68	37	-
(-55.0)-(-63.0)	Poorly graded sand (SP)	>100	74	40	-

Bent 3 & Abut. 4 (Boring R-10-226)

Elevation Intervals (ft)	Soil Type	Average Blow Count (N ₆₀)	Effective Unit Weight (pcf)	Friction Angle (degree)	Undrained Shear Strength (psf)
60.0-55.0	Clayey/silty sand (SC/SM)	-	115	30	-
55.0-52.0	Fat clay (CH)	-	110	-	500
52.0-48.0	Lean clay (CL)	-	120	-	1700
48.0-46.0	Clayey sand (SC)	13	120	32	-
46.0-37.0	Clayey/silty sand (SC/SM)	13	52	32	-
37.0-(-18.0)	Fat clay/Lean clay (CH/CL)	-	60	-	2400
(-18.0)-(-38.0)	Poorly graded sand (SP)	66	66	37	-
(-38.0)-(-43.0)	Lean clay (CL)	39	60	-	2700
(-43.0)-(-58.0)	Clayey sand (SC)	73	70	37	-
(-58.0)-(-62.0)	Poorly graded sand (SP)	59	69	37	-

**Revised Foundation Report for
Valley View Avenue SB On Ramp,
Bridge No. 53-3059K, dated
9/3/14/235**

Memorandum

*Flex your power!
Be energy efficient!*

To: Mr. RAMIN RASHEDI, CHIEF
Bridge Design Branch 11
Office of Bridge Design South 1

Date: July 11, 2013
File: 07-LA-5- PM 1.21
0700001832 (07-215921)

Att: Mr. Bill Kemp

From: DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Geotechnical Services
Office of Geotechnical Design – South 1 MS # 18

VALLEY VIEW AVENUE
SOUTH BOUND ON RAMP
BRIDGE NO. 53-3059K

Subject: Revised Foundation Report

Introduction

In response to June 25, 2013 email submittal with updated Service Loads from Office of Bridge Design South 1 (OBDS1), this revised report includes the entire original report dated 5-30-13, in addition to corrections/modifications made based on design review comments received 6-7-13. Foundation recommendations presented herein are for the proposed Valley View Ave SB On Ramp Bridge No. 53-3059K. Email attachments received from Mr. Bill Kemp on 5-21-12 for original foundation design loads at all support locations, and Plans with various revisions, and on 6-25-13 for revised Service-I Limit State loads at all bent locations. The proposed structure is designed as a 5-span CIP/RC Box Girder, with only begin bridge abutment and four bents. The end bridge will be supported by Bents 7C & 7D of Valley View OH/OC Bridge No. 53-3045. The existing Firestone Boulevard will be relocated to the left side of the proposed bridge.

1.0 Scope of Work

This report supersedes the Preliminary Foundation Report (PFR) dated May 25, 2012, and the Foundation Report dated 5-30-13. The PFR was written for combination of 4-bridges, Valley View OC # 53-3045, Valley View OH. # 53C-2193, Valley View Ave SB Off Ramp and proposed Valley View Ave SB On Ramp. A review of the following resources and prepared data provided information for the foundation evaluation and site condition.

- ◆ Review of the three sampled borings and two cone penetration tests (CPT) completed by URS Corporation in 2012, for the proposed Valley View Ave SB On Ramp Bridge No. 53-3059K.
- ◆ Review of the General Plan revised 3-22-12, Foundation Plan revised 3-21-12, abutment layout and details revised 4-2-12 & 5-7-11, bent footing details revised 4-19-12 & 4-23-12, bent layout revised 4-7-12 & 4-21-12. Also revised foundation design loads and data sheets (dated 11-25-12), received 1-11-13 which superseded original loads (dated 11-11-11), received 2-6-12 from Ms. Deepa Wathugala, through email from Mr. Bill Kemp on 12-27-11.

- ◆ Preparation of geologic profiles, geotechnical recommendations and engineering parameters for design and construction of the bridge foundations.
- ◆ Preparation and presentation of the results of investigations and interpretation of subsurface soil, writing of this report in accordance with Caltrans “Guidelines for Structures Foundation Reports, Ver. 2.0”, and “Foundation Report Preparation for Bridge Foundations” Dec. 2009.

2.0 Project Description

The I-5 Corridor Improvement project proposes to reconstruct the I-5 freeway including bridge replacements, retaining walls and sound walls, between Los Angeles/Orange County line to the north of I-605, crossing cities of Norwalk, Santa Fe Springs, Cerritos and unincorporated cities. Construction of Valley View Ave SB On Ramp is part of the Segment 2 of I-5 Corridor Improvement in Cities of Santa Fe Springs and Cerritos, which covers an area from south of North Fork Coyote Creek (PM 1.47) to north of Artesia Blvd./County line (PM 0.00). Segment 2 encompasses four new structures (Valley View Ave SB On Ramp # 53-3059K, Valley View Ave SB Off Ramp # 53-3058K, NB Valley View Ave/S. Firestone Blvd. # 53C-2295, SB Valley View Ave/S. Firestone Blvd. # 53C-2296), three bridge replacements (Valley View Ave OH/OC # 53-3045, Coyote Creek # 53-3044 and North Firestone Blvd. # 53C-2194), and approximately 34 Type 1 retaining walls. All elevations referenced in this report are based on 1988 NAVD datum.

3.0 Field Investigation and Testing Program

The site specific field investigations were performed in 2012 by URS Corporation. The investigation included drilling three, wet rotary borings and two CPT tests. Soils were continuously logged and classified in accordance with the Unified Soil Classification System. Modifications of soil descriptions to reflect laboratory test results are presented in the Log of Test Borings. Bulk and relatively undisturbed (ring) soil samples were collected for laboratory tests. Ring samples were obtained using Modified California split spoon sampler with 2.0 inch inner diameter. In addition, soil samples were obtained at 5 foot intervals from Standard Penetration test (SPT) split spoon sampler with 1.4 inch inner diameter. Blow counts (SPT N-values) were performed at 5 foot intervals in accordance with ASTM Test Method D1586-84 using a 1.4 inch sampler with a 140 lb safety hammer dropped 30 inches. An electronic file of the new Log of Test Borings will be sent to designer from URS Corporation drafting for inclusion in the contract plans.

4.0 Laboratory Testing Program

Selected representative soil samples were tested in URS laboratories in Orange County to obtain or derive relevant physical and engineering soil properties. All laboratory tests were performed in general accordance with California Test Methods (CTM) or American Society for Testing and Materials (ASTM) Standards. Field and laboratory testing intervals are shown on the Log of Test Boring sheets. The summarized laboratory tests data are shown in Table 1.

Table 1. Summary of Laboratory Tests

Testing Type	ASTM/CTM Designation	Testing Purpose
Consolidation Test	ASTM D2435	Long Term Settlement
Particle Size Analysis	ASTM C117, C136 or D422, D2216	Soil Classification
Atterberg Limits	ASTM D4318	Soil Classification
Corrosion	CTM 417, 422, 532, 643	Corrosion Potential
Direct Shear	ASTM D3080	Shear Strength
Unconfined Compression	ASTM D2166	Compression Strength

5.0 Site Geology and Subsurface conditions

The entire I-5 corridor project between county line and I-605 is located within the Central groundwater Basin of the Coastal Plain of Los Angeles County, as defined by the California Department of Water Resources (DWR, 1961). The proposed site is located within the Los Angeles Basin with physiographic of a lowland coastal plain. The Coastal Plain is bounded on the east and southeast by the Santa Ana Mountains and San Joaquin Hills and on the north by the Santa Monica and San Gabriel Mountains, and Palos Verdes Hills on the south. The bridge site is situated in a relatively flat southwest sloping Holocene to Late Pleistocene alluvial fan and valley deposits consisting of mostly lean clay with interbeds of fat clay, sandy silt and clayey sand to about 95 feet below surface, then underlain by dense to very dense sand with intermittent interbeds of sandy lean clay. This alluvium was deposited primarily by San Gabriel River floods emanating from the mountains and hills to the north of the project site. Depth to rock-like material is estimated to be greater than 400 feet.

Based on information from the site investigations, different soil units are encountered at the proposed bridge supports, as characterized below (given elevations are approximate).

Boring R-12-240 (Abut. 1 & Bent 2): Surface to elevation +55 medium stiff lean clay with interbed of medium dense silty sand; elevation +55 to +35 medium stiff fat clay with interbed of dense silty sand; elevation +35 to +05 interbeds of medium dense to dense clayey sand medium stiff to very stiff lean clay; elevation +05 to -57 (max. boring depth) very dense fine to medium sand with 2-4 ft thick intermittent interbeds of stiff to very stiff lean clay, very stiff silty clay, dense silt and clayey sand.

Boring R-12-241 (Bent 3): Surface to elevation +47 interbeds of silt, clayey sand and lean clay; elevation +47 to +32 silty sand with 5 ft thick interbed of medium stiff to stiff fat clay/lean clay; elevation +32 to +04 stiff to very stiff lean clay; elevation +04 to -24 dense clayey sand, very dense sand with silt; elevation -24 to -58 (max. boring depth) interbeds of stiff to very stiff lean clay, very dense clayey sand/silty sand/sand with silt.

Boring R-12-242 (Bents 4 & 5): Surface to elevation +45 medium stiff to stiff lean clay with 2 ft thick interbeds of silt; elevation +45 to +12 stiff to very stiff lean clay with 3 ft thick interbed of dense clayey sand; elevation +12 to -37 very dense sand with silt and silty sand; elevation -37 to -58 (max. boring depth) very stiff silt with interbeds of dense silty sand and very stiff lean clay.

5.1 Groundwater

There is a shallow water bearing zone called “perched groundwater” with varying depths of 12 to 24 feet below ground surface, measured in recent borings in adjacent replacement bridge (Valley View OH/OC # 53-3045) and As Built Log of Test Borings (existing Valley View OC Bridge No. 53-0631RL). The lateral extent of the perched groundwater has not been defined. There is also a deeper confined groundwater zone called “Exposition-Artesia” aquifer with about 22 feet of hydraulic head, between 70 to 75 feet below ground surface. Movement in perched groundwater is a west-northwest direction, and in deeper groundwater zones is generally to the southwest (DWR, 1961). The historical high groundwater levels has been mapped between 8 to 10 feet below ground surface over the entire length of the project corridor (CGS 1997, 1998a, 1998b). It should be noted that groundwater levels could fluctuate with the change of season and other factors.

According to preliminary groundwater data evaluation (August 9, 2011) provided by Caltrans Hazardous Waste Branch, South Region, any groundwater encountered less than 30 feet below ground surface should be considered contaminated with hazardous substance or petroleum products. If dewatering of the shallow groundwater is planned, measures must be taken to properly manage and dispose of the water in compliance with applicable local, state and federal regulations. Shallow groundwater (perched) and deep groundwater (aquifer) where measured are presented in Table 2. **A design groundwater elevation of 46.0 was used for all bridge support pile tip and settlement calculations.**

Table 2. Recent and Previous Groundwater Information

Boring Location	Boring No.	Depth to Groundwater (Below Ground Surface) (ft)	Groundwater Surface Elevation (ft)	Date of Water Measurement
Abut.7L (53-0631L)	B-1	21.0 ⁽¹⁾	41.7 ⁽¹⁾	1953
Bent 6R (53-0631L)	B-2	21.0 ⁽¹⁾	41.7 ⁽¹⁾	1953
Bent 5R (53-0631L)	B-7	21.0 ⁽¹⁾	41.6 ⁽¹⁾	1953

Table 2. (continued)

Boring Location	Boring No.	Depth to Groundwater (Below Ground Surface) (ft)	Groundwater Surface Elevation (ft)	Date of Water Measurement
Bent 2R (53-0631R)	B-2	18.0 ⁽¹⁾	43.8 ⁽¹⁾	1972
Abut. 1R (53-0631R)	B-5	16.1 ⁽¹⁾	43.6 ⁽¹⁾	1972
Bent 2L (53-0631L)	B-2	14.4 ⁽¹⁾	47.2 ⁽¹⁾	1996
Bent 6 (53-3045)	R-09-218*	24.5 ⁽¹⁾ 40.2 ⁽²⁾	46.4 ⁽¹⁾ 30.7 ⁽²⁾	2012
Abut. 1R (53-0631L)	B-3	21.0 ⁽¹⁾	41.3 ⁽¹⁾	1953
Bent 2L (53-0631L)	B-4	21.0 ⁽¹⁾	41.1 ⁽¹⁾	1953
Bent 3R (53-0631L)	B-5	21.0 ⁽¹⁾	41.2 ⁽¹⁾	1953
Bent 4L (53-0631L)	B-6	21.0 ⁽¹⁾	41.6 ⁽¹⁾	1953
Bent 3R (53-0631R)	B-3	18.2 ⁽¹⁾	43.8 ⁽¹⁾	1972
Abut. 5R (53-0631R)	B-4	21.7 ⁽¹⁾	39.9 ⁽¹⁾	1972
Bent 6L (53-0631L)	B-1	15.9 ⁽¹⁾	46.7 ⁽¹⁾	1996
Abut. 11 (53-3045)	R-09-220*	32.2 ⁽¹⁾ 48.3 ⁽²⁾	46.2 ⁽¹⁾ 30.1 ⁽²⁾	2012
Bent 10 (53-3045)	R-12-245*	19.0 ⁽¹⁾ 51.0 ⁽²⁾	45.3 ⁽¹⁾ 13.3 ⁽²⁾	2012

⁽¹⁾ Perched ⁽²⁾ Aquifer * Recent borings

6.0 Corrosion Evaluation

Composite soil samples taken from recent exploratory borings at different intervals were tested by URS laboratory for corrosion testing. The test results indicate a non-corrosive environment at the proposed bridge site. Normal construction material and design are advised. Refer to Table 3 for specific test results.

Table 3. Corrosion Test Summary

Boring No.	Depth Interval (ft)	Minimum Resistivity (Ohm-Cm)	pH	Chloride Content (ppm)	Sulfate Content (ppm)
R-12-240	5.0-50.0	1450	8.1	75	15
	55.0-120.0	2500	8.5	45	72

Note: It is the practice of Caltrans Corrosion Technology Section (with the exception of MSE walls) that if the minimum resistivity of the sample is greater than 1000 ohm-cm and the pH is greater than 5.5, the sample is considered noncorrosive. Caltrans currently considers a site to be corrosive to foundation elements if one or more of the following conditions exist for representative soil and/or water samples taken at the site. Chloride concentration is greater or equal to 500 ppm, sulfate concentration is greater than or equal to 2000 ppm, or the pH is 5.5 or less.

7.0 Seismic Recommendations

The proposed bridge site is not within an Alquist-Priolo Earthquake Fault Zone. An analysis was performed to develop and recommend ground motion parameters for the seismic design of the above referenced bridge structure. This analysis was performed in accordance with requirements specified in Appendix B of the Caltrans’ 2009 Seismic Design Criteria (SDC, Version 1.6, August 2009) and utilizing the “Caltrans ARS Online” and other tools available at the internet sites. The average shear wave velocity (V_{s30}) for the upper 100 feet of the subsurface profile was estimated to be about 210.0 m/sec (689 ft/sec) based on recent field investigation. The closest fault to the site is the Puente Hills Thrust Fault oriented as a low angle north dipping thrust fault approximately 3.2 miles north of the site. The significant faults and fault zones are summarized in Table 4.

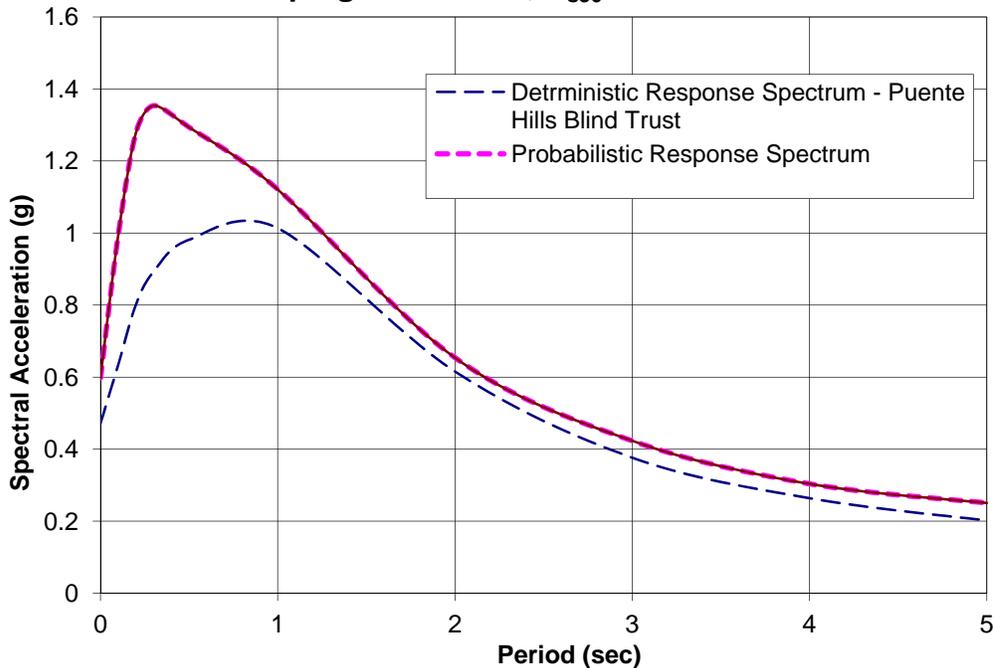
Table 4. Summary of Faults

Fault Name	Type	M_{max}	R_x	R_{JB}	R_{RUP}
Puente Hills Blind Thrust	R	7.3	3.2 mile (5.2 km)	3.2 mile (5.2 km)	3.7 mile (6.0 km)
Elsinore Fault Zone (Whittier Section)	RLSS	7.6	6.4 mile (10.4 km)	6.4 mile (10.4 km)	6.4 mile (10.4 km)
New Port Inglewood – Rose Canyon Fault Zone	RLSS	7.5	9.6 mile (15.4 km)	9.6 mile (15.4 km)	9.6 mile (15.4 km)
Compton-Los Alamitos Blind Thrust	R	6.8	13.2 mile (21.3 km)	4.7 mile (7.6 km)	7.8 mile (12.6 km)

Notes: R_x = Horizontal distance to the fault trace
 R_{JB} = Shortest horizontal distance to the surface projection of the rupture area
 R_{RUP} = Closest distance to the fault rupture plane
 RLSS = Right Lateral Strike Slip
 R = Reverse

The design deterministic as well as the probabilistic acceleration response spectrum (ARS) curves developed are shown in Figure 1. The probabilistic ARS curve corresponds to a ground motion return period (RP) of 975-year (i.e., 5% probability of exceedance in 50 years). It should be noted that the design deterministic ARS curve shown in Figure 1 is due to an earthquake event of magnitude $M=7.3$ and site to fault rupture surface distance of 5.2 Km associated with the Puente Hills Blind thrust fault. Since all the site to fault distance measures (e.g., R_{rup} , R_x and R_{jb} etc.) used in the attenuation relationships utilized in this analysis are within 25 Km, the ARS curves shown in Figure 1 include the near fault effects as specified in the Seismic Design Criteria (SDC 2009). In addition, the project site being located in the Los Angeles Basin also includes basin effects ($Z_{1.0}= 715$ m and $Z_{2.5}= 3.92$ km). ARS curves were developed according to the Caltrans Geotechnical Services-Design Manual (Version 1.0, Aug. 2009). The design Peak Ground Acceleration (PGA) for the project site is 0.6g. The design ARS curve is an envelope of deterministic and probabilistic ARS curves (Figure 1).

**Figure 1. RECOMMENDED DESIGN ACCELERATION
RESPONSE SPECTRUM (ARS)
Valley View Ave SB On Ramp Bridge No. 53-3059K
Damping Ratio = 5%; $V_{s30} = 210$ m/sec**



8.0 Liquefaction Potential

Based on current field investigation, the liquefaction potential at the bridge site is low due to presence of cohesive soil with intermittent interbeds of dense to medium dense granular soil overlying very dense granular material. Accordingly, the potential for seismically induced settlement and lateral spreading are also considered to be low.

9.0 Foundation Recommendations

The proposed new bridge is a five span CIP/RC Box Girder with seat type abutment and flare octagonal, 2-column bents. The end bridge will be supported by Bents 7C & 7D of Valley View Ave OH/OC Bridge No. 53-3045. The following recommendations are developed by OGDS1 based on 1) Log of Test Borings and interpreted subsurface conditions and design parameters established through laboratory tests and field data, 2) updated Structure Plans and design loads provided by OBDS1 as referenced in page 1, and 3) email correspondences and personal communications with Mr. Bill Kemp (OBDS1).

9.1 Deep Foundations

Due to high lateral demand (5-27-10 email, OBDS1) and environmental concerns, it is proposed to use 200 kips PP24x0.5 open ended pipe piles at all support locations. Based on subsurface conditions obtained from recent field investigations, OGDS1 concurs with the feasibility of proposed pile types to support the new structure. Pile lengths required to resist the provided loads are computed based on Service-I Limit State load (Abutment 1) and Strength Limit State (all bents) using computer program APILE (version 5.0). The calculated axial geotechnical capacities of driven piles (PP24x0.5) are based mainly on skin friction and minor contribution from end bearing. General Foundation Information and Design Loads are provided by OBDS1 and presented in Tables 5 & 6. Recommended design and specified pile tip elevations for abutments and bents provided in Tables 7, 8, & 9 are prepared by OGDS1.

Table 5. General Foundation Information Provided By OBDS1, Received 1-11-13

Support Location	Design Method	Pile Type	Finished Grade Elevation (ft)	Cut-off Elevation (ft)	Pile Cap Size (ft)		Permissible Settlement under Service Load *	Number of Piles per Support
					B	L		
Abut. 1	WSD	PP24x0.5	66.18	60.446	11.0	41.6	1"	11 per column
Bent 2	LRFD		65.16	59.136	14.0	14.0	1"	9 per column
Bent 3	LRFD		65.08	58.876	14.0	14.0	1"	9 per column
Bent 4	LRFD		65.00	58.166	19.0	19.0	1"	16 per column
Bent 5	LRFD		64.93	58.046	19.0	19.0	1"	16 per column

* Based on CALTRANS' current practice, the total permissible settlement is one inch for multi-span structures with continuous spans or multi-column bents, one inch for single span structures with diaphragm abutments, and two inches for single span structures with seat abutments. Different permissible settlement under service loads may be allowed if a structural analysis verifies that required level of serviceability is met.

Table 6. Design Loads Provided By OBDS1, Rec. 1-11-13 & 6-25-13 (Revised Service Loads)

Support Location	Service-I Limit State (kips)			Strength Limit State (Controlling Group, kips)				Extreme Event Limit State (Controlling Group, kips)			
	Total Load		Permanent Loads	Compression		Tension		Compression		Tension	
	Per Support	Max Per Pile		Per Support	Max Per Pile	Per Support	Max Per Pile	Per Support	Max Per Pile	Per Support	Max Per Pile
Abut. 1	1521	165	1305	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bent 2	1487	200	1045	2151	261	0	0	1994	340	329	29
Bent 3	1633		1170	2501	282	0	0	1974	317	493	0
Bent 4	1891		1426	2659	187	0	0	2273	288	1060	38
Bent 5	1779		1339	2551	187	0	0	2175	292	1047	67

Table 7. Foundation Recommendations For Abutment 1

Support Location	Pile Type	Cut-off Elevation (ft)	LRFD Service-1 Limit State Load (kips) Per Support		LRFD Service-1 Limit State Total Load (kips) Per Pile (Compression)	Nominal Resistance (kips)	Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
			Total	Permanent					
Abut. 1	PP24x0.5	60.446	1521	1305	165	330	+11.0 (a) +21.0 (c)	+11.0	330

- Notes: 1. Design tip elevations for Abutment are controlled by (a) Compression, (c) Settlement.
 2. The specified tip elevation shall not be raised above the design tip elevations for lateral, and settlement.
 3. Design tip elevation for Lateral Load is typically provided by Structure Design.

Table 8. Foundation Recommendations For Bents

Support Location	Pile Type	Cut-off Elevation (ft)	Service-1 Limit State - Total Load Per Support (kips)	Total Permissible Support Settlement	Required Factored Nominal Resistance (kips)				Design Tip Elevations (ft)	Specified Tip Elevation (ft)
					Strength Limit		Extreme Event			
					Comp. (Ø=0.7)	Tension (Ø=0.7)	Comp. (Ø= 1)	Tension (Ø= 1)		
Bent 2	PP24x0.5	59.136	1487	1"	261	0	340	29	+5.0 (a-I) +13.0 (a-II) +50.0 (b-II) +20.0 (c)	+5.0
Bent 3		58.876	1633	1"	282	0	317	0	+4.0 (a-I) +13.0 (a-II) +17.0 (c)	+4.0
Bent 4		58.166	1891	1"	187	0	288	38	+15.0 (a-I) +12.0 (a-II) +45.0 (b-II) +16.0 (c)	+12.0
Bent 5		58.046	1779	1"	187	0	292	67	+15.0 (a-I) +12.0 (a-II) +38.0 (b-II) +16.0 (c)	+12.0

- Notes: 1. Design tip elevations are controlled by: (a-I) Compression (Strength Limit), (a-II) Compression (Extreme Event), (b-II) Tension (Extreme Event), (c) Settlement.
 2. The specified tip elevation shall not be raised above the design tip elevations for tension, lateral and tolerable settlement.
 3. Design tip elevation for Lateral Load is typically provided by Structure Design.

Table 9. Pile Data Table

Support Location	Pile Type	Nominal Resistance (kips)		Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance (kips)
		Compression	Tension			
Abut. 1	PP24x0.5	330	0	+11.0 (a) +21.0 (c)	+11.0	330
Bent 2		380	0	+5.0 (a) +50.0 (b) +20.0 (c)	+5.0	380
Bent 3		410	0	+4.0 (a) +17.0 (c)	+4.0	410
Bent 4		290	0	+12.0 (a) +45.0 (b) +16.0 (c)	+12.0	290
Bent 5		300	0	+12.0 (a) +38.0 (b) +16.0 (c)	+12.0	300

Notes: 1. Design tip elevations for Abutment are controlled by (a) Compression, (c) Settlement.
 2. Design tip elevations for Bents are controlled by: (a) Compression, (b) Tension (c) Settlement.
 3. The specified tip elevation shall not be raised above the design tip elevations for tension load, lateral load, and tolerable settlement.

9.2 Approach Fill Earthwork

New approach embankment fill placed at Abutment 1 for the new structure as part of the On Ramp grade separation, will be retained by parallel retaining wall Nos. 52 & 55. Based on project plans, the embankment fill dimensions contained between two retaining walls will be about 20 ft high x 53 ft wide. The embankment fill will cause vertical settlement consisting of immediate settlement (short term) and consolidation settlement (long term). Considering soil profile and engineering properties of subsurface material obtained through field exploration at Abutment 1, a maximum total settlement of 4.0 to 6.0 inches is anticipated in subsurface soil, after embankment fill placement. In order to complete the settlement prior to construction of the abutment and retaining wall foundations, a 90-days settlement period for preloading the embankment fill with 12 feet surcharge above the grading plane is recommended. Settlement monitoring in the field is strongly recommended and the actual settlement period will be determined by the structure representative on the basis of settlement data in the field.

10.0 Notes to Designer

1. Contractor's driving system should be examined to verify the driving system is capable of installing the proposed piles at all support locations, before commencement of pile driving.

2. A drivability analysis has been requested from the Foundation Testing Branch of the Office of Geotechnical Support and the results will be forwarded when complete.
3. Design pile tip elevation for lateral load at bent locations are to be determined by designer. The specified pile tip elevation for each support location is to be controlled by the deepest design tip elevation for either compression or lateral loads. Should the design pile tip elevation required to meet lateral load demands exceed the specified pile tip elevation given within this report, OGDS1 must be contacted for further recommendations.
4. The recommendations contained in this report are based on specific project information that has been provided by OBDS1-Branch 11. If any conceptual changes are made during final project design, OGDS1-Branch C should review those changes to determine if these foundation recommendations are still applicable.

11.0 Construction Considerations

DRIVEN PILES

1. Due to the irregular distribution of soil units, variable and erratic driving should be anticipated. Center relief drilling (drilling through the center of open ended pipe pile) to facilitate pile driving, may be considered to within five (5) feet above the pile tip. Subsurface material through which the piles will be driven at all support locations are mostly stiff fat/lean clay with intermittent dense clayey sand (surface to approx. elevation +10); dense to very dense sand with intermittent stiff to very stiff lean clay (approx. elevation +10 to -10, hard driving); interbeds of very dense sand and very stiff lean clay/silt [approx. elevation -10 to -58 (max. boring depth), requiring very hard driving].
2. Subsurface characterization is based on the borings performed at particular accessible locations. Subsurface conditions between borings are interpolated between those points. Therefore, if conditions encountered during construction, excavation, or pile driving, are different than those assumed in the foundation design, OGDS1 should be notified to evaluate the impact on current recommendations and make appropriate modifications, if required.
3. Splicing of the steel pipe piles may be needed if bearing is not achieved at the specified tip elevation. With approval of Structure Representative, any driven pile achieving refusal within 4.0 feet or less above specified pile tip elevation may be considered satisfactory.
4. At times, steel pipe piles may not attain minimum bearing at specified tip elevation, even after re-driving. When this situation arises the only option is to splice on additional pile length and continue driving to a point where the nominal resistance is achieved. OGDS1 should be consulted to confirm the selected method.

5. The contractor should monitor adjacent structures or properties for vibrations to prevent potential damage due to pile driving. The contractor should take necessary precautions to minimize the impact on adjacent structures or properties.
6. In order to verify the required axial nominal resistance, OGDS1 recommends performing dynamic pile testing such as Pile Driving Analyzer (PDA). **This recommendation will be incorporated in the Special Provisions in order to supersede the 2010 Standard Specifications 49-2.01A(4)(b).** It is recommended that at least one pile at each bridge support be PDA tested when the pile is initially driven. OGDS1 recommends first driving and performing PDA analysis to 1-foot above specified pile tip elevation (SPTE). Due to Caltrans Foundation Testing Branch requirement that testing sensors (2-accelerometers and 2-strain gauges) should be placed two (2) pile diameters below top of the pile (i.e. 4 feet) requiring a 4-5 foot deep trench, and possible existence of shallow groundwater below the pile caps, it is recommended that each test pile have additional 4-foot length for ease of testing and avoiding possible caving and water intrusion.

After a pile set-up period of 24 to 48 hours, re-drive and perform PDA analysis on the same pile and stop 6-inches above the SPTE and review the re-strike pile resistance. If pile bearing resistance is adequate then finish driving to the recommended pile tip. If bearing resistance is not adequate from the first re-strike then a 10-day to 2-week pile set-up period is recommended (from initial pile driving date) before re-driving and PDA analysis to SPTE. Modified Gates should still be run for each pile including the PDA tested pile to compare the results between PDA tested and remaining untested driven piles. **Field acceptance criteria should be based on PDA test results.**

EARTHWORK

7. In order to accelerate the predicted settlement within the recommended waiting period of 90 days, placement of embankment fill with 12 feet surcharge from grading plane, should precede construction of abutment and wall foundations. This procedure would substantially reduce the post construction settlement, potential down drag effects on the abutment and retaining wall piles and differential settlement of the walls. Where there is no right of way restriction, the surcharge hinge point should coincide with wall layout lines and abutment centerline (2010 Standard Plans-A62B). The longitudinal limit of the surcharge should include abutment and wall heights of up to 10 feet, then taper down to the end of both retaining walls 52 and 55.
8. Temporary shoring may be required at locations where there is right of way restrictions. Shoring could be supported by sheet piles and/or soldier piles with or without lagging; however, method of shoring construction is the contractor's responsibility.
9. The new approach fill at abutment 1 is to be constructed in accordance with Sections 19-5.03B and 19-6.03C of the 2010 Standard Specifications and other requirements as directed by the Design Engineer. End dumping is not to be permitted.

10. In conclusion, the commentary and recommendations in this report should not be considered an offering or implying an opinion of, or an approval concerning the foundation design and/or method of construction.

Any questions regarding the above comments should be directed to Faramarz Gerami at 213-620-2149 or Ted Liu at 213-620-2136. However, specific questions regarding surcharge and settlement period at abutments should be directed to Deepa Wathugala at 213-620-2134.

Report by:

Reviewed by:

Date: 07/11/2013

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Attachments: Generalized soil profile and design strength parameters

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Appendix 1 – Generalized soil profile and design strength parameters

Abut. 1 & Bent 2 (Boring R-12-240)

Elevation Intervals (ft)	Soil Type	Average Blow Count (N ₆₀)	Effective Unit Weight (pcf)	Friction Angle (degree)	Undrained Shear Strength (psf)
65.0-62.0	Lean clay (CL)	-	110	-	500
62.0-57.0	Silty sand (SM)	14	120	32	-
57.0-54.0	Lean clay (CL)	-	110	-	750
54.0-48.0	Fat clay (CH)	13	116	-	1300
48.0-43.0	Silty sand (SM)	-	56	32	-
43.0-33.0	Fat clay (CH)	8	47	-	750
33.0-27.0	Clayey sand (SC)	26	64	34	-
27.0-22.0	Lean clay (CL)	11	53	-	2000
22.0-15.0	Clayey sand (SC)	49	64	36	-
15.0-11.0	Clayey sand (SC)	17	60	33	-
11.0-4.0	Lean clay (CL)	11	53	-	1500
4.0-(-6.0)	Poorly graded/silty sand (SP/SM)	65	66	37	-
(-6.0)-(-13.0)	Lean clay (CL)	32	60	-	2500
(-13.0)-(-19.0)	Well graded sand (SW)	>100	72	38	-
(-19.0)-(-23.0)	Clayey sand (SC)	33	63	33	-
(-23.0)-(-28.0)	Lean clay (CL)	36	60	-	2500
(-28.0)-(-38.0)	Poorly graded sand (SP)	95	72	38	-
(-38.0)-(-44.0)	Lean clay (CL)	45	63	-	3500
(-44.0)-(-57.0)	Poorly graded sand (SP)	85	72	38	-

Bent 3 (Boring R-12-241)

Elevation Intervals (ft)	Soil Type	Average Blow Count (N ₆₀)	Effective Unit Weight (pcf)	Friction Angle (degree)	Undrained Shear Strength (psf)
64.0-55.0	Silt (ML)	Shelby	110	-	500
55.0-48.0	Fat clay (CH)-Lab test	Shelby	110	-	700
48.0-42.0	Silty sand (SM)	Shelby	57	34	-
42.0-38.0	Fat/lean clay (CH/CL)	Shelby	50	-	1000
38.0-31.0	Silty sand (SM)	Shelby	64	34	-
31.0-2.0	Lean clay (CL)	Shelby	60	-	2300
2.0-(-8.0)	Clayey sand (SC)	20	62	34	-
(-8.0)-(-27.0)	Poorly graded sand (SP)	94	72	38	-
(-27.0)-(-34.0)	Lean clay (CL)	40	60	-	2600
(-34.0)-(-52.0)	Clayey/silty sand/poorly graded sand (SC/SM/SP)	>100	72	37	-
(-52.0)-(-58.0)	Lean clay (CL)	55	60	-	2500

Bents 4 & 5 (Boring R-12-242)

Elevation Intervals (ft)	Soil Type	Average Blow Count (N ₆₀)	Effective Unit Weight (pcf)	Friction Angle (degree)	Undrained Shear Strength (psf)
64.0-58.0	Silt/lean clay (ML/CL)	-	110	-	500
58.0-47.0	Lean clay/fat clay (CL/CH)	11	110	-	700
47.0-44.0	Silt (ML)	-	47	-	500
44.0-38.0	Silty sand (SM)	10	51	30	-
38.0-22.0	Lean clay/fat clay (CL/CH)	-	53	-	1400
22.0-18.0	Clayey sand (SC)	33	64	34	-
18.0-6.0	Lean clay (CL)	-	60	-	2300
6.0-(-4.0)	Poorly graded sand (SP)	34	67	35	-
(-4.0)-(-39.0)	Poorly graded sand (SP)	75	70	38	-
(-39.0)-(-58.0)	Silt/lean clay (ML/CL)	-	60	-	2300

**Foundation Report for NB Valley
View Avenue/S. Firestone Blvd.,
Bridge No. 53C-2295, dated
8/29/2013**

Memorandum

*Flex your power!
Be energy efficient!*

To: MR. RAMIN RASHEDI, CHIEF
Bridge Design Branch 11
Office of Bridge Design South 2

Date: August 29, 2013
File: 07-LA-5-PM 1.21
Proj. ID: 0700001832
EA: 07-215921

Attn: Mr. Phu Nguyen

From: DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Geotechnical Services
Office of Geotechnical Design – South 1 MS # 18

NB VALLEY VIEW AVE/
S. FIRESTONE BLVD
BRIDGE NO. 53C-2295

Subject: Foundation Report

Introduction

This report presents the foundation recommendations for the proposed new NB Valley View Ave./S. Firestone Blvd. Bridge No. 53C-2295. Email attachments of bridge foundation design loads, and latest Plans with various revision dates were received from Mr. Phu Nguyen on 6-27-13 and 2-12-13, respectively. The proposed structure is designed as a 3-span CIP/RC Box Girder with only begin bridge abutment and two bents. The end bridge will be supported by Bent 5D of Valley View OH/OC Bridge No. 53-3045. The existing Firestone Blvd. will be relocated between future Valley View SB On Ramp and the proposed NB Valley View Ave./S. Firestone Blvd. The purpose of this ramp and accompanying retaining walls is to elevate the entrance to relocated Firestone Blvd. from Valley View Avenue.

1.0 Scope of Work

This report supersedes the Preliminary Foundation Report (PFR) dated 12-18-2012. The PFR was written for combination of two bridges, NB Valley View Ave./S. Firestone Blvd. (previously named FIRE1) and accompanied retaining walls RWFIR4 & RWFIR5; SB Valley view Ave./S. Firestone Blvd. (previously named FIRE2) and accompanied retaining walls RWFIR7 & RWFIR8. A review of the following resources and analysis of prepared data, provided information for the foundation evaluation and site condition.

- ◆ Review of the three sampled borings and three cone penetration tests (CPT) completed by URS Corporation in 2013, for the proposed NB Valley View Ave./S. Firestone Blvd. Bridge No. 53C-2295.
- ◆ Review of the General plan, Abutment 1 layout and details, bents 2 & 3 layout and footing details; and foundation design loads and data sheet, received 2-12-13 & 6-27-13, respectively from Mr. Phu Nguyen.
- ◆ Review of the Hazardous Waste Assessment Report of FIRE1 (current NB Valley View Ave./S. Firestone Blvd.) and FIRE2 (current SB Valley View Ave./S. Firestone Blvd.) dated 9-25-2012, received from District Hazardous Waste Branch (South Region).

- ◆ Preparation of geologic profiles, geotechnical recommendations and engineering parameters for design and construction of the bridge foundations.
- ◆ Preparation and presentation of the results of investigations and interpretation of subsurface soil, and writing of this report in accordance with Caltrans “Guidelines for Structures Foundation Reports, Version 2.0” Dec. 2009, and “Foundation Report Preparation for Bridge Foundations” Dec. 2009.

2.0 Project Description

The I-5 Corridor Improvement project proposes to reconstruct the existing I-5 freeway including bridge replacements, new ramp structures and retaining walls, between Los Angeles/Orange County line to the south and I-605 to the north. Construction of NB Valley View Ave/S. Firestone Blvd. ramp is part of the Segment 2 of the corridor improvement in the Cities of Santa Fe Springs and Cerritos, which covers an area from south of North Fork Creek (PM 1.47) to north of Artesia Blvd./County line (PM 0.00). Segment 2 encompasses four new structures (Valley View Ave. SB On Ramp # 53-3059K, Valley View Ave. Off Ramp # 53-3058K, SB Valley View Ave./S. Firestone # 53C-2296, NB Valley View Ave./S. Firestone # 53C-2295), three bridge replacements (Valley View Ave. OH/OC # 53-3045, Coyote Creek Bridge # 53-3044 and North Firestone Blvd. Bridge # 53C-2194), and approximately 34 Type 1 retaining walls. **All elevations referenced in this report are based on 1988 NAVD Datum.**

3.0 Field Investigation and Testing Program

The site specific field investigations were performed in 2013 by URS Corporation. The investigation included drilling three, wet rotary borings and three CPT tests. Soils were continuously logged and classified in accordance with the Unified Soil Classification System. Modifications of soil descriptions to reflect laboratory test results are presented in the Log of Test Borings. Bulk and relatively undisturbed (ring) soil samples were collected for laboratory tests. Ring samples were obtained using Modified California split spoon sampler with 2.0 inch inner diameter. In addition, soil samples were obtained at 5 foot intervals from Standard Penetration test (SPT) split spoon sampler with 1.4 inch inner diameter. Blow counts (SPT N-values) were performed at 5 foot intervals in accordance with ASTM Test Method D1586-84 using a 1.4 inch sampler with a 140 lb safety hammer dropped 30 inches. An electronic file of the new Log of Test Borings will be sent to designer from URS Corporation drafting for inclusion in the contract plans.

4.0 Laboratory Testing Program

Selected representative soil samples were tested in URS laboratories in Orange County to obtain or derive relevant physical and engineering soil properties. All laboratory tests were performed in general accordance with California Test Methods (CTM) or American Society for Testing and Materials (ASTM) Standards. Field and laboratory testing intervals are shown on the Log of Test Boring sheets. The summarized laboratory tests data are shown in Table 1.

Table 1. Summary of Laboratory Tests

Testing Type	ASTM/CTM Designation	Testing Purpose
Consolidation Test	ASTM D2435	Long Term Settlement
Particle Size Analysis	ASTM C117, C136 or D422, D2216	Soil Classification
Atterberg Limits	ASTM D4318	Soil Classification
Corrosion	CTM 417, 422, 532, 643	Corrosion Potential
Direct Shear	ASTM D3080	Shear Strength
Unconfined Compression	ASTM D2166	Compression Strength

5.0 Site Geology and Subsurface conditions

The entire I-5 corridor project between county line and I-605 is located within the Central groundwater Basin of the Coastal Plain of Los Angeles County, as defined by the California Department of Water Resources (DWR, 1961). The proposed site is located within the Los Angeles Basin with physiographic of a lowland coastal plain. The Coastal Plain is bounded on the east and southeast by the Santa Ana Mountains and San Joaquin Hills and on the north by the Santa Monica and San Gabriel Mountains, and Palos Verdes Hills on the south. The site is situated in a relatively flat southwest sloping Holocene to Late Pleistocene alluvial fan and valley deposits consisting of mostly lean clay with interbeds of fat clay, sandy silt and clayey sand to about 65 feet below surface, then underlain by dense to very dense sand with intermittent interbeds of sandy lean clay. This alluvium was deposited primarily by San Gabriel River floods emanating from the mountains and hills to the north of the project site. Depth to rock-like material is estimated to be greater than 400 feet. Based on review of the 2013 site investigations for the proposed NB Valley View ramp structure, general soil profile from ground surface to the maximum depth explored is characterized below (given elevations are approximate).

Boring R-13-254 (Abut. 1): Surface to elevation +50 road base/interbeds of soft lean clay/loose silty sand/stiff fat clay; **+50 to +42 very dense and partly medium dense poorly graded sand;** +42 to +20 interbeds of stiff to very stiff fat clay/silt/lean clay; **+20 to +12 hard/very dense to dense silt and silty sand;** +12 to +2 interbeds of hard to very stiff lean/fat clay; **+2 to -58 (max. boring depth) very dense silty sand with intermittent layers of hard lean clay.**

Boring R-13-257 (Bent 2): Surface to elevation +46 gravelly sand road base/interbeds of very stiff fat/lean clay/loose silty sand; **+46 to +36 very dense/dense silty sand with interbeds of hard lean clay;** +36 to +28 interbeds of stiff to medium stiff lean/fat clay; **+28 to +2 hard lean clay;** +2 to -58 (max. boring depth) very dense silty/clayey sand with intermittent layers of hard lean/fat clay.

Boring R-13-258 (Bent 3): Surface to elevation +32 road base/interbeds of soft to very stiff silt/lean/fat clay; **+32 to -12 hard lean clay** with intermittent layers of fat clay and silt; **-12 to -59 (max. boring depth) very dense silty sand with intermittent layers of hard silt and lean clay.**

5.1 Groundwater

There is a shallow water bearing zone called “perched groundwater” with varying depths of 12 to 24 feet below ground surface, measured in recent borings in adjacent Valley View OH/OC Bridge replacement # 53-3045. According to Chevron’s consultant the depth to perched water varies from 9 to 23 ft below ground surface around Bent 2 location. There is also a deeper confined groundwater zone called “Exposition-Artesia” aquifer with about 22 feet of hydraulic head, between 70 to 75 feet below ground surface. The historical high groundwater levels have been mapped between 8 to 10 feet below ground surface over the entire length of the project corridor (CGS 1997, 1998a, 1998b). It should be noted that groundwater levels could fluctuate with the change of season and other factors.

Based on Hazardous Waste Assessment Report, all support locations of NB Valley View ramp structure are within the fuel contaminated perched groundwater extended from existing Chevron and abandoned Texaco gasoline stations. Abutment 1 is located within the footprint of existing Lens Technology building; however, there is low potential of encountering soil or groundwater contamination in the vicinity. Bent 2 is located near Chevron’s existing underground fuel storage tanks. This area is near the estimated extent of fuel contamination in a perched groundwater zone from leaking former underground storage tanks. Consultant also defined Bent 3 to be located within the fuel contaminated groundwater. **A design groundwater elevation of 46.0 was used for all bridge support pile tips and settlement calculations.**

6.0 Corrosion Evaluation

Composite soil samples taken from recent exploratory borings at different intervals were tested by URS laboratory for corrosion potential. The test results indicate a non-corrosive environment at the proposed bridge and wall sites. Normal construction material and design are advised. Refer to Table 2 for specified test results.

Table 2. Corrosion Test Summary

Boring No.	Depth Interval (ft)	Minimum Resistivity (Ohm-Cm)	pH	Chloride Content (ppm)	Sulfate Content (ppm)
R-13-253	5.0-36.5	1100	8.3	60	Not detected
	36.5-80.0	2500	8.3	45	66

Note: It is the practice of Caltrans Corrosion Technology Section (with the exception of MSE walls) that if the minimum resistivity of the sample is greater than 1000 ohm-cm and the pH is greater than 5.5, the sample is considered noncorrosive. Caltrans currently considers a site to be corrosive to foundation elements if one or more of the following conditions exist for representative soil and/or water samples taken at the site. Chloride concentration is greater or equal to 500 ppm, sulfate concentration is greater than or equal to 2000 ppm, or the pH is 5.5 or less.

7.0 Seismic Evaluation

The proposed bridge is not within an Alquist-Priolo Earthquake Fault Zone. An analysis was performed to develop and recommend ground motion parameters for the seismic design of the above referenced bridge structure. This analysis was performed in accordance with requirements specified in Appendix B of the Caltrans' 2009 Seismic Design Criteria (SDC, Version 1.6, August 2009) and utilizing the "Caltrans ARS Online" and other tools available at the internet sites. The average shear wave velocity (V_{s30}) for the upper 100 feet of the subsurface profile was estimated to be about 210.0 m/sec (689 ft/sec) based on recent field investigation. The closest fault to the site is the Puente Hills Thrust Fault oriented as a low angle north dipping thrust fault approximately 3.2 miles north of the site. The significant faults and fault zones are summarized in Table 3.

Table 3. Summary of Faults

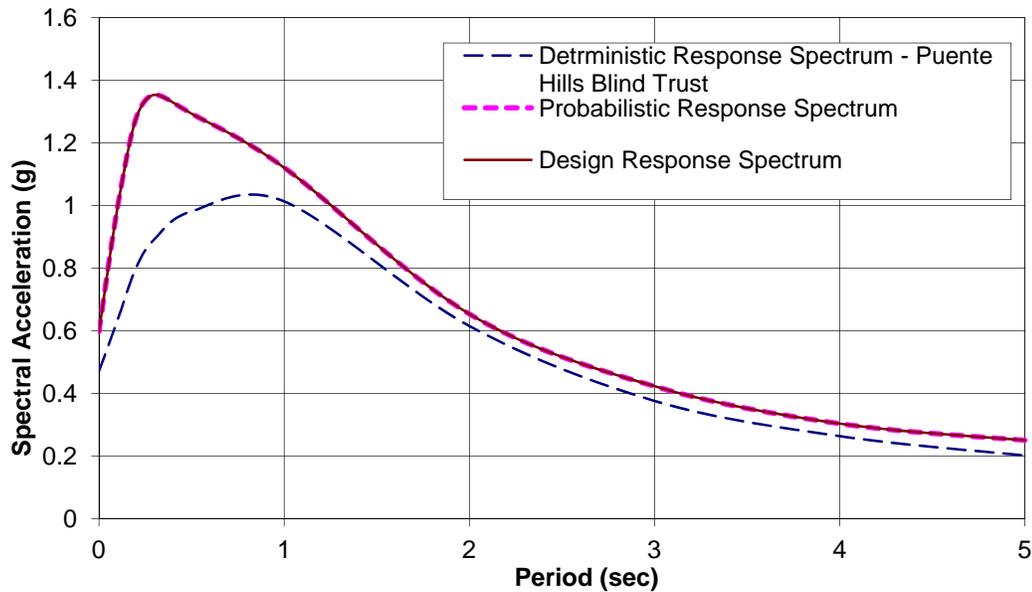
Fault Name	Type	M_{max}	R_x	R_{JB}	R_{RUP}
Puente Hills Blind Thrust	R	7.3	3.2 mile (5.2 km)	3.2 mile (5.2 km)	3.7 mile (6.0 km)
Elsinore Fault Zone (Whittier Section)	RLSS	7.6	6.4 mile (10.4 km)	6.4 mile (10.4 km)	6.4 mile (10.4 km)
Newport Inglewood – Rose Canyon Fault Zone	RLSS	7.5	9.6 mile (15.4 km)	9.6 mile (15.4 km)	9.6 mile (15.4 km)
Compton-Los Alamitos Blind Thrust	R	6.8	13.2 mile (21.3 km)	4.7 mile (7.6 km)	7.8 mile (12.6 km)

Notes: R_x = Horizontal distance to the fault trace
 R_{JB} = Shortest horizontal distance to the surface projection of the rupture area
 R_{RUP} = Closest distance to the fault rupture plane
 RLSS = Right Lateral Strike Slip
 R = Reverse

The design deterministic as well as the probabilistic acceleration response spectrum (ARS) curves developed are shown in Figure 1. The probabilistic ARS curve corresponds to a ground motion return period (RP) of 975-year (i.e., 5% probability of exceedance in 50 years). It should be noted that the design deterministic ARS curve shown in Figure 1 is due to an earthquake event of magnitude $M=7.3$ and site to fault rupture surface distance of 5.2 Km associated with the Puente Hills Blind thrust fault.

Since all the site to fault distance measures (e.g., R_{rup} , R_x and R_{jb} etc.) used in the attenuation relationships utilized in this analysis are within 25 Km, the ARS curves shown in Figure 1 include the near fault effects as specified in the Seismic Design Criteria (SDC 2009). In addition, the project site being located in the Los Angeles Basin also includes basin effects ($Z_{1.0}= 715$ m and $Z_{2.5}= 3.92$ km). ARS curves were developed according to the Caltrans Geotechnical Services-Design Manual (Version 1.0, Aug. 2009). The design Peak Ground Acceleration (PGA) for the project site is 0.6g. The design ARS curve is an envelope of deterministic and probabilistic ARS curves (Figure 1).

Figure 1. RECOMMENDED DESIGN ACCELERATION RESPONSE SPECTRUM (ARS) for NB Valley View Ave./S. Firestone Blvd. Bridge No. 53C-2295 Damping Ratio = 5%; $V_{s30} = 210$ m/sec



8.0 Liquefaction Potential

Based on recent field investigations, the liquefaction potential at the bridge site is low to negligible due to dominant presence of cohesive soil with intermittent interbeds of dense to medium dense granular soil overlying very dense granular material. Accordingly, the potential for seismically induced settlement and lateral spreading are also considered to be low.

9.0 Foundation Recommendations

The proposed new bridge is a three span CIP/RC Box Girder with seat type abutment and flare octagonal, 2-column bents. The end bridge will be supported by Bent 5D of Valley View Ave. OH/OC Bridge No. 53-3045. The following recommendations are developed by OGDS1 based on 1) Log of Test Borings and interpreted subsurface conditions and design parameters established through laboratory tests and field data, 2) updated bridge Plans and design loads provided by OBDS1 as referenced in page 1, and 3) email correspondences and personal communications with Mr. Phu Nguyen (OBDS1).

9.1 Deep Foundations

The pile types proposed by OBDS1, consist of 200 kips PP24x0.5 open ended pipe piles at all support locations. Based on subsurface conditions obtained from recent field investigations, OGDS1 concurs with the feasibility of proposed pile types to support the new structure.

Pile lengths required to resist the provided loads are computed based on Service-I Limit State load (Abutment 1) and Strength Limit State (all bents) using computer program APILE (version 5.0). The calculated axial geotechnical capacities of driven piles (PP24x0.5) are based mainly on skin friction and minor contribution from end bearing. General Foundation Information and Design Loads are provided by OBDS1 and presented in Tables 4 & 5. Recommended design and specified pile tip elevations for abutment and bents provided in Tables 6, 7 & 8 are prepared by OGDS1.

Table 4. General Foundation Information Provided By Structure Design Received 6-27-13

Support Location	Design Method	Pile Type	Finished Grade Elevation (ft)	Cut-off Elevation (ft)	Pile Cap Size (ft)		Permissible Settlement under Service Load *	Number of Piles per Support
					B	L		
Abut. 1	LRFD	PP24x0.5	64.00	59.92	11.0	49.5	1"	13 per column
Bent 2	LRFD		63.40	58.12	14.0	14.0	1"	9 per column
Bent 3	LRFD		62.30	56.62	19.0	19.0	1"	16 per column

* Based on CALTRANS' current practice, the total permissible settlement is one inch for multi-span structures with continuous spans or multi-column bents, one inch for single span structures with diaphragm abutments, and two inches for single span structures with seat abutments. Different permissible settlement under service loads may be allowed if a structural analysis verifies that required level of serviceability is met.

Table 5. Design Loads Provided By Structure Design Received 6-27-13

Support Location	Service-I Limit State (kips)			Strength Limit State (Controlling Group, kips)				Extreme Event Limit State (Controlling Group, kips)			
	Total Load		Permanent Loads	Compression		Tension		Compression		Tension	
	Per Support	Max Per Pile		Per Support	Max Per Pile	Per Support	Max Per Pile	Per Support	Max Per Pile	Per Support	Max Per Pile
Abut. 1	1699	159	1480	NA	NA	NA	NA	NA	NA	NA	NA
Bent 2	1715	200	1256	2630	298	0	0	1845	307	675	0
Bent 3	1914		1459	2806	182	0	0	2061	268	881	52

Table 6. Foundation Recommendations For Abutment 1

Support Location	Pile Type	Cut-off Elevation (ft)	LRFD Service-1 Limit State Load (kips) Per Support		LRFD Service-1 Limit State Total Load (kips) Per Pile (Compression)	Nominal Resistance (kips)	Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
			Total	Permanent					
Abut. 1	PP24x0.5	59.92	1699	1480	159	320	+14.0 (a) +20.0 (c)	+14.0	320

Notes: 1. Design tip elevations for abutment are controlled by (a) Compression, (c) Settlement.
 2. The specified tip elevation shall not be raised above the design tip elevations for settlement.

Table 7. Foundation Recommendations For Bents

Support Location	Pile Type	Cut-off Elevation (ft)	Service-1 Limit State Load (kips) Per Support	Total Permissible Support Settlement	Required Factored Nominal Resistance (kips)				Design Tip Elevations (ft)	Specified Tip Elevation (ft)
					Strength Limit		Extreme Event			
					Comp. (Ø=0.7)	Tension (Ø=0.7)	Comp. (Ø=1)	Tension (Ø=1)		
Bent 2	PP24x0.5	58.12	1715	1"	298	0	307	0	+3.0 (a-I) +16.0 (a-II) +15.0 (c)	+3.0
Bent 3		56.62	1914	1"	182	0	268	52	+21.0 (a-I) +20.0 (a-II) +41.0 (b-II) +22.0 (c)	+20.0

Notes: 1. Design tip elevations are controlled by: (a-I) Compression (Strength Limit), (a-II) Compression (Extreme Event), (b-II) Tension (Extreme Event), (c) Settlement.
 2. The specified tip elevation shall not be raised above the design tip elevations for tension, lateral and tolerable settlement.
 3. Design tip elevation for Lateral Load is typically provided by Structure Design.

Table 8. Pile Data Table

Support Location	Pile Type	Nominal Resistance (kips)		Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance (kips)
		Compression	Tension			
Abut. 1	PP24x0.5	320	0	+14.0 (a) +20.0 (c)	+14.0	320
Bent 2		430	0	+3.0 (a) +15.0 (c)	+3.0	430
Bent 3		270	60	+20.0 (a) +41.0 (b) +22.0 (c)	+20.0	270

Notes: 1. Design tip elevations for abutment are controlled by (a) Compression, (c) Settlement.
 2. Design tip elevations for bents are controlled by: (a) Compression, (b) Tension (c) Settlement.
 3. The specified tip elevation shall not be raised above the design tip elevations for tension load, lateral load, and tolerable settlement.
 4. Design tip elevation for Lateral Load is typically provided by Structure Design.

9.2 Approach Fill Earthwork

New approach embankment fill placed at Abutment 1 for the new structure as part of the On Ramp grade separation, will be retained by parallel retaining wall Nos. RWFIR4 & RWFIR5. Based on project plans, the embankment fill dimensions contained between two retaining walls will be about 16 ft high and 50 ft wide. The embankment fill will cause vertical settlement consisting of immediate settlement (short term) and consolidation settlement (long term). Considering soil profile and engineering properties of subsurface material obtained through field exploration at Abutment 1, a maximum total settlement of 4 to 6 inches is anticipated in subsurface soil, after embankment fill placement. In order to complete the settlement prior to construction of the abutment and retaining wall foundations, a 90-days settlement period for preloading the embankment fill with 9 feet surcharge above the grading plane is recommended. Settlement monitoring in the field is strongly recommended and the actual settlement period will be determined by the structure representative on the basis of settlement data in the field.

10.0 Notes to Designer

1. Design pile tip elevation for lateral load at bent locations are to be determined by designer. The specified pile tip elevation for each support location is to be controlled by the deepest design tip elevation for either compression or lateral loads. Should the design pile tip elevation required to meet lateral load demands exceed the specified pile tip elevation given within this report, OGDS1 must be contacted for further recommendations.
2. Contractor's driving system should be examined to verify the driving system is capable of installing the proposed piles at all support locations, before commencement of pile driving.
3. A drivability analysis has been requested from the Foundation Testing Branch of the Office of Geotechnical Support and the results will be forwarded when complete.
4. The recommendations contained in this report are based on specific project information that has been provided by OBDS1-Branch 11. If any conceptual changes are made during final project design, OGDS1-Branch C should review those changes to determine if these foundation recommendations are still applicable.

11.0 Construction Considerations

DRIVEN PILES

1. Due to the irregular distribution of soil units, variable and erratic driving should be anticipated. Center relief drilling (drilling through the center of open ended pipe pile) to facilitate pile driving, may be considered to within five (5) feet above the pile tip. Subsurface material through which the piles will be driven at support locations are summarized below.

Abut. 1: Pile cap to elevation +50 interbeds of soft lean clay/loose silty sand/stiff fat clay; **elevations +50 to +42 very dense and partly medium dense poorly graded sand which might cause hard driving and require center relief drilling**; elevations +42 to +20 interbeds of stiff to very stiff fat clay/silt/lean clay; elevation +20 to pile tip elevation (+14) hard/very dense silt with possible hard driving.

Bent 2: Pile cap to elevation +46 interbeds of loose silty sand/soft to very stiff lean/fat clay; **elevations +46 to +36 very dense/dense silty sand with interbed of hard lean clay which might cause hard driving and require center relief drilling**; elevations +36 to +28 interbeds of stiff to medium stiff lean/fat clay; elevations +28 to pile tip elevation (+3) hard lean clay.

Bent 3: Pile cap to elevation +32 interbeds of soft to very stiff silt/fat/lean clay; **elevations +32 to pile tip elevation (+20) hard lean clay (possible hard driving)**.

2. The contractor should monitor adjacent structures or properties for vibrations to prevent potential damage due to pile driving. The contractor should take necessary precautions to minimize the impact on adjacent structures or properties.
3. Subsurface characterization is based on the borings performed at particular accessible locations. Subsurface conditions between borings are interpolated between those points. Therefore, if conditions encountered during construction, excavation, or pile driving, are different than those assumed in the foundation design, OGDS1 should be notified to evaluate the impact on current recommendations and make appropriate modifications, if required.
4. Splicing of the steel pipe piles may be needed if bearing is not achieved at the specified tip elevation. With approval of Structure Representative, any driven pile achieving refusal within 4.0 feet or less above specified pile tip elevation may be considered satisfactory.
5. At times, steel pipe piles may not attain minimum bearing at specified tip elevation, even after re-driving. When this situation arises the only option is to splice on additional pile length and continue driving to a point where the nominal resistance is achieved. OGDS1 should be consulted to confirm the selected method.
6. In order to verify the required axial nominal resistance, OGDS1 recommends performing dynamic pile testing such as Pile Driving Analyzer (PDA). **This recommendation will be incorporated in the Special Provisions in order to supersede the 2010 Standard Specifications 49-2.01A(4)(b).** It is recommended that at least one pile at each bridge support be PDA tested when the pile is initially driven. OGDS1 recommends first driving and performing PDA analysis to 1-foot above specified pile tip elevation (SPTE). Due to Caltrans Foundation Testing Branch requirement that testing sensors (2-accelerometers and 2-strain gauges) should be placed two (2) pile diameters below top of the pile (i.e. 4 feet) requiring a 4-5 foot deep trench, and possible existence of shallow groundwater below the pile caps, it is recommended that each test pile have additional 4-foot length for ease of testing and avoiding possible caving and/or water intrusion.

After a pile set-up period of approx. 24 to 48 hours, re-drive and perform PDA analysis on the same pile and stop 6-inches above the SPTE and review the re-strike pile resistance. If pile bearing resistance is adequate then finish driving to the recommended pile tip. If bearing resistance is not adequate from the first re-strike then a 10-day to 2-week pile set-up period is recommended (from initial pile driving date) before re-driving and PDA analysis to SPTE. Modified Gates should still be run for each pile including the PDA tested pile to compare the results between PDA tested and remaining untested driven piles. **Field acceptance criteria should be based on PDA test results.**

EARTHWORK

7. The new approach fill at abutment 1 is to be constructed in accordance with Sections 19-5.03B and 19-6.03C of the 2010 Standard Specifications and other requirements as directed by the Design Engineer. End dumping is not to be permitted.
8. In order to accelerate the predicted settlement within the recommended waiting period of 90 days, placement of embankment fill with 9 feet surcharge from grading plane, should precede construction of abutment and wall foundations. This procedure would substantially reduce the post construction settlement, potential down drag effects on the abutment and retaining wall piles and differential settlement of the walls. Where there is no right of way restriction, the extent of the surcharge hinge point should coincide with wall layout lines and abutment centerline (2010 Standard Plans-A62B). The longitudinal limit of the surcharge should include abutment and wall heights of up to 10 feet, then taper down to 6' above grading plane at the end of both retaining walls RWFIR4 and RWFIR5.
9. Temporary shoring may be required at locations where there is right of way restrictions. Shoring could be supported by sheet piles and/or soldier piles with or without lagging; however, method of shoring construction is the contractor's responsibility.
10. In conclusion, the commentary and recommendations in this report should not be considered an offering or implying an opinion of, or an approval concerning the foundation design and/or method of construction.

Any questions regarding the above comments should be directed to Faramarz Gerami at 213-620-2149. However, specific questions regarding surcharge and settlement period at abutment should be directed to Deepa Wathugala at 213-620-2134.

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Attachments: Generalized soil profile and design strength parameters

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Appendix 1 – Generalized soil profile and design strength parameters

Abut. 1L (Boring R-13-254)

Layer No.	Elevation Intervals (ft)	Depth to Bottom of Layer (ft)	Soil Type	N ₆₀ Blows/ft	Effective unit weight pcf (pci)	Φ (deg)	Su = C psf (psi)	K* (pci)		ε ₅₀ *
								Wet	Dry	
1	64.0-60.0	4.0	Lean clay (CL)	-	105 (0.060)	-	500 (3.47)	-	-	0.02
2	60.0-56.0	8.0	Silty sand (SM)	5	110 (0.063)	27	-	20	25	-
3	56.0-50.0	14.0	Fat clay (CH)	10	113 (0.065)	-	1000 (6.94)	-	-	0.01
4	50.0-46.0	18.0	Poorly graded sand (SP-SM)	53	126 (0.072)	34	-	105	190	-
5	46.0-42.0	22.0	Poorly graded sand (SP-SM)	22	64 (0.037)	33	-	75	120	-
6	42.0-27.0	37.0	Fat/Lean clay (CH/CL)	17	53 (0.030)	-	1200 (8.33)	-	-	0.007
7	27.0-17.0	47.0	Lean clay (CL)	42	60 (0.034)	-	2600 (18.05)	-	-	0.005
8	17.0-12.0	52.0	Silty sand/Silt (SM/ML)	43	68 (0.039)	36	-	125	225	-
9	12.0-02.0	62.0	Fat/Lean clay (CH/CL)	30	57 (0.032)	-	1800 (12.50)	-	-	0.007
10	02.0-(-18.0)	82.0	Silty sand (SM)	>100	72 (0.041)	38	-	125	225	-
11	(-18.0)-(-26.0)	90.0	Lean clay/Silt (CL/ML)	-	60 (0.034)	-	2200 (15.27)	-	-	0.005
12	(-26.0)-(-38.0)	102.0	Silty sand (SM)	100	72 (0.041)	38	-	125	225	-
13	(-38.0)-(-43.0)	107.0	Lean clay (CL)	47	63 (0.036)	-	2900 (20.13)	-	-	0.005
14	(-43.0)-(-53.0)	117.0	Silty sand (SM)	100	72 (0.041)	38	-	125	225	-
15	(-53.0)-(-58.0)	122.0	Lean clay (CL)	65	66 (0.038)	-	4000 (27.77)	-	-	0.004

Abut. 1R (CPT-13-255)

Layer No.	Elevation Intervals (ft)	Depth to Bottom of Layer (ft)	Soil Type	N ₆₀ Blows/ft	Effective unit weight pcf (pci)	Φ (deg)	Su = C psf (psi)	K* (pci)		ε ₅₀ *
								Wet	Dry	
1	65.0-60.0	5.0	Lean clay (CL)	-	110 (0.063)	-	500 (3.47)	-	-	0.02
2	60.0-56.0	9.0	Silty/clayey sand (SM/SC)	10	115 (0.066)	32	-	60	90	-
3	56.0-53.0	12.0	Lean/Fat clay (CL/CH)	4	113 (0.065)	-	1000 (6.94)	-	-	0.01
4	53.0-47.0	18.0	Lean clay (CL)	5	123 (0.071)	-	2300 (15.97)	-	-	0.005
5	47.0-44.0	21.0	Silty sand (SM)	25	62 (0.035)	33	-	75	120	-
6	44.0-30.0	35.0	Lean clay (CL)	6	57 (0.032)	-	1900 (13.19)	-	-	0.007
7	30.0-4.0	61.0	Lean clay (CL)	15	63 (0.036)	-	3500 (24.30)	-	-	0.005
8	4.0-(-1.0)	66.0	Silty sand (SM)	36	66 (0.038)	37	-	125	225	-
9	(-1.0)-(-28.0)	93.0	Lean clay (CL)	17	63 (0.036)	-	3500 (24.30)	-	-	0.005
10	(-28.0)-(-54.0)	119.0	Poorly graded sand (SP)	36	66 (0.038)	37	-	125	225	-

Bent 2L (CPT-13-256)

Layer No.	Elevation Intervals (ft)	Depth to Bottom of Layer (ft)	Soil Type	N ₆₀ Blows/ft	Effective unit weight pcf (pci)	Φ (deg)	Su = C psf (psi)	K* (pci)		ε ₅₀ *
								Wet	Dry	
1	64.0-59.0	5.0	Lean clay (CL)	-	110 (0.063)	-	500 (3.47)	-	-	0.02
2	59.0-48.0	16.0	Lean/Fat clay (CL/CH)	4	113 (0.065)	-	1000 (6.94)	-	-	0.01
3	48.0-43.0	21.0	Silty sand (SM)	24	63 (0.036)	34	-	105	190	-
4	43.0-26.0	38.0	Lean clay (CL)	5	57 (0.032)	-	2000 (13.88)	-	-	0.007
5	26.0-2.0	62.0	Lean clay (CL)		63 (0.036)	-	3200 (22.22)	-	-	0.005
6	2.0-(-2.0)	66.0	Silty sand (SM)	24	63 (0.036)	34	-	105	190	-
7	(-2.0)-(-18.0)	82.0	Silty sand (SM)	47	66 (0.038)	37	-	125	225	-
8	(-18.0)-(-29.0)	93.0	Lean clay (CL)	9	66 (0.038)	-	4000 (27.77)	-	-	0.004
9	(-29.0)-(-40.0)	104.0	Silty/clayey sand (SM/SC)	32	64 (0.037)	36	-	125	225	-
10	(-40.0)-(-44.0)	108.0	Lean clay (CL)	8	63 (0.036)	-	4000 (27.77)	-	-	0.004
11	(-44.0)-(-53.0)	117.0	Poorly graded sand (SP)	30	64 (0.037)	35	-	125	225	-

Bents 2R (Boring R-13-257)

Layer No.	Elevation Intervals (ft)	Depth to Bottom of Layer (ft)	Soil Type	N ₆₀ Blows/ft	Effective unit weight pcf (pci)	Φ (deg)	Su = C psf (psi)	K* (pci)		ε ₅₀ *
								Wet	Dry	
1	64.0-58.0	6.0	Base material	14	120 (0.069)	34	-	105	190	-
2	58.0-52.0	12.0	Silty sand (SM)	10	115 (0.066)	30	-	20	25	-
3	52.0-46.0	18.0	Fat/Lean clay (CH/CL)	18	116 (0.067)	-	1200 (8.33)	-	-	0.007
4	46.0-42.0	22.0	Silty sand (SM)	61	63 (0.036)	37	-	125	225	-
5	42.0-28.0	36.0	Fat/Lean clay (CH/CL)	29	57 (0.032)	-	1800 (12.50)	-	-	0.007
6	28.0-2.0	62.0	Lean clay (CL)	40	60 (0.034)	-	2500 (17.36)	-	-	0.005
7	2.0-(-23.0)	87.0	Mixed sand (SC/SM/SP)	91	72 (0.041)	38	-	125	225	-
8	(-23.0)-(-28.0)	92.0	Lean clay (CL)	64	63 (0.036)	-	3000 (20.83)	-	-	0.005
9	(-28.0)-(-38.0)	102.0	Silty sand (SM)	>100	72 (0.041)	38	-	125	225	-
10	(-38.0)-(-45.0)	109.0	Fat clay (CH)	42	60 (0.034)	-	2600 (18.05)	-	-	0.005
11	(-45.0)-(-53.0)	117.0	Silty sand (SM)	>100	72 (0.041)	38	-	125	225	-
12	(-53.0)-(-58.0)	122.0	Lean clay (CL)	61	66 (0.038)	-	3800 (26.38)	-	-	0.004

Bent 3R (CPT-13-259)

Layer No.	Elevation Intervals (ft)	Depth to Bottom of Layer (ft)	Soil Type	N ₆₀ Blows/ft	Effective unit weight pcf (pci)	Φ (deg)	Su = C psf (psi)	K* (pci)		E ₅₀ *
								Wet	Dry	
1	63.0-58.0	5.0	Lean clay (CL)	-	110 (0.063)	-	500 (3.47)	-	-	0.02
2	58.0-49.0	14.0	Lean clay (CL)	4	116 (0.067)	-	1500 (10.41)	-	-	0.007
3	49.0-43.0	20.0	Silty sand (SM)	26	125 (0.072)	34	-	105	190	-
4	43.0-33.0	30.0	Lean clay (CL)	5	53 (0.030)	-	1500 (10.41)	-	-	0.007
5	33.0-2.0	61.0	Lean clay (CL)	11	66 (0.038)	-	3600 (25.00)	-	-	0.004
6	2.0-(-33.0)	96.0	Silty sand (SM)	40	69 (0.039)	36	-	125	225	-
7	(-33.0)-(-36.0)	99.0	Lean clay (CL)	17	66 (0.038)	-	4000 (27.77)	-	-	0.004
8	(-36.0)-(-40.0)	103.0	Silty sand (SM)	82	72 (0.041)	38	-	125	225	-
9	(-40.0)-(-45.0)	108.0	Lean clay (CL)	24	66 (0.038)	-	4000 (27.77)	-	-	0.004

Bents 3L (Boring R-13-258)

Layer No.	Elevation Intervals (ft)	Depth to Bottom of Layer (ft)	Soil Type	N ₆₀ Blows/ft	Effective unit weight pcf (pci)	Φ (deg)	Su = C psf (psi)	K* (pci)		E ₅₀ *
								Wet	Dry	
1	64.0-56.0	8.0	Silt/Lean clay (ML/CL)	-	110 (0.063)	-	300 (2.08)	-	-	0.02
2	56.0-49.0	15.0	Lean clay (CL)	10	113 (0.065)	-	1000 (6.94)	-	-	0.01
3	49.0-44.0	20.0	Non-plastic Silt (ML)	25	120 (0.069)	30	-	20	25	-
4	44.0-39.0	25.0	Lean clay (CL)	7	48 (0.027)	-	800 (5.55)	-	--	0.01
5	39.0-32.0	32.0	Lean clay (CL)	18	53 (0.030)	-	1500 (10.41)	-	-	0.007
6	32.0-(-4.0)	68.0	Lean clay (CL)	31	63 (0.036)	-	3200 (22.22)	-	-	0.005
7	(-4.0)-(-13.0)	77.0	Lean clay (CL)	16	53 (0.030)	-	1400 (9.72)	-	-	0.007
8	(-13.0)-(-17.0)	81.0	Silty sand (SM)	64	68 (0.039)	36	-	125	225	-
9	(-17.0)-(-27.0)	91.0	Silty sand (SM)	79	72 (0.041)	37	-	125	225	-
10	(-27.0)-(-47.0)	111.0	Non-plastic Silt (ML)	67	70 (0.040)	32	-	60	90	-
11	(-47.0)-(-52.0)	116.0	Silty sand (SM)	99	72 (0.041)	38	-	125	225	-
12	(-52.0)-(-59.0)	123.0	Lean clay (CL)	58	68 (0.039)	-	4000 (27.77)	-	-	0.004

* For P-Y Curve analysis (based on L-pile Manual)

**Foundation Report for SB Valley
View Avenue/S. Firestone Blvd.,
Bridge No. 53C-2296,
dated 07/02/2015**

Memorandum

*Serious drought.
Help save water!*

To: MR. RAMIN RASHEDI, CHIEF
Bridge Design Branch 11
Office of Bridge Design South 2

Date: July 2, 2015
File: 07-LA-5-PM 1.21
Proj. ID: 0715000160
EA: 07-2159U1

Attn: Mr. Phu Nguyen

From: DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Geotechnical Services
Office of Geotechnical Design – South 1 MS # 18

SB VALLEY VIEW AVE. /
S. FIRESTONE BLVD
BRIDGE NO. 53C-2296

Subject: Revised Foundation Report

INTRODUCTION

This revised report includes the entire original report dated 8-29-2013 in addition to new pile tips at all support locations after completion of 2014 site specific field investigation. Pile tips in original report dated 8-29-2013 were provided based on offsite borings due to right of way restrictions which at the time precluded any drilling at bridge supports. Email attachments of bridge foundation design loads, and latest Plans with various revision dates were received from Mr. Phu Nguyen on 1-22-13 and 2-12-13, respectively. The proposed structure is designed as a 4-span CIP/RC Box Girder with only end bridge abutment and three bents. The begin bridge will be supported by Bent 5B of Valley View OH/OC Bridge No. 53-3045. The existing Firestone Blvd. will be relocated between future Valley View SB off Ramp and the proposed SB Valley View Ave. /S. Firestone Blvd. The purpose of this ramp and accompanying retaining walls is to elevate the exit from relocated Firestone Blvd. to Valley View Avenue.

1.0 SCOPE OF WORK

This revised report supersedes the Preliminary Foundation Report (PFR) dated 12-18-2012 and the Foundation Report dated 8-29-2013. A review of the following resources and analysis of prepared data, provided information for the foundation evaluation and site condition.

- ◆ Review of the 2014 boring records and Cone Penetration Test (CPT) data and laboratory results completed by FUGRO Consultants.
- ◆ Review of the General plan, Abutment 4 layout and details, bents 2 & 3 layout and footing details; and foundation design loads and data sheet, received 2-12-13 & 1-22-13, respectively from Mr. Phu Nguyen.

- ◆ Review of the Hazardous Waste Assessment Report of FIRE1 (current NB Valley View Ave. /S. Firestone Blvd.) and FIRE2 (current SB Valley View Ave. /S. Firestone Blvd.) dated 9-25-2012, received from District Hazardous Waste Branch (South Region).
- ◆ Preparation and presentation of the results of investigations and interpretation of subsurface soil, and writing of this report in accordance with Caltrans “Guidelines for Structures Foundation Reports, Version 2.0” Dec. 2009, and “Foundation Report Preparation for Bridge Foundations” Dec. 2009.

2.0 PROJECT DESCRIPTION

The I-5 Corridor Improvement project proposes to reconstruct the existing I-5 freeway including bridge replacements, new ramp structures and retaining walls, between Los Angeles/Orange County line to the south and I-605 to the north. Construction of SB Valley View Ave. /S. Firestone Blvd. ramp is part of the Segment 2 of the corridor improvement in the Cities of Santa Fe Springs and Cerritos, which covers an area from south of North Fork Creek (PM 1.47) to north of Artesia Blvd. /County line (PM 0.00). Segment 2 encompasses four new structures (Valley View Ave. SB On Ramp # 53-3059K, Valley View Ave. Off Ramp # 53-3058K, SB Valley View Ave. /S. Firestone # 53C-2296, NB Valley View Ave. /S. Firestone # 53C-2295), three bridge replacements (Valley View Ave. OH/OC # 53-3045, Coyote Creek Bridge # 53-3044 and North Firestone Blvd. Bridge # 53C-2194), and approximately 34 Type 1 retaining walls. The propose SB Valley View Ave. /S. Firestone Blvd. ramp will replace the existing at grade traffic crossings of Valley View to Firestone. **All elevations referenced in this report are based on 1988 NAVD Datum.**

3.0 FIELD INVESTIGATION AND TESTING PROGRAM

The site specific field investigation was performed in 2014 by FUGRO Consultants. The investigation included drilling four wet rotary borings and three cone penetration tests (CPT). Soils were continuously logged and classified in accordance with the Unified Soil Classification System. Bulk and relatively undisturbed (ring) soil samples were collected for laboratory tests. Ring samples were obtained using Modified California split spoon sampler with 2.0 inch inner diameter. In addition, soil samples were obtained at 5 foot intervals from Standard Penetration Test (SPT) split spoon sampler with 1.4 inch inner diameter. Blow counts (SPT N-values) were performed with a 140 lbs. safety hammer dropped 30 inches. Modifications of soil descriptions to reflect laboratory test results will be presented in Log of Test Borings (LOTB) which upon completion will be sent to designer from FUGRO drafting for inclusion in the contract plans.

4.0 LABORATORY TESTING PROGRAM

Selected representative soil samples were tested in FUGRO laboratories to obtain or derive relevant physical and engineering soil properties. All laboratory tests were performed in general accordance with California Test Methods (CTM) or American Society for Testing and Materials (ASTM) Standards. Field and laboratory testing intervals are shown on the LOTB sheets. The summarized laboratory tests data are shown in Table 1.

Table 1. Summary of Laboratory Tests

Testing Type	ASTM/CTM Designation	Testing Purpose
Consolidation Test	ASTM D2435	Long Term Settlement
Particle Size Analysis	ASTM C117, C136 or D422, D2216	Soil Classification
Atterberg Limits	ASTM D4318	Soil Classification
Corrosion	CTM 417, 422, 532, 643	Corrosion Potential
Direct Shear	ASTM D3080	Shear Strength
Unconfined Compression	ASTM D2166	Compression Strength
One-Dimensional Swell or Collapse	ASTM D4546	Swell Pressure

5.0 SITE GEOLOGY AND SUBSURFACE CONDITIONS

The entire I-5 corridor project between county line and I-605 is located within the Central groundwater Basin of the Coastal Plain of Los Angeles County, as defined by the California Department of Water Resources (DWR, 1961). The proposed site is located within the Los Angeles Basin with physiographic of a lowland coastal plain. The Coastal Plain is bounded on the east and southeast by the Santa Ana Mountains and San Joaquin Hills and on the north by the Santa Monica and San Gabriel Mountains, and Palos Verdes Hills on the south. The site is situated in a relatively flat southwest sloping Holocene to Late Pleistocene alluvial fan and valley deposits consisting of mostly lean clay with interbeds of fat clay, sandy silt and clayey sand to about 65 feet below surface, underlain by dense to very dense sand with intermittent interbeds of sandy lean clay. This alluvium was deposited primarily by San Gabriel River floods emanating from the mountains and hills to the north of the project site. Depth to rock-like material is estimated to be greater than 400 feet.

Based on information from 2014 site investigations, different soil units are encountered at the proposed bridge supports, as characterized below (given elevations are approximate).

Boring R-14-260 (Bent 1): Surface to elevation +52 very soft lean clay; +52 to +46 stiff fat clay with sand; +46 to +33 medium dense silty sand; +33 to +6 very stiff lean clay with occasional sandy silt interbeds; +6 to -4 medium dense clayey sand underlain by dense fine sand; -4 to -14 very soft lean clay; -14 to -23 non-plastic dense sandy silt; -23 to -51 very dense 20' of well graded sand underlain by 8' of dense silty sand; -51 to -59 non-plastic dense silt; -59 to -62 (max. boring depth) dense silty sand.

Boring R-14-261 (Bent 2): Surface to elevation +54 sandy lean clay; +54 to +47 stiff fat clay; +47 to +45 loose silty sand; +45 to +35 loose non-plastic sandy silt; +35 to +32 medium stiff organic clay; +32 to +6 very stiff sandy lean clay with interbed (5 ft. thick) of very stiff sandy silt; +6 to +2 medium dense fine sand; +2 to -17 very stiff lean clay with interbeds of medium dense silty sand and medium dense non-plastic silt; -17 to -28 medium dense well graded sand and clayey sand; -28 to -50 dense silty sand and clayey sand; -50 to -55 hard lean clay; -55 to -60 dense non-plastic silt; -60 to -63 (max. boring depth) very dense fine sand.

Boring R-14-264 (Bent 3): Surface to elevation +57 loose fine sand (fill); +57 to +47 medium stiff fat clay with interbeds of medium stiff silt; +47 to +37 medium dense poorly graded sand; +37 to +32 very stiff fat and lean clay; +32 to +27 interbeds of medium dense poorly graded sand and non-plastic silt; +27 to +22 very stiff lean clay; +22 to +14 interbeds of medium dense silty sand and non-plastic silt; +14 to +11 very stiff lean clay; +11 to +2 medium dense non-plastic silt; +2 to -3 stiff lean clay; -3 to -8 hard fat clay; -8 to -18 medium dense non-plastic silt and interbed of medium dense fine sand; -18 to -23 dense silty sand; -23 -27 medium dense non-plastic silt; -27 to -62 (max. boring depth) very dense silty sand and poorly graded sand.

Boring R-14-265 (Abut. 4): Surface to elevation +55 soft silt; +55 to +47 stiff fat clay with 3 ft. interbed of medium stiff lean clay; +47 to +17 medium dense silty and clayey sand with interbeds of stiff silt and medium stiff lean clay; +17 to +2 medium dense non-plastic silt with interbeds of very stiff lean clay; +2 to -13 very stiff fat clay with interbeds of medium dense lean clay and medium dense clayey s+2 to -8 very stiff fat clay; -8 to -11 medium stiff lean clay; -11 to -18 medium dense and dense clayey and silty sand; -18 to -23 very dense poorly graded sand; -23 to -29 interbeds of hard lean clay and hard silt; -29 to -43 very dense poorly graded sand; -43 to -48 medium dense nonplastic silt; -48 to -58 very dense silty sand; -58 to -62 (max. boring depth) very stiff silt with interbeds of very dense silty sand.

5.1 GROUNDWATER

There is a shallow water bearing zone called “perched groundwater” with varying depths of 12 to 24 feet below ground surface, measured in recent borings in adjacent Valley View OH/OC Bridge replacement # 53-3045. There is also a deeper confined groundwater zone called “Exposition-Artesia” aquifer with about 22 feet of hydraulic head, between 70 to 75 feet below ground surface.

The historical high groundwater levels have been mapped between 8 to 10 feet below ground surface over the entire length of the project corridor (CGS 1997, 1998a, 1998b). It should be noted that groundwater levels could fluctuate with the change of season and other factors. Based on Hazardous Waste Assessment Report, Bent 1 appears to be the only likely impacted location by fuel contaminated perched groundwater. **A design groundwater elevation of 46.0 was used for all bridge support pile tips and settlement calculations.**

6.0 CORROSION EVALUATION

Composite soil samples taken from recent exploratory borings at different intervals were tested by FUGRO laboratory for corrosion testing. The test results indicate a non-corrosive environment at the proposed bridge site. Normal construction material and design are advised. Refer to Table 2 for specific test results.

Table 2. Corrosion Test Summary

Boring No.	Depth Interval (ft.)	Minimum Resistivity (Ohm-Cm)	pH	Chloride Content (ppm)	Sulfate Content (ppm)
R-14-260	5.0 – 20.0	297	7.90	306	745
	20.0 - 120.0	1268	7.90	NA	NA
R-14-261	5.0 – 20.0	360	7.70	186	1233
	20.0 - 120.0	1135	7.80	NA	NA
R-14-264	5.0 – 20.0	332	8.10	294	628
	20.0 - 120.0	1262	8.00	NA	NA
R-14-265	5.0 - 20.0	618	8.00	180	296
	20.0 - 120.0	1455	7.70	NA	NA

Note: It is the practice of Caltrans Corrosion Technology Section (with the exception of MSE walls) that if the minimum resistivity of the sample is greater than 1000 ohm-cm and the pH is greater than 5.5, the sample is considered noncorrosive. Caltrans currently considers a site to be corrosive to foundation elements if one or more of the following conditions exist for representative soil and/or water samples taken at the site. Chloride concentration is greater or equal to 500 ppm, sulfate concentration is greater than or equal to 2000 ppm, or the pH is 5.5 or less.

7.0 SEISMIC EVALUATION

The proposed bridge is not within an Alquist-Priolo Earthquake Fault Zone. An analysis was performed to develop and recommend ground motion parameters for the seismic design of the above referenced bridge structure. This analysis was performed in accordance with requirements specified in Appendix B of the Caltrans' 2009 Seismic Design Criteria (SDC, Version 1.6, August 2009) and utilizing the "Caltrans ARS Online" and other tools available at the internet sites. The average shear wave velocity (V_{s30}) for the upper 100 feet of the subsurface profile was estimated to be about 210.0 m/sec (689 ft. /sec) based on recent field investigation. The closest fault to the site is the Puente Hills Thrust Fault oriented as a low angle north dipping thrust fault approximately 3.2 miles north of the site. The significant faults and fault zones are summarized in Table 3.

Table 3. Summary of Faults

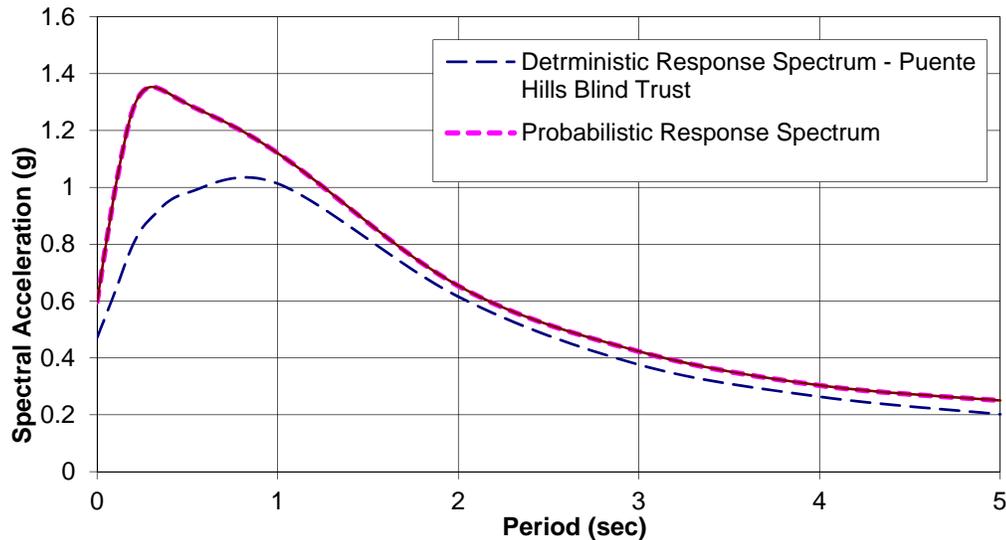
Fault Name	Type	M _{max}	R _x	R _{JB}	R _{RUP}
Puente Hills Blind Thrust	R	7.3	3.2 mile (5.2 km)	3.2 mile (5.2 km)	3.7 mile (6.0 km)
Elsinore Fault Zone (Whittier Section)	RLSS	7.6	6.4 mile (10.4 km)	6.4 mile (10.4 km)	6.4 mile (10.4 km)
Newport Inglewood – Rose Canyon Fault Zone	RLSS	7.5	9.6 mile (15.4 km)	9.6 mile (15.4 km)	9.6 mile (15.4 km)
Compton-Los Alamitos Blind Thrust	R	6.8	13.2 mile (21.3 km)	4.7 mile (7.6 km)	7.8 mile (12.6 km)

Notes: R_x = Horizontal distance to the fault trace
 R_{JB} = Shortest horizontal distance to the surface projection of the rupture area
 R_{RUP} = Closest distance to the fault rupture plane
 RLSS = Right Lateral Strike Slip
 R = Reverse

The design deterministic as well as the probabilistic acceleration response spectrum (ARS) curves developed are shown in Figure 1. The probabilistic ARS curve corresponds to a ground motion return period (RP) of 975-year (i.e., 5% probability of exceeding in 50 years). It should be noted that the design deterministic ARS curve shown in Figure 1 is due to an earthquake event of magnitude M=7.3 and site to fault rupture surface distance of 5.2 Km associated with the Puente Hills Blind thrust fault.

Since all the site to fault distance measures (e.g., R_{rup}, R_x and R_{jb} etc.) used in the attenuation relationships utilized in this analysis are within 25 Km, the ARS curves shown in Figure 1 include the near fault effects as specified in the Seismic Design Criteria (SDC 2009). In addition, the project site being located in the Los Angeles Basin also includes basin effects (Z_{1.0}= 715 m and Z_{2.5}= 3.92 km). ARS curves were developed according to the Caltrans Geotechnical Services-Design Manual (Version 1.0, Aug. 2009). The design Peak Ground Acceleration (PGA) for the project site is 0.6g. The design ARS curve is an envelope of deterministic and probabilistic ARS curves (Figure 1).

**Figure 1. RECOMMENDED DESIGN ACCELERATION RESPONSE SPECTRUM (ARS)
for SB Valley View Ave./S. Firestone Blvd. Bridge No. 53C-2296
Damping Ratio = 5%; $V_{s30} = 210$ m/sec**



8.0 LIQUEFACTION POTENTIAL

Based on recent field investigations, the liquefaction potential at the bridge site is low to negligible due to dominant presence of cohesive soil with intermittent interbeds of dense to medium dense granular soil overlying very dense granular material. Accordingly, the potential for seismically induced settlement and lateral spreading are also considered to be low.

9.0 FOUNDATION RECOMMENDATIONS

The proposed new bridge is a four span CIP/RC Box Girder with seat type abutment and flare octagonal, 2-column bents. The begin bridge will be supported by Bent 5B of Valley View Ave. OH/OC Bridge No. 53-3045. The following recommendations are developed by OGDS1 based on 1) Boring/CPT records and interpreted subsurface conditions and design parameters established through laboratory tests and field data, 2) updated bridge Plans and design loads provided by OBDS1 as referenced in page 1, and 3) email correspondences and personal communications with Mr. Phu Nguyen (OBDS1).

9.1 DEEP FOUNDATIONS

The pile types proposed by OBDS1, consist of 200 kips PP24x0.5 open ended pipe piles at all support locations. Based on subsurface conditions obtained from 2014 field investigations, OGDS1 concurs with the feasibility of proposed pile types to support the new structure. Pile lengths required to resist the provided loads are computed based on Service-I Limit State load (Abutment 4) and Strength Limit State (all bents) using computer program APILE (version 2014). The calculated axial geotechnical capacities of driven piles (PP24x0.5) are based mainly on skin friction and minor contribution from end bearing. General Foundation Information and Design Loads are provided by OBDS1 and presented in Tables 4 & 5. Recommended design and specified pile tip elevations for abutment and bents provided in Tables 6, 7 & 8 are prepared by OGDS1.

EFFECT OF EXPANSIVE SOIL

Expansive soil was found in bridge support locations during 2014 subsurface investigation. The expansive soil layers above the ground water table is called “active zone”. Expansive soil is prone to large volume changes (swelling and shrinking) that are directly related to changes in water content.

Design for dry condition: pile lengths were determined by ignoring any side resistance from the soil located in the active zone, as soil separates from the driven pile due to shrinkage. The specified pile tip elevations are lower than the situation when there would not be any shrinkage. Therefore, the nominal driving resistance is greater than the nominal resistance.

Design for wet condition: the calculated uplift force due to swelling is less than the structural load on pile at each support location. Therefore, there will not be any net uplift load on the pile which would have required anchorage from side resistance.

Table 4. General Foundation Information Provided By Structure Design Received 1-22-13

Support Location	Design Method	Pile Type	Finished Grade Elevation (ft.)	Cut-off Elevation (ft.)	Pile Cap Size (ft.)		Permissible Settlement under Service Load *	Number of Piles per Support
					B	L		
Bent 1	LRFD	PP24x0.5	60.80	56.22	19.0	19.0	1”	16 per column
Bent 2	LRFD		59.40	54.82	19.0	19.0	1”	16 per column
Bent 3	LRFD		59.60	55.02	14.0	14.0	1”	9 per column
Abut. 4	WSD		59.40	55.82	10.0	50.0	1”	14

Table 5. Design Loads Provided By Structure Design Received 1-22-13

Support Location	Service-1 Limit State (kips)			Strength Limit State (Controlling Group, kips)				Extreme Event Limit State (Controlling Group, kips)			
	Total Load		Permanent Loads	Compression		Tension		Compression		Tension	
	Per Support	Max Per Pile		Per Support	Max Per Pile	Per Support	Max Per Pile	Per Support	Max Per Pile	Per Support	Max Per Pile
Bent 1	1460	200	1224	2789	222	0	0	2145	293	749	70
Bent 2	1314		1134	2646	203	0	0	1872	215	1070	4
Bent 3	1564		1131	2723	303	0	0	1811	368	678	42
Abut 4	1768	199	1222	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 6. Foundation Recommendations for Abutment 4

Support Location	Pile Type	Cut-off Elevation (ft.)	LRFD Service-1 Limit State Load (kips) Per Support		LRFD Service-1 Limit State Total Load (kips) Per Pile (Compression)	Nominal Resistance (kips)	Design Tip Elevations (ft.)	Specified Tip Elevation (ft.)	Nominal Driving Resistance Required (kips)
			Total	Permanent					
Abut. 4	PP24x0.5	55.82	1768	1222	199	400	-3.0 (a) +20.0 (c)	-3.0	430

- Notes: 1. Design tip elevations for abutment are controlled by (a) Compression, (c) Settlement.
 2. The specified tip elevation shall not be raised above the design tip elevations for settlement.

Table 7. Foundation Recommendations for Bents

Support Location	Pile Type	Cut-off Elevation (ft.)	Service-1 Limit State Load (kips) Per Support	Total Permissible Support Settlement	Required Factored Nominal Resistance (kips)				Design Tip Elevations (ft.)	Specified Tip Elevation (ft.)
					Strength Limit		Extreme Event			
					Comp. (Ø=0.7)	Tension (Ø=0.7)	Comp. (Ø=1)	Tension (Ø=1)		
Bent 1	PP24x0.5	56.22	1460	1"	222	0	293	70	+9.0 (a-I) +11.0 (a-II) +37.0 (b-II) +11.0 (c)	+9.0
Bent 2		54.82	1314	1"	203	0	215	4	+7.0 (a-I) +20.0 (a-II) +50.0 (b-II) +20.0 (c)	+7.0
Bent 3		55.02	1564	1"	303	0	368	42	-6.0 (a-I) +6.0 (a-II) +41 (b-II) +19.0 (c)	-6.0

- Notes: 1. Design tip elevations are controlled by: (a-I) Compression (Strength Limit), (a-II) Compression (Extreme Event), (b-II) Tension (Extreme Event), (c) Settlement.
 2. The specified tip elevation shall not be raised above the design tip elevations for tension, lateral and tolerable settlement.
 3. Design tip elevation for Lateral Load is typically provided by Structure Design.

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Table 8. Pile Data Table

Support Location	Pile Type	Nominal Resistance (kips)		Design Tip Elevations (ft.)	Specified Tip Elevation (ft.)	Nominal Driving Resistance (kips)
		Compression	Tension			
Bent 1	PP24x0.5	320	70	+9.0 (a) +37.0 (b) +11.0 (c)	+9.0	350
Bent 2		290	10	+7.0 (a) +50.0 (b) +20.0 (c)	+7.0	320
Bent 3		440	50	-6.0 (a) +41 (b) +19.0 (c)	-6.0	470
Abut. 4		400	0	-3.0 (a) +20.0 (c)	-3.0	430

- Notes: 1. Design tip elevations for abutment are controlled by (a) Compression, (c) Settlement.
 2. Design tip elevations for bents are controlled by: (a) Compression, (b) Tension (c) Settlement.
 3. The specified tip elevation shall not be raised above the design tip elevations for tension load, lateral load & tolerable settlement.
 4. Design tip elevation for Lateral Load is typically provided by Structure Design.
 5. Nominal Driving Resistance includes additional capacity considered for the loss of side resistance due to shrinkage of expansive clay in the active zone.

9.2 APPROACH FILL EARTHWORK

New approach embankment fill placed at Abutment 4 for the new structure as part of the Off Ramp grade separation, will be retained by parallel retaining wall Nos. RWFIR7 & RWFIR8. Based on project plans, the embankment fill dimensions contained between two retaining walls will be about 22 ft. high and 50 ft. wide. The embankment fill will cause vertical settlement consisting of immediate settlement (short term) and consolidation settlement (long term). Considering soil profile and engineering properties of subsurface material obtained through field exploration at Abutment 4, a maximum total settlement of 7 to 9 inches is anticipated in subsurface soil, after embankment fill placement. In order to complete the settlement prior to construction of the abutment and retaining wall foundations, a 90-days settlement period for preloading the embankment fill with 12 feet surcharge above the grading plane is recommended. Settlement monitoring in the field is strongly recommended and the actual settlement period will be determined by the structure representative on the basis of settlement data in the field.

10.0 NOTES TO DESIGNER

1. Design pile tip elevation for lateral load at bent locations are to be determined by designer. The specified pile tip elevation for each support location is to be controlled by the deepest design tip elevation for either compression or lateral loads. Should the design pile tip elevation required to meet lateral load demands exceed the specified pile tip elevation given within this report, OGDS1 must be contacted for further recommendations.
2. Contractor's driving system should be examined to verify the driving system is capable of installing the proposed piles at all support locations, before commencement of pile driving.
3. The recommendations contained in this report are based on specific project information that has been provided by OBDS1-Branch 11. If any conceptual changes are made during final project design, OGDS1-Branch C should review those changes to determine if these foundation recommendations are still applicable.

11.0 CONSTRUCTION CONSIDERATIONS

DRIVEN PILES

1. Due to irregular distribution of soil units and/or possible plugging condition, piles could encounter high blow counts and high compressive stresses before reaching the specified tip elevations. If this condition arises, center relief drilling (drilling through the center of open ended pipe pile) to facilitate pile driving, could be considered to within five (5) feet above the pile tip. Subsurface material through which the piles will be driven at support locations are summarized below.

Bent 1: Bottom of pile cap to elevation +52 very soft lean clay; elevations +52 to +46 stiff fat clay; elevations +46 to +33 medium dense silty sand; elevation +33 to pile tip (+9) very stiff lean clay with occasional sandy silt interbeds.

Bent 2: Bottom of pile cap to elevation +47 stiff fat clay; elevations +47 to +35 loose silty sand and non-plastic silt; elevations +35 to +32 medium stiff organic clay; elevation +32 to pile tip elevation (+7) very stiff lean clay with very stiff sandy lean clay.

Bent 3: Bottom of pile cap to elevation +47 medium stiff fat clay with interbeds of silt; elevations +47 to +37 medium dense fine sand; elevations +37 to +31 very stiff fat clay and lean clay; elevations +31 to +27 interbeds of fine sand and non-plastic silt; elevations +27 +22 very stiff lean clay; elevations +22 to +17 medium dense silty sand; elevations +17 to +2 medium dense non-plastic silt with interbeds of very stiff lean clay; elevation +2 to pile tip elevation (-6) stiff lean clay underlain by hard fat clay.

Abut. 4: Bottom of pile cap to elevation +47 stiff fat with interbed of medium stiff lean clay; elevations +47 to +17 medium dense clayey and silty sand with interbed of stiff silt and medium stiff lean clay; elevations +17 to +2 medium dense non-plastic silt with interbeds of very stiff lean clay; elevation +2 to pile tip elevation (-3) very stiff fat clay.

2. Splicing of the steel pipe piles may be needed if bearing is not achieved at the specified tip elevation. With approval of Structure Representative, any driven pile achieving refusal within 4.0 feet or less above specified pile tip elevation may be considered satisfactory.
3. At times, steel pipe piles may not attain minimum bearing at specified tip elevation, even after re-driving. When this situation arises the only option is to splice on additional pile length and continue driving to a point where the nominal resistance is achieved. OGDS1 should be consulted to confirm the selected method.
4. In order to verify the required axial nominal resistance, OGDS1 recommends performing dynamic pile testing such as Pile Driving Analyzer (PDA). **This recommendation will be incorporated in the Special Provisions in order to supersede the 2010 Standard Specifications 49-2.01A (4) (b).** It is recommended that at least one pile at each bridge support be PDA tested when the pile is initially driven. OGDS1 recommends first driving and performing PDA analysis to 1-foot above specified pile tip elevation (SPTE).

Due to Caltrans Foundation Testing Branch requirement that testing sensors (2-accelerometers and 2-strain gauges) should be placed two (2) pile diameters below top of the pile (i.e. 4 feet) requiring a 4-5 foot deep trench, and possible existence of shallow groundwater below the pile caps, it is recommended that each test pile have additional 4-foot length for ease of testing and avoiding possible caving and/or water intrusion. After a pile set-up period of approx. 24 to 48 hours, re-drive and perform PDA analysis on the same pile and stop 6-inches above the SPTE and review the re-strike pile resistance. If pile bearing resistance is adequate then finish driving to the recommended pile tip. If bearing resistance is not adequate from the first re-strike then a 10-day to 2-week pile set-up period is recommended (from initial pile driving date) before re-driving and PDA analysis to SPTE. Modified Gates should still be run for each pile including the PDA tested pile to compare the results between PDA tested and remaining untested driven piles. **Field acceptance criteria should be based on PDA test results.**

5. The contractor should monitor adjacent structures or properties for vibrations to prevent potential damage due to pile driving. The contractor should take necessary precautions to minimize the impact on adjacent structures or properties.
6. Sufficient clearance (a gap of about 1.0 foot) should be provided between the underside of the pile caps and bottom of 1.0 foot over-excavation, to prevent the uplift loads at pile caps due to swelling of ground conditions.

EARTHWORK

7. The new approach fill at abutment 4 is to be constructed in accordance with Sections 19-5.03B and 19-6.03C of the 2010 Standard Specifications and other requirements as directed by the Design Engineer. End dumping is not to be permitted.
8. In order to accelerate the predicted settlement within the recommended waiting period of 90 days, placement of embankment fill with 12 feet surcharge from grading plane, should precede construction of abutment and wall foundations. This procedure would substantially reduce the post construction settlement, potential down drag effects on the abutment and retaining wall piles and differential settlement of the walls. Where there is no right of way restriction, the extent of the surcharge hinge point should coincide with wall layout lines and abutment centerline (2010 Standard Plans-A62B). The longitudinal limit of the surcharge should include abutment and wall heights of up to 10 feet, then taper down to 6' above grading plane at the end of both retaining walls RWFIR7 and RWFIR8.
9. Temporary shoring may be required at locations where there is right of way restrictions. Shoring could be supported by sheet piles and/or soldier piles with or without lagging; however, method of shoring construction is the contractor's responsibility.
10. In conclusion, the commentary and recommendations in this report should not be considered an offering or implying an opinion of, or an approval concerning the foundation design and/or method of construction.

Any questions regarding the above comments should be directed to Faramarz Gerami at 213-620-2149 or Ted Liu at 213-620-2136. However, specific questions regarding surcharge, settlement period at abutments and expansive soil should be directed to Deepa Wathugala at 213-620-2134.

Mr. Ramin Rashedi
July 2, 2015
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Revised Foundation Report For
SB Valley View Ave. /S. Firestone
Bridge # 53C-2296 (0715000160)

Report by:

Reviewed by:

Date: 07/02/2015

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Attachments: Generalized soil profile and design strength parameters

- c: Structure Construction R.E. pending File (RE_Pending_File@dot.ca.gov)
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Appendix 1 – Generalized soil profile and design strength parameters

Bent 1 (Boring R-14-260)

Layer No.	Elevation Intervals (ft.)	Depth to Bottom of Layer (ft.)	Soil Type	N ₆₀ Blows/ft.	Effective unit weight pcf (pci)	Φ (deg)	Su = C psf (psi)	K* (pci)		ε ₅₀ *
								Wet	Dry	
1	59.0-52.0	7.0	Lean clay (CL)	-	105 (0.060)	-	600 (4.16)	-	-	0.01
2	52.0-46.0	13.0	Fat clay (CH)	9	116 (0.067)	-	2500 (17.36)	-	-	0.007
3	46.0-32.0	27.0	Silty sand (SM)	16	48 (0.027)	30	-	20	25	-
4	32.0-21.0	38.0	Lean clay (CL)	-	61 (0.035)	-	3000 (20.83)	-	-	0.005
5	21.0-11.0	48.0	Lean clay/silt (CL/ML)	18	123 (0.071)	-	3000 (20.83)	60	90	0.005
6	11.0-6.0	53.0	Lean clay (CL)	15	123 (0.071)	-	2200 (15.27)	-	-	0.005
7	6.0-1.0	58.0	Clayey sand (SC)	10	110 (0.063)	30	-	20	25	-
8	1.0-(-5.0)	64.0	Poorly graded/clayey sand (SP/SC)	31	127 (0.073)	32	-	60	90	-
9	(-5.0)-(-14.0)	73.0	Lean clay (CL)	4	123 (0.071)	-	2500 (17.36)	-	-	0.005
10	(-14.0)-(-24.0)	83.0	Nonplastic silt (ML)	25	125 (0.072)	30	-	20	25	-
11	(-24.0)-(-42.0)	101.0	Well graded sand (SW)	84	73 (0.042)	42	-	125	225	-
12	(-42.0)-(-52.0)	111.0	Silty sand (SM)	51	70 (0.040)	35	-	125	225	-
13	(-52.0)-(-59.0)	118.0	Nonplastic silt (ML)	38	63 (0.036)	30	-	20	25	-
14	(-59.0)-(-63.0)	122.0	Silty sand (SM)	59	68 (0.531)	35	-	125	225	-

Bents 2 (Boring R-14-261)

Layer No.	Elevation Intervals (ft.)	Depth to Bottom of Layer (ft.)	Soil Type	N ₆₀ Blows/ft.	Effective unit weight pcf (pci)	Φ (deg)	Su = C psf (psi)	K* (pci)		ε ₅₀ *
								Wet	Dry	
1	58.0-53.0	5	Lean clay (CL)	-	100 (0.057)	-	500 (3.47)	-	-	0.01
2	53.0-47.0	11.0	Fat clay (CH)	-	116 (0.067)	-	1800 (12.50)	-	-	0.007
3	47.0-45.0	13.0	Silty sand (SM)	10	105 (0.060)	30	-	20	25	-
4	45.0-35.0	23.0	Nonplastic silt (ML)	8	120 (0.069)	28	-	20	25	-
5	35.0-32.0	26.0	Organic clay (OH)	-	100 (0.057)	-	500 (3.47)	-	-	0.02
6	32.0-20.0	38.0	Lean clay (CL)	10	123 (0.071)	-	2200 (15.27)	-	-	0.005
7	20.0-15.0	43.0	Plastic silt (ML)	20	48 (0.027)	-	1400 (9.72)	-	-	0.007
8	15.0-6.0	52.0	Lean clay (CL)	12	60 (0.034)	-	2500 (17.36)	-	-	0.005
9	6.0-2.0	56.0	Poorly graded/ clayey sand (SP/SC)	12	110 (0.063)	31	-	40	55	-
10	2.0-(-6.0)	64.0	Lean clay (CL)	16	116 (0.067)	-	1600 (11.11)	-	-	0.007
11	(-6.0)-(-10.0)	68.0	Silty sand (SM)	24	110 (0.063)	30	-	20	25	-
12	(-10.0)-(-15.0)	73.0	Lean clay (CL)	24	116 (0.067)	-	2500 (17.36)	-	-	0.005
13	(-15.0)-(-25.0)	83.0	Well graded sand (SW)	64	135 (0.078)	40	-	125	225	-
14	(-25.0)-(-35.0)	93.0	Clayey/silty sand (SC/SM)	51	67 (0.038)	34	-	105	190	-
15	(-35.0)-(-50.0)	108.0	Clayey/silty sand (SC/SM)	57	69 (0.039)	36	-	125	225	-
16	(-50.0)-(-55.0)	113.0	Lean clay (CL)	34	67 (0.038)	-	4000 (27.77)	-	-	0.004
17	(-55.0)-(-60.0)	118.0	Nonplastic silt (ML)	39	63 (0.036)	30	-	20	25	-
18	(-60.0)-(-64.0)	122.0	Poorly graded sand (SP)	75	72 (0.041)	37	-	125	225	-

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Bents 3 (Boring R-14-264)

Layer No.	Elevation Intervals (ft.)	Depth to Bottom of Layer (ft.)	Soil Type	N ₆₀ Blows/ft.	Effective unit weight pcf (pci)	Φ (deg)	Su = C psf (psi)	K* (pci)		E ₅₀ *
								Wet	Dry	
1	60.0-56.0	4	Poorly graded sand (SP)	-	110 (0.063)	-	-	20	25	-
2	56.0-47.0	13.0	Fat clay (CH)	9	110 (0.063)	-	1200 (8.33)	-	-	0.01
3	47.0-37.0	23.0	Poorly graded sand (SP)	20	110 (0.063)	30	-	20	25	-
4	37.0-32.0	28.0	Fat clay (CH)	15	54 (0.031)	-	1900 (13.14)	-	-	0.007
5	32.0-27.0	33.0	Fine sand/nonplastic silt (SP/ML)	17	48 (0.027)	30	-	-	-	-
6	27.0-22.0	38.0	Lean clay (CL)	15	129 (0.074)	-	3500 (20.83)	-	-	0.004
7	22.0-14.0	46.0	Silty sand/nonplastic silt (SM/ML)	28	115 (0.066)	32	-	60	90	-
8	14.0-11.0	49.0	Lean clay (CL)	17	123 (0.071)	-	3000 (13.88)	-	-	0.005
9	11.0-2.0	58.0	Nonplastic silt (ML)	15	110 (0.063)	29	-	20	25	-
10	2.0-(-3.0)	63.0	Lean clay (CL)	16	116 (0.067)	-	1600 (11.11)	-	-	0.007
11	(-3.0)-(-8.0)	68.0	Fat clay (CH)	16	61 (0.035)	-	4000 (27.77)	-	-	0.005
12	(-8.0)-(-18.0)	78.0	Nonplastic silt (ML)	30	63 (0.036)	30	-	20	25	-
13	(-18.0)-(-23.0)	83.0	Silty sand (SM)	45	64 (0.037)	33	-	75	120	-
14	(-23.0)-(-27.0)	87.0	Nonplastic silt (ML)	26	48 (0.027)	29	-	20	25	-
15	(-27.0)-(-51.0)	111.0	Poorly graded sand (SP)	70	135 (0.078)	38	-	125	225	-
16	(-51.0)-(-54.0)	114.0	Nonplastic silt (ML)	46	125 (0.072)	31	-	40	55	-
17	(-54.0)-(-62)	122.0	Silty sand (SM)	43	127 (0.073)	33	-	75	120	-

Abut. 4 (Boring R-14-265)

Layer No.	Elevation Intervals (ft.)	Depth to Bottom of Layer (ft.)	Soil Type	N ₆₀ Blows/ft.	Effective unit weight pcf (pci)	Φ (deg)	Su = C psf (psi)	K* (pci)		ε ₅₀ *
								Wet	Dry	
1	60.0-55.0	5.0	Plastic silt (ML)	-	100 (0.057)	-	400 (2.77)	-	-	0.01
2	55.0-47.0	13.0	Fat clay (CH)	6	116 (0.067)	-	1500 (10.41)	-	-	0.007
3	47.0-38.0	22.0	Silty sand (SM)	18	115 (0.066)	31	-	40	55	-
4	38.0-30.0	30.0	Plastic silt (ML)	6	120 (0.069)	-	1500 (10.41)	-	-	0.007
5	30.0-17.0	43.0	Silty/clayey sand (SM/SC)	23	115 (0.066)	31	-	40	55	-
6	17.0-2.0	58.0	Nonplastic silt/ clay (ML/CL)	16	48 (0.027)	28	-	20	25	-
7	2.0-(-8.0)	68.0	Fat clay (CH)	12	123 (0.071)	-	4000 (27.77)	-	-	0.005
8	(-8.0)-(-11.0)	71.0	Lean clay (CL)	-	123 (0.071)	-	2400 (16.66)	-	-	0.005
9	(-11.0)-(-18.0)	78.0	Silty/clayey sand (SM/SC)	36	127 (0.073)	33	-	75	120	-
10	(-18.0)-(-23.0)	83.0	Silty/clayey sand (SM/SC)	83	130 (0.075)	36	-	125	225	-
11	(-23.0)-(-29.0)	89.0	Lean clay/silt (CL/ML)	28	67 (0.038)	-	4000 (27.77)	-	-	0.004
12	(-29.0)-(-43.0)	103.0	Poorly graded sand (SP)	64	73 (0.042)	38	-	125	225	-
13	(-43.0)-(-48.0)	108.0	Nonplastic silt (ML)	26	48 (0.027)	29	-	20	25	-
14	(-48.0)-(-58.0)	118.0	Silty sand (SM)	70	68 (0.039)	36	-	125	225	-
15	(-58.0)-(-62.0)	122.0	Silty sand/nonplastic silt (SM/ML)	60	68 (0.039)	35	-	125	225	-

* For P-Y Curve analysis (based on L-pile Manual)

**Foundation Report for N.
Firestone Blvd. Bridge, Bridge No.
53C-2194, dated 5/30/2013**

Memorandum

*Flex your power!
Be energy efficient!*

To: MR. RAMIN RASHEDI, CHIEF
Structures Design Branch 11
Office of Bridge Design-South 1
Attention: Mr. Yeo Yoon

Date: May 30, 2013
File: 07-LA-005-PM0.34

From: DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Geotechnical Services
Office of Geotechnical Design – South 1
Branch C

07-215921 (0700001832)
Bridge No. 53C-2194
North Firestone Blvd Bridge

Subject: Foundation Report for North Firestone Boulevard Bridge (Bridge No. 53C-2194)

INTRODUCTION

The Office of Geotechnical Design-South 1 was requested to provide foundation recommendations for the proposed replacement of North Firestone Boulevard Bridge over Coyote Creek Channel crossing Interstate 5 in Los Angeles County. This replacement is part of the I-5 Corridor Improvement Project proposing to provide ten standard width lanes, two HOV lanes, standard outside shoulder and a fifteen (15) feet CHP enforcement area on each side of the median between Los Angeles/Orange County line and Interstate 605. The project has been divided into five (5) segments. This bridge construction is one of the proposed structures for Segment 2 bounded by Artesia Boulevard on southeast and Valley View Avenue on northwest in the cities of La Mirada, Cerritos and Santa Fe Springs. Foundation recommendations for other structures within the boundary of this segment will be prepared separately.

PROJECT DESCRIPTION

The existing North Firestone Boulevard Bridge (No. 53C-0149) is approximately 90 foot long three-span cast-in-place reinforced concrete (CIP/RC) bridge founded on 32 ton reinforced concrete piles. In 1950, the bridge was constructed at the northeast of the existing Coyote Creek Bridge (No. 53-0279) of Interstate 5 over the channel. The new North Firestone Blvd Bridge (No. 53C-2194) will be approximately 146 foot long four-span bridge consisting of PC/PS void slab for the first three spans and CIP/RC slab for the fourth span. Three spans are sufficient to cross over the Coyote Creek, but the fourth span was added to accommodate future bike path proposed underneath the span between Abutment 4 and 5. Also, Abutment 4 will be crossing over existing drainage pipe/culvert by adjusting the pile layout. Geosynthetic reinforcement will be used for backfilling Abutment 1 in order to minimize transfer of lateral pressure to the channel wall due to backfilling the abutment. Due to shifting of new I-5 alignment, the new North Firestone Blvd Bridge (No. 53C-2194) will be constructed about 60 feet northeast of current bridge location, and the location of existing North Firestone Blvd Bridge will be occupied by new Coyote Creek Bridge (No. 53-3044) after demolition of the existing bridge.

SCOPE OF WORK

The following tasks were performed for preparing foundation recommendations:

- Review of the pertinent reports, plans and as-built plans
- Field reconnaissance by an engineer to observe the existing conditions at the bridge site
- Project coordination with the Office of Bridge Design-South 1, Underground Service Alert, Caltrans Maintenance, URS Corporation and District 7 Office of Environmental Engineering and Corridor Studies
- Field exploration and laboratory testing
- Interpretation of subsurface soil and groundwater conditions at the bridge site
- Engineering analyses and preparation of foundation recommendations for design and construction of the proposed bridge

PERTINENT DOCUMENTS AND FIELD INVESTIGATIONS

For the I-5 Corridor Improvement Project, geotechnical and environmental subsurface investigations were performed from Los Angeles/Orange county line to Interstate 605 by URS Corporation in 2008. During the investigation, two exploratory borings and three cone penetration tests were conducted in acceptable proximity to the new locations of bridge foundations. The exploration was conducted by URS Corporation. During the exploratory borings, Standard Penetration Tests (SPTs) were performed. The SPTs were performed in accordance with ASTM Test Method D1586 using a standard 1.4 inch sampler with a 140 pound hammer dropped 30 inches. Pore pressure dissipation tests (PPDT) were conducted at selected depths during the cone penetration tests to identify the static water table and/or piezometric water surface. The information on the field exploration is summarized in below Table 1.

In addition to the above field investigation and testing, the following documents were reviewed for preparation of the recommendations:

- As-built plans for Bridges across Coyote Creek (No. 53-0279, 53C-0149, 53C-0150), July 1950.
- As-built plans for Coyote Creek Bridge Widening (No. 53-0279), March 1959.
- As-built plans for Bridge across Coyote Creek Pier Modification, July 1966.
- Hazardous Waste Assessment for Coyote Creek Bridges at Interstate 5, I-5 Improvement Project, Segment 2, La Mirada, California prepared by District 7 Office of Environmental Engineering and Corridor Studies (OEECS)-Hazardous Waste Branch, August 2011.
- Preliminary Foundation Report for Coyote Creek Bridge (Replace), September 8, 2009.
- Preliminary Foundation Report for Coyote Creek Bridge (Replace), June 30, 2010.

District 7 Office of Environmental Engineering and Corridor Studies informed that installation of the proposed pile foundation for this bridge does not cause migration of contamination in groundwater and subsurface soil.

Table 1 – Summary of Subsurface Exploration

Borehole ID	Date Drilled	Total Depth (ft)	Surface Elevation (ft)	Station (I-5 CL)	Offset (ft)	Remarks
R-08-009	08/20/2008	101.5	69.2	16+82.5	Rt 101.4	URS
R-08-010	09/09//2008	101.5	67.6	18+48.6	Rt 91.1	URS
CPT-08-130	08/21/2008	100.0	67.6	18+60.2	Rt 76.4	URS
CPT-08-131	08/21/2008	100.0	69.5	16+89.2	Rt 110.7	URS
CPT-08-132	08/22/2008	100.0	68.9	17+25.6	Rt 50.28	URS

Log of Test Borings for the recent field investigation and copies of as-built LOTB sheets have been sent to the bridge designer by URS Corporation and the Office of Geotechnical Design-South 1 to be included in the project plans.

LABORATORY TESTING

Selected samples taken during the field investigation were tested at URS Soil Laboratory in order to obtain or derive relevant physical and engineering soil properties. The following laboratory tests were conducted to supplement the observations recorded during the field investigation:

- In-situ Moisture Content and Unit Weight
- Sieve analysis or percent passing No. 200 sieve, Atterberg Limits
- Minimum Resistivity, pH, Sulfate and Chloride content

The laboratory tests were conducted in general accordance with California Test Methods or American Society for Testing and Material (ASTM) Standards.

GEOLOGY AND SUBSURFACE CONDITIONS

Regional Geology

The subject site is located within the Peninsular Range Geomorphic Province. The Peninsular Ranges are characterized by northerly and northwesterly trending mountain ranges and associated valleys. The site is located within the Coastal Plain of Los Angeles County, which is comprised of shallow Pleistocene marine sediments overlain by Holocene alluvial deposits (Department of Water Resources, 1961). The Coastal Plain is bounded by the Santa Monica Mountains, Elysian Hills, Repetto Hills, Merced Hills and Puente Hills on the north and bounded by the Palos Verdes Hills on the south. Northwest-southeast trending strike-slip faults are present within and bordering the Coastal Plain (Newport Inglewood Fault and Whittier Fault). Reverse and thrust faults including the Santa Monica-Hollywood-Raymond Fault and Puente Hills Blind Thrust Fault are present and associated with shortening or compression of the Coastal Plain. The active fault(s)

nearby the site are discussed in Seismic Recommendations, Faulting and Seismicity section of this report.

Site Geology

The entire project site is directly underlain by recent Holocene age alluvium. This alluvium was deposited primarily by floods emanating from the Los Angeles River and the San Gabriel River and from the mountains and hills to the north of the Coastal Plain adjacent to the project location. The alluvium consists predominantly of interbedded soft to very stiff clay with varying amount of sand and medium dense to very dense sand, clayey sand and silty sand. Depth to bedrock or bedrock like material should be estimated at greater than 400 feet for this project. The proposed bridge foundations for abutments and bent will be founded in alluvium. The closest fault to the site is the Puente Hills Blind Thrust Fault oriented as a low angle north dipping thrust fault approximately 3.6 miles northwest of the site (Caltrans, 2009).

Subsurface Conditions

Based on information from the exploratory borings in 2008, artificial fill and alluvial deposits underlie the bridge site. The artificial fill material is about five (5) feet thick and generally consists of sand with varying amount of gravel and clay. The fill appears to be backfill material for the channel walls since the borings were located relatively close to the channel. Variation of thickness and material of the artificial fill should be anticipated because of nature of man-made fill. The alluvial deposits underlying the fill are composed of clay with varying amount of sand, clayey sand, and sand with varying amount of silt. The subsurface soil at each proposed bridge support was generalized per information revealed by exploratory borings and/or CPTs located for each foundation location. The soil profile and design strength parameters for each bridge support are presented in Appendix 1.

Groundwater

In the 1959 Log of Test Borings, measurement of groundwater is recorded at elevation of 53.2 feet. Five pore pressure dissipation test (PPDT) were conducted during cone penetration tests (CPT) in 2008. One exploratory boring (R-09-230) was conducted at southeast corner of existing Coyote Creek Bridge in 2009, and three transducers were installed at different depths in the boring to monitor location of groundwater by measuring static water pressure. The test results indicate that there are two different groundwater zones in this bridge site. The measurements of groundwater table are summarized in Table 2.

Table 2 – Measurement of Groundwater Table

Borehole ID	Date Drilled	Surface Elevation (ft)	Transducer Depth (ft)	Groundwater Depth (ft)	Groundwater Elev (ft)	Remarks
B-1	04/11/1957	66.7	-	13.2	53.2	
CPT-08-130	08/21/2008	67.6	16.7	16.0	51.6	PPDT
CPT-08-131	08/21/2008	69.5	19.0	17.9	51.6	PPDT
		69.5	57.1	38.6	30.9	PPDT
		69.5	93.0	39.9	29.6	PPDT
CPT-08-132	08/22/2008	68.6	55.6	39.9	28.7	PPDT
R-09-230	02/24/2010	65.9	21.5	18.8	47.1	
		65.9	60.0	36.2	29.7	
		65.9	114.5	39.0	26.9	
	03/25/2010	65.9	21.5	18.9	47.0	
		65.9	60.0	36.4	29.5	
		65.9	114.5	38.5	27.4	
	06/04/2012	65.9	21.5	19.2	46.7	
		65.9	60.0	28.2	37.7	
		65.9	114.5	29.6	36.3	

As shown in the table, there are two different groundwater zones indicated by water pressures measured by PPDT in CPT-08-131 and three transducers in R-09-230. Groundwater table in upper zone ranges between an elevation of 47.1 feet and 51.6 feet. Deeper groundwater table fluctuates from an approximate elevation of 26.9 feet to 37.7 feet. For conventional and seismic geotechnical analysis, the design groundwater table is assumed to be at an elevation of 53.0 feet under the consideration of the highest groundwater table in the above measurements.

SCOUR EVALUATION

The existing channel is concrete lined where this bridge is located. Therefore, scour is not considered in the foundation design recommendations in this report.

CORROSION EVALUATION

Selected samples were tested at URS Soil Laboratory in order to obtain corrosivity parameters including pH, resistivity, sulfate and chloride content. Corrosion tests from four borings (R-08-010, R-08-011, R-09-209 and R-09-230) conducted for Coyote Creek Bridge (No. 53-3044) are used for evaluating corrosivity in this bridge site. The results are summarized in Table 3.

Table 3 – Summary of Corrosion Test Results

Borehole ID	Depth (ft)	pH	Minimum Resistivity (ohm-cm)	Sulfate Content (ppm)	Chloride Content (ppm)
R-08-010	0.0 – 5.0 (combined)	10.2	1700	462	315
R-08-011	0.0 – 5.0 (combined)	8.3	3700	696	270
R-09-209	5.0 – 35.0 (combined)	7.0	835	15	120
R-09-209	40.0 – 55.0 (combined)	7.0	1250	105	165
R-09-209	60.0 – 100.0 (combined)	6.9	1950	30	90
R-09-230	5.0 – 120.0 (combined)	6.3	1350	399	105

Note: N/A = Not applicable

Caltrans currently considers a site to be corrosive to foundation elements if one or more of the following conditions exist: Chloride concentration is greater than or equal to 500 ppm, sulfate concentration is greater than or equal to 2000 ppm, or the pH is 5.5 or less. Based on the results of corrosion tests, the site is considered non-corrosive to foundation elements.

SEISMIC RECOMMENDATIONS

Faulting and Seismicity

The Puente Hills Blind Thrust (PHBT) fault is the controlling seismic source for this bridge site. The PHBT is a reverse fault dipping 25 degrees to the north. The design Acceleration Response Spectrum (ARS) curve was developed for the seismic design of this bridge per the Appendix B of the Caltrans Seismic Design Criteria, Version 1.5 (August 2009) and the Caltrans Geotechnical Services-Design Manual, Version 1.0 (August 2009). In addition to the criteria, various tools in the website of “Caltrans ARS Online” and “United States Geologic Survey-Interactive Deaggregation” were utilized to produce the curve. Based on the recent field investigation, the average shear wave velocity (V_{s30}) for the upper 30 meters (100 feet) of subsurface soils at the site was estimated to be about 250 m/sec (820 ft/sec). The information utilized to determine the curve is shown in following table:

Table 4 – Fault Information

Fault Name	Type	M_{max}	Dip direction (Dip angle)	R_X	R_{JB}	R_{RUP}
Puente Hills Blind Thrust	R	7.3	North (25 degrees)	5.8 km (3.6 mile)	5.8 km (3.6 mile)	6.5 km (4.0 mile)

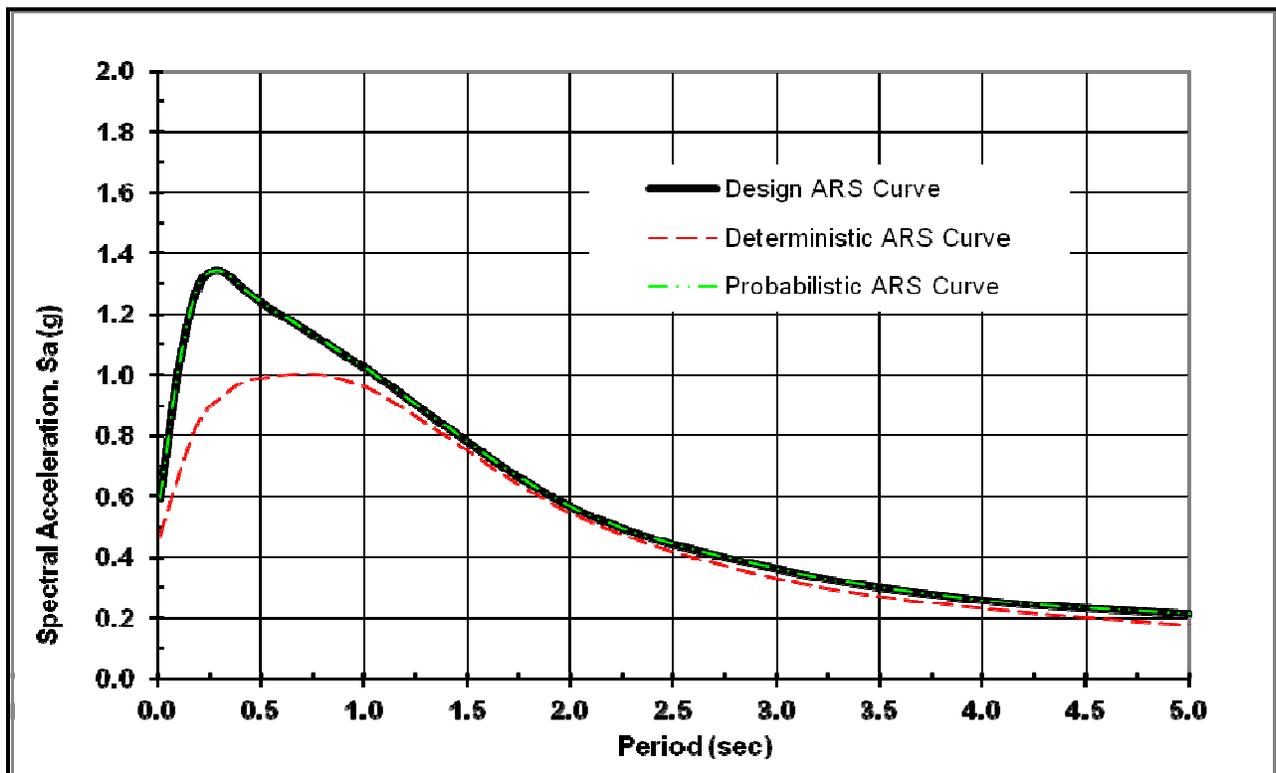
Notes: R_X = Horizontal distance to the fault trace
 R_{JB} = Shortest horizontal distance to the surface projection of the rupture area
 R_{RUP} = Closest distance to the fault rupture plane
 M_{max} = Earthquake maximum moment magnitude

As shown in Figure 1, the design ARS curve is an envelope of deterministic and probabilistic acceleration response spectrum curve. The probabilistic ARS curve was developed with a ground motion return period of 975 year which is corresponding with 5% probability of exceedance in 50 years and the Next Generation Attenuation (NGA) was used for the deterministic ARS curve. The design Peak Ground Acceleration (PGA) has been evaluated as 0.60g from the design ARS curve.

Table 5 – Design Spectral Acceleration for North Firestone Blvd Bridge (No. 53C-2194)

Period (sec)	Spectral Acceleration (g)		
	Deterministic	Probabilistic	Design
0.010	0.472	0.594	0.594
0.100	0.665	1.021	1.021
0.200	0.848	1.301	1.301
0.300	0.923	1.344	1.344
0.500	0.989	1.240	1.240
1.000	0.960	1.025	1.025
2.000	0.545	0.568	0.568
3.000	0.330	0.363	0.363
4.000	0.232	0.260	0.260
5.000	0.178	0.215	0.215

Figure 1 – Design ARS Curve for North Firestone Blvd Bridge (No. 53C-2194)



Surface Fault Rupture Hazard Evaluation

The bridge site is not located within any California Geologic Survey (CGS) designated Earthquake Fault Zone (EFZ). Therefore, the site is not considered prone to surface fault rupture hazard and the possibility of surface fault rupture hazard at the bridge site is considered very low.

Liquefaction Potential

Liquefaction is a phenomenon in which saturated, loose to medium dense sand and silt behave like a fluid when subjected to high intensity ground shaking. Liquefaction occurs when three general conditions exist: (1) shallow ground water (2) low-density, fine, sandy and/or silty soils and (3) high-intensity ground motion. The primary effect of liquefaction include sand boils, settlement and settlement-related downdrag to piles, lateral spreading and flow slides in the areas with sloping ground.

Three cone penetration tests (CPT) conducted in 2008 were analyzed in order to evaluate liquefaction potential at this bridge site. Based on the analysis results, the bridge site is not susceptible to liquefaction despite relatively high groundwater table because the site is underlain by mostly cohesive soil such as clay and/or silt in upper 50 feet.

AS-BUILT FOUNDATION DATA

As described earlier in the section of Project Description, the existing North Firestone Blvd Bridge is three-span cast-in-place reinforced concrete bridge supported by two pier located inside the Coyote Creek channel. Abutments and pier of the bridge are founded on 32 ton reinforced concrete piles. The information for piles is presented in Table 6:

Table 6 – Detailed Information of as-built piles

Bridge ID	Support Location	Pile Type	Bottom of Pile Cap Elevation (ft)	Specified Tip Elevation (ft)
Br. 53C-0149 (1950)	Abut 1 & 4	Concrete pile (32 tons)	64.0	29.3
	Pier 2 & 3	Concrete pile (32 tons)	48.0	29.3

It should be noted that the above information is solely based on currently available as-built plans and documents for this bridge. Therefore, actual field condition of the piles might be different from the information in this report.

FOUNDATION RECOMMENDATIONS

As described previously in the beginning of the report, the new bridge will be a four-span bridge consisting of PC/PS void slab for the first three spans and CIP/RC slab for the fourth span between Abutment 4 and 5. Three spans are sufficient to cross over Coyote Creek, but the fourth span was added to accommodate future bike path proposed underneath the span between Abutment 4 and 5 of the new bridge. Abutment 4 will be crossing over existing drainage pipe/culvert by adjusting pile layout, and Abutment 1 of the bridge will be backfilled using geosynthetic reinforcement in order to minimize lateral pressure to the channel wall due to backfilling the abutment.

In accordance with Caltrans LRFD Implementation Memo (December 2008), Load and Resistance Factor Design (LRFD) in AASHTO LRFD Bridge Design Specification (4th Edition) and California Amendment (December 2008) was applied for geotechnical foundation design of bents, and Working Stress Design in Caltrans Bridge Design Specification (April 2000) was utilized for the abutments.

Based on the foundation information provided by the Office of Bridge Design-South 1, foundations of Abutments 1, 4 and 5 are consisting of sixteen (16), twenty four (24) and ten (10) piles, respectively. The detailed information of foundation is shown in Table 7:

Table 7 – General Foundation Information

Location	Design Method	Pile Type	Finished Grade Elev (ft)	Cut-off Elev (ft)	Pile Cap Size (ft)		Permissible Settlement under Service Load (in)	Number of Piles per support
					B	L		
Abut 1	WSD	Class 140 Alt W	69.0	66.42	6.0	49.0	1.0	16
Pier 2	LRFD	Class 140 Alt W	47.5	41.42	8.0	49.0	1.0	24
Pier 3	LRFD	Class 140 Alt W	47.5	41.42	8.0	47.5	1.0	26
Abut 4	WSD	Class 140 Alt W	69.0	65.92	5.5	47.4	1.0	22
Abut 5	WSD	Class 140 Alt W	66.0	64.92	2.5	57.7	1.0	10

Also, the foundation loads from the Office of Bridge Design-South 1 are presented in the following table.

Table 8 – Foundation Design Load provided by Structure Design

Location	Service-1 Limit State (kips)			Lateral Load (kips)
	Total Load		Permanent Load	
	Per Support	Max Per Pile		
Abut 1	703	80	491	-
Pier 2	1342	95	987	-
Pier 3	1342	95	987	-
Abut 4	1158	140	742	-
Abut 5	832	104	532	-

Location	Strength Limit State (kips)				Extreme Even Limit State (kips)			
	Compression		Tension		Compression		Tension	
	Per Support	Per Pile	Per Support	Per Pile	Per Support	Per Pile	Per Support	Per Pile
Abut 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pier 2	2246	128	N/A	0	1243	203	N/A	107
Pier 3	2246	128	N/A	0	1243	203	N/A	107
Abut 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Abut 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: N/A – Not Applicable

Axial geotechnical pile resistance was calculated using only skin friction resistance. Pile end bearing was not considered for the resistance under the consideration of relatively large movement required for mobilizing the end bearing and uncertainty of plugging at the tip of the proposed pipe pile.

The resistance of the proposed pipe pile for each support was estimated using static analysis method in AASHTO LRFD Bridge Design Specification (4th Edition) by means of employing the software of Driven 1.2 from the Federal Highway Administration.

The nominal resistance for each abutment was calculated by applying a factor of safety (2.0) to the load in the service limit state, and the nominal resistance for bent was chosen as larger of the load in strength limit state divided by a resistance factor of 0.7 and the load in extreme event limit state.

Abutment 1 and 4 are located relatively close to the channel walls and drainage pipe/culvert. Therefore, pre-drilling is recommended to minimize an impact on the structures due to driving piles by means of loosening subsurface material. The pre-drilling should be extended to bottom of the channel and the diameter of hole should be one (1) inch less than the diameter of pile. The design tip elevations of piles at the abutments were calculated by considering the pre-drilling.

As for lateral pile resistance, the p-y data were e-mailed to the bridge designer, and this office was informed that the design pile tip elevation for lateral load will be calculated and incorporated into pile data table by the Office of Bridge Design-South 1. The tables for foundation recommendation and pile data table for each support are provided in following table 9 through 11:

Table 9 – Foundation Recommendation for Abutments

Location	Pile Type	Cut-off Elevation (ft)	LRFD Service-1 Limit State (kips)		LRFD Service-1 Limit State Total Load (kips) per Pile	Nominal Resistance (kips)	Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
			Total	Perma-nent					
Abut 1	Class 140 Alt W	66.42	703	491	80	160	9.0 (a) 14.5 (c)	9.0	160
Abut 4	Class 140 Alt W	65.92	1158	742	140	280	-10.0 (a) 12.5 (c)	-10.0	280
Abut 5	Class 140 Alt W	64.92	832	532	104	210	5.0 (a) 16.5 (c)	5.0	210

Notes:

1. Design tip elevations are controlled by: (a) Compression, (c) Settlement, (d) Lateral Load, respectively.
2. The specified tip elevation shall not be raised above the design tip elevations for lateral and tolerable settlement.
3. Design tip elevation for lateral load will be provided and incorporated into the table by the Office of Bridge Design-South 1.

Table 10 – Foundation Recommendation for Bents

Location	Pile Type	Cut-off Elevation (ft)	Service-1 Limit State Load (kips) per support	Total Permissible Support Settlement (inches)	Required Factored Nominal Resistance (kips)				Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
					Strength		Extreme Event				
					Comp ($\phi=0.7$)	Tension ($\phi=0.7$)	Comp ($\phi=1.0$)	Tension ($\phi=1.0$)			
Pier 2	Class 140 Alt W	41.42	1342	1	128	0	203	107	-10.0(a-1) -13.0(a-2) -4.0(b-2) 4.0(c)	-13.0	210
Pier 3	Class 140 Alt W	41.42	1342	1	128	0	203	107	-10.0(a-1) -13.0(a-2) -4.0(b-2) 4.0(c)	-13.0	210

Notes:

1. Design tip elevations are controlled by: (a-1) Compression (Strength Limit), (a-2) Compression (Extreme Event Limit), (b-2) Tension (Extreme Event Limit), (c) Settlement, (d) Lateral Load.
2. The specified tip elevation shall not be raised above the design tip elevations for tension, lateral, and tolerable settlement.
3. Design tip elevation for lateral load will be provided and incorporated into the table by the Office of Bridge Design-South 1.

Table 11 – Pile Data Table

Location	Pile Type	Cut-off Elevation (ft)	Nominal Resistance (kips)		Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance (kips)
			Compression	Tension			
Abut 1	Class 140 Alt W	66.42	160	0	9.0 (a) 14.5 (c)	9.0	160
Pier 2	Class 140 Alt W	41.42	210	110	-13.0 (a) -4.0 (b) 4.0(c)	-13.0	210
Pier 3	Class 140 Alt W	41.42	210	110	-13.0 (a) -4.0 (b) 4.0(c)	-13.0	210
Abut 4	Class 140 Alt W	65.92	280	0	-10.0 (a) 12.5 (c)	-10.0	280
Abut 5	Class 140 Alt W	64.92	210	0	5.0 (a) 16.5 (c)	5.0	210

Notes:

1. Design tip elevations are controlled by: (a) Compression, (b) Tension, (c) Settlement, (d) Lateral Load, respectively.

Also, geosynthetic reinforcement will be used to backfill the abutment 1 in order to minimize transferring lateral pressure from abutment to channel wall due to backfilling the abutment. Geotechnical design recommendations for the placing geosynthetic reinforcement are as below:

- Vertical Reinforcement Spacing: 1.5 feet.
- Primary Reinforcement Length: 12.0 feet
- Return Embedment Length: 4.0 feet
- Long Term Tensile Strength required for geosynthetic reinforcement: 1,500 lbf/ft
- Geosynthetic Reinforcement Type: Geotextile or Geogrid

Fill material between geosynthetic reinforcement should be compacted to a relative compaction of at least 95 percent and meet requirement for gradation specified in 47-2.02 Caltrans Standard Specification. It should be noted that lateral pressure due to traffic load will be applied to the bridge support despite using the geosynthetic reinforcement and using at-rest lateral earth pressure coefficient is recommended to estimate the earth pressure due to the traffic load.

APPROACH EMBANKMENT

Based on the bridge plans, additional fill will be placed on approach embankment of Abutment 1, 4, and 5 in order to raise profile of new bridge by approximately 5 feet. This additional fill will cause vertical settlement consisting of immediate settlement and consolidation settlement. Considering thickness of clay and/or silt soil layers encountered during exploratory borings at the abutments, ninety (90) day settlement period and three (3) foot surcharge will be required to complete the maximum two (2) inch consolidation settlement at the abutments before driving piles or excavating footings for the abutments. It is recommended that the surcharge be extended sixty (60) feet away from Abutment 1 and 4.

NOTES TO DESIGNER

1. Pre-drilling is recommended for piles at Abutment 1 and 4 in order to minimize an impact on the channel walls due to driving piles by means of loosening subsurface material per Standard Specification section 49-2.01C(3). The pre-drilling should be extended to bottom of the channel and the diameter of pre-drilling should be one (1) inch less than the diameter of pile. Removal of subsurface material is not required during the pre-drilling.
2. The pile nominal driving resistances in pile data table should be verified by Pile Driving Acceptance Criteria specified in Standard Specification section 49-2.01A. Re-tapping should be performed two days later after initial driving if the pile nominal driving resistance is not satisfied in initial pile driving.

CONSTRUCTION CONSIDERATIONS

1. Dewatering may be necessary for the excavation of pier 2 and 3 footings since the bottoms of footing are below groundwater measured during field exploration.
2. The Office of Geotechnical Design-South 1 should be consulted if adjustment of footing size or pile spacing becomes necessary due to conflict with existing piles.
3. Coyote Creek Channel is under jurisdiction of Orange County Flood Control and U.S. Army Corps of Engineers. Therefore, contractor should be aware that any construction activity within the channel such as dewatering and pile driving may need to be in accordance with guidelines and/or conditions imposed by the agencies.

Mr. Ramin Rashedi
May 30, 2013
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North Firestone Blvd Bridge
07-215921 (0700001832)

If you have any questions or comments, please feel free to contact Chungkeun Lee at 213-620-2148 or Chi-Tseng (Ted) Liu at 213-620-2136.

Prepared by: Date: 05/30/2013



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Appendix 1 – Generalized soil profile and Design strength parameters

Abutment 1

Approximate Elev (ft)	Soil Type	N ₁₆₀ (Blow Counts)	Friction Angle (deg)	Undrained Shear Strength (lbf/ft ²)
+68.5 to 52.5	Lean clay or Silt (CL or ML)	6	-	750
52.5 to 47.5	Sand with silt or Clayey sand (SP-SM or SC)	21	33	-
47.5 to 17.5	Lean clay (CL)	7	-	850
17.5 to 14.5	Lean clay or Silt (CL or ML)	18	-	2400
14.5 to 3.5	Sand with clay or Clayey sand (SP-SC or SC)	48	37	-
3.5 to -5.5	Lean clay (CL)	10	-	1300
-5.5 to -11.5	Sand with silt (SP-SM)	36	36	-
-11.5 to -19.5	Lean clay (CL)	16	-	2000
-19.5 to -27.5	Sand with silt (SP-SM)	52	38	-

Pier 2 & 3

Approximate Elev (ft)	Soil Type	N ₁₆₀ (Blow Counts)	Friction Angle (deg)	Undrained Shear Strength (lbf/ft ²)
+47.5 to 17.5	Lean clay or Fat clay (CL or CH)	5	-	600
17.5 to 8.5	Lean clay or Silt (CL or ML)	18	-	2400
8.5 to 3.5	Sand with silt (SP-SM)	34	35	-
3.5 to -5.5	Lean clay (CL)	10	-	1300
-5.5 to -11.5	Sand with clay (SP-SC)	35	36	-
-11.5 to -21.5	Lean clay or Fat clay (CL or CH)	16	-	2000
-21.5 to -26.5	Sand with silt (SW-SM)	46	37	-

Abutment 4 & 5

Approximate Elev (ft)	Soil Type	N ₁₆₀ (Blow Counts)	Friction Angle (deg)	Undrained Shear Strength (lbf/ft ²)
+69.0 to 62.5	Clayey sand (SC)	20	32	-
62.5 to 55.5	Lean clay (CL)	9	-	1000
55.5 to 50.5	Clayey sand (SC)	15	31	-
50.5 to 22.5	Lean clay (CL)	6	-	750
22.5 to 15.5	Clayey sand (SC)	28	35	-
15.5 to 10.5	Lean clay (CL)	17	-	2300
10.5 to 5.5	Lean clay (CL)	34	-	4000
5.5 to 0.5	Sand with clay (SP-SC)	57	38	-
0.5 to -4.5	Lean clay (CL)	12	-	1500
-4.5 to -9.5	Lean clay (CL)	15	-	2000
-9.5 to -14.5	Lean clay (CL)	23	-	3000
-14.5 to -21.5	Lean clay (CL)	10	-	1200

**Foundation Report for Coyote
Creek Bridge (replace), Bridge No.
53-3044, dated 5/30/2013**

Memorandum

*Flex your power!
Be energy efficient!*

To: MR. RAMIN RASHEDI, CHIEF
Structures Design Branch 11
Office of Bridge Design-South 1
Attention: Mr. Daryoush Tavatli

Date: May 30, 2013
File: 07-LA-005-PM0.34

From: DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Geotechnical Services
Office of Geotechnical Design – South 1
Branch C

07-215921 (0700001832)
Bridge No. 53-3044
Coyote Creek Bridge

Subject: Foundation Report for Coyote Creek Bridge (Bridge No. 53-3044)

INTRODUCTION

The Office of Geotechnical Design-South 1 was requested to provide foundation recommendations for the proposed replacement of Coyote Creek Bridge (No. 53-0279) over Coyote Creek Channel crossing Interstate 5 in Los Angeles County. This replacement is part of the I-5 Corridor Improvement Project proposing to provide ten standard width lanes, two HOV lanes, standard outside shoulder and a fifteen (15) feet CHP enforcement area on each side of the median between Los Angeles/Orange County line and Interstate 605. The project has been divided into five (5) segments. This bridge replacement is one of the proposed structures for Segment 2 bounded by Artesia Boulevard on southeast and Valley View Avenue on northwest in the cities of La Mirada, Cerritos and Santa Fe Springs. Foundation recommendations for other structures within the boundary of this segment will be prepared separately.

PROJECT DESCRIPTION

The existing Coyote Creek Bridge (No. 53-0279) consists of one T-girder reinforced concrete slab bridge and two cast-in-place reinforced concrete (CIP/RC) slab bridges. Firstly, the T-girder RC slab bridge was constructed as three-span bridge founded on timber piles in 1934, and the CIP/RC slab bridges on concrete piles or steel Raymond taper piles were constructed at left (southwest) and right (northeast) of the first bridge in order to widen the freeway in 1950 and 1959, respectively. The piers of bridge were modified by US Army Corps of Engineer in 1966 during construction of concrete lining for the channel.

The existing bridge will be replaced by approximately 142 foot long four-span bridge consisting of PC/PS void slab for the first three spans and CIP/RC slab for the fourth span. Three spans are sufficient to cross over the Coyote Creek, but the fourth span was added to accommodate future bike path proposed underneath the span between Abutment 4 and 5. Also, geosynthetic reinforcement will be used for backfilling Abutment 1 in order to minimize transfer of lateral pressure to the channel wall due to backfilling the abutment.

During the first construction stage for the new bridge, the existing North Firestone Boulevard Bridge (No. 53C-0149) will be demolished to construct northeast half of the new Coyote Creek Bridge (No. 53-3044). The existing Coyote Creek Bridge (No. 53-0279) will be replaced by southwest half of the new bridge (No. 53-3044) in the second construction stage.

SCOPE OF WORK

The following tasks were performed for preparing foundation recommendations:

- Review of the pertinent reports, plans and as-built plans
- Field reconnaissance by an engineer to observe the existing conditions at the bridge site
- Project coordination with the Office of Bridge Design-South 1, Underground Service Alert, Caltrans Maintenance, URS Corporation and District 7 Office of Environmental Engineering and Corridor Studies
- Field exploration and laboratory testing
- Interpretation of subsurface soil and groundwater conditions at the bridge site
- Engineering analyses and preparation of foundation recommendations for design and construction of the proposed bridge

PERTINENT DOCUMENTS AND FIELD INVESTIGATIONS

For the I-5 Corridor Improvement Project, geotechnical and environmental subsurface investigations were performed from Los Angeles/Orange county line to Interstate 605 by URS Corporation in 2008. During the investigation, three exploratory borings and four cone penetration tests were conducted in acceptable proximity to the new locations of bridge foundations. Additional subsurface investigation, consisting of two exploratory borings and one cone penetration test, was performed in order to fully investigate each bridge foundation location. The exploration was conducted by URS Corporation and work force of Caltrans.

During the exploratory borings, Standard Penetration Tests (SPTs) and relatively undisturbed sampling were performed. The SPTs were performed in accordance with ASTM Test Method D1586 using a standard 1.4 inch sampler with a 140 pound hammer dropped 30 inches. Relatively undisturbed soil samples were also obtained using a 2.0 inch California modified sampler.

Pore pressure dissipation tests (PPDT) were conducted at selected depths during the cone penetration tests to identify the static water table and/or piezometric water surface. The information on the field exploration is summarized in Table 1.

In addition to the above field investigation and testing, the following documents were reviewed for preparation of the recommendations:

- As-built plans for Bridges across Coyote Creek (No. 53-0279), July 1950.
- As-built plans for Coyote Creek Bridge Widening (No. 53-0279), March 1959.

- As-built plans for Bridge across Coyote Creek Pier Modification (No. 53-0279, 53C-0149, 53C-0150), 1966.
- Hazardous Waste Assessment for Coyote Creek Bridges at Interstate 5, I-5 Improvement Project, La Mirada, California, prepared by District 7 Office of Environmental Engineering and Corridor Studies (OEECS)-Hazardous Waste Branch, August 2011.
- Preliminary Foundation Report for Coyote Creek Bridge (Replace), September 8, 2009.
- Preliminary Foundation Report for Coyote Creek Bridge (Replace), June 30, 2010.

District 7 Office of Environmental Engineering and Corridor Studies informed that installation of the proposed pile foundation for this bridge does not cause migration of contamination in groundwater and subsurface soil.

Table 1 – Summary of Subsurface Exploration

Borehole ID	Date Drilled	Total Depth (ft)	Surface Elevation (ft)	Station (I-5 CL)	Offset (ft)	Remarks
R-08-009	08/20/2008	101.5	69.2	16+82.5	Rt 101.4	URS
R-08-010	09/09//2008	101.5	67.6	18+48.6	Rt 91.1	URS
R-08-011	09/08/2008	101.5	68.6	19+19.9	Lt 110.4	URS
R-09-209	09/03/2009	101.5	46.3	18+14.5	Lt 167.8	URS
R-09-230	10/28/2009	121.5	65.9	17+63.6	Lt 205.5	URS
CPT-08-004	04/29/2008	40.0	67.9	17+10.1	Lt 123.2	URS
CPT-08-130	08/21/2008	100.0	67.6	18+60.2	Rt 76.4	URS
CPT-08-131	08/21/2008	100.0	69.5	16+89.2	Rt 110.7	URS
CPT-08-132	08/22/2008	100.0	68.9	17+25.6	Rt 50.3	URS
CPT-12-249	03/20/2012	98.7	67.5	20+02.76	Rt 83.52	Caltrans

Log of Test Borings for the recent field investigation and copies of as-built LOTB sheets have been sent to the bridge designer by URS Corporation and the Office of Geotechnical Design-South 1 to be included in the project plans.

LABORATORY TESTING

Selected samples taken during the field investigation were tested at URS Soil Laboratory in order to obtain or derive relevant physical and engineering soil properties. The following laboratory tests were conducted to supplement the observations recorded during the field investigation:

- In-situ Moisture Content and Unit Weight
- Sieve analysis or percent passing No. 200 sieve
- Atterberg Limits
- Direct shear

- Unconsolidated-undrained test (UU test)
- Consolidation
- Minimum Resistivity, pH, Sulfate and chloride content

The laboratory tests were conducted in general accordance with California Test Methods or American Society for Testing and Material (ASTM) Standards.

GEOLOGY AND SUBSURFACE CONDITIONS

Regional Geology

The subject site is located within the Peninsular Range Geomorphic Province. The Peninsular Ranges are characterized by northerly and northwesterly trending mountain ranges and associated valleys. The site is located within the Coastal Plain of Los Angeles County, which is comprised of shallow Pleistocene marine sediments overlain by Holocene alluvial deposits (Department of Water Resources, 1961). The Coastal Plain is bounded by the Santa Monica Mountains, Elysian Hills, Repetto Hills, Merced Hills and Puente Hills on the north and bounded by the Palos Verdes Hills on the south. Northwest-southeast trending strike-slip faults are present within and bordering the Coastal Plain (Newport Inglewood Fault and Whittier Fault). Reverse and thrust faults including the Santa Monica-Hollywood-Raymond Fault and Puente Hills Blind Thrust Fault are present and associated with shortening or compression of the Coastal Plain. The active fault(s) nearby the site are discussed in Seismic Recommendations, Faulting and Seismicity section of this report.

Site Geology

The entire project site is directly underlain by recent Holocene age alluvium. This alluvium was deposited primarily by floods emanating from the Los Angeles River and the San Gabriel River and from the mountains and hills to the north of the Coastal Plain adjacent to the project location. The alluvium consists predominantly of interbedded soft to very stiff clay with varying amount of sand and medium dense to very dense sand, clayey sand and silty sand. Depth to bedrock or bedrock like material should be estimated at greater than 400 feet for this project. The proposed bridge foundations for abutments and bent will be founded in alluvium. The closest fault to the site is the Puente Hills Blind Thrust Fault oriented as a low angle north dipping thrust fault approximately 3.6 miles northwest of the site (Caltrans, 2009).

Subsurface Conditions

Based on information from the exploratory borings, artificial fill and alluvial deposits underlie the bridge site. The artificial fill material is about five (5) feet thick and generally consists of sand with varying amount of gravel and clay. The fill appears to be backfill material for the channel walls since the borings were located relatively close to the channel. Variation of thickness and material of the artificial fill should be anticipated because of nature of man-made fill. The alluvial deposits underlying the fill are composed of clay with varying amount of sand, clayey sand, and

sand with varying amount of silt. The subsurface soil at each proposed bridge support was generalized utilizing information revealed by exploratory borings and/or CPTs located for each foundation location. The soil profile and design strength parameters for each bridge support are presented in Appendix 1.

Groundwater

In the 1959 Log of Test Borings, measurement of groundwater is recorded at elevation of 53.2 feet. Five pore pressure dissipation test (PPDT) were conducted during cone penetration tests (CPT) in 2008. One exploratory boring (R-09-230) was conducted at southeast corner of existing Coyote Creek Bridge in 2009, and three transducers were installed at different depths in the boring to monitor location of groundwater by measuring static water pressure. The test results indicate that there might be two different groundwater zones in this bridge site. The measurements of groundwater table are summarized in Table 2.

Table 2 – Measurement of Groundwater Table

Borehole ID	Date Drilled	Surface Elevation (ft)	Transducer Depth (ft)	Groundwater Depth (ft)	Groundwater Elev (ft)	Remarks
B-1	04/11/1957	66.7	-	13.2	53.2	
CPT-08-130	08/21/2008	67.6	16.7	16.0	51.6	PPDT
CPT-08-131	08/21/2008	69.5	19.0	17.9	51.6	PPDT
	08/21/2008	69.5	57.1	38.6	30.9	PPDT
	08/21/2008	69.5	93.0	39.9	29.6	PPDT
CPT-08-132	08/22/2008	68.7	55.6	39.9	28.7	PPDT
R-09-230	02/24/2010	65.9	21.5	18.8	47.1	
		65.9	60.0	36.2	29.7	
		65.9	114.5	39.0	26.9	
	03/25/2010	65.9	21.5	18.9	47.0	
		65.9	60.0	36.4	29.5	
		65.9	114.5	38.5	27.4	
	06/04/2012	65.9	21.5	19.2	46.7	
		65.9	60.0	28.2	37.7	
		65.9	114.5	29.6	36.3	

As shown in above table, there are two groundwater zones indicated by water pressures measured by PPDT in CPT-08-131 and three transducers in R-09-230. Groundwater table in upper zone ranges from an elevation of 47.1 feet to 51.6 feet. Deeper groundwater table fluctuates from an

elevation of 26.9 feet to 37.7 feet. For conventional and seismic geotechnical analysis, the design groundwater table is assumed to be at an elevation of 53.0 feet under the consideration of the highest groundwater table in the above measurements.

SCOUR EVALUATION

The existing channel is concrete lined where this bridge is located. Therefore, scour is not considered in the foundation design recommendations in this report.

CORROSION EVALUATION

Selected samples were tested at URS Soil Laboratory in order to obtain corrosivity parameters including pH, resistivity, sulfate and chloride content. The results are summarized in Table 3.

Table 3 – Summary of Corrosion Test Results

Borehole ID	Depth (ft)	pH	Minimum Resistivity (ohm-cm)	Sulfate Content (ppm)	Chloride Content (ppm)
R-08-010	0 – 5 (combined)	10.2	1700	462	315
R-08-011	0 – 5 (combined)	8.3	3700	696	270
R-09-209	5 – 35 (combined)	7.0	835	15	120
R-09-209	40 – 55 (combined)	7.0	1250	105	165
R-09-209	60 – 100 (combined)	6.9	1950	30	90
R-09-230	5 – 120 (combined)	6.3	1350	399	105

Note: N/A = Not applicable

Caltrans currently considers a site to be corrosive to foundation elements if one or more of the following conditions exist: Chloride concentration is greater than or equal to 500 ppm, sulfate concentration is greater than or equal to 2000 ppm, or the pH is 5.5 or less. Based on the results of corrosion tests, the site is considered non-corrosive to foundation elements.

SEISMIC RECOMMENDATIONS

Faulting and Seismicity

The Puente Hills Blind Thrust (PHBT) fault is the controlling seismic source for this bridge site. The PHBT is a reverse fault dipping 25 degrees to the north. The design Acceleration Response Spectrum (ARS) curve was developed for the seismic design of this bridge per the Appendix B of the Caltrans Seismic Design Criteria, Version 1.5 (August 2009) and the Caltrans Geotechnical Services-Design Manual, Version 1.0 (August 2009). In addition to the criteria, various tools in the website of “Caltrans ARS Online” and “United States Geologic Survey-Interactive Deaggregation” were utilized to produce the curve.

Based on the recent field investigation, the average shear wave velocity (V_{s30}) for the upper 30 meters (100 feet) of subsurface soils at the site was estimated to be about 250 m/sec (820 ft/sec). The information utilized to determine the curve is shown in following table:

Table 4 – Fault Information

Fault Name	Type	M_{max}	Dip direction (Dip angle)	R_X	R_{JB}	R_{RUP}
Puente Hills Blind Thrust	R	7.3	North (25 degrees)	5.8 km (3.6 mile)	5.8 km (3.6 mile)	6.5 km (4.0 mile)

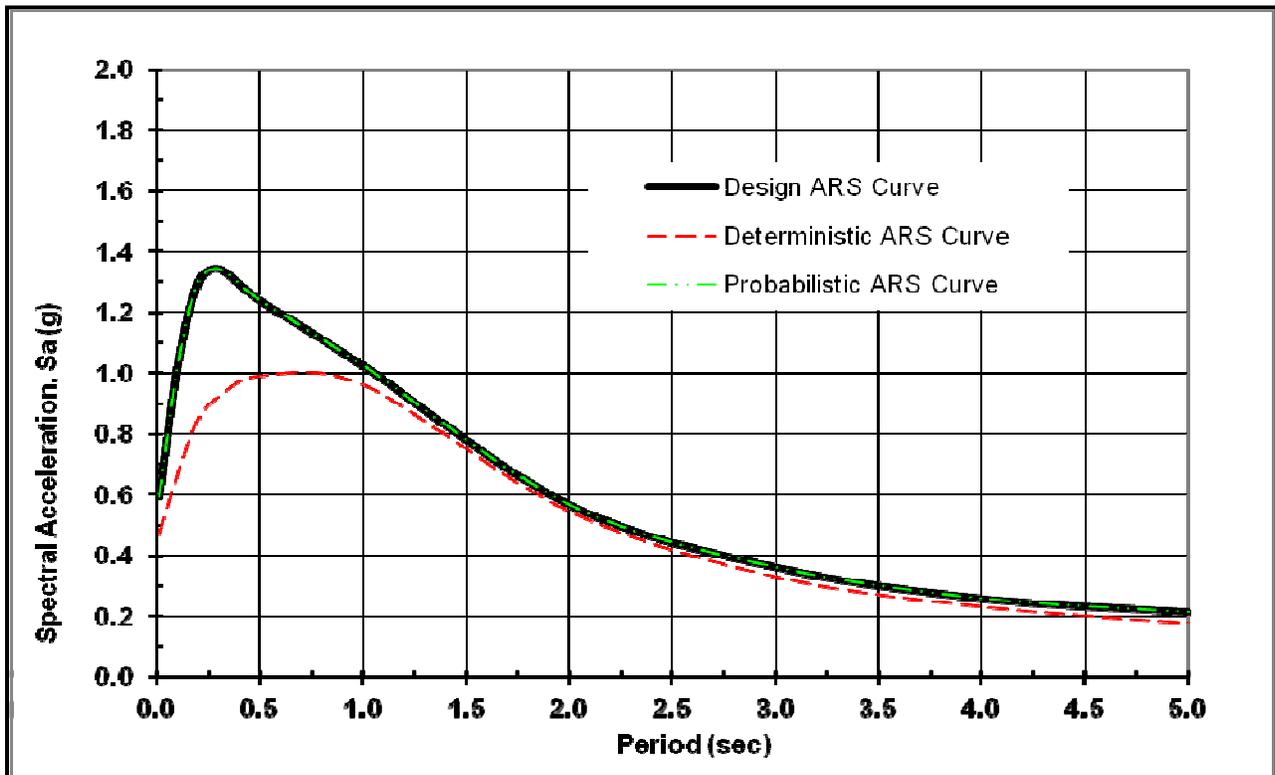
Notes: R_X = Horizontal distance to the fault trace
 R_{JB} = Shortest horizontal distance to the surface projection of the rupture area
 R_{RUP} = Closest distance to the fault rupture plane
 M_{max} = Earthquake maximum moment magnitude

As shown in Figure 1, the design ARS curve is an envelope of deterministic and probabilistic acceleration response spectrum curve. The probabilistic ARS curve was developed with a ground motion return period of 975 year which is corresponding with 5% probability of exceedance in 50 years and the Next Generation Attenuation (NGA) was used for the deterministic ARS curve. The design Peak Ground Acceleration (PGA) has been evaluated as 0.60g from the design ARS curve.

Table 5 – Design Spectral Acceleration for Coyote Creek Bridge (No. 53-3044)

Period (sec)	Spectral Acceleration (g)		
	Deterministic	Probabilistic	Design
0.010	0.472	0.594	0.594
0.100	0.665	1.021	1.021
0.200	0.848	1.301	1.301
0.300	0.923	1.344	1.344
0.500	0.989	1.240	1.240
1.000	0.960	1.025	1.025
2.000	0.545	0.568	0.568
3.000	0.330	0.363	0.363
4.000	0.232	0.260	0.260
5.000	0.178	0.215	0.215

Figure 1 – Design ARS Curve for Coyote Creek Bridge (No. 53-3044)



Surface Fault Rupture Hazard Evaluation

The bridge site is not located within any California Geologic Survey (CGS) designated Earthquake Fault Zone (EFZ). Therefore, the site is not considered prone to surface fault rupture hazard and the possibility of surface fault rupture hazard at the bridge site is considered very low.

Liquefaction Potential

Liquefaction is a phenomenon in which saturated, loose to medium dense sand and silt behave like a fluid when subjected to high intensity ground shaking. Liquefaction occurs when three general conditions exist: (1) shallow ground water (2) low-density, fine, sandy and/or silty soils and (3) high-intensity ground motion. The primary effect of liquefaction include sand boils, settlement and settlement-related downdrag to piles, lateral spreading and flow slides in the areas with sloping ground.

Four cone penetration tests (CPT) conducted in 2008 were analyzed in order to evaluate liquefaction potential at this bridge site. Based on the analysis results, the bridge site is not susceptible to liquefaction despite relatively high groundwater table because the site is underlain by mostly cohesive soil such as clay and/or silt in upper 50 feet.

AS-BUILT FOUNDATION DATA

As described earlier in the section of Project Description, the existing structure consists of three bridges. Each bridge is supported by abutments and two piers. According to the as-built plans of existing bridges, the first bridge located at the middle of three bridges was built in 1939 and supported by timber piles. The left (west) and right (east) of the first bridge were supported by two piers same as the first bridge and founded on 32 ton concrete pile and 45 ton steel pile (Raymond step taper pile). The information for piles is presented in Table 6:

Table 6 – Detailed Information of as-built piles

Bridge ID	Support Location	Pile Type	Bottom of Pile Cap Elevation (ft)	Specified Tip Elevation (ft)
Br. 53-0279 (1939)	Abut 1 & 4	Timber pile (32 tons)	64.0	10.0
	Pier 2 & 3	Timber pile (32 tons)	53.5	10.0
Br. 53-0279 (1950)	Abut 1 & 4	Concrete pile (32 tons)	64.0	29.3
	Pier 2 & 3	Concrete pile (32 tons)	48.0	29.3
Br. 53-0279 (1959)	Abut 1 & 4	Steel Pile (45 tons)	63.8	15.0
	Pier 2 & 3	Steel Pile (45 tons)	48.0	10.0

It should be noted that the above information is solely based on currently available as-built plans and documents for this bridge. Therefore, actual field condition of the piles may be different from the information in this report.

FOUNDATION RECOMMENDATIONS

As described previously in the beginning of the report, the new bridge will be four-span bridge consisting of PC/PS void slab for the first three spans and CIP/RC slab for the fourth span between Abutment 4 and 5. Three spans are sufficient to cross over Coyote Creek, but the fourth span was added to accommodate future bike path proposed underneath the fourth span. Abutment 1 of the new bridge will be backfilled using geosynthetic reinforcement in order to minimize lateral pressure on the channel wall due to backfilling the abutment.

In accordance with Caltrans LRFD Implementation Memo (December 2008), Load and Resistance Factor Design (LRFD) in AASHTO LRFD Bridge Design Specification (4th Edition) and California Amendment (December 2008) was applied for geotechnical foundation design of bents, and Working Stress Design in Caltrans Bridge Design Specification (April 2000) was utilized for the abutments.

Based on the foundation information provided by the Office of Bridge Design-South 1, foundations of Abutments 1 and 4 are consisting of 60 and 48 piles, respectively. Pier 2 and 3 will be supported by 112 and 114 piles. The detailed information of foundation is shown in Table 7:

Table 7 – General Foundation Information

Location	Design Method	Pile Type	Finished Grade Elev (ft)	Cut-off Elev (ft)	Pile Cap Size (ft)		Permissible Settlement under Service Load (in)	Number of Piles per support
					B	L		
Abut 1	WSD	Class 140 Alt W	60.5, 62.5, 64.5	58.92, 60.92, 62.92	6.25	224.9	1.0	60
Pier 2	LRFD	Class 140 Alt W	45.3	40.92	8.0	228.7	1.0	112
Pier 3	LRFD	Class 140 Alt W	45.3	40.92	8.0	224.6	1.0	114
Abut 4	WSD	Class 140 Alt W	62.5, 64.5, 66.5	60.92, 62.92, 64.92	5.5	215.0	1.0	48
Abut 5	WSD	Class 140 Alt W	62.5, 64.5, 66.5	60.92, 62.92, 64.92	2.5	211.7	1.0	28

Note: Class 140 ALT “W” – Open end steel pipe pile (PP 14x0.438)

Also, the foundation loads from the Office of Bridge Design-South 1 are presented in the following table.

Table 8 – Foundation Design Load provided by Structure Design

Location	Service-1 Limit State (kips)			Lateral Load (kips)
	Total Load		Permanent Load	
	Per Support	Max Per Pile		
Abut 1	3198	80	2461	N/A
Pier 2	6680	95	5145	N/A
Pier 3	6680	95	5145	N/A
Abut 4	4774	140	3376	N/A
Abut 5	2643	106	1902	N/A

Location	Strength Limit State (kips)				Extreme Even Limit State (kips)			
	Compression		Tension		Compression		Tension	
	Per Support	Per Pile	Per Support	Per Pile	Per Support	Per Pile	Per Support	Per Pile
Abut 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pier 2	8972	128	N/A	0	5146	203	N/A	107
Pier 3	8972	128	N/A	0	5146	203	N/A	107
Abut 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Abut 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Axial geotechnical pile resistance was calculated using only skin friction resistance. Pile end bearing was not considered for the resistance under the consideration of relatively large movement required for mobilizing the end bearing and uncertainty of plugging at the tip of the proposed pipe pile.

The resistance of the proposed pipe pile for each support was estimated using static analysis method in AASHTO LRFD Bridge Design Specification (4th Edition) by means of employing the software of Driven 1.2 from the Federal Highway Administration.

The nominal resistance for each abutment was calculated by applying a factor of safety (2.0) to the load in the service limit state, and the nominal resistance for bent was chosen as larger of the load in strength limit state divided by a resistance factor of 0.7 and the load in extreme event limit state.

Abutment 1 and 4 are located relatively close to the channel walls. Therefore, pre-drilling is recommended to minimize an impact on the structures due to driving piles by means of loosening subsurface material. The pre-drilling should be extended to bottom of the channel and the diameter of pre-drilling should be one (1) inch less than the diameter of pile. The design tip elevations of piles at the abutments were calculated by considering the pre-drilling.

As for lateral pile resistance, the p-y data were e-mailed to the bridge designer, and this office was informed that the design pile tip elevation for lateral load will be calculated and incorporated into pile data table by the Office of Bridge Design-South 1. The tables for foundation recommendation and pile data table for each support are provided in following table 9 through 11:

Table 9 – Foundation Recommendation for Abutments

Location	Pile Type	Cut-off Elevation (ft)	LRFD Service-1 Limit State (kips)		LRFD Service-1 Limit State Total Load (kips) per Pile	Nominal Resistance (kips)	Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
			Total	Perma- nent					
Abut 1	Class 140 Alt W	58.92, 60.92, 62.92	3198	2461	80	160	7.0 (a) 18.5 (c)	7.0	160
Abut 4	Class 140 Alt W	60.92, 62.92, 64.92	4774	3376	140	280	-13.0 (a) 12.5 (c)	-13.0	280
Abut 5	Class 140 Alt W	60.92, 62.92, 64.92	2643	1902	106	220	2.0 (a) 19.5 (c)	2.0	220

Notes:

1. Design tip elevations are controlled by: (a) Compression, (c) Settlement, (d) Lateral Load, respectively.
2. The specified tip elevation shall not be raised above the design tip elevations for lateral and tolerable settlement.
3. Design tip elevation for lateral load will be provided and incorporated into the table by the Office of Bridge Design-South 1.

Table 10 – Foundation Recommendation for Bents

Location	Pile Type	Cut-off Elev (ft)	Service-1 Limit State Load (kips) per support	Total Permissible Support Settlement (inches)	Required Factored Nominal Resistance (kips)				Design Tip Elev (ft)	Specified Tip Elev (ft)	Nominal Driving Resistance Required (kips)
					Strength		Extreme Event				
					Comp ($\phi=0.7$)	Tension ($\phi=0.7$)	Comp ($\phi=1.0$)	Tension ($\phi=1.0$)			
Pier 2	Class 140 Alt W	40.92	6680	1	128	0	203	107	-10.0(a-1) -14.0(a-2) -4.0(b-2) 2.0(c)	-14.0	210
Pier 3	Class 140 Alt W	40.92	6680	1	128	0	203	107	-10.0(a-1) -14.0(a-2) -4.0(b-2) 2.0(c)	-14.0	210

Notes:

- Design tip elevations are controlled by: (a-1) Compression (Strength Limit), (a-2) Compression (Extreme Event Limit), (b-2) Tension (Extreme Event Limit), (c) Settlement, (d) Lateral Load.
- The specified tip elevation shall not be raised above the design tip elevations for tension, lateral, and tolerable settlement.
- Design tip elevation for lateral load will be provided and incorporated into the table by the Office of Bridge Design-South 1.

Table 11 – Pile Data Table

Location	Pile Type	Cut-off Elevation (ft)	Nominal Resistance (kips)		Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance (kips)
			Compression	Tension			
Abut 1	Class 140 Alt W	58.92, 60.92, 62.92	160	0	7.0 (a) 18.5 (c)	7.0	160
Pier 2	Class 140 Alt W	40.92	210	110	-14.0(a) -4.0(b) 2.0(c)	-14.0	210
Pier 3	Class 140 Alt W	40.92	210	110	-14.0(a) -4.0(b) 2.0(c)	-14.0	210
Abut 4	Class 140 Alt W	60.92, 62.92, 64.92	280	0	-13.0 (a) 12.5 (c)	-13.0	280
Abut 5	Class 140 Alt W	60.92, 62.92, 64.92	220	0	2.0 (a) 19.5 (c)	2.0	220

Notes:

- Design tip elevations are controlled by: (a) Compression, (b) Tension, (c) Settlement, (d) Lateral Load, respectively.

As for embankment of Abutment 1, it is recommended to use geosynthetic reinforcement to backfill the abutment in order to minimize transferring lateral pressure from abutment to channel wall due to the backfilling the abutment. Geotechnical design recommendations for the placing geosynthetic reinforcement are as following:

- Vertical Reinforcement Spacing: 1.5 feet.
- Primary Reinforcement Length: 12.0 feet
- Return Embedment Length: 4.0 feet
- Long Term Tensile Strength required for geosynthetic reinforcement: 1,500 lbf/ft
- Geosynthetic Reinforcement Type: Geotextile or Geogrid

Fill material between geosynthetic reinforcement should be compacted to a relative compaction of at least 95 percent and meet requirement for gradation specified in 47-2.02 Caltrans Standard Specification. It should be noted that lateral pressure due to traffic load will be applied to the bridge support despite using the geosynthetic reinforcement and using at-rest lateral earth pressure coefficient is recommended to estimate the earth pressure due to the traffic load.

APPROACH EMBANKMENT

Based on the project plans, additional fill will be placed on approach embankment of Abutment 1, 4, and 5 in order to raise profile of new bridge. The height of fill varies from approximate 1.5 feet in northeast half of the abutments (Stage 1) to 4.0 feet in southwest half of the abutment (Stage 2). This additional fill will cause vertical settlement consisting of immediate settlement and consolidation settlement. Considering thickness of additional fill in each construction stage and soil layers encountered during exploratory borings at the abutment, ninety (90) days of settlement period and three (3) foot surcharge will be required to complete the maximum two (2) inch consolidation settlement at the abutments during each construction stage of the bridge before driving piles or excavating footing for the abutments. It is recommended that the surcharge be extended seventy five (75) feet away from Abutment 1, 4, and 5.

NOTES TO DESIGNER

1. Pre-drilling is recommended for piles at Abutment 1 and 4 in order to minimize an impact on the channel walls due to driving piles by means of loosening subsurface material per Standard Specification 49-2.01C(3). The pre-drilling should be extended to bottom of the channel and the diameter of pre-drilling should be one (1) inch less than the diameter of pile. Removal of subsurface material is not required during the pre-drilling.
2. The pile nominal driving resistances in pile data table should be verified by Pile Driving Acceptance Criteria specified in Standard Specification section 49-2.01A. Re-tapping should be performed two days later after initial driving if the pile nominal driving resistance is not satisfied in initial pile driving.

CONSTRUCTION CONSIDERATIONS

1. Dewatering may be necessary for the excavation of pier 2 and 3 footings since the bottoms of footings are below groundwater measured during the field exploration.
2. The Office of Geotechnical Design-South 1 should be consulted if adjustment of footing size or pile spacing becomes necessary due to conflict with existing piles.
3. Coyote Creek Channel is under jurisdiction of Orange County Flood Control and U.S. Army Corps of Engineers. Therefore, contractor should be aware that any construction activity within

the channel such as dewatering and pile driving should proceed by following guidelines and/or conditions imposed by the agencies.

If you have any questions or comments, please feel free to contact Chungkeun Lee at 213-620-2148 or Chi-Tseng (Ted) Liu at 213-620-2136.

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Appendix 1 – Generalized soil profile and Design strength parameters

Abutment 1

Approximate Elev (ft)	Soil Type	N ₁₆₀ (Blow Counts)	Friction Angle (deg)	Undrained Shear Strength (lbf/ft ²)
+68.5 to 52.5	Lean clay or Silt (CL or ML)	6	-	750
52.5 to 47.5	Sand with silt or Clayey sand (SP-SM or SC)	21	33	-
47.5 to 17.5	Lean clay (CL)	7	-	850
17.5 to 14.5	Lean clay or Silt (CL or ML)	18	-	2400
14.5 to 3.5	Sand with clay or Clayey sand (SP-SC or SC)	48	37	-
3.5 to -5.5	Lean clay (CL)	10	-	1300
-5.5 to -11.5	Sand with silt (SP-SM)	36	36	-
-11.5 to -19.5	Lean clay (CL)	16	-	2000
-19.5 to -27.5	Sand with silt (SP-SM)	52	38	-

Pier 2 & 3

Approximate Elev (ft)	Soil Type	N ₁₆₀ (Blow Counts)	Friction Angle (deg)	Undrained Shear Strength (lbf/ft ²)
+46.5 to 17.5	Lean clay or Fat clay (CL or CH)	5	-	600
17.5 to 8.5	Lean clay or Silt (CL or ML)	18	-	2400
8.5 to 3.5	Sand with silt (SP-SM)	34	35	-
3.5 to -5.5	Lean clay (CL)	10	-	1300
-5.5 to -11.5	Sand with clay (SP-SC)	35	36	-
-11.5 to -21.5	Lean clay or Fat clay (CL or CH)	16	-	2000
-21.5 to -26.5	Sand with silt (SW-SM)	46	37	-

Abutment 4 & 5

Approximate Elev (ft)	Soil Type	N ₁₆₀ (Blow Counts)	Friction Angle (deg)	Undrained Shear Strength (lbf/ft ²)
+67.5 to 62.5	Clayey sand (SC)	20	32	-
62.5 to 55.5	Lean clay (CL)	9	-	1000
55.5 to 50.5	Clayey sand (SC)	15	31	-
50.5 to 22.5	Lean clay (CL)	6	-	750
22.5 to 15.5	Clayey sand (SC)	28	35	-
15.5 to 10.5	Lean clay (CL)	17	-	2300
10.5 to 5.5	Lean clay (CL)	34	-	4000
5.5 to 0.5	Sand with clay (SP-SC)	57	38	-
0.5 to -4.5	Lean clay (CL)	12	-	1500
-4.5 to -9.5	Lean clay (CL)	15	-	2000
-9.5 to -14.5	Lean clay (CL)	23	-	3000
-14.5 to -21.5	Lean clay (CL)	10	-	1200

**Addendum Foundation Report
Coyote Creek Bridge,
Br. No. 53-3044, dated 6/24/15**

Memorandum

*Serious drought.
Help save water!*

To: Mr. RAMIN RASHEDI, CHIEF
Bridge Design Branch 11
Office of Bridge Design South 1

Date: June 24, 2015
File: 07-LA-5- PM 1.21
0700001832 (07-215921)

Attn: Mr. Daryoush Tavatli

From: DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Geotechnical Services
Office of Geotechnical Design – South 1 MS # 18

COYOTE CREEK BRIDGE
BRIDGE NO. 53-3044

Subject: Addendum Foundation Report

The Office of Geotechnical Design – South 1 (OGDS1) Branch C submitted the Foundation Report dated May 30, 2013 to your office to provide the foundation recommendations for the proposed Coyote Creek Bridge (No. 53-3044) which will replace the existing Coyote Creek Bridge (No. 53-0279). The section on “APPROACH EMBANKMENT” on page 13 of that report needs to be revised as there will not be any additional fill for the southbound approach embankments of the abutments per the latest cross-sections provided by District 7 Design.

This addendum is provided to revise this section. The revised section is as follows.

APPROACH EMBANKMENT

Based on the cross sections, there will not be any additional fill for the southbound approach embankments of abutments (construction stage 2).

An additional fill will be placed on the northbound approach embankments of Abutments 1, 4, and 5 in order to raise profile of new bridge (construction stage 1). The height of the fill is varied from 1' to 4'. A ninety (90) days of settlement period and three (3) foot surcharge will be required to complete the maximum two (2) inch consolidation settlement at the Abutments during the construction stage 1 of the bridge before driving piles or excavating footing for the abutments. It is recommended that the surcharge be extended seventy five (75) feet away from Abutments 1 and 5.

Mr. Ramin Rashedi
June 24, 2015
Page 2

Addendum Foundation Report
Coyote Creek Bridge (# 53-3044)
0700001832 (07-215921)

If you have any questions or comments, please call Deepa Wathugala at 213-620-2134 or Ted Liu at 213-620-2136.

Report by:

Reviewed by:

Date: June 24, 2015

Deepa Wathugala, Ph.D., P.E., G.E.
Transportation Engineer
Office of Geotechnical Design - South 1
Branch C

CHI-TSENG TED LIU, Ph.D., P.E., G.E.
Senior Transportation Engineer
Office of Geotechnical Design - South 1
Branch C



c: Structure Construction R.E. pending File (RE_Pending_File@dot.ca.gov)
District Project Manager – diaa.yassin@dot.ca.gov
District 7 Design Project Engineer - hue-shyon.chen@dot.ca.gov
GS Corporate / GeoDOG

**Revised Foundation Report for
Retaining Walls 52, 55, 68, 69, 70,
73, 80, VA85, SF3, SF4, DW87,
DW88, VA87, VA88, VA103,
VA104, VA107, VA108, VA109,
DW108, NF65, DW109, NF66,
dated 07/16/2013**

Memorandum

*Flex your power!
Be energy efficient!*

To: MR. RAMIN RASHEDI, CHIEF
Bridge Design Branch 11
Office of Bridge Design South 1

Date: July 16, 2013
File: 07-LA-5- PM 0.35-1.5
0700001832 (07-215921)

Attention: Mr. Bill Kemp

From: DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES

Ret. Walls SF3, SF4, 52, 55,
NF65, NF66, 68, 69, 70, 73,
80, VA85, DW87, VA87,
DW88, VA88, VA103, VA 104,
VA107, DW108, VA108,
DW109, and VA109

**Geotechnical Services
Office of Geotechnical Design – South 1 MS # 18**

Subject: Revised Foundation Report

Introduction

In response to June 24, 2013 email submittal from Office of Bridge Design South 1 (OBDS1), new pile tips are provided for retaining walls VA103 and VA104, due to increased loads and CIDH pile diameter from 24” to 42”. This revised report includes the entire original report dated 5-20-13, in addition to new pile tips for retaining walls VA103 and VA104 and corrections/modifications made based on design review comments received on 6-7-13. Sections 10 and 11 also were modified to provide additional information on deep foundations. Based on verbal comments from District Design on 7-12-13, Table 9 was also modified. Foundation recommendations presented herein are for the proposed Retaining Walls SF3, SF4, 52, 55, NF65, NF66, 68, 69, 70, 73, 80, VA85, DW87, VA87, DW88, VA88, VA103, VA104, VA107, DW108, VA108, DW109, and VA109. This revised report supersedes our previous report dated May 20, 2013 prepared by Mr. Amare Tsegie.

1.0 Scope of Work

The findings and recommendations contained in this report are based on review of the following resources, field investigation, data preparation and interpretation for the foundation evaluation and site conditions.

- ◆ Review of the Recent Log of Test Borings and Cone Penetration Test (CPT) soundings completed by URS Corporation consultant in 2008 to 2012 and Caltrans in 2012 for the proposed walls.
- ◆ Review of wall layouts dated 03-17-12, wall plans, typical sections and personal communications with District and Structure design engineers and interpretation of subsurface soil, groundwater conditions and performing engineering analyses.

2.0 Project Description

The I-5 Corridor Improvement project proposes to widen the I-5 freeway including bridge replacements and retaining walls, between Los Angeles/Orange County line to the north of I-605, crossing the cities of Buena Park, La Mirada, Cerritos and Santa Fe Springs. New and replacement bridges are part of the Segment 2 of I-5 Corridor Improvement in the City of Buena Park, La Mirada and Cerritos, which covers an area from north of Artesia UC (PM 0.0) to south of North Fork Coyote Creek (PM 1.5). As part of the I-5 Corridor improvement this project includes a transition to the previously completed “Gateway Project” on the Orange County side, adding HOV lanes and terminating 0.3 mile north of Artesia Blvd. Most of the freeway in this segment is on fill and as a result new retaining walls are required to contain the newly placed embankment. Table 1 shows summary of wall locations and descriptions.

Table 1. Summary of Wall Location and Description

Wall No.	Wall Location	Wall Type	Wall Height (ft)	Ref. Line	Begin Wall Stationing	End Wall Stationing
55	SB5	Type 1	H=6.0-14.0	“VA3” Line	31.6 Lt., 46+81.03	31.60 Lt., 55+48.25
52			H=6.0-22.0		5.5.0 Rt., 51+14.19	51.5 Rt., 55+48.25
VA85	South of Valley View Bridge		H=4.0-8.0	“VAL” Line	51.4 Lt., 85+00.02	51.4 Lt., 86+31.02
VA87			H=8.0-10.0		51.4 Lt., 86+61.98	51.4 Lt., 87+13.00
DW87			H=4.0-8.0	“DW2” Line	15.48 Lt., 86+97.92	15.48 Lt., 87+97.41
DW88					H=4.0-8.0	15.48 Rt., 86+97.92
SF3			H=6.0-8.0	“SFIR3” Line	36.0’ Lt., 02+81.00	36.0’ Lt., 03+10.00
SF4					H=4.0	36.0’ Rt., 02+81.00
VA88			H=4.0-12.0	“VA88”	1.5’Rt., 86+20.00	1.5’Rt., 87+09.75
VA103			North of Valley View Bridge	H=4.0-20.0	“VAL” Line	60.0’ Lt., 103+90.28
VA104	H=16.0-22.0			61.4. Rt., 103+15.56		61.4. Rt., 105+58.56
VA107	H=8.0-12.0			61.4. Lt., 107+20.71		59.6. Lt., 107+69.15
VA108	H=4.0-14.0			61.5. Rt., 107+01.40		55.1. Rt., 108+83.24
VA109	H=4.0-8.0			“VAL” Line	58.0 Lt., 108+10.66	53.9 Lt., 109+20.98
NF65	H=6.0-18.0			“NFIR2” Line	38.42 Lt., 65+20.48	84.09 Lt., 68+03.96
NF66					H=8.0-16.0	38.42 Rt., 65+53.38
DW108	H=4.0-8.0			“DW3” Line	21.5 Rt., 108+48.32	21.5 Rt., 109+12.50
DW109	H=4.0-8.0				21.5 Lt., 108+49.85	21.5 Lt., 109+12.50
68	SB5			H=8.0-16.0	“VA2” Line	5.48 Rt., 66+97.00
69			47.48 Lt., 66+97.00			23.48 Lt., 69+50.93
70	NB5	H=6.0-12.0	“VA1” Line	77.83 Rt., 66+42.19	36.01 Rt., 69+82.17	
73	SB5	H=6.0-10.0	“VA2” Line	23.5 Lt., 69+50.93	23.5 Lt., 72+14.93	
				23.5 Lt., 72+89.93	95.65 Lt 76+83.92	
		Type 5	H=8.0		23.5 Lt., 72+14.93	23.5 Lt., 72+89.93
80	NB5	Type 1	H=4.0-8.0	“VA1” Line	35.48 Rt., 72+94.16	26.38 Rt., 76+16.83

3.0 Field Investigation and Testing Program

In order to characterize the subsurface conditions and soil profile, twelve mud rotary borings and four CPT soundings were performed close to the proposed alignment of the walls, between April 7, 2008 to April 5, 2012 by URS Consultant sub contractors; C & L Pacific, Kehoe and Gregg Drilling Co., and by Caltrans in 2012. Standard Penetration Tests were performed at 5 foot intervals in accordance with ASTM Test Method D1586 using 1.4 inch diameter sampler with a 140 pound hammer dropped 30 inches. At intervals where cohesive soils were encountered, relatively undisturbed samples were also obtained. Mayhew 1000 drill rig and 4.87” tri-cone diameter drill bit was used for mud rotary borings. The CPT soundings were conducted using a 20-ton capacity cone with a tip area of 15 cm² and a friction sleeve area of 225 cm². A combination of tip resistance and sidewall friction are generated and digitally recorded as the cone tipped probe is advanced at a constant velocity into the ground. The sidewall friction/tip resistance ratio is plotted against the tip resistance and compared to standard charts to determine soil types. Summary of borings and CPT soundings utilized for this report are presented in Table 2.

Table 2. Summary of Borings & CPTs

Wall No.	Boring / CPT No.	Reference Line	Location	Boring/CPT Elevation (ft)	Total Depth (ft)	Completed Date
55	R-09-211	"CL New I-5"	138.6' Lt. Sta. 51+19.7	65.4	51.50	08/31/09
			116.5' Lt. Sta. 54+09.2	64.7	92.70	08/04/09
52	R-09-212		138.6' Lt. Sta. 51+19.7	65.4	51.50	08/31/09
	R-12-240		116.5' Lt. Sta. 54+09.2	64.7	92.70	08/04/09
			125.6' Lt. Sta. 55+41.60	65.0	120.00	04/05/12
VA85	R-09-214	"VAL" Line	10.9 Lt. Sta. 85+66.35	61.19	66.50	04/30/09
VA87		"DW2" Line	80.2 Lt. Sta. 86+57.50			
DW87						
DW88						
VA88						
SF3	R-11-239	"SFIR3" Line	22.83 Rt. Sta. 01+29.49	63.00	63.00	02/10/11
SF4						
VA103	R-09-220	"VAL" Line	29.35 Lt. Sta. 103+00.00	78.39	121.50	06/29/09
VA104						
VA107	R-09-222	"VAL" Line	56.42 Lt. Sta. 107+80.10	64.20	51.50	06/28/09
VA108						
DW108						
DW109						
VA109						
NF65	R-09-221	"NFIR2" Line	24.3' Lt. Sta. 06+94 00	63.68	51.50	06/17/09
NF66						
68	CPT-08-013	"VA2" Line	72.9' Rt. Sta. 67+89.70	63.26	50.03	04/07/08
69	R-10-226		47.7' Rt. Sta. 66+78.80	59.80	121.50	03/02/10
70	R-09-223	"VA1" Line	50.1' Rt. Sta. 67+32.54	65.46	51.50	08/07/09
73	R-10-227	"VA2" Line	83.9' Lt. Sta. 69+50.93	60.90	116.50	03/05/10
	CPT-08-015	"CL New I-5"	94.7' Lt. Sta. 75+97.50	67.90	50.03	04/07/08
	CPT-08-078		71.6' Lt. Sta. 71+64.9	64.60	34.80	07/02/08
80	R-10-229	"VA1" Line	On Sta. 73+04.65	63.32	51.50	05/06/09

4.0 Laboratory Testing

Selected soil samples were retained and submitted to URS's Geotechnical Laboratory in Santa Ana for testing. The purpose of the laboratory testing was to aid in evaluating the engineering properties of the subsurface materials and to confirm visual classification of the soils. Laboratory tests performed include moisture content, dry unit weight, sieve analysis, Atterberg limits, consolidation test, unconfined compression test, and corrosion test. Laboratory tests were performed in accordance with current ASTM and CTM standard procedures. The summarized laboratory test data are shown in Table 3.

Table 3. Summary of Laboratory Tests

Testing Type	ASTM/CTM Designation	Testing Purpose
Consolidation Test	ASTM D2435	Settlement
Mechanical Analysis	ASTM D2487	Soil Classification
Atterberg Limits	ASTM D4318	Soil Classification
Moisture content	ASTM D2216	Soil Classification
Corrosion	CTM 417,422,643	Corrosion Potential
Unconfined Compression Test	ASTM D2166	Compressive Strength

5.0 Site Geology and Subsurface conditions

The entire project (including existing fill embankments) is directly underlain by recent Holocene age alluvium. This alluvium was deposited primarily by floods emanating from the Los Angeles River and the San Gabriel River and from the mountains and hills to the north of the Coastal Plain adjacent to the project location. The alluvium consists of predominantly soft to very stiff clay and sandy clay, medium dense to dense clayey sand and silty sand that in some areas include sparse to abundant gravel and cobbles. Depth to rock-like material should be estimated at greater than 400 feet for this project. Existing fill ranges in thickness from 6 feet up to approximately 20 feet in the area of the existing Valley View Bridge, consisting of gravel with sand, sand and clayey sand.

5.1 Groundwater

There is a shallow water bearing zone called "perched groundwater" with varying elevations of 47.2 to 39.9 feet, measured in recent borings. The lateral extent of the perched groundwater has not been defined. There is also a deeper confined groundwater zone potentially under hydraulic head that has been measured from elevations 13.3 to 30.3. The historical high groundwater level has been mapped between 8 to 10 feet below ground surface over the entire length of the project corridor (CGS 1997, 1998a, 1998b). It should be noted that groundwater levels could fluctuate with the change of season and other factors.

According to preliminary groundwater data evaluation (August 9, 2011) provided by Caltrans Hazardous Waste Branch, South Region, any groundwater encountered less than 30 feet below ground surface near the Valley View Structure could be contaminated with hazardous substance or petroleum products (see August 9, 2011 report for locations of contamination). If dewatering of the shallow groundwater is planned, measures must be taken to properly manage and dispose of the water in compliance with applicable local, state and federal regulations. Shallow groundwater (perched) and deep groundwater (aquifer) where measured are presented in Table 4.

Table 4. Recent Groundwater Information

Boring No.	Depth to Groundwater (ft)	Groundwater Surface Elevation (ft)	Date Measured
R-09-218	24.5 ⁽¹⁾	46.4 ⁽¹⁾	2012
	40.6 ⁽²⁾	30.3 ⁽²⁾	
R-09-220	31.8 ⁽¹⁾	46.6 ⁽¹⁾	2010
	53.5 ⁽²⁾	24.9 ⁽²⁾	
R-12-245	19.0 ⁽¹⁾	45.3 ⁽¹⁾	2012
	51.0 ⁽²⁾	13.3 ⁽²⁾	

⁽¹⁾ Perched ⁽²⁾ Aquifer

6.0 Corrosion Evaluation

Composite soil samples taken from recent exploratory borings at different intervals were tested by URS Laboratory (Santa Ana Geotechnical Laboratory) for corrosion. The test results indicate a non-corrosive environment at the proposed wall sites. Normal construction material and design are advised. Refer to Table 5 for specific test result.

Table 5. Corrosion Test Summary

Boring No.	Depth Interval (ft)	Minimum Resistivity (Ohm-Cm)	pH	Chloride Content (ppm)	Sulfate Content (ppm)
R-09-211	0.0-25.0	1150	7.1	420	Not Determined
R-09-212	0.0-40.0	1725	6.4	113	9
R-09-214	0.0-40.0	715	6.6	323	318
R-09-221	0.0-30.0	1590	6.6	250	621
R-09-220	0.0-35.0	725	6.5	345	762
R-09-223	0.0-40.0	898	6.8	173	57
R-10-226	5.0-120.0	1750	8.1	90	360
R-10-227	5.0-115.0	2000	8.4	90	159

Note: It is the practice of Caltrans Corrosion Technology Section (with the exception of MSE walls) that if the minimum resistivity is greater than 1000 ohm-cm and the pH is greater than 5.5, the sample is considered noncorrosive. For structural elements, Caltrans considers a site to be corrosive if one or more of the following conditions exist for representative soil and/or water samples taken at the site. Chloride concentration is greater or equal to 500 ppm, sulfate concentration is greater than or equal to 2000 ppm, or the pH is 5.5 or less.

7.0 Seismic Recommendations

The proposed retaining walls are not within an Alquist – Priolo Earthquake Fault Zone. An analysis was performed to develop and recommend ground motion parameters for the seismic design of the proposed Valley View OH/OC (Bridge No. 53-3045), which is in close proximity to the referenced retaining walls. This analysis was performed in accordance with requirements specified in Appendix B of the Caltrans’ 2009 Seismic Design Criteria (SDC, Version 1.6, August 2009) for ordinary structures, and utilizing the “Caltrans ARS Online” and other tools available at the internet sites. The average shear wave velocity (V_{s30}) for the upper 100 feet of the subsurface profile was estimated to be about 210 m/sec (689 ft/sec).

The location of the wall sites relative to the nearby faults and the significant faults and fault zones for the retaining walls are summarized in the Table 6. The closest fault to the site is the Puente Hills Thrust Fault oriented as a low angle north dipping thrust fault approximately 3.2 miles north of the closest retaining wall sites (California Geologic Survey, 2007).

Table 6. - Summary of Faults

Fault Name	Type	M_{max}	R_X	R_{JB}	R_{RUP}
Puente Hills Blind Thrust	R	7.3	3.2 mile	3.2 mile	3.7 mile
Elsinore Fault Zone (Whittier Section)	RLSS	7.6	6.4 mile	6.4 mile	6.4 mile
Newport Inglewood – Rose Canyon Fault Zone	RLSS	7.5	9.6 mile	9.6 mile	9.6 mile
Compton-Los Alamitos Blind Thrust	R	6.8	13.2 mile	4.7 mile	7.8 mile

Notes: R_X = Horizontal distance to the fault trace

R_{JB} = Shortest horizontal distance to the surface projection of the rupture area

R_{RUP} = Closest distance to the fault rupture plane

The probabilistic ARS curve corresponds to a ground motion return period (RP) of 975-year (i.e., 5% probability of exceedance in 50 years). In addition, the project site being located in the Los Angeles Basin also include basin effects ($Z_{1.0}= 715$ m and $Z_{2.5}=3.92$ km). ARS curves were developed according to the Caltrans Geotechnical Services-Design Manual (Version 1.0, Aug. 2009). The design Peak Ground Acceleration (PGA) for the project site is 0.6g.

8.0 Liquefaction Potential

Due to the presence of shallow perched groundwater and few isolated pockets of medium dense sandy material, potential for liquefaction during a maximum credible earthquake event may be low to moderate at the project sites. However, due to absence of a free-face or sloping ground conditions at the sites, the potential for lateral spreading of the liquefied materials is considered to be remote.

9.0 Foundation Recommendations

The following recommendations are developed by OGDS1 based on:

- 1) Log of test borings and interpreted subsurface conditions and design parameters established through Laboratory tests and field data.
- 2) Updated wall plans provided by Structural Design.
- 3) Meeting between Structural Design, District Design and OGDS1.

OGDS1 is recommending that Retaining Walls SF3, SF4, NF65, NF66, 70, 73, 80, VA85, DW87, VA87, DW88, VA88, VA107, DW108, VA108, DW109, and VA109 be supported on spread footing; and retaining walls 55, 52, 68, 69, VA103 and VA104 supported on pile foundation.

9.1 Shallow Foundation

The allowable bearing capacity exceeds the maximum toe pressure for Standard Type 1 Retaining Walls SF3, SF4, NF65, NF66, 70, 73, 80, VA85, DW87, VA87, DW88, VA88, VA107, DW108, VA108, DW109, and VA109 when 3-foot of soil below the bottom of footing elevation is removed and replaced with 95% relative compaction material. The over excavation should be in accordance to Section 19-3.03B of 2010 Standard Specifications. The horizontal limits of the over excavation should be 3-foot from bottom edges of the footing and vertical to the recommended 3 ft of excavation. Subsurface drainage and pervious backfill material should be provided behind all new walls. The pervious material shall be in accordance with Section 19-3.03G of the 2010 Caltrans Standard Specifications. Based on Structure Design plans part of RW 73 between station 72+14.93 and 72+86.93 will be Type 5 as shown in Erratum No. 3 of 2010 Standard Plans; RSP B3-1A and RSP B3-4A, with type 736A barrier on top of the retaining wall. The allowable bearing capacity exceeds the maximum toe pressure for Standard Type 5 retaining wall when a minimum 3-foot of existing soil below bottom of footing elevations are removed and replaced with 95% relative compaction backfill.

If the minimum required footing dimensions and/or embedment depth are reduced or wall heights are increased, OGDS1 should be contacted for re-evaluation.

9.1.1 Settlement

According to boring data and CPT soundings, long term settlements are expected due to predominantly soft to stiff clay with anticipated shallow ground water. To accelerate the long term settlement, preloading with surcharge is recommended. Table 9 summarizes the surcharge height above grading plane (GP) and the estimated waiting period to reach within the allowable settlement of 1 inch or less.

Table 9. Results of Settlement Analysis

Retaining Wall No.	Max. Wall Height (ft)	Estimated Immediate Settlement (inch)	Estimated Consolidated Settlement (inch)	Estimated Waiting Period(month)	Surcharge above GP (ft)		
70	H=12	2.0-3.0	1.0-2.0	3	7		
73	H=10	0.1-0.5	3.0-4.0		6		
80	H=8	2.0-3.0	1.0 -2.0		7		
VA85		0.5-1.0			5		
SF3		0.5-1.0			5		
SF4	H=4	0.5-1.0	2.0-3.0		3	6	
DW87	H=8	0.5-1.0					
DW88		0.5-1.0					
VA87	H=10	0.5-1.0					
VA88	H=12	0.5-1.0	3.0-4.0		3	7	
VA107		0.5-1.5					
VA108	H=14	1.0-2.0					
VA109	H=8	0.5-1.5	1.0-2.0				
DW108							
DW109							
NF66	H=16	1.0-2.0	2.0-3.0	3			7
NF65	H=18	2.0-3.0					

9.2 Deep Foundation

Design Loads and General Foundation Information for RW 52, 55, 68, 69, VA103 and VA104 are provided by OBDS1 and presented in Tables 10 and 11.

Table 10. Design Loads Provided By Structure Design

Wall No.	Service-I Limit State (kips)		Strength Limit State (Controlling Group, kips)				Extreme Event Limit State (Controlling Group, kips)				
	Total Load		Permanent Loads	Compression		Tension		Compression		Tension	
	Per Support	Max Per Pile	Per Support	Per Support	Max Per Pile	Per Support	Max Per Pile	Per Support	Max Per Pile	Per Support	Max Per Pile
52, 55, 68, 69	NA	96	NA	N/A	126	N/A	0	N/A	130	N/A	8
VA103	NA	193	NA	N/A	248	N/A	0	N/A	276	N/A	0
VA104	NA	225	NA	N/A	325	N/A	0	N/A	230	N/A	0

Table 11. General Wall Foundation Information Provided By Structure Design

Wall No.	Design Method	Pile Type	Finished Grade Elevation (ft)	Cut-off Elevation (ft)	Wall Height (ft)	Pile Cap Size (ft)	Permissible Settlement
52	LRFD	Class 90 PP 14X0.375 Alt. W	64.0-66.0	56.70-62.25	H=6-22	Per RSP B3-1A	1-inch
55			64.0-68.0	61.0-64.25	H=6-14		
68			62.0-64.0	58.75-60.25	H=8-16		
69			60.0-62.0	56.50-58.50			
VA103		42" CIDH	68.0-83.0	61.25-73.75	H=4-20		
VA104			78.5-87.0	61.1-61.3	H=16-22		

9.2.1 Driven Piles

The pile tips required for the LRFD Strength Limit State are computed using computer program APILE (Version 5). Recommended design and specified pile tip elevations provided in Tables 12 and 14 are prepared by OGDS1.

Retaining Walls 52 & 55

New embankment fill will be retained by parallel retaining wall Nos. 52 & 55 near Valley View Avenue southbound On-Ramp. According to the project plans, the embankment fill dimensions contained between the two retaining walls will be about 20 ft high (maximum) and 53 ft wide. The embankment fill will cause vertical settlement consisting of immediate settlement (short term) and consolidation settlement (long term). Considering soil profile and engineering properties of subsurface material obtained through field exploration, a maximum total settlement of 4 to 6 inches is anticipated in subsurface soil, after embankment fill placement. In order to complete the settlement prior to construction of the retaining wall foundations, a three month settlement period for preloading the embankment fill with 12 feet surcharge above the grading plane (GP) is recommended for wall heights of up to 10 feet, then taper down to the grading plane (GP) at the end of both walls.

Retaining Walls 68 & 69

New embankment fill will be retained by parallel retaining walls Nos. 68 & 69 near Valley View Avenue southbound Off-Ramp. Based on project plans, the embankment fill dimensions contained between the two retaining walls will be maximum 16 ft high and 56 ft wide. The embankment fill will cause vertical settlement consisting of immediate settlement (short term) and consolidation settlement (long term). Considering soil profile and engineering properties of subsurface material obtained through field exploration, a maximum total settlement of 6 to 8 inches is anticipated in subsurface soil, after embankment fill placement.

In order to complete the settlement prior to construction of the abutment 4 of SB Off Ramp and the retaining wall foundations, a three month settlement period for preloading the embankment fill with 12 feet surcharge above the grading plane is recommended for wall heights of up to 10 feet, then taper down to 6' above GP at the end of both walls.

Table 12. Foundation Recommendations for Driven Piles

Wall No.	Pile Type	Cut-off Elevation (ft)	Required Factored Nominal Resistance (kips)				Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance (kips)
			Strength Limit		Extreme Event				
			Comp. (Ø=0.7)	Tension (Ø=0.7)	Comp. (Ø= 1)	Tension (Ø= 1)			
52	Class 90 PP 14 X 0.375 Alt. W	56.70-62.25	126	0	130	8	+10 (a-I) +17 (a-II) +50 (b-II) +25.0 (c)	+10	180
55		61.0-64.25							
68		58.75-60.25	126	0	130	8	+6 (a-I) +16 (a-II) +48 (b-II) +24 (c)	+6	
69		56.50-58.50							

Notes:

1. Design tip elevations are controlled by: (a-I) Compression (Strength Limit), (a-II) Compression (Extreme Event), (b-II) Tension (Extreme Event), and (c) Settlement.
2. The specified tip elevation shall not be raised above the design tip elevations for tension load, and tolerable settlement.

9.2.2 CIDH Piles

Retaining Walls VA103 & VA104

Due to close proximity of the walls VA103 & VA104 to the adjacent private properties with businesses sensitive to vibrations and noise, District Roadway Design has indicated that 42 inch CIDH piles should be used for foundation support instead of driven piles. Because of relatively high wall heights, poor soil conditions and expected shallow ground water, embankment fill preloading with 7 ft of surcharge above grading plane (GP) for RW VA103 and VA104, should precede construction of wall foundations after 3 month waiting period. The anticipated total settlements for these walls vary from 5 to 10 inches. The pile tips required for the LRFD Strength Limit State are computed using computer program Shaft (Version 5). Recommended design and specified pile tip elevations provided in Tables 13 and 14 are prepared by OGDS1.

Table 13. Foundation Recommendations for CIDH Piles

Wall No/ stationing	Cut-off Elevation (ft)	Permissible settlement under Service Load (inch)	Pile Type	Required Factored Nominal Resistance (kips)				Design Tip Elevations (ft)	Specified Tip Elevation (ft)
				Strength Limit		Extreme Event			
				Comp. (Ø=0.7)	Tension (Ø=0.7)	Comp. (Ø= 1)	Tension (Ø= 1)		
VA103 / Sta. 10+04.83 to 10+23.5	61.0	1	42" CIDH	248	0	276	0	+16.0 (a-I) +23.0 (a-II) +31.0 (c)	+16
VA103 / Sta. 10+23.5 to 10+43.08	67.5			248	0	276	0	+24.0 (a-I) +33.0 (a-II) +51.0 (c)	+24
VA103 / Sta. 10+43.08 to 10+54	73.5			248	0	276	0	+34.0 (a-I) +41.0 (a-II) +60.0 (c)	+34
VA104 / LOL Sta. 10+00 to 12+43	61.07 to 61.32			325	0	230	0	+9.0 (a-I) +31.0 (a-II) +48.0 (c)	+9

Notes: 1. Design tip elevations are controlled by (a) Compression, (c) Settlement, (d) Lateral Load (SD).
 2. The CIDH specified tip elevation shall not be raised.

Table 14. Pile Data Table

Wall No/ Location.	Pile Type	Nominal Resistance (kips)		Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance (kips)
		Compression	Tension			
52 & 55	PP14x0.375	180	10	+10.0 (a) +50.0 (b) +25.0 (c)	+10	180
68 & 69				+6.0 (a) +48.0 (b) +24.0 (c)	+6	
VA103 / Sta. 10+04.83 to 10+23.5	42-inch CIDH	360	0	+16.0 (a) +31.0 (c)	+16	N/A
VA103 / Sta. 10+23.5 to 10+43.08	42-inch CIDH	360	0	+24.0 (a) +51.0 (c)	+24	
VA103 / Sta. 10+43.08 to 10+54	42-inch CIDH	360	0	+34.0 (a) +60.0 (c)	+34	
VA104 / LOL Sta. 10+00 to 12+43	42-inch CIDH	470	0	+9.0 (a) +48.0 (c)	+9	

Notes: 1. Design tip elevations are controlled by: (a) Compression, (b) Tension (c) Settlement for driven piles and (a) Compression, (c) Settlement for CIDH piles.
 2. The specified tip elevation for driven piles shall not be raised above the design tip elevations for tension load, and tolerable settlement.
 3. The CIDH specified tip elevation shall not be raised.

10.0 General Recommendations

1. All earth work is expected to be carried out by conventional equipment. New fill placed on sloping existing fill shall be properly keyed and benched into existing ground (fill) and placed as specified in Section 19-6 of the 2010 Caltrans Standard Specifications.
2. For surcharge and preloading we recommend 1:1 slope or as steep as stability of material permits. The slope stability analyses report prepared by the licensed Civil Engineer for the material to be used as embankment surcharge should be submitted by the contractor and reviewed by the Resident Engineer at least 5 business days before starting embankment surcharge.
3. Only non-expansive soil or low expansion potential soil should be used for new fill placed within 10 feet of the structural pavement.
4. If there are constraints due to right of way or traffic concerns, a feasible alternative could utilize temporary shoring to accommodate a steeper slope for the excavations or temporary fills.
5. Subsurface drainage and pervious backfill material should be provided behind all walls to relieve hydrostatic pressure. The pervious material shall be in accordance with Section 19-3.03G of the 2010 Caltrans Standard Specifications.
6. Contractor's driving system should be examined to verify the driving system is capable of installing the proposed piles at all support locations, before commencement of pile driving.
7. A drivability analysis for retaining walls 52, 55, 68 & 69 has been requested from the Foundation Testing Branch of the Office of Geotechnical Support and the results will be forwarded when complete.
8. The recommendations contained in this report are based on specific project information that has been provided by District 7 Design Branch A and Mr. Bill Kemp (OBDS1). If any conceptual changes are made during final project design, OGDS1-Branch C should review those changes to determine if these foundation recommendations are still applicable.

11.0 Construction Considerations

SPREAD FOOTING

1. Free water shall not be allowed to stand in any footing excavations. If excavations become flooded, a minimum 6 inches of soil shall be removed and replaced with compacted material per Caltrans Specifications.

2. Quality control should be practiced to ensure that the bottom of the footing excavation is level and clear of any loose debris.

DRIVEN PILES

3. Subsurface characterization is based on the borings performed at particular accessible locations. Subsurface conditions between borings are interpolated between those points. Therefore, if conditions encountered during construction, excavation, or pile driving, are different than those assumed in the foundation design, OGDS1 should be notified to evaluate the impact on current recommendations and make appropriate modifications, if required.
4. Splicing of the steel pipe piles may be needed if bearing is not achieved at the specified tip elevation. With approval of Structure Representative, any driven pile achieving refusal within 4.0 feet or less above specified pile tip elevation may be considered satisfactory.
5. At times, steel pipe piles may not attain minimum bearing at specified tip elevation, even after re-driving. When this situation arises the only option is to splice on additional pile length and continue driving to a point where the nominal resistance is achieved. OGDS1 should be consulted to confirm the selected method.
6. The contractor should monitor adjacent structures or properties for vibrations to prevent potential damage due to pile driving. The contractor should take necessary precautions to minimize the impact on adjacent structures or properties.
7. If minimum required bearing is not obtained at specified pile tip elevation (SPTE) in the first pile of the pile group, the second pile should be stopped 1-foot above the SPTE. After a set-up period of 24 hours, re-strike the same pile and stop 6 inch above the SPTE and review the re-strike pile resistance. If pile bearing is adequate then drive to the recommended pile tip.

If bearing is not adequate from the first re-strike then a 2-week set-up period is recommended before driving to SPTE and verifying the pile capacity.

DRILLED PILES

8. Due to the presence of perched water zone at shallow depth, contractor may use appropriate construction method to mitigate groundwater condition and caving in CIDH piles. Wet construction or other dewatering methods may be considered. Prior to construction, the contractor should submit drawings for methods used to construct piles in wet holes for the engineer's approval. PVC inspection pipes are to be installed for gamma-gamma and Cross-hole Sonic Logging (CSL).

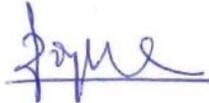
MR. RAMIN RASHEDI
July 16, 2013
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Foundation Report for Retaining Walls SF3, SF4, 52,55
NF65, NF66, 68, 69, 70, 73, 80, VA85, DW87, VA87,
DW88, VA88, VA103, VA104, VA107, DW108, VA108
DW109, and VA109 07000018320 (07-215921)

9. There is a likelihood of minor to moderate caving and/or sloughing of the hole sidewall during CIDH piles installation. Caving could happen readily within shallow loose and/or saturated sand and silt.
10. If slurry displacement method is used, requirements in Standard Special Provisions 49-310, CIDH shall be followed. If temporary casing is used to prevent caving or facilitate dewatering, provisions in Section 49-3.02C(3), "Temporary Steel Casings" of the 2010 Standard Specifications shall be followed.

If you have any questions, please contact Deepa Wathugala at (213) 620-2134 or Faramarz Gerami at (213) 620-2149.

Revised by: Date: 07/16/13



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Attachments: Generalized soil profile and design strength parameters

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Appendix 1-Generalized soil profile and design strength parameters

Boring R-09-211 (RW52 & 55)

Elevation Intervals (ft)	Soil Type	Average Blow Count (N_{60})	Effective Unit Weight (pcf)	Friction Angle (degree)	Un-drained Shear Strength (psf)
65.0-62.0	Silty sand (SM)	-	120	-	-
62.0-57.0	Silty sand (SM)	11	110	30	-
57.0-52.0	Fat clay (CH)	-	110	-	750
52.0-47.0	Lean clay (CL)	5	110	-	1000
47.0-44.0	Fine sand (SP)	-	48	30	-
44.0-37.0	Silt/Silty clay/Fat clay	3	42	-	700
37.0-32.0	Clayey sand (SC)	-	48	32	-
32.0-25.0	Lean clay (CL)	11	53	-	2000
25.0-13.0	Lean clay (CL)	27	60	-	2800

Boring R-09-212 (RW52 & 55)

Elevation Intervals (ft)	Soil Type	Average Blow Count (N_{60})	Effective Unit Weight (pcf)	Friction Angle (degree)	Un-drained Shear Strength (psf)
65.0-61.0	Clayey sand (SC)	5	120	-	-
61.0-52.0	Fat clay (CH)	-	110	-	700
52.0-47.0	Silt (ML)	12	116	-	1400
47.0-37.0	Fat clay/Lean clay (CH/CL)	6	48	-	750
37.0-27.0	Clayey sand (SC)	13	58	30	-
27.0-17.0	Lean clay (CL)	26	60	-	2000
17.0-12.0	Lean clay (CL)	-	62	-	3000
12.0-07.0	Lean clay (CL)	20	54	-	1500
07.0-02.0	Clayey sand (CL)	-	58	33	-
02.0-(-07.0)	Lean clay (CL)	18	54	-	2000

Boring R-10-226 (RW68 & 69)

Elevation Intervals (ft)	Soil Type	Average Blow Count (N_{60})	Effective Unit Weight (pcf)	Friction Angle (degree)	Un-drained Shear Strength (psf)
60.0-55.0	Clayey/silty sand (SC/SM)	-	115	30	-
55.0-52.0	Fat clay (CH)	-	110	-	500
52.0-48.0	Lean clay (CL)	-	120	-	1700
48.0-46.0	Clayey sand (SC)	13	120	32	-
46.0-37.0	Clayey/silty sand (SC/SM)	13	52	32	-
37.0-(-18.0)	Fat clay/Lean clay (CH/CL)	-	60	-	2400
(-18.0)-(-38.0)	Poorly graded sand (SP)	66	66	37	-
(-38.0)-(-43.0)	Lean clay (CL)	39	60	-	2700
(-43.0)-(-58.0)	Clayey sand (SC)	73	70	37	-
(-58.0)-(-62.0)	Poorly graded sand (SP)	59	69	37	-

Boring R-09-220 (RW VA103 & VA104)

Elevation Intervals (ft)	Soil Type	Average Blow Count (N_{60})	Effective Unit Weight (pcf)	Friction Angle (degree)	Undrained Shear Strength (psf)
65.5 - 60.5	Clayey sand (SC)	15	120	31	-
60.5 - 50.5	Lean clay or Fat clay (CL or CH)	3	120	-	400
50.5 - 45.5	Clayey sand (SC)	27	120	34	-
45.5 - 30.5	Lean clay or Fat clay (CL or CH)	12	60	-	1500
30.5 - 15.5	Lean clay (CL)	16	60	-	2000
15.5 - 10.5	Lean clay (CL)	10	60	-	1300
10.5 - 5.5	Silty sand (SM)	27	60	34	-
5.5 - (-4.5)	Clayey sand (SC)	55	60	38	-
(-4.5) - (-9.5)	Clayey sand (SC)	35	60	36	-
(-9.5) - (-14.5)	Lean clay (CL)	28	60	-	3700

**Foundation Report for Retaining
Walls RWFIR4 & RWFIR5 dated
08/29/2013**

Memorandum

*Flex your power!
Be energy efficient!*

To: MR. RAMIN RASHEDI, CHIEF
Bridge Design Branch 11
Office of Bridge Design South 1

Date: August 29, 2013
File: 07-LA-5-PM 1.21
Proj. ID: 0700001832
EA: 07-215921

Attn: Mr. Phu Nguyen

From: DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Geotechnical Services
Office of Geotechnical Design – South 1 MS # 18

RETAINING WALLS
RWFIR4 & RWFIR5

Subject: Foundation Report

Introduction

This report presents the foundation recommendations for the proposed Type 1 Retaining Walls (RWFIR4 & RWFIR5) on piles at Abutment 1 of NB Valley View Ave/S. Firestone Blvd. Bridge No. 53C-2295. Email attachments of walls' General Foundation Information and Design Loads, and plans with revised date of 4-9-13 were received from Mr. Phu Nguyen on 4-10-13. The purpose of these walls is to retain 6 to 16 ft high embankment fill in order to eliminate the existing at grade intersection of Firestone Blvd. to Valley View Ave and vice versa. The existing Firestone Blvd. will be relocated between future Valley View SB On Ramp and the proposed NB Valley View Ave/S. Firestone Ramp Structure.

1.0 Scope of Work

This report supersedes the Preliminary Foundation Report (PFR) dated 12-4-2012. The PFR was written for combination of two bridges, NB Valley View Ave./S. Firestone Blvd. (previously named FIRE1) and accompanied retaining walls RWFIR4 & RWFIR5; SB Valley view Ave./S. Firestone Blvd. (previously named FIRE2) and accompanied retaining walls RWFIR7 & RWFIR8. A review of the following resources and analysis of prepared data, provided information for the foundation evaluation and sites condition.

- ◆ Review of the two sampled borings and two cone penetration tests (CPT) completed by URS Corporation in 2013, for the proposed retaining walls and three borings and three CPTs for NB Valley View Ave./S. Firestone Blvd. Bridge No. 53C-2295.
- ◆ Review of the retaining walls' General plan, foundation design loads and data sheet, received 4-10-13, from Mr. Phu Nguyen.
- ◆ Review of the Hazardous Waste Assessment Report of FIRE1 (current NB Valley View Ave/S. Firestone Blvd.) and FIRE2 (current SB Valley View Ave/S. Firestone Blvd.) dated 9-25-2012, received from District Hazardous Waste Branch (South Region).

- ◆ Preparation of geologic profiles, geotechnical recommendations and engineering parameters for design and construction of the retaining wall foundations.
- ◆ Preparation and presentation of the results of investigations and interpretation of subsurface soil, and writing of this report in accordance with Caltrans “Guidelines for Structures Foundation Reports, Version 2.0” Dec. 2009, and “Foundation Report Preparation for Retaining Walls” Dec. 2010.

2.0 Project Description

The I-5 Corridor Improvement project proposes to reconstruct the existing I-5 freeway including bridge replacements, new ramp structures and retaining walls, between Los Angeles/Orange County line to the south and I-605 to the north. Construction of Retaining Walls RWFIR4 & RWFIR5 at Abutment 1 of NB Valley View Ave./S. Firestone Blvd. Ramp is part of the Segment 2 of I-5 corridor improvement in the Cities of Santa Fe Springs and Cerritos, which covers an area from south of North Fork Creek (PM 1.47) to north of Artesia Blvd./County line (PM 0.00). Segment 2 encompasses four new structures (Valley View Ave. SB On Ramp # 53-3059K, Valley View Ave. Off Ramp # 53-3058K, SB Valley View Ave./S. Firestone Blvd. # 53C-2296, NB Valley View Ave./S. Firestone Blvd. # 53C-2295), three bridge replacements (Valley View Ave. OH/OC # 53-3045, Coyote Creek Bridge # 53-3044 and North Firestone Blvd. Bridge # 53C-2194), and approximately 34 Type 1 retaining walls. All elevations referenced in this report are based on 1988 NAVD Datum.

3.0 Field Investigation and Testing Program

The site specific field investigations were performed in 2013 by URS Corporation. The investigation included drilling two, wet rotary borings and two CPT tests. Soils were continuously logged and classified in accordance with the Unified Soil Classification System. Modifications of soil descriptions to reflect laboratory test results are presented in the Log of Test Borings. Bulk and relatively undisturbed (ring) soil samples were collected for laboratory tests. Ring samples were obtained using Modified California split spoon sampler with 2.0 inch inner diameter. In addition, soil samples were obtained at 5 foot intervals from Standard Penetration test (SPT) split spoon sampler with 1.4 inch inner diameter. Blow counts (SPT N-values) were performed at 5 foot intervals in accordance with ASTM Test Method D1586-84 using a 1.4 inch sampler with a 140 lb safety hammer dropped 30 inches. An electronic file of the new Log of Test Borings will be sent to designer from URS Corporation drafting for inclusion in the contract plans.

4.0 Laboratory Testing Program

Selected representative soil samples were tested in URS laboratories in Orange County to obtain or derive relevant physical and engineering soil properties. All laboratory tests were performed in general accordance with California Test Methods (CTM) or American Society for Testing and Materials (ASTM) Standards. Field and laboratory testing intervals are shown on the Log of Test Boring sheets. The summarized laboratory tests data are shown in Table 1.

Table 1. Summary of Laboratory Tests

Testing Type	ASTM/CTM Designation	Testing Purpose
Consolidation Test	ASTM D2435	Long Term Settlement
Particle Size Analysis	ASTM C117, C136 or D422, D2216	Soil Classification
Atterberg Limits	ASTM D4318	Soil Classification
Corrosion	CTM 417, 422, 532, 643	Corrosion Potential
Direct Shear	ASTM D3080	Shear Strength
Unconfined Compression	ASTM D2166	Compression Strength

5.0 Site Geology and Subsurface conditions

The entire I-5 corridor project between county line and I-605 is located within the Central groundwater Basin of the Coastal Plain of Los Angeles County, as defined by the California Department of Water Resources (DWR, 1961). The proposed sites are located within the Los Angeles Basin with physiographic of a lowland coastal plain. The Coastal Plain is bounded on the east and southeast by the Santa Ana Mountains and San Joaquin Hills and on the north by the Santa Monica and San Gabriel Mountains, and Palos Verdes Hills on the south. The site is situated in a relatively flat southwest sloping Holocene to Late Pleistocene alluvial fan and valley deposits consisting of mostly lean clay with interbeds of fat clay, sandy silt and clayey sand to about 65 feet below surface, then underlain by dense to very dense sand with intermittent interbeds of sandy lean clay. This alluvium was deposited primarily by San Gabriel River floods emanating from the mountains and hills to the north of the project sites. Depth to rock-like material is estimated to be greater than 400 feet.

Based on review of the recent site investigations for the retaining walls and adjacent NB Valley View, different soil units are encountered at the proposed retaining walls as characterized below (given elevations are approximate).

Boring R-13-251 (RWFIR5): Surface to elevation +55 interbeds of medium dense silt/sand and medium stiff lean clay; +55 to +47 stiff fat clay; +47 to +43 medium dense silty sand; +43 to +40 stiff fat clay; +40 to +2 stiff to very stiff lean clay with thin interbeds of very stiff silt, fat clay and medium dense sand; +2 to -17 (max. boring depth) very dense silty sand.

Boring R-13-253 (RWFIR4): Surface to elevation +59 medium dense silty sand; +59 to +32 interbeds of stiff to very stiff fat/lean clay, silt and sand; +32 to +6 stiff to very stiff lean clay; +6 to -16 (max. boring depth) very dense silty sand.

5.1 Groundwater

There is a shallow water bearing zone called “perched groundwater” with varying depths of 12 to 24 feet below ground surface, measured in recent borings in adjacent Valley View OH/OC Bridge replacement # 53-3045. There is also a deeper confined groundwater zone called “Exposition-Artesia” aquifer with about 22 feet of hydraulic head, between 70 to 75 feet below ground surface. The historical high groundwater levels have been mapped between 8 to 10 feet below ground surface over the entire length of the project corridor (CGS 1997, 1998a, 1998b). It should be noted that groundwater levels could fluctuate with the change of season and other factors. Based on Hazardous Waste Assessment Report, precautions should be taken to prevent cross contamination of the contaminated perched groundwater with any lower groundwater zones. **A design groundwater elevation of 46.0 was used for pile tips and settlement calculations.**

6.0 Corrosion Evaluation

Composite soil samples taken from recent exploratory borings at different intervals were tested by URS laboratory for corrosion potential. The test results indicate a non-corrosive environment at the proposed wall sites. Normal construction material and design are advised. Refer to Table 2 for specified test results.

Table 2. Corrosion Test Summary

Boring No.	Depth Interval (ft)	Minimum Resistivity (Ohm-Cm)	pH	Chloride Content (ppm)	Sulfate Content (ppm)
R-13-251	5.0-37.0	1500	8.3	30	1112
	37.0-80.0	2100	8.3	45	6

Note: It is the practice of Caltrans Corrosion Technology Section (with the exception of MSE walls) that if the minimum resistivity of the sample is greater than 1000 ohm-cm and the pH is greater than 5.5, the sample is considered noncorrosive. Caltrans currently considers a site to be corrosive to foundation elements if one or more of the following conditions exist for representative soil and/or water samples taken at the site. Chloride concentration is greater or equal to 500 ppm, sulfate concentration is greater than or equal to 2000 ppm, or the pH is 5.5 or less.

7.0 Seismic Recommendations

The proposed retaining wall sites are not within an Alquist-Priolo Earthquake Fault Zone. An analysis was performed to develop and recommend ground motion parameters for the seismic design of the above referenced retaining walls. This analysis was performed in accordance with requirements specified in Appendix B of the Caltrans’ 2009 Seismic Design Criteria (SDC, Version 1.6, August 2009) and utilizing the “Caltrans ARS Online” and other tools available at the internet sites. The average shear wave velocity (V_{s30}) for the upper 100 feet of the subsurface profile was estimated to be about 210.0 m/sec (689 ft/sec) based on recent field investigation. The closest fault to the wall sites is the Puente Hills Thrust Fault oriented as a low angle north dipping thrust fault approximately 3.2 miles north of the wall sites. The significant faults and fault zones are summarized in Table 3.

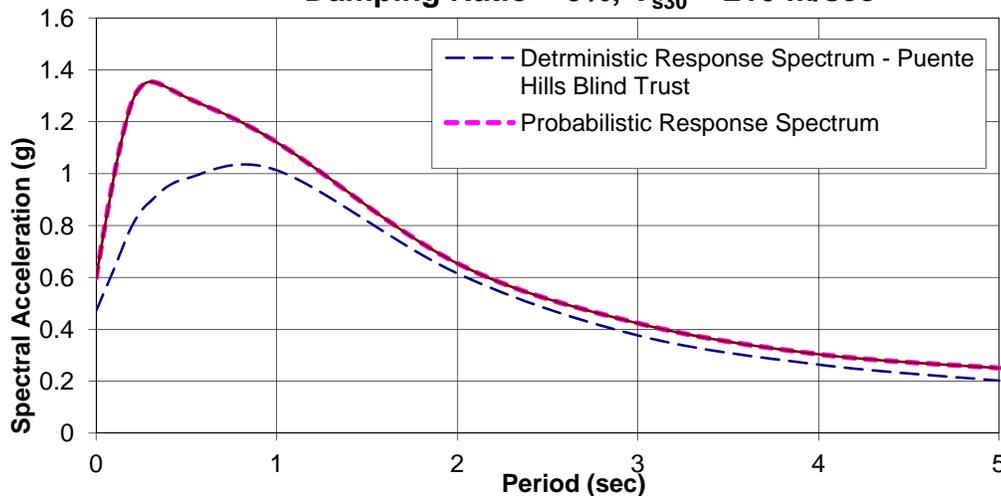
Table 3. Summary of Faults

Fault Name	Type	M _{max}	R _x	R _{JB}	R _{RUP}
Puente Hills Blind Thrust	R	7.3	3.2 mile (5.2 km)	3.2 mile (5.2 km)	3.7 mile (6.0 km)
Elsinore Fault Zone (Whittier Section)	RLSS	7.6	6.4 mile (10.4 km)	6.4 mile (10.4 km)	6.4 mile (10.4 km)
Newport Inglewood – Rose Canyon Fault Zone	RLSS	7.5	9.6 mile (15.4 km)	9.6 mile (15.4 km)	9.6 mile (15.4 km)
Compton-Los Alamitos Blind Thrust	R	6.8	13.2 mile (21.3 km)	4.7 mile (7.6 km)	7.8 mile (12.6 km)

Notes: R_x = Horizontal distance to the fault trace
 R_{JB} = Shortest horizontal distance to the surface projection of the rupture area
 R_{RUP} = Closest distance to the fault rupture plane RLSS = Right Lateral Strike Slip R = Reverse

The design deterministic as well as the probabilistic acceleration response spectrum (ARS) curves developed is shown in Figure 1. The probabilistic ARS curve corresponds to a ground motion return period (RP) of 975-year (i.e., 5% probability of exceedance in 50 years). It should be noted that the design deterministic ARS curve shown in Figure 1 is due to an earthquake event of magnitude M=7.3 and site to fault rupture surface distance of 5.2 Km associated with the Puente Hills Blind thrust fault. Since all the site to fault distance measures (e.g., R_{rup}, R_x and R_{jb} etc.) used in the attenuation relationships utilized in this analysis are within 25 Km, the ARS curves shown in Figure 1 include the near fault effects as specified in the Seismic Design Criteria (SDC 2009). In addition, the project sites being located in the Los Angeles Basin also includes basin effects (Z_{1.0}= 715 m and Z_{2.5}= 3.92 km). ARS curves were developed according to the Caltrans Geotechnical Services-Design Manual (Version 1.0, Aug. 2009). The design Peak Ground Acceleration (PGA) for the project sites is 0.6g. The design ARS curve is an envelope of deterministic and probabilistic ARS curves (Figure 1).

Figure 1. RECOMMENDED DESIGN ACCELERATION RESPONSE SPECTRUM (ARS) for Retaining Walls RWFIR4 & RWFIR5 Damping Ratio = 5%; V_{s30} = 210 m/sec



8.0 Liquefaction Potential

Based on recent field investigations, the liquefaction potential at the wall sites is low to negligible due to dominant presence of cohesive soil with intermittent interbeds of dense to medium dense granular soil overlying very dense granular material. Accordingly, the potential for seismically induced settlement and lateral spreading are also considered to be low.

9.0 Foundation Recommendations

According to plans, RWFIR4 begins at 35.7'Rt. Station 11+64.9 "FIR1" line and ends at 24.4'Rt. Station 13+99.8 "FIR1" line. The total length of the wall along LOL is about 224 feet with a design heights of H = 6 to 16 feet. RWFIR5 begins at 35.1'Lt. Station 11+57.3 "FIR1" line and ends at 24.4'Lt. Station 13+99.8 "FIR1" line. The total length of the wall along LOL is about 256 feet with a design heights of H = 6 to 16 feet. The following recommendations are developed by OGDS1 based on 1) Log of Test Borings and interpreted subsurface conditions and design parameters established through laboratory tests and field data, 2) updated wall Plans and design loads provided by OBDS1 as referenced in page 1, and 3) email correspondences and personal communications with Mr. Phu Nguyen (OBDS1). It is recommended that both proposed Type 1 retaining walls RWFIR4 and RWFIR5 be supported on Class 90 kips PP14x0.375 open ended pipe piles. Pile lengths required to resist the provided loads are computed based on Strength Limit State using computer program APILE (version 5.0). The calculated axial geotechnical capacities of driven piles (PP14x0.375) are based mainly on skin friction and minor contribution from end bearing. General Foundation Information and Design Loads are provided by OBDS1 and presented in Tables 4 & 5. Recommended design and specified pile tip elevations provided in Tables 6 & 7 are prepared by OGDS1.

Table 4. General Foundation Information Provided By Structure Design Received 4-10-13

Wall No.	Design Method	Pile Type	Finished Grade Elevation (ft)	Cut-off Elevation (ft)	Pile Cap Size (ft)	Permissible Settlement under Service Load *
RWFIR4	LRFD	Class 90 PP14x0.375	64.0 to 65.0	60.67 to 61.67	Per RSP B3-1A	1"
RWFIR5	LRFD		64.0 to 64.7	60.42 to 61.42		1"

Table 5. Design Loads Provided By Structure Design Received 4-10-13

Wall No.	Service-1 Limit State (kips)			Strength Limit State (Controlling Group, kips)				Extreme Event Limit State (Controlling Group, kips)			
	Total Load		Permanent Loads	Compression		Tension		Compression		Tension	
	Per Support	Max Per Pile	Per Support	Per Support	Max Per Pile	Per Support	Max Per Pile	Per Support	Max Per Pile	Per Support	Max Per Pile
RWFIR4	NA	86	NA	NA	110	NA	0	NA	124	NA	8
RWFIR5		86			110		0		124		8

Table 6. Foundation Recommendations for RWFIR4 & RWFIR5

Wall No.	Pile Type	Cut-off Elevation (ft)	Required Factored Nominal Resistance (kips)				Design Tip Elevations (ft)	Specified Tip Elevation (ft)
			Strength Limit		Extreme Event			
			Comp. (Ø=0.7)	Tension (Ø=0.7)	Comp. (Ø=1)	Tension (Ø=1)		
RWFIR4	Class 90 PP14x0.375	60.67 to 61.67	110	0	124	8	+16.0 (a-I) +23.0 (a-II) +51.0 (b-II) +32.0 (c)	+16.0
RWFIR5		60.42 to 61.42	110	0	124	8	+16.0 (a-I) +23.0 (a-II) +51.0 (b-II) +32.0 (c)	+16.0

- Notes: 1. Design tip elevations are controlled by: (a-I) Compression (Strength Limit), (a-II) Compression (Extreme Event), (b-II) Tension (Extreme Event), (c) Settlement.
 2. The specified tip elevation shall not be raised above the design tip elevations for tension, lateral and tolerable settlement.
 3. Design tip elevation for Lateral Load is typically provided by Structure Design.

Table 7. Pile Data Table

Wall No.	Pile Type	Nominal Resistance (kips)		Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance (kips)
		Compression	Tension			
RWFIR4	Class 90 PP14x0.375	160	10	+16.0 (a) +51.0 (b) +32.0 (c)	+16.0	160
RWFIR5		160	10	+16.0 (a) +51.0 (b) +32.0 (c)	+16.0	160

- Notes: 1. Design tip elevations for abutment are controlled by (a) Compression, (c) Settlement.
 2. Design tip elevations for bents are controlled by: (a) Compression, (b) Tension (c) Settlement.
 3. The specified tip elevation shall not be raised above the design tip elevations for tension load, lateral load, and tolerable settlement.
 4. Design tip elevation for Lateral Load is typically provided by Structure Design.

9.1 Approach Fill Earthwork

New approach embankment fill placed at Abutment 1 for the new NB Valley View structure as part of the grade separation, will be retained by parallel retaining walls RWFIR4 & RWFIR5. Based on project plans, the embankment fill dimensions contained between two retaining walls will be about 16 ft high and 50 ft wide. The embankment fill will cause vertical settlement consisting of immediate settlement (short term) and consolidation settlement (long term). Considering soil profile and engineering properties of subsurface material obtained through field exploration at Abutment 1, a maximum total settlement of 4 to 6 inches is anticipated in subsurface soil, after embankment fill placement. In order to complete the settlement prior to construction of the retaining wall and (Abutment 1 of NB Valley view) foundations, a 90-days settlement period for preloading the embankment fill with 9 feet surcharge above the grading plane is recommended. Settlement monitoring in the field is strongly recommended and the actual settlement period will be determined by the structure representative on the basis of settlement data in the field.

10.0 Notes to Designer

1. Design pile tip elevation for lateral load is to be determined by designer. The specified pile tip elevation is to be controlled by the deepest design tip elevation for either compression or lateral loads. Should the design pile tip elevation required to meet lateral load demands exceed the specified pile tip elevation given within this report, OGDS1 must be contacted for further recommendations.
2. Contractor's driving system should be examined to verify the driving system is capable of installing the proposed piles at all support locations, before commencement of pile driving.
3. A drivability analysis has been requested from the Foundation Testing Branch of the Office of Geotechnical Support and the results will be forwarded when complete.
4. The recommendations contained in this report are based on specific project information that has been provided by OBDS1-Branch 11. If any conceptual changes are made during final project design, OGDS1-Branch C should review those changes to determine if these foundation recommendations are still applicable.

11.0 Construction Considerations

DRIVEN PILES

1. Due to the irregular distribution of soil units, variable and erratic driving should be anticipated. Center relief drilling (drilling through the center of open ended pipe pile) to facilitate pile driving, may be considered to within five (5) feet above the pile tip.
2. The contractor should monitor adjacent structures or properties for vibrations to prevent potential damage due to pile driving. The contractor should take necessary precautions to minimize the impact on adjacent structures or properties.
3. Subsurface characterization is based on the borings performed at particular accessible locations. Subsurface conditions between borings are interpolated between those points. Therefore, if conditions encountered during construction, excavation, or pile driving, are different than those assumed in the foundation design, OGDS1 should be notified to evaluate the impact on current recommendations and make appropriate modifications, if required.
4. Splicing of the steel pipe piles may be needed if bearing is not achieved at the specified tip elevation. With approval of Structure Representative, any driven pile achieving refusal within 4.0 feet or less above specified pile tip elevation may be considered satisfactory.

5. At times, steel pipe piles may not attain minimum bearing at specified tip elevation, even after re-driving. When this situation arises the only option is to splice on additional pile length and continue driving to a point where the nominal resistance is achieved. OGDS1 should be consulted to confirm the selected method.
6. If minimum required bearing is not obtained at specified pile tip elevation (SPTE) in the first pile of the pile group, the second pile should be stopped 1-foot above the SPTE. After a pile set-up period of approx. 24 hours, re-strike the same pile and stop 6-inches above the SPTE and review the re-strike pile resistance. If pile bearing resistance is adequate then finish driving to the recommended pile tip. If bearing resistance is not adequate from the first re-strike then a 10-day to 2-week pile set-up period is recommended (from initial pile driving date) before re-driving to SPTE and verify the pile capacity.

EARTHWORK

7. In order to accelerate the predicted settlement within the recommended waiting period of 90 days, placement of embankment fill with 9 feet surcharge from grading plane, should precede construction of abutment and wall foundations. This procedure would substantially reduce the post construction settlement, potential down drag effects on the abutment and retaining wall piles and differential settlement of the walls. Where there is no right of way restriction, the extent of the surcharge hinge point should coincide with wall layout lines and abutment centerline (2010 Standard Plans-A62B). The longitudinal limit of the surcharge should include abutment and wall heights of up to 10 feet, and then taper down to 6' above grading plane at the end of both retaining walls RWFIR4 and RWFIR5.
8. Temporary shoring may be required at locations where there are right of way restrictions. Shoring could be supported by sheet piles and/or soldier piles with or without lagging; however, method of shoring construction is the contractor's responsibility.
9. The new approach fill at abutment 1 to begin walls is to be constructed in accordance with Sections 19-5.03B and 19-6.03C of the 2010 Standard Specifications and other requirements as directed by the Design Engineer. End dumping is not to be permitted.
10. In conclusion, the commentary and recommendations in this report should not be considered an offering or implying an opinion of, or an approval concerning the foundation design and/or method of construction.

Any questions regarding the above comments should be directed to Faramarz Gerami at 213-620-2149. However, specific questions regarding surcharge and settlement period at abutments should be directed to Deepa Wathugala at 213-620-2134.

Report by:

Reviewed by: Date: 8/29/2013

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Attachments: Generalized soil profile and design strength parameters

- c: Structure Construction R.E. pending File ([RE Pending File@dot.ca.gov](mailto:RE_Pending_File@dot.ca.gov))
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- District Design Senior – Richard_Chiang@dot.ca.gov
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Appendix 1 – Generalized soil profile and design strength parameters

RWFIR5 (CPT-13-250)

Layer No.	Elevation Intervals (ft)	Depth to Bottom of Layer (ft)	Soil Type	N ₆₀ Blows/ft	Effective unit weight pcf (pci)	Φ (deg)	Su = C psf (psi)	K* (pci)		ε50*
								Wet	Dry	
1	64.0-59.0	5.0	Lean clay (CL)	-	110 (0.063)	-	500 (3.47)	-	-	0.02
2	59.0-57.0	7.0	Silty sand (SM)	12	115 (0.066)	32	-	60	90	-
3	57.0-49.0	15.0	Lean/Fat clay (CL/CH)	-	113 (0.065)	-	1000 (6.94)	-	-	0.01
4	49.0-46.0	18.0	Silty sand (SM)	18	122 (0.070)	33	-	75	120	-
5	46.0-44.0	20.0	Silty sand (SM)	18	60 (0.034)	33	-	75	120	-
6	44.0-30.0	34.0	Lean clay (CL)	-	60 (0.034)	-	2500 (17.36)	-	-	0.005
7	30.0-5.0	59.0	Lean clay (CL)	-	66 (0.038)	-	3600 (25.00)	-	-	0.004
8	5.0-(-19.0)	83.0	Silty/clayey sand (SM/SC)	46	68 (0.039)	37	-	125	225	-
9	(-19.0)-(-28.0)	92.0	Lean clay (CL)	-	66 (0.038)	-	4000 (27.77)	-	-	0.004
10	(-28.0)-(-40.0)	104.0	Poorly graded sand (SP)	40	68 (0.039)	38	-	125	225	-

RWFIR5 (Boring R-13-251)

Layer No.	Elevation Intervals (ft)	Depth to Bottom of Layer (ft)	Soil Type	N ₆₀ Blows/ft	Effective unit weight pcf (pci)	Φ (deg)	Su = C psf (psi)	K* (pci)		ε50*
								Wet	Dry	
1	64.0-54.0	10.0	Silty sand (SM)	16	115 (0.066)	30	-	20	25	-
2	54.0-50.0	14.0	Fat clay (CH)	10	110 (0.063)	-	750 (5.21)	-	-	0.01
3	50.0-45.0	19.0	Fat clay (CH)	20	116 (0.067)	-	1700 (11.80)	-	-	0.007
4	45.0-42.0	22.0	Poorly graded sand (SP)	21	60 (0.034)	33	-	75	120	-
5	42.0-31.0	33.0	Fat clay (CH)	16	54 (0.031)	-	1500 (10.41)	-	-	0.007
6	31.0-14.0	50.0	Lean clay (CL)	21	60 (0.034)	-	2500 (17.36)	-	-	0.005
7	14.0-7.0	57.0	Lean clay (CL)	29	60 (0.034)	-	2900 (20.14)	-	-	0.005
8	7.0-3.0	61.0	Lean clay (CL)	22	60 (0.034)	-	2000 (13.89)	-	-	0.007
9	3.0-0.0	64.0	Silty sand (SM)	31	63 (0.036)	35	-	125	225	-

10	0.0-(-18.0)	82.0	Silty sand (SM)	>100	72 (0.041)	38	-	125	225	-
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RWFIR4 (CPT-13-252)

Layer No.	Elevation Intervals (ft)	Depth to Bottom of Layer (ft)	Soil Type	N ₆₀ Blows/ft	Effective unit weight pcf (pci)	Φ (deg)	Su = C psf (psi)	K* (pci)		ε ₅₀ *
								Wet	Dry	
1	64.0-59.0	5.0	Lean clay (CL)	-	110 (0.063)	-	500 (3.47)	-	-	0.02
2	59.0-56.0	8.0	Silty sand (SM)	12	115 (0.066)	32	-	60	90	-
3	56.0-46.0	18.0	Lean/Fat clay (CL/CH)	-	113 (0.065)	-	1000 (6.94)	-	-	0.01
4	46.0-42.0	22.0	Silty sand (SM)	18	122 (0.070)	33	-	75	120	-
5	42.0-30.0	34.0	Lean clay (CL)	18	60 (0.034)	33	-	75	120	-
6	30.0-2.0	62.0	Lean clay (CL)	-	60 (0.034)	-	2500 (17.36)	-	-	0.005
7	2.0-(-16.0)	80.0	Silty/clayey sand (SM/SC)	-	66 (0.038)	-	3600 (25.00)	-	-	0.004
8	(-16.0)-(-21.0)	85.0	Lean clay (CL)	46	68 (0.039)	37	-	125	225	-
9	(-21.0)-(-29.0)	93.0	Lean clay (CL)	-	66 (0.038)	-	4000 (27.77)	-	-	0.004
10	(-29.0)-(-55.0)	119.0	Poorly graded sand (SP)	40	68 (0.039)	38	-	125	225	-

RWFIR4 (Boring R-13-253)

Layer No.	Elevation Intervals (ft)	Depth to Bottom of Layer (ft)	Soil Type	N ₆₀ Blows/ft	Effective unit weight pcf (pci)	Φ (deg)	Su = C psf (psi)	K* (pci)		ε ₅₀ *
								Wet	Dry	
1	64.0-57.0	7.0	Silty sand (SM)	18	115 (0.066)	30	-	20	25	-
2	57.0-46.0	18.0	Fat clay/Silt (CH/ML)	16	116 (0.067)	-	1500 (10.41)	-	-	0.007
3	46.0-41.0	23.0	Silty sand (SM)	26	62 (0.035)	34	-	105	190	-
4	41.0-37.0	27.0	Lean clay (CL)	-	50 (0.029)	-	1000 (6.94)	-	-	0.01
5	37.0-34.0	30.0	Fat clay (CH)	-	60 (0.034)	-	2200 (15.27)	-	-	0.005
6	34.0-31.0	33.0	Cohesive Silt (ML)	23	50 (0.029)	-	750 (5.21)	-	-	0.01
7	31.0-26.0	38.0	Lean clay (CL)	22	60 (0.034)	-	2500 (17.36)	-	-	0.005
8	26.0-16.0	48.0	Lean clay (CL)	19	57 (0.033)	-	1800 (12.50)	-	-	0.007
9	16.0-5.0	59.0	Lean clay (CL)	29	63 (0.036)	-	3000 (20.83)	-	-	0.005
10	5.0-(-17.0)	81.0	Silty/clayey/fine sand	>75	72 (0.041)	38	-	125	225	-

			(SM/SC/SP)							
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RWFIR4 (CPT-13-255)

Layer No.	Elevation Intervals (ft)	Depth to Bottom of Layer (ft)	Soil Type	N ₆₀ Blows/ft	Effective unit weight pcf (pci)	Φ (deg)	Su = C psf (psi)	K* (pci)		ε50*
								Wet	Dry	
1	65.0-60.0	5.0	Lean clay (CL)	-	110 (0.063)	-	500 (3.47)	-	-	0.02
2	60.0-56.0	9.0	Silty/clayey sand (SM/SC)	10	115 (0.066)	32	-	60	90	-
3	56.0-53.0	12.0	Lean/Fat clay (CL/CH)	4	113 (0.065)	-	1000 (6.94)	-	-	0.01
4	53.0-47.0	18.0	Lean clay (CL)	5	123 (0.071)	-	2300 (15.97)	-	-	0.005
5	47.0-44.0	21.0	Silty sand (SM)	25	62 (0.035)	33	-	75	120	-
6	44.0-30.0	35.0	Lean clay (CL)	6	57 (0.032)	-	1900 (13.19)	-	-	0.007
7	30.0-4.0	61.0	Lean clay (CL)	15	63 (0.036)	-	3500 (24.30)	-	-	0.005
8	4.0-(-1.0)	66.0	Silty sand (SM)	36	66 (0.038)	37	-	125	225	-
9	(-1.0)-(-28.0)	93.0	Lean clay (CL)	17	63 (0.036)	-	3500 (24.30)	-	-	0.005
10	(-28.0)-(-54.0)	119.0	Poorly graded sand (SP)	36	66 (0.038)	37	-	125	225	-

* For P-Y Curve analysis (based on L-pile Manual)

**Revised Foundation Report for
Retaining Walls RWFIR7 &
RWFIR8 dated 07/02/2015**

Memorandum

*Serious drought.
Help save water!*

To: MR. RAMIN RASHEDI, CHIEF
Bridge Design Branch 11
Office of Bridge Design South 2

Date: July 2, 2015
File: 07-LA-5-PM 1.21
Proj. ID: 0715000160
EA: 07-2159U1

Attn: Mr. Phu Nguyen

From: DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Geotechnical Services
Office of Geotechnical Design – South 1 MS # 18

RETAINING WALLS
RWFIR7 & RWFIR8

Subject: Revised Foundation Report

INTRODUCTION

This revised report includes the entire original report dated 8-29-2013 in addition to new pile tips at both wall locations, after completion of 2014 site specific field investigation. Pile tips in original report dated 8-29-2013 were provided based on offsite borings due to right of way restrictions which at the time precluded any drilling at both wall locations. Email attachments of walls' General Foundation Information, Design Loads, and plans dated 4-5-13 were received from Mr. Phu Nguyen on 4-10-13. Both walls start on either side of Abutment 4 of the SB Valley View Ave. /S. Firestone Blvd. Bridge No. 53C-2296, extending about 352 ft. (RWFIR8) on the right side and 432 ft. (RWFIR7) on the left side. Both walls are proposed to retain 6 to 22 ft. high embankment fill in order to eliminate the existing at grade intersection of Firestone Blvd. to Valley View. The existing Firestone Blvd. will be relocated between future Valley View SB off Ramp and SB Valley View Ave. /S. Firestone Ramp Structure.

1.0 SCOPE OF WORK

This revised report supersedes the Preliminary Foundation Report (PFR) dated 12-4-2012 and the Foundation Report dated 8-29-2013. A review of the following resources and analysis of prepared data, provided information for the foundation evaluation and sites condition.

- ◆ Review of the 2014 boring records and Cone Penetration Test (CPT) data and laboratory results completed by FUGRO Consultants.
- ◆ Review of the retaining walls' General plan, foundation design loads and data sheet, received on 4-10-2013, from Mr. Phu Nguyen.

- ◆ Review of the Hazardous Waste Assessment Report of FIRE1 (current NB Valley View Ave. /S. Firestone Blvd.) and FIRE2 (current SB Valley View Ave. /S. Firestone Blvd.) dated 9-25-2012, received from District Hazardous Waste Branch (South Region).
- ◆ Preparation and presentation of the results of investigations and interpretation of subsurface soil, and writing of this report in accordance with Caltrans “Guidelines for Structures Foundation Reports, Version 2.0” Dec. 2009, and “Foundation Report Preparation for Retaining Walls” Dec. 2010.

2.0 PROJECT DESCRIPTION

The I-5 Corridor Improvement project proposes to reconstruct the existing I-5 freeway including bridge replacements, new ramp structures and retaining walls, between Los Angeles/Orange County line to the south and I-605 to the north. Construction of Retaining Walls RWFIR7 & RWFIR8 at the corners of Abutment 4 of SB Valley View Ave. /S. Firestone Blvd. Ramp is part of the Segment 2 of I-5 corridor improvement in the Cities of Santa Fe Springs and Cerritos, which covers an area from south of North Fork Creek (PM 1.47) to north of Artesia Blvd. /County line (PM 0.00). Segment 2 encompasses four new structures (Valley View Ave. SB On Ramp #53-3059K, Valley View Ave. Off Ramp #53-3058K, SB Valley View Ave. /S. Firestone #53C-2296, NB Valley View Ave. /S. Firestone #53C-2295), three bridge replacements (Valley View Ave. OH/OC #53-3045, Coyote Creek Bridge #53-3044 and North Firestone Blvd. Bridge #53C-2194), and approximately 34 Type 1 retaining walls. **All elevations referenced in this report are based on 1988 NAVD Datum.**

3.0 FIELD INVESTIGATION AND TESTING PROGRAM

The site specific field investigation was performed by FUGRO Consultants. The investigation included drilling two wet rotary borings, one shared boring at Abut. 4L of SB Valley View Bridge, two CPTs, and one shared CPT at Abut. 4R of the same bridge. Soils were continuously logged and classified in accordance with the Unified Soil Classification System. Bulk and relatively undisturbed (ring) soil samples were collected for laboratory tests. Ring samples were obtained using Modified California split spoon sampler with 2.0 inch inner diameter. In addition, soil samples were obtained at 5 foot intervals from Standard Penetration Test (SPT) split spoon sampler with 1.4 inch inner diameter. Blow counts (SPT N-values) were performed with a 140 lbs. safety hammer dropped 30 inches. Modifications of soil descriptions to reflect laboratory test results will be presented in Log of Test Borings (LOTB) which upon completion will be sent to designer from FUGRO drafting for inclusion in the contract plans.

4.0 LABORATORY TESTING PROGRAM

Selected representative soil samples were tested in FUGRO laboratories to obtain or derive relevant physical and engineering soil properties. All laboratory tests were performed in general accordance with California Test Methods (CTM) or American Society for Testing and Materials (ASTM) Standards. Field and laboratory testing intervals are shown on the LOTB sheets. The summarized laboratory tests data are shown in Table 1.

Table 1. Summary of Laboratory Tests

Testing Type	ASTM/CTM Designation	Testing Purpose
Consolidation Test	ASTM D2435	Long Term Settlement
Particle Size Analysis	ASTM C117, C136 or D422, D2216	Soil Classification
Atterberg Limits	ASTM D4318	Soil Classification
Corrosion	CTM 417, 422, 532, 643	Corrosion Potential
Direct Shear	ASTM D3080	Shear Strength
Unconfined Compression	ASTM D2166	Compression Strength
One-Dimensional Swell or Collapse	ASTM D4546	Swell Pressure

5.0 SITE GEOLOGY AND SUBSURFACE CONDITIONS

The entire I-5 corridor project between county line and I-605 is located within the Central groundwater Basin of the Coastal Plain of Los Angeles County, as defined by the California Department of Water Resources (DWR, 1961). The proposed site is located within the Los Angeles Basin with physiographic of a lowland coastal plain. The Coastal Plain is bounded on the east and southeast by the Santa Ana Mountains and San Joaquin Hills and on the north by the Santa Monica and San Gabriel Mountains, and Palos Verdes Hills on the south. The site is situated in a relatively flat southwest sloping Holocene to Late Pleistocene alluvial fan and valley deposits consisting of mostly lean clay with interbeds of fat clay, sandy silt and clayey sand to about 65 feet below surface, underlain by dense to very dense sand with intermittent interbeds of sandy lean clay. This alluvium was deposited primarily by San Gabriel River floods emanating from the mountains and hills to the north of the project site. Depth to rock-like material is estimated to be greater than 400 feet.

Based on information from 2014 site investigation, different soil units are encountered at the proposed retaining walls, as characterized below (given elevations are approximate).

Boring R-14-265 (Begin Walls): Surface to elevation +55 soft silt; +55 to +47 stiff fat clay with 3 ft. interbed of medium stiff lean clay; +47 to +17 medium dense silty and clayey sand with interbeds of stiff silt and medium stiff lean clay; +17 to +2 medium dense non-plastic silt with interbeds of very stiff lean clay; +2 to -8 very stiff fat clay; -8 to -11 medium stiff lean clay; -11 to -18 medium dense and dense clayey and silty sand; -18 to -23 very dense poorly graded sand; -23 to -29 interbeds of hard lean clay and hard silt; -29 to -43 very dense poorly graded sand; -43 to -48 medium dense non-plastic silt; -48 to -58 very dense silty sand; -58 to -62 (max. boring depth) very stiff silt with interbeds of very dense silty sand.

Boring R-14-267 (approx. Station 18+35, RWFIR7 LOL): Surface to elevation +56 very soft to soft silt and lean clay; +56 to +53 loose silty sand; +53 to +48 medium stiff fat clay; +48 to +43 medium dense silty sand; +43 to +38 medium stiff lean clay; +38 to +33 medium dense silty sand; +33 to +28 very stiff lean clay; +28 to +23 medium dense poorly graded sand; +23 to +7 loose to medium dense non-plastic silt; +7 to +3 medium dense silty sand; +3 to -1 stiff lean clay with sand; -1 to -4 medium dense clayey sand; -4 to -12 medium dense non-plastic silt and silty sand; -12 to -17 hard lean clay with sand; -17 to -19 (max. boring depth) dense clayey sand.

Boring R-14-270 (approx. Station 18+70, RWFIR8 LOL): Surface to elevation +56 soft lean clay; +56 to +53 loose clayey sand; +53 to +47 medium stiff lean and fat clay; +47 to +42 medium dense silty sand; +42 to +34 very stiff lean clay; +34 to +30 loose non-plastic silt; +30 to +22 interbeds of medium stiff to stiff lean clay and silt; +22 to +17 very stiff lean clay; +17 to +7 medium dense non-plastic silt; +7 to -6 medium dense silty sand and poorly graded sand; -6 to -13 very stiff lean clay; -13 to -22 (max. boring depth) dense to medium dense non-plastic silt.

5.1 GROUNDWATER

There is a shallow water bearing zone called “perched groundwater” with varying depths of 12 to 24 feet below ground surface, measured in recent borings in adjacent Valley View Bridge No. 53-3045. There is also a deeper confined groundwater zone called “Exposition-Artesia” aquifer with about 22 feet of hydraulic head, between 70 to 75 feet below ground surface. The historical high groundwater levels have been mapped between 8 to 10 feet below ground surface over the entire length of the project corridor (CGS 1997, 1998a, 1998b).

It should be noted that groundwater levels could fluctuate with the change of season and other factors. Based on Hazardous Waste Assessment Report, precautions should be taken to prevent cross contamination of the contaminated perched groundwater with any lower groundwater zones. **A design groundwater elevation of 46.0 was used for pile tips and settlement calculations.**

6.0 CORROSION EVALUATION

Composite soil samples taken from recent exploratory borings at different intervals were tested by FUGRO laboratory for corrosion testing. The test results indicate a non-corrosive environment at the proposed wall sites. Normal construction material and design are advised. Refer to Table 2 for specific test results.

Table 2. Corrosion Test Summary

Boring No.	Depth Interval (ft.)	Minimum Resistivity (Ohm-Cm)	pH	Chloride Content (ppm)	Sulfate Content (ppm)
R-14-265	5.0 - 20.0	618	8.00	180	296
	20.0 - 120.0	1455	7.70	NA	NA
R-14-267	5.0 - 20.0	1053	8.50	NA	NA
	20.0 - 80.0	1350	7.60	NA	NA
R-14-270	5.0 - 20.0	1736	7.90	NA	NA
	20.0 - 80.0	1265	7.70	NA	NA

Note: It is the practice of Caltrans Corrosion Technology Section (with the exception of MSE walls) that if the minimum resistivity of the sample is greater than 1000 ohm-cm and the pH is greater than 5.5, the sample is considered noncorrosive. Caltrans currently considers a site to be corrosive to foundation elements if one or more of the following conditions exist for representative soil and/or water samples taken at the site. Chloride concentration is greater or equal to 500 ppm, sulfate concentration is greater than or equal to 2000 ppm, or the pH is 5.5 or less.

7.0 SEISMIC RECOMMENDATIONS

The proposed retaining wall are not within an Alquist-Priolo Earthquake Fault Zone. An analysis was performed to develop and recommend ground motion parameters for the seismic design of the above referenced retaining walls. This analysis was performed in accordance with requirements specified in Appendix B of the Caltrans' 2009 Seismic Design Criteria and utilizing the "Caltrans ARS Online" and other tools available at the internet sites. The average shear wave velocity (V_{s30}) for the upper 100 feet of the subsurface profile was estimated to be about 210.0 m/sec (689 ft. /sec) based on recent field investigation. The closest fault to the wall sites is the Puente Hills Thrust Fault oriented as a low angle north dipping thrust fault approximately 3.2 miles north of the wall sites. The significant faults and fault zones are summarized in Table 3.

Table 3. Summary of Faults

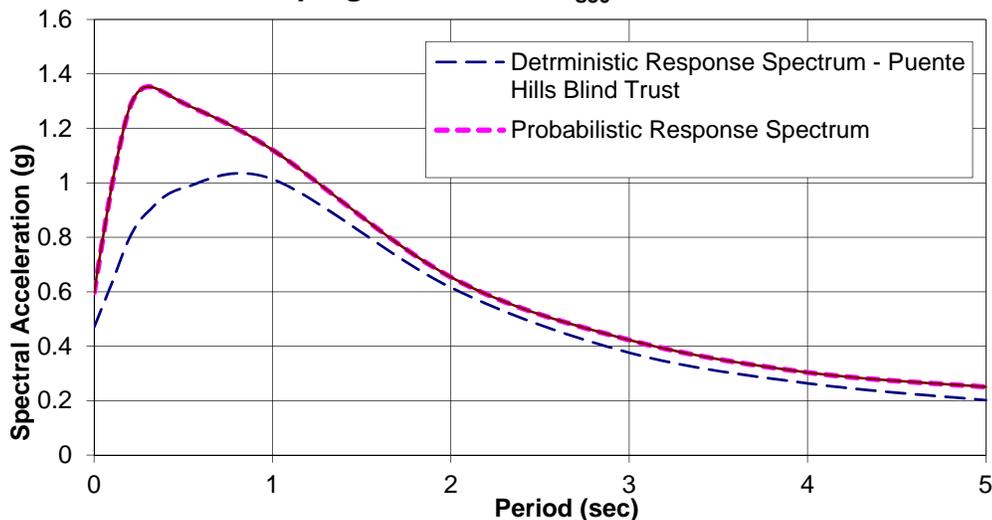
Fault Name	Type	M_{max}	R_X	R_{JB}	R_{RUP}
Puente Hills Blind Thrust	R	7.3	3.2 mile (5.2 km)	3.2 mile (5.2 km)	3.7 mile (6.0 km)
Elsinore Fault Zone (Whittier Section)	RLSS	7.6	6.4 mile (10.4 km)	6.4 mile (10.4 km)	6.4 mile (10.4 km)
New Port Inglewood – Rose Canyon Fault Zone	RLSS	7.5	9.6 mile (15.4 km)	9.6 mile (15.4 km)	9.6 mile (15.4 km)
Compton-Los Alamitos Blind Thrust	R	6.8	13.2 mile (21.3 km)	4.7 mile (7.6 km)	7.8 mile (12.6 km)

Notes: R_X = Horizontal distance to the fault trace
 R_{JB} = Shortest horizontal distance to the surface projection of the rupture area
 R_{RUP} = Closest distance to the fault rupture plane RLSS = Right Lateral Strike Slip R = Reverse

The design deterministic as well as the probabilistic acceleration response spectrum (ARS) curves developed are shown in Figure 1. The probabilistic ARS curve corresponds to a ground motion return period (RP) of 975-year. It should be noted that the design deterministic ARS curve shown in Figure 1 is due to an earthquake event of magnitude $M=7.3$ and site to fault rupture surface distance of 5.2 Km associated with the Puente Hills Blind thrust fault.

Since all the site to fault distance measures used in the attenuation relationships utilized in this analysis are within 25 Km, the ARS curves shown in Figure 1 include the near fault effects as specified in the Seismic Design Criteria (SDC 2009). In addition, the project sites being located in the Los Angeles Basin also includes basin effects ($Z_{1.0}= 715$ m and $Z_{2.5}= 3.92$ km). ARS curves were developed according to the Caltrans Geotechnical Services-Design Manual. The design Peak Ground Acceleration (PGA) for the project sites is 0.6g.

Figure 1. Recommended Design Acceleration Response Spectrum (ARS) for Retaining Walls RWFIR7 & RWFIR8 Damping Ratio = 5%; $V_{s30} = 210$ m/sec



8.0 LIQUEFACTION POTENTIAL

Based on recent field investigation, the liquefaction potential at the wall sites is low to negligible due to dominant presence of cohesive soil with intermittent interbeds of dense to medium dense granular soil overlying very dense granular material. Accordingly, the potential for seismically induced settlement and lateral spreading are also considered to be low.

9.0 FOUNDATION RECOMMENDATIONS

According to plans, RWFIR7 begins at 24.4'Lt. Station 15+80 "FIR2" line and ends at 30.4'Lt. Station 19+84.6 "FIR2" line. The total length of the wall along LOL is about 432 feet with a design heights of $H = 6$ to 22 feet. RWFIR8 begins at 24.4'Rt. Station 15+80 "FIR2" line and ends at 30.2'Rt. Station 19+50.8 "FIR2" line. The total length of the wall along LOL is about 352 feet with a design heights of $H = 6$ to 22 feet.

The following recommendations are developed by OGDS1 based on 1) Borings/CPT records and interpreted subsurface conditions and design parameters established through laboratory tests and field data, 2) updated Structure Plans, design loads and pile types proposed by OBDS1 as referenced in page 1, and 3) email correspondences and personal communications with Mr. Phu Nguyen (OBDS1).

9.1 DEEP FOUNDATIONS

It is recommended that both proposed Type 1 RWFIR7 and RWFIR8 be supported by Class 90 kips PP14x0.375 open ended pipe piles. Pile lengths required to resist the provided loads are computed based on Strength Limit State using computer program APILE (version 2014). The calculated axial geotechnical capacities of driven piles (PP14x0.375) are based mainly on skin friction and minor contribution from end bearing. General Foundation Information and Design Loads are provided by OBDS1 and presented in Tables 4 & 5. Recommended design and specified pile tip elevations provided in Tables 6 & 7 are prepared by OGDS1.

EFFECTS OF EXPANSIVE SOIL

Expansive soil was found during 2014 subsurface investigation. The expansive soil layers above the ground water table is called "active zone". Expansive soil is prone to large volume changes (swelling and shrinking) that are directly related to changes in water content.

Design for dry condition: pile lengths were determined by ignoring any side resistance from the soil located in the active zone, as soil separates from the driven pile due to shrinkage. The specified pile tip elevations are lower than the situation when there would not be any shrinkage. Therefore, the nominal driving resistance is greater than the nominal resistance.

Design for wet condition: the calculated uplift force due to swelling is less than the structural load on pile at each support location. Therefore, there will not be any net uplift load on the pile which would have required anchorage from side resistance.

Table 4. Design Loads Provided By Structure Design Received 4-10-13

Wall No.	Service-1 Limit State (kips)			Strength Limit State (Controlling Group, kips)				Extreme Event Limit State (Controlling Group, kips)			
	Total Load		Permanent Loads	Compression		Tension		Compression		Tension	
	Per Support	Max Per Pile		Per Support	Max Per Pile	Per Support	Max Per Pile	Per Support	Max Per Pile	Per Support	Max Per Pile
RWFIR7	NA	90	NA	NA	115	NA	0	NA	124	NA	8
RWFIR8		90			115		0		124		8

Table 5. General Foundation Information Provided By Structure Design Received 4-10-13

Wall No.	Design Method	Pile Type	Finished Grade Elevation (ft.)	Cut-off Elevation (ft.)	Pile Cap Size (ft.)	Permissible Settlement under Service Load *
RWFIR7	LRFD	Class 90 PP14x0.375	59.5 to 61.0	55.92 to 57.92	Per RSP B3-1A	1"
RWFIR8	LRFD		59.8 to 60.6	55.92 to 57.17		1"

Table 6. Foundation Recommendations for RWFIR7 & RWFIR8

Wall No.	Pile Type	Cut-off Elevation (ft.)	Required Factored Nominal Resistance (kips)				Design Tip Elevations (ft.)	Specified Tip Elevation (ft.)
			Strength Limit		Extreme Event			
			Comp. (Ø=0.7)	Tension (Ø=0.7)	Comp. (Ø=1)	Tension (Ø=1)		
RWFIR7	Class 90 PP14x0.375	57.92 to 57.92	115	0	124	8	+8.0 (a-I) +14.0 (a-II) +46.0 (b-II) +26.0 (c)	+8.0
RWFIR8		55.92 to 57.17					+8.0 (a-I) +14.0 (a-II) +46.0 (b-II) +28.0 (c)	

- Notes: 1. Design tip elevations are controlled by: (a-I) Compression (Strength Limit), (a-II) Compression (Extreme Event), and (b-II) Tension (Extreme Event), (c) Settlement.
 2. The specified tip elevation shall not be raised above the design tip elevations for tension, lateral and tolerable settlement.
 3. Design tip elevation for Lateral Load is typically provided by Structure Design.

Table 7. Pile Data Table

Wall No.	Pile Type	Nominal Resistance (kips)		Design Tip Elevations (ft.)	Specified Tip Elevation (ft.)	Nominal Driving Resistance (kips)
		Compression	Tension			
RWFIR7	Class 90 PP14x0.375	170	10	+8.0 (a) +46.0 (b) +28.0 (c)	+8.0	190
RWFIR8				+8.0 (a) +46.0 (b) +28.0 (c)		

- Notes:
1. Design tip elevations are controlled by (a) Compression, (b) Tension, (c) Settlement.
 2. The specified tip elevation shall not be raised above the design tip elevations for tension load, lateral load, and tolerable settlement.
 3. Design tip elevation for Lateral Load is typically provided by Structure Design.
 4. Nominal Driving Resistance includes additional capacity considered for the loss of side resistance due to shrinkage of expansive clay in the active zone.

9.2 APPROACH FILL EARTHWORK

New approach embankment fill placed at Abutment 4 for the new SB Valley View structure as part of the grade separation, will be retained by parallel retaining walls RWFIR7 & RWFIR8. Based on project plans, the embankment fill dimensions contained between two retaining walls will be about 22 ft. high and 50 ft. wide. The embankment fill will cause vertical settlement consisting of immediate settlement (short term) and consolidation settlement (long term). Considering soil profile and engineering properties of subsurface material obtained through field exploration at Abutment 4, a maximum total settlement of 7 to 9 inches is anticipated in subsurface soil, after embankment fill placement. In order to complete the settlement prior to construction of the retaining wall and (Abutment 4 of SB Valley view) foundations, a 90-days settlement period for preloading the embankment fill with 12 feet surcharge above the grading plane is recommended. Settlement monitoring in the field is strongly recommended and the actual settlement period will be determined by the structure representative on the basis of settlement data in the field.

10.0 NOTES TO DESIGNER

1. Design pile tip elevation for lateral load are to be determined by designer. The specified pile tip elevation is to be controlled by the deepest design tip elevation for either compression or lateral loads. Should the design pile tip elevation required to meet lateral load demands exceed the specified pile tip elevation given within this report, OGDS1 must be contacted for further recommendations.
2. Contractor's driving system should be examined to verify the driving system is capable of installing the proposed piles at all support locations, before commencement of pile driving.

3. The recommendations contained in this report are based on specific project information that has been provided by OBDS1-Branch 11. If any conceptual changes are made during final project design, OGDS1-Branch C should review those changes to determine if these foundation recommendations are still applicable.

11.0 CONSTRUCTION CONSIDERATIONS

DRIVEN PILES

1. Due to irregular distribution of soil units and plugging condition, piles could encounter high blow counts and high compressive stresses before reaching the specified tip elevations. If this condition arises, center relief drilling (drilling through the center of open ended pipe pile) to facilitate pile driving, could be considered to within five (5) feet above the pile tip. Subsurface material through which the piles will be driven, as depicted in borings at specific locations are summarized below:

Boring R-14-265 (H = 22 to 16): Bottom of footing to elevation +47 stiff fat clay with interbed of medium stiff lean clay; elevations +47 to +38 medium dense silty sand; elevations +38 to +30 stiff to medium stiff silt and lean clay; +30 to +17 medium dense silty to clayey sand; elevations +17 to pile tip (+7) medium dense non-plastic silt with interbeds of very stiff lean clay.

Boring R-14-267 (H = 14 to 10): Bottom of footing to elevation +53 loose silty sand; elevations +53 to +48 medium stiff fat clay; elevations +48 to +43 medium dense silty sand; elevations +43 to +38 medium stiff lean clay; elevations +38 to +33 medium dense silty sand; elevations +33 to +28 very stiff lean clay; elevations +28 to +23 medium dense poorly graded sand; elevations +23 to pile tip (+8) medium dense non-plastic silt.

Boring R-14-270 (H = 8 to 6): Bottom of footing to elevation +53 loose clayey sand; elevations +53 to +47 medium stiff lean and fat clay; elevations +47 to +42 medium dense silty sand; elevations +42 to +34 very stiff lean clay; elevations +34 to +30 loose non-plastic silt; elevations +30 to +22 interbeds of stiff silt and lean clay; elevations +22 to +17 very stiff lean clay; elevations +17 to pile tip (+9) medium dense non-plastic silt.

2. Subsurface characterization is based on the borings performed at particular accessible locations. Subsurface conditions between boring locations are interpolated. Therefore, if conditions encountered during construction, excavation, or pile driving, are different than those assumed in the foundation design, OGDS1 should be notified to evaluate the impact on current recommendations and make appropriate modifications, if required.
3. Splicing of the steel pipe piles may be needed if bearing is not achieved at the specified tip elevation. With approval of Structure Representative, any driven pile achieving refusal within 4.0 feet or less above specified pile tip elevation may be considered satisfactory.

4. At times, steel pipe piles may not attain minimum bearing at specified tip elevation, even after re-driving. When this situation arises the only option is to splice on additional pile length and continue driving to a point where the nominal resistance is achieved. OGDS1 should be consulted to confirm the selected method.
5. If minimum required bearing is not obtained at specified pile tip elevation (SPTE) in the first pile of the pile group, the second pile should be stopped 1-foot above the SPTE. After a pile set-up period of approx. 24 hours, re-strike the same pile and stop 6-inches above the SPTE and review the re-strike pile resistance. If pile bearing resistance is adequate then finish driving to the recommended pile tip. If bearing resistance is not adequate from the first re-strike then a 10-day to 2-week pile set-up period is recommended (from initial pile driving date) before re-driving to SPTE and verify the pile capacity.
6. The contractor should monitor adjacent structures or properties for vibrations to prevent potential damage due to pile driving. The contractor should take necessary precautions to minimize the impact on adjacent structures or properties.
7. Sufficient clearance (a gap of about 1.0 foot) should be provided between the bottom of footing elevation and bottom of 1.0 foot over-excavation, to prevent the uplift loads at pile footing due to swelling of ground conditions.

EARTHWORK

8. The new approach fill at abutment 4 to end walls is to be constructed in accordance with Sections 19-5.03B and 19-6.03C of the 2010 Standard Specifications and other requirements as directed by the Design Engineer. End dumping is not to be permitted.
9. Temporary shoring may be required at locations where there is right of way restrictions. Shoring could be supported by sheet piles and/or soldier piles with or without lagging; however, method of shoring construction is the contractor's responsibility.
10. In order to accelerate the predicted settlement within the recommended waiting period of 90 days, placement of embankment fill with 12 feet surcharge from grading plane, should precede construction of abutment and wall foundations. This procedure would substantially reduce the post construction settlement, potential down drag effects on the abutment and retaining wall piles and differential settlement of the walls. Where there is no right of way restriction, the extent of the surcharge hinge point should coincide with wall layout lines and abutment centerline (2010 Standard Plans-A62B). The longitudinal limit of the surcharge should include abutment and wall heights of up to 10 feet, then taper down to 6' above grading plane at the end of both retaining walls RWFIR7 and RWFIR8.

11. In conclusion, the commentary and recommendations in this report should not be considered an offering or implying an opinion of, or an approval concerning the foundation design and/or method of construction.

Any questions regarding the above comments should be directed to Faramarz Gerami at 213-620-2149 or Ted Liu at 213-620-2136. However, specific questions regarding surcharge, settlement period and expansive soil should be directed to Deepa Wathugala at 213-620-2134.

Report by:

Reviewed by:

Date: 07/02/2015

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Attachments: Generalized soil profile and design strength parameters

c: Structure Construction R.E. pending File (RE_Pending_File@dot.ca.gov)
District Project Manager – Diao_Yassin@dot.ca.gov
District Materials Engineer – Kirsten_Stahl@dot.ca.gov
Structure Design – Bill_Kemp@dot.ca.gov

Appendix 1 – Generalized soil profile and design strength parameters

Boring R-14-265

Layer No.	Elevation Intervals (ft.)	Depth to Bottom of Layer (ft.)	Soil Type	N ₆₀ Blows/ft.	Effective unit weight pcf (pci)	Φ (deg)	Su = C psf (psi)	K* (pci)		ε ₅₀ *
								Wet	Dry	
1	60.0-55.0	5.0	Plastic silt (ML)	-	100 (0.057)	-	400 (2.77)	-	-	0.01
2	55.0-47.0	13.0	Fat clay (CH)	6	116 (0.067)	-	1500 (10.41)	-	-	0.007
3	47.0-38.0	22.0	Silty sand (SM)	18	115 (0.066)	31	-	40	55	-
4	38.0-30.0	30.0	Plastic silt (ML)	6	120 (0.069)	-	1500 (10.41)	-	-	0.007
5	30.0-17.0	43.0	Silty/clayey sand (SM/SC)	23	115 (0.066)	31	-	40	55	-
6	17.0-2.0	58.0	Nonplastic silt/ clay (ML/CL)	16	48 (0.027)	28	-	20	25	-
7	2.0-(-8.0)	68.0	Fat clay (CH)	12	123 (0.071)	-	4000 (27.77)	-	-	0.005
8	(-8.0)-(-11.0)	71.0	Lean clay (CL)	-	123 (0.071)	-	2400 (16.66)	-	-	0.005
9	(-11.0)-(-18.0)	78.0	Silty/clayey sand (SM/SC)	36	127 (0.073)	33	-	75	120	-
10	(-18.0)-(-23.0)	83.0	Silty/clayey sand (SM/SC)	83	130 (0.075)	36	-	125	225	-
11	(-23.0)-(-29.0)	89.0	Lean clay/silt (CL/ML)	28	67 (0.038)	-	4000 (27.77)	-	-	0.004
12	(-29.0)-(-43.0)	103.0	Poorly graded sand (SP)	64	73 (0.042)	38	-	125	225	-
13	(-43.0)-(-48.0)	108.0	Nonplastic silt (ML)	26	48 (0.027)	29	-	20	25	-
14	(-48.0)-(-58.0)	118.0	Silty sand (SM)	70	68 (0.039)	36	-	125	225	-
15	(-58.0)-(-62.0)	122.0	Silty sand/nonplastic silt (SM/ML)	60	68 (0.039)	35	-	125	225	-

Boring R-14-267

Layer No.	Elevation Intervals (ft.)	Depth to Bottom of Layer (ft.)	Soil Type	N ₆₀ Blows/ft.	Effective unit weight pcf (pci)	Φ (deg)	Su = C psf (psi)	K* (pci)		ε ₅₀ *
								Wet	Dry	
1	61.0-56.0	5.0	Lean clay/silt (CL/ML)	-	105 (0.060)	-	400 (2.77)	-	-	0.02
2	56.0-53.0	8.0	Silty sand (SM)	5	90 (0.052)	28	-	20	25	-
3	53.0-48.0	13.0	Fat clay (CH)	15	110 (0.063)	-	700 (4.86)	-	-	0.01
4	48.0-43.0	18.0	Fine sand (SP)	18	110 (0.063)	31	-	40	55	-
5	43.0-38.0	23.0	Lean clay (CL)	5	110 (0.063)	-	2200 (5.21)	-	-	0.005
6	38.0-33.0	28.0	Silty sand (SM)	16	110 (0.063)	31	-	40	55	-
7	33.0-28.0	33.0	Lean clay (CL)	10	123 (0.071)	-	2500 (17.36)	-	-	0.005
8	28.0-23.0	38.0	Fine sand (SP)	20	52 (0.030)	32	-	60	90	-
9	23.0-07.0	54.0	Non-plastic silt (ML)	14	52 (0.030)	29	-	20	25	-
10	07.0-03.0	58.0	Silty sand (SM)	23	58 (0.033)	32	-	60	90	-
11	03.0-(-1.0)	62.0	Lean clay (CL)	18	54 (0.031)	-	1500 (10.41)	-	-	0.007
12	(-1.0)-(-4.0)	65.0	Clayey sand (SC)	36	65 (0.037)	33	-	75	120	-
13	(-4.0)-(-7.0)	68.0	Non-plastic silt (ML)	21	53 (0.030)	29	-	20	25	-
14	(-7.0)-(-12.0)	73.0	Silty sand (SM)	30	65 (0.037)	32	-	60	90	-
15	(-12.0)-(-17.0)	78.0	Lean clay (CL)	34	67 (0.038)	-	3500 (24.30)	-	-	0.004
16	(-17.0)-(-19.0)	82.0	Clayey sand (SC)	40	65 (0.037)	34	-	105	190	-

Boring R-14-270

Layer No.	Elevation Intervals (ft.)	Depth to Bottom of Layer (ft.)	Soil Type	N ₆₀ Blows/ft.	Effective unit weight pcf (pci)	Φ (deg)	Su = C psf (psi)	K* (pci)		ε ₅₀ *
								Wet	Dry	
1	60.0-56.0	4.0	Lean clay (CL)	-	110 (0.063)	-	500 (3.47)	-	-	0.01
2	56.0-53.0	7.0	Clayey sand (SC)	5	90 (0.052)	28	-	20	25	-
3	53.0-47.0	13.0	Fat/lean clay (CH/CL)	-	116 (0.067)	-	1000 (6.94)	-	-	0.01
4	47.0-42.0	18.0	Silty sand (SM)	24	115 (0.066)	32	-	60	90	-
5	42.0-34.0	26.0	Lean clay (CL)	-	123 (0.071)	-	2700 (18.75)	-	-	0.005
6	34.0-30.0	30.0	Non-plastic silt (ML)	-	110 (0.063)	28	-	20	25	-
7	30.0-22.0	38.0	Lean clay/silt (CL/ML)	18	54 (0.031)	-	1200 (8.33)	-	-	0.007
8	22.0-17.0	43.0	Lean clay (CL)	-	123 (0.071)	-	2500 (17.36)	-	-	0.005
9	17.0-07.0	53.0	Non-plastic silt (ML)	16	115 (0.066)	29	-	20	25	-
10	07.0-(-6.0)	66.0	Silty/fine sand (SM/SP)	18	115 (0.066)	31	-	40	55	-
11	(-6.0)-(-13.0)	73.0	Lean clay (CL)	13	129 (0.074)	-	3500 (24.30)	-	-	0.004
12	(-13.0)-(-22.0)	82.0	Non-plastic silt (ML)	28	115 (0.066)	30	-	20	25	-

* For P-Y Curve analysis (based on L-pile Manual)

**Revised Foundation Report for
Retaining Walls 2, 8, NF60, AC62,
AC63, NF62 & TR3
dated 06/20/2013**

Memorandum

*Flex your power!
Be energy efficient!*

To: MR. RAMIN RASHEDI, Chief
Bridge Design Branch 11
Office of Bridge Design South 1

Date: June 20, 2013
File: 07-LA-5- PM 0.0-0.35
0700001832 (07-215921)

Attention: Mr. Daryoush Tavatli

Retaining Walls 2, 8, NF60
AC62, AC63, NF62 and TR3

From: DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Geotechnical Services
Office of Geotechnical Design – South 1 MS # 18

Subject: Revised Foundation Report

Introduction

In response to the original request from Office of Bridge Design South 1 (OBDS1), dated February 16, 2012, the Office of Geotechnical Design South 1 (OGDS1) submitted the Final Foundation Report to present the foundation recommendations for the proposed Retaining Walls 2, 8, NF60, AC62, AC63, NF62 and TR3, on May 8, 2013.

On June 13, 2013, OGDS1 received the review comments from OBDS1. This revised report was prepared and supersedes our previous report dated May 8, 2013 prepared by Mr. Amare Tsegie.

1.0 Scope of Work

The scope of work for preparation of this report included a review of the following resources and information for the foundation evaluation and site conditions.

- ◆ Recent Borings and Cone Penetration Test (CPT) soundings completed by URS Corporation consultant in 2008 to 2009, for the proposed walls.
- ◆ Review wall layouts, wall plans and typical sections dated 3/19/2013, also personal communications with District and Structure Design engineers.
- ◆ Interpretation of subsurface soil, groundwater conditions, Laboratory testing and performing engineering analyses.

2.0 Project Description

The I-5 Corridor Improvement project proposes to reconstruct the I-5 freeway including bridge replacements and retaining walls, between Los Angeles/Orange County line and I-605, crossing cities of Buena Park, La Mirada, Cerritos and Santa Fe Springs. New and replacement bridges are part of the segment 2 of I-5 Corridor Improvement in the Cities of Buena Park, La Mirada and

Cerritos, which covers an area from north of Artesia UC (PM 0.0) to just south of North Fork Coyote Creek (PM 1.5). As part of the I-5 Corridor improvement this project includes a transition to the previously completed “Gateway Project” on the Orange County side for adding HOV lanes, terminated 0.3 mile north of Artesia Blvd. Retaining Walls 2, 8, and NF60 are the continuation of widening for the Los Angeles County portion along the I-5 freeway in the northbound direction. Portions of the freeway widening and realignment of north Firestone Blvd require new embankment fill retained by mentioned walls. Table 1 shows the location, types and stationing of the proposed retaining walls.

Table 1. Wall Location and Description

Wall No.	Location	Wall Type	Wall Height (ft)	Reference Line	From	To
RW 2	NB I-5	Type 1 MOD.	H =22-24	Rte 5 (New)	109.83' Rt. Sta. 9996+12.15	105.5' Rt. Sta. 9998+05.62
		Type 1	H=12-20		105.5' Rt. Sta. 9998+05.62	102.52' Rt. Sta. 03+86.92
RW 8	NB I-5	Type 1	H=8-10*	Rte 5 (New)	102.52 Rt. Sta. 03+86.92	102.5' Rt. Sta. 12+47.47
NF 60	NB I-5	Type 1	H=6-10	“NFIR1”	24.0' Rt. Sta. 58+51.15	24.0' Rt. Sta. 61+91.51
AC62	NB I-5	Type 1	H=6-8	“ACC1” Line	8.48' Rt. Sta. 62+24.19	7.27' Rt. Sta. 62+53.52
AC63	NB I-5	Type 1	H=4-6	“ACC1” Line	8.48' Lt. Sta. 62+23.86	6.85' Lt. Sta. 62+53.49
NF62	NB I-5	Type 1	H=6	“NFIR1”	24.0' Rt. Sta. 62+08.47	24.0' Rt. Sta. 62+33.77
TR3	NB I-5	Type 5	H=8	“TRO” Line	47.01' Rt. Sta. 2+12.12	39.00' Rt. Sta. 2+69.00

*48' portion of wall is 14' in height.

3.0 Field Investigation and Testing Program

In order to characterize the subsurface conditions and soil profile, five mud rotary borings and four Cone Penetration Test (CPT) soundings were performed close to the proposed wall alignments, between April 2008 and December 2009 by C & L Pacific Drilling Co. Standard Penetration Tests were performed at 5 foot intervals in accordance with ASTM Test Method D1586 using 1.4 inch diameter sampler with a 140 pound hammer dropped 30 inches. At intervals where cohesive soils were encountered, relatively undisturbed samples were also obtained. Mayhew 1000 drill rig with 4.87” tri-cone diameter drill bit was used for mud rotary borings.

The CPT soundings were conducted using a 20-ton capacity cone with a tip area of 15 cm² and a friction sleeve area of 225 cm². A combination of tip resistance and sidewall friction are generated and digitally recorded as the cone tipped probe is advanced at a constant velocity into the ground. The sidewall friction/tip resistance ratio is plotted against the tip resistance and compared to standard charts to determine soil types. Summary of borings and CPTs utilized in this report are presented in Table 2.

Table 2. Summary of Borings & CPTs

Wall No.	Boring / CPT No.	Stationing and Offset Ref. CL Rte 5 (New)	Top of Boring/CPT Elevation (ft)	Total Depth (ft)	Completed Date
RW 2	R-09-202	121.0 Rt. Sta. 9996+83.40	67.60	51.5	06/07/2009
	CPT-09-204	135.7 Rt. Sta. 01+72.26	66.50	49.9	07/11/2009
RW 8	CPT-08-001	32.6.0 Rt. Sta. 04+21.60	66.27	49.9	04/02/2008
	R-09-205	113.5 Rt. Sta. 05+25.00	67.10	51.5	12/27/2009
	R-09-206	106.9 Rt. Sta. 09+06.80	65.31	51.5	06/18/2009
	R-09-208	102.5 Rt. Sta. 12+76.57	67.41	51.5	08/06/2009
NF60	R-09-208	102.5 Rt. Sta. 12+76.57	67.41	51.5	08/06/2009
	CPT-08-131	113 Rt. Sta. 16+85.46	69.46	99.7	08/21/2008
NF62	CPT-08-131	113 Rt. Sta. 16+85.46	69.50	100.1	08/21/2008
AC62					
AC63					
TR3	CPT-08-130	76.4 Rt. Sta. 18+60.20	67.59	100.9	
	R-08-010	91.1 Rt. Sta. 18+48.60	67.60	66.1	09/09/2008

4.0 Laboratory Testing

Selected soil samples were retained and submitted to URS Geotechnical Laboratory in Santa Ana for testing. The purpose of the laboratory testing was to aid in evaluating the engineering properties of the subsurface material and to confirm visual classification of the soils. Laboratory tests performed include moisture content, dry unit weight, sieve analysis, Atterberg limits, consolidation test, unconfined compression tests, and corrosion tests. The summary of laboratory tests is shown in Table 3.

Table 3. Summary of Laboratory Tests

Testing Type	ASTM/CTM Designation	Testing Purpose
Consolidation Test	ASTM D2435	Settlement
Mechanical Analysis	ASTM D2487	Soil Classification
Atterberg Limits	ASTM D4318	Soil Classification
Moisture content	ASTM D2216	Soil Classification
Corrosion	CTM 417,422,643	Corrosion Potential
Unconfined Compression Test	ASTM D2166	Compressive Strength

5.0 Site Geology and Subsurface Conditions

The entire project (including all existing embankment fills) is directly underlain by recent Holocene age alluvium. This alluvium was deposited primarily by floods emanating from the Los Angeles River and the San Gabriel River and from the mountains and hills to the north of the Coastal Plain adjacent to the project location. The alluvium consists of predominantly soft to very stiff clay and sandy clay, medium dense to dense clayey sand, silty sand and sand that in some areas include sparse to abundant gravel and cobbles. Depth to rock-like material is estimated to be greater than 400 feet for this project. Existing fill varies in thickness up to approximately 20 feet in the area of the existing RW 2680 (new RW2). The fill consists of gravel with silty and clayey sand. The closest fault to the site is the Puente Hills Thrust Fault oriented as a low angle north dipping fault approximately 3.6 miles north of the wall sites (California Geologic Survey, 2007).

5.1 Groundwater

Recent borings at nearby Coyote Creek show two groundwater zones. The higher zone is related to perched groundwater. The perched groundwater is present as unconfined groundwater on top of clay layers and lenses. The lower zone is related to confined or semi confined groundwater within more permeable sand and silt layers. It is not known if the perched groundwater and the confined or semi confined groundwater is interconnected. It should be noted that groundwater levels can fluctuate with the change of season and other factors. The groundwater measurements are summarized in Table 4.

Table 4. Measured Groundwater Elevations

Boring Number	Stationing and Offset Ref. CL Rte 5 (New)	Top of Boring Elevation (ft)	Groundwater Elevation (ft)	Date Measured
R-09-209	167.8' Lt. Sta. 18+14.5	65.9	28.3	09-03-2009
CPT-08-130	76.4' Rt. Sta. 18+60.20	67.6	51.6	08-21-2008
CPT-08-131	113' Rt. Sta. 16+85.46	69.5	51.6	
			29.6	

Note: Elevations for recent field investigations are referenced to the 1988 NAVD Datum.

6.0 Corrosion Evaluation

Composite soil samples taken from recent exploratory borings at different intervals were sent to URS Laboratory for corrosion testing. The test results indicate a non-corrosive environment at the proposed wall sites. Normal construction material and design are advised. Refer to Table 5 for specific test result.

Table 5. Corrosion Test Summary

Boring No.	Depth Interval (ft)	Minimum Resistivity (Ohm-Cm)	pH	Chloride Content (ppm)	Sulfate Content (ppm)
R-09-202	0.0-15.0	1250	6.4	360	1560
R-09-205	0.0-50.0	1000	7.8	210	9
R-09-206	0.0-15.0	1400	6.5	340	762
R-09-208	0.0-15.0	2200	6.7	180	39
R-09-209	0.0-35.0	835	7.0	120	15

Note: It is the practice of Caltrans Corrosion Technology Section (with the exception of MSE walls) that if the minimum resistivity is greater than 1000 ohm-cm and the pH is greater than 5.5, the sample is considered noncorrosive. For structural elements, Caltrans considers a site to be corrosive if one or more of the following conditions exist for representative soil and/or water samples taken at the site. Chloride concentration is greater or equal to 500 ppm, sulfate concentration is greater than or equal to 2000 ppm, or the pH is 5.5 or less.

7.0 Seismic Recommendations

The proposed retaining walls are not within an Alquist – Priolo Earthquake Fault Zone. An analysis was performed to develop and recommend ground motion parameters for the seismic design of the North Firestone Blvd Bridge (Br. No. 53C-2194), which is in close proximity to the referenced retaining walls.

This analysis was performed in accordance with requirements specified in Appendix B of the Caltrans’ 2009 Seismic Design Criteria (SDC, Version 1.5, August 2009) for ordinary bridge structures, and utilizing the “Caltrans ARS Online” and other tools available at the internet sites. The average shear wave velocity (V_{s30}) for the upper 100 feet of the subsurface profile was estimated to be about 250 m/sec (820.21 ft/sec). The significant faults and fault zones for the wall sites are summarized in Table 6.

Table 6. Summary of Faults

Fault Name	Type	M _{max}	R _X	R _{JB}	R _{RUP}
Puente Hills Blind Thrust	R	7.3	3.6 mile	3.6 mile	4.0 mile
Elsinore Fault Zone (Whittier Section)	RLSS	7.6	6.6 mile	6.6 mile	6.6 mile
Newport Inglewood – Rose Canyon Fault Zone	RLSS	7.5	9.6 mile	9.6 mile	9.6 mile
Compton-Los Alamitos Blind Thrust	R	6.8	13.2 mile	4.7 mile	7.8 mile

Notes: R_X = Horizontal distance to the fault trace
 R_{JB} = Shortest horizontal distance to the surface projection of the rupture area
 R_{RUP} = Closest distance to the fault rupture plane
 M_{MAX} = Earthquake Maximum Moment Magnitude

The probabilistic ARS curve corresponds to a ground motion return period (RP) of 975-year (i.e., 5% probability of exceedance in 50 years). In addition, the project site being located in the Los Angeles Basin also include basin effects ($Z_{1.0} = 710$ M and $Z_{2.5} = 3.85$ km). The design Peak Ground Acceleration (PGA) for the project site is 0.6g.

8.0 Liquefaction Potential

Due to the presence of shallow perched groundwater and few isolated pockets of medium dense sandy material, potential for liquefaction during a maximum credible earthquake event may be low to moderate at these wall sites. However, due to absence of a free-face or sloping ground conditions at the wall sites, the potential for lateral spreading of the liquefied materials is considered low to remote. Almost all the affected retaining walls run parallel and adjacent to the N. Firestone frontage road as a result there is no sloping ground behind these walls.

9.0 Foundation Recommendations

The following recommendations are developed by OGDS1 based on:

- 1) Log of test borings and interpreted subsurface conditions and design parameters established through Laboratory tests and field data.
- 2) Updated wall plans proposed by Structural Design.
- 3) Meeting between Structural Design, District Design and OGDS1.

From a geotechnical standpoint, it is feasible to have spread footings for Retaining Walls 8, NF60, AC62, AC63, NF62 and Part of Retaining Wall 2, when soil improvements described in Sections 9.1 and 9.2 are implemented. Retaining wall TR3 at the flood control pipe will be founded on pile foundation.

9.1 Shallow Foundations-Retaining Wall 2

Portion of the existing Retaining Wall 2680 that was built as part of I-5 widening in Orange County will be removed, and new Retaining Wall 2 is to be constructed for current widening. Subsurface drainage and pervious backfill material should be provided behind the entire new wall. The pervious material shall be in accordance with Section 19-3.03G of the 2010 Caltrans Standard Specifications. Based on type of support, Retaining Wall 2 is divided in two portions as follows:

9.1.1 Retaining Wall Type 1 MOD.

Part of the Retaining Wall 2 close to the existing wall (RW2680) will be designed as Retaining Wall Type 1 modified (MOD.) supported on spread footing (extension of existing footing) with 3-feet of over-excavation below the bottom of footing elevation. The extended footing is required for additional load imposed by new fill material required for the current widening.

The existing retaining wall will remain in place except the top portion of the wall and barrier that will be saw-cut to accommodate new roadway and the new barrier type 736A. The limit of the Type 1 MOD. Wall is shown in Table 7.

Table 7. Wall Location and Description

Stationing and Offset Ref. CL Rte 5 (New)	Wall Type	Wall Height (ft)	Bottom of footing Elev. Range (ft)	Boring used
109.83' Rt. Sta. 9996+12.15 to 105.5' Rt. Sta. 9998+05.62	Type 1 MOD.	H = 22-24.0	62.6-63.1	R-09-202

Preloading Zone

Since N. Firestone frontage road is close to the proposed wall, which will remain open throughout the construction staging, and limited area for surcharging of relatively high fill, a temporary shoring is recommended from station 9997+62.15 to 9998+05.62 (LOL station 11+50.00 to 11+93.47). The shoring system should be designed by the contractor and reviewed by the Resident Engineer.

No preloading Zone

No preloading from station 9996+12.15 to 9997+62.15 (LOL station 10+00 to 11+50) is required for wall type 1 MOD. as it comprises the small wedge area between the existing wall and the proposed wall. According to the latest structural plan dated 3/19/2013, the section from station 9996+12.15 to 9997+32.15 (LOL station 10+00.00-11+20.00) the gap will be filled with structure concrete as part of a thick wall stem. From station 9997+32.15 to 9997+62.15 (LOL station 11+20.00 to 11+50.00) should consist of pervious backfill material (Section 19-3.02C of 2010 Standard Specifications) up to the grading plane (GP), after construction of the new wall.

Weep Holes and Geocomposite Drains

From Sta. 10+00 to Sta. 11+20, the existing weep holes at RW 2680 should be connected to the weep holes in RW 2 by installing pipes so that the drained water behind the RW 2680 is directed out of the new weep holes. From Sta. 11+20 to Sta. 13+80, a flow path consisting of 2' by 2' pervious backfill material wrapped with a filter fabric should be installed to connect the existing weep holes in RW 2680 to weep holes in RW 2. If there is a conflict in grade level between existing and future weep holes in relation to the newly built frontage road, new weep holes may be drilled above the existing weep holes of RW 2680. Additional weep holes in RW 2 are also required to remove water in the new fill area.

Over-excavation

In areas where the new footing is attached to the existing footing, at least three feet of existing soil below the bottom of new footing elevations should be removed and replaced with 95% relative compaction structural backfill material. The over excavation should be in accordance to Section 19-3.03B of 2010 Standard Specifications.

9.1.2 Standard Wall Type 1 (Case 1)

Standard Wall Type 1 portion of the Retaining Wall 2 with Case 1 loading will also be supported on spread footing with 3-foot over-excavation below the bottom of footing elevation. Temporary shoring is also required for this portion of the wall as explained in Type 1 MOD. wall.

OBDS1 has indicated two utility pipes (6" and 12" dia. oil lines in steel casing) crosses underneath the footing of RW 2 between approximate station 3+01.42 and 3+31.42 (LOL station 15+00-15+30); therefore, OBDS1 prepared a special design with grade beam spanning the utilities and supported on spread footing. A 12-inch gap, filled with expanded polystyrene is required to isolate the pipes from excess pressure and settlement caused by construction of new retaining wall and embankment fill. The differential settlement across the pipe line is expected to be less than 0.5 inch. Table 8 shows the information on Type 1 portion of RW 2.

Table 8. Wall Type, Location and Description

Wall Type	Stationing and Offset Ref. CL Rte 5 (New)	Wall Height (ft)	Bottom of footing Elev. range (ft)	Boring used
Type 1	105.5' Rt. Sta. 9998+05.65 to 102.5' Rt. Sta. 03+86.92	H = 12 -20	59.8-63.2	CPT-09-204

For both MOD. type 1 (Section 9.1.1) and Standard Type 1 (section 9.1.2) portions of the wall, at least 3-feet of existing soil below the bottom of new footing elevations should be removed and replaced with 95% relative compaction structure backfill material. The horizontal limits of the over excavation should be 3-feet from bottom edges of the footing and vertical to the recommended 3-feet of excavation. The allowable bearing capacity exceeds the maximum toe pressure for Standard Type 1 Retaining Wall with 3-feet of over-excavation.

If the minimum required footing dimensions and/or embedment depth are reduced or wall heights are increased, OGDS1 should be contacted for re-evaluation.

9.2 Standard Type 1 Retaining Walls 8, NF60, AC62, AC63 and NF62

Retaining Wall 8, NF60, AC62, AC63 and NF62, can all be supported on Type 1 Retaining Wall spread footing. 3-foot of soil below the bottom of footing elevation should be removed and replaced with 95% compaction structural backfill material. The horizontal limits of the over excavation should be 3-feet from bottom edges of the footing and vertical to the recommended 3 ft of excavation. The allowable bearing capacity exceeds the maximum toe pressure for Standard Type 1 Retaining Wall with 3-foot over-excavation. Subsurface drainage and pervious backfill material should be provided behind all new walls. The pervious material shall be in accordance with Section 19-3.03G of the 2010 Caltrans Standard Specifications.

9.3 Settlement

Retaining Wall 2

Based on Log of Test Borings data and laboratory results, short and long term settlement are expected for this wall due to presence of soft to stiff clay with anticipated shallow ground water. In order to complete the settlement prior to construction of the retaining wall foundation, a 90-days settlement period for preloading the embankment fill with surcharge of 5-foot above the grading plane (GP) is recommended.

Retaining Walls 8, NF60, AC62, AC63 & NF62

Based on Log of Test Borings and CPT data, short and long term settlement are expected for these walls due to presence of soft to stiff clay with anticipated shallow ground water. In order to complete the settlement prior to construction of the retaining wall foundations, a 60-days settlement period for preloading the embankment fill up to the grading plane (GP) at Retaining Walls AC62, AC63 & NF62 is recommended. However, at Retaining Walls 8 and NF60, a 90-days settlement period for preloading the embankment fill with surcharge of 5-foot above the grading plane (GP) is recommended. Table 9 summarizes the estimated preloading period.

Table 9. Results of Settlement Analysis

Retaining Wall No.	Max. Wall Height (ft)	Estimated Immediate Settlement (Inch)	Estimated consolidated Settlement (Inch)	Estimated Preloading Period (days)
2	H=24	2	4	90
8	H=10		5	
NF60				
AC62	H=8	1	2	60
AC63	H=6			
NF62				

9.4 Deep Foundation-Retaining Wall TR3

OBDS1 has indicated that the proposed retaining wall will be a special design Type 5 wall spanning over existing 7.5 ft diameter reinforced concrete flood control pipe. Class 140, open ended 14x0.438 pipe piles are recommended for wall support and the pile tips required for the LRFD Strength Limit State are computed using computer program APILE (Version 4). As shown on the Pile Layout plan, the two closest rows of pile to the existing 7.5' dia. RCP should be driven in oversized hole to elevation 47.0 ft, in order to keep the pipe from any impact of pile driving vibration in accordance with Standard Plan Section 49-2.01C(4). General Foundation and Design Load Information for RW TR3 is provided by OBDS1 and presented in Tables 10 & 11. Recommended design and specified pile tip elevations in Tables 12 & 13 are prepared by OGDS1.

Table 10. Design Loads for Wall TR3 Provided by Structure Design

Wall No.	Service-I Limit State (kips)			Strength Limit State (Controlling Group, kips)				Extreme Event Limit State (Controlling Group, kips)			
	Total Load		Permanent Loads	Compression		Tension		Compression		Tension	
	Per Support	Max Per Pile	Per Support	Per Support	Max Per Pile	Per Support	Max Per Pile	Per Support	Max Per Pile	Per Support	Max Per Pile
TR3	441	96	380	605	104	N/A	N/A	380	101	22	6

Table 11. General Wall TR3 Foundation Information Provided By Structure Design

Wall No.	Design Method	Pile Type	Finished Grade Elevation (ft)	Bottom of Footing Elevation (ft)	Wall Height(ft)	Pile Cap Size (ft)		Permissible Settlement under Service Load	No. of Piles per Support
						B	L		
TR3	LRFD	Class 140 PP14x0.438 "Alt. W"	66.2-77.2	62.59-62.92	H=8	8.5	58.99	1-inch	8

Table 12. Foundation Recommendations for Wall TR3

Wall No.	Pile Type	Bottom of footing Elevation (ft)	Required Factored Nominal Resistance (kips)				Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance (kips)
			Strength Limit		Extreme Event				
			Comp. (Ø=0.7)	Tension (Ø=0.7)	Comp. (Ø= 1)	Tension (Ø= 1)			
TR3	Class 140 PP14x0.438 "Alt. W"	62.59-62.92	104	0	101	6	+24 (a-I) +33(a-II) +57(b-II) +37(c)	+24	150
		62.59-62.92	104	0	101	6	+15 (a-I) +22(a-II) +45(b-II) +32(c)	+15*	

Notes:

- Design tip elevations are controlled by: (a-I) Compression (Strength Limit), (a-II) Compression (Extreme Event), (b-II) Tension (Extreme Event), and (c) Settlement.
 - The specified tip elevation shall not be raised above the design tip elevations for tension load, and tolerable settlement.
- * 5 Piles close to the 7.5' Dia. RCP should be driven in oversized predrilled holes to elevation 47.0 ft.

Table 13. Pile Data Table

Wall No.	Pile Type	Nominal Resistance (kips)		Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance (kips)
		Compression	Tension			
TR3	Class 140 PP14x0.438 "Alt. W"	150	10	+24 (a) +57 (b) +37 (c)	+24	150
				+15 (a) +45 (b) +32 (c)	+15*	

Notes:

- Design tip elevations are controlled by: (a) Compression, (b) Tension & (c) Settlement.
 - The specified tip elevation for driven piles shall not be raised above the design tip elevations for tension load, and tolerable settlement.
- * 5 Piles close to the 7.5' Dia. RCP should be driven in oversized predrilled holes to elevation 47.0 ft.

10.0 General Recommendations

- All earth work is expected to be carried out by conventional equipment. New fill placed on sloping existing fill shall be properly keyed and benched into existing ground (fill) and placed as specified in Section 19-6 of the 2010 Caltrans Standard Specifications.
- For surcharge and preloading we recommend 1:1 slope or as steep as stability of material permits. The slope stability analyses report prepared by the licensed Civil Engineer for the material to be used as embankment surcharge should be submitted by the contractor and reviewed by the Resident Engineer at least 5 business days before starting embankment surcharge.

3. Only non-expansive potential soil should be used for new fill placed within 10 feet of the structural pavement.
4. It is recommended that a slope ratio of 1V:1H or flatter for the temporary back cut slope be considered for construction. If there are constraints due to right of way or traffic concerns, a temporary shoring alternative could be utilized for excavations.
5. Subsurface drainage and pervious backfill material should be provided behind all walls to relieve hydrostatic pressure. The pervious material shall be in accordance with Section 19-3.03G of the 2010 Caltrans Standard Specifications.
6. The recommendations contained in this report are based on specific project information that has been provided by District 7 Design Branch A and OBDS1.
7. If any conceptual changes are made during final project design, OGDS1-Branch C should review those changes to determine if these foundation recommendations are still applicable.

11.0 Construction Considerations

1. Free water shall not be allowed to stand in any footing excavations. If excavations become flooded, a minimum 6 inches of soil shall be removed and replaced with compacted material per Caltrans Specifications.
2. Quality control should be practiced to ensure that the bottom of the footing excavation is level and clear of any loose debris. Should any large rock be found at the bottom of the footing over excavations, the contractor should remove and replace them with granular material at 95% relative compaction. Concrete for spread footings shall be placed neat at the bottom of the over-excavation.
3. Piles close to the existing 7.5' dia. RCP should be driven in oversized predrilled holes to elevation 47.0 ft according to Section 49-2.01C(4) of 2010 Standard Specifications. Pre-drilling is performed to prevent damage to existing pipes from pile driving vibration. However, there is a likelihood of caving and sloughing of the hole sidewall. Temporary casings or other methods may be necessary to prevent caving and sloughing. After driving the pile, the oversized space around the pile should be filled to the ground surface with dry sand or pea gravel.
4. Splicing of the steel piles may be needed if bearing is not achieved at the specified tip elevation. With approval of Structure Representative, any driven pile achieving refusal within 4.0 feet or less above specified pile tip elevation may be considered satisfactory.
5. At times, steel piles may not attain minimum bearing at specified tip elevation, even after re-driving when this situation arises the only option is to splice on additional pile length and continue driving to a point where the nominal resistance is achieved.

6. If minimum required bearing is not obtained at specified pile tip elevation (SPTE) in the first pile of the pile group, the second pile should be stopped 1-foot above the SPTE. After a set-up period of 24 hours, re-strike the same pile and stop 6 inch above the SPTE and review the re-strike pile resistance. If pile bearing is adequate then drive to the recommended pile tip. If bearing is not adequate from the first re-strike then a 2-week set-up period is recommended before driving to SPTE and verifying the pile capacity.
7. The contractor should monitor adjacent structures or properties for vibrations to prevent potential damage due to pile driving. The contractor should take necessary precautions to minimize the impact on adjacent structures or properties.

If you have any questions, please contact Deepa Wathugala at (213) 620-2134 or Faramarz Gerami at (213) 620-2149.

Revised by: Date: 06/20/13

Reviewed by: Date: 06/20/13



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**Final Hydraulic Report (Coyote
Creek Bridge (replace), Bridge No.
53-3044) dated 12/23/2011**

State of California – Department of Transportation
Division of Engineering Services
Structure Policy and Innovation
Office of Design and Technical Services
Structure Hydraulics and Hydrology

FINAL HYDRAULIC REPORT

Coyote Creek

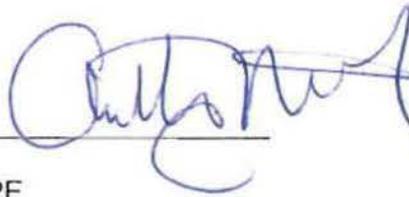
Bridge Nos. 53 3044 & 53C2194

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EA 07-215921

Project ID 07 0000 1832

Prepared by:



Anthony Nedwick, PE
Structure Hydraulics and Hydrology
December 23, 2011



General:

It is proposed to replace the existing structures over Coyote Creek. The structures are located in the City of La Mirada in southern Los Angeles County and carry Interstate 5, also known as the Santa Ana Freeway, and North Firestone Blvd, the frontage road to the north of the Interstate 5 bridge. Coyote Creek drains more than 45 mi² in southern Los Angeles and northern Orange Counties.

Daryoush Tavatli and Yeo Yoon, both of Structure Design Branch 11, provided structure plans. Both new structures are proposed to be 4-span structures with Piers 2 and 3 being integral with the channel's existing divider walls. Abutments 1, 4 and 5 are to be placed outside of the channel. Daryoush Tavatli also provided the US Army Corps of Engineers as-built channel data

The US Army Corps of Engineers (ACOE) designed the flood control channel for Coyote Creek. Since the channel is a reinforced concrete lined channel, the provided as-built channel plans are assumed to accurately denote the current configuration of the channel. Also included were "Summary of Pertinent Data" sheets for the reach of Coyote Creek in the vicinity of the project. These additional sheets show estimates for depth of flow, normal depth, critical depth and velocity at numerous stations along the channel. The sheets also note various hydraulic elements including capacity, Manning's roughness coefficient, channel slope, wall height and channel width and invert elevation. The channel configuration throughout the site remains consistent with an 80-foot wide, rectangular shaped reinforced concrete channel with dividing walls. The dividing walls extend upstream and downstream from the proposed structures and are aligned with Bents 2 and 3 of the existing bridges. The ACOE plans are dated 1965 with revisions and "as-constructed" notation dated as 1967. Based on the General Plan, the structures cross Coyote Creek channel between approximately Channel Station 442+20 and Channel Station 444+95. The structures will be spaced 1'-6" apart, and the mainline Interstate 5 structure will be about 7'-4" from the existing South Firestone Blvd structure.

All elevations in this report are based on the ACOE Detail Plans for Coyote Creek Channel. The vertical datum of the channel is unknown, but assumed to be NGVD 29. A vertical transformation to adjust the data from the channel design to the current datum has not been determined at the time of this report. The structural bridge plans are based on NAVD 88 datum.

All elevations indicated in this report are based on the ACOE As Constructed Drawings for the Coyote Creek Channel.

Discharge:

The FEMA Flood Insurance Study for Los Angeles County lists discharges for Coyote Creek Channel below Beach Blvd and also for Brea Creek Channel, a major tributary of Coyote Creek Channel. Brea Creek Channel joins Coyote Creek Channel just upstream from the project site, and there are no major tributaries for Coyote Creek Channel between Brea Creek Channel and Beach Blvd. The FEMA discharges were combined to create an estimate of the discharge at the project site.

The 50-year discharge is estimated at 10,000 cfs while the 100-year discharge is estimated at 16,000 cfs. The watershed area is approximately 45 square miles.

The ACOE capacity flow rate was also modeled. Based on the ACOE data, the capacity flow throughout the project site is 21,500 cfs.

Hydraulic Analysis:

The channel was modeled using the data provided by Structures Design, ACOE plans and HECRAS version 4.1.0 water flow analysis software. The analysis was used to estimate the water surface elevation, velocity and other hydraulic parameters such as hydraulic jumps.

The channel invert is mostly smooth concrete. There is however a stretch of grouted rock lining the invert upstream from the proposed structure. The increased friction of this rougher material causes a hydraulic jump to occur, increasing the water surface elevation. Several factors, including a bend in the channel, the addition of divider walls and an increase in the thickness of the divider walls creating an contracted section immediately upstream of the existing structure at Channel Station 443+96.21, cause the water surface to remain higher in this area. Despite the increased water surface elevation due to this hydraulic jump, the flows all remain well within the channel.

Piers 2 and 3 are in the main channel but are designed to be continuous pierwalls, constructed integrally with the existing channel divider walls. While the existing divider walls generally taper from a width greater than 1 foot at the base, to a width of about 10 inches at the top of the wall, the pierwalls will have a uniform width of 2 feet, with tapered transitions from the existing wall sections. This minimal change in divider wall width is the only change to the hydraulics anticipated within the channel.

Based on the model, the 50-year water surface will be approximately 57.4 feet at the upstream side of the proposed North Firestone Blvd structure (Station 445+20 for the model) and 50.6 feet at the downstream side of the Interstate 5 structure (Station 442+26.94). For the 100-year flows, the water surface elevations will be approximately 61.9 feet at the upstream side of the proposed North Firestone Blvd structure and 52.9 feet at the downstream side of the proposed Interstate 5 structure.

The ACOE channel capacity flow yields a water surface elevation of approximately 65.6 feet at the upstream side of the proposed North Firestone Blvd structure and 54.8 feet at the downstream side of the proposed Interstate 5 structure. The top of the channel sidewall has an as-constructed elevation of 67.21 feet at the upstream end of the proposed structure, as noted on the channel drawings.

It is important to note that the proposed structures will have negligible effects on the water surface elevations in the channel and will not cause the flows to exceed the design limits of the channel walls. The HEC RAS 4.1.0 model indicates a maximum water surface elevation increase of 5 inches (0.4 feet) for the capacity flows of 21,500 cfs, occurring at Channel Station 444+35 which is near the upstream end of the proposed Interstate 5 structure. Overall, the proposed channel water surface increases 1/8 inch (0.01 feet) over the existing conditions at station 446+95.21, and increases to 1/4 inch (0.02 feet) at the upstream end of the proposed North Firestone Blvd structure, at approximately Channel Station 445+20.

The minimum soffit elevation will be controlled by ACOE requirements. The Channel Capacity flows exceed both the 50-year and 100-years flows with sufficient clearance for potential debris passage.

Streambed:

The channel is lined with reinforced concrete with two vertical dividing walls throughout the project site. The channel configuration is a vertical walled, rectangular channel with an overall width of 80 feet. The Manning's roughness coefficient was estimated as 0.012 for most of the channel with a short stretch of grouted rock upstream from the proposed structure with an estimated Manning's coefficient of 0.018, as noted in the ACOE Detail Plans.

Scour Analysis:

The channel is lined with Reinforced Concrete along both the invert and the walls. Piers 2 and 3 are in the main channel but are designed to be continuous pierwalls, constructed integrally with the existing channel divider walls. Therefore, there are no scour concerns.

Summary & Recommendations:

Below is a summary of key design parameters based on the hydrology and hydraulic analysis performed for these structures.

All elevations given are based on the ACOE As-Constructed Drawings for the Coyote Creek Channel.

Hydrologic Summary for			
Coyote Creek, 53C2194, North Firestone Blvd			
Four-Span Reinforced Concrete Slab Bridge, Channel Station 445+20			
Drainage Area: 45 mi ²			
Frequency	Design Flood	Base Flood	Channel capacity
		50-year	100-year
Discharge	10,000 cfs	16,000 cfs	21,500 cfs
Water Surface Elevation at Bridge	57.4 ft	61.9 ft	65.6 ft
<small>Flood plain data are based upon information available when the plans were prepared and are shown to meet federal requirements. The accuracy of said information is not warranted by the State and interested or affected parties should make their own investigation.</small>			

Hydrologic Summary for			
Coyote Creek, 53 3044, Interstate 5			
Four-Span Reinforced Concrete Slab Bridge, Channel Station 444+35			
Drainage Area: 45 mi ²			
Frequency	Design Flood	Base Flood	Channel capacity
		50-year	100-year
Discharge	10,000 cfs	16,000 cfs	21,500 cfs
Water Surface Elevation at Bridge	57.3 ft	61.8 ft	65.4 ft
<small>Flood plain data are based upon information available when the plans were prepared and are shown to meet federal requirements. The accuracy of said information is not warranted by the State and interested or affected parties should make their own investigation.</small>			

**Foundation Report (Addendum)
for Retaining Wall 2 and 8 dated
12/3/2013**

Memorandum

*Flex your power!
Be energy efficient!*

To: MR. RAMIN RASHEDI, Chief
Bridge Design Branch 11
Office of Bridge Design South 1

Date: December 3, 2013
File: 07-LA-5- PM 0.0-0.35
0700001832 (07-215921)

Attention: Mr. Daryoush Tavatli

Retaining Walls 2 and 8

From: DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Geotechnical Services
Office of Geotechnical Design – South 1 MS # 18

Subject: Foundation Report - Addendum

Introduction

In response to the original request from Office of Bridge Design South 1 (OBDS1), dated February 16, 2012, the Office of Geotechnical Design South 1 (OGDS1) submitted the foundation recommendations for the proposed Retaining Walls 2, 8, NF60, AC62, AC63, NF62 and TR3, on May 8, 2013. On June 20, 2013, OGDS1 prepared the revised Foundation Report incorporating the review comments from OBDS1, received on June 13, 2013.

On September 6, 2013, our office was informed that layouts of RW2 and RW8 along with freeway centerline will be realigned to avoid the impact to the AMADA Building at N. Firestone Blvd./Knott Ave. To incorporate these changes, portion of the Foundation Report dated 6-20-2013 pertaining to RW2 and RW8 is revised, and it supersedes our previous recommendation for RW2 and RW8. The remaining portion of the report dated June 20, 2013 is still applicable.

1.0 Scope of Work

The scope of work for preparation of this report included a review of the following resources and information for the foundation evaluation and site conditions.

- ◆ Recent Borings and Cone Penetration Test (CPT) soundings completed by URS Corporation consultant in 2008 and 2009, for the proposed walls.
- ◆ Review of the revised layouts, plans and typical sections of RW2 and RW8, also personal communications with District and Structure Design engineers.
- ◆ Interpretation of subsurface soil, groundwater conditions, Laboratory testing and performing engineering analyses.

2.0 Project Description

Retaining Walls 2 and 8 are part of the Segment 2 of I-5 Corridor Improvement project. Portions of the freeway widening and realignment of north Firestone Blvd require new embankment fill retained by retaining walls.

RW2 joins before the end of existing Retaining Wall 2680 that was built as part of I-5 widening in Orange County. The existing RW2680 will remain in place except the top portion of the wall and barrier will be saw-cut to accommodate widened roadway with barrier type 736A.

The part of the RW2 close to the existing RW2680 will be designed as Type 1 MOD (modified) supported on spread footing which is an extension of existing footing. The extended footing is required for additional load imposed by new fill material as part of the current widening. As such, RW 2 is divided in two portions as follows:

- (i) Retaining Wall Type 1 MOD
- (ii) Standard Type 1 Retaining Wall with Loading Case 1

End of RW2 will join RW8 which is a Standard Type 1 Retaining Wall with Loading Case 1. Table 1 shows the locations, types and stationing of the proposed retaining walls 2 and 8.

Table 1. Wall Location and Description

Wall No.	Location	Wall Type	Wall Height	Reference Line	From	To
RW 2	NB I-5	Type 1 MOD	H =22'-24'	Centerline Rte 5 (New)	108.96' Rt. Sta. 9996+50.53	102.50' Rt. Sta. 9998+98.28
		Type 1	H=12'-20'		102.50' Rt. Sta. 9998+98.28	102.48' Rt. Sta. 03+96.55
RW 8	NB I-5	Type 1	H=8'-14'		102.48' Rt. Sta. 03+96.55	102.48' Rt. Sta. 12+89.8

3.0 Field Investigation and Testing Program

Summary of borings and CPTs utilized in this report for RWs 2 and 8 is presented in Table 2.

Table 2. Summary of Borings & CPTs

Wall No.	Boring / CPT No.	Stationing and Offset Ref. CL Rte 5 (New)	Top of Boring/CPT Elevation (ft)	Total Depth (ft)	Completed Date
RW 2	R-09-202	124.4 Rt. Sta. 9996+80.9	67.60	51.5	06/07/2009
	CPT-09-204	146.5 Rt. Sta. 01+34.9	66.50	49.9	07/11/2009
RW 8	CPT-08-001	42.3 Rt. Sta. 04+30.3	66.27	49.9	04/02/2008
	R-09-205	122.4 Rt. Sta. 05+34.4	67.10	51.5	12/27/2009
	R-09-206	114.2 Rt. Sta. 09+12.8	65.31	51.5	06/18/2009
	R-09-208	100.7 Rt. Sta. 12+82.9	67.41	51.5	08/06/2009

4.0 Foundation Recommendations

4.1 Retaining Wall 2, Type 1 MOD Portion

According to the latest wall plans dated October 29, 2013, there is a gap from station 9996+50.53 to 9998+30.53 (LOL station 10+00 to 11+80) which will be filled with structure concrete as part of a thick wall stem. From station 9998+30.53 to 9998+98.28 (LOL station 11+80 to 12+47.74) pervious backfill material should be used (Section 19-3.02C of 2010 Standard Specifications) up to the grading plane (GP), after construction of the new wall. Type 1 MOD portion of RW 2 can be supported on spread footing, which is an extension of existing footing. Over excavation is not necessary for Type 1 MOD portion.

Weep Holes and Geocomposite Drains

From Sta. 10+00 to Sta. 11+80, the existing weep holes at RW 2680 should be connected to the weep holes in RW 2 by installing pipes so that the drained water behind the RW 2680 is directed out of the new weep holes. From Sta. 11+80 to Sta. 13+40, a flow path consisting of 2' by 2' pervious backfill material wrapped with a filter fabric should be installed to connect the exiting weep holes in RW 2680 to weep holes in RW 2.

4.2 Standard Type 1 Retaining Wall with Loading Case 1 (Portion of RW2 and Entire RW8)

Standard Wall Type 1 with loading Case 1 (portion of RW 2 and RW8) can be supported on spread footing. 3-foot of soil below the bottom of footing elevation should be removed and replaced with structural backfill material at 95% compaction. The over excavation should be in accordance to Section 19-3.03B of 2010 Standard Specifications. Temporary shoring may be required. The horizontal limits of the over excavation should be 3-feet from bottom edges of the footing and vertical to the recommended 3 ft of excavation. The allowable bearing capacity exceeds the maximum toe pressure for Standard Type 1 Retaining Wall with 3-foot over-excavation. Subsurface drainage and pervious backfill material should be provided behind all new walls. The pervious material shall be in accordance with Section 19-3.03G of the 2010 Caltrans Standard Specifications.

Utility Pipes

OBDS1 has indicated two utility pipes (6" and 12" dia. oil lines in steel casing) crosses underneath the footing of RW 2 between approximate station 1+30.53 and 2+02.53 (LOL station 14+80-15+52); therefore, OBDS1 prepared a special design with grade beam spanning the utilities and supported on spread footing. A 12-inch gap, filled with expanded polystyrene is required to isolate the pipes from excess pressure and settlement caused by construction of new retaining wall and embankment fill. The differential settlement across the pipe line is expected to be less than 0.5 inch.

4.3 Settlement

No Preloading Zone:

Preloading is not required for a portion of RW2 (Type 1 Wall MOD) as it comprises the small wedge area between the existing wall 2680 and the proposed Retaining Wall 2.

Preloading Zone:

Based on Log of Test Borings, CPT data and laboratory results, short and long term settlement are expected for portion of RW2 and entire RW8 (Standard Type 1 walls with Loading Case 1) due to the presence of soft to stiff clay with anticipated shallow ground water. In order to complete the settlement prior to construction of the retaining wall foundation, a 90-days settlement period for preloading the embankment fill with surcharge of 5-foot above the grading plane (GP) is recommended. Table 3 summarizes the estimated preloading period.

Table 3. Results of Settlement Analysis

Retaining Wall No.	Max. Wall Height (ft)	Estimated Immediate Settlement (Inch)	Estimated consolidated Settlement (Inch)	Estimated Preloading Period (days)
RW2 (From LOL sta 12+47.74 to 17+46.02)	H = 24	2	4	90
RW8 (From LOL sta 17+46.02 to 26+ 38.96)	H = 10		5	

5.0 General Recommendations

1. All earth work is expected to be carried out by conventional equipment. New fill placed on sloping existing fill shall be properly keyed and benched into existing ground (fill) and placed as specified in Section 19-6 of the 2010 Caltrans Standard Specifications.
2. For surcharge and preloading we recommend 1:1 slope or as steep as stability of material permits. The slope stability analyses report prepared by the licensed Civil Engineer for the material to be used as embankment surcharge should be submitted by the contractor and reviewed by the Resident Engineer at least 5 business days before starting embankment surcharge.
3. Only non-expansive potential soil should be used for new fill placed within 10 feet of the structural pavement.

4. It is recommended that a slope ratio of 1V:1H or flatter for the temporary back cut slope be considered for construction. If there are constraints due to right of way or traffic concerns, a temporary shoring alternative could be utilized for excavations.
5. Subsurface drainage and pervious backfill material should be provided behind all walls to relieve hydrostatic pressure. The pervious material shall be in accordance with Section 19-3.03G of the 2010 Caltrans Standard Specifications.
6. The recommendations contained in this report are based on specific project information that has been provided by District 7 Design Branch A and OBDS1.
7. If any conceptual changes are made during final project design, OGDS1-Branch C should review those changes to determine if these foundation recommendations are still applicable.

6.0 Construction Considerations

1. Free water shall not be allowed to stand in any footing excavations. If excavations become flooded, a minimum 6 inches of soil shall be removed and replaced with compacted material per Caltrans Specifications.
2. Quality control should be practiced to ensure that the bottom of the footing excavation is level and clear of any loose debris. Should any large rock be found at the bottom of the footing over excavations, the contractor should remove and replace them with granular material at 95% relative compaction. Concrete for spread footings shall be placed neat at the bottom of the over-excavation.
3. Care should be taken for compaction of the new fill material next to the existing retaining wall RW2680. Special equipment will be needed to ensure the uniform compaction throughout the entire width of the fill.

If you have any questions, please contact Deepa Wathugala at (213) 620-2134 or Faramarz Gerami at (213) 620-2149.

Revised by: Date: 12/3/13



Deepa Wathugala, Ph.D., P.E., G.E.
Transportation Engineer
Office of Geotechnical Design South 1
Branch C



Reviewed by: Date: 12/3/13



Chi-Tseng Ted Liu, Ph.D., P.E., G.E.
Senior Transportation Engineer
Office of Geotechnical Design South 1
Branch C



Faramarz Gerami, C.E.G.
Engineering Geologist
Office of Geotechnical Design South 1
Branch C

- c: District and Structure Construction RE- [RE Pending File@dot.ca.gov](mailto:RE_Pending_File@dot.ca.gov) (Electronic File)
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Structural Design - Bill_Kemp@dot.ca.gov (Electronic File)
GS Corporate - Shira_Rajendra@dot.ca.gov (Electronic File)

**Supplemental Report for 5 Valley
View bridges, North Firestone &
Coyote Creek Bridges dated
1/6/2014**

Memorandum

*Flex your power!
Be energy efficient!*

To: Mr. RAMIN RASHEDI, CHIEF
Bridge Design Branch 11
Office of Bridge Design South 1

Date: January 6, 2014
File: 07-LA-5- PM 0.34 & 1.21
0700001832 (EA 07-215921)
Valley View Ave OH/OC
Bridge No. 53-3045
Valley View SB Off Ramp
Bridge No. 53-3058K
Valley View SB On Ramp
Bridge No. 53-3059K
NB Valley View/S. Firestone
Bridge No. 53C-2295
SB Valley View/S. Firestone
Bridge No. 53C-2296
North Firestone Blvd Bridge
Bridge No. 53C-2194
Coyote Creek Bridge
Bridge No. 53-3044

Att: Mr. Bill Kemp

From: DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Geotechnical Services
Office of Geotechnical Design – South 1 MS # 18

Subject: Supplemental Report For 5 Valley View Bridges, North Firestone & Coyote Creek Bridges

For the referenced structures, this supplemental report revises the foundation reports as described below. These revisions are consistent with the 2010 Standard Specifications and Standard Special Provisions as recommended by the Specification Engineer for this project.

VALLEY VIEW AVE OH/OC BRIDGE NO. 53-3045

Construction Considerations

Item 5:

- ◆ Replace “After a pile set-up period of approx. 24 to 48 hours” with “After a pile set-up period of at least 48 hours”.

Item 11:

- ◆ Delete the 1st sentence.

Item 15:

- ◆ Replace the 1st sentence with “There is a possibility of perch water intrusion during pile cap construction at bents 2, 3, 4, and dewatering may be required”.

VALLEY VIEW AVE SB OFF RAMP BRIDGE NO. 53-3058K

Construction Considerations

Item 5:

- ◆ Replace “After a pile set-up period of approx. 24 to 48 hours” with “After a pile set-up period of at least 48 hours”.

Item 10:

- ◆ Replace the 1st sentence with “There is a possibility of perch water intrusion during pile cap construction at Bent 3, and dewatering may be required”.

VALLEY VIEW AVE SB ON RAMP BRIDGE NO. 53-3059K

Construction Considerations

Item 6:

- ◆ Replace “After a pile set-up period of approx. 24 to 48 hours” with “After a pile set-up period of at least 48 hours”.

NB VALLEY VIEW AVE/S. FIRESTONE BRIDGE NO. 53C-2295

Construction Considerations

Item 6:

- ◆ Replace “After a pile set-up period of approx. 24 to 48 hours” with “After a pile set-up period of at least 48 hours”.

SB VALLEY VIEW AVE/S. FIRESTONE BRIDGE NO. 53C-2296

Construction Considerations

Item 5:

- ◆ Replace “After a pile set-up period of approx. 24 to 48 hours” with “After a pile set-up period of at least 48 hours”.

NORTH FIRESTONE BLVD BRIDGE NO. 53C-2194

Notes to Designer

Item 1:

- ◆ Replace “Pre-drilling” with “Drilling”, Delete: “per Standard Specification Section 49-2.01C(3)”.

Item 2:

- ◆ In 2nd sentence, delete “two days later”, Add: “perform re-driving at least 48 hours after initial driving”.

COYOTE CREEK BRIDGE NO. 53-3044

Notes to Designer

Item 1:

- ◆ Replace “Pre-drilling” with “Drilling”, Delete: “per Standard Specification Section 49-2.01C(3)”.

Item 2:

- ◆ In 2nd sentence, delete “two days later”, Add: “perform re-driving at least 48 hours after initial driving”.

Direct questions regarding these revisions to Faramarz Gerami at 213-620-2149.

Report by:



FARAMARZ GERAMI, P.G., C.E.G.
Engineering Geologist
Office of Geotechnical Design - South 1
Branch C

Reviewed by:

Date: 1/6/2014



CHI-TSENG TED LIU, Ph.D., P.E., G.E.
Senior Transportation Engineer
Office of Geotechnical Design - South 1
Branch C

c: Structure Construction R.E. pending File (RE_Pending_File@dot.ca.gov)
District Project Manager – Diaa.Yassin@dot.ca.gov
Structures Design – Bill.Kemp@dot.ca.gov
Structure Design – Phu.Nguyen@dot.ca.gov
GS Corporate – Douglas.Brittsan@dot.ca.gov



**Foundation Report (Addendum)
for Valley View OH/OC (replace),
Bridge No. 53-3045, dated 3/17/2014**

Memorandum

*Flex your power!
Be energy efficient!*

To: Mr. RAMIN RASHEDI, CHIEF
Bridge Design Branch 11
Office of Bridge Design South 1

Date: March 17, 2014
File: 07-LA-5- PM 1.21
0700001832 (07-215921)

Attn: Mr. Bill Kemp

From: DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Geotechnical Services
Office of Geotechnical Design – South 1 MS # 18

VALLEY VIEW AVE
OH/OC (REPLACE)
BRIDGE NO. 53-3045

Subject: Addendum Foundation Report

Introduction

The Office of Geotechnical Design – South 1 (OGDS1) Branch C submitted the revised Foundation Report dated July 11, 2013 to your office to provide the foundation recommendations for the proposed Valley View OH/OC Bridge No. 53-3045 which will replace the existing Valley View OC Bridge No. 53-0631RL. On your email dated February 11, 2014, you have updated the pile loads at Bents 9 and 10, and the bottom of elevation at Bent 10, and requested revised foundation recommendations. Our office provided the revised pile tip elevations for Bent 9 and Bent 10 to your office on February 12, 2014 via email.

This addendum memo was prepared to provide the revised bottom of elevation at Bent 10, the updated pile loads at Bents 9 and 10, and the revised pile tip elevations for Bent 9 and Bent 10 in Tables 10, 11, 14 and 16, that will supersede the respective Tables of the revised Foundation Report dated July 11, 2013.

Table 10. General Foundation Information For Frames 1, 2, 3 Provided By OBDS1

Support Location	Design Method	Pile Type	Finished Grade Elevation (ft)	Cut-off Elevation (ft)	Pile Cap Size (ft)		Permissible Settlement under Service Load*	Number of Piles per Support
					B	L		
Abut. 1	WSD	Pipe Piles PP24x0.5	61.75	55.92	12.0	129.5	1"	40
Bent 2	LRFD		61.50	49.42	19.0	19.0	1"	16 per column (4 columns)
Bent 3	LRFD		61.50	50.67	26.0	26.0	1"	25 per column (4 columns)
Bent 4	LRFD		62.00	52.67	26.0	26.0	1"	25 per column (4 columns)
Bent 5	LRFD		59.00	55.42	24.0	24.0	1"	25 per column (4 columns)
Bent 5Rt Extension	LRFD			53.42				
Bent 5A	LRFD		61.80	54.92	19.0	19.0	1"	16 per column (3 columns)
Bent 5B	LRFD		61.00	56.92	19.0	19.0	1"	16 per column (2 columns)
Bent 5C	LRFD		62.00	54.92	19.0	19.0	1"	16 per column (3 columns)
Bent 5D	LRFD		62.00	56.92	19.0	19.0	1"	16 per column (2 columns)
Bent 6	LRFD		57.80	54.22	24.0	24.0	1"	25 per column (4 columns)
Bent 7	LRFD		59.40	55.82	24.0	24.0	1"	25 per column (4 columns)
Bent 7A	LRFD		59.40	55.22	24.0	24.0	1"	25 per column (2 columns)
Bent 7B	LRFD		59.40	54.72	24.0	24.0	1"	25 per column (2 columns)
Bent 7C	LRFD		62.00	55.42	24.0	24.0	1"	25 per column (2 columns)
Bent 7D	LRFD		62.00	56.42	24.0	24.0	1"	25 per column (2 columns)
Pier 8	LRFD		61.50 62.10	55.92	25.0	144.0	1"	79
Bent 9	LRFD		64.00	57.92	24.0	65.0	1"	52
Bent 10	LRFD		63.00	55.92	24.0	65.0	1"	52
Abut. 11	WSD		42-inch CIDH Piles	63.00 Lt 65.50 Rt	57.75 Lt 60.25 Rt	24.0	80.0	1"

* Based on CALTRANS' current practice, the total permissible settlement is one inch for multi-span structures with continuous spans or multi-column bents, one inch for single span structures with diaphragm abutments, and two inches for single span structures with seat abutments. Different permissible settlement under service loads may be allowed if a structural analysis verifies that required level of serviceability is met.

Table 11. Design Loads For Frames 1, 2, 3 Provided By OBDS1

Support Location	Service-1 Limit State (kips)		Strength Limit State (Controlling Group, kips)				Extreme Event Limit State (Controlling Group, kips)				
	Total Load		Permanent Loads	Compression		Tension		Compression		Tension	
	Per Support	Max Per Pile	Per Support	Per Support	Max Per Pile	Per Support	Max Per Pile	Per Support	Max Per Pile	Per Support	Max Per Pile
Abut. 1	5300	200	4500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bent 2	2600	N/A	1750	3800	280	0	0	4100	400	0	100
Bent 3	3000		2320	4300	250	0	0	3900	350	0	110
Bent 4	3775		3020	5220	315	0	10	4750	440	0	160
Bent 5	2800		2000	4300	280	1750	140	2300	410	1000	140
Bent 5Rt Extension											
Bent 5A	2200		1800	3000	220	0	0	2500	380	0	170
Bent 5B	1900		1600	2700	200	0	0	2500	380	0	170
Bent 5C	2200		1800	3000	220	0	0	2500	380	0	170
Bent 5D	1900		1600	2700	200	0	0	2500	380	0	170
Bent 6	2500		1700	4000	280	1600	140	2300	400	1000	140
Bent 7	2400		1600	3800	280	1500	140	2300	400	1000	140
Bent 7A	2000		1300	3200	280	1300	140	2300	400	1000	140
Bent 7B	2700		1800	4000	280	1600	140	2300	400	1000	140
Bent 7C	2000		1300	3200	280	1300	140	2300	400	1000	140
Bent 7D	2700		1800	4000	280	1600	140	2300	400	1000	140
Pier 8	9475		8246	12551	204	0	0	8246	396	3800	190
Bent 9	7155	6325	8935	280	0	0	6145	400	0	90	
Bent 10	7290	6460	8935	280	0	0	6145	400	0	90	
Abut. 11	7000	450	6725	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 14. Foundation Recommendations For Frames 1, 2, 3 Bents

Support Location	Pile Type	Cut-off Elevation (ft)	Service-1 Limit State Load (kips) Per Support	Total Permissible Support Settlement	Required Factored Nominal Resistance (kips)				Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
					Strength Limit		Extreme Event				
					Comp. (Ø=0.7)	Tension (Ø=0.7)	Comp. (Ø= 1)	Tension (Ø= 1)			
Bent 2	Pipe Piles PP24x0.5	49.42	2600	1"	280	0	400	100	-1.0 (a-I) -1.0 (a-II) +33.0 (b-II) +9.0 (c)	-1.0	400
Bent 3		50.67	3000	1"	250	0	350	110	+6.0 (a-I) +7.0 (a-II) +28.0 (b-II) +16.0 (c)	+6.0	360
Bent 4		52.67	3775	1"	315	0	440	160	-3.0 (a-I) -1.0 (a-II) +44.0 (b-I) +23.0 (b-II) +13.0 (c)	-3.0	450
Bent 5		55.42	2800	1"	280	140	400	140	-7.0 (a-I) -7.0 (a-II) +14.0 (b-I) +23.0 (b-II) +15.0 (c)	-7.0	400
Bent 5Rt Extension		53.42									
Bent 5A		54.92	2200	1"	220	0	380	170	+5.0 (a-I) -1.0 (a-II) +20.0 (b-II) +12.0 (c)	-1.0	380
Bent 5B		56.92	1900	1"	200	0	380	170	+8.0 (a-I) -1.0 (a-II) +19.0 (b-II) +12.0 (c)	-1.0	380
Bent 5C		54.92	2200	1"	220	0	380	170	+5.0 (a-I) -1.0 (a-II) +20.0 (b-II) +12.0 (c)	-1.0	380
Bent 5D		56.92	1900	1"	200	0	380	170	+8.0 (a-I) -1.0 (a-II) +19.0 (b-II) +12.0 (c)	-1.0	380
Bent 6		54.22	2500	1"	280	140	400	140	-5.0 (a-I) -5.0 (a-II) +14.0 (b-I) +22.0 (b-II) +14.0 (c)	-5.0	400

Table 14. Foundation Recommendations For Frames 1, 2, 3 Bents (continued)

Support Location	Pile Type	Cut-off Elevation (ft)	Service-1 Limit State Load (kips) Per Support	Total Permissible Support Settlement	Required Factored Nominal Resistance (kips)				Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
					Strength Limit		Extreme Event				
					Comp. (Ø=0.7)	Tension (Ø=0.7)	Comp. (Ø= 1)	Tension (Ø= 1)			
Bent 7	Pipe Piles PP24x0.5	55.82	2400	1"	280	140	400	140	-1.0 (a-I) -1.0 (a-II) +20.0 (b-I) +28.0 (b-II) +16.0 (c)	-1.0	400
Bent 7A		55.22	2000	1"	280	140	400	140	-1.0 (a-I) -1.0 (a-II) +17.0 (b-I) +25.0 (b-II) +15.0 (c)	-1.0	400
Bent 7B		54.72	2700	1"	280	140	400	140	-1.0 (a-I) -1.0 (a-II) 17.0 (b-I) +25.0 (b-II) +10.0 (c)	-1.0	400
Bent 7C		55.42	2000	1"	280	140	400	140	-1.0 (a-I) -1.0 (a-II) +17.0 (b-I) +25.0 (b-II) +15.0 (c)	-1.0	400
Bent 7D		56.42	2700	1"	280	140	400	140	-1.0 (a-I) -1.0 (a-II) +17.0 (b-I) +25.0 (b-II) +10.0 (c)	-1.0	400
Pier 8		55.92	9475	1"	204	0	396	190	+6 (a-I) -3.0 (a-II) +11.0 (b-II) +7.0 (c)	-3.0	400
Bent 9		57.92	7155	1"	280	0	400	90	+2.0 (a-I) +6.0 (a-II) +34.0 (b-II) +10.0 (c)	+2.0	400
Bent 10		55.92	7290	1"	280	0	400	90	+1.0 (a-I) +5.0 (a-II) +34.0 (b-II) +9.0 (c)	+1.0	400

- Notes:
1. Design tip elevations are controlled by: (a-I) Compression (Strength Limit), (a-II) Compression (Extreme Event), (b-I) Tension (Strength Limit), (b-II) Tension (Extreme Event), (c) Settlement, (d) Lateral Load.
 2. The specified tip elevation shall not be raised above the design tip elevations for tension, lateral (SD) and tolerable settlement.
 3. Due to close proximity of utilities and Rail Road tracks, driven piles at Bent 4 and Bent 5 (including 5A, 5B, 5C & 5D) should be predrilled to elevations 48 and 50, respectively, according to 2010 Standard Specifications, Section 49-2.01C(4).
 4. Design tip elevation for Lateral Load is typically provided by Structure Design (SD).

Table 16. Pile Data Table – Frames 1, 2, 3

Support Location	Pile Type	Nominal Resistance (kips)		Design Pile Tip Elevations (ft)	Specified Pile Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
		Compression	Tension			
Abut. 1	Pipe Piles PP24x0.5	400	0	+1.0 (a) +21.0 (c)	+1.0	400
Bent 2		400	100	-1.0 (a) +33.0 (b) +9.0 (c)	-1.0	400
Bent 3		360	110	+6.0 (a) +28.0 (b) +16.0 (c)	+6.0	360
Bent 4		450	160	-3.0 (a) +23.0 (b) +13.0 (c)	-3.0	450
Bent 5		400	140	-7.0 (a) +14.0 (b) +15.0 (c)	-7.0	400
Bent 5Rt Extension						
Bent 5A		380	170	-1.0 (a) +20.0 (b) +12.0 (c)	-1.0	380
Bent 5B		380	170	-1.0 (a) +19.0 (b) +12.0 (c)	-1.0	380
Bent 5C		380	170	-1.0 (a) +20.0 (b) +12.0 (c)	-1.0	380
Bent 5D		380	170	-1.0 (a) +19.0 (b) +12.0 (c)	-1.0	380
Bent 6		400	140	-5.0 (a) +14.0 (b) +14.0 (c)	-5.0	400
Bent 7		400	140	-1.0 (a) +20.0 (b) +16.0 (c)	-1.0	400
Bent 7A		400	140	-1.0 (a) +17.0 (b) +15.0 (c)	-1.0	400
Bent 7B		400	140	-1.0 (a) +17.0 (b) +10.0 (c)	-1.0	400
Bent 7C		400	140	-1.0 (a) +17.0 (b) +15.0 (c)	-1.0	400
Bent 7D		400	140	-1.0 (a) +17.0 (b) +10.0 (c)	-1.0	400

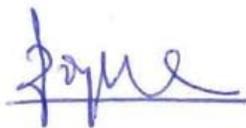
Table 16. Pile Data Table – Frames 1, 2, 3 (continued)

Support Location	Pile Type	Nominal Resistance (kips)		Design Pile Tip Elevations (ft)	Specified Pile Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
		Compression	Tension			
Pier 8	Pipe Piles PP24x0.5	400	190	-3.0 (a) +11.0 (b) +7.0 (c)	-3.0	400
Bent 9		400	90	+2.0 (a) +34.0 (b) +10.0 (c)	+2.0	400
Bent 10		400	90	+1.0 (a) +34.0 (b) +9.0 (c)	+1.0	400
Abut 11	42-inch CIDH	900	0	-10.0(a) +8.0(c)	-10.0	N/A

- Notes: 1. Design tip elevations for Abutments are controlled by (a) Compression, (c) Settlement, (d) Lateral Load.
 2. Design tip elevations for Bents are controlled by: (a) Compression, (b) Tension (c) Settlement, (d) Lateral Load (provided by Structure Design for all supports).
 3. The specified tip elevation shall not be raised above the design tip elevations for tension load, lateral load, and tolerable settlement.
 4. Due to close proximity of utilities and Rail Road tracks, driven piles at Bent 4 and Bent 5 (including 5A, 5B, 5C & 5D) should be predrilled to elevations 48 and 50, respectively, according to 2010 Standard Specifications, Section 49-2.01C(4).

If you have any questions or comments, please call Deepa Wathugala at 213-620-2134 or Ted Liu at 213-620-2136.

Report by:



Deepa Wathugala, Ph.D., P.E., G.E.
 Transportation Engineer
 Office of Geotechnical Design - South 1
 Branch C



Reviewed by:

Date: March 17, 2014



CHI-TSENG TED LIU, Ph.D., P.E., G.E.
 Senior Transportation Engineer
 Office of Geotechnical Design - South 1
 Branch C



c: Structure Construction R.E. pending File (RE_Pending_File@dot.ca.gov)
 District Project Manager – Diao_Yassin@dot.ca.gov
 GS Corporate / GeoDOG

Memorandum

*Serious drought.
Help save water!*

To: Mr. RAMIN RASHEDI, CHIEF
Bridge Design Branch 11
Office of Bridge Design South 1

Date: June 24, 2015
File: 07-LA-5- PM 1.21
0700001832 (07-215921)

Attn: Mr. Daryoush Tavatli

From: DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Geotechnical Services
Office of Geotechnical Design – South 1 MS # 18

COYOTE CREEK BRIDGE
BRIDGE NO. 53-3044

Subject: Addendum Foundation Report

The Office of Geotechnical Design – South 1 (OGDS1) Branch C submitted the Foundation Report dated May 30, 2013 to your office to provide the foundation recommendations for the proposed Coyote Creek Bridge (No. 53-3044) which will replace the existing Coyote Creek Bridge (No. 53-0279). The section on “APPROACH EMBANKMENT” on page 13 of that report needs to be revised as there will not be any additional fill for the southbound approach embankments of the abutments per the latest cross-sections provided by District 7 Design.

This addendum is provided to revise this section. The revised section is as follows.

APPROACH EMBANKMENT

Based on the cross sections, there will not be any additional fill for the southbound approach embankments of abutments (construction stage 2).

An additional fill will be placed on the northbound approach embankments of Abutments 1, 4, and 5 in order to raise profile of new bridge (construction stage 1). The height of the fill is varied from 1' to 4'. A ninety (90) days of settlement period and three (3) foot surcharge will be required to complete the maximum two (2) inch consolidation settlement at the Abutments during the construction stage 1 of the bridge before driving piles or excavating footing for the abutments. It is recommended that the surcharge be extended seventy five (75) feet away from Abutments 1 and 5.

Mr. Ramin Rashedi
June 24, 2015
Page 2

Addendum Foundation Report
Coyote Creek Bridge (# 53-3044)
0700001832 (07-215921)

If you have any questions or comments, please call Deepa Wathugala at 213-620-2134 or Ted Liu at 213-620-2136.

Report by:

Reviewed by:

Date: June 24, 2015

Deepa Wathugala, Ph.D., P.E., G.E.
Transportation Engineer
Office of Geotechnical Design - South 1
Branch C

CHI-TSENG TED LIU, Ph.D., P.E., G.E.
Senior Transportation Engineer
Office of Geotechnical Design - South 1
Branch C

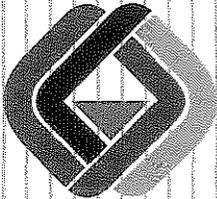


c: Structure Construction R.E. pending File (RE_Pending_File@dot.ca.gov)
District Project Manager – diaa.yassin@dot.ca.gov
District 7 Design Project Engineer - hue-shyon.chen@dot.ca.gov
GS Corporate / GeoDOG

Aerially Deposited Lead Investigation Report

**VOLUME 1
AERIALY DEPOSITED LEAD
INVESTIGATION REPORT**

**ROUTE 5 FROM THE ORANGE COUNTY
LINE TO THE ROUTE 605
KP 0.0/10.99 (PM 0.0/6.83)
LOS ANGELES COUNTY, CALIFORNIA
CONTRACT NO. 43A0078
TASK ORDER NO. 07-2159A0-RR**



GEOCON

CONSULTANTS, INC

**GEOTECHNICAL
ENVIRONMENTAL
MATERIALS**

PREPARED FOR

**CALIFORNIA DEPARTMENT
OF TRANSPORTATION
DISTRICT 7
LOS ANGELES, CALIFORNIA**

PREPARED BY

**GEOCON CONSULTANTS, INC.
6970 FLANDERS DRIVE
SAN DIEGO, CALIFORNIA 92121
Tel. 858.558.6100
Fax. 858.558.8437
email: environmental@geoconinc.com**

SEPTEMBER 19, 2002



Project No. 09100-06-49
Task Order No. 07-2159A0-RR
September 19, 2002

OVERNIGHT DELIVERY

Mr. Richard Stewart
California Department of Transportation – District 6
Central Region Environmental Division
Hazardous Waste Branch
2015 E. Shields Avenue, Suite 100
Fresno, California 93726

Subject: AERIALY DEPOSITED LEAD INVESTIGATION REPORT
PROPOSED WIDENING PROJECT
ROUTE 5 FROM THE ORANGE COUNTY LINE TO ROUTE 605
KP 0.0/10.99 (PM 0.0/6.83)
LOS ANGELES COUNTY, CALIFORNIA
CONTRACT NO. 43A0078
TASK ORDER NO. 07-2159A0-RR

Dear Mr. Stewart:

In accordance with Caltrans Contract No. 43A0078 and Task Order No. 07-2159A0-RR dated June 13, 2002, Geocon Consultants, Inc. has performed an aerially deposited lead (ADL) investigation at the site consisting of the exposed soil up to 3 meters from the edge of pavement at selected locations along Route 5 from the Orange County line to Route 605 in Los Angeles County, California. The accompanying report summarizes the services performed, including the advancement of hand-auger borings, limited soil sampling, laboratory analyses, statistical analyses, and Geographical Information Systems (GIS) Surveying. Please call us if you have any questions.

Sincerely,

GEOCON CONSULTANTS, INC.

Christopher S. King
Senior Staff Engineer

CSK:RJK:sc

(5) Addressee

Ronald J. Kofron, CEG 1527
Senior Geologist

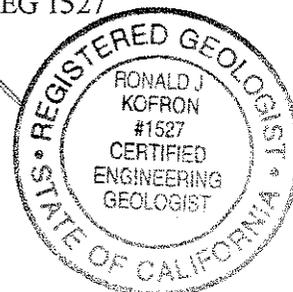


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- A. GIS Spreadsheet
- B. Geocon Modified Standard Operating Procedures
- C. Laboratory Reports and Chain-of-Custody Documentation
- D. Regression Results and Block Diagrams

I. EXECUTIVE SUMMARY

Geocon Consultants, Inc. (Geocon) has performed an aerially deposited lead (ADL) investigation at the site consisting of the exposed soils up to 3 meters (m) from the edge of pavement in Los Angeles County, California. The California Department of Transportation (Caltrans) proposes to excavate soil at the site as part of a highway widening project.

The investigation was performed to evaluate the presence of lead resulting from the historical combustion of leaded fuels from freeway traffic. Data from the investigation was used to evaluate the potential reuse or disposal considerations for soil excavated at the site, and to inform Caltrans of potential health and safety issues concerning the presence of lead in soil for workers at the site during construction activities.

Soil samples collected from the site were subsequently analyzed for total lead, soil pH, soluble lead using the Waste Extraction Test (WET) method using citric acid as the extractant, and soluble lead using a modified WET method using deionized water (WET-DI) as the extractant. In addition, selected soil samples were analyzed for soluble lead using the Toxicity Characteristic Leaching Procedure (TCLP) method, and Title 22 metals.

The site was divided into two unique areas of investigation as directed in the Task Order. Laboratory analytical results and statistical analysis using 90% upper one-sided confidence limits (UCLs) were compared to the guidelines of the Department of Toxic Substances Control (DTSC) Lead Variance issued to Caltrans and Assembly Bill (AB) 414 to develop recommendations for reuse of soil from each area. Offsite disposal conclusions were based upon comparison of 95% UCLs and predicted WET-Citric results to California Code of Regulations (CCR) Title 22 criteria and California Health and Safety Code (HSC) limit of 350 mg/kg total lead. These conclusions are presented below:

Northbound - Based upon the 90% arcsine transformed UCLs and average WET-DI results, the upper 0.9 m of soil is likely suitable for re-use in Caltrans rights-of-way. The soil should be placed under pavement and at least 1.5 m above maximum groundwater in accordance with the DTSC variance.

Based upon the 95% arcsine transformed UCLs and predicted WET-Citric results, if any portion of the upper 0.9 m of excavated soil is to be disposed, it should be handled as a hazardous material with respect to total and soluble lead content. Other Title 22 metals do not appear to be a concern; however, additional sampling and statistical analyses would be necessary to fully characterize this soil. Caltrans should notify the contractors performing the construction activities that hazardous concentrations of lead may be present in onsite soil and that appropriate health and safety measures should be taken to minimize the exposure to lead.

Southbound - Based upon the 90% arcsine transformed UCLs and average WET-DI results, the upper 0.9 m of soil is likely suitable for re-use in Caltrans rights-of-way. The soil should be placed under pavement and at least 1.5 m above maximum groundwater in accordance with the DTSC variance.

Based upon the 95% arcsine transformed UCLs and predicted WET-Citric results, if any portion of the upper 0.9 m of excavated soil is to be disposed, it should be handled as a hazardous material with respect to total and soluble lead content. Other Title 22 metals do not appear to be a concern; however, additional sampling and statistical analyses would be necessary to fully characterize this soil. Caltrans should notify the contractors performing the construction activities that hazardous concentrations of lead may be present in onsite soil and that appropriate health and safety measures should be taken to minimize the exposure to lead.

AERIALY DEPOSITED LEAD INVESTIGATION REPORT

1. INTRODUCTION

1.1 Project Description and Objectives

Geocon has performed an ADL investigation at the site consisting of the exposed soil up to 3 m from the edge of pavement at selected locations along Route 5 from the Orange County line to Route 605 KP 0.0/10.99 (PM 0.0/6.83) in Los Angeles County, California (Figure 1).

The objective of the ADL investigation was to evaluate soil at the site for the presence of lead resulting from the historical combustion of leaded fuels from freeway traffic. The information obtained from the limited soil sampling and laboratory testing was used to determine the method of reuse or disposal of soil excavated during the proposed construction activities at the site. The data was also used to inform Caltrans of potential health and safety issues for workers at the site during construction activities. For the purpose of this ADL investigation, the site was divided into two unique areas of investigation (Northbound and Southbound).

1.2 Scope of Work

Geocon performed the following tasks:

1.2.1 Pre-field Activities

- Attended a Task Order meeting on June 24, 2002, to discuss issues such as field methods, boring locations, health and safety measures, and the completion schedule.
- Prepared a Health and Safety Plan (H&SP) dated July 3, 2002, for the proposed activities. The Health and Safety Plan included guidelines for the use of personal protective equipment for Geocon employees during the field activities. The H&SP specifies the safety procedures for work to be performed at the site, chemical hazard information, site safety officers, and medical emergency locations. The H&SP was prepared as required by Contract 43A0078 in general accordance with 29 CFR 1910.120 and CCR Title 8.
- Contacted Underground Service Alert (USA) to notify utility companies of the field activities. USA ticket numbers were A895694, A895677, A895728, A895722, A895713, A895706, and A895700.

1.2.2 Limited Soil Sampling

A 7.62-centimeter-diameter hand auger was used to collect 804 soil samples from 228 boring locations along the shoulders of Route 5. Sampling activities were conducted between July 9 and 16, 2002.

Boring locations were spaced approximately 300 feet apart as specified on Page 4 of Task Order 07-2159A0-RR, dated June 13, 2002. The borings were advanced to a maximum depth of 0.9 m below the ground surface, and soil samples were collected at 0.15, 0.3, 0.6, and 0.9 m. The approximate boring locations are shown on the Boring Location Map, Figure 2. The borings were backfilled with the soil cuttings generated.

1.2.3 Laboratory Analyses

Geocon submitted the soil samples under chain of custody procedures to Advanced Technology Laboratories (ATL), a California Department of Health Services (CDOHS)-certified analytical laboratory. All soil samples were analyzed for total lead following United States Environmental Protection Agency (EPA) Test Method 6010B. Soil samples exhibiting total lead concentrations greater than or equal to 50 milligrams per kilograms (mg/kg) and less than 1,000 mg/kg were analyzed for soluble lead following EPA Test Method 7420 using the WET-Citric method. Samples exhibiting WET-Citric concentrations greater than or equal to 5 milligrams per liter (mg/l) were analyzed for soluble lead following EPA Test Method 7420 using the WET-DI method. Samples exhibiting total lead concentrations greater than or equal to 1,000 mg/kg were analyzed using the TCLP method. A total of fifteen samples from each direction were also analyzed for the Title 22 metals. Title 22 metals analysis was assigned to the fifteen samples from each direction exhibiting the highest total lead concentrations. In addition, ten percent of the soil samples were analyzed for pH following EPA Test Method 9045.

Equipment blanks were analyzed for total lead using EPA Test Method 6010B.

1.2.4 GIS Surveying

Each boring location was recorded using a Global Positioning System (GPS) receiver. Data was recorded using the Axis III™ receiver system, using State Plane 83 coordinates, with the IMAP™ software package. Boring location coordinates, in latitude and longitude, are provided in Appendix A.

1.2.5 Report Preparation

This report was prepared as outlined in Contract No. 43A0078 and in Task Order No. 07-2159A0-RR, summarizing the results of the aerially deposited lead investigation activities requested by Caltrans.

1.3 Previous Site Investigations

Geocon has not performed a previous soil investigation at the site. In addition, Caltrans has not notified Geocon of previous investigations performed at the site.

2. BACKGROUND

2.1 Aerially Deposited Lead in Soil

Testing by Caltrans throughout the State has shown that aerially-deposited lead exists in soil along major freeway routes resulting from automobile exhaust containing lead from the combustion of leaded gasoline. Elevated lead concentrations are generally found within 9.1 m of the edge of pavement and within the top 0.15 m of soil. Elevated lead concentrations can also be present as deep as 0.6 to 0.9 m below the surface. The concentration and distribution of aerially-deposited lead in soil is dependent on many variables, but in general, traffic volume and age of a highway are the primary factors.

2.2 Hazardous Waste Classification Criteria

Regulatory criteria to classify a waste as "California hazardous" for handling and disposal purposes are contained in the CCR Title 22, Division 4.5, Chapter 11, Article 3, §66261.24. Criteria to classify a waste as "Resource, Conservation, and Recovery Act (RCRA) hazardous" are contained in Chapter 40 of the *Code of Federal Regulations* (40 CFR), §261.

For a waste containing metals, the waste is classified as "California hazardous" when: (1) the total metal content exceeds the Total Threshold Limit Concentration (TTLC); or (2) the soluble metal content exceeds the Soluble Threshold Limit Concentration (STLC) based on a Waste Extraction Test (WET) analysis. A material is classified as "RCRA hazardous" when the soluble metal content exceeds the Federal Regulatory Level based on TCLP testing.

The above regulatory criteria are based on toxicity. Wastes may also be classified as hazardous based on other criteria including ignitability, toxicity, corrosivity, and reactivity. However, for the purposes of ADL investigations, toxicity and corrosivity (i.e., chemical concentrations and soil pH values, respectively) are the primary factors considered for waste classification. Waste that is classified as either "California hazardous" or "RCRA hazardous" requires management as a hazardous waste and disposal at an approved disposal facility.

According to §25157.8 of the HSC, after January 1, 1999, no person shall dispose of waste that contains total lead in excess of 350 mg/kg to land other than a Class I hazardous waste disposal facility (or other designated facility meeting all the criteria in HSC 25157.8(b)(3)) is prohibited.

The DTSC issued a variance to selected Caltrans Districts on September 22, 2000, to provide guidance for the disposition of soil containing ADL within Caltrans projects. The California State Assembly passed AB 414 dated October 14, 2001 which allows Caltrans to reuse lead impacted soil within their rights-of-way provided that total lead concentrations do not exceed 1,496 mg/kg. Review of the variance and AB 414 indicates the following conditions regarding Caltrans' reuse and management of ADL-impacted soil as fill material for construction and maintenance operations.

2.2.1 Condition 1

Soil exhibiting soluble lead concentrations less than or equal to 0.5 mg/l (WET-DI) and total lead concentrations of 1,496 mg/kg or less may be used as fill provided that the soil containing ADL is placed a minimum of 1.5 m above the maximum water table elevation and covered with at least 0.3 m of non-hazardous soil.

2.2.2 Condition 2

Soil exhibiting soluble lead concentrations greater than 0.5 mg/l (WET-DI) and total lead concentrations of 1,496 mg/kg or less may be used as fill provided that the soil containing ADL is placed a minimum of 1.5 m above the maximum water table elevation and protected from infiltration by a pavement structure maintained by Caltrans.

2.2.3 Condition 3

Contaminated soil with a pH less than 5.0 may be used as fill material only under the paved portion of the roadway. Condition 3 prevails under either Condition 1 or 2.

2.3 Criteria For Disposal Of Soil Not Intended For Reuse Onsite

If the excavated soil is not intended to be reused within the Caltrans right-of-way, then hazardous waste determination of the soil is based on total and soluble lead concentrations using the lead TTLC and STLC contained in Title 22 of the CCR Article 3, §66261.24. When the total lead concentration is greater than ten times the lead STLC, regulatory agencies typically initiate the requirement for WET using citric acid. It is the result from the WET that is compared to the STLC value. The TTLC value for lead is 1,000 mg/kg and the STLC for lead using acid extract is 5.0 mg/l. However, as previously

indicated, disposal of waste that contains total lead in excess of 350 mg/kg to land other than a Class I hazardous waste disposal facility (or other designated facility meeting all the criteria in HSC 25157.8(b)(3)) is prohibited.

3. INVESTIGATIVE METHODS

3.1 Field Methods

3.1.1 Soil Sampling

Soil sampling and handling methods used by Geocon to complete this TO are outlined in the following modified Geocon Standard Operating Procedures (SOPs) presented as Appendix B:

- Modified SOP No. 11 - Hand-Augering and Soil Sample Collection/Handling Procedures

3.1.2 Equipment Blank Sampling

One equipment blank sample was collected per chain-of-custody (every ten soil samples) to verify proper cleaning of the sampling equipment. The equipment blank samples were obtained by passing distilled water over the decontaminated sampling equipment and into laboratory-provided containers.

3.2 Deviations from Work Plan

Work was performed in accordance with the Basic Work Plan prepared by Geocon dated July 2, 2002.

4. INVESTIGATIVE RESULTS AND FIELD OBSERVATIONS

4.1 Site Geology and Hydrology

The soil conditions encountered consisted generally of loose to moderately dense, dry, brown to dark-brown, fine to coarse sand with some silt. Groundwater was not encountered in the hand auger borings.

4.2 Analytical Laboratory Results

A summary of the results of the laboratory analyses for total lead, WET-Citric, WET-DI, TCLP, and pH is presented in Table I. A summary of the results of the laboratory analyses for Title 22 metals is presented in Table II. Reproductions of the laboratory reports and chain-of-custody documentation are

presented as Appendix C. Samples were processed using laboratory standard turn around times (10 business days).

4.2.1 Northbound

Soil sample analytical results for northbound Route 5 are summarized as follows (see Section 1.2.3 for analytical methods used):

- **Total Lead** – Three hundred forty four soil samples were analyzed for total lead. Concentrations ranged from below the laboratory detection limit of 5 mg/kg to 4,000 mg/kg. The maximum total lead concentration for this data set exceeds 1,496 mg/kg, the threshold value specified in the DTSC variance for total lead;
- **WET-Citric** – Two hundred six soil samples exhibited total lead concentrations greater than 50 mg/kg and less than 1,000 mg/kg, and were analyzed using the WET-Citric method. WET-Citric concentrations ranged from 0.49 to 200 mg/l. CCR Title 22 specifies 5.0 mg/l as the STLC for lead;
- **WET-DI** – One hundred ninety two soil samples exhibited WET-Citric concentrations greater than the STLC of 5.0 mg/l, and were analyzed using the WET-DI method. WET-DI concentrations ranged from below the method detection limit of 0.2 mg/l to 14 mg/l. The DTSC variance specifies conditions for re-use of soil based on a threshold of 0.5 mg/l as described in Section 2.2;
- **pH** – Thirty six soil samples were tested for pH. Values ranged from 6.23 to 8.85, which are above the minimum of 5.0 described in the DTSC variance;
- **TCLP** – Seventy nine soil samples were analyzed by the TCLP method. Their concentrations ranged from below the laboratory detection limit of 0.2 mg/l to 27 mg/l. Results above 5.0 mg/l exceed the TCLP maximum concentration limit for RCRA;
- **Title 22 Metals** - Fifteen soil samples were analyzed for Title 22 metals. Metals included in this analysis are antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc. With the exception of lead, none of the metals concentrations were detected at or above the respective TTLC, nor were they detected at or above ten times the respective STLCs;
- **Equipment Blanks** – Thirty six equipment blank water samples were analyzed for total lead. Total lead concentrations ranged from below the laboratory detection limit of 0.005 mg/l to 0.02 mg/l; and
- **Decontamination Water** – One water sample was collected from the drum used to store the decontamination water and analyzed for CCR Title 22 metals. Laboratory results indicated that none of the CCR Title 22 metals were at or above regulatory thresholds. For this reason, the water was disposed on-site with care taken to prevent runoff from entering the storm drain.

4.2.2 Southbound

Sample analytical results for southbound Route 5 are summarized as follows (See Section 1.2.3 for analytical methods used):

- **Total Lead** – Four hundred sixty soil samples were analyzed for total lead. Concentrations ranged from below the laboratory detection limit of 5 mg/kg to 2,800 mg/kg. The maximum total lead concentration for this data set exceeds 1,496 mg/kg, the threshold value specified in the DTSC variance for total lead;
- **WET-Citric** – Three hundred four soil samples exhibited total lead concentrations greater than 50 mg/kg and less than 1,000 mg/kg, and were analyzed using the WET-Citric method. WET-Citric concentrations ranged from 0.55 mg/l to 190 mg/l. CCR Title 22 specifies 5.0 mg/l as the Soluble Threshold Limit Concentration (STLC) for lead;
- **WET-DI** – Two hundred two soil samples exhibited WET-Citric concentrations greater than the Soluble Threshold Limit Concentration (STLC) of 5.0 mg/l, and were analyzed using the WET-DI method. WET-DI concentrations ranged from below the method detection limit of 0.2 mg/l to 12 mg/l. The DTSC variance specifies conditions for re-use of soil based on a threshold of 0.5 mg/l as described in Section 2.2. Twelve of the two hundred two samples were re-analyzed because their initial results did not demonstrate the expected trend for WET-DI analysis;
- **pH** – Forty nine samples were tested for pH. Values ranged from 6.2 to 8.86; which are above the minimum of 5.0 described in the DTSC variance;
- **TCLP** – Forty two samples were analyzed by the TCLP method. Their concentrations ranged from below the laboratory detection limit of 0.2 mg/l to 18 mg/l, which exceeds the TCLP maximum concentration limit of 5.0 mg/l for RCRA;
- **Title 22 Metals** - Fifteen soil samples were analyzed for Title 22 metals. Metals included in this analysis are antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc. With the exception of lead, none of the metals concentrations were detected at or above the respective TTLC, nor were they detected at or above ten times the respective STLCs; and
- **Equipment Blanks** – Forty nine equipment blank water samples were analyzed for total lead. Total lead concentrations ranged from below the laboratory detection limit of 0.005 mg/l to 0.0086 mg/l.
- **Decontamination Water** – One water sample was collected from the drum used to store the decontamination water and analyzed for CCR Title 22 metals. Laboratory results indicated that none of the CCR Title 22 metals were at or above regulatory thresholds. For this reason, the water was disposed on-site with care taken to prevent runoff from entering the storm drain.

4.3 Data Validation

Geocon and ATL use QA/QC measures to minimize and control errors associated with field and laboratory methods. Field QA/QC measures consist of cleaning sampling equipment between each use with a detergent solution followed by successive rinses in tap and deionized water. To demonstrate that cleaning of the equipment was adequate, equipment blanks are collected by passing deionized water through the hand auger and collecting it in a laboratory provided container. One equipment blank was collected for each chain of custody used. Laboratory results indicated that thirty three of the eighty-five equipment blanks contained lead at concentrations above the laboratory method detection limit of 0.005 mg/l. Although the equipment blank samples had very low concentrations of lead, Geocon considers the field investigation free from potential influence resulting from cross-contamination resulting from inadequate equipment decontamination.

Laboratory QA/QC measures include the use of matrix spikes, duplicates, and method blanks, and calculation of percent recovery and relative percentage difference (RPD). A review of the laboratory QA/QC results indicate satisfactory data reporting.

5. DATA EVALUATION

5.1 Lead Distribution Analysis

The results of the analytical testing indicates that 187 of the soil samples collected from the northbound Route 5 are above the California disposal threshold of 350 mg/kg total lead content. Soluble lead concentrations for the northbound Route 5 exceed the STLC maximum concentration of 5 mg/l in 192 of the samples analyzed. One hundred forty two of the samples collected from the southbound Route 5 exhibited total lead concentrations above the California disposal threshold of 350 mg/kg. Soluble lead concentrations exceeded the STLC maximum concentration in 266 of the 304 samples analyzed.

5.2 Statistical Evaluation Methods

The analytical laboratory results were evaluated statistically to examine the appropriate method of reuse or offsite disposal of the soils. Prior to performing the following calculations, analytical results reported as below the detection limit were assigned a value of one-half the detection limit. Statistical methods were applied to each of the lead data sets collected adjacent to the sites to evaluate: 1) if an acceptable correlation between total and soluble lead concentrations exists that would allow the prediction of soluble lead concentrations based on calculated UCLs; 2) the total lead data population distribution, and 3) the upper one-sided confidence limits (UCLs) on the true means of the total lead concentrations for different soil mixing scenarios.

5.3 Data Correlation

A test for data correlation is used to verify the quality of the equation used to predict soluble lead concentrations. There should be a correlation coefficient (“r”) of 0.8 or greater between total and soluble lead (WET-citric) analytical results. When evaluating the correlation coefficient of total lead versus soluble lead concentrations, data from the northbound and southbound Route 5 were treated as separate data sets as described in the Task Order. The correlation coefficient for northbound Route 5 was 0.85. The correlation coefficient for southbound Route 5 was 0.81. The correlation factor for each area is discussed in Sections 6.1 and 6.2 of the report.

5.4 Regression Analysis

A linear regression analysis is necessary to create a soluble lead prediction model for use with the 90% and 95% UCLs. The model is created by plotting the total lead and soluble lead (WET-Citric) paired data points on a scatter plot chart. A linear regression line is then added to the chart using the equation:

$$y = mx + b$$

where:

y = *WET Citric result, mg/l*

x = *total lead result, mg/kg*

b = *the y-intercept*

$$m = \text{Slope} = \frac{r \times s_t}{s_s}$$

where:

r = *correlation coefficient*

s_t = *standard deviation of the total lead results*

s_s = *standard deviation of the soluble lead results*

The linear equation corresponding to the regression line is then used to predict a soluble lead concentration for the statistical total lead UCLs. The integrity of the equation is directly related to the correlation coefficient described in Section 5.3

5.5 Population Distribution

A test for population distribution is necessary to apply the appropriate methods when examining the UCLs on the true total lead means. When evaluating the distribution of total lead concentrations, all

total lead data from each area were treated as separate data sets. In accordance with *Chapter Nine, SW-846, 3rd Edition, U.S. Environmental Protection Agency, 1986, (Chapter Nine, SW-846)* distribution was evaluated by comparing the mean versus the variance of the total lead data sets. If the mean was greater than the variance, the data set was assumed to be normally distributed and transformation was not performed. If the mean was less than the variance, the data set was transformed using an arcsine conversion. If the mean was equal to the variance the data set was transformed using a square-root conversion.

5.6 Calculating the Upper Confidence Limits for the True Mean

Statistical confidence limits are the classical tool for addressing uncertainties of a distribution mean. The UCLs of the true mean concentration are used as the mean concentrations because it is not possible to know the true mean. The UCLs therefore account for uncertainties due to limited sampling data. As more data are available for a given site, uncertainty decreases and the UCLs move closer to the true mean.

A 90% UCL is desired if the soil is to be reused on-site and a 95% UCL is desired if the soil is to be disposed of offsite or relinquished to a contractor as described in Task Order 07-2159A0-RR. The maximum 90% UCL allowed for re-use of on-site soil is 1,496 mg/kg and the maximum 95% UCL allowed for disposal is 350 mg/kg. The one-sided 90 and 95% UCLs of the true mean are defined as the values that, when calculated repeatedly for randomly drawn subsets of site data, equal or exceed the true mean 90 and 95% of the time, respectively. The following statistical equation (from *Chapter Nine, SW-846*) was used to calculate the UCLs:

$$UCL = \bar{x} + t_p \frac{S}{\sqrt{n}}$$

Where:

- \bar{x} = sample mean
- t_p = student's t for a one-tailed confidence interval and a probability of p
- S = standard deviation
- n = number of samples

For the purpose of this investigation, the samples were assumed to be collected using systematic random sampling. *Chapter Nine of SW-846* indicates that if the data set is not normally distributed, the data should be transformed, and statistical evaluations should be performed on the transformed scale.

Using histogram graphical representation, (Appendix D) the data did not exhibit a normal distribution. The histogram showed that the data were skewed. Based on this graphical evaluation, the data set should be transformed.

Examination of the data from each area indicated that the mean was less than the variance for the non-transformed data indicating that the data set was not normally distributed and transformation was necessary. The raw data was transformed using the arcsine transformation. The arcsine transformation was accomplished by dividing each total lead result by the maximum concentration (this results in a data set of all numbers falling between 0 and 1), then calculating the arcsine of the quotient. ($y_i = \arcsine(x_i/x_{max})$), performing the statistical calculations on the transformed data, and then re-converting the result to real numbers ($z_i = x_{max}\sin y_i$).

In order to evaluate different soil excavation scenarios, different UCLs were calculated. Data from each area were each divided into the following two data sets:

- Total lead concentrations for soil samples collected from 0 to 0.15 m (Data Set A);
- Total lead concentrations for soil samples collected from 0.15 to 0.30 m (Data Set B);
- Total lead concentrations for soil samples collected from 0.45 to 0.60 m (Data Set C); and
- Total lead concentrations for soil samples collected from 0.75 to 0.90 m (Data Set D).

Using the data sets above, the following UCLs for the true means were calculated separately for both the northbound and southbound Route 5:

- UCL for the top 0.15 m of soil (Data Set A) and the UCL for the underlying soil (Data Sets B, C, and D); and
- UCL for the top 0.30 m of soil (Data Set A and B) and the UCL for the underlying soil (Data Sets C and D); and
- UCL for the top 0.60 m of soil (Data Sets A, B, and C) and the UCL for the underlying soil (Data Set D); and
- UCL for the entire 0.90 m of soil (Data Sets A, B, C, and D).

For reference, tables summarizing the results of the 90% and 95% UCLs and predicted soluble lead concentrations presented below along with re-use and disposal conditions. Additional soil excavation and mixing scenarios can be found on the Block Diagram in Appendix D.

90% UCL Lead Analysis and Soil Management Summary

Area	Soil Interval (m)	Total Lead 90 % UCL (mg/kg)	Within Variance?	Soluble Lead WET-DI (mg/l)	DTSC Variance Condition
Northbound	0 – 0.90	704.7	yes	1.55	Condition 2
Southbound	0 – 0.90	390.3	yes	1.05	Condition 2

95% UCL Lead Analysis and Soil Management Summary

Area	Soil Interval (m)	Total Lead 95 % UCL (mg/kg)	Predicted Soluble Lead-95% UCL	Relinquish	Disposal
Northbound	0 – 0.90	719.6	65.2	No	Class 1
Southbound	0 – 0.90	398.6	33.7	No	Class 1

6. CONCLUSIONS

As with the laboratory analytical results, the data was categorized and evaluated based upon two unique investigation areas (northbound and southbound). Regression analysis charts of total lead vs. soluble lead, and UCLs with corresponding soil excavation scenarios shown in block diagrams are presented as a portion of Appendix D. Separate conclusions regarding Caltrans right-of-way reuse and offsite disposal were then developed for each area. Reuse conclusions were based upon comparison of the referenced 90% transformed UCLs and the average WET-DI analytical results for each area to the DTSC variance and AB 414. Conclusions for surplus material and material relinquished to the contractor was based upon comparison of 95% transformed UCLs and predicted WET-Citric results to CCR Title 22 criteria and HSC limit of 350 mg/kg total lead. Results of Title 22 metals analyses were also used in discussing offsite disposal. A summary of the statistical evaluation results and conclusions for each of the areas is provided in the following sections.

6.1 Northbound

A review of the data set mean versus variance indicated that the total lead data set is not normally distributed. The results also showed that the mean is less than the variance; therefore, an arcsine transformation was applied. Based upon the 90% arcsine transformed UCL, total lead and WET-Citric concentrations were 704.7 mg/kg and 63.9 mg/l, respectively for the entire soil column (data sets A, B,

C, and D). The calculated correlation factor between total lead concentrations and WET-Citric lead concentrations was 0.85, indicating satisfactory data correlation.

Based upon the 90% arcsine transformed UCLs and average WET-DI results of 1.55 mg/l, the upper 0.9 m of soil is suitable for re-use in Caltrans rights-of-way. The soil should be placed under pavement and at least 1.5 m above maximum groundwater in accordance with the DTSC variance. Based upon the 95% arcsine transformed UCLs and predicted WET-Citric results, any portion of the upper 0.9 m of soil excavated from the site has the potential to be classified as a hazardous material with respect to total and soluble lead content according to AB 414 and CCR Title 22. Of the seventy nine samples that were analyzed using the TCLP method in accordance with Task Order 07-2159A0-RR, twenty seven of the samples analyzed exhibited concentrations equal to or greater than the RCRA waste threshold of 5 mg/l. However, the statistical average of TCLP results was below 5 mg/l, the threshold for classification as a RCRA waste. For this reason, it appears unlikely that the on-site soil could be classified as a RCRA waste. With the exception of lead, Title 22 metals do not appear to be a concern; however, additional sampling and statistical analyses would be necessary to fully characterize the soil.

6.2 Southbound

A review of the data set mean versus variance indicated that the total lead data set is not normally distributed. The results also showed that the mean is less than the variance; therefore, an arcsine transformation was applied. Based upon the 90% arcsine transformed UCL, total lead and WET-Citric concentrations were 390.3 mg/kg and 33.0 mg/l, respectively for the entire soil column (data sets A, B, C, and D). The calculated correlation factor between total lead concentrations and WET-Citric lead concentrations was 0.81, indicating satisfactory data correlation.

Based upon the 90% arcsine transformed UCLs and average WET-DI results of 1.05 mg/l, the upper 0.9 m of soil is suitable for re-use in Caltrans rights-of-way. The soil should be placed under pavement and at least 1.5 m above maximum groundwater in accordance with the DTSC variance. Based upon the 95% arcsine transformed UCLs and predicted WET-Citric results, any portion of the upper 0.9 m of soil excavated from the site has the potential to be classified as a hazardous material with respect to total and soluble lead content according to AB 414 and CCR Title 22. Of the forty two samples collected and analyzed using the TCLP method, eleven of the samples were greater than or equal to the RCRA threshold of 5 mg/l. However, the statistical average of TCLP results was below 5 mg/l, the threshold for classification as a RCRA waste. For this reason, it is unlikely that the on-site soil would be classified as a RCRA waste. With the exception of lead, Title 22 metals do not appear to be a concern; however, additional sampling and statistical analyses would be necessary to fully characterize the soil.

7. RECOMMENDATIONS

7.1 Northbound

Geocon recommends that if the excavated soil at the site is to be reused within the Caltrans rights-of way, any portion of the upper 0.9 m of soil should be placed under pavement and at least 1.5 m above the maximum groundwater elevation in accordance with the DTSC Lead Variance. If any portion of the upper 0.9 m of soil excavated at the site is to be disposed, it should be handled as a hazardous material with respect to total and soluble lead content. Geocon also recommends that Caltrans notify the contractors performing the construction activities that hazardous concentrations of lead may be present in on-site soil and that appropriate health and safety measures should be taken to minimize the exposure to lead.

7.2 Southbound

Geocon recommends that if the excavated soil at the site is to be reused within the Caltrans rights-of way, any portion of the upper 0.9 m of soil should be placed under pavement and at least 1.5 m above the maximum groundwater elevation in accordance with the DTSC Lead Variance. If any portion of the upper 0.9 m of soil excavated at the site is to be disposed, it should be handled as a hazardous material with respect to total and soluble lead content. Geocon also recommends that Caltrans notify the contractors performing the construction activities that hazardous concentrations of lead may be present in on-site soil and that appropriate health and safety measures should be taken to minimize the exposure to lead.

8. REPORT LIMITATIONS

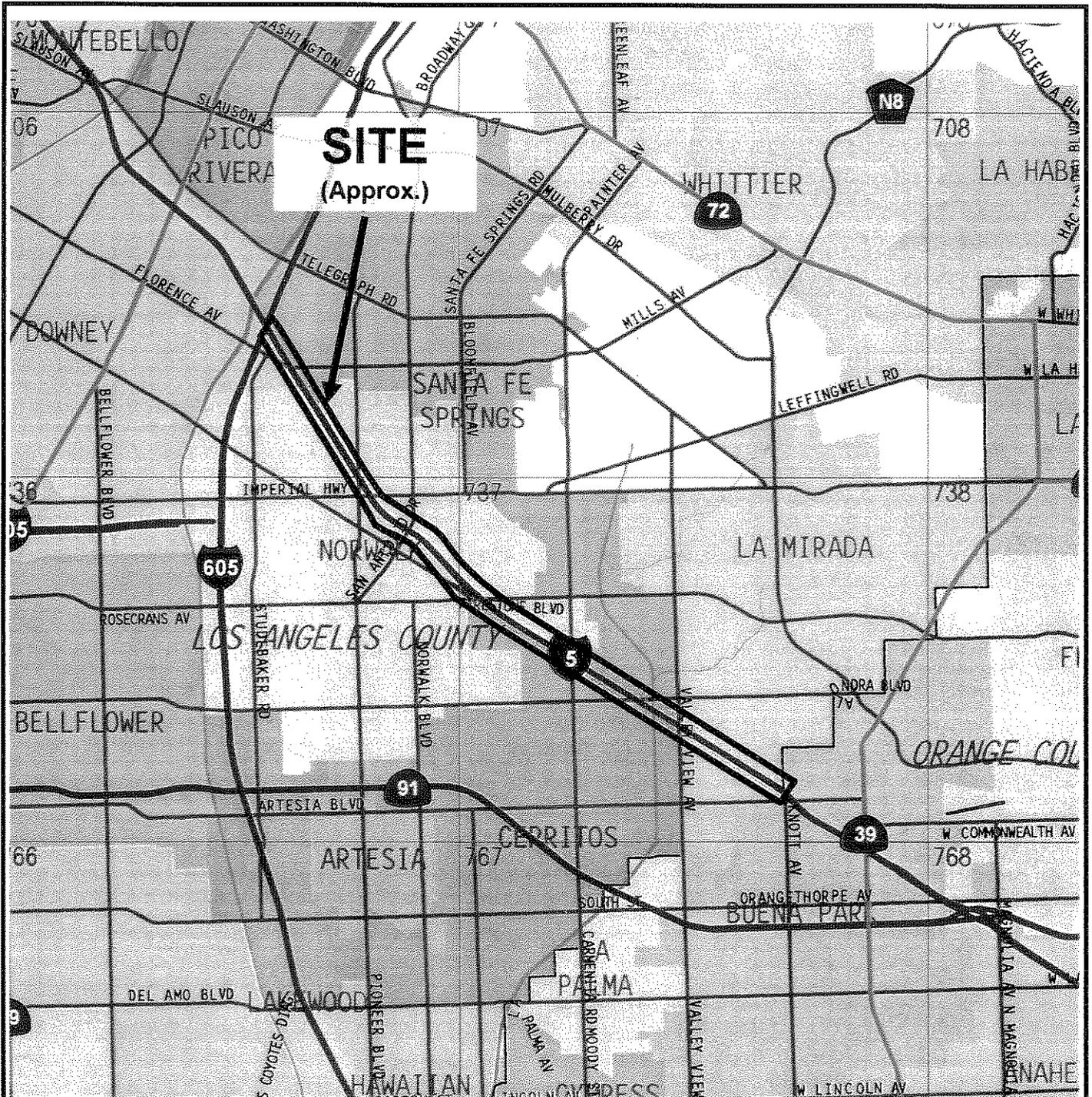
This report has been prepared exclusively for Caltrans. The information obtained is only relevant as of the date of the latest site visit. The information contained herein is only valid as of the date of the report, and will require an update to reflect additional information obtained.

The conclusions and recommendations presented herein are based on a limited number of samples collected from in-place soil and from widely spaced locations according to Caltrans prescribed protocol. The purpose of these sampling and characterization activities was to reasonably predict the character of soil to be disturbed for planned construction activities within the described limits of the Caltrans right of way. The disposition and handling of the soil are governed by the California regulations cited above. Characterization of the soil in the study areas for Federal waste criteria was beyond the scope of work in this task order.

Only a limited number of samples were analyzed using the TCLP method used to classify Federal waste. It is possible, that soil disturbed, excavated and stockpiled could exceed Federal standards for hazardous waste and may require handling as a RCRA waste.

The Client should recognize that this report is not a comprehensive site characterization and should not be construed as such. The appropriate regulatory agency may require additional investigations. The findings and conclusions as presented in this report are predicated on the results of the limited soil sampling and laboratory analyses performed. In addition, the information obtained is not intended to address potential impacts related to sources other than those specified herein.

Therefore, the report should only be deemed conclusive with respect to the information obtained. No guarantee or warranty of the results of the report is implied within the intent of this report or any subsequent reports, correspondence, or consultation, either express or implied. Geocon strived to perform the services summarized herein in accordance with the local standard of care in the geographic region at the time the services were rendered.



SOURCE: 2001 THOMAS BROTHERS MAP
LOS ANGELES COUNTY, CALIFORNIA

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No Scale

GEOCON
CONSULTANTS, INC



ENVIRONMENTAL ■ GEOTECHNICAL ■ MATERIALS
6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121 - 2974
PHONE 858 558-6100 - FAX 858 558-8437

CSK/SC

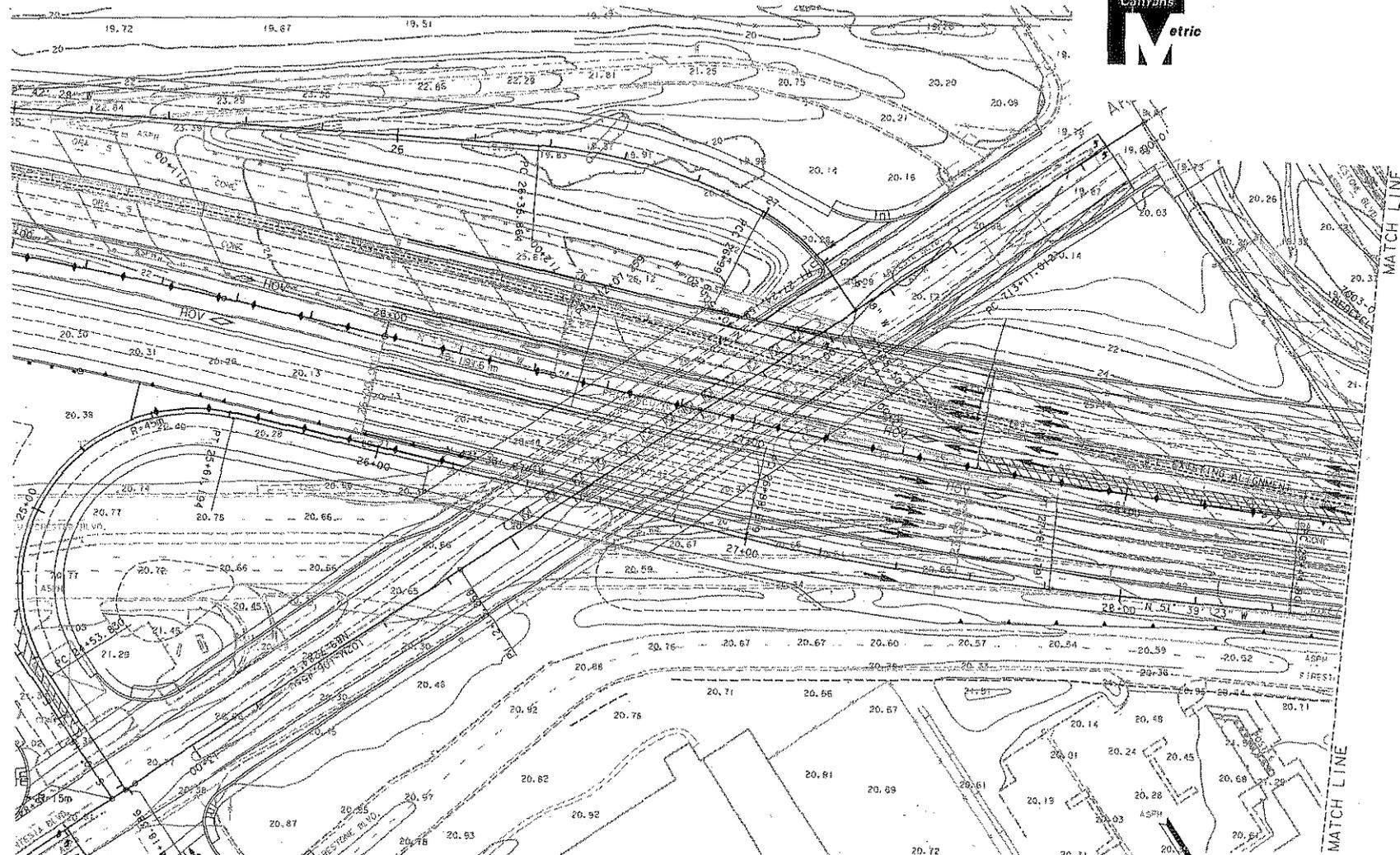
VICINITY MAP

ROUTE 5 FROM ORANGE COUNTY
LINE TO ROUTE 605
LOS ANGELES COUNTY, CALIFORNIA

DATE: 9-19-2002	PROJECT NO. 09100-06-49	FIG. 1
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PROJECT ENGINEER	DATE	REVISOR
	BY	BY
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CALCULATED/DESIGNED BY	DATE REVISOR
	CHECKED BY	BY
Caltrans	PROJECT ENGINEER	DATE
	BY	BY



BORING LOCATION MAP
ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

GEOCON	PROJECT NO. 09100-06-49
CONSULTANTS INCORPORATED	FIGURE 2, PLATE 1
4970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974	DATE: 09-19-2002
PHONE 858-558-6100 - FAX 858-558-8437	

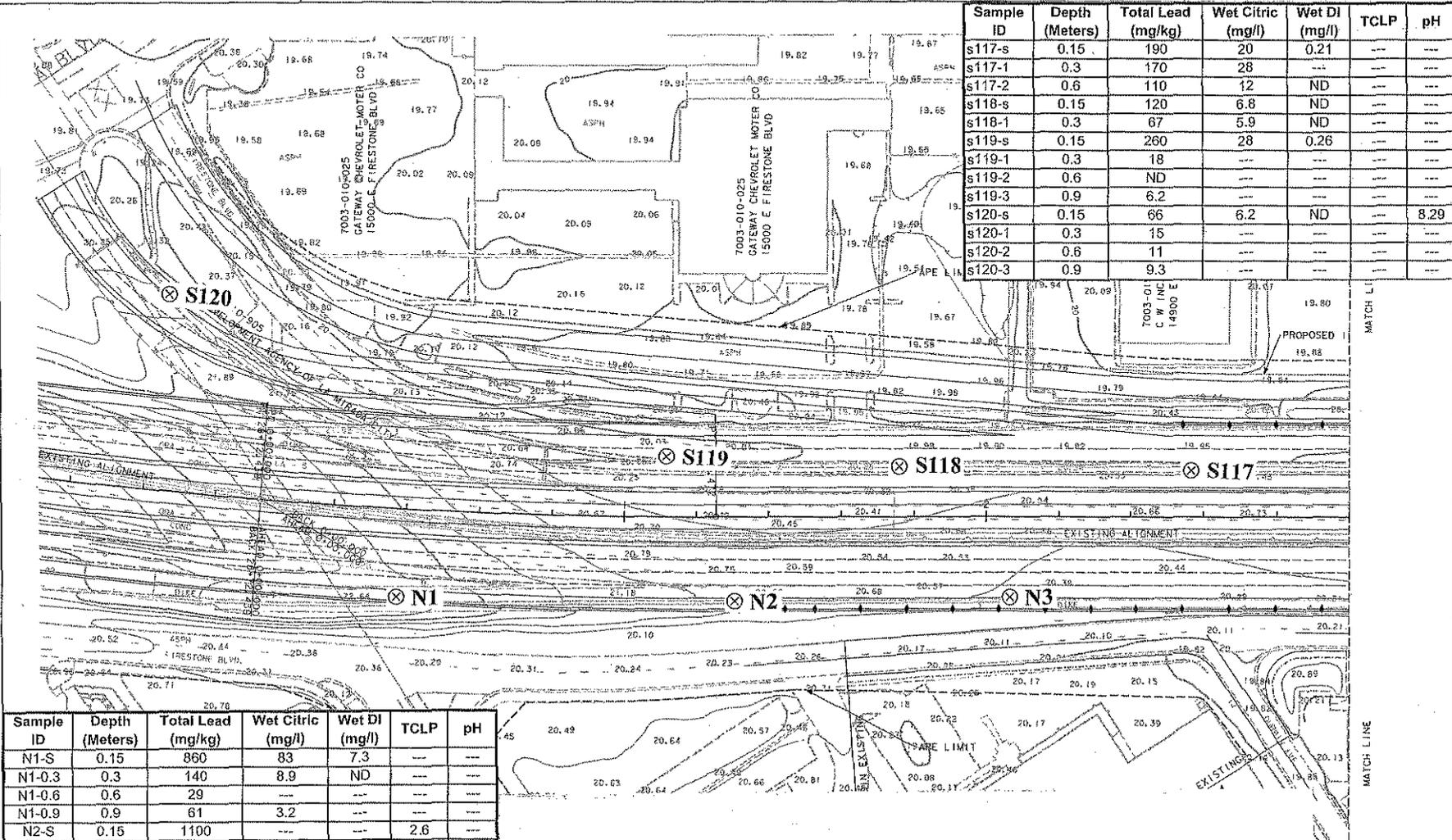
L-1

LAST REVISION DATE PLOTTED 03/06/02
 07-25-02 LINE PLOTTED 12/01/02

USERNAME -> BUSER
 LOG FILE -> REQUEST

CU 07227

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 PROJECT ENGINEER
 CHECKED BY
 REVISY BY
 DATE REVISY



Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s117-s	0.15	190	20	0.21	---	---
s117-1	0.3	170	28	---	---	---
s117-2	0.6	110	12	ND	---	---
s118-s	0.15	120	6.8	ND	---	---
s118-1	0.3	67	5.9	ND	---	---
s119-s	0.15	260	28	0.26	---	---
s119-1	0.3	18	---	---	---	---
s119-2	0.6	ND	---	---	---	---
s119-3	0.9	6.2	---	---	---	---
s120-s	0.15	66	6.2	ND	---	8.29
s120-1	0.3	15	---	---	---	---
s120-2	0.6	11	---	---	---	---
s120-3	0.9	9.3	---	---	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N1-S	0.15	860	83	7.3	---	---
N1-0.3	0.3	140	8.9	ND	---	---
N1-0.6	0.6	29	---	---	---	---
N1-0.9	0.9	61	3.2	---	---	---
N2-S	0.15	1100	---	---	2.6	---
N2-0.3	0.3	1500	---	---	6.1	---
N2-0.6	0.6	63	3.9	---	---	---
N2-0.9	0.9	11	---	---	---	---
N3S	0.15	1200	---	---	2.7	---
N3-0.3	0.3	1100	---	---	3.7	7.08
N3-0.6	0.6	270	23	5.6	---	---
N3-0.9	0.9	15	---	---	---	---

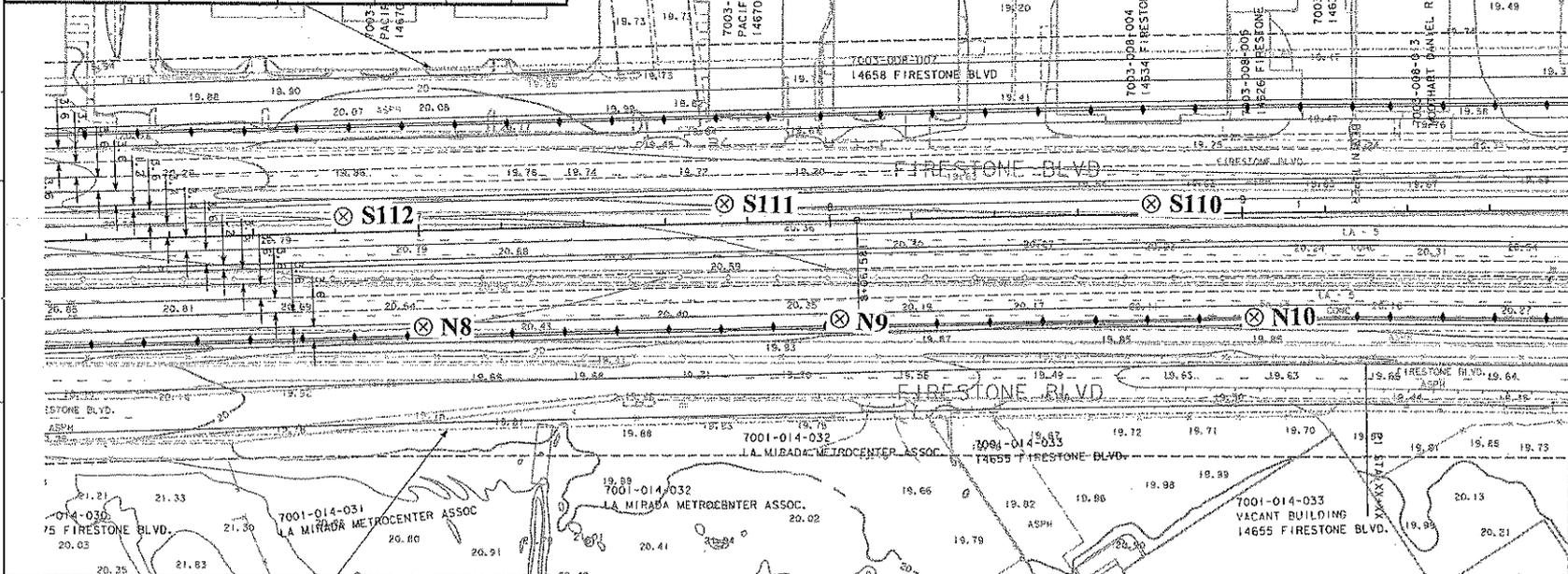
BORING LOCATION MAP
 ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

GEOCON CONSULTANTS INCORPORATED 6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974 PHONE 858.558-6100 - FAX 858.558-8437	PROJECT NO. 09100-06-49
	FIGURE 2, PLATE 2
	DATE: 09-19-2002

DATE PLOTTED: 07-25-02 TIME PLOTTED: 2:31PM
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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 PROJECT ENGINEER
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 REVISOR
 DATE

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s110-s	0.15	220	20	ND	---	---
s110-1	0.3	1100	---	---	4.9	---
s110-2	0.6	130	18	1.6	---	---
s110-3	0.9	190	16	1.6	---	---
s111-s	0.15	340	36	0.59	---	---
s111-1	0.3	850	120	5.4	---	7.11
s111-2	0.6	43	---	---	---	---
s111-3	0.9	28	---	---	---	---
s112-s	0.15	510	57	0.52	---	---
s112-1	0.3	210	26	ND	---	---
s112-2	0.6	53	7.1	ND	---	---
s112-3	0.9	130	8	0.5	---	---



Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N8-S	0.15	2000	---	---	5.2	---
N8-0.3	0.3	280	19	3.2	---	---
N8-0.6	0.6	23	---	---	---	---
N8-0.9	0.9	8.8	---	---	---	8.29
N9-S	0.15	1200	---	---	2.7	---
N9-0.3	0.3	800	47	10	---	---
N9-0.6	0.6	11	---	---	---	---
N9-0.9	0.9	24	---	---	---	---
N10-S	0.15	630	50	5.6	---	---

BORING LOCATION MAP
 ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

GEOCON	CONSULTANTS INCORPORATED 6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974 PHONE 858-558-6100 - FAX 858-558-8437	PROJECT NO 09100-06-49 FIGURE 2, PLATE 4 DATE: 09-19-2002
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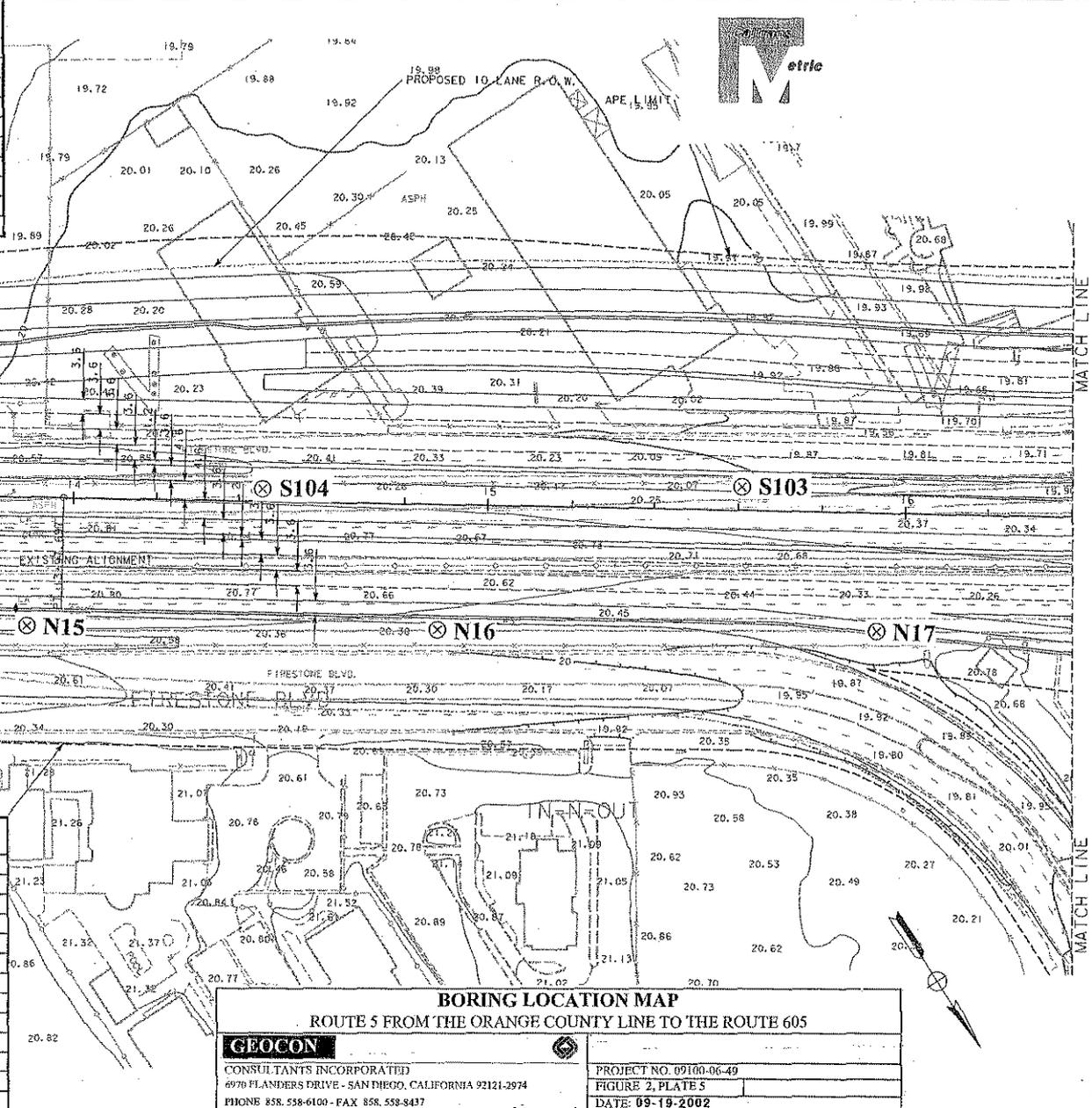
MATCH LINE

MATCH LINE

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 PROJECT ENGINEER
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 DATE REVISIED
 DATE REVISIED

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s103-s	0.15	1900	---	---	14	---
s103-1	0.3	330	14	0.61	---	---
s103-2	0.6	81	7.1	0.38	---	---
s104-s	0.15	910	73	1.8	---	---
s104-1	0.3	1000	---	---	3	---
s104-2	0.6	170	6.2	0.21	---	---
s104-3	0.9	170	18	0.62	---	7.11
s105-s	0.15	1400	---	---	6.1	---
s105-1	0.3	2500	---	---	13	---
s105-2	0.6	180	23	1.6	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP (mg/l)	pH
N14-S	0.15	540	45	0.99	---	---
N14-0.3	0.3	1100	---	---	5.1	---
N15-S	0.15	500	42	2.6	---	---
N15-0.3	0.3	160	9.8	2.4	---	---
N15-0.6	0.6	ND	---	---	---	---
N15-0.9	0.9	8.2	---	---	---	8.01
N16-S	0.15	600	65	0.68	---	6.7
N16-0.3	0.3	300	24	0.52	---	---
N16-0.6	0.6	20	---	---	---	---
N16-0.9	0.9	11	---	---	---	---
N17-S	0.15	720	79	1.1	---	---
N17-0.3	0.3	540	59	0.81	---	---
N17-0.6	0.6	190	14	0.22	---	---

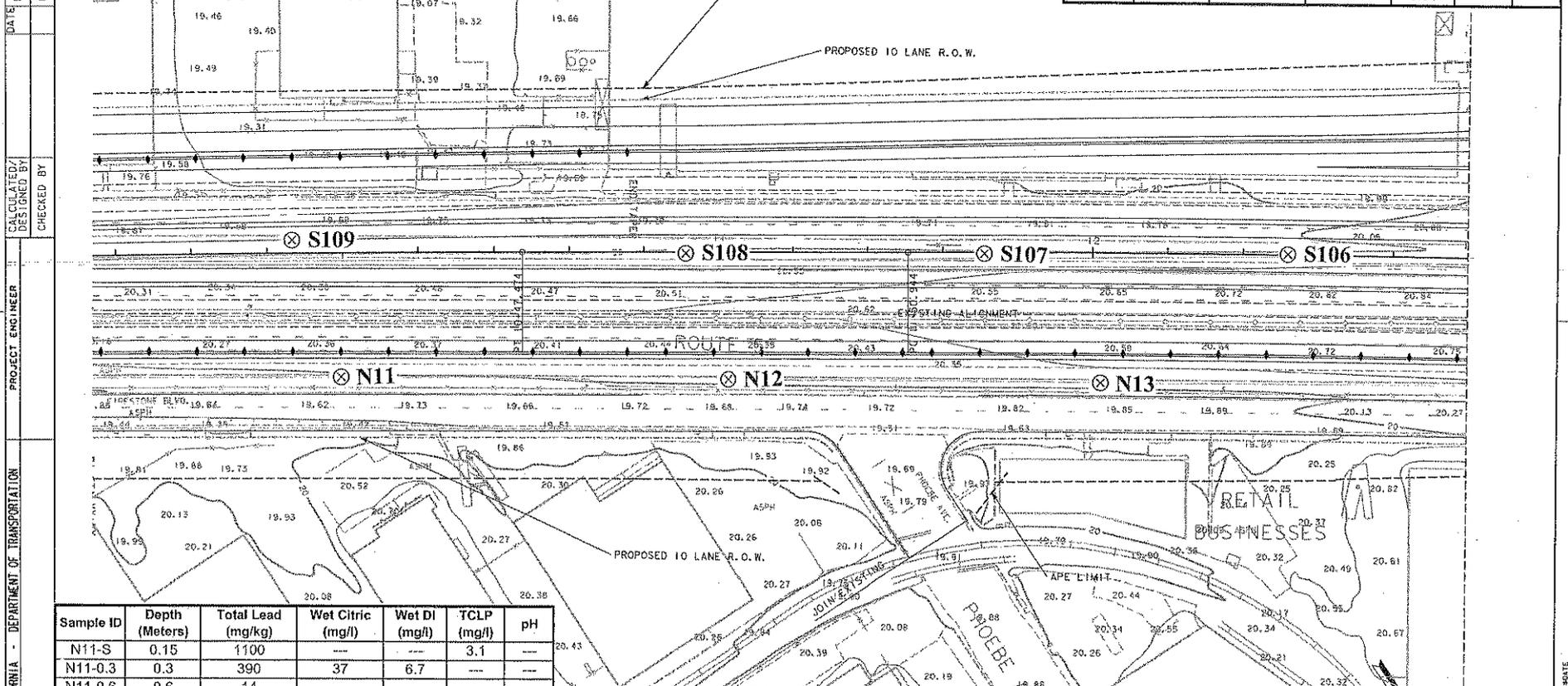


BORING LOCATION MAP
 ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

GEOCON	PROJECT NO. 09100-06-49
CONSULTANTS INCORPORATED 6976 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974	FIGURE 2, PLATE 5
PHONE 858.558-6100 - FAX 858.558-8437	DATE: 09-19-2002

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s106-s	0.15	730	72	2.1	---	---
s106-1	0.3	2300	---	---	18	---
s106-2	0.6	240	26	2.9	---	---
s106-3	0.9	390	32	3.1	---	---
s107-s	0.15	320	29	0.43	---	---
s107-1	0.3	240	14	0.24	---	---
s107-2	0.6	290	17	1.4	---	7.67
s107-3	0.9	180	16	1.1	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s108-s	0.15	590	43	0.73	---	---
s108-1	0.3	150	19	0.25	---	---
s108-2	0.6	320	23	1.6	---	---
s108-3	0.9	74	7.1	0.51	---	---
s109-s	0.15	560	51	0.55	---	6.57
s109-1	0.3	850	110	4.4	---	---
s109-2	0.6	230	21	1.5	---	---
s109-3	0.9	110	7.6	0.51	---	---



Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP (mg/l)	pH
N11-S	0.15	1100	---	---	3.1	---
N11-0.3	0.3	390	37	6.7	---	---
N11-0.6	0.6	14	---	---	---	---
N11-0.9	0.9	5.9	---	---	---	---
N12-S	0.15	840	57	8.9	---	6.83
N12-0.3	0.3	610	46	11	---	---
N12-0.6	0.6	300	22	8.1	---	---
N13-S	0.15	1600	---	---	3.9	---
N13-0.3	0.3	280	13	ND	---	---

BORING LOCATION MAP
 ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

GEOCON
 CONSULTANTS INCORPORATED
 6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974
 PHONE 858.558-6100 - FAX 858.558-8437

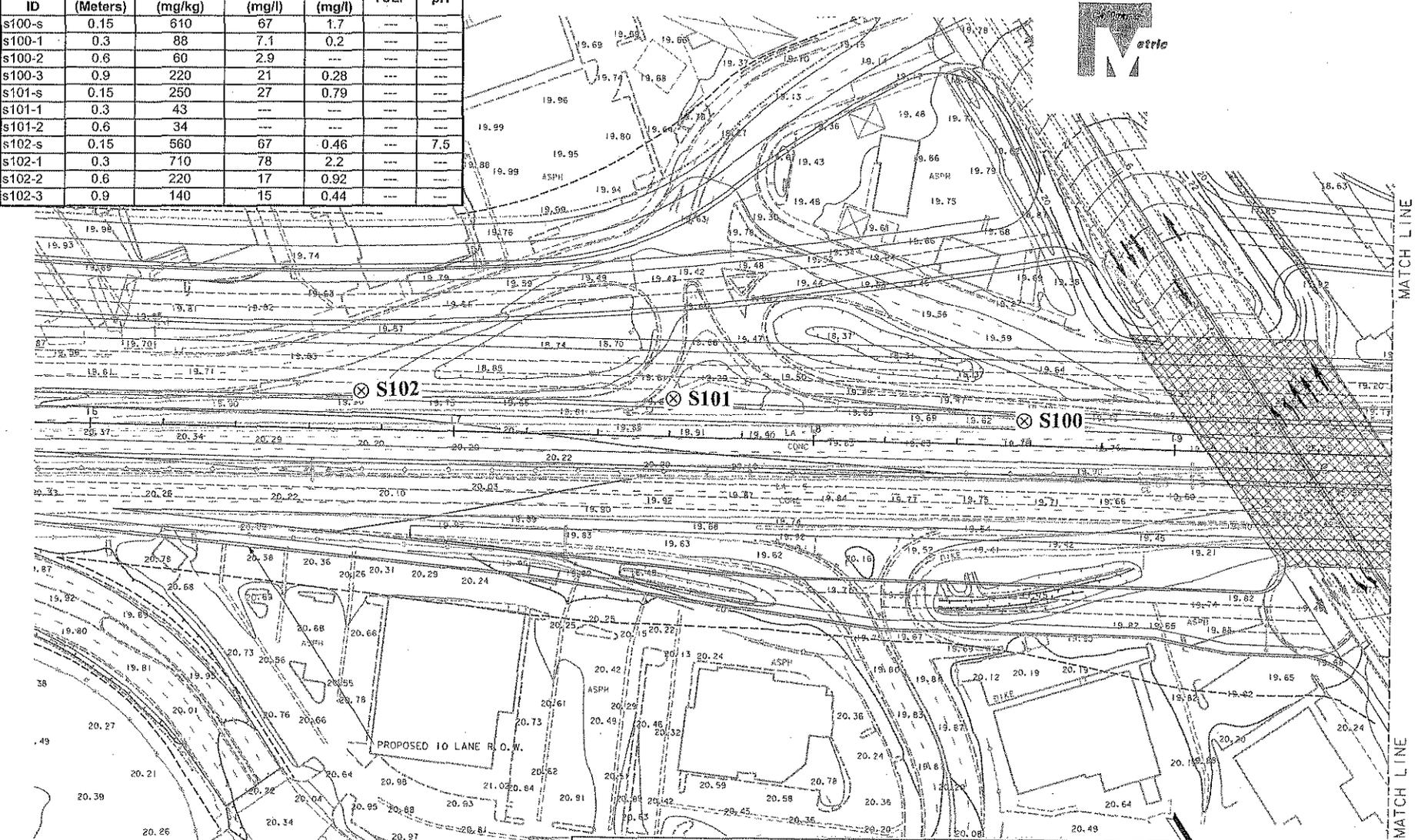
PROJECT NO. 09100-06-49
 FIGURE 2, PLATE 6
 DATE: 09-19-2002

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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 CALCULATED/ DESIGNED BY
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 DATE REVISOR
 DATE REVISOR
 DATE REVISOR

DATE PLOTTED → 09/19/2002
 TIME PLOTTED → 11:58 AM

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Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s100-s	0.15	610	67	1.7	---	---
s100-1	0.3	88	7.1	0.2	---	---
s100-2	0.6	60	2.9	---	---	---
s100-3	0.9	220	21	0.28	---	---
s101-s	0.15	250	27	0.79	---	---
s101-1	0.3	43	---	---	---	---
s101-2	0.6	34	---	---	---	---
s102-s	0.15	560	67	0.46	---	7.5
s102-1	0.3	710	78	2.2	---	---
s102-2	0.6	220	17	0.92	---	---
s102-3	0.9	140	15	0.44	---	---



BORING LOCATION MAP
 ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

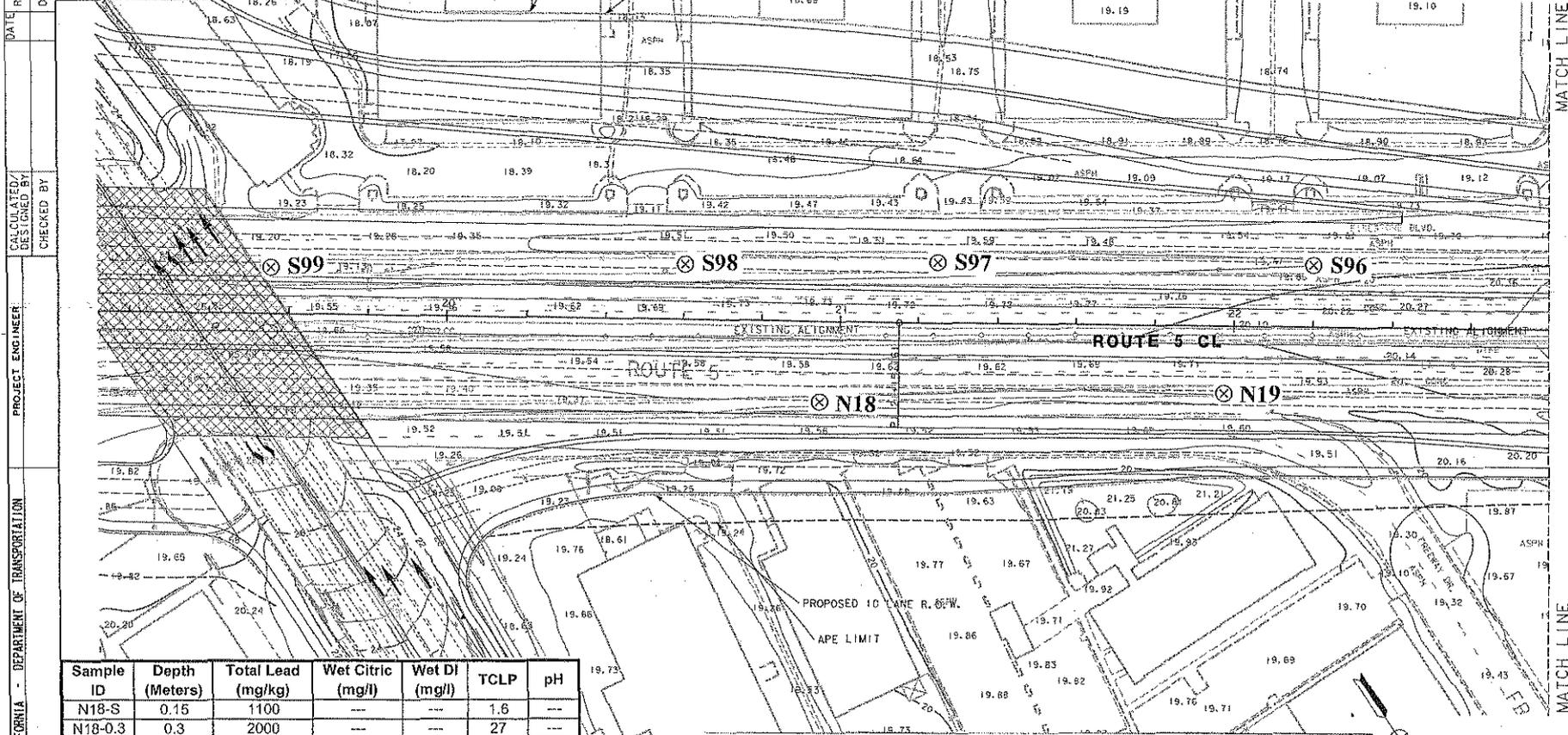
GEOCON	PROJECT NO. 09100-06-49
CONSULTANTS INCORPORATED	FIGURE 2, PLATE 7
6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974	DATE: 09-19-2002
PHONE 858-558-6100 - FAX 858-558-8437	

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DATE PLOTTED: 11/20/02
 DATE REVISION: 11/20/02

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s96-s	0.15	670	29	0.58	---	---
s96-1	0.3	19	---	---	---	---
s96-2	0.6	180	13	0.29	---	8.45
s96-3	0.9	34	---	---	---	---
s97-s	0.15	170	11	ND	---	---
s97-1	0.3	290	17	0.78	---	---
s97-2	0.6	120	12	0.31	---	---
s97-3	0.9	110	4.5	---	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s98-s	0.15	270	19	ND	---	---
s98-1	0.3	1500	---	---	4.9	---
s98-2	0.6	91	2	---	---	---
s98-3	0.9	55	3.4	---	---	---
s99-s	0.15	1900	---	---	5	6.99
s99-1	0.3	1600	---	---	5.2	---
s99-2	0.6	620	51	2.5	---	---



Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N18-S	0.15	1100	---	---	1.6	---
N18-0.3	0.3	2000	---	---	27	---
N18-0.6	0.6	110	12	1.5	---	7.92
N18-0.9	0.9	300	48	3.2	---	---
N19-S	0.15	1000	---	---	1.5	---
N19-0.3	0.3	64	5.6	ND	---	---
N19-0.6	0.6	9.9	---	---	---	---
N19-0.9	0.9	9.9	---	---	---	---

BORING LOCATION MAP
 ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

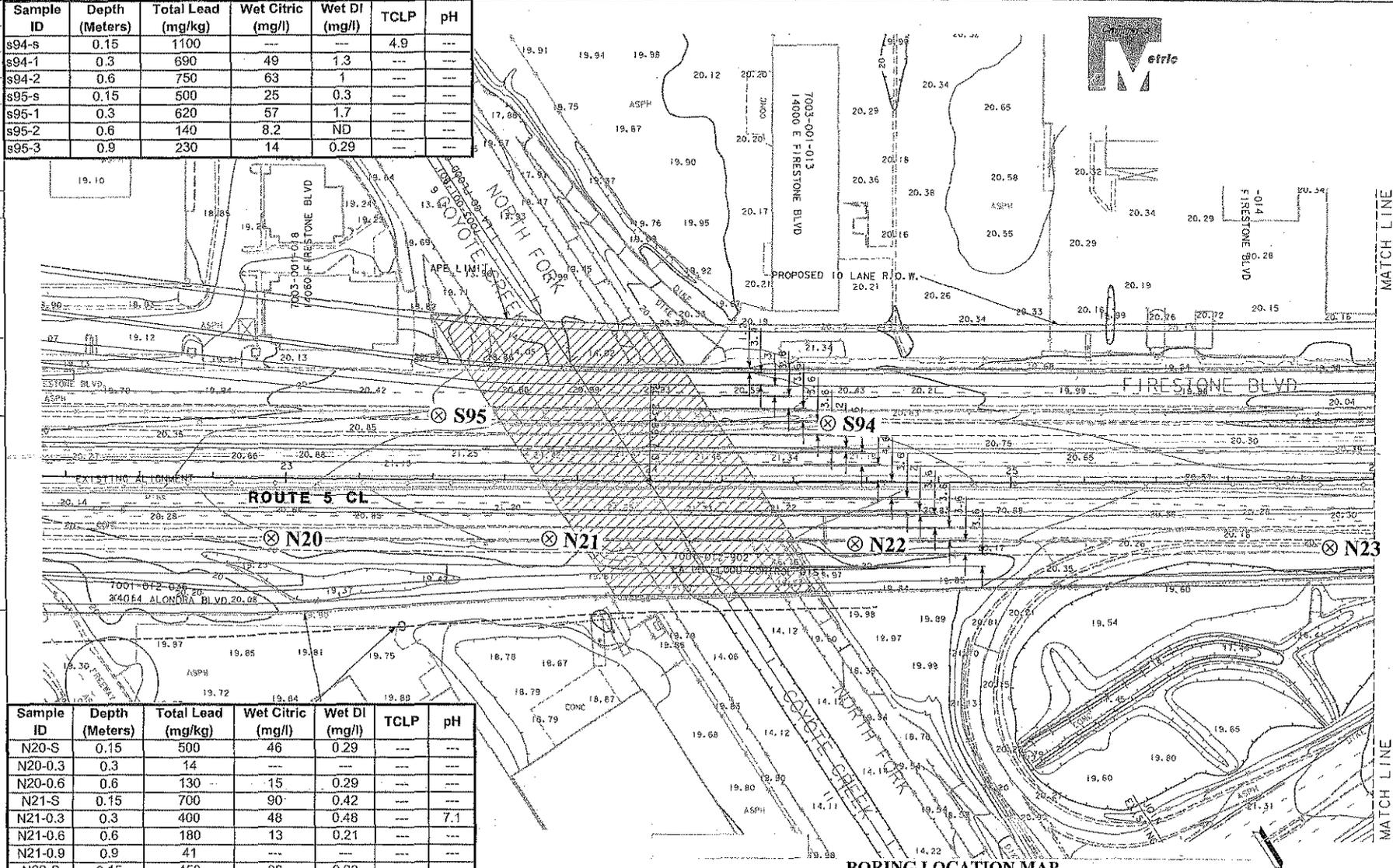
GECON CONSULTANTS INCORPORATED 6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974 PHONE 858-558-6100 - FAX 858-558-6437	PROJECT NO. 09100-06-49 FIGURE 2, PLATE 8 DATE: 09-19-2002
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Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s94-s	0.15	1100	---	---	4.9	---
s94-1	0.3	690	49	1.3	---	---
s94-2	0.6	750	63	1	---	---
s95-s	0.15	500	25	0.3	---	---
s95-1	0.3	620	57	1.7	---	---
s95-2	0.6	140	8.2	ND	---	---
s95-3	0.9	230	14	0.29	---	---

DATE REVISED BY: _____ DATE REVISED: _____
 CALCULATED/DESIGNED BY: _____ CHECKED BY: _____
 PROJECT ENGINEER: _____
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans



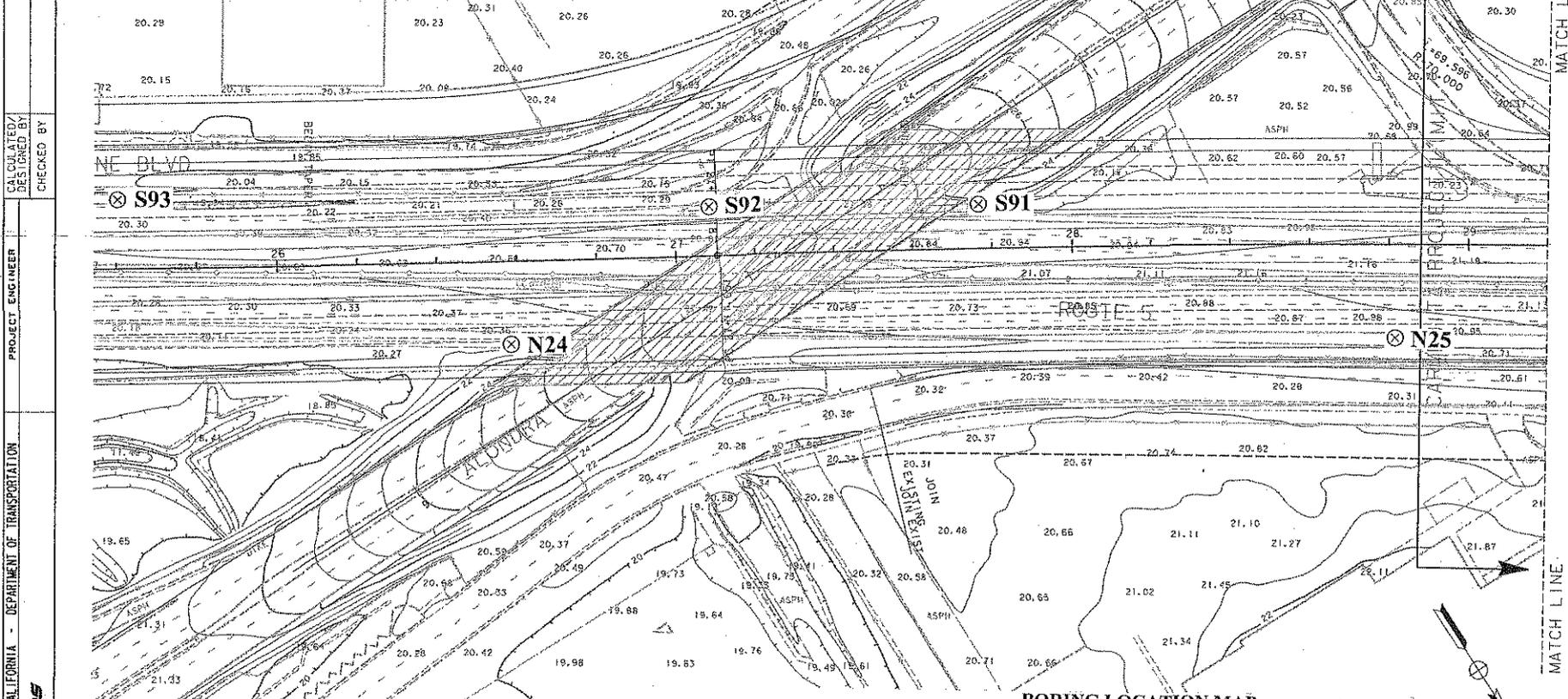
Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N20-S	0.15	500	46	0.29	---	---
N20-0.3	0.3	14	---	---	---	---
N20-0.6	0.6	130	15	0.29	---	---
N21-S	0.15	700	90	0.42	---	---
N21-0.3	0.3	400	48	0.48	---	7.1
N21-0.6	0.6	180	13	0.21	---	---
N21-0.9	0.9	41	---	---	---	---
N22-S	0.15	450	28	0.23	---	---
N22-0.3	0.3	310	36	0.79	---	---
N22-0.6	0.6	170	14	ND	---	---
N23-S	0.15	120	19	ND	---	---
N23-0.3	0.3	440	34	1.4	---	---
N23-0.6	0.6	ND	---	---	---	---

BORING LOCATION MAP
 ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

GEOCON
 CONSULTANTS INCORPORATED
 6979 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974
 PHONE 858-558-6100 - FAX 858-558-8437

PROJECT NO. 09100-06-49
 FIGURE 2, PLATE 9
 DATE: 09-19-2002

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP (mg/l)	pH
s91-s	0.15	530	83	0.6	---	7.56
s91-1	0.3	650	62	2.3	---	---
s91-2	0.6	48	---	---	---	---
s91-3	0.9	89	1.7	---	---	---
s92-s	0.15	410	43	1.1	---	---
s92-1	0.3	90	5.8	0.29	---	---
s92-2	0.6	250	28	1.8	---	---
s92-3	0.9	360	29	1.6	---	---
s93-s	0.15	940	43	1	---	---
s93-1	0.3	870	95	3.1	---	---
s93-2	0.6	69	5.5	ND	---	7.86



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Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP (mg/l)	pH
N24-S	0.15	190	24	ND	---	---
N25-S	0.15	1000	---	---	3.1	7.13
N25-0.3	0.3	810	100	3.6	---	---

BORING LOCATION MAP
 ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

GEOCON
 CONSULTANTS INCORPORATED
 6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-3974
 PHONE 858.558-6100 - FAX 858.558-8437

PROJECT NO. 09100-06-49
FIGURE 2, PLATE 10
DATE: 09-19-2002

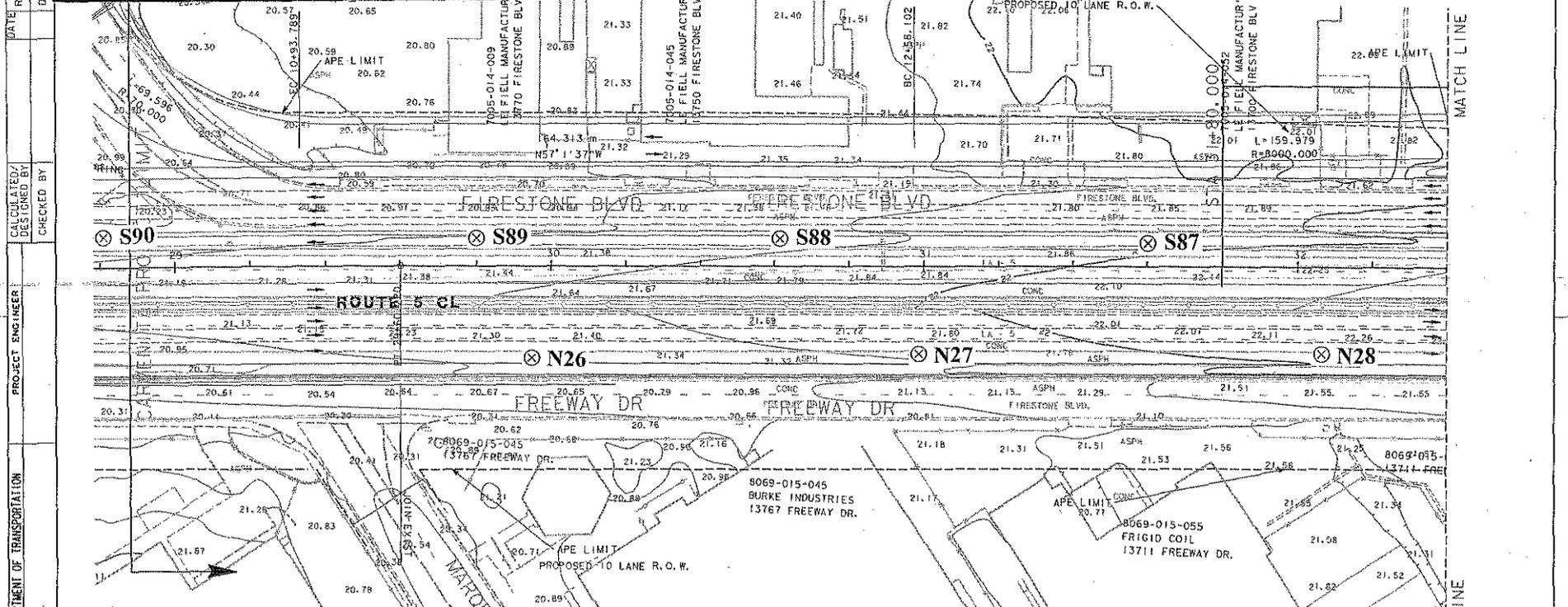
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DATE PLOTTED: 09-25-02
 TIME PLOTTED: 2:58 PM

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s87-s	0.15	1000	---	---	1.4	---
s87-1	0.3	390	35	0.83	---	---
s87-2	0.6	100	4.4	---	---	---
s87-3	0.9	22	---	---	---	---
s88-s	0.15	1100	---	---	5.4	---
s88-1	0.3	1100	---	---	3.3	---
s88-2	0.6	1100	---	---	0.43	7.44
s88-3	0.9	550	54	1.4	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s89-s	0.15	270	50	ND	---	---
s89-1	0.3	560	62	5	---	---
s89-2	0.6	47	---	---	---	---
s89-3	0.9	100	6.6	0.37	---	---
s90-s	0.15	240	16	0.2	---	---
s90-1	0.3	100	7.9	ND	---	---
s90-2	0.6	1500	---	---	4.8	---
s90-3	0.9	120	12	0.85	---	---



Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N26-S	0.15	430	47	0.36	---	---
N26-0.3	0.3	40	---	---	---	---
N27-S	0.15	180	20	ND	---	---
N27-0.3	0.3	280	27	1.5	---	---
N27-0.6	0.6	140	12	ND	---	---
N27-0.9	0.9	11	---	---	---	---
N28-S	0.15	540	67	0.37	---	---
N28-0.3	0.3	580	63	1.4	---	---
N28-0.6	0.6	100	7.5	ND	---	6.32

BORING LOCATION MAP
 ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

GEOCON
 CONSULTANTS INCORPORATED
 6970 PLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974
 PHONE 858.558-6100 - FAX 858.558-8437

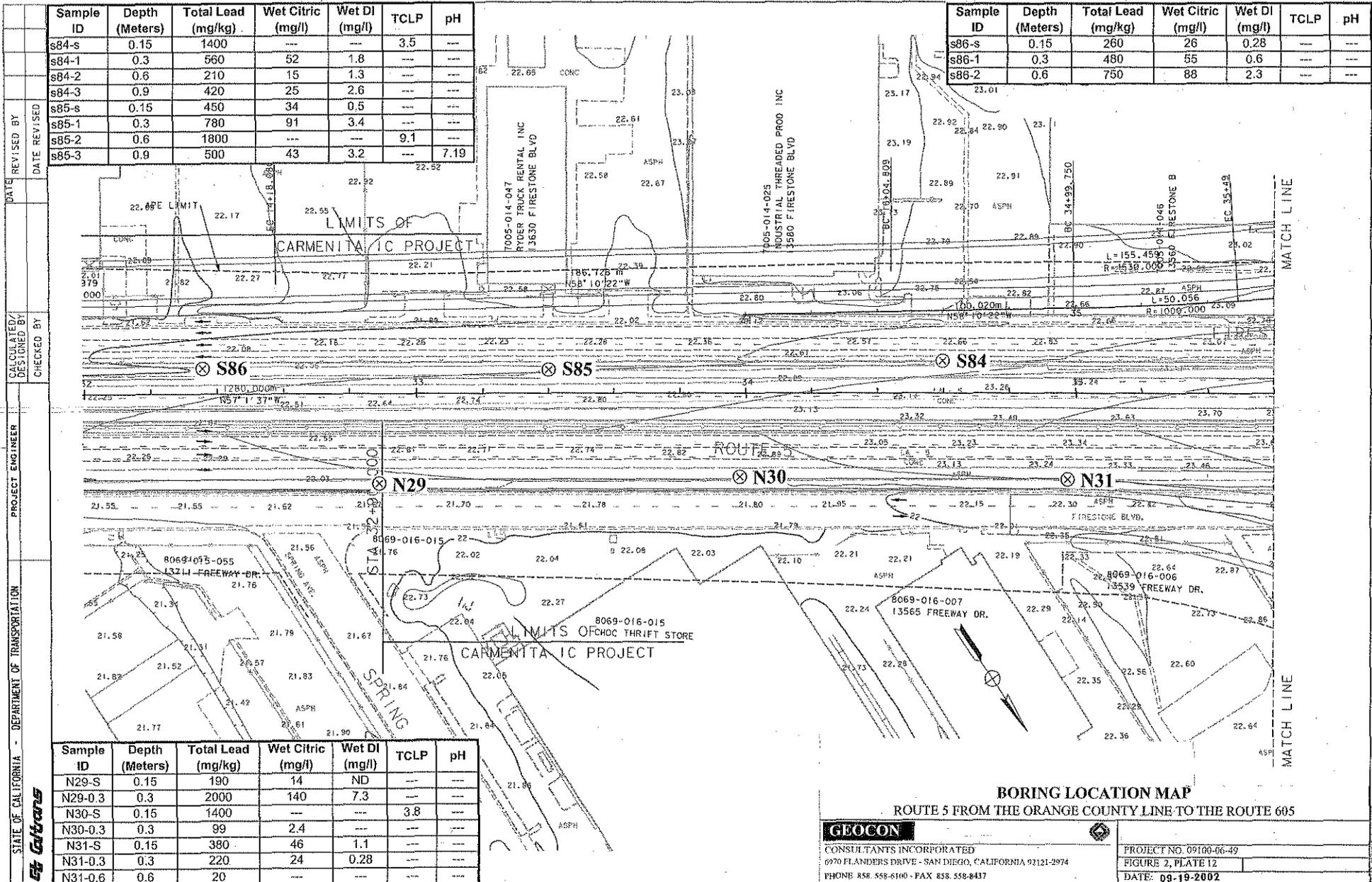
PROJECT NO. 09100-06-40
 FIGURE 2, PLATE II
 DATE: 09-19-2002

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 PROJECT ENGINEER
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 DATE PLOTTED: 09-19-2002
 TIME PLOTTED: 2:37 PM

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
S84-s	0.15	1400	---	---	3.5	---
S84-1	0.3	560	52	1.8	---	---
S84-2	0.6	210	15	1.3	---	---
S84-3	0.9	420	25	2.6	---	---
S85-s	0.15	450	34	0.5	---	---
S85-1	0.3	780	91	3.4	---	---
S85-2	0.6	1800	---	---	9.1	---
S85-3	0.9	500	43	3.2	---	7.19

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
S86-s	0.15	260	26	0.28	---	---
S86-1	0.3	480	55	0.6	---	---
S86-2	0.6	750	88	2.3	---	---



Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N29-S	0.15	190	14	ND	---	---
N29-0.3	0.3	2000	140	7.3	---	---
N30-S	0.15	1400	---	---	3.8	---
N30-0.3	0.3	99	2.4	---	---	---
N31-S	0.15	380	46	1.1	---	---
N31-0.3	0.3	220	24	0.28	---	---
N31-0.6	0.6	20	---	---	---	---

BORING LOCATION MAP
 ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

GEOCON
 CONSULTANTS INCORPORATED
 6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974
 PHONE 858. 558-6100 - FAX 858. 558-8437

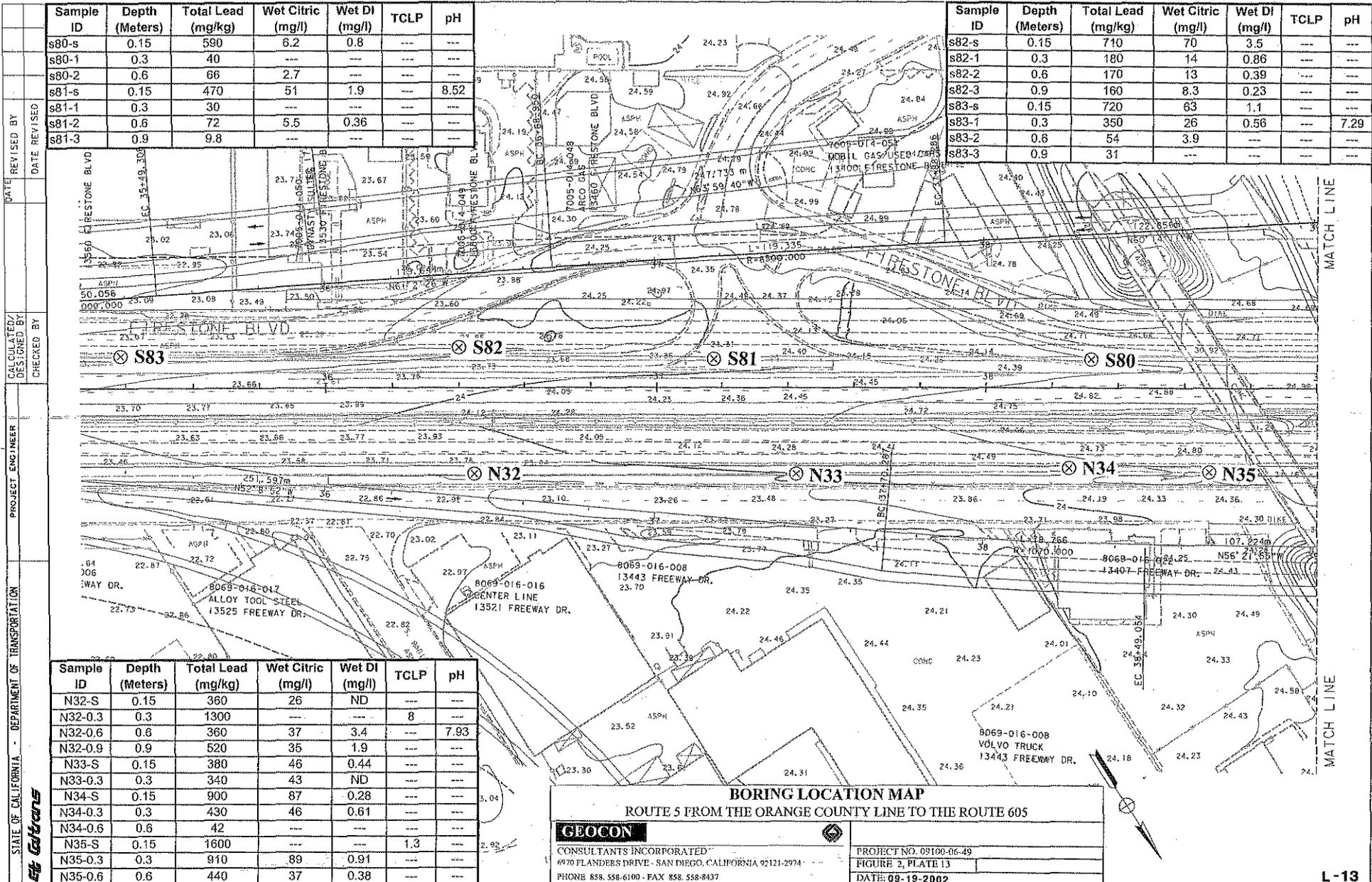
PROJECT NO. 09100-06-49
 FIGURE 2, PLATE 12
 DATE: 09-19-2002

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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 REVISOR

DATE PLOTTED: 07-25-02
 TIME PLOTTED: 3:31 PM

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s80-s	0.15	590	6.2	0.8	---	---
s80-1	0.3	40	---	---	---	---
s80-2	0.6	66	2.7	---	---	---
s81-s	0.15	470	51	1.9	---	8.52
s81-1	0.3	30	---	---	---	---
s81-2	0.6	72	5.5	0.36	---	---
s81-3	0.9	9.8	---	---	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s82-s	0.15	710	70	3.5	---	---
s82-1	0.3	180	14	0.86	---	---
s82-2	0.6	170	13	0.39	---	---
s82-3	0.9	160	8.3	0.23	---	---
s83-s	0.15	720	63	1.1	---	---
s83-1	0.3	350	26	0.56	---	7.29
s83-2	0.6	54	3.9	---	---	---
s83-3	0.9	31	---	---	---	---



DATE REVISED BY: _____ DATE REVISED BY: _____
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 PROJECT ENGINEER: _____
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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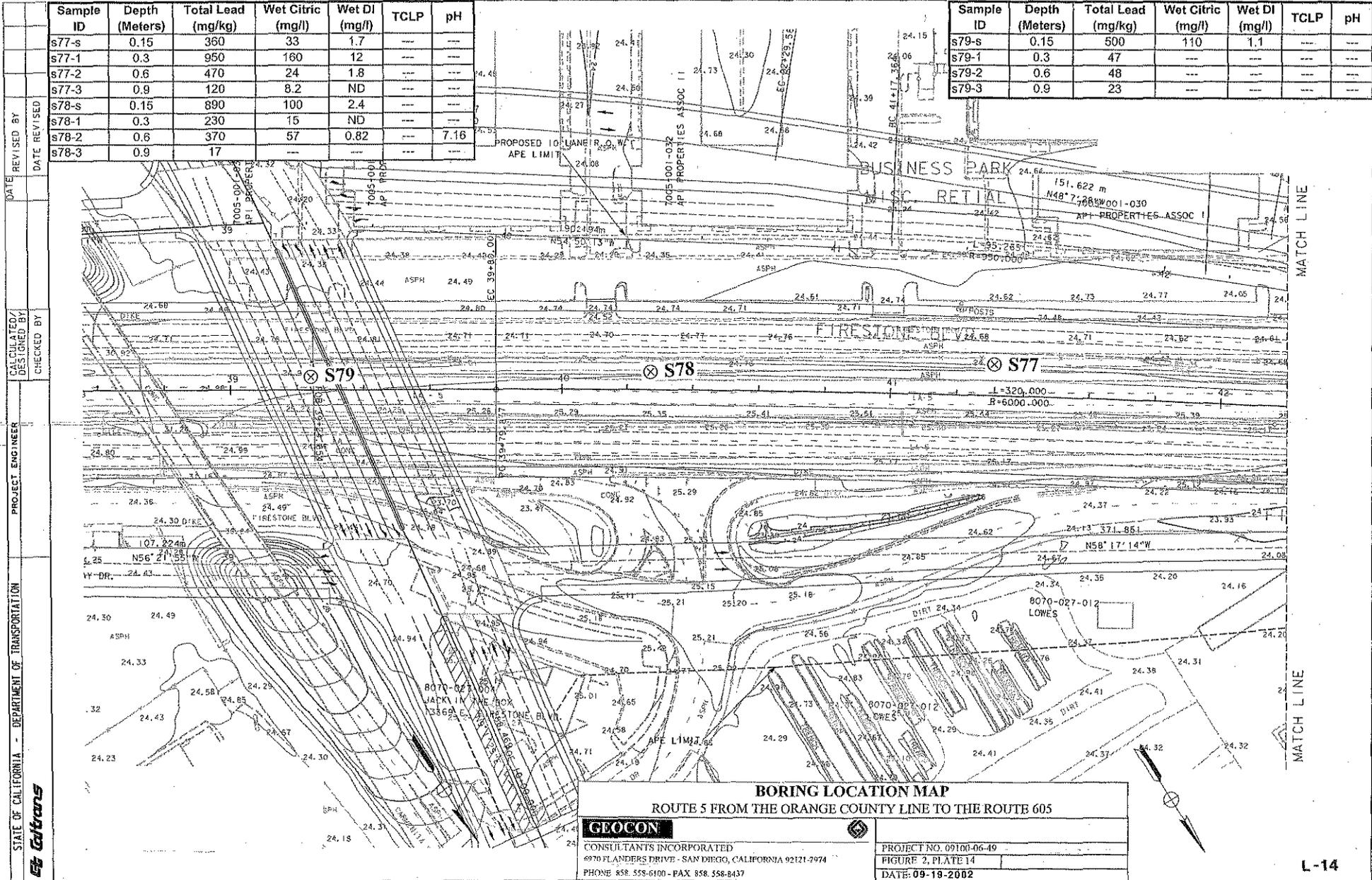
Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N32-S	0.15	360	26	ND	---	---
N32-0.3	0.3	1300	---	---	8	---
N32-0.6	0.6	360	37	3.4	---	7.93
N32-0.9	0.9	520	35	1.9	---	---
N33-S	0.15	380	46	0.44	---	---
N33-0.3	0.3	340	43	ND	---	---
N34-S	0.15	900	87	0.28	---	---
N34-0.3	0.3	430	46	0.61	---	---
N34-0.6	0.6	42	---	---	---	---
N35-S	0.15	1600	---	---	1.3	---
N35-0.3	0.3	910	89	0.91	---	---
N35-0.6	0.6	440	37	0.38	---	---

BORING LOCATION MAP
 ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

GEOCON CONSULTANTS INCORPORATED 6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974 PHONE 858.558-6100 - FAX 858.558-8437	PROJECT NO. 09100-06-49 FIGURE 2, PLATE 13 DATE: 09-19-2002
--	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s77-s	0.15	360	33	1.7	---	---
s77-1	0.3	950	160	12	---	---
s77-2	0.6	470	24	1.8	---	---
s77-3	0.9	120	8.2	ND	---	---
s78-s	0.15	890	100	2.4	---	---
s78-1	0.3	230	15	ND	---	---
s78-2	0.6	370	57	0.82	---	7.16
s78-3	0.9	17	---	---	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s79-s	0.15	500	110	1.1	---	---
s79-1	0.3	47	---	---	---	---
s79-2	0.6	48	---	---	---	---
s79-3	0.9	23	---	---	---	---



BORING LOCATION MAP
ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

<p>GEOCON CONSULTANTS INCORPORATED 6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974 PHONE 858.558-6100 - FAX 858.558-8437</p>	PROJECT NO. 09100-06-49 FIGURE 2, PLATE 14 DATE: 09-19-2002
	PROJECT ENGINEER: _____ CHECKED BY: _____ CALCULATED/DESIGNED BY: _____ DATE REVISION: _____ DATE: _____
	STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

MATCH LINE

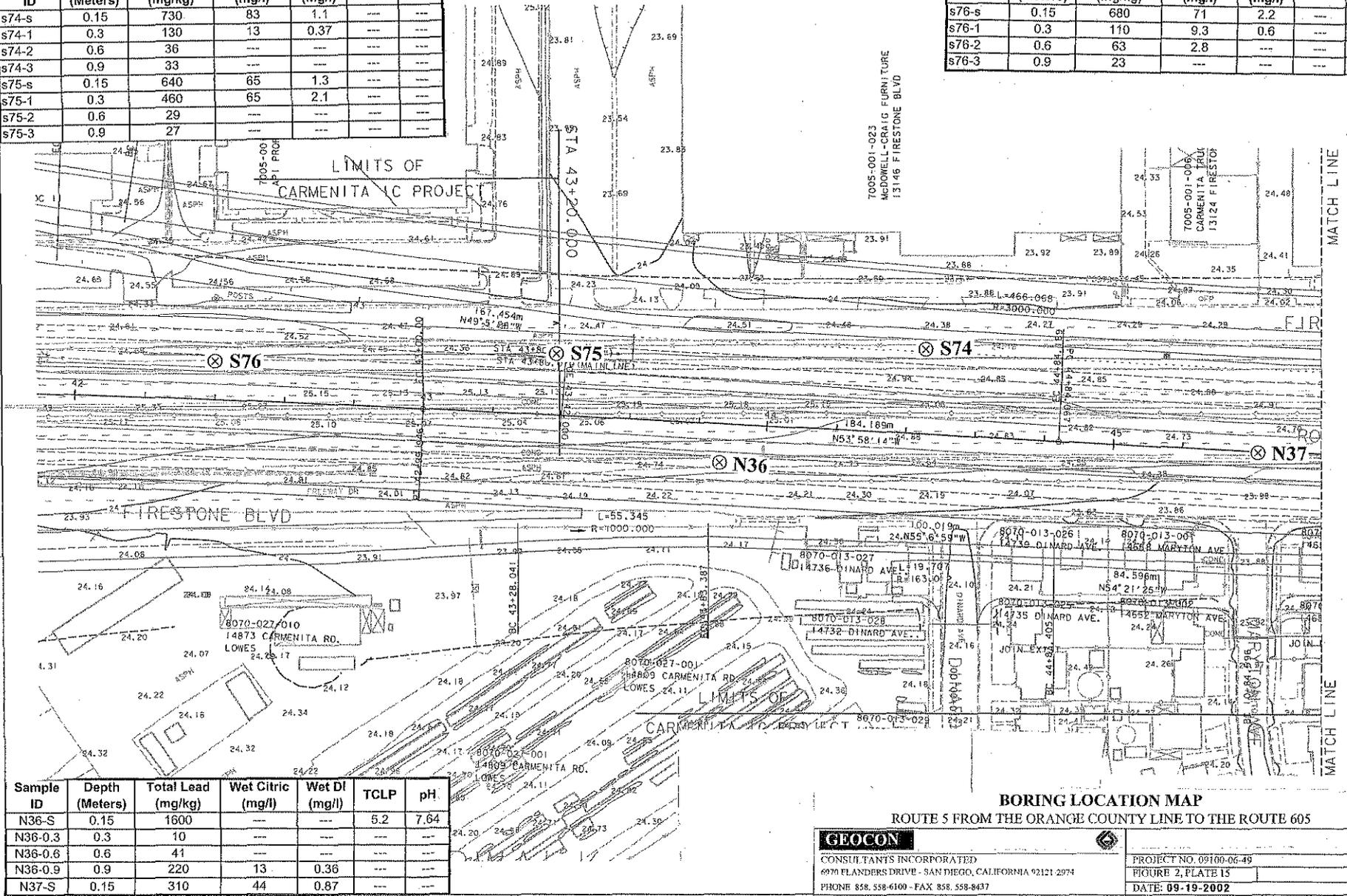
MATCH LINE

DATE PLOTTED: 07-25-2002

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Ed Gilman
 PROJECT ENGINEER
 CHECKED BY
 CALCULATED/DESIGNED BY
 DATE REVISID
 REVISID BY

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
S74-s	0.15	730	83	1.1	---	---
S74-1	0.3	130	13	0.37	---	---
S74-2	0.6	36	---	---	---	---
S74-3	0.9	33	---	---	---	---
S75-s	0.15	640	65	1.3	---	---
S75-1	0.3	460	65	2.1	---	---
S75-2	0.6	29	---	---	---	---
S75-3	0.9	27	---	---	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
S76-s	0.15	680	71	2.2	---	7.21
S76-1	0.3	110	9.3	0.6	---	---
S76-2	0.6	63	2.8	---	---	---
S76-3	0.9	23	---	---	---	---



Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N36-S	0.15	1600	---	---	5.2	7.64
N36-0.3	0.3	10	---	---	---	---
N36-0.6	0.6	41	---	---	---	---
N36-0.9	0.9	220	13	0.36	---	---
N37-S	0.15	310	44	0.87	---	---

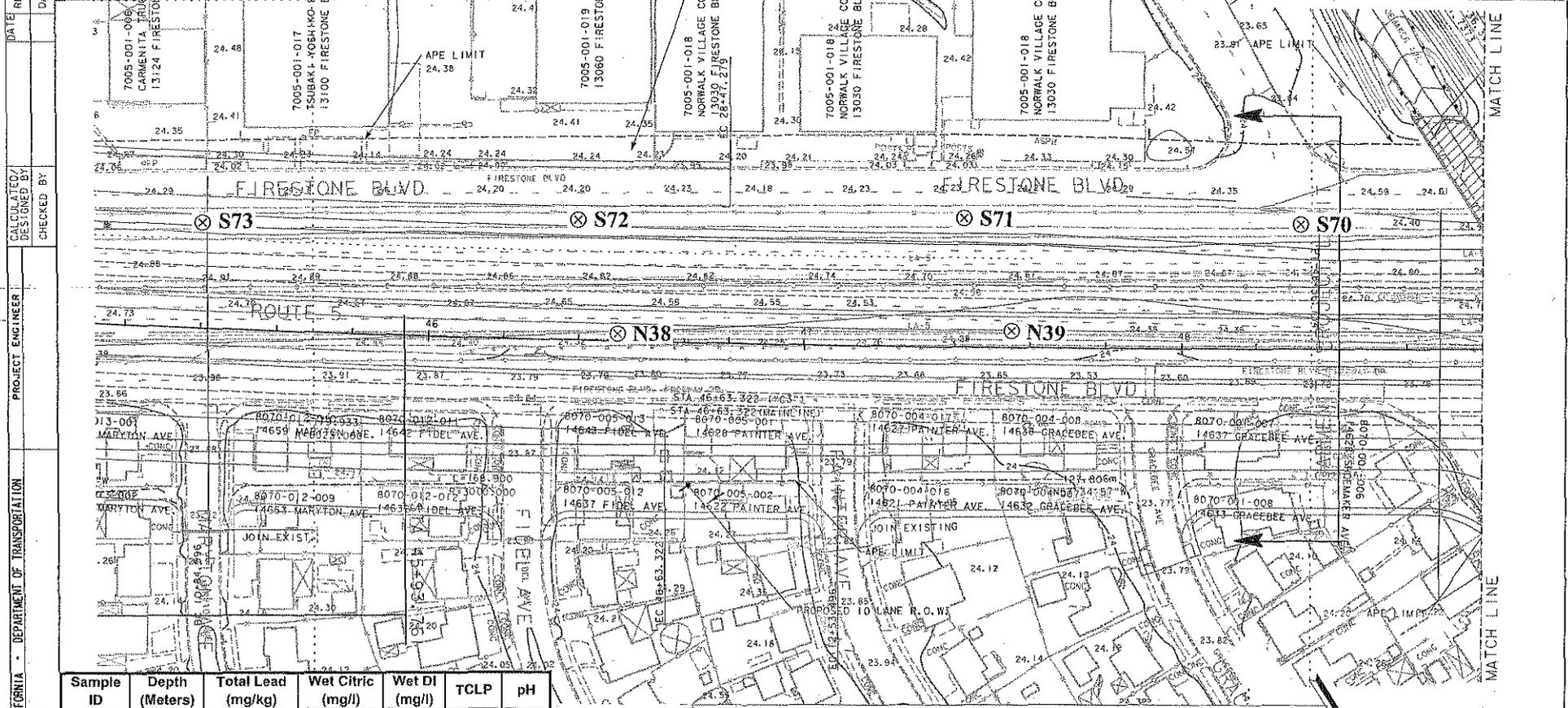
GEOCON
 CONSULTANTS INCORPORATED
 6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121 2974
 PHONE 858.558-6100 - FAX 858.558-8437

PROJECT NO. 09100-06-49
 FIGURE 2, PLATE 13
 DATE: 09-19-2002

DATE PLOTTED: 07-25-02, TIME PLOTTED: 11:52 AM

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s70-s	0.15	11	---	---	---	---
s70-1	0.3	20	---	---	---	---
s70-2	0.6	28	---	---	---	---
s70-3	0.9	97	14	ND	---	---
s71-s	0.15	140	48	0.25	---	6.7
s71-1	0.3	250	190	1.3	---	---
s71-2	0.6	320	99	1.7	---	---
s71-3	0.9	820	140	2.2	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s72-s	0.15	38	---	---	---	---
s72-1	0.3	10	---	---	---	---
s72-2	0.6	100	19	1.1	---	---
s72-3	0.9	520	66	---	---	---
s73-s	0.15	280	11	0.74	---	---
s73-1	0.3	170	82	3.5	---	---
s73-2	0.6	86	110	7.2	---	6.72
s73-3	0.9	360	58	5	---	---



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 PROJECT ENGINEER
 CHECKED BY
 DESIGNED BY
 DATE REVISIONS

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N38-S	0.15	780	52	0.44	---	6.23
N38-0.3	0.3	3800	---	---	9.7	---
N38-0.6	0.6	2000	---	---	2.1	---
N39-S	0.15	350	36	ND	---	---
N39-0.3	0.3	1700	---	---	4.3	---
N39-0.6	0.6	1100	---	---	8.8	---

BORING LOCATION MAP
 ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 60S

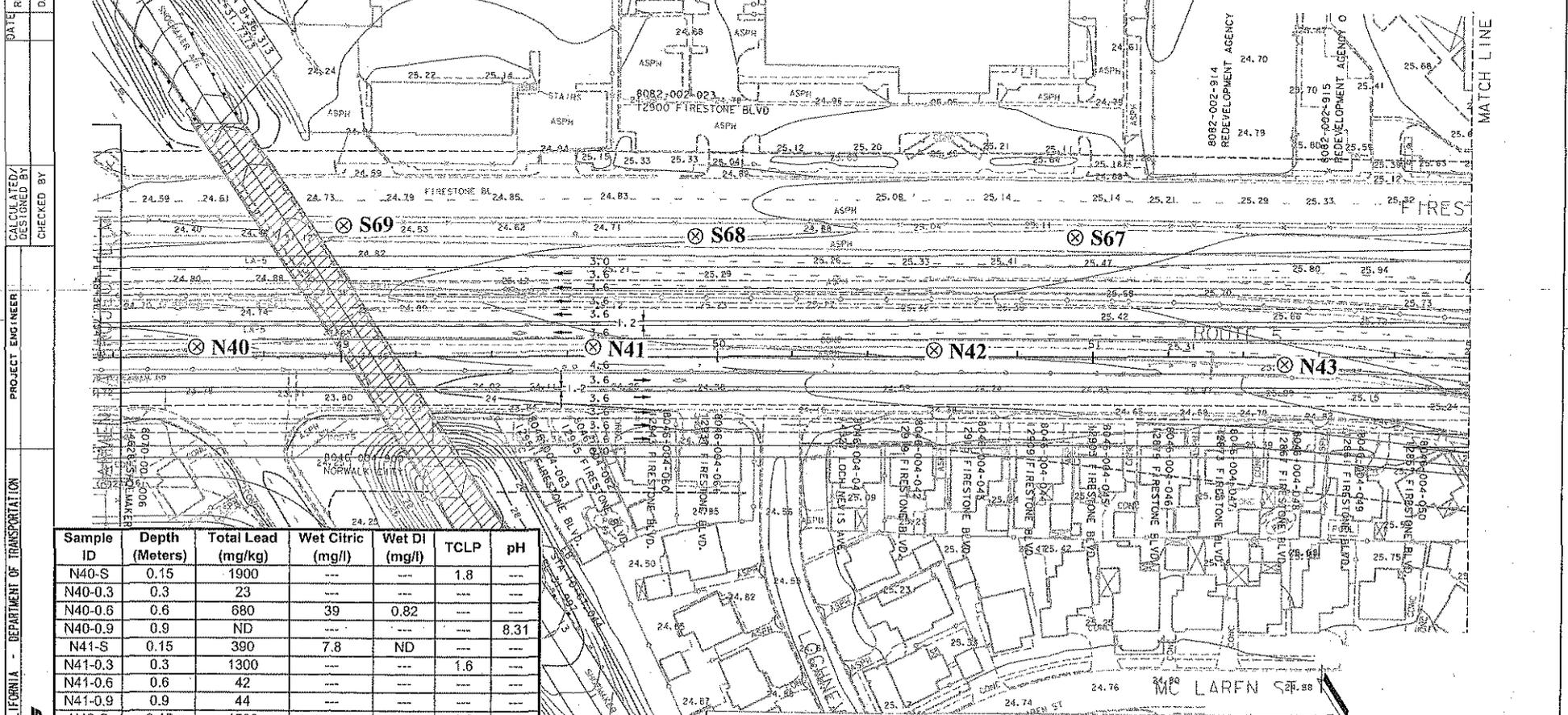
GEOCON
 CONSULTANTS INCORPORATED
 6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974
 PHONE 858.558-6100 - FAX 858.558-8437

PROJECT NO. 09100-06-49
 FIGURE 2, PLATE 16
 DATE: 09-19-2002

L-16
 DATE PLOTTED: 07-25-02
 TIME PLOTTED: 8:41 AM

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s67-s	0.15	60	75	1.2	---	---
s67-1	0.3	380	33	1.1	---	---
s67-2	0.6	80	7.5	ND	---	---
s67-3	0.9	950	1.7	---	---	---
s68-s	0.15	64	30	0.44	---	---
s68-1	0.3	70	35	0.6	---	---
s68-2	0.6	43	---	---	---	7.23
s68-3	0.9	150	2.1	---	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s69-s	0.15	48	---	---	---	---
s69-1	0.3	47	---	---	---	---
s69-2	0.6	110	17	0.41	---	---
s69-3	0.9	150	4.5	---	---	---



Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N40-S	0.15	1900	---	---	1.8	---
N40-0.3	0.3	23	---	---	---	---
N40-0.6	0.6	680	39	0.82	---	---
N40-0.9	0.9	ND	---	---	---	8.31
N41-S	0.15	390	7.8	ND	---	---
N41-0.3	0.3	1300	---	---	1.6	---
N41-0.6	0.6	42	---	---	---	---
N41-0.9	0.9	44	---	---	---	---
N42-S	0.15	1500	---	---	1.8	---
N42-0.3	0.3	890	44	2.1	---	---
N43-S	0.15	1900	---	---	3	---
N43-0.3	0.3	46	---	---	---	---
N43-0.6	0.6	46	---	---	---	---
N43-0.9	0.9	9.4	---	---	---	7.22

BORING LOCATION MAP
 ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

GEOCON
 CONSULTANTS INCORPORATED
 6970 PLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974
 PHONE 858.558-6100 - FAX 858.558-8437

PROJECT NO. 09100-06-49
 FIGURE 2, PLATE 17
 DATE: 09-19-2002

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

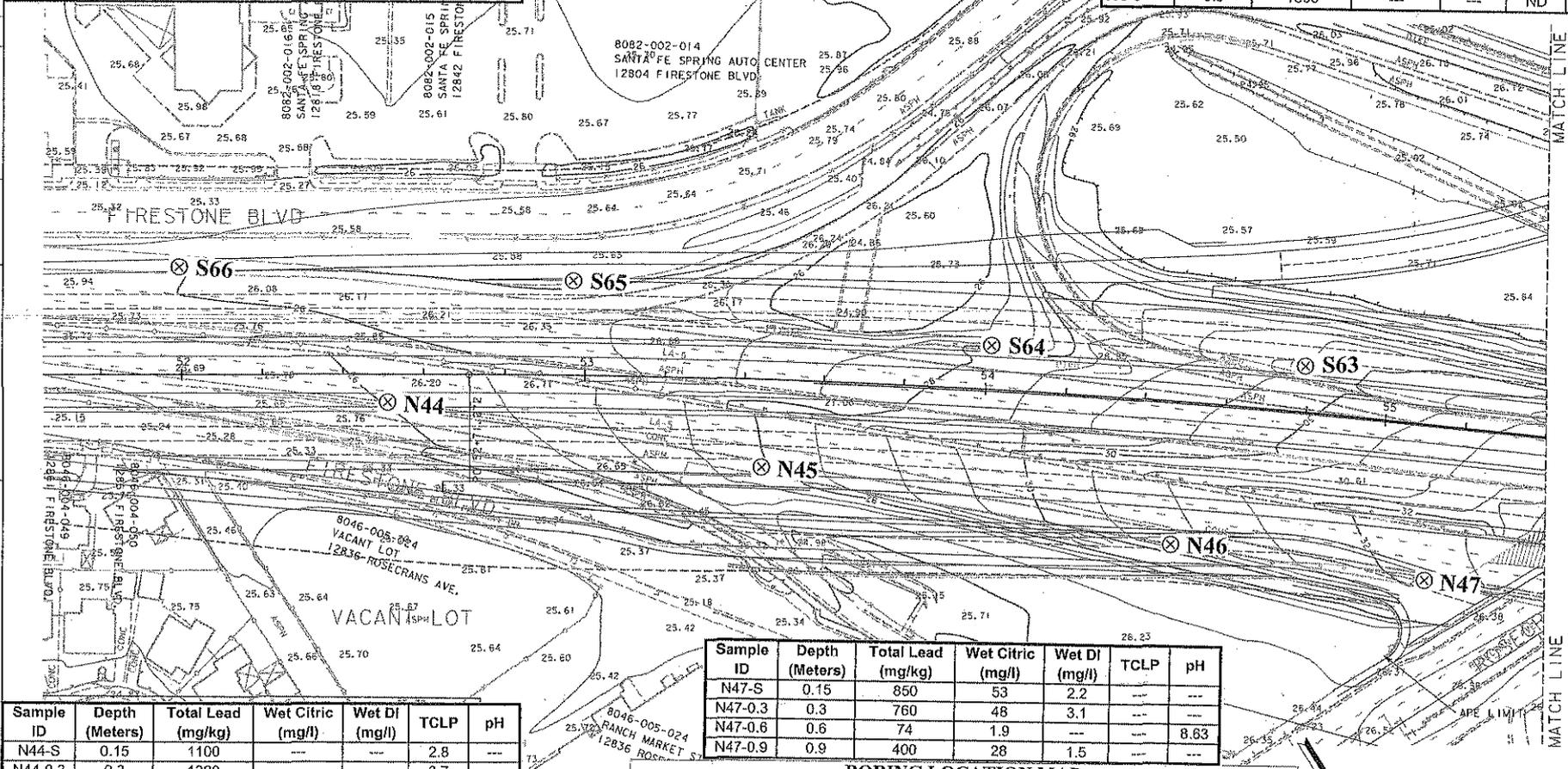
PROJECT ENGINEER
 CHECKED BY
 CALCULATED/DESIGNED BY
 DATE REVISOR
 DATE REVISOR

DATE PLOTTED: 07-25-02
 TIME PLOTTED: 2:11 PM

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
et **Cartron**
 PROJECT ENGINEER
 CHECKED BY
 CALCULATED BY
 DESIGNED BY
 DATE REVISOR
 DATE REVISOR

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s63-s	0.15	89	17	ND	---	---
s63-1	0.3	160	5.1	ND	---	---
s63-2	0.6	400	4.7	---	---	7.68
s63-3	0.9	180	8.4	ND	---	---
s64-s	0.15	46	---	---	---	---
s64-1	0.3	300	3.1	---	---	---
s64-2	0.6	370	3.3	---	---	---
s64-3	0.9	410	4.6	---	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s65-s	0.15	35	---	---	---	---
s65-1	0.3	140	3.8	---	---	---
s65-2	0.6	310	38	ND	---	---
s65-3	0.9	710	7.5	2.1	---	---
s66-s	0.15	21	---	---	---	6.2
s66-1	0.3	64	15	0.23	---	---
s66-2	0.6	240	4.7	---	---	---
s66-3	0.9	1300	---	---	ND	---



Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N44-S	0.15	1100	---	---	2.8	---
N44-0.3	0.3	1300	---	---	3.7	---
N44-0.6	0.6	200	14	ND	---	---
N45-S	0.15	2000	---	---	3	---
N45-0.3	0.3	1300	---	---	2.6	---
N46-S	0.15	1500	---	---	2.2	---
N46-0.3	0.3	490	22	0.81	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N47-S	0.15	850	53	2.2	---	---
N47-0.3	0.3	760	48	3.1	---	---
N47-0.6	0.6	74	1.9	---	---	8.63
N47-0.9	0.9	400	28	1.5	---	---

BORING LOCATION MAP
 ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

GEOCON
 CONSULTANTS INCORPORATED
 6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974
 PHONE 858.558-6100 - FAX 858.558-8437

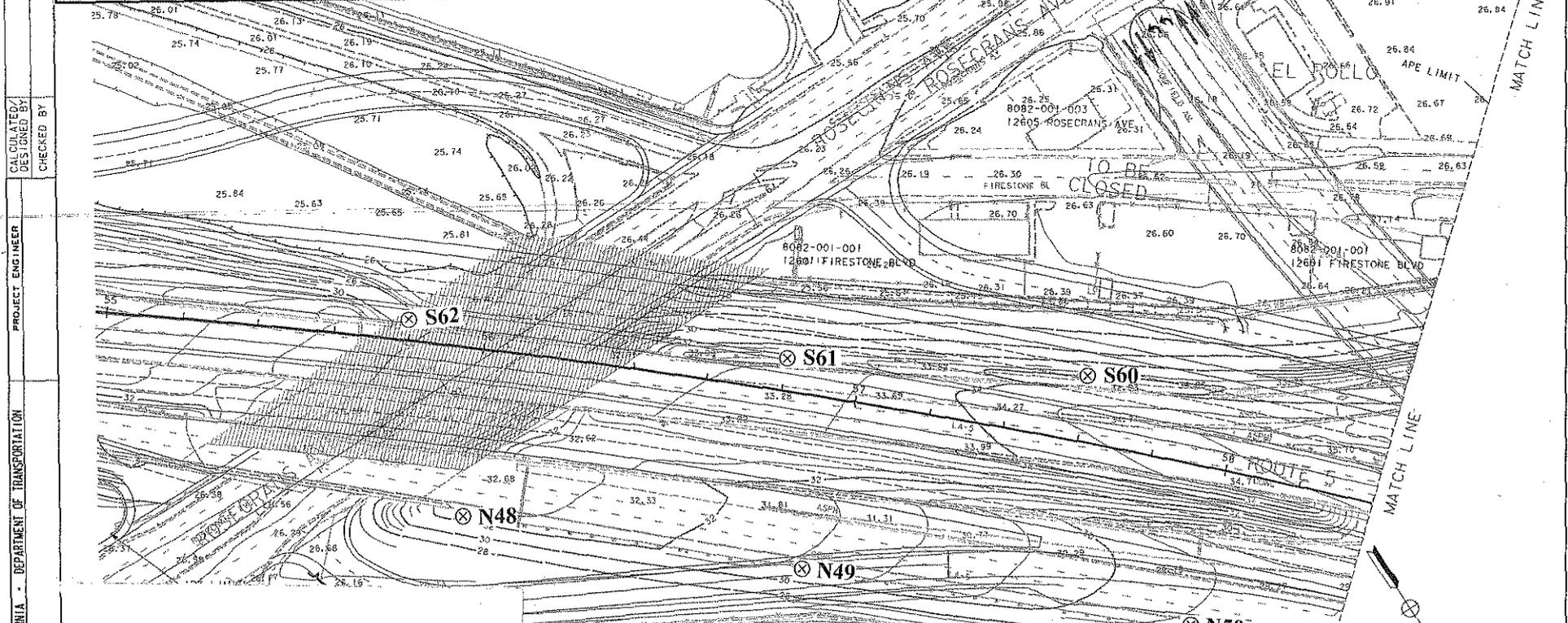
PROJECT NO. 09100-06-49
 FIGURE 2, PLATE 18
 DATE: 09-19-2002

MATCH LINE

MATCH LINE

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s60-s	0.15	62	39	0.26	---	---
s60-1	0.3	200	7.6	ND	---	---
s60-2	0.6	47	---	---	---	---
s60-3	0.9	1100	---	---	ND	---
s61-s	0.15	1200	---	---	0.84	7.19
s61-1	0.3	770	25	0.5	---	---
s61-2	0.6	1300	---	---	0.75	---
s61-3	0.9	640	13	0.35	---	---
s62-s	0.15	200	8.5	ND	---	---
s62-1	0.3	220	1.3	---	---	---
s62-2	0.6	1800	---	---	ND	---
s62-3	0.9	240	0.55	---	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N48-S	0.15	1300	---	---	1.4	---
N48-0.3	0.3	310	29	1.1	---	---
N48-0.6	0.6	180	12	0.21	---	---
N48-0.9	0.9	360	30	1.3	---	---
N49-S	0.15	810	45	2.5	---	---
N49-0.3	0.3	220	11	0.28	---	---
N49-0.6	0.6	350	20	0.37	---	---
N50-S	0.15	1200	---	---	1.3	---
N50-0.3	0.3	450	22	1	---	8.33
N50-0.6	0.6	200	19	1.1	---	---
N50-0.9	0.9	160	3.7	---	---	---



DATE REVISED BY: _____ DATE REVISED: _____
 CALCULATED/DESIGNED BY: _____ CHECKED BY: _____
 PROJECT ENGINEER: _____
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

BORING LOCATION MAP
 ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

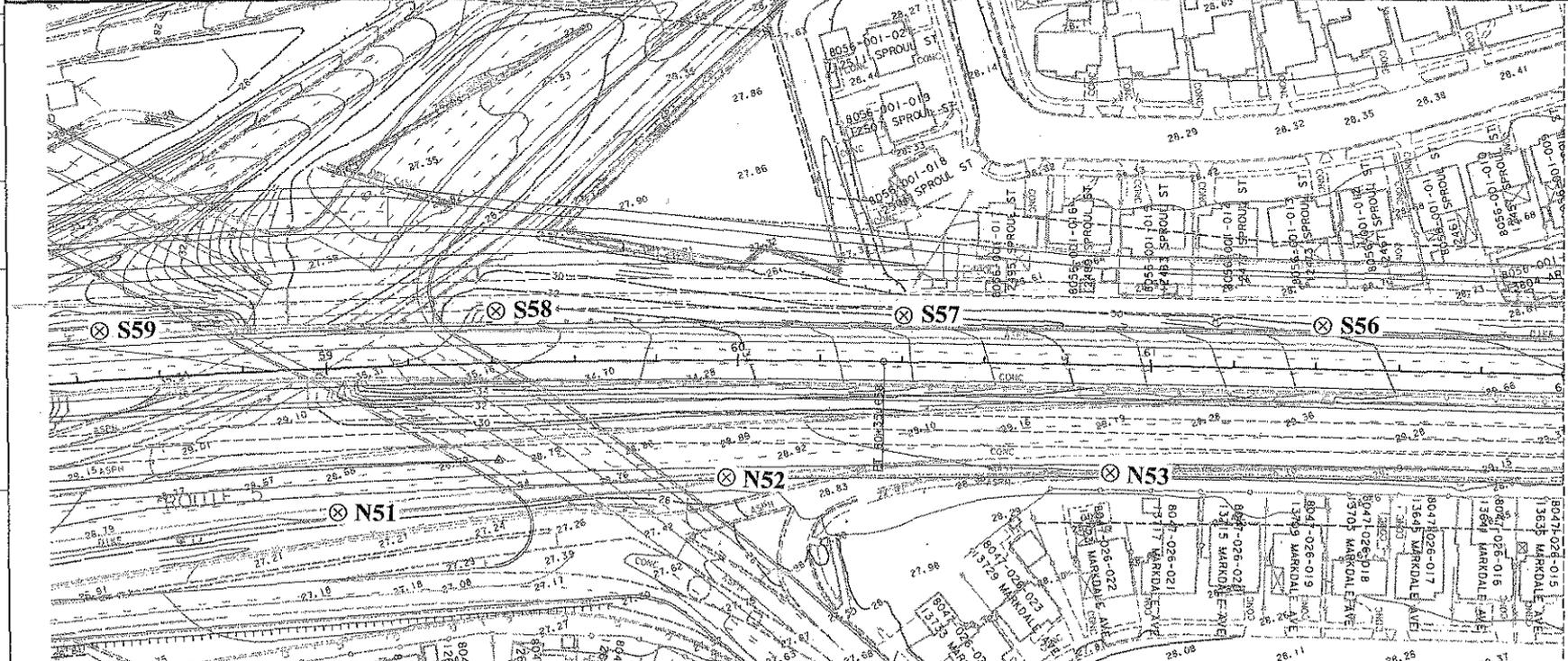
GEOCON
 CONSULTANTS INCORPORATED
 6977 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974
 PHONE 858 558-6100 - FAX 858 558-8437

PROJECT NO. 09100-06-49
 FIGURE 2, PLATE 19
 DATE: 09-19-2002

CALCULATED/DESIGNED BY: _____ DATE PLOTTED: 07-25-02
 CHECKED BY: _____ DATE PLOTTED: 07-25-02

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s56-s	0.15	2000	---	---	1.8	---
s56-1	0.3	610	45	1.1	---	---
s56-2	0.6	440	29	0.38	---	---
s56-3	0.9	73	5.3	0.25	---	---
s57-s	0.15	670	38	2.7	---	7.46
s57-1	0.3	570	11	0.69	---	---
s57-2	0.6	43	---	---	---	---
s57-3	0.9	750	40	2.5	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s58-s	0.15	1200	---	---	4.4	---
s58-1	0.3	960	46	6.6	---	---
s58-2	0.6	950	86	4.7	---	---
s58-3	0.9	150	9.1	0.77	---	---
s59-s	0.15	1000	---	---	0.87	7.68
s59-1	0.3	1300	---	---	0.43	---
s59-2	0.6	820	6.8	0.4	---	---
s59-3	0.9	570	29	0.65	---	---



Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP (mg/l)	pH
N51-S	0.15	270	18	0.35	---	---
N51-0.3	0.3	170	11	0.32	---	---
N51-0.6	0.6	120	11	0.47	---	---
N52-S	0.15	1100	---	---	1.9	---
N52-0.3	0.3	890	65	3	---	---
N52-0.6	0.6	440	38	2.3	---	---
N52-0.9	0.9	43	---	---	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N53-S	0.15	770	130	1.9	---	7.52
N53-0.3	0.3	310	34	1.1	---	---
N53-0.6	0.6	230	14	0.51	---	---

BORING LOCATION MAP
ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

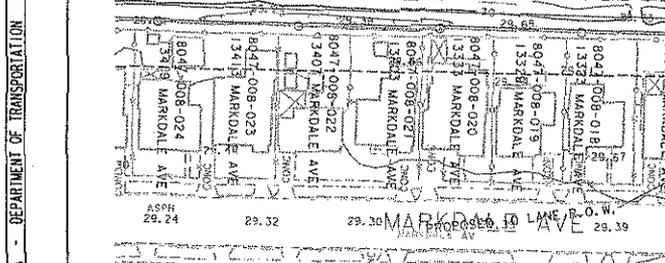
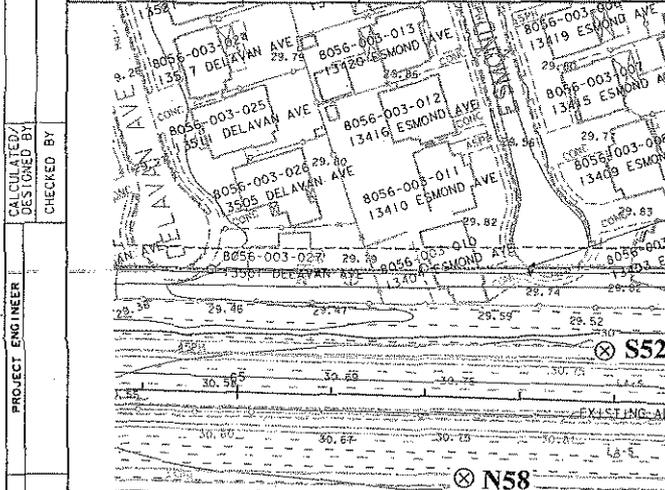
GEOCON
CONSULTANTS INCORPORATED
6976 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974
PHONE 858.558-6100 - FAX 858.558-8437

PROJECT NO. 09100-06-49
FIGURE 2, PLATE 20
DATE: 09-19-2002

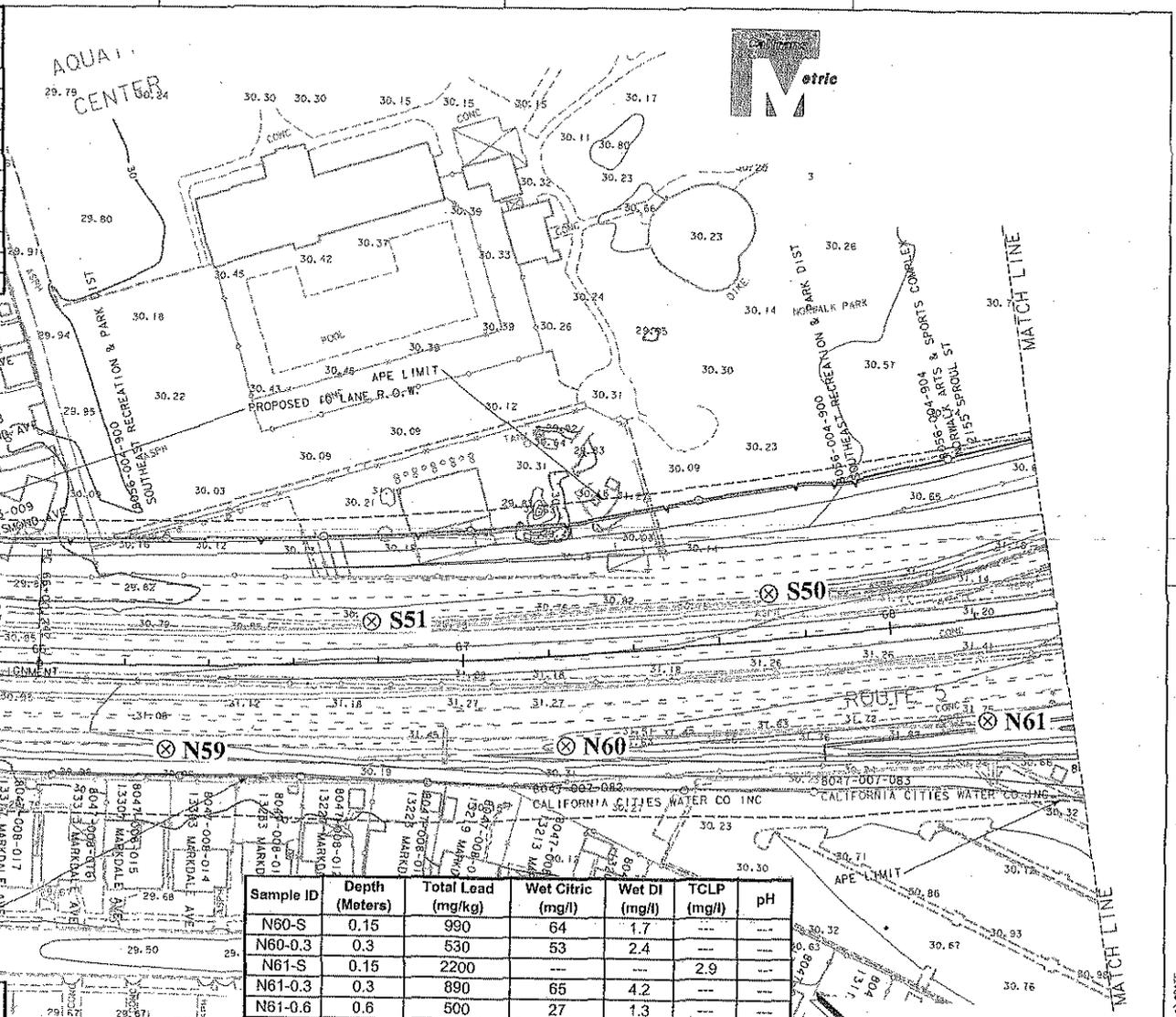
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
PROJECT ENGINEER
CALCULATED/DESIGNED BY
CHECKED BY
DATE REVISIONS BY

MATCH LINE

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s50-s	0.15	960	97	1.6	---	---
s50-1	0.3	140	17	0.52	---	---
s50-2	0.6	66	7.4	ND	---	---
s50-3	0.9	120	11	ND	---	---
s51-s	0.15	470	48	1.4	---	---
s51-1	0.3	20	---	---	---	---
s51-2	0.6	30	---	---	---	---
s51-3	0.9	8	---	---	---	8.86
s52-s	0.15	680	53	2.2	---	---
s52-1	0.3	110	13	0.4	---	---
s52-2	0.6	180	6.6	0.36	---	---
s52-3	0.9	38	---	---	---	---



Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N58-S	0.15	3400	---	---	4.6	---
N58-0.3	0.3	1300	---	---	2.6	---
N58-0.6	0.6	840	89	1.5	---	---
N59-S	0.15	1600	---	---	4.3	6.37
N59-0.3	0.3	360	51	2.6	---	---
N59-0.6	0.6	28	---	---	---	---



Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N60-S	0.15	990	64	1.7	---	---
N60-0.3	0.3	530	53	2.4	---	---
N61-S	0.15	2200	---	---	2.9	---
N61-0.3	0.3	890	65	4.2	---	---
N61-0.6	0.6	500	27	1.3	---	---

BORING LOCATION MAP
 ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

GEOCON
 CONSULTANTS INCORPORATED
 6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974
 PHONE 858.558-6100 - FAX 858.558-8437

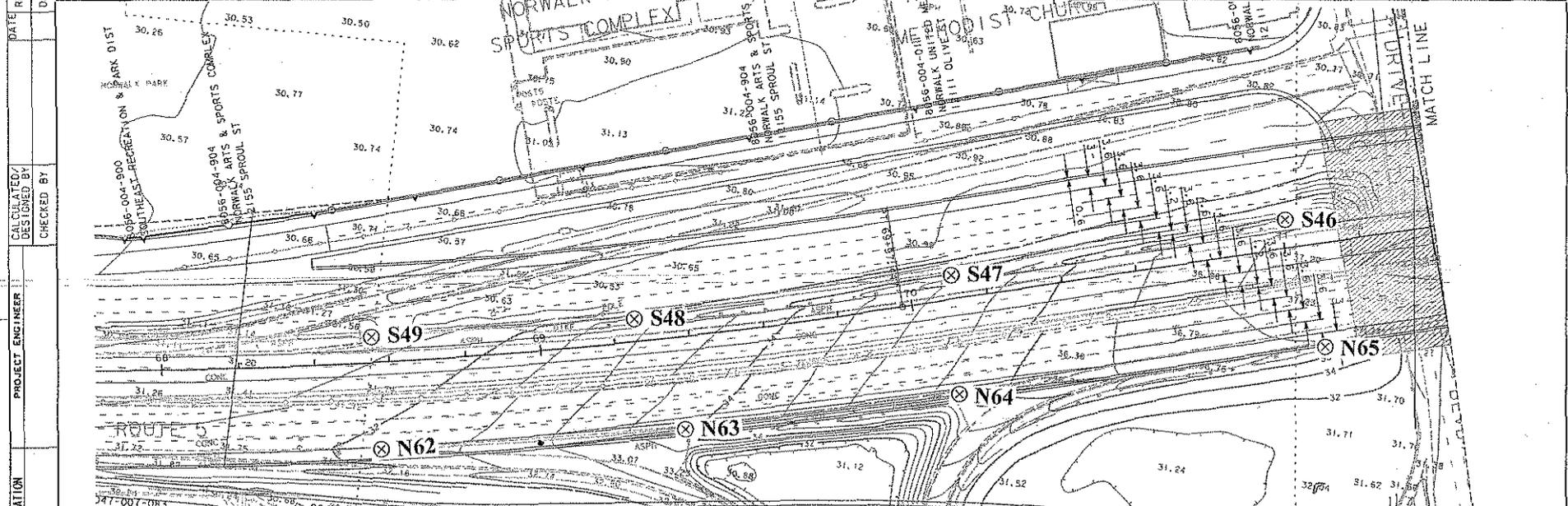
PROJECT NO. 09100-06-49
 FIGURE 2, PLATE 22
 DATE: 09-19-2002

DATE REVISIONS BY DATE REVISIONS BY
 CALCULATED BY DESIGNED BY CHECKED BY
 PROJECT ENGINEER
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Et Contractors



ALL DIMENSIONS IN METERS UNLESS OTHERWISE NOTED
 DATE PLOTTED: 09-19-2002
 TIME PLOTTED: 11:15 AM

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s46-s	0.15	1300	---	---	2.7	---
s46-1	0.3	180	24	0.69	---	---
s46-2	0.6	350	23	0.95	---	---
s46-3	0.9	92	7.6	0.22	---	8.45
s47-s	0.15	800	81	2.9	---	---
s47-1	0.3	640	50	3	---	---
s47-2	0.6	94	7.7	0.64	---	---
s47-3	0.9	110	10	0.69	---	---



Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s48-s	0.15	1100	---	---	1.9	---
s48-1	0.3	360	18	1.3	---	---
s48-2	0.6	99	5.7	0.35	---	---
s48-3	0.9	23	---	---	---	---
s49-s	0.15	310	26	ND	---	---
s49-1	0.3	18	---	---	---	7.88
s49-2	0.6	ND	---	---	---	---
s49-3	0.9	6.9	---	---	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N62-S	0.15	620	41	1.9	---	---
N62-0.3	0.3	340	26	1.1	---	---
N63-S	0.15	540	52	0.56	---	---
N63-0.3	0.3	530	34	0.96	---	---
N63-0.6	0.6	73	4.2	---	---	---
N63-0.9	0.9	190	13	0.26	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N64-S	0.15	1300	---	---	2.7	---
N64-0.3	0.3	810	66	1.9	---	---
N64-0.6	0.6	280	15	0.34	---	8.57
N64-0.9	0.9	280	30	0.74	---	---
N65-S	0.15	1000	---	---	2.9	---
N65-0.3	0.3	680	58	1.5	---	---
N65-0.6	0.6	530	36	1.3	---	---
N65-0.9	0.9	14	---	---	---	---

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

PROJECT ENGINEER: _____
 CHECKED BY: _____
 DATE: _____

GEOTCON
 CONSULTANTS INCORPORATED
 6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974
 PHONE 858.558-6100 - FAX 858.558-8437

PROJECT NO. 09100-06-49
 FIGURE 7, PLATE 13
 DATE: 09-18-2002

ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

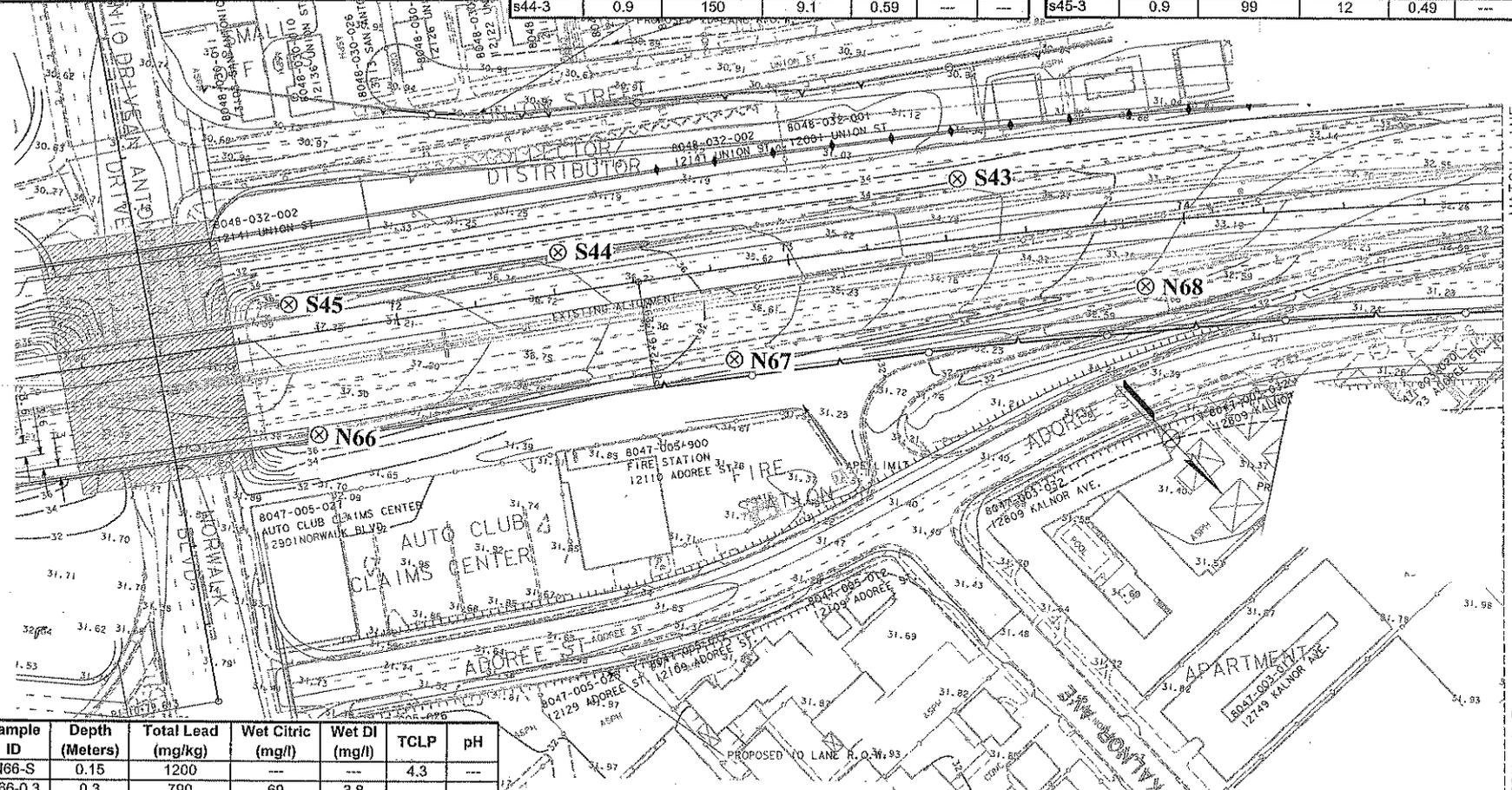
DATE PLOTTED: 09-18-2002
 TIME PLOTTED: 10:51 AM

USERNAME: 4USER

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s43-s	0.15	2800	---	---	3.8	---
s43-1	0.3	1300	---	---	5.4	---
s43-2	0.6	190	15	1	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s44-s	0.15	2000	---	---	4.2	---
s44-1	0.3	1700	---	---	4.2	6.86
s44-2	0.6	1200	---	---	4.3	---
s44-3	0.9	150	9.1	0.59	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s45-s	0.15	1600	---	---	6.3	---
s45-1	0.3	560	48	4.5	---	---
s45-2	0.6	550	50	2.6	---	---
s45-3	0.9	99	12	0.49	---	---



Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N66-S	0.15	1200	---	---	4.3	---
N66-0.3	0.3	790	69	3.8	---	---
N66-0.6	0.6	620	53	3.4	---	---
N67-S	0.15	790	85	2.4	---	---
N67-0.3	0.3	1100	---	---	5	8.61
N67-0.6	0.6	580	36	2.6	---	---
N68-S	0.15	1600	---	---	7.8	---
N68-0.3	0.3	46	---	---	---	---
N68-0.6	0.6	1100	---	---	4.4	---
N68-0.9	0.9	28	---	---	---	---

DATE REVISIONS BY DATE REVISIONS BY
 CALCULATED/DESIGNED BY CHECKED BY
 PROJECT ENGINEER
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 et Caltrans

BORING LOCATION MAP
 ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

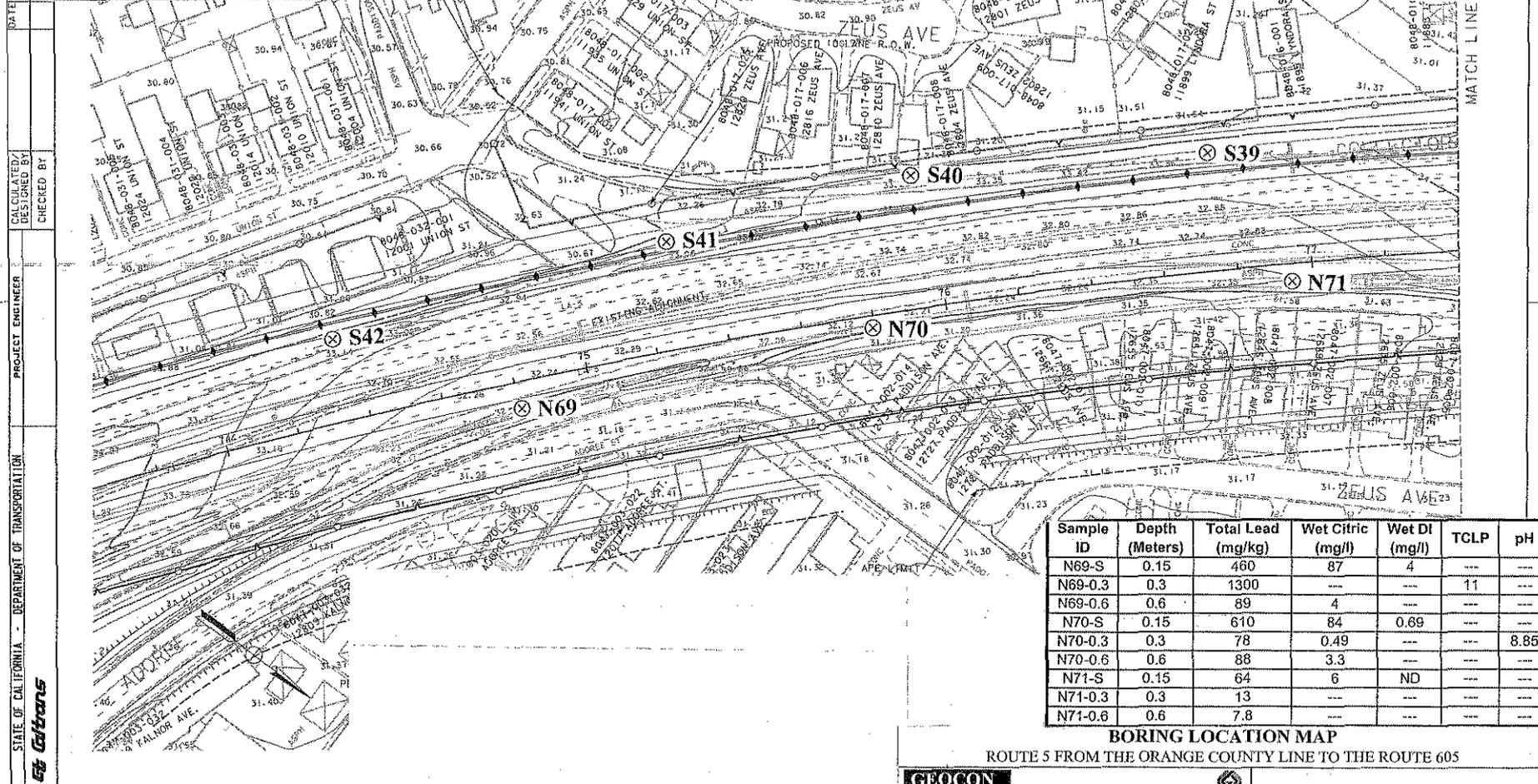
GEOCON
 CONSULTANTS INCORPORATED
 6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974
 PHON: 858.558-6100 - FAX 858.558-8437

PROJECT NO. 09100-06-49
 FIGURE 2, PLATE 24
 DATE: 09-19-2002

DATE PLOTTED: 09-25-02
 TIME PLOTTED: 3:57 PM

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s39-s	0.15	910	57	1.6	---	---
s39-1	0.3	690	47	3.2	---	---
s39-2	0.6	110	5.7	ND	---	---
s39-3	0.9	87	6.7	ND	---	---
s40-s	0.15	760	24	1.6	---	---
s40-1	0.3	240	5.4	0.78	---	---
s40-2	0.6	140	6.1	0.26	---	---
s40-3	0.9	150	10	0.53	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s41-s	0.15	860	54	0.62	---	---
s41-1	0.3	97	6.6	ND	---	6.88
s41-2	0.6	220	13	ND	---	---
s42-s	0.15	1600	---	---	3.7	---
s42-1	0.3	770	100	4.9	---	---
s42-2	0.6	140	11	0.43	---	---
s42-3	0.9	250	22	0.34	---	---



Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N69-S	0.15	460	87	4	---	---
N69-0.3	0.3	1300	---	---	11	---
N69-0.6	0.6	89	4	---	---	---
N70-S	0.15	610	84	0.69	---	---
N70-0.3	0.3	78	0.49	---	---	8.85
N70-0.6	0.6	88	3.3	---	---	---
N71-S	0.15	64	6	ND	---	---
N71-0.3	0.3	13	---	---	---	---
N71-0.6	0.6	7.8	---	---	---	---

BORING LOCATION MAP
 ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

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PROJECT NO. 09100-06-49
 FIGURE 2, PLATE 25
 DATE: 09-19-2002

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

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PROJECT ENGINEER

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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 DATE REVISED
 CALCULATED/DESIGNED BY
 DATE

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s35-s	0.15	1100	---	---	4.9	---
s35-1	0.3	680	58	1.9	---	---
s35-2	0.6	100	6.3	0.29	---	---
s35-3	0.9	53	4.1	---	---	---
s36-s	0.15	650	17	ND	---	---
s36-1	0.3	14	---	---	---	8.41
s36-2	0.6	11	---	---	---	---
s36-3	0.9	10	---	---	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s37-s	0.15	1200	---	---	4.3	---
s37-1	0.3	790	63	1.5	---	---
s37-2	0.6	140	10	0.49	---	---
s37-3	0.9	76	3.1	---	---	---
s38-s	0.15	330	27	0.35	---	---
s38-1	0.3	320	21	0.28	---	---
s38-2	0.6	63	3.7	---	---	---
s38-3	0.9	140	6.2	ND	---	6.53



Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N72-S	0.15	120	9	ND	---	---
N72-0.3	0.3	290	22	ND	---	---
N72-0.6	0.6	130	8.1	ND	---	---
N73-S	0.15	670	61	0.82	---	---
N73-0.3	0.3	930	88	2.2	---	---
N73-0.6	0.6	1500	---	---	4.4	8.27
N74-S	0.15	170	22	1.2	---	---
N74-0.3	0.3	250	26	0.88	---	---
N74-0.6	0.6	320	16	0.68	---	---
N74-0.9	0.9	120	9.1	ND	---	---

BORING LOCATION MAP
 ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

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PROJECT NO. 09100-06-49
 FIGURE 2, PLATE 26
 DATE: 09-19-2002

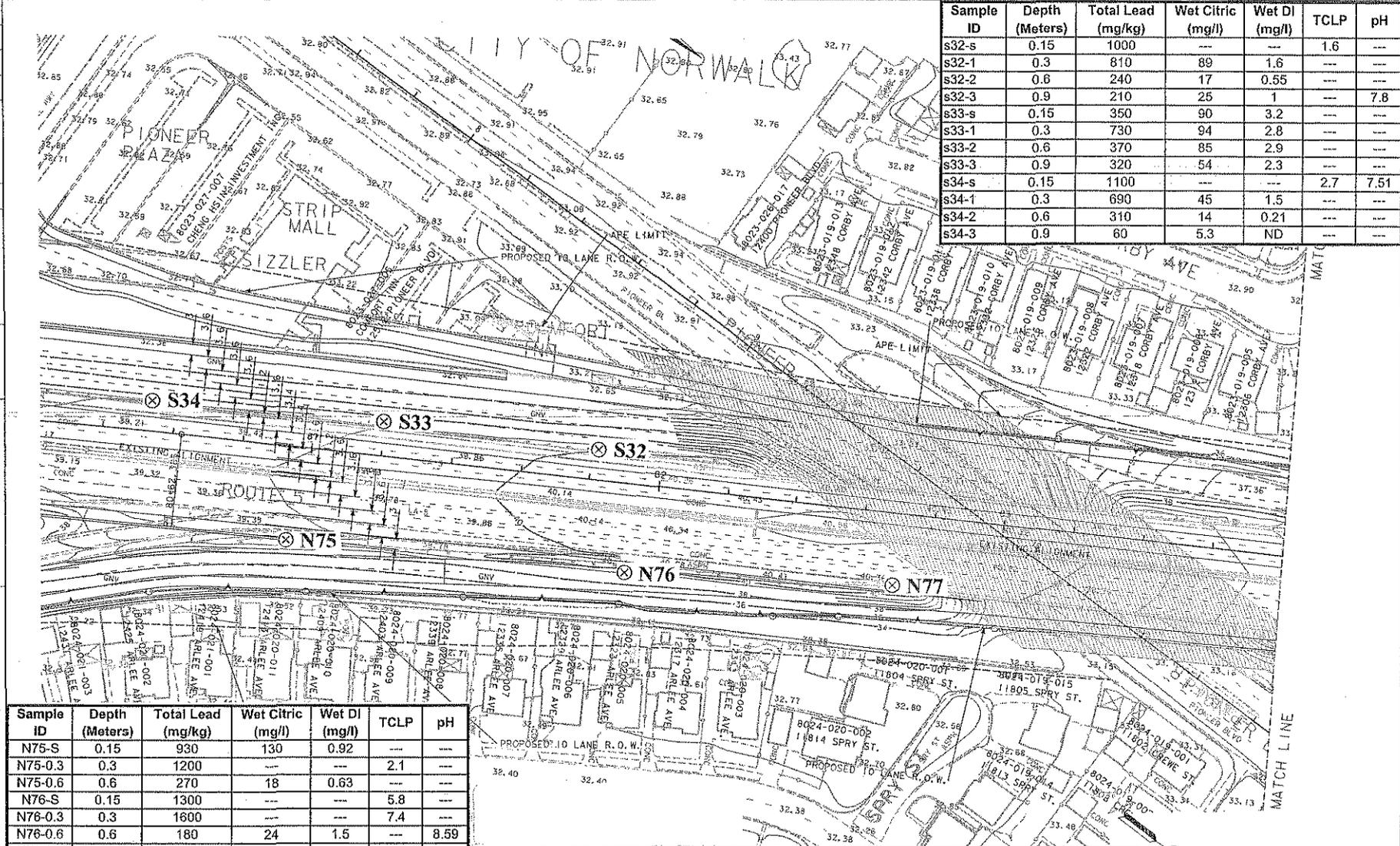
USERNAME: MUSER
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L-26

CU 07227
 EA 2159A0

DATE PLOTTED: 07-25-02
 PLOT FILE: 338REQ01.DWG

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
St. Gallens
 PROJECT ENGINEER
 CHECKED BY
 CALCULATED/DESIGNED BY
 DATE REVISOR
 DATE REVISOR



Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
S32-S	0.15	1000	---	---	1.6	---
S32-1	0.3	810	89	1.6	---	---
S32-2	0.6	240	17	0.55	---	---
S32-3	0.9	210	25	1	---	7.8
S33-S	0.15	350	90	3.2	---	---
S33-1	0.3	730	94	2.8	---	---
S33-2	0.6	370	85	2.9	---	---
S33-3	0.9	320	54	2.3	---	---
S34-S	0.15	1100	---	---	2.7	7.51
S34-1	0.3	690	45	1.5	---	---
S34-2	0.6	310	14	0.21	---	---
S34-3	0.9	60	5.3	ND	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N75-S	0.15	930	130	0.92	---	---
N75-0.3	0.3	1200	---	---	2.1	---
N75-0.6	0.6	270	18	0.63	---	---
N76-S	0.15	1300	---	---	5.8	---
N76-0.3	0.3	1600	---	---	7.4	---
N76-0.6	0.6	180	24	1.5	---	8.59
N76-0.9	0.9	82	4.4	---	---	---
N77-S	0.15	1700	---	---	14	---
N77-0.3	0.3	670	58	2.8	---	---
N77-0.6	0.6	2200	---	---	7.7	---
N77-0.9	0.9	1100	---	---	5.8	---

BORING LOCATION MAP
 ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

GEOCON
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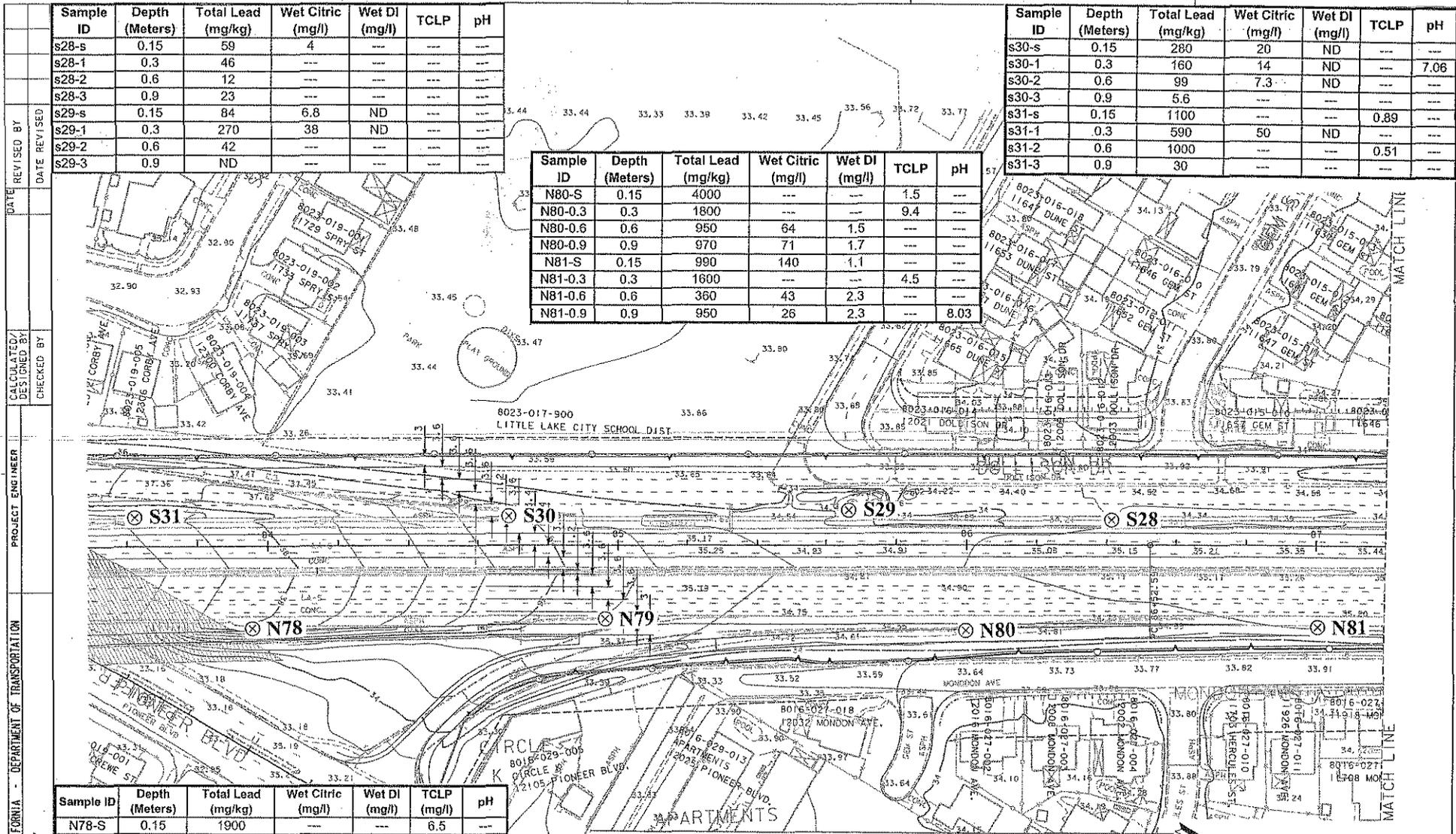
PROJECT NO. 09100-66-49
 FIGURE 2, PLATE 27
 DATE: 09-19-2002

DATE PLOTTED: 09-19-2002
 DATE REVISION: 07-25-02 TIME: 10:55 AM

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s28-s	0.15	59	4	---	---	---
s28-1	0.3	46	---	---	---	---
s28-2	0.6	12	---	---	---	---
s28-3	0.9	23	---	---	---	---
s29-s	0.15	84	6.8	ND	---	---
s29-1	0.3	270	38	ND	---	---
s29-2	0.6	42	---	---	---	---
s29-3	0.9	ND	---	---	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N80-S	0.15	4000	---	---	1.5	---
N80-0.3	0.3	1800	---	---	9.4	---
N80-0.6	0.6	950	64	1.5	---	---
N80-0.9	0.9	970	71	1.7	---	---
N81-S	0.15	990	140	1.1	---	---
N81-0.3	0.3	1600	---	---	4.5	---
N81-0.6	0.6	360	43	2.3	---	---
N81-0.9	0.9	950	26	2.3	---	8.03

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s30-s	0.15	280	20	ND	---	---
s30-1	0.3	160	14	ND	---	7.06
s30-2	0.6	99	7.3	ND	---	---
s30-3	0.9	5.6	---	---	---	---
s31-s	0.15	1100	---	---	0.89	---
s31-1	0.3	590	50	ND	---	---
s31-2	0.6	1000	---	---	0.51	---
s31-3	0.9	30	---	---	---	---



DATE REVISION BY
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 CALCULATED/DESIGNED BY
 CHECKED BY
 PROJECT ENGINEER
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 G. Carreras

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N78-S	0.15	1900	---	---	6.5	---
N78-0.3	0.3	1200	---	---	5.1	---
N78-0.6	0.6	400	32	0.52	---	---
N79-S	0.15	1400	---	---	5.7	---
N79-0.3	0.3	26	---	---	---	8.48
N79-0.6	0.6	5.1	---	---	---	---
N79-0.9	0.9	39	---	---	---	---

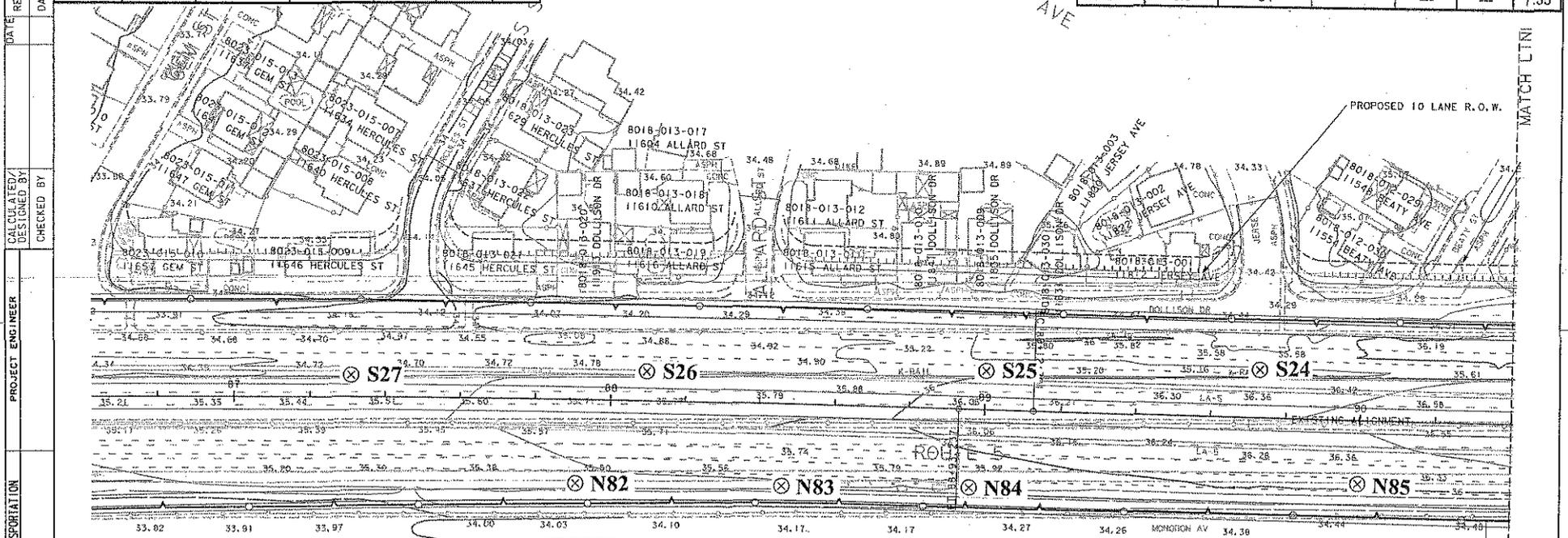
BORING LOCATION MAP
 ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

GEOCON
 CONSULTANT'S INCORPORATED
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PROJECT NO. 09100-06-49
 FIGURE 2, PLATE 28
 DATE: 09-19-2002

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s24-s	0.15	15	---	---	---	---
s24-1	0.3	6.4	---	---	---	---
s24-2	0.6	170	15	0.28	---	---
s24-3	0.9	22	---	---	---	---
s25-s	0.15	55	4.2	---	---	---
s25-1	0.3	35	---	---	---	7.34
s25-2	0.6	9.1	---	---	---	---
s25-3	0.9	7.2	---	---	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s26-s	0.15	28	---	---	---	---
s26-1	0.3	300	23	0.5	---	---
s26-2	0.6	330	41	0.38	---	---
s26-3	0.9	110	3.3	---	---	---
s27-s	0.15	110	1.9	---	---	---
s27-1	0.3	74	7.9	ND	---	---
s27-2	0.6	32	---	---	---	---
s27-3	0.9	34	---	---	---	7.55



Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N82-S	0.15	2100	---	---	4	---
N82-0.3	0.3	2300	---	---	6.1	---
N83-S	0.15	500	33	0.43	---	---
N83-0.3	0.3	730	44	1.1	---	---
N83-0.6	0.6	20	---	---	---	---
N83-0.9	0.9	200	7.2	ND	---	---
N84-S	0.15	2400	---	---	ND	---
N84-0.3	0.3	720	71	1	---	---
N84-0.6	0.6	810	55	0.65	---	---
N85-S	0.15	1100	---	---	ND	6.9
N85-0.3	0.3	280	16	0.85	---	---
N85-0.6	0.6	800	60	2.8	---	---

BORING LOCATION MAP
ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

GEOCON
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6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974
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PROJECT NO. 09100-06-49
FIGURE 2, PLATE 29
DATE: 09-19-2002

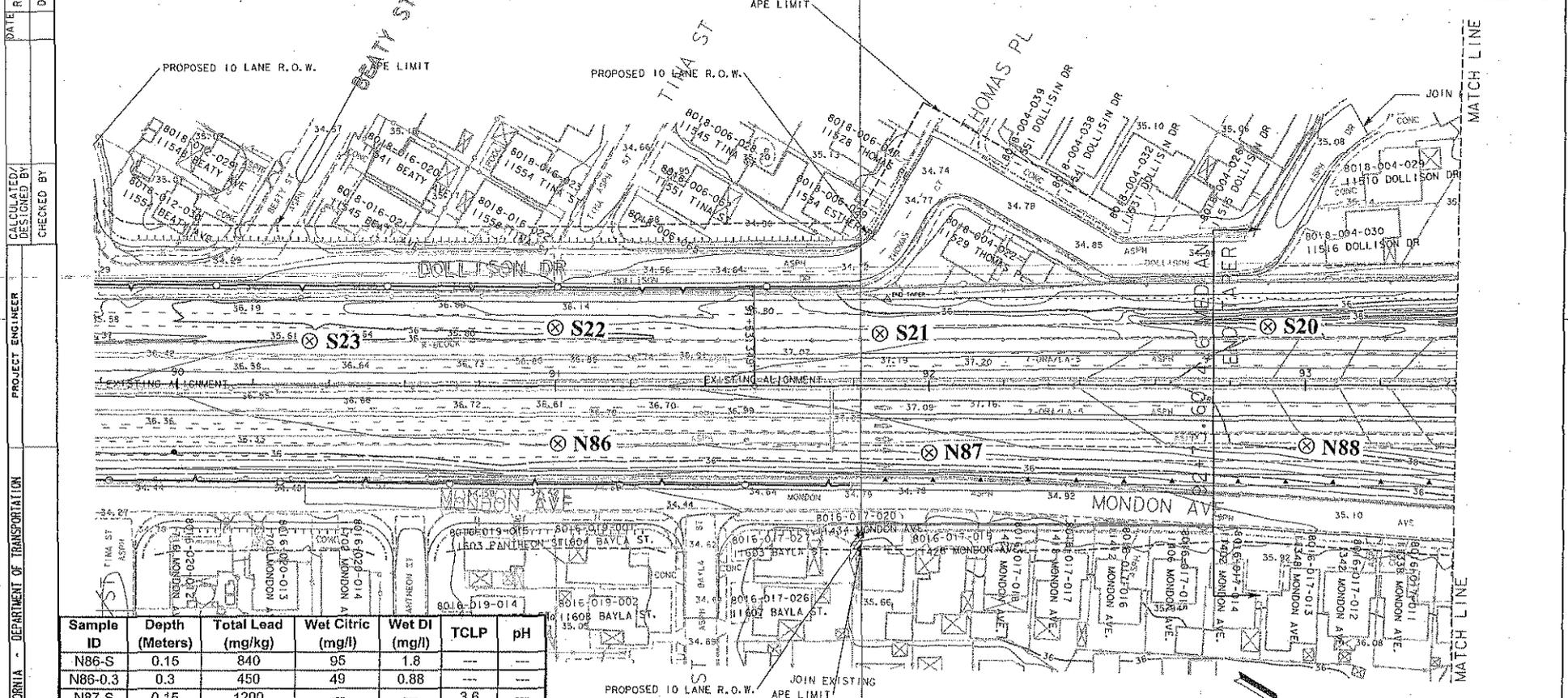
MATCH LINE

REVISOR: DATE: REVISION: PROJECT ENGINEER: TRANSPORTATION: CALCULATED/DESIGNED BY: CHECKED BY:

DATE PLOTTED: 12-8-01
TIME PLOTTED: 3:41 PM

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s20-s	0.15	91	7.1	ND	---	---
s20-1	0.3	160	14	0.3	---	8.58
s20-2	0.6	44	---	---	---	---
s20-3	0.9	15	---	---	---	---
s21-s	0.15	470	19	0.37	---	---
s21-1	0.3	210	18	0.37	---	---
s21-2	0.6	24	---	---	---	---
s21-3	0.9	11	---	---	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s22-s	0.15	93	5.3	ND	---	---
s22-1	0.3	21	---	---	---	---
s22-2	0.6	55	5.9	0.23	---	---
s22-3	0.9	350	17	0.5	---	7.14
s23-s	0.15	45	---	---	---	---
s23-1	0.3	13	---	---	---	---
s23-2	0.6	220	25	0.31	---	---
s23-3	0.9	13	---	---	---	---



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N86-S	0.15	840	95	1.8	---	---
N86-0.3	0.3	450	49	0.88	---	---
N87-S	0.15	1200	---	---	3.6	---
N87-0.3	0.3	970	92	1.4	---	---
N87-0.6	0.6	1100	---	---	3.7	---
N88-S	0.15	1700	---	---	8.4	---
N88-0.3	0.3	140	21	0.36	---	---
N88-0.6	0.6	1300	---	---	7.2	---
N88-0.9	0.9	290	35	1.7	---	---

BORING LOCATION MAP
 ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

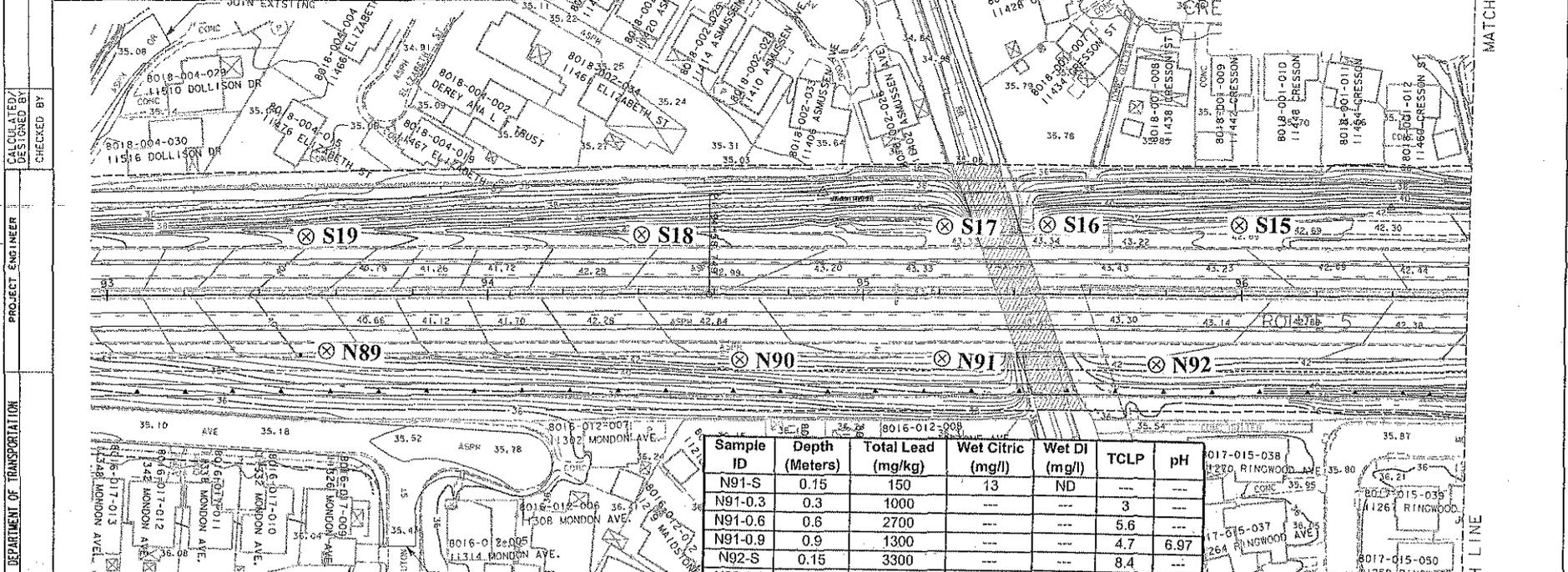
GEOCON
 CONSULTANTS INCORPORATED
 6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974
 PHONE 858.558-6100 - FAX 858.558-8437

PROJECT NO. 09100-06-49
 FIGURE 2, PLATE 30
 DATE: 09-19-2002

DATE PLOTTED: 09-25-02
 TIME PLOTTED: 09:51 AM

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP (mg/l)	pH
s15-s	0.15	360	25	0.27	---	---
s15-1	0.3	390	29	1.4	---	6.65
s15-2	0.6	260	22	0.58	---	---
s15-3	0.9	99	8.3	0.33	---	---
s16-s	0.15	490	38	0.32	---	---
s16-1	0.3	150	10	ND	---	---
s16-2	0.6	130	9	ND	---	---
s16-3	0.9	54	3.4	---	---	---
s17-s	0.15	49	---	---	---	---
s17-1	0.3	45	---	---	---	---
s17-2	0.6	45	---	---	---	---
s17-3	0.9	45	---	---	---	8.11

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s18-s	0.15	73	4.1	---	---	---
s18-1	0.3	20	---	---	---	---
s18-2	0.6	8.7	---	---	---	---
s18-3	0.9	12	---	---	---	---
s19s	0.15	240	19	0.27	---	---
s19-1	0.3	130	8.3	ND	---	---
s19-2	0.6	30	---	---	---	---
s19-3	0.9	65	6.1	ND	---	---



Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP (mg/l)	pH
N89-S	0.15	200	43	ND	---	6.9
N89-0.3	0.3	120	4.9	---	---	---
N89-0.6	0.6	41	---	---	---	---
N90-S	0.15	910	93	0.6	---	---
N90-0.3	0.3	330	35	0.33	---	---
N90-0.6	0.6	750	65	0.77	---	---
N90-0.9	0.9	6	---	---	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N91-S	0.15	150	13	ND	---	---
N91-0.3	0.3	1000	---	---	3	---
N91-0.6	0.6	2700	---	---	5.6	---
N91-0.9	0.9	1300	---	---	4.7	6.97
N92-S	0.15	3300	---	---	8.4	---
N92-0.3	0.3	340	32	0.58	---	---
N92-0.6	0.6	180	20	0.75	---	---
N92-0.9	0.9	11	---	---	---	---

BORING LOCATION MAP
ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

GEOCON
CONSULTANTS INCORPORATED
6979 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974
PHONE 858.558-6100 - FAX 858.558-8437

PROJECT NO. 09100-06-49
FIGURE 2, PLATE 31
DATE: 09-19-2002

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
PROJECT ENGINEER
CALCULATED/DESIGNED BY
CHECKED BY
DATE REVISION
DATE REVISION

Caltrans

MATCH LINE

MATCH LINE

DATE PLOTTED: 07-25-02
TIME PLOTTED: 08:17 AM

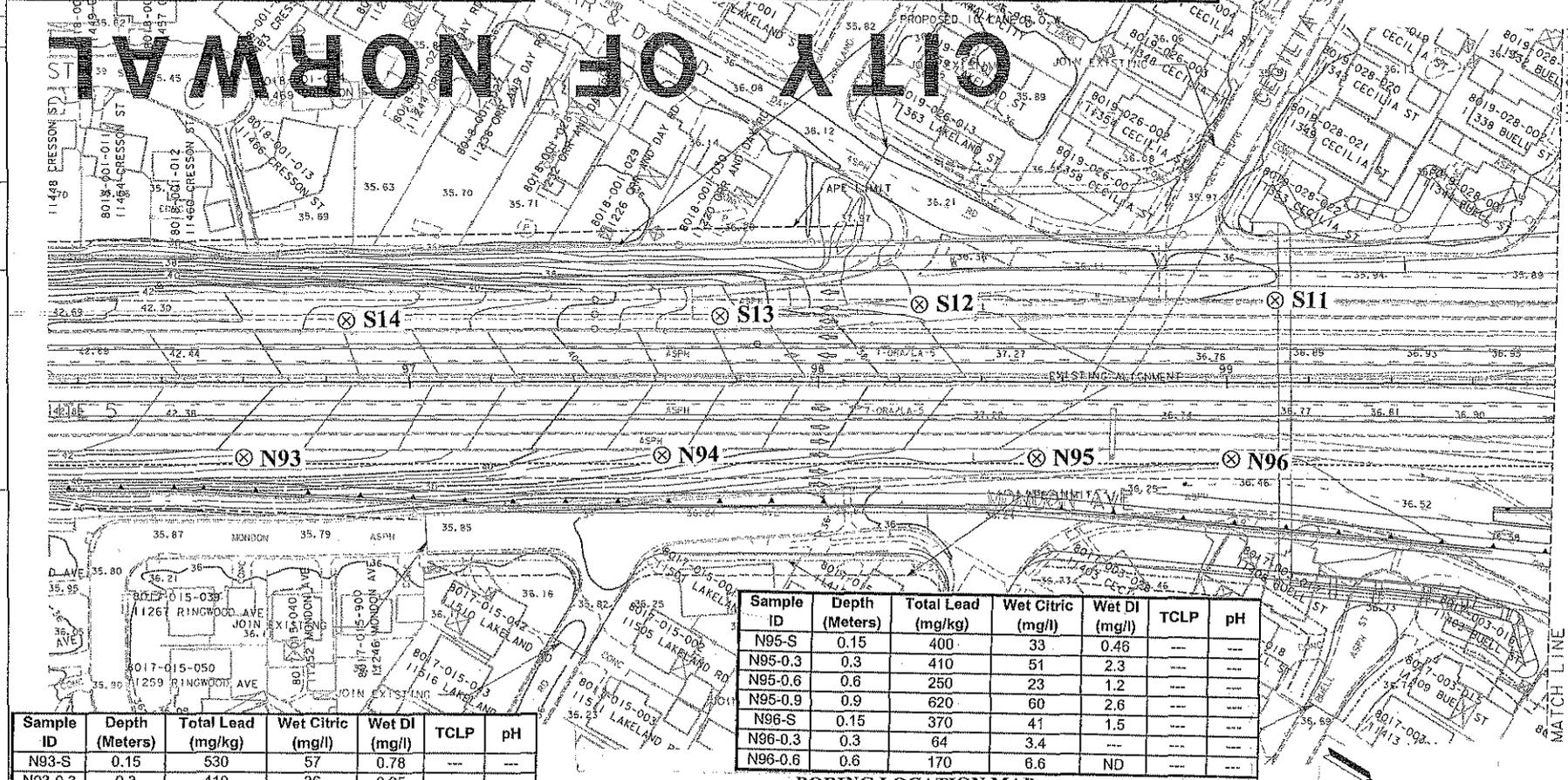
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 PROJECT ENGINEER
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 DESIGNED BY
 DATE REVISOR
 DATE REVISOR

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s11-s	0.15	300	17	ND	---	---
s11-1	0.3	75	3.1	---	---	---
s11-2	0.6	6	---	---	---	---
s11-3	0.9	6	---	---	---	8.23
s12-s	0.15	1100	---	---	1.8	---
s12-1	0.3	47	---	---	---	---
s12-2	0.6	40	---	---	---	---
s12-3	0.9	7.2	---	---	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s13-s	0.15	110	5.4	ND	---	6.73
s13-1	0.3	160	12	ND	---	---
s13-2	0.6	300	23	ND	---	---
s13-3	0.9	25	---	---	---	---
s14-s	0.15	86	5.6	ND	---	---
s14-1	0.3	61	3.3	---	---	---
s14-2	0.6	5.5	---	---	---	---
s14-3	0.9	21	---	---	---	---



CITY OF NORWAL



Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N93-S	0.15	530	57	0.78	---	---
N93-0.3	0.3	410	36	0.95	---	---
N93-0.6	0.6	350	28	0.78	---	---
N94-S	0.15	510	51	1.2	---	---
N94-0.3	0.3	440	44	1.3	---	---
N94-0.6	0.6	73	10	ND	---	8.54
N94-0.9	0.9	280	16	0.27	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
N95-S	0.15	400	33	0.46	---	---
N95-0.3	0.3	410	51	2.3	---	---
N95-0.6	0.6	250	23	1.2	---	---
N95-0.9	0.9	620	60	2.6	---	---
N96-S	0.15	370	41	1.5	---	---
N96-0.3	0.3	64	3.4	---	---	---
N96-0.6	0.6	170	6.6	ND	---	---

BORING LOCATION MAP
 ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

GEOCON
 CONSULTANTS INCORPORATED
 6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974
 PHONE 858.558-6100 - FAX 858.558-8437

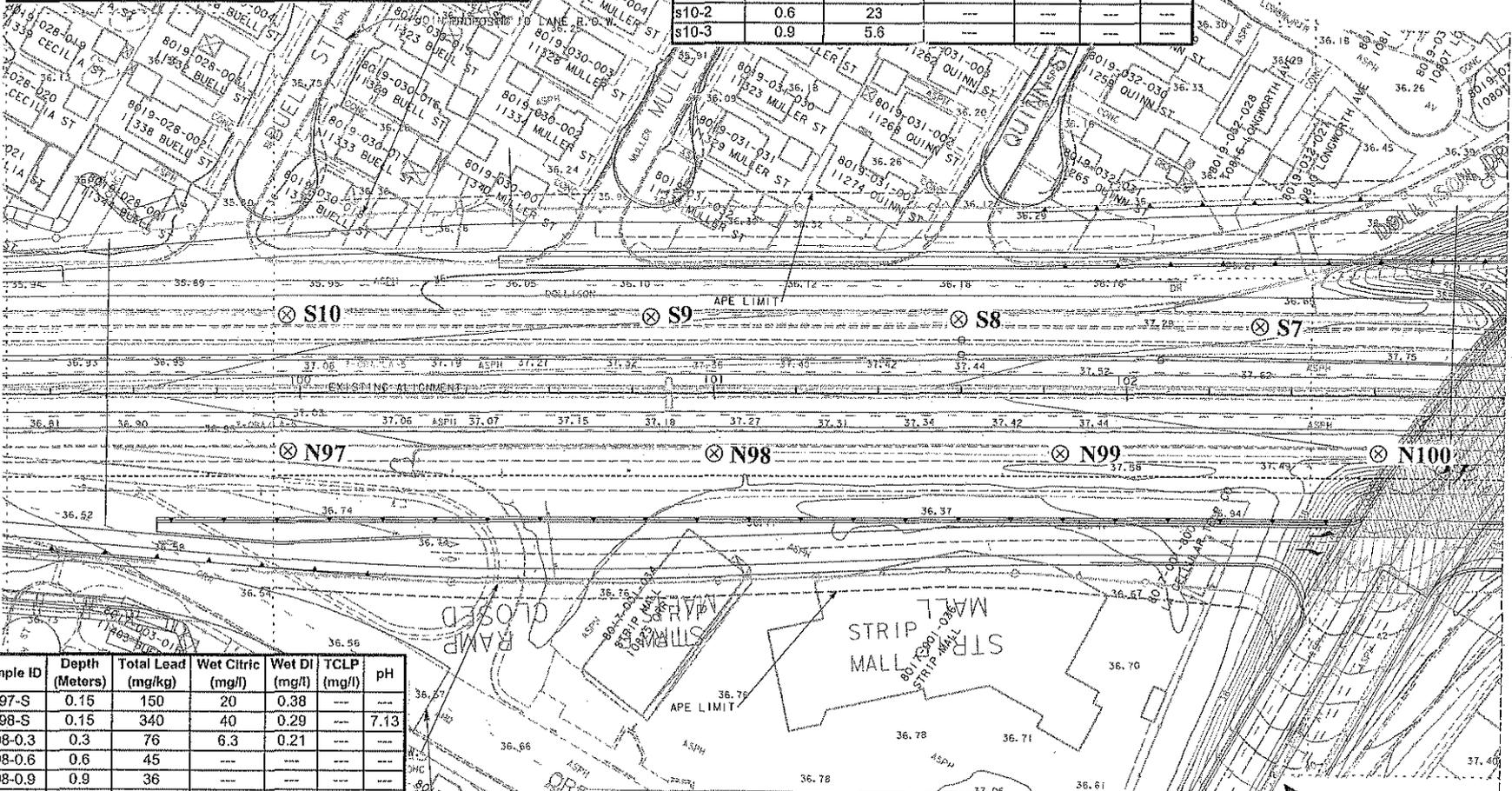
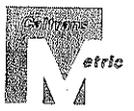
PROJECT NO. 09106-06-49
 FIGURE 2, PLATE 32
 DATE: 09-19-2002

DATE PLOTTED: 10/11/02
 TIME PLOTTED: 3:31 PM
 7-25-02

DATE REVISED BY DATE REVISIONS
 CALCULATED/DESIGNED BY CHECKED BY
 PROJECT ENGINEER
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 G. Carreras

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP (mg/l)	pH
s7-s	0.15	57	5.7	ND	---	---
s7-1	0.3	70	3.7	---	---	---
s7-2	0.6	13	---	---	---	---
s7-3	0.9	5.3	---	---	---	---
s8-s	0.15	310	21	ND	---	---
s8-1	0.3	490	35	ND	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s9-s	0.15	220	18	ND	---	---
s9-1	0.3	91	4.1	---	---	7.95
s9-2	0.6	76	5	ND	---	---
s9-3	0.9	9	---	---	---	---
s10-s	0.15	200	11	0.43	---	---
s10-1	0.3	130	6.3	0.61	---	---
s10-2	0.6	23	---	---	---	---
s10-3	0.9	5.6	---	---	---	---



Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP (mg/l)	pH
N97-S	0.15	150	20	0.38	---	---
N98-S	0.15	340	40	0.29	---	7.13
N98-0.3	0.3	76	6.3	0.21	---	---
N98-0.6	0.6	45	---	---	---	---
N98-0.9	0.9	36	---	---	---	---
N99-S	0.15	1000	---	---	2.3	---
N99-0.3	0.3	1300	---	---	4.9	---
N99-0.6	0.6	170	16	0.21	---	---
N99-0.9	0.9	350	24	0.67	---	---
N100-S	0.15	1400	---	---	1.8	---
N100-0.3	0.3	390	41	0.43	---	---

BORING LOCATION MAP
 ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

GEOCON
 CONSULTANTS INCORPORATED
 4970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974
 PHONE 858.558-6100 - FAX 858.558-8437

PROJECT NO. 09100-06-49
 FIGURE 2, PLATE 33
 DATE: 09-19-2002

MATCH LINE

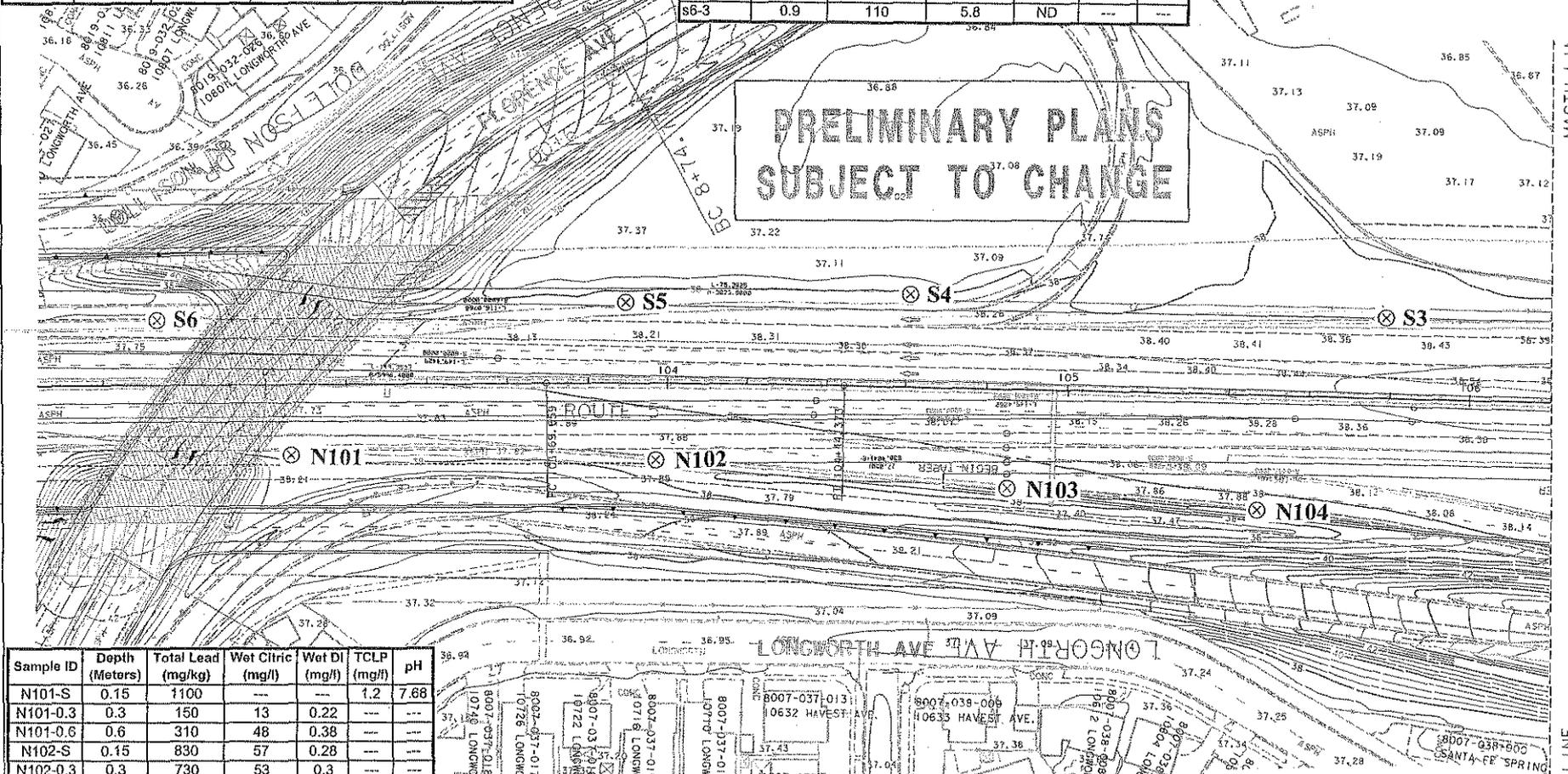
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 PROJECT ENGINEER
 CHECKED BY
 DATE REVISID
 DATE REVISID

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s3-s	0.15	750	52	4.4	---	---
s3-1	0.3	340	25	2.5	---	---
s3-2	0.6	170	14	1.9	---	7.59
s4-s	0.15	230	18	0.43	---	---
s4-1	0.3	110	9.1	0.82	---	---
s4-2	0.6	21	---	---	---	---
s4-3	0.9	32	---	---	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP	pH
s5-s	0.15	340	19	ND	---	---
s5-1	0.3	20	---	---	---	---
s5-2	0.6	6.6	---	---	---	---
s5-3	0.9	6.2	---	---	---	---
s6-s	0.15	210	14	0.49	---	---
s6-1	0.3	220	15	0.42	---	7.3
s6-2	0.6	110	8.1	0.56	---	---
s6-3	0.9	110	5.8	ND	---	---



**PRELIMINARY PLANS
 SUBJECT TO CHANGE**



Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP (mg/l)	pH
N101-S	0.15	1100	---	---	1.2	7.68
N101-0.3	0.3	150	13	0.22	---	---
N101-0.6	0.6	310	48	0.38	---	---
N102-S	0.15	830	57	0.28	---	---
N102-0.3	0.3	730	53	0.3	---	---
N103-S	0.15	900	78	0.56	---	---
N103-0.3	0.3	690	69	0.68	---	---
N104-S	0.15	920	82	0.74	---	---
N104-0.3	0.3	240	24	0.48	---	---
N104-0.6	0.6	30	---	---	---	---
N104-0.9	0.9	44	---	---	---	7.95

BORING LOCATION MAP
 ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

GEOCON
 CONSULTANTS INCORPORATED
 6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974
 PHONE 858.558-6100 - FAX 858.558-8437

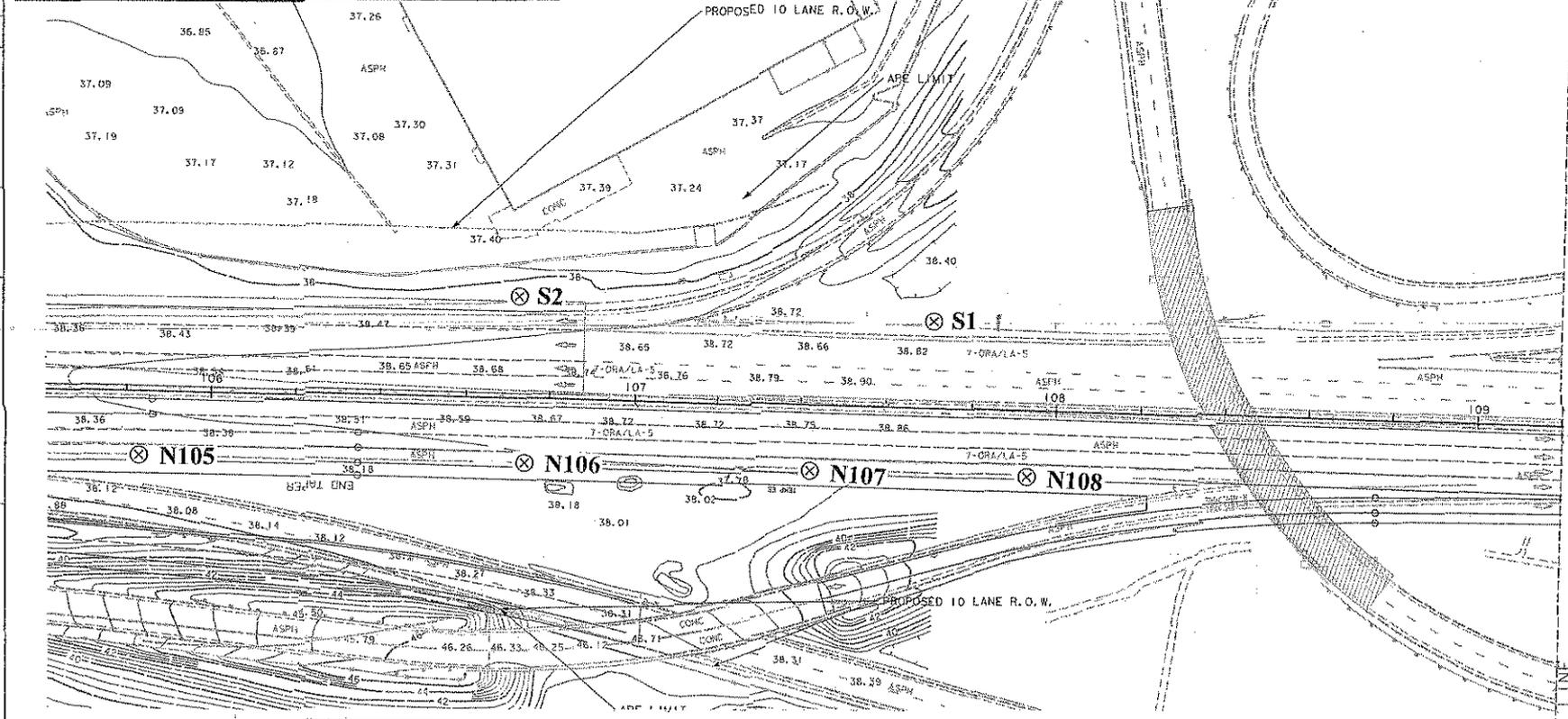
PROJECT NO. 09100-06-49
 FIGURE 2, PLATE 34
 DATE: 09-19-2002

MACTH LIN
 LINE

DATE PLOTTED: 09-25-02
 TIME PLOTTED: 09:47 AM

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 PROJECT ENGINEER
 CHECKED BY
 CALCULATED/DESIGNED BY
 DATE REVISID
 REVISID BY

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP (mg/l)	pH
s1-s	0.15	1400	---	---	0.85	6.44
s1-1	0.3	190	13	ND	---	---
s1-2	0.6	33	---	---	---	---
s2-s	0.15	240	19	1.5	---	---
s2-1	0.3	85	6.6	0.85	---	---
s2-2	0.6	71	5.3	0.78	---	---
s2-3	0.9	76	4.2	---	---	---



Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP (mg/l)	pH
N105-S	0.15	1300	---	---	6.6	6.98
N106-S	0.15	1400	---	---	4.1	---
N105-0.3	0.3	1200	---	---	1.3	---
N106-0.6	0.6	32	---	---	---	---
N106-0.9	0.9	7	---	---	---	---

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Wet Citric (mg/l)	Wet DI (mg/l)	TCLP (mg/l)	pH
N107-S	0.15	410	27	0.58	---	---
N107-0.3	0.3	170	11	0.32	---	---
N107-0.6	0.6	22	---	---	---	---
N107-0.9	0.9	5	---	---	---	---
N108-S	0.15	430	41	0.44	---	6.91
N108-0.3	0.3	720	68	1.3	---	---
N108-0.6	0.6	26	---	---	---	---

BORING LOCATION MAP
 ROUTE 5 FROM THE ORANGE COUNTY LINE TO THE ROUTE 605

GBOCON
 CONSULTANTS INCORPORATED
 6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974
 PHONE 858.558-4100 - FAX 858.558-8437

PROJECT NO. 09100-06-49
 FIGURE 2, PLATE 35
 DATE: 09.19.2002

DATE PLOTTED: 07-25-02
 TIME: 09:11:11 AM
 USERNAME: PUSER

TABLE I
SUMMARY OF LEAD AND PH DATA

Sample ID	Depth (m)	Total Lead (mg/kg)	WET-Citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
N1-S	0.15	860	83	7.3	---	---
N1-0.3	0.3	140	8.9	ND	---	---
N1-0.6	0.6	29	---	---	---	---
N1-0.9	0.9	61	3.2	---	---	---
N2-S	0.15	1,100	---	---	2.6	---
N2-0.3	0.3	1,500	---	---	6.1	---
N2-0.6	0.6	63	3.9	---	---	---
N2-0.9	0.9	11	---	---	---	---
N3-S	0.15	1,200	---	---	2.7	---
N3-0.3	0.3	1,100	---	---	3.7	7.08
N3-0.6	0.6	270	23	5.6	---	---
N3-0.9	0.9	15	---	---	---	---
N4-S	0.15	1,000	---	---	4.7	---
N4-0.3	0.3	16	---	---	---	---
N4-0.6	0.6	ND	---	---	---	---
N4-0.9	0.9	5.9	---	---	---	---
N5-S	0.15	280	29	3.6	---	---
N5-0.3	0.3	78	5.3	1	---	---
N5-0.6	0.6	99	8.5	1.7	---	---
N5-0.9	0.9	ND	---	---	---	7.81
N6-S	0.15	720	83	14	---	---
N6-0.3	0.3	190	18	4.5	---	---
N6-0.6	0.6	66	1.2	---	---	---
N6-0.9	0.9	7.5	---	---	---	---
N7-S	0.15	1,900	---	---	5.4	---
N7-0.3	0.3	500	44	0.47	---	---
N8-S	0.15	2,000	---	---	5.2	---
N8-0.3	0.3	280	19	3.2	---	---
N8-0.6	0.6	23	---	---	---	---
N8-0.9	0.9	8.8	---	---	---	8.29
N9-S	0.15	1,200	---	---	2.7	---
N9-0.3	0.3	800	47	10	---	---
N9-0.6	0.6	11	---	---	---	---
N9-0.9	0.9	24	---	---	---	---
N10-S	0.15	630	50	5.6	---	---
N11-S	0.15	1,100	---	---	3.1	---
N11-0.3	0.3	390	37	6.7	---	---
N11-0.6	0.6	14	---	---	---	---
N11-0.9	0.9	5.9	---	---	---	---
N12-S	0.15	840	57	8.9	---	6.83
N12-0.3	0.3	610	46	11	---	---

TABLE I (continued)
SUMMARY OF LEAD AND PH DATA

Sample ID	Depth (m)	Total Lead (mg/kg)	WET-Citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
N12-0.6	0.6	300	22	8.1	---	---
N13-S	0.15	1,600	---	---	3.9	---
N13-0.3	0.3	280	13	ND	---	---
N14-S	0.15	540	45	0.99	---	---
N14-0.3	0.3	1,100	---	---	5.1	---
N15-S	0.15	500	42	2.6	---	---
N15-0.3	0.3	160	9.8	2.4	---	---
N15-0.6	0.6	ND	---	---	---	---
N15-0.9	0.9	8.2	---	---	---	8.01
N16-S	0.15	600	65	0.68	---	6.7
N16-0.3	0.3	300	24	0.52	---	---
N16-0.6	0.6	20	---	---	---	---
N16-0.9	0.9	11	---	---	---	---
N17-S	0.15	720	79	1.1	---	---
N17-0.3	0.3	540	59	0.81	---	---
N17-0.6	0.6	190	14	0.22	---	---
N18-S	0.15	1,100	---	---	1.6	---
N18-0.3	0.3	2,000	---	---	27	---
N18-0.6	0.6	110	12	1.5	---	7.92
N18-0.9	0.9	300	48	3.2	---	---
N19-S	0.15	1,000	---	---	1.5	---
N19-0.3	0.3	64	5.6	ND	---	---
N19-0.6	0.6	9.9	---	---	---	---
N19-0.9	0.9	9.9	---	---	---	---
N20-S	0.15	500	46	0.29	---	---
N20-0.3	0.3	14	---	---	---	---
N20-0.6	0.6	130	15	0.29	---	---
N21-S	0.15	700	90	0.42	---	---
N21-0.3	0.3	400	48	0.48	---	7.1
N21-0.6	0.6	180	13	0.21	---	---
N21-0.9	0.9	41	---	---	---	---
N22-S	0.15	450	28	0.23	---	---
N22-0.3	0.3	310	36	0.79	---	---
N22-0.6	0.6	170	14	ND	---	---
N23-S	0.15	120	19	ND	---	---
N23-0.3	0.3	440	34	1.4	---	---
N23-0.6	0.6	ND	---	---	---	---
N24-S	0.15	190	24	ND	---	---
N25-S	0.15	1,000	---	---	3.1	7.13
N25-0.3	0.3	810	100	3.6	---	---
N26-S	0.15	430	47	0.36	---	---

TABLE I (continued)
SUMMARY OF LEAD AND PH DATA

Sample ID	Depth (m)	Total Lead (mg/kg)	WET-Citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
N26-0.3	0.3	40	---	---	---	---
N27-S	0.15	180	20	ND	---	---
N27-0.3	0.3	280	27	1.5	---	---
N27-0.6	0.6	140	12	ND	---	---
N27-0.9	0.9	11	---	---	---	---
N28-S	0.15	540	67	0.37	---	---
N28-0.3	0.3	580	63	1.4	---	---
N28-0.6	0.6	100	7.5	ND	---	6.32
N29-S	0.15	190	14	ND	---	---
N29-0.3	0.3	2,000	140	7.3	---	---
N30-S	0.15	1,400	---	---	3.8	---
N30-0.3	0.3	99	2.4	---	---	---
N31-S	0.15	380	46	1.1	---	---
N31-0.3	0.3	220	24	0.28	---	---
N31-0.6	0.6	20	---	---	---	---
N32-S	0.15	360	26	ND	---	---
N32-0.3	0.3	1,300	---	---	8	---
N32-0.6	0.6	360	37	3.4	---	7.93
N32-0.9	0.9	520	35	1.9	---	---
N33-S	0.15	380	46	0.44	---	---
N33-0.3	0.3	340	43	ND	---	---
N34-S	0.15	900	87	0.28	---	---
N34-0.3	0.3	430	46	0.61	---	---
N34-0.6	0.6	42	---	---	---	---
N35-S	0.15	1,600	---	---	1.3	---
N35-0.3	0.3	910	89	0.91	---	---
N35-0.6	0.6	440	37	0.38	---	---
N36-S	0.15	1,600	---	---	5.2	7.64
N36-0.3	0.3	10	---	---	---	---
N36-0.6	0.6	41	---	---	---	---
N36-0.9	0.9	220	13	0.36	---	---
N37-S	0.15	310	44	0.87	---	---
N38-S	0.15	780	52	0.44	---	6.23
N38-0.3	0.3	3,800	---	---	9.7	---
N38-0.6	0.6	2,000	---	---	2.1	---
N39-S	0.15	350	36	ND	---	---
N39-0.3	0.3	1,700	---	---	4.3	---
N39-0.6	0.6	1,100	---	---	8.8	---
N40-S	0.15	1,900	---	---	1.8	---
N40-0.3	0.3	23	---	---	---	---
N40-0.6	0.6	680	39	0.82	---	---

TABLE I (continued)
SUMMARY OF LEAD AND PH DATA

Sample ID	Depth (m)	Total Lead (mg/kg)	WET-Citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
N40-0.9	0.9	ND	---	---	---	8.31
N41-S	0.15	390	7.8	ND	---	---
N41-0.3	0.3	1,300	---	---	1.6	---
N41-0.6	0.6	42	---	---	---	---
N41-0.9	0.9	44	---	---	---	---
N42-S	0.15	1,500	---	---	1.8	---
N42-0.3	0.3	890	44	2.1	---	---
N43-S	0.15	1,900	---	---	3	---
N43-0.3	0.3	46	---	---	---	---
N43-0.6	0.6	46	---	---	---	---
N43-0.9	0.9	9.4	---	---	---	7.22
N44-S	0.15	1,100	---	---	2.8	---
N44-0.3	0.3	1,300	---	---	3.7	---
N44-0.6	0.6	200	14	ND	---	---
N45-S	0.15	2,000	---	---	3	---
N45-0.3	0.3	1,300	---	---	2.6	---
N46-S	0.15	1,500	---	---	2.2	---
N46-0.3	0.3	490	22	0.81	---	---
N47-S	0.15	850	53	2.2	---	---
N47-0.3	0.3	760	48	3.1	---	---
N47-0.6	0.6	74	1.9	---	---	8.63
N47-0.9	0.9	400	28	1.5	---	---
N48-S	0.15	1,300	---	---	1.4	---
N48-0.3	0.3	310	29	1.1	---	---
N48-0.6	0.6	180	12	0.21	---	---
N48-0.9	0.9	360	30	1.3	---	---
N49-S	0.15	810	45	2.5	---	---
N49-0.3	0.3	220	11	0.28	---	---
N49-0.6	0.6	350	20	0.37	---	---
N50-S	0.15	1,200	---	---	1.3	---
N50-0.3	0.3	450	22	1	---	8.33
N50-0.6	0.6	200	19	1.1	---	---
N50-0.9	0.9	160	3.7	---	---	---
N51-S	0.15	270	18	0.35	---	---
N51-0.3	0.3	170	11	0.32	---	---
N51-0.6	0.6	120	11	0.47	---	---
N52-S	0.15	1,100	---	---	1.9	---
N52-0.3	0.3	890	65	3	---	---
N52-0.6	0.6	440	38	2.3	---	---
N52-0.9	0.9	43	---	---	---	---
N53-S	0.15	770	130	1.9	---	7.52

TABLE I (continued)
SUMMARY OF LEAD AND PH DATA

Sample ID	Depth (m)	Total Lead (mg/kg)	WET-Citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
N53-0.3	0.3	310	34	1.1	---	---
N53-0.6	0.6	230	14	0.51	---	---
N54-S	0.15	3,500	---	---	8.2	---
N54-0.3	0.3	310	15	0.62	---	---
N54-0.6	0.6	130	8.1	ND	---	---
N54-0.9	0.9	490	35	0.63	---	---
N55-S	0.15	730	130	4.5	---	---
N55-0.3	0.3	940	140	7.4	---	---
N55-0.6	0.6	460	36	4.7	---	---
N56-S	0.15	1,100	200	4.5	---	8.07
N56-0.3	0.3	190	8.4	2.6	---	---
N56-0.6	0.6	65	4.5	---	---	---
N56-0.9	0.9	160	8.5	ND	---	---
N57-S	0.15	470	63	2.2	---	---
N57-0.3	0.3	260	27	0.6	---	---
N57-0.6	0.6	800	50	2.8	---	---
N58-S	0.15	3,400	---	---	4.6	---
N58-0.3	0.3	1,300	---	---	2.6	---
N58-0.6	0.6	840	89	1.5	---	---
N59-S	0.15	1,600	---	---	4.3	6.37
N59-0.3	0.3	360	51	2.6	---	---
N59-0.6	0.6	28	---	---	---	---
N60-S	0.15	990	64	1.7	---	---
N60-0.3	0.3	530	53	2.4	---	---
N61-S	0.15	2,200	---	---	2.9	---
N61-0.3	0.3	890	65	4.2	---	---
N61-0.6	0.6	500	27	1.3	---	---
N62-S	0.15	620	41	1.9	---	---
N62-0.3	0.3	340	26	1.1	---	---
N63-S	0.15	540	52	0.56	---	---
N63-0.3	0.3	530	34	0.96	---	---
N63-0.6	0.6	73	4.2	---	---	---
N63-0.9	0.9	190	13	0.26	---	---
N64-S	0.15	1,300	---	---	2.7	---
N64-0.3	0.3	810	66	1.9	---	---
N64-0.6	0.6	280	15	0.34	---	8.57
N64-0.9	0.9	280	30	0.74	---	---
N65-S	0.15	1,000	---	---	2.9	---
N65-0.3	0.3	680	58	1.5	---	---
N65-0.6	0.6	530	36	1.3	---	---
N65-0.9	0.9	14	---	---	---	---

TABLE I (continued)
SUMMARY OF LEAD AND PH DATA

Sample ID	Depth (m)	Total Lead (mg/kg)	WET-Citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
N66-S	0.15	1,200	---	---	4.3	---
N66-0.3	0.3	790	69	3.8	---	---
N66-0.6	0.6	620	53	3.4	---	---
N67-S	0.15	790	85	2.4	---	---
N67-0.3	0.3	1,100	---	---	5	8.61
N67-0.6	0.6	580	36	2.6	---	---
N68-S	0.15	1,600	---	---	7.8	---
N68-0.3	0.3	46	---	---	---	---
N68-0.6	0.6	1,100	---	---	4.4	---
N68-0.9	0.9	28	---	---	---	---
N69-S	0.15	460	87	4	---	---
N69-0.3	0.3	1,300	---	---	11	---
N69-0.6	0.6	89	4	---	---	---
N70-S	0.15	610	84	0.69	---	---
N70-0.3	0.3	78	0.49	---	---	8.85
N70-0.6	0.6	88	3.3	---	---	---
N71-S	0.15	64	6	ND	---	---
N71-0.3	0.3	13	---	---	---	---
N71-0.6	0.6	7.8	---	---	---	---
N72-S	0.15	120	9	ND	---	---
N72-0.3	0.3	290	22	ND	---	---
N72-0.6	0.6	130	8.1	ND	---	---
N73-S	0.15	670	61	0.82	---	---
N73-0.3	0.3	930	88	2.2	---	---
N73-0.6	0.6	1,500	---	---	4.4	8.27
N74-S	0.15	170	22	1.2	---	---
N74-0.3	0.3	250	26	0.86	---	---
N74-0.6	0.6	320	16	0.68	---	---
N74-0.9	0.9	120	9.1	ND	---	---
N75-S	0.15	930	130	0.92	---	---
N75-0.3	0.3	1,200	---	---	2.1	---
N75-0.6	0.6	270	18	0.63	---	---
N76-S	0.15	1,300	---	---	5.8	---
N76-0.3	0.3	1,600	---	---	7.4	---
N76-0.6	0.6	180	24	1.5	---	8.59
N76-0.9	0.9	82	4.4	---	---	---
N77-S	0.15	1,700	---	---	14	---
N77-0.3	0.3	670	58	2.8	---	---
N77-0.6	0.6	2,200	---	---	7.7	---
N77-0.9	0.9	1,100	---	---	5.8	---
N78-S	0.15	1,900	---	---	6.5	---

TABLE I (continued)
SUMMARY OF LEAD AND PH DATA

Sample ID	Depth (m)	Total Lead (mg/kg)	WET-Citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
N78-0.3	0.3	1,200	---	---	5.1	---
N78-0.6	0.6	400	32	0.52	---	---
N79-S	0.15	1,400	---	---	5.7	---
N79-0.3	0.3	26	---	---	---	8.48
N79-0.6	0.6	5.1	---	---	---	---
N79-0.9	0.9	39	---	---	---	---
N80-S	0.15	4,000	---	---	1.5	---
N80-0.3	0.3	1,800	---	---	9.4	---
N80-0.6	0.6	950	64	1.5	---	---
N80-0.9	0.9	970	71	1.7	---	---
N81-S	0.15	990	140	1.1	---	---
N81-0.3	0.3	1,600	---	---	4.5	---
N81-0.6	0.6	360	43	2.3	---	---
N81-0.9	0.9	950	26	2.3	---	8.03
N82-S	0.15	2,100	---	---	4	---
N82-0.3	0.3	2,300	---	---	6.1	---
N83-S	0.15	500	33	0.43	---	---
N83-0.3	0.3	730	44	1.1	---	---
N83-0.6	0.6	20	---	---	---	---
N83-0.9	0.9	200	7.2	ND	---	---
N84-S	0.15	2,400	---	---	ND	---
N84-0.3	0.3	720	71	1	---	---
N84-0.6	0.6	810	55	0.65	---	---
N85-S	0.15	1,100	---	---	ND	6.9
N85-0.3	0.3	280	16	0.85	---	---
N85-0.6	0.6	800	60	2.8	---	---
N86-S	0.15	840	95	1.8	---	---
N86-0.3	0.3	450	49	0.88	---	---
N87-S	0.15	1,200	---	---	3.6	---
N87-0.3	0.3	970	92	1.4	---	---
N87-0.6	0.6	1,100	---	---	3.7	---
N88-S	0.15	1,700	---	---	8.4	---
N88-0.3	0.3	140	21	0.36	---	---
N88-0.6	0.6	1,300	---	---	7.2	---
N88-0.9	0.9	290	35	1.7	---	---
N89-S	0.15	200	43	ND	---	6.9
N89-0.3	0.3	120	4.9	---	---	---
N89-0.6	0.6	41	---	---	---	---
N90-S	0.15	910	93	0.6	---	---
N90-0.3	0.3	330	35	0.33	---	---
N90-0.6	0.6	750	65	0.77	---	---

TABLE I (continued)
SUMMARY OF LEAD AND PH DATA

Sample ID	Depth (m)	Total Lead (mg/kg)	WET-Citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
N90-0.9	0.9	6	---	---	---	---
N91-S	0.15	150	13	ND	---	---
N91-0.3	0.3	1,000	---	---	3	---
N91-0.6	0.6	2,700	---	---	5.6	---
N91-0.9	0.9	1,300	---	---	4.7	6.97
N92-S	0.15	3,300	---	---	8.4	---
N92-0.3	0.3	340	32	0.58	---	---
N92-0.6	0.6	180	20	0.75	---	---
N92-0.9	0.9	11	---	---	---	---
N93-S	0.15	530	57	0.78	---	---
N93-0.3	0.3	410	36	0.95	---	---
N93-0.6	0.6	350	28	0.78	---	---
N94-S	0.15	510	51	1.2	---	---
N94-0.3	0.3	440	44	1.3	---	---
N94-0.6	0.6	73	10	ND	---	8.54
N94-0.9	0.9	280	16	0.27	---	---
N95-S	0.15	400	33	0.46	---	---
N95-0.3	0.3	410	51	2.3	---	---
N95-0.6	0.6	250	23	1.2	---	---
N95-0.9	0.9	620	60	2.6	---	---
N96-S	0.15	370	41	1.5	---	---
N96-0.3	0.3	64	3.4	---	---	---
N96-0.6	0.6	170	6.6	ND	---	---
N97-S	0.15	150	20	0.38	---	---
N98-S	0.15	340	40	0.29	---	7.13
N98-0.3	0.3	76	6.3	0.21	---	---
N98-0.6	0.6	45	---	---	---	---
N98-0.9	0.9	36	---	---	---	---
N99-S	0.15	1,000	---	---	2.3	---
N99-0.3	0.3	1,300	---	---	4.9	---
N99-0.6	0.6	170	16	0.21	---	---
N99-0.9	0.9	350	24	0.67	---	---
N100-S	0.15	1,400	---	---	1.8	---
N100-0.3	0.3	390	41	0.43	---	---
N101-S	0.15	1,100	---	---	1.2	7.68
N101-0.3	0.3	150	13	0.22	---	---
N101-0.6	0.6	310	48	0.38	---	---
N102-S	0.15	830	57	0.28	---	---
N102-0.3	0.3	730	53	0.3	---	---
N103-S	0.15	900	78	0.56	---	---
N103-0.3	0.3	690	69	0.68	---	---

TABLE I (continued)
SUMMARY OF LEAD AND PH DATA

Sample ID	Depth (m)	Total Lead (mg/kg)	WET-Citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
N104-S	0.15	920	82	0.74	---	---
N104-0.3	0.3	240	24	0.48	---	---
N104-0.6	0.6	30	---	---	---	---
N104-0.9	0.9	44	---	---	---	7.95
N105-S	0.15	1,300	---	---	6.6	6.98
N106-S	0.15	1,400	---	---	4.1	---
N106-0.3	0.3	1,200	---	---	1.3	---
N106-0.6	0.6	32	---	---	---	---
N106-0.9	0.9	7	---	---	---	---
N107-S	0.15	410	27	0.58	---	---
N107-0.3	0.3	170	11	0.32	---	---
N107-0.6	0.6	22	---	---	---	---
N107-0.9	0.9	5	---	---	---	---
N108-S	0.15	430	41	0.44	---	6.91
N108-0.3	0.3	720	68	1.3	---	---
N108-0.6	0.6	26	---	---	---	---
S1-S	0.15	1,400	---	---	0.85	6.44
S1-1	0.3	190	13	ND	---	---
S1-2	0.6	33	---	---	---	---
S2-S	0.15	240	19	1.5	---	---
S2-1	0.3	85	6.6	0.85	---	---
S2-2	0.6	71	5.3	0.78	---	---
S2-3	0.9	76	4.2	---	---	---
S3-S	0.15	750	52	4.4	---	---
S3-1	0.3	340	25	2.5	---	---
S3-2	36	170	14	1.9	---	7.59
S4-S	0.15	230	18	0.43	---	---
S4-1	0.3	110	9.1	0.82	---	---
S4-2	0.6	21	---	---	---	---
S4-3	0.9	32	---	---	---	---
S5-S	0.15	340	19	ND	---	---
S5-1	0.3	20	---	---	---	---
S5-2	0.6	6.6	---	---	---	---
S5-3	0.9	6.2	---	---	---	---
S6-S	0.15	210	14	0.49	---	---
S6-1	0.3	220	15	0.42	---	7.3
S6-2	0.6	110	8.1	0.56	---	---
S6-3	0.9	110	5.8	ND	---	---
S7-S	0.15	57	5.7	ND	---	---
S7-1	0.3	70	3.7	---	---	---
S7-2	0.6	13	---	---	---	---

TABLE I (continued)
SUMMARY OF LEAD AND PH DATA

Sample ID	Depth (m)	Total Lead (mg/kg)	WET-Citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
S7-3	0.9	5.3	---	---	---	---
S8-S	0.15	310	21	ND	---	---
S8-1	0.3	490	35	ND	---	---
S9-S	0.15	220	18	ND	---	---
S9-1	0.3	91	4.1	---	---	7.95
S9-2	0.6	76	5	ND	---	---
S9-3	0.9	9	---	---	---	---
S10-S	0.15	200	11	0.43	---	---
S10-1	0.3	130	6.3	0.61	---	---
S10-2	0.6	23	---	---	---	---
S10-3	0.9	5.6	---	---	---	---
S11-S	0.15	300	17	ND	---	---
S11-1	0.3	75	3.1	---	---	---
S11-2	0.6	6	---	---	---	---
S11-3	0.9	6	---	---	---	8.23
S12-S	0.15	1,100	---	---	1.8	---
S12-1	0.3	47	---	---	---	---
S12-2	0.6	40	---	---	---	---
S12-3	0.9	7.2	---	---	---	---
S13-S	0.15	110	5.4	ND	---	6.73
S13-1	0.3	160	12	ND	---	---
S13-2	0.6	300	23	ND	---	---
S13-3	0.9	25	---	---	---	---
S14-S	0.15	86	5.6	ND	---	---
S14-1	0.3	61	3.3	---	---	---
S14-2	0.6	5.5	---	---	---	---
S14-3	0.9	21	---	---	---	---
S15-S	0.15	360	25	0.27	---	---
S15-1	0.3	390	29	1.4	---	6.65
S15-2	0.6	260	22	0.58	---	---
S15-3	0.9	99	8.3	0.33	---	---
S16-S	0.15	490	38	0.32	---	---
S16-1	0.3	150	10	ND	---	---
S16-2	0.6	130	9	ND	---	---
S16-3	0.9	54	3.4	---	---	---
S17-S	0.15	49	---	---	---	---
S17-1	0.3	45	---	---	---	---
S17-2	0.6	45	---	---	---	---
S17-3	0.9	45	---	---	---	8.11
S18-S	0.15	73	4.1	---	---	---
S18-1	0.3	20	---	---	---	---

TABLE I (continued)
SUMMARY OF LEAD AND PH DATA

Sample ID	Depth (m)	Total Lead (mg/kg)	WET-Citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
S18-2	0.6	8.7	---	---	---	---
S18-3	0.9	12	---	---	---	---
S19S	0.15	240	19	0.27	---	---
S19-1	0.3	130	8.3	ND	---	---
S19-2	0.6	30	---	---	---	---
S19-3	0.9	65	6.1	ND	---	---
S20-S	0.15	91	7.1	ND	---	---
S20-1	0.3	160	14	0.3	---	8.58
S20-2	0.6	44	---	---	---	---
S20-3	0.9	15	---	---	---	---
S21-S	0.15	470	19	0.37	---	---
S21-1	0.3	210	18	0.37	---	---
S21-2	0.6	24	---	---	---	---
S21-3	0.9	11	---	---	---	---
S22-S	0.15	93	5.3	ND	---	---
S22-1	0.3	21	---	---	---	---
S22-2	0.6	55	5.9	0.23	---	---
S22-3	0.9	350	17	0.5	---	7.14
S23-S	0.15	45	---	---	---	---
S23-1	0.3	13	---	---	---	---
S23-2	0.6	220	25	0.31	---	---
S23-3	0.9	13	---	---	---	---
S24-S	0.15	15	---	---	---	---
S24-1	0.3	6.4	---	---	---	---
S24-2	0.6	170	15	0.28	---	---
S24-3	0.9	22	---	---	---	---
S25-S	0.15	55	4.2	---	---	---
S25-1	0.3	35	---	---	---	7.34
S25-2	0.6	9.1	---	---	---	---
S25-3	0.9	7.2	---	---	---	---
S26-S	0.15	28	---	---	---	---
S26-1	0.3	300	23	0.5	---	---
S26-2	0.6	330	41	0.38	---	---
S26-3	0.9	110	3.3	---	---	---
S27-S	0.15	110	1.9	---	---	---
S27-1	0.3	74	7.9	ND	---	---
S27-2	0.6	32	---	---	---	---
S27-3	0.9	34	---	---	---	7.55
S28-S	0.15	59	4	---	---	---
S28-1	0.3	46	---	---	---	---
S28-2	0.6	12	---	---	---	---

TABLE I (continued)
SUMMARY OF LEAD AND PH DATA

Sample ID	Depth (m)	Total Lead (mg/kg)	WET-Citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
S28-3	0.9	23	---	---	---	---
S29-S	0.15	84	6.8	ND	---	---
S29-1	0.3	270	38	ND	---	---
S29-2	0.6	42	---	---	---	---
S29-3	0.9	ND	---	---	---	---
S30-S	0.15	280	20	ND	---	---
S30-1	0.3	160	14	ND	---	7.06
S30-2	0.6	99	7.3	ND	---	---
S30-3	0.9	5.6	---	---	---	---
S31-S	0.15	1,100	---	---	0.89	---
S31-1	0.3	590	50	ND	---	---
S31-2	0.6	1,000	---	---	0.51	---
S31-3	0.9	30	---	---	---	---
S32-S	0.15	1,000	---	---	1.6	---
S32-1	0.3	810	89	1.6	---	---
S32-2	0.6	240	17	0.55	---	---
S32-3	0.9	210	25	1	---	7.8
S33-S	0.15	350	90	3.2	---	---
S33-1	0.3	730	94	2.8	---	---
S33-2	0.6	370	85	2.9	---	---
S33-3	0.9	320	54	2.3	---	---
S34-S	0.15	1,100	---	---	2.7	7.51
S34-1	0.3	690	45	1.5	---	---
S34-2	0.6	310	14	0.21	---	---
S34-3	0.9	60	5.3	ND	---	---
S35-S	0.15	1,100	---	---	4.9	---
S35-1	0.3	680	58	1.9	---	---
S35-2	0.6	100	6.3	0.29	---	---
S35-3	0.9	53	4.1	---	---	---
S36-S	0.15	650	17	ND	---	---
S36-1	0.3	14	---	---	---	8.41
S36-2	0.6	11	---	---	---	---
S36-3	0.9	10	---	---	---	---
S37-S	0.15	1,200	---	---	4.3	---
S37-1	0.3	790	63	1.5	---	---
S37-2	0.6	140	10	0.49	---	---
S37-3	0.9	76	3.1	---	---	---
S38-S	0.15	330	27	0.35	---	---
S38-1	0.3	320	21	0.28	---	---
S38-2	0.6	63	3.7	---	---	---
S38-3	0.9	140	6.2	ND	---	6.53

TABLE I (continued)
SUMMARY OF LEAD AND PH DATA

Sample ID	Depth (m)	Total Lead (mg/kg)	WET-Citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
S39-S	0.15	910	57	1.6	---	---
S39-1	0.3	690	47	3.2	---	---
S39-2	0.6	110	5.7	ND	---	---
S39-3	0.9	87	6.7	ND	---	---
S40-S	0.15	760	24	1.6	---	---
S40-1	0.3	240	5.4	0.78	---	---
S40-2	0.6	140	6.1	0.26	---	---
S40-3	0.9	150	10	0.53	---	---
S41-S	0.15	860	54	0.62	---	---
S41-1	0.3	97	6.6	ND	---	6.88
S41-2	0.6	220	13	ND	---	---
S42-S	0.15	1,600	---	---	3.7	---
S42-1	0.3	770	100	4.9	---	---
S42-2	0.6	140	11	0.43	---	---
S42-3	0.9	250	22	0.34	---	---
S43-S	0.15	2,800	---	---	3.8	---
S43-1	0.3	1,300	---	---	5.4	---
S43-2	0.6	190	15	1	---	---
S44-S	0.15	2,000	---	---	4.2	---
S44-1	0.3	1,700	---	---	4.2	6.86
S44-2	0.6	1,200	---	---	4.3	---
S44-3	0.9	150	9.1	0.59	---	---
S45-S	0.15	1,600	---	---	6.3	---
S45-1	0.3	560	48	4.5	---	---
S45-2	0.6	550	50	2.6	---	---
S45-3	0.9	99	12	0.49	---	---
S46-S	0.15	1,300	---	---	2.7	---
S46-1	0.3	180	24	0.69	---	---
S46-2	0.6	350	23	0.95	---	---
S46-3	0.9	92	7.6	0.22	---	8.45
S47-S	0.15	800	81	2.9	---	---
S47-1	0.3	640	50	3	---	---
S47-2	0.6	94	7.7	0.64	---	---
S47-3	0.9	110	10	0.69	---	---
S48-S	0.15	1,100	---	---	1.9	---
S48-1	0.3	360	18	1.3	---	---
S48-2	0.6	99	5.7	0.35	---	---
S48-3	0.9	23	---	---	---	---
S49-S	0.15	310	26	ND	---	---
S49-1	0.3	18	---	---	---	7.88
S49-2	0.6	ND	---	---	---	---

TABLE I (continued)
SUMMARY OF LEAD AND PH DATA

Sample ID	Depth (m)	Total Lead (mg/kg)	WET-Citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
S49-3	0.9	6.9	---	---	---	---
S50-S	0.15	960	97	1.6	---	---
S50-1	0.3	140	17	0.52	---	---
S50-2	0.6	66	7.4	ND	---	---
S50-3	0.9	120	11	ND	---	---
S51-S	0.15	470	48	1.4	---	---
S51-1	0.3	20	---	---	---	---
S51-2	0.6	30	---	---	---	---
S51-3	0.9	8	---	---	---	8.86
S52-S	0.15	680	53	2.2	---	---
S52-1	0.3	110	13	0.4	---	---
S52-2	0.6	180	6.6	0.36	---	---
S52-3	0.9	38	---	---	---	---
S53-S	0.15	510	41	1.6	---	---
S53-1	0.3	190	12	0.27	---	---
S53-2	0.6	14	---	---	---	---
S53-3	0.9	38	---	---	---	---
S54-S	0.15	1,000	---	---	1.2	---
S54-1	0.3	41	---	---	---	8.4
S54-2	0.6	31	---	---	---	---
S54-3	0.9	12	---	---	---	---
S55-S	0.15	83	3.5	---	---	---
S55-1	0.3	510	27	2.4	---	---
S55-2	0.6	120	8.9	0.83	---	---
S56-S	0.15	2,000	---	---	1.8	---
S56-1	0.3	610	45	1.1	---	---
S56-2	0.6	440	29	0.38	---	---
S56-3	0.9	73	5.3	0.25	---	---
S57-S	0.15	670	38	2.7	---	7.46
S57-1	0.3	570	11	0.69	---	---
S57-2	0.6	43	---	---	---	---
S57-3	0.9	750	40	2.5	---	---
S58-S	0.15	1,200	---	---	4.4	---
S58-1	0.3	960	46	6.6	---	---
S58-2	0.6	950	86	4.7	---	---
S58-3	0.9	150	9.1	0.77	---	---
S59-S	0.15	1,000	---	---	0.87	7.68
S59-1	0.3	1,300	---	---	0.43	---
S59-2	0.6	820	11	0.4	---	---
S59-3	0.9	570	29	0.65	---	---
S60-S	0.15	62	39	0.26	---	---

TABLE I (continued)
SUMMARY OF LEAD AND PH DATA

Sample ID	Depth (m)	Total Lead (mg/kg)	WET-Citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
S60-1	0.3	200	7.6	ND	---	---
S60-2	0.6	47	---	---	---	---
S60-3	0.9	1,100	---	---	ND	---
S61-S	0.15	1,200	---	---	0.84	7.19
S61-1	0.3	770	25	0.5	---	---
S61-2	0.6	1,300	---	---	0.75	---
S61-3	0.9	640	13	0.35	---	---
S62-S	0.15	200	8.5	ND	---	---
S62-1	0.3	220	1.3	---	---	---
S62-2	0.6	1,800	---	---	ND	---
S62-3	0.9	240	0.55	---	---	---
S63-S	0.15	89	17	ND	---	---
S63-1	0.3	160	5.1	ND	---	---
S63-2	0.6	400	4.7	---	---	7.68
S63-3	0.9	180	8.4	ND	---	---
S64-S	0.15	46	---	---	---	---
S64-1	0.3	300	3.1	---	---	---
S64-2	0.6	370	3.3	---	---	---
S64-3	0.9	410	4.6	---	---	---
S65-S	0.15	35	---	---	---	---
S65-1	0.3	140	3.8	---	---	---
S65-2	0.6	310	38	ND	---	---
S65-3	0.9	710	7.5	2.1	---	---
S66-S	0.15	21	---	---	---	6.2
S66-1	0.3	64	15	0.23	---	---
S66-2	0.6	240	4.7	---	---	---
S66-3	0.9	1,300	---	---	ND	---
S67-S	0.15	60	80	1.2	---	---
S67-1	0.3	380	33	1.1	---	---
S67-2	0.6	80	7.5	ND	---	---
S67-3	0.9	950	1.4	---	---	---
S68-S	0.15	64	30	0.44	---	---
S68-1	0.3	70	35	0.6	---	---
S68-2	0.6	43	---	---	---	7.23
S68-3	0.9	150	2.1	---	---	---
S69-S	0.15	48	---	---	---	---
S69-1	0.3	47	---	---	---	---
S69-2	0.6	110	17	0.41	---	---
S69-3	0.9	150	4.5	---	---	---
S70-S	0.15	11	---	---	---	---
S70-1	0.3	20	---	---	---	---

TABLE I (continued)
SUMMARY OF LEAD AND PH DATA

Sample ID	Depth (m)	Total Lead (mg/kg)	WET-Citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
S70-2	0.6	28	---	---	---	---
S70-3	0.9	97	14	ND	---	---
S71-S	0.15	140	48	0.25	---	6.7
S71-1	0.3	250	150	1.3	---	---
S71-2	0.6	320	100	1.7	---	---
S71-3	0.9	820	170	2.2	---	---
S72-S	0.15	38	---	---	---	---
S72-1	0.3	10	---	---	---	---
S72-2	0.6	100	19	1.1	---	---
S72-3	0.9	520	1.1	---	---	---
S73-S	0.15	280	66	0.74	---	---
S73-1	0.3	170	93	3.5	---	---
S73-2	0.6	86	120	7.2	---	6.72
S73-3	0.9	360	110	5	---	---
S74-S	0.15	730	83	1.1	---	---
S74-1	0.3	130	13	0.37	---	---
S74-2	0.6	36	---	---	---	---
S74-3	0.9	33	---	---	---	---
S75-S	0.15	640	65	1.3	---	---
S75-1	0.3	460	65	2.1	---	---
S75-2	0.6	29	---	---	---	---
S75-3	0.9	27	---	---	---	---
S76-S	0.15	680	71	2.2	---	7.21
S76-1	0.3	110	9.3	0.6	---	---
S76-2	0.6	63	2.8	---	---	---
S76-3	0.9	23	---	---	---	---
S77-S	0.15	360	99	1.7	---	---
S77-1	0.3	950	190	12	---	---
S77-2	0.6	470	24	1.8	---	---
S77-3	0.9	120	8.2	ND	---	---
S78-S	0.15	890	100	2.4	---	---
S78-1	0.3	230	15	ND	---	---
S78-2	0.6	370	57	0.82	---	7.16
S78-3	0.9	17	---	---	---	---
S79-S	0.15	500	110	1.1	---	---
S79-1	0.3	47	---	---	---	---
S79-2	0.6	48	---	---	---	---
S79-3	0.9	23	---	---	---	---
S80-S	0.15	590	6.2	0.8	---	---
S80-1	0.3	40	---	---	---	---
S80-2	0.6	66	2.7	---	---	---

TABLE I (continued)
SUMMARY OF LEAD AND PH DATA

Sample ID	Depth (m)	Total Lead (mg/kg)	WET-Citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
S81-S	0.15	470	51	1.9	---	8.52
S81-1	0.3	30	---	---	---	---
S81-2	0.6	72	5.5	0.36	---	---
S81-3	0.9	9.8	---	---	---	---
S82-S	0.15	710	70	3.5	---	---
S82-1	0.3	180	14	0.86	---	---
S82-2	0.6	170	13	0.39	---	---
S82-3	0.9	160	8.3	0.23	---	---
S83-S	0.15	720	63	1.1	---	---
S83-1	0.3	350	26	0.56	---	7.29
S83-2	0.6	54	3.9	---	---	---
S83-3	0.9	31	---	---	---	---
S84-S	0.15	1,400	---	---	3.5	---
S84-1	0.3	560	52	1.8	---	---
S84-2	0.6	210	15	1.3	---	---
S84-3	0.9	420	25	2.6	---	---
S85-S	0.15	450	34	0.5	---	---
S85-1	0.3	780	91	3.4	---	---
S85-2	0.6	1,800	---	---	9.1	---
S85-3	0.9	500	43	3.2	---	7.19
S86-S	0.15	260	26	0.28	---	---
S86-1	0.3	480	55	0.6	---	---
S86-2	0.6	750	88	2.3	---	---
S87-S	0.15	1,000	---	---	1.4	---
S87-1	0.3	390	35	0.83	---	---
S87-2	0.6	100	4.4	---	---	---
S87-3	0.9	22	---	---	---	---
S88-S	0.15	1,100	---	---	5.4	---
S88-1	0.3	1,100	---	---	3.3	---
S88-2	0.6	1,100	---	---	0.43	7.44
S88-3	0.9	550	54	1.4	---	---
S89-S	0.15	270	50	ND	---	---
S89-1	0.3	560	62	5	---	---
S89-2	0.6	47	---	---	---	---
S89-3	0.9	100	6.6	0.37	---	---
S90-S	0.15	240	16	0.2	---	---
S90-1	0.3	100	7.9	ND	---	---
S90-2	0.6	1,500	---	---	4.8	---
S90-3	0.9	120	12	0.85	---	---
S91-S	0.15	530	83	0.6	---	7.56
S91-1	0.3	650	62	2.3	---	---

TABLE I (continued)
SUMMARY OF LEAD AND PH DATA

Sample ID	Depth (m)	Total Lead (mg/kg)	WET-Citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
S91-2	0.6	48	---	---	---	---
S91-3	0.9	89	1.7	---	---	---
S92-S	0.15	410	43	1.1	---	---
S92-1	0.3	90	5.8	0.29	---	---
S92-2	0.6	250	28	1.8	---	---
S92-3	0.9	360	29	1.6	---	---
S93-S	0.15	940	43	1	---	---
S93-1	0.3	870	95	3.1	---	---
S93-2	0.6	69	5.5	ND	---	7.86
S94-S	0.15	1,100	---	---	4.9	---
S94-1	0.3	690	49	1.3	---	---
S94-2	0.6	750	63	1	---	---
S95-S	0.15	500	25	0.3	---	---
S95-1	0.3	620	57	1.7	---	---
S95-2	0.6	140	8.2	ND	---	---
S95-3	0.9	230	14	0.29	---	---
S96-S	0.15	670	29	0.58	---	---
S96-1	0.3	19	---	---	---	---
S96-2	0.6	180	13	0.29	---	8.45
S96-3	0.9	34	---	---	---	---
S97-S	0.15	170	11	ND	---	---
S97-1	0.3	290	17	0.78	---	---
S97-2	0.6	120	12	0.31	---	---
S97-3	0.9	110	4.5	---	---	---
S98-S	0.15	270	19	ND	---	---
S98-1	0.3	1,500	---	---	4.9	---
S98-2	0.6	91	2	---	---	---
S98-3	0.9	55	3.4	---	---	---
S99-S	0.15	1,900	---	---	5	6.99
S99-1	0.3	1,600	---	---	5.2	---
S99-2	0.6	620	51	2.5	---	---
S100-S	0.15	610	67	1.7	---	---
S100-1	0.3	88	7.1	0.2	---	---
S100-2	0.6	60	2.9	---	---	---
S100-3	0.9	220	21	0.28	---	---
S101-S	0.15	250	27	0.79	---	---
S101-1	0.3	43	---	---	---	---
S101-2	0.6	34	---	---	---	---
S102-S	0.15	560	67	0.46	---	7.5
S102-1	0.3	710	78	2.2	---	---
S102-2	0.6	220	17	0.92	---	---

TABLE I (continued)
SUMMARY OF LEAD AND PH DATA

Sample ID	Depth (m)	Total Lead (mg/kg)	WET-Citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
S102-3	0.9	140	15	0.44	---	---
S103-S	0.15	1,900	---	---	14	---
S103-1	0.3	330	14	0.61	---	---
S103-2	0.6	81	7.1	0.38	---	---
S104-S	0.15	910	73	1.8	---	---
S104-1	0.3	1,000	---	---	3	---
S104-2	0.6	170	6.2	0.21	---	---
S104-3	0.9	170	18	0.62	---	7.11
S105-S	0.15	1,400	---	---	6.1	---
S105-1	0.3	2,500	---	---	13	---
S105-2	0.6	180	23	1.6	---	---
S106-S	0.15	730	72	2.1	---	---
S106-1	0.3	2,300	---	---	18	---
S106-2	0.6	240	26	2.9	---	---
S106-3	0.9	390	32	3.1	---	---
S107-S	0.15	320	29	0.43	---	---
S107-1	0.3	240	14	0.24	---	---
S107-2	0.6	290	17	1.4	---	7.67
S107-3	0.9	180	16	1.1	---	---
S108-S	0.15	590	43	0.73	---	---
S108-1	0.3	150	19	0.25	---	---
S108-2	0.6	320	23	1.6	---	---
S108-3	0.9	74	7.1	0.51	---	---
S109-S	0.15	560	51	0.55	---	6.57
S109-1	0.3	850	110	4.4	---	---
S109-2	0.6	230	21	1.5	---	---
S109-3	0.9	110	7.6	0.51	---	---
S110-S	0.15	220	20	ND	---	---
S110-1	0.3	1,100	---	---	4.9	---
S110-2	0.6	130	18	1.6	---	---
S110-3	0.9	190	16	1.6	---	---
S111-S	0.15	340	36	0.59	---	---
S111-1	0.3	850	120	5.4	---	7.11
S111-2	0.6	43	---	---	---	---
S111-3	0.9	28	---	---	---	---
S112-S	0.15	510	57	0.52	---	---
S112-1	0.3	210	26	ND	---	---
S112-2	0.6	53	7.1	ND	---	---
S112-3	0.9	130	8	0.5	---	---
S113-S	0.15	1,000	---	---	5.9	---
S113-1	0.3	630	92	4	---	---

TABLE I (continued)
SUMMARY OF LEAD AND PH DATA

Sample ID	Depth (m)	Total Lead (mg/kg)	WET-Citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
S113-2	0.6	100	7.4	0.28	---	---
S113-3	0.9	48	---	---	---	7.81
S114-S	0.15	140	13	ND	---	---
S114-1	0.3	150	14	ND	---	---
S114-2	0.6	150	13	ND	---	---
S114-3	0.9	29	---	---	---	---
S115-S	0.15	280	32	ND	---	---
S115-1	0.3	52	3	---	---	---
S115-2	0.6	130	6.8	ND	---	---
S115-3	0.9	22	---	---	---	---
S116-S	0.15	310	17	0.83	---	---
S116-1	0.3	260	16	0.42	---	8.3
S117-S	0.15	190	20	0.21	---	---
S117-1	0.3	170	28	---	---	---
S117-2	0.6	110	12	ND	---	---
S118-S	0.15	120	6.8	ND	---	---
S118-1	0.3	67	5.9	ND	---	---
S119-S	0.15	260	28	0.26	---	---
S119-1	0.3	18	---	---	---	---
S119-2	0.6	ND	---	---	---	---
S119-3	0.9	6.2	---	---	---	---
S120-S	0.15	66	6.2	ND	---	8.29
S120-1	0.3	15	---	---	---	---
S120-2	0.6	11	---	---	---	---
S120-3	0.9	9.3	---	---	---	---

ND = Not detected at or above laboratory detection limits.

WET-Citric = Waste Extraction Test using citric acid as the extractant, EPA Test Method 3050A.

WET-DI = Waste Extraction Test using deionized water as the extractant, EPA Test Method 3050A.

TCLP = Toxicity Characteristic Leaching Procedure, EPA Test Method 1311.

Total and soluble lead analyzed using EPA Test Method 6010.

TABLE II
TITLE 22 METALS ROUTE 5 SOUTHBOUND

Element	<i>S42-S</i>	<i>S43-S</i>	<i>S44-S</i>	<i>S44-1</i>	<i>S45-S</i>	<i>S56-S</i>	<i>S62-2</i>	Max Value	STLC	TTLIC	10X STLC
Antimony	1.5	2.0	1.5	1.5	1.5	2.0	1.0	2.5	15	500	150
Arsenic	9.0	10	9.0	7.5	9.0	9.0	11	23	5.0	500	50
Barium	94	210	140	100	130	250	98	250	100	10,000	1,000
Beryllium	ND	<0.15	0.75	75	7.5						
Cadmium	ND	2.5	1.0	100	10						
Chromium	19	36	25	17	41	37	16	41	5.0	2,500	50
Cobalt	6.0	6.5	6.0	5.5	7.0	6.5	8.0	8.0	80	8,000	800
Copper	44	98	56	210	100	110	20	210	25	2,500	250
Lead	1,400	4,600	2,100	1,800	2,100	2,200	23	4,600	5.0	1,000	50
Mercury	ND	0.12	0.47	0.25	ND	0.31	ND	0.47	0.2	20	2.0
Molybdenum	2.0	5.5	4.0	1.5	39	7.0	0.5	39	350	3,500	3,500
Nickel	14	23	18	14	29	24	12	29	20	2,000	200
Selenium	ND	ND	ND	ND	ND	3.0	ND	3.0	1.0	100	10
Silver	ND	0.17	0.15	ND	0.28	0.21	ND	5.0	5.0	500	50
Thallium	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0	7.0	700	70
Vanadium	21	23	22	21	22	24	33	34	24	2,400	240
Zinc	250	650	340	270	540	480	48	1,100	250	5000	2,500

ND = Not detected at or above laboratory detection limits

STLC = Soluble Threshold Limit Concentration

TTLIC = Total Threshold Limit Concentration

All values in milligrams per kilograms (mg/kg), except STLC and 10X STLC which are mg/l

TABLE II (continued)
TITLE 22 METALS ROUTE 5 SOUTHBOUND

Element	<i>S85-2</i>	<i>S90-2</i>	<i>S-98-1</i>	<i>S99-S</i>	<i>S99-1</i>	<i>S103-S</i>	<i>S105-1</i>	<i>S106-1</i>	Max Value	STLC	TTLIC	10X STLC
Antimony	1.5	1.5	1.0	2.0	1.5	2.5	2.5	2.0	2.5	15	500	150
Arsenic	18	12	12	9.5	10	20	23	20	23	5.0	500	50
Barium	160	160	110	190	170	160	210	210	250	100	10,000	1,000
Beryllium	ND	ND	ND	ND	ND	ND	ND	ND	<0.15	0.75	75	7.5
Cadmium	ND	ND	ND	ND	ND	0.5	2.5	0.22	2.5	1.0	100	10
Chromium	18	32	14	24	28	36	35	26	41	5.0	2,500	50
Cobalt	5.5	6.0	5.0	7.0	7.5	6.0	6.5	5.5	8.0	80	8,000	800
Copper	48	110	38	61	51	140	88	70	210	25	2,500	250
Lead	1,700	1,600	1,000	1,900	1,900	2,900	3,800	3,200	4,600	5.0	1,000	50
Mercury	ND	0.11	ND	ND	ND	0.24	0.14	ND	0.47	0.2	20	2.0
Molybdenum	2.0	2.5	1.5	3.5	2.5	5.5	4.0	3.0	39	350	3,500	3,500
Nickel	15	17	12	20	21	26	20	16	29	20	2,000	200
Selenium	ND	ND	ND	ND	ND	ND	ND	ND	3.0	1.0	100	10
Silver	ND	ND	ND	ND	ND	2.0	5.0	1.0	5.0	5.0	500	50
Thallium	0.5	0.5	0.44	1.0	0.5	0.5	1.0	0.5	1.0	7.0	700	70
Vanadium	25	26	21	29	34	22	24	22	34	24	2,400	240
Zinc	240	300	220	620	600	1,100	430	430	1,100	250	5,000	2,500

ND = Not detected at or above laboratory detection limits

STLC = Soluble Threshold Limit Concentration

TTLIC = Total Threshold Limit Concentration

All values in milligrams per kilograms (mg/kg), except STLC and 10X STLC which are mg/l

TABLE II (continued)
TITLE 22 METALS ROUTE 5 NORTHBOUND

Element	N8-S	N18-0.3	N38-0.3	N38-0.6	N45-S	N54-S	N58-S	Max Value	STLC	TTLIC	10X STLC
Antimony	1.5	1.5	2.5	3.5	2.0	2.0	2.0	3.5	15	500	150
Arsenic	15	9.5	12	9.1	8.5	9.0	9.0	15	5.0	500	50
Barium	200	240	210	240	200	170	170	240	100	10,000	1,000
Beryllium	ND	ND	ND	ND	ND	ND	ND	<0.15	0.75	75	7.5
Cadmium	0.5	ND	ND	2.9	ND	ND	ND	8.5	1.0	100	10
Chromium	25	16	46	33	21	23	22	46	5.0	2,500	50
Cobalt	6.0	5.0	6.5	6.3	6.0	6.0	5.0	8.5	80	8,000	800
Copper	50	150	94	150	72	78	56	150	25	2,500	250
Lead	2,000	5,000	3,700	2,200	2,100	3,800	3,700	5,000	5.0	1,000	50
Mercury	ND	ND	0.12	ND	0.14	0.14	ND	0.22	0.2	20	2.0
Molybdenum	2.5	2.0	5.5	5.4	2.5	4.0	3.0	7.0	350	3,500	3,500
Nickel	16	15	24	25	16	19	18	32	20	2,000	200
Selenium	ND	ND	ND	ND	ND	ND	ND	<0.25	1.0	100	10
Silver	ND	0.34	0.24	0.47	ND	ND	ND	140	5.0	500	50
Thallium	1.0	1.0	0.5	ND	0.5	0.5	0.5	1.0	7.0	700	70
Vanadium	26	22	28	23	22	24	22	40	24	2,400	240
Zinc	650	410	550	850	390	350	300	850	250	5,000	2,500

ND = Not detected at or above laboratory detection limits

STLC = Soluble Threshold Limit Concentration

TTLIC = Total Threshold Limit Concentration

All values in milligrams per kilograms (mg/kg), except STLC and 10X STLC which are mg/l

TABLE II (continued)
TITLE 22 METALS ROUTE 5 NORTHBOUND

Element	N61-S	N77-0.6	N80-S	N82-S	N82-0.3	N84-S	N91-0.6	N92-S	Max Value	STLC	TTLIC	10X STLC
Antimony	2.0	2.0	2.5	3.0	2.5	2.0	2.5	2.5	3.5	15	500	150
Arsenic	12	10	12	11	12	9.5	12	14	15	5.0	500	50
Barium	200	120	210	240	160	170	180	210	240	100	10,000	1,000
Beryllium	ND	ND	ND	ND	ND	ND	ND	ND	<0.15	0.75	75	7.5
Cadmium	ND	ND	8.5	ND	ND	ND	ND	ND	8.5	1.0	100	10
Chromium	30	18	32	39	24	26	23	28	46	5.0	2,500	50
Cobalt	7.0	7.0	7.0	6.5	6.5	6.5	6.5	8.5	8.5	80	8,000	800
Copper	110	36	80	100	68	58	110	73	150	25	2,500	250
Lead	1,800	1,900	4,400	2,300	2,400	2,300	3,800	4,000	5,000	5.0	1,000	50
Mercury	ND	ND	0.17	0.21	0.11	0.22	ND	ND	0.22	0.2	20	2.0
Molybdenum	7.0	3.0	4.0	5.5	3.0	2.5	3.0	3.0	7.0	350	3,500	3,500
Nickel	26	14	22	32	22	18	22	22	32	20	2,000	200
Selenium	ND	ND	ND	ND	ND	ND	ND	ND	<0.25	1.0	100	10
Silver	ND	ND	140	0.29	0.28	ND	ND	ND	140	5.0	500	50
Thallium	1.0	1.0	1.0	0.5	1.0	0.5	1.0	1.0	1.0	7.0	700	70
Vanadium	29	26	26	30	28	28	24	40	40	24	2,400	240
Zinc	450.	290	490	530	360	420	610	550	850	250	5,000	2,500

ND = Not detected at or above laboratory detection limits

STLC = Soluble Threshold Limit Concentration

TTLIC = Total Threshold Limit Concentration

All values in milligrams per kilograms (mg/kg), except STLC and 10X STLC which are mg/l

APPENDIX

A

borehole_spreadsheet

unique id	site description	parallel location	lateral location	borehole id	Borehole Latitude	Borehole Longitude
566	per task order	s1		566-101	33.9390354	-118.0954053
566	per task order	s2		566-102	33.9382581	-118.0949604
566	per task order	s3		566-103	33.9375474	-118.0944572
566	per task order	s4		566-104	33.9367328	-118.0939629
566	per task order	s5		566-105	33.9359612	-118.0933811
566	per task order	s6		566-106	33.9351392	-118.0928078
566	per task order	s7		566-107	33.9346456	-118.0923235
566	per task order	s8		566-108	33.9342206	-118.0921638
566	per task order	s9		566-109	33.933621	-118.0917032
566	per task order	s10		566-110	33.9330174	-118.0912576
566	per task order	s11		566-111	33.9323398	-118.0908233
566	per task order	s12		566-112	33.9317872	-118.0904433
566	per task order	s13		566-113	33.9312522	-118.0901677
566	per task order	s14		566-114	33.9298298	-118.0891381
566	per task order	s15		566-115	33.9294494	-118.0887416
566	per task order	s16		566-116	33.9305362	-118.089695
566	per task order	s17		566-117	33.9290968	-118.0885278
566	per task order	s18		566-118	33.9284335	-118.0880895
566	per task order	s19		566-119	33.9279341	-118.0877214
566	per task order	s20		566-120	33.9273632	-118.0873132
566	per task order	s21		566-121	33.9267432	-118.0868801
566	per task order	s22		566-122	33.9261524	-118.0864413
566	per task order	s23		566-123	33.9254681	-118.085981
566	per task order	s24		566-124	33.9248465	-118.0855419
566	per task order	s25		566-125	33.9242054	-118.0850954
566	per task order	s26		566-126	33.9235842	-118.084664
566	per task order	s27		566-127	33.9229742	-118.08421
566	per task order	s28		566-128	33.9223457	-118.0837864
566	per task order	s29		566-129	33.9217438	-118.0833457
566	per task order	s30		566-130	33.9211536	-118.0829279
566	per task order	s31		566-131	33.9201251	-118.0822211
566	per task order	s32		566-132	33.9189026	-118.0813048
566	per task order	s33		566-133	33.9183337	-118.0809045
566	per task order	s34		566-134	33.9179643	-118.0806482
566	per task order	s35		566-135	33.9174008	-118.0802312
566	per task order	s36		566-136	33.9167745	-118.0799669

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566	per task order	s37	566-137	33.9159865	-118.0792709
566	per task order	s38	566-138	33.9154865	-118.0788104
566	per task order	s39	566-139	33.9149404	-118.0782159
566	per task order	s40	566-140	33.9144599	-118.0777341
566	per task order	s41	566-141	33.9140124	-118.0770542
566	per task order	s42	566-142	33.9135768	-118.0763486
566	per task order	s43	566-143	33.9131559	-118.0756123
566	per task order	s44	566-144	33.9128123	-118.074962
566	per task order	s45	566-145	33.912362	-118.0741318
566	per task order	s46	566-146	33.9119271	-118.0733168
566	per task order	s47	566-147	33.9115465	-118.0726237
566	per task order	s48	566-148	33.911154	-118.0719387
566	per task order	s49	566-149	33.9106856	-118.0712877
566	per task order	s50	566-150	33.9102123	-118.0706445
566	per task order	s51	566-151	33.9096506	-118.0699633
566	per task order	s52	566-152	33.9089724	-118.0692549
566	per task order	s53	566-153	33.9083126	-118.0686075
566	per task order	s54	566-154	33.9074385	-118.0677308
566	per task order	s55	566-155	33.9066473	-118.0669388
566	per task order	s56	566-156	33.9059642	-118.0662503
566	per task order	s57	566-157	33.9049658	-118.0652366
566	per task order	s58	566-158	33.9043941	-118.0646708
566	per task order	s59	566-159	33.9039386	-118.0641844
566	per task order	s60	566-160	33.9032754	-118.0635042
566	per task order	s61	566-161	33.9027617	-118.0627154
566	per task order	s62	566-162	33.9021506	-118.0618466
566	per task order	s63	566-163	33.9015685	-118.0610026
566	per task order	s64	566-164	33.9010516	-118.0602082
566	per task order	s65	566-165	33.8990214	-118.0568817
566	per task order	s66	566-166	33.8994869	-118.0577607
566	per task order	s67	566-167	33.8999777	-118.0586133
566	per task order	s68	566-168	33.9004732	-118.0594542
566	per task order	s69	566-169	33.8985388	-118.0559696
566	per task order	s70	566-170	33.8980236	-118.0550116
566	per task order	s71	566-171	33.897549	-118.0541174
566	per task order	s72	566-172	33.8970847	-118.0532687
566	per task order	s73	566-173	33.8966203	-118.0524207

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566	per task order	s74	566-174	33.8961688	-118.0515502
566	per task order	s75	566-175	33.8956743	-118.0506524
566	per task order	s76	566-176	33.8951914	-118.0497424
566	per task order	s77	566-177	33.8946945	-118.0488335
566	per task order	s78	566-178	33.8941905	-118.0479296
566	per task order	s79	566-179	33.8937025	-118.0470244
566	per task order	s80	566-180	33.8931234	-118.0460547
566	per task order	s81	566-181	33.8927108	-118.0451808
566	per task order	s82	566-182	33.8922223	-118.0443454
566	per task order	s83	566-183	33.8917111	-118.0433545
566	per task order	s84	566-184	33.8913011	-118.0425687
566	per task order	s85	566-185	33.8908755	-118.0417786
566	per task order	s86	566-186	33.8904311	-118.040946
566	per task order	s87	566-187	33.889979	-118.040106
566	per task order	s88	566-188	33.8895248	-118.039256
566	per task order	s89	566-189	33.8890728	-118.0384286
566	per task order	s90	566-190	33.8886237	-118.0375754
566	per task order	s91	566-191	33.8881649	-118.0367216
566	per task order	s92	566-192	33.887649	-118.0359286
566	per task order	s93	566-193	33.8873018	-118.0352117
566	per task order	s94	566-194	33.8864626	-118.0336217
566	per task order	s95	566-195	33.8860158	-118.0327673
566	per task order	s96	566-196	33.8855639	-118.0319248
566	per task order	s97	566-197	33.8850975	-118.0310814
566	per task order	s98	566-198	33.8846181	-118.0302108
566	per task order	s99	566-199	33.8840556	-118.0291444
566	per task order	s100	566-200	33.8835609	-118.0283486
566	per task order	s101	566-201	33.883143	-118.0274356
566	per task order	s102	566-202	33.8825288	-118.0264118
566	per task order	s103	566-203	33.8821071	-118.025621
566	per task order	s104	566-204	33.8815849	-118.0246157
566	per task order	s105	566-205	33.8810841	-118.0236656
566	per task order	s106	566-206	33.8806651	-118.0228888
566	per task order	s107	566-207	33.8802325	-118.0220834
566	per task order	s108	566-208	33.8797836	-118.0212441
566	per task order	s109	566-209	33.8793401	-118.0204332
566	per task order	s110	566-210	33.8788983	-118.0195941

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566	per task order	s111	566-211	33.8784502	-118.0187517
566	per task order	s112	566-212	33.8780098	-118.0179426
566	per task order	s113	566-213	33.877561	-118.0171016
566	per task order	s114	566-214	33.8771542	-118.0163194
566	per task order	s115	566-215	33.876707	-118.0154893
566	per task order	s116	566-216	33.8762133	-118.0146542
566	per task order	s117	566-217	33.8757319	-118.0137684
566	per task order	s118	566-218	33.8754011	-118.013144
566	per task order	s119	566-219	33.8748897	-118.0122387
566	per task order	s120	566-220	33.8743084	-118.0116239
566	per task order	n1	566-221	33.8748627	-118.0113387
566	per task order	n2	566-222	33.8753176	-118.0121605
566	per task order	n3	566-223	33.8757758	-118.0129922
566	per task order	n4	566-224	33.8760514	-118.0135661
566	per task order	n5	566-225	33.8766961	-118.0147756
566	per task order	n6	566-226	33.8771487	-118.0156275
566	per task order	n7	566-227	33.8776948	-118.0166226
566	per task order	n8	566-228	33.8781295	-118.0174444
566	per task order	n9	566-229	33.8785771	-118.0182743
566	per task order	n10	566-230	33.8790653	-118.0191506
566	per task order	n11	566-231	33.8795086	-118.0200182
566	per task order	n12	566-232	33.8799849	-118.0208995
566	per task order	n13	566-233	33.8804518	-118.0217615
566	per task order	n14	566-234	33.8809269	-118.0226565
566	per task order	n15	566-235	33.8814218	-118.0235383
566	per task order	n16	566-236	33.8819656	-118.024561
566	per task order	n17	566-237	33.8824407	-118.0254384
566	per task order	n18	566-238	33.8850908	-118.030369
566	per task order	n19	566-239	33.885531	-118.0312263
566	per task order	n20	566-240	33.8860087	-118.0320498
566	per task order	n21	566-241	33.8863703	-118.0327431
566	per task order	n22	566-242	33.886814	-118.0335272
566	per task order	n23	566-243	33.8872911	-118.0344014
566	per task order	n24	566-244	33.8877309	-118.0352203
566	per task order	n25	566-245	33.8888962	-118.0374041
566	per task order	n26	566-246	33.8893707	-118.0382791
566	per task order	n27	566-247	33.8898595	-118.0391771

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566	per task order	n28	566-248	33.89031	-118.0400434
566	per task order	n29	566-249	33.8908892	-118.0410819
566	per task order	n30	566-250	33.8913759	-118.0419861
566	per task order	n31	566-251	33.891832	-118.042825
566	per task order	n32	566-252	33.8925142	-118.0441038
566	per task order	n33	566-253	33.8929703	-118.0449384
566	per task order	n34	566-254	33.8934429	-118.0457954
566	per task order	n35	566-255	33.8936374	-118.0461739
566	per task order	n36	566-256	33.8960706	-118.0506828
566	per task order	n37	566-257	33.8970287	-118.0524441
566	per task order	n38	566-258	33.8980309	-118.0544433
566	per task order	n39	566-259	33.8982801	-118.0548117
566	per task order	n40	566-260	33.8986295	-118.055433
566	per task order	n41	566-261	33.8990747	-118.0562281
566	per task order	n42	566-262	33.8994804	-118.0570219
566	per task order	n43	566-263	33.8999176	-118.0578027
566	per task order	n44	566-264	33.9004644	-118.0586081
566	per task order	n45	566-265	33.9010326	-118.0594489
566	per task order	n46	566-266	33.9016099	-118.0602244
566	per task order	n47	566-267	33.9021062	-118.0608781
566	per task order	n48	566-268	33.9026929	-118.0616764
566	per task order	n49	566-269	33.9032383	-118.0624394
566	per task order	n50	566-270	33.9038248	-118.0632006
566	per task order	n51	566-271	33.9043977	-118.0639577
566	per task order	n52	566-272	33.9047491	-118.0643897
566	per task order	n53	566-273	33.9055335	-118.0652496
566	per task order	n54	566-274	33.906152	-118.0659115
566	per task order	n55	566-275	33.9067551	-118.0665733
566	per task order	n56	566-276	33.9073837	-118.0672229
566	per task order	n57	566-277	33.9080213	-118.0678396
566	per task order	n58	566-278	33.9086489	-118.0684702
566	per task order	n59	566-279	33.9092911	-118.0691171
566	per task order	n60	566-280	33.9099191	-118.069756
566	per task order	n61	566-281	33.9105111	-118.0704483
566	per task order	n62	566-282	33.9110822	-118.0711848
566	per task order	n63	566-283	33.9113108	-118.0715837
566	per task order	n64	566-284	33.9116378	-118.0721452

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566	per task order	n65	566-285	33.9120874	-118.0729211
566	per task order	n66	566-286	33.9125206	-118.0737078
566	per task order	n67	566-287	33.9129558	-118.074569
566	per task order	n68	566-288	33.9133942	-118.0753831
566	per task order	n69	566-289	33.9138571	-118.0761685
566	per task order	n70	566-290	33.9143301	-118.0769551
566	per task order	n71	566-291	33.9151684	-118.077995
566	per task order	n72	566-292	33.9156279	-118.0784285
566	per task order	n73	566-293	33.9162607	-118.0790352
566	per task order	n74	566-294	33.9174791	-118.0799127
566	per task order	n75	566-295	33.9181595	-118.080286
566	per task order	n76	566-296	33.9188257	-118.0808314
566	per task order	n77	566-297	33.9195694	-118.0813803
566	per task order	n78	566-298	33.9206522	-118.082136
566	per task order	n79	566-299	33.9213038	-118.0825909
566	per task order	n80	566-300	33.922021	-118.0830574
566	per task order	n81	566-301	33.9226648	-118.0835438
566	per task order	n82	566-302	33.9233139	-118.0840052
566	per task order	n83	566-303	33.9239427	-118.084455
566	per task order	n84	566-304	33.92462	-118.0849111
566	per task order	n85	566-305	33.9253029	-118.0854147
566	per task order	n86	566-306	33.9259798	-118.0858848
566	per task order	n87	566-307	33.9266392	-118.086357
566	per task order	n88	566-308	33.927256	-118.0867827
566	per task order	n89	566-309	33.9278612	-118.0872147
566	per task order	n90	566-310	33.9285109	-118.0876747
566	per task order	n91	566-311	33.9291881	-118.088152
566	per task order	n92	566-312	33.9309723	-118.0893826
566	per task order	n93	566-313	33.9303994	-118.088967
566	per task order	n94	566-314	33.9297893	-118.0885651
566	per task order	n95	566-315	33.9315803	-118.0897809
566	per task order	n96	566-316	33.932066	-118.0901389
566	per task order	n97	566-317	33.9332034	-118.090868
566	per task order	n98	566-318	33.9340092	-118.0915478
566	per task order	n99	566-319	33.9345532	-118.0919177
566	per task order	n100	566-320	33.9350861	-118.0922933
566	per task order	n101	566-321	33.9356075	-118.092646

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566	per task order	n102	566-322	33.936147	-118.0929937
566	per task order	n103	566-323	33.9367561	-118.0933642
566	per task order	n104	566-324	33.9373543	-118.0937016
566	per task order	n105	566-325	33.9376206	-118.0940303
566	per task order	n106	566-326	33.9381724	-118.0944068
566	per task order	n107	566-327	33.9386945	-118.0947424
566	per task order	n108	566-328	33.9393501	-118.0951925

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Sample Date	Sample Depth	sample id	test type	value	result units	method detection limit	analysis date	analyte	matrix	lab name
7/9/2002	surface	566-101-0	1. TTLC	1400	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	surface	566-101-0	2. STLC		mg/l			Lead	Soil	ATL
7/9/2002	surface	566-101-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	surface	566-101-0	4. TCLP	0.85	mg/l			Lead	Soil	ATL
7/9/2002	surface	566-101-0	5. PH	6.44		0.1	7/11/2002		Soil	ATL
7/9/2002	.3 m	566-101-1	1. TTLC	190	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-101-1	2. STLC	13	mg/l	0.2	7/17/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-101-1	3. STLC-DI	ND	mg/l	0.2	7/16/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-101-1	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.3 m	566-101-1	5. PH						Soil	ATL
7/9/2002	.6 m	566-101-2	1. TTLC	33	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.6 m	566-101-2	2. STLC		mg/l			Lead	Soil	ATL
7/9/2002	.6 m	566-101-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	.6 m	566-101-2	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.6 m	566-101-2	5. PH						Soil	ATL
7/9/2002	.9 m	566-101-3	1. TTLC		mg/kg			Lead	Soil	ATL
7/9/2002	.9 m	566-101-3	2. STLC		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-101-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-101-3	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-101-3	5. PH						Soil	ATL
7/9/2002	surface	566-102-0	1. TTLC	240	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	surface	566-102-0	2. STLC	19	mg/l	0.4	7/17/2002	Lead	Soil	ATL
7/9/2002	surface	566-102-0	3. STLC-DI	1.5	mg/l	0.2	7/16/2002	Lead	Soil	ATL
7/9/2002	surface	566-102-0	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	surface	566-102-0	5. PH						Soil	ATL
7/9/2002	.3 m	566-102-1	1. TTLC	85	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-102-1	2. STLC	6.6	mg/l	0.2	7/17/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-102-1	3. STLC-DI	0.85	mg/l	0.2	7/16/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-102-1	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.3 m	566-102-1	5. PH						Soil	ATL
7/9/2002	.6 m	566-102-2	1. TTLC	71	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.6 m	566-102-2	2. STLC	5.3	mg/l	0.2	7/17/2002	Lead	Soil	ATL
7/9/2002	.6 m	566-102-2	3. STLC-DI	0.78	mg/l	0.2	7/16/2002	Lead	Soil	ATL
7/9/2002	.6 m	566-102-2	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.6 m	566-102-2	5. PH						Soil	ATL
7/9/2002	.9 m	566-102-3	1. TTLC	76	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.9 m	566-102-3	2. STLC	4.2	mg/l	0.2	7/17/2002	Lead	Soil	ATL
7/9/2002	.9 m	566-102-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-102-3	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-102-3	5. PH						Soil	ATL
7/9/2002	surface	566-103-0	1. TTLC	750	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	surface	566-103-0	2. STLC	52	mg/l	1	7/17/2002	Lead	Soil	ATL
7/9/2002	surface	566-103-0	3. STLC-DI	4.4	mg/l	0.2	7/16/2002	Lead	Soil	ATL
7/9/2002	surface	566-103-0	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	surface	566-103-0	5. PH						Soil	ATL
7/9/2002	.3 m	566-103-1	1. TTLC	340	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-103-1	2. STLC	25	mg/l	0.4	7/17/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-103-1	3. STLC-DI	2.5	mg/l	0.2	7/16/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-103-1	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.3 m	566-103-1	5. PH						Soil	ATL
7/9/2002	.6 m	566-103-2	1. TTLC	170	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.6 m	566-103-2	2. STLC	14	mg/l	0.2	7/17/2002	Lead	Soil	ATL
7/9/2002	.6 m	566-103-2	3. STLC-DI	1.9	mg/l	0.2	7/16/2002	Lead	Soil	ATL
7/9/2002	.6 m	566-103-2	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.6 m	566-103-2	5. PH	7.59		0.1	7/11/2002		Soil	ATL
7/9/2002	.9 m	566-103-3	1. TTLC		mg/kg			Lead	Soil	ATL
7/9/2002	.9 m	566-103-3	2. STLC		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-103-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-103-3	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-103-3	5. PH						Soil	ATL

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7/9/2002	surface	566-104-0	1. TTLC	230	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	surface	566-104-0	2. STLC	18	mg/l	0.4	7/17/2002	Lead	Soil	ATL
7/9/2002	surface	566-104-0	3. STLC-DI	0.43	mg/l	0.2	7/16/2002	Lead	Soil	ATL
7/9/2002	surface	566-104-0	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	surface	566-104-0	5. PH						Soil	ATL
7/9/2002	.3 m	566-104-1	1. TTLC	110	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-104-1	2. STLC	9.1	mg/l	0.2	7/17/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-104-1	3. STLC-DI	0.82	mg/l	0.2	7/16/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-104-1	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.3 m	566-104-1	5. PH						Soil	ATL
7/9/2002	.6 m	566-104-2	1. TTLC	21	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.6 m	566-104-2	2. STLC		mg/l			Lead	Soil	ATL
7/9/2002	.6 m	566-104-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	.6 m	566-104-2	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.6 m	566-104-2	5. PH						Soil	ATL
7/9/2002	.9 m	566-104-3	1. TTLC	32	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.9 m	566-104-3	2. STLC		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-104-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-104-3	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-104-3	5. PH						Soil	ATL
7/9/2002	surface	566-105-0	1. TTLC	340	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	surface	566-105-0	2. STLC	19	mg/l	0.4	7/17/2002	Lead	Soil	ATL
7/9/2002	surface	566-105-0	3. STLC-DI	ND	mg/l	0.2	7/16/2002	Lead	Soil	ATL
7/9/2002	surface	566-105-0	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	surface	566-105-0	5. PH						Soil	ATL
7/9/2002	.3 m	566-105-1	1. TTLC	20	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-105-1	2. STLC		mg/l			Lead	Soil	ATL
7/9/2002	.3 m	566-105-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	.3 m	566-105-1	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.3 m	566-105-1	5. PH						Soil	ATL
7/9/2002	.6 m	566-105-2	1. TTLC	6.6	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.6 m	566-105-2	2. STLC		mg/l			Lead	Soil	ATL
7/9/2002	.6 m	566-105-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	.6 m	566-105-2	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.6 m	566-105-2	5. PH						Soil	ATL
7/9/2002	.9 m	566-105-3	1. TTLC	6.2	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.9 m	566-105-3	2. STLC		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-105-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-105-3	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-105-3	5. PH						Soil	ATL
7/9/2002	surface	566-106-0	1. TTLC	210	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	surface	566-106-0	2. STLC	14	mg/l	0.2	7/17/2002	Lead	Soil	ATL
7/9/2002	surface	566-106-0	3. STLC-DI	0.49	mg/l	0.2	7/16/2002	Lead	Soil	ATL
7/9/2002	surface	566-106-0	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	surface	566-106-0	5. PH						Soil	ATL
7/9/2002	.3 m	566-106-1	1. TTLC	220	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-106-1	2. STLC	15	mg/l	0.2	7/17/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-106-1	3. STLC-DI	0.42	mg/l	0.2	7/16/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-106-1	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.3 m	566-106-1	5. PH	7.3		0.1	7/11/2002		Soil	ATL
7/9/2002	.6 m	566-106-2	1. TTLC	110	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.6 m	566-106-2	2. STLC	8.1	mg/l	0.2	7/17/2002	Lead	Soil	ATL
7/9/2002	.6 m	566-106-2	3. STLC-DI	0.56	mg/l	0.2	7/16/2002	Lead	Soil	ATL
7/9/2002	.6 m	566-106-2	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.6 m	566-106-2	5. PH						Soil	ATL
7/9/2002	.9 m	566-106-3	1. TTLC	110	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.9 m	566-106-3	2. STLC	5.8	mg/l	0.2	7/17/2002	Lead	Soil	ATL
7/9/2002	.9 m	566-106-3	3. STLC-DI	ND	mg/l	0.2	7/16/2002	Lead	Soil	ATL
7/9/2002	.9 m	566-106-3	4. TCLP	364	mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-106-3	5. PH						Soil	ATL
7/9/2002	surface	566-107-0	1. TTLC	57	mg/kg	5	7/11/2002	Lead	Soil	ATL

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7/9/2002	surface	566-107-0	2. STLC	5.7	mg/l	0.2	7/17/2002	Lead	Soil	ATL
7/9/2002	surface	566-107-0	3. STLC-DI	ND	mg/l	0.2	7/16/2002	Lead	Soil	ATL
7/9/2002	surface	566-107-0	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	surface	566-107-0	5. PH						Soil	ATL
7/9/2002	.3 m	566-107-1	1. TTLC	70	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-107-1	2. STLC	3.7	mg/l	0.2	7/17/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-107-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	.3 m	566-107-1	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.3 m	566-107-1	5. PH						Soil	ATL
7/9/2002	.6 m	566-107-2	1. TTLC	13	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.6 m	566-107-2	2. STLC		mg/l			Lead	Soil	ATL
7/9/2002	.6 m	566-107-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	.6 m	566-107-2	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.6 m	566-107-2	5. PH						Soil	ATL
7/9/2002	.9 m	566-107-3	1. TTLC	5.3	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.9 m	566-107-3	2. STLC		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-107-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-107-3	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-107-3	5. PH						Soil	ATL
7/9/2002	surface	566-108-0	1. TTLC	310	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	surface	566-108-0	2. STLC	21	mg/l	0.4	7/17/2002	Lead	Soil	ATL
7/9/2002	surface	566-108-0	3. STLC-DI	ND	mg/l	0.2	7/16/2002	Lead	Soil	ATL
7/9/2002	surface	566-108-0	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	surface	566-108-0	5. PH						Soil	ATL
7/9/2002	.3 m	566-108-1	1. TTLC	490	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-108-1	2. STLC	35	mg/l	0.8	7/17/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-108-1	3. STLC-DI	ND	mg/l	0.2	7/16/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-108-1	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.3 m	566-108-1	5. PH						Soil	ATL
7/9/2002	.6 m	566-108-2	1. TTLC		mg/kg			Lead	Soil	ATL
7/9/2002	.6 m	566-108-2	2. STLC		mg/l			Lead	Soil	ATL
7/9/2002	.6 m	566-108-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	.6 m	566-108-2	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.6 m	566-108-2	5. PH						Soil	ATL
7/9/2002	.9 m	566-108-3	1. TTLC		mg/kg			Lead	Soil	ATL
7/9/2002	.9 m	566-108-3	2. STLC		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-108-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-108-3	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-108-3	5. PH						Soil	ATL
7/9/2002	surface	566-109-0	1. TTLC	220	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	surface	566-109-0	2. STLC	18	mg/l	0.4	7/17/2002	Lead	Soil	ATL
7/9/2002	surface	566-109-0	3. STLC-DI	ND	mg/l	0.2	7/16/2002	Lead	Soil	ATL
7/9/2002	surface	566-109-0	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	surface	566-109-0	5. PH						Soil	ATL
7/9/2002	.3 m	566-109-1	1. TTLC	91	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-109-1	2. STLC	4.1	mg/l	0.2	7/17/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-109-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	.3 m	566-109-1	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.3 m	566-109-1	5. PH	7.95		0.1	7/11/2002		Soil	ATL
7/9/2002	.6 m	566-109-2	1. TTLC	76	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.6 m	566-109-2	2. STLC	5	mg/l	0.2	7/17/2002	Lead	Soil	ATL
7/9/2002	.6 m	566-109-2	3. STLC-DI	ND	mg/l	0.2	7/16/2002	Lead	Soil	ATL
7/9/2002	.6 m	566-109-2	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.6 m	566-109-2	5. PH						Soil	ATL
7/9/2002	.9 m	566-109-3	1. TTLC	9	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.9 m	566-109-3	2. STLC		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-109-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-109-3	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-109-3	5. PH						Soil	ATL
7/9/2002	surface	566-110-0	1. TTLC	200	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	surface	566-110-0	2. STLC	11	mg/l	0.2	7/17/2002	Lead	Soil	ATL

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7/9/2002	surface	566-110-0	3. STLC-DI	0.43	mg/l	0.2	7/16/2002	Lead	Soil	ATL
7/9/2002	surface	566-110-0	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	surface	566-110-0	5. PH						Soil	ATL
7/9/2002	.3 m	566-110-1	1. TTLC	130	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-110-1	2. STLC	6.3	mg/l	0.2	7/17/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-110-1	3. STLC-DI	0.61	mg/l	0.2	7/16/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-110-1	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.3 m	566-110-1	5. PH						Soil	ATL
7/9/2002	.6 m	566-110-2	1. TTLC	23	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.6 m	566-110-2	2. STLC		mg/l			Lead	Soil	ATL
7/9/2002	.6 m	566-110-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	.6 m	566-110-2	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.6 m	566-110-2	5. PH						Soil	ATL
7/9/2002	.9 m	566-110-3	1. TTLC	5.6	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.9 m	566-110-3	2. STLC		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-110-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-110-3	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-110-3	5. PH						Soil	ATL
7/9/2002	surface	566-111-0	1. TTLC	300	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	surface	566-111-0	2. STLC	17	mg/l	0.4	7/17/2002	Lead	Soil	ATL
7/9/2002	surface	566-111-0	3. STLC-DI	ND	mg/l	0.2	7/16/2002	Lead	Soil	ATL
7/9/2002	surface	566-111-0	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	surface	566-111-0	5. PH						Soil	ATL
7/9/2002	.3 m	566-111-1	1. TTLC	75	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-111-1	2. STLC	3.1	mg/l	0.2	7/17/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-111-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	.3 m	566-111-1	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.3 m	566-111-1	5. PH						Soil	ATL
7/9/2002	.6 m	566-111-2	1. TTLC	6	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.6 m	566-111-2	2. STLC		mg/l			Lead	Soil	ATL
7/9/2002	.6 m	566-111-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	.6 m	566-111-2	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.6 m	566-111-2	5. PH						Soil	ATL
7/9/2002	.9 m	566-111-3	1. TTLC	6	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.9 m	566-111-3	2. STLC		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-111-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-111-3	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-111-3	5. PH	8.23		0.1	7/11/2002		Soil	ATL
7/9/2002	surface	566-112-0	1. TTLC	1100	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	surface	566-112-0	2. STLC		mg/l			Lead	Soil	ATL
7/9/2002	surface	566-112-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	surface	566-112-0	4. TCLP	1.8	mg/l	0.2	7/16/2002	Lead	Soil	ATL
7/9/2002	surface	566-112-0	5. PH						Soil	ATL
7/9/2002	.3 m	566-112-1	1. TTLC	47	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-112-1	2. STLC		mg/l			Lead	Soil	ATL
7/9/2002	.3 m	566-112-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	.3 m	566-112-1	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.3 m	566-112-1	5. PH						Soil	ATL
7/9/2002	.6 m	566-112-2	1. TTLC	40	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.6 m	566-112-2	2. STLC		mg/l			Lead	Soil	ATL
7/9/2002	.6 m	566-112-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	.6 m	566-112-2	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.6 m	566-112-2	5. PH						Soil	ATL
7/9/2002	.9 m	566-112-3	1. TTLC	7.2	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/9/2002	.9 m	566-112-3	2. STLC		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-112-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-112-3	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-112-3	5. PH						Soil	ATL
7/10/2002	surface	566-113-0	1. TTLC	110	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	surface	566-113-0	2. STLC	5.4	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-113-0	3. STLC-DI	ND	mg/l	0.2	7/22/2002	Lead	Soil	ATL

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7/10/2002	surface	566-113-0	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	surface	566-113-0	5. PH	6.73		0.1		7/12/2002		Soil	ATL
7/10/2002	.3 m	566-113-1	1. TTLC	160	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-113-1	2. STLC	12	mg/l	0.2		7/23/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-113-1	3. STLC-DI	ND	mg/l	0.2		7/23/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-113-1	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	.3 m	566-113-1	5. PH							Soil	ATL
7/10/2002	.6 m	566-113-2	1. TTLC	300	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-113-2	2. STLC	23	mg/l	0.4		7/23/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-113-2	3. STLC-DI	ND	mg/l	0.2		7/22/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-113-2	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	.6 m	566-113-2	5. PH							Soil	ATL
7/10/2002	.9 m	566-113-3	1. TTLC	25	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-113-3	2. STLC		mg/l				Lead	Soil	ATL
7/10/2002	.9 m	566-113-3	3. STLC-DI		mg/l				Lead	Soil	ATL
7/10/2002	.9 m	566-113-3	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	.9 m	566-113-3	5. PH							Soil	ATL
7/10/2002	surface	566-114-0	1. TTLC	86	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	surface	566-114-0	2. STLC	5.6	mg/l	0.2		7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-114-0	3. STLC-DI	ND	mg/l	0.2		7/22/2002	Lead	Soil	ATL
7/10/2002	surface	566-114-0	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	surface	566-114-0	5. PH							Soil	ATL
7/10/2002	.3 m	566-114-1	1. TTLC	61	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-114-1	2. STLC	3.3	mg/l	0.2		7/23/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-114-1	3. STLC-DI		mg/l				Lead	Soil	ATL
7/10/2002	.3 m	566-114-1	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	.3 m	566-114-1	5. PH							Soil	ATL
7/10/2002	.6 m	566-114-2	1. TTLC	5.5	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-114-2	2. STLC		mg/l				Lead	Soil	ATL
7/10/2002	.6 m	566-114-2	3. STLC-DI		mg/l				Lead	Soil	ATL
7/10/2002	.6 m	566-114-2	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	.6 m	566-114-2	5. PH							Soil	ATL
7/10/2002	.9 m	566-114-3	1. TTLC	21	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-114-3	2. STLC		mg/l				Lead	Soil	ATL
7/10/2002	.9 m	566-114-3	3. STLC-DI		mg/l				Lead	Soil	ATL
7/10/2002	.9 m	566-114-3	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	.9 m	566-114-3	5. PH							Soil	ATL
7/10/2002	surface	566-115-0	1. TTLC	360	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	surface	566-115-0	2. STLC	25	mg/l	0.4		7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-115-0	3. STLC-DI	0.27	mg/l	0.2		7/22/2002	Lead	Soil	ATL
7/10/2002	surface	566-115-0	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	surface	566-115-0	5. PH							Soil	ATL
7/10/2002	.3 m	566-115-1	1. TTLC	390	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-115-1	2. STLC	29	mg/l	0.4		7/23/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-115-1	3. STLC-DI	1.4	mg/l	0.2		7/22/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-115-1	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	.3 m	566-115-1	5. PH	6.65		0.1		7/11/2002		Soil	ATL
7/10/2002	.6 m	566-115-2	1. TTLC	260	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-115-2	2. STLC	22	mg/l	0.4		7/23/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-115-2	3. STLC-DI	0.58	mg/l	0.2		7/22/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-115-2	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	.6 m	566-115-2	5. PH							Soil	ATL
7/10/2002	.9 m	566-115-3	1. TTLC	99	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-115-3	2. STLC	8.3	mg/l	0.2		7/23/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-115-3	3. STLC-DI	0.33	mg/l	0.2		7/22/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-115-3	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	.9 m	566-115-3	5. PH							Soil	ATL
7/10/2002	surface	566-116-0	1. TTLC	490	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	surface	566-116-0	2. STLC	38	mg/l	0.8		7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-116-0	3. STLC-DI	0.32	mg/l	0.2		7/22/2002	Lead	Soil	ATL
7/10/2002	surface	566-116-0	4. TCLP						Lead	Soil	ATL

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7/10/2002	surface	566-116-0	5. PH						Soil	ATL	
7/10/2002	.3 m	566-116-1	1. TTLC	150	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-116-1	2. STLC	10	mg/l	0.2		7/23/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-116-1	3. STLC-DI	ND	mg/l	0.2		7/22/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-116-1	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	.3 m	566-116-1	5. PH							Soil	ATL
7/10/2002	.6 m	566-116-2	1. TTLC	130	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-116-2	2. STLC	9	mg/l	0.2		7/23/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-116-2	3. STLC-DI	ND	mg/l	0.2		7/22/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-116-2	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	.6 m	566-116-2	5. PH							Soil	ATL
7/10/2002	.9 m	566-116-3	1. TTLC	54	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-116-3	2. STLC	3.4	mg/l	0.2		7/23/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-116-3	3. STLC-DI		mg/l				Lead	Soil	ATL
7/10/2002	.9 m	566-116-3	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	.9 m	566-116-3	5. PH							Soil	ATL
7/10/2002	surface	566-117-0	1. TTLC	49	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	surface	566-117-0	2. STLC		mg/l				Lead	Soil	ATL
7/10/2002	surface	566-117-0	3. STLC-DI		mg/l				Lead	Soil	ATL
7/10/2002	surface	566-117-0	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	surface	566-117-0	5. PH							Soil	ATL
7/10/2002	.3 m	566-117-1	1. TTLC	45	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-117-1	2. STLC		mg/l				Lead	Soil	ATL
7/10/2002	.3 m	566-117-1	3. STLC-DI		mg/l				Lead	Soil	ATL
7/10/2002	.3 m	566-117-1	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	.3 m	566-117-1	5. PH							Soil	ATL
7/10/2002	.6 m	566-117-2	1. TTLC	45	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-117-2	2. STLC		mg/l				Lead	Soil	ATL
7/10/2002	.6 m	566-117-2	3. STLC-DI		mg/l				Lead	Soil	ATL
7/10/2002	.6 m	566-117-2	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	.6 m	566-117-2	5. PH							Soil	ATL
7/10/2002	.9 m	566-117-3	1. TTLC	45	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-117-3	2. STLC		mg/l				Lead	Soil	ATL
7/10/2002	.9 m	566-117-3	3. STLC-DI		mg/l				Lead	Soil	ATL
7/10/2002	.9 m	566-117-3	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	.9 m	566-117-3	5. PH	8.11		0.1		7/11/2002		Soil	ATL
7/10/2002	surface	566-118-0	1. TTLC	73	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	surface	566-118-0	2. STLC	4.1	mg/l	0.2		7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-118-0	3. STLC-DI		mg/l				Lead	Soil	ATL
7/10/2002	surface	566-118-0	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	surface	566-118-0	5. PH							Soil	ATL
7/10/2002	.3 m	566-118-1	1. TTLC	20	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-118-1	2. STLC		mg/l				Lead	Soil	ATL
7/10/2002	.3 m	566-118-1	3. STLC-DI		mg/l				Lead	Soil	ATL
7/10/2002	.3 m	566-118-1	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	.3 m	566-118-1	5. PH							Soil	ATL
7/10/2002	.6 m	566-118-2	1. TTLC	8.7	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-118-2	2. STLC		mg/l				Lead	Soil	ATL
7/10/2002	.6 m	566-118-2	3. STLC-DI		mg/l				Lead	Soil	ATL
7/10/2002	.6 m	566-118-2	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	.6 m	566-118-2	5. PH							Soil	ATL
7/10/2002	.9 m	566-118-3	1. TTLC	12	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-118-3	2. STLC		mg/l				Lead	Soil	ATL
7/10/2002	.9 m	566-118-3	3. STLC-DI		mg/l				Lead	Soil	ATL
7/10/2002	.9 m	566-118-3	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	.9 m	566-118-3	5. PH							Soil	ATL
7/10/2002	surface	566-119-0	1. TTLC	240	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	surface	566-119-0	2. STLC	19	mg/l	0.4		7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-119-0	3. STLC-DI	0.27	mg/l	0.2		7/22/2002	Lead	Soil	ATL
7/10/2002	surface	566-119-0	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	surface	566-119-0	5. PH							Soil	ATL

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7/10/2002	.3 m	566-119-1	1. TTLC	130	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-119-1	2. STLC	8.3	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-119-1	3. STLC-DI	ND	mg/l	0.2	7/22/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-119-1	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.3 m	566-119-1	5. PH						Soil	ATL
7/10/2002	.6 m	566-119-2	1. TTLC	30	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-119-2	2. STLC		mg/l			Lead	Soil	ATL
7/10/2002	.6 m	566-119-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/10/2002	.6 m	566-119-2	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.6 m	566-119-2	5. PH						Soil	ATL
7/10/2002	.9 m	566-119-3	1. TTLC	65	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-119-3	2. STLC	6.1	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-119-3	3. STLC-DI	ND	mg/l	0.2	7/22/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-119-3	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-119-3	5. PH						Soil	ATL
7/10/2002	surface	566-120-0	1. TTLC	91	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	surface	566-120-0	2. STLC	7.1	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-120-0	3. STLC-DI	ND	mg/l	0.2	7/22/2002	Lead	Soil	ATL
7/10/2002	surface	566-120-0	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	surface	566-120-0	5. PH						Soil	ATL
7/10/2002	.3 m	566-120-1	1. TTLC	160	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-120-1	2. STLC	14	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-120-1	3. STLC-DI	0.3	mg/l	0.2	7/22/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-120-1	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.3 m	566-120-1	5. PH	8.58			7/11/2002		Soil	ATL
7/10/2002	.6 m	566-120-2	1. TTLC	44	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-120-2	2. STLC		mg/l			Lead	Soil	ATL
7/10/2002	.6 m	566-120-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/10/2002	.6 m	566-120-2	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.6 m	566-120-2	5. PH						Soil	ATL
7/10/2002	.9 m	566-120-3	1. TTLC	15	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-120-3	2. STLC		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-120-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-120-3	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-120-3	5. PH						Soil	ATL
7/10/2002	surface	566-121-0	1. TTLC	470	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	surface	566-121-0	2. STLC	19	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-121-0	3. STLC-DI	0.37	mg/l	0.2	7/22/2002	Lead	Soil	ATL
7/10/2002	surface	566-121-0	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	surface	566-121-0	5. PH						Soil	ATL
7/10/2002	.3 m	566-121-1	1. TTLC	210	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-121-1	2. STLC	18	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-121-1	3. STLC-DI	0.37	mg/l	0.2	7/22/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-121-1	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.3 m	566-121-1	5. PH						Soil	ATL
7/10/2002	.6 m	566-121-2	1. TTLC	24	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-121-2	2. STLC		mg/l			Lead	Soil	ATL
7/10/2002	.6 m	566-121-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/10/2002	.6 m	566-121-2	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.6 m	566-121-2	5. PH						Soil	ATL
7/10/2002	.9 m	566-121-3	1. TTLC	11	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-121-3	2. STLC		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-121-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-121-3	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-121-3	5. PH						Soil	ATL
7/10/2002	surface	566-122-0	1. TTLC	93	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	surface	566-122-0	2. STLC	5.3	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-122-0	3. STLC-DI	ND	mg/l	0.2	7/22/2002	Lead	Soil	ATL
7/10/2002	surface	566-122-0	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	surface	566-122-0	5. PH						Soil	ATL
7/10/2002	.3 m	566-122-1	1. TTLC	21	mg/kg	5	7/15/2002	Lead	Soil	ATL

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7/10/2002	.3 m	566-122-1	2. STLC		mg/l			Lead	Soil	ATL
7/10/2002	.3 m	566-122-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/10/2002	.3 m	566-122-1	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.3 m	566-122-1	5. PH						Soil	ATL
7/10/2002	.6 m	566-122-2	1. TTLC	55	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-122-2	2. STLC	5.9	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-122-2	3. STLC-DI	0.23	mg/l	0.2	7/22/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-122-2	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.6 m	566-122-2	5. PH						Soil	ATL
7/10/2002	.9 m	566-122-3	1. TTLC	350	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-122-3	2. STLC	17	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-122-3	3. STLC-DI	0.5	mg/l	0.2	7/22/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-122-3	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-122-3	5. PH	7.14		0.1	7/11/2002		Soil	ATL
7/10/2002	surface	566-123-0	1. TTLC	45	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	surface	566-123-0	2. STLC		mg/l			Lead	Soil	ATL
7/10/2002	surface	566-123-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/10/2002	surface	566-123-0	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	surface	566-123-0	5. PH						Soil	ATL
7/10/2002	.3 m	566-123-1	1. TTLC	13	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-123-1	2. STLC		mg/l			Lead	Soil	ATL
7/10/2002	.3 m	566-123-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/10/2002	.3 m	566-123-1	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.3 m	566-123-1	5. PH						Soil	ATL
7/10/2002	.6 m	566-123-2	1. TTLC	220	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-123-2	2. STLC	25	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-123-2	3. STLC-DI	0.31	mg/l	0.2	7/22/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-123-2	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.6 m	566-123-2	5. PH						Soil	ATL
7/10/2002	.9 m	566-123-3	1. TTLC	13	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-123-3	2. STLC		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-123-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-123-3	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-123-3	5. PH						Soil	ATL
7/10/2002	surface	566-124-0	1. TTLC	15	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	surface	566-124-0	2. STLC		mg/l			Lead	Soil	ATL
7/10/2002	surface	566-124-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/10/2002	surface	566-124-0	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	surface	566-124-0	5. PH						Soil	ATL
7/10/2002	.3 m	566-124-1	1. TTLC	6.4	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-124-1	2. STLC		mg/l			Lead	Soil	ATL
7/10/2002	.3 m	566-124-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/10/2002	.3 m	566-124-1	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.3 m	566-124-1	5. PH						Soil	ATL
7/10/2002	.6 m	566-124-2	1. TTLC	170	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-124-2	2. STLC	15	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-124-2	3. STLC-DI	0.28	mg/l	0.2	7/22/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-124-2	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.6 m	566-124-2	5. PH						Soil	ATL
7/10/2002	.9 m	566-124-3	1. TTLC	22	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-124-3	2. STLC		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-124-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-124-3	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-124-3	5. PH						Soil	ATL
7/10/2002	surface	566-125-0	1. TTLC	55	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	surface	566-125-0	2. STLC	4.2	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-125-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/10/2002	surface	566-125-0	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	surface	566-125-0	5. PH						Soil	ATL
7/10/2002	.3 m	566-125-1	1. TTLC	35	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-125-1	2. STLC		mg/l			Lead	Soil	ATL

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7/10/2002	.3 m	566-125-1	3. STLC-DI		mg/l				Lead	Soil	ATL
7/10/2002	.3 m	566-125-1	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	.3 m	566-125-1	5. PH	7.34		0.1		7/11/2002		Soil	ATL
7/10/2002	.6 m	566-125-2	1. TTLC	9.1	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-125-2	2. STLC		mg/l				Lead	Soil	ATL
7/10/2002	.6 m	566-125-2	3. STLC-DI		mg/l				Lead	Soil	ATL
7/10/2002	.6 m	566-125-2	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	.6 m	566-125-2	5. PH							Soil	ATL
7/10/2002	.9 m	566-125-3	1. TTLC	7.2	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-125-3	2. STLC		mg/l				Lead	Soil	ATL
7/10/2002	.9 m	566-125-3	3. STLC-DI		mg/l				Lead	Soil	ATL
7/10/2002	.9 m	566-125-3	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	.9 m	566-125-3	5. PH							Soil	ATL
7/10/2002	surface	566-126-0	1. TTLC	28	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	surface	566-126-0	2. STLC		mg/l				Lead	Soil	ATL
7/10/2002	surface	566-126-0	3. STLC-DI		mg/l				Lead	Soil	ATL
7/10/2002	surface	566-126-0	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	surface	566-126-0	5. PH							Soil	ATL
7/10/2002	.3 m	566-126-1	1. TTLC	300	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-126-1	2. STLC	23	mg/l	0.4		7/23/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-126-1	3. STLC-DI	0.5	mg/l	0.2		7/22/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-126-1	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	.3 m	566-126-1	5. PH							Soil	ATL
7/10/2002	.6 m	566-126-2	1. TTLC	330	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-126-2	2. STLC	41	mg/l	0.8		7/23/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-126-2	3. STLC-DI	0.38	mg/l	0.2		7/22/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-126-2	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	.6 m	566-126-2	5. PH							Soil	ATL
7/10/2002	.9 m	566-126-3	1. TTLC	110	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-126-3	2. STLC	3.3	mg/l	0.2		7/23/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-126-3	3. STLC-DI		mg/l				Lead	Soil	ATL
7/10/2002	.9 m	566-126-3	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	.9 m	566-126-3	5. PH							Soil	ATL
7/10/2002	surface	566-127-0	1. TTLC	110	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	surface	566-127-0	2. STLC	1.9	mg/l	0.2		7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-127-0	3. STLC-DI		mg/l				Lead	Soil	ATL
7/10/2002	surface	566-127-0	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	surface	566-127-0	5. PH							Soil	ATL
7/10/2002	.3 m	566-127-1	1. TTLC	74	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-127-1	2. STLC	7.9	mg/l	0.2		7/23/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-127-1	3. STLC-DI	ND	mg/l	0.2		7/22/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-127-1	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	.3 m	566-127-1	5. PH							Soil	ATL
7/10/2002	.6 m	566-127-2	1. TTLC	32	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-127-2	2. STLC		mg/l				Lead	Soil	ATL
7/10/2002	.6 m	566-127-2	3. STLC-DI		mg/l				Lead	Soil	ATL
7/10/2002	.6 m	566-127-2	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	.6 m	566-127-2	5. PH							Soil	ATL
7/10/2002	.9 m	566-127-3	1. TTLC	34	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-127-3	2. STLC		mg/l				Lead	Soil	ATL
7/10/2002	.9 m	566-127-3	3. STLC-DI		mg/l				Lead	Soil	ATL
7/10/2002	.9 m	566-127-3	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	.9 m	566-127-3	5. PH	7.55		0.1		7/11/2002		Soil	ATL
7/10/2002	surface	566-128-0	1. TTLC	59	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	surface	566-128-0	2. STLC	4	mg/l	0.2		7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-128-0	3. STLC-DI		mg/l				Lead	Soil	ATL
7/10/2002	surface	566-128-0	4. TCLP		mg/l				Lead	Soil	ATL
7/10/2002	surface	566-128-0	5. PH							Soil	ATL
7/10/2002	.3 m	566-128-1	1. TTLC	46	mg/kg	5		7/15/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-128-1	2. STLC		mg/l				Lead	Soil	ATL
7/10/2002	.3 m	566-128-1	3. STLC-DI		mg/l				Lead	Soil	ATL

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7/10/2002	.3 m	566-128-1	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.3 m	566-128-1	5. PH						Soil	ATL
7/10/2002	.6 m	566-128-2	1. TTLC	12	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-128-2	2. STLC		mg/l			Lead	Soil	ATL
7/10/2002	.6 m	566-128-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/10/2002	.6 m	566-128-2	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.6 m	566-128-2	5. PH						Soil	ATL
7/10/2002	.9 m	566-128-3	1. TTLC	23	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-128-3	2. STLC		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-128-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-128-3	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-128-3	5. PH						Soil	ATL
7/10/2002	surface	566-129-0	1. TTLC	84	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	surface	566-129-0	2. STLC	6.8	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-129-0	3. STLC-DI	ND	mg/l	0.2	7/22/2002	Lead	Soil	ATL
7/10/2002	surface	566-129-0	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	surface	566-129-0	5. PH						Soil	ATL
7/10/2002	.3 m	566-129-1	1. TTLC	270	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-129-1	2. STLC	38	mg/l	0.6	7/23/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-129-1	3. STLC-DI	ND	mg/l	0.2	7/22/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-129-1	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.3 m	566-129-1	5. PH						Soil	ATL
7/10/2002	.6 m	566-129-2	1. TTLC	42	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-129-2	2. STLC		mg/l			Lead	Soil	ATL
7/10/2002	.6 m	566-129-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/10/2002	.6 m	566-129-2	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.6 m	566-129-2	5. PH						Soil	ATL
7/10/2002	.9 m	566-129-3	1. TTLC	ND	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-129-3	2. STLC		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-129-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-129-3	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-129-3	5. PH						Soil	ATL
7/10/2002	surface	566-130-0	1. TTLC	280	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	surface	566-130-0	2. STLC	20	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-130-0	3. STLC-DI	ND	mg/l	0.2	7/22/2002	Lead	Soil	ATL
7/10/2002	surface	566-130-0	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	surface	566-130-0	5. PH						Soil	ATL
7/10/2002	.3 m	566-130-1	1. TTLC	160	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-130-1	2. STLC	14	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-130-1	3. STLC-DI	ND	mg/l	0.2	7/22/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-130-1	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.3 m	566-130-1	5. PH	7.06		0.1	7/11/2002		Soil	ATL
7/10/2002	.6 m	566-130-2	1. TTLC	99	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-130-2	2. STLC	7.3	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-130-2	3. STLC-DI	ND	mg/l	0.2	7/22/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-130-2	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.6 m	566-130-2	5. PH						Soil	ATL
7/10/2002	.9 m	566-130-3	1. TTLC	5.6	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-130-3	2. STLC		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-130-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-130-3	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-130-3	5. PH						Soil	ATL
7/10/2002	surface	566-131-0	1. TTLC	1100	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	surface	566-131-0	2. STLC		mg/l			Lead	Soil	ATL
7/10/2002	surface	566-131-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/10/2002	surface	566-131-0	4. TCLP	0.89	mg/l	0.2	7/24/2002	Lead	Soil	ATL
7/10/2002	surface	566-131-0	5. PH						Soil	ATL
7/10/2002	.3 m	566-131-1	1. TTLC	590	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-131-1	2. STLC	50	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-131-1	3. STLC-DI	ND	mg/l	0.2	7/22/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-131-1	4. TCLP					Lead	Soil	ATL

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7/10/2002	.3 m	566-131-1	5. PH						Soil	ATL
7/10/2002	.6 m	566-131-2	1. TTLC	1000	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-131-2	2. STLC		mg/l			Lead	Soil	ATL
7/10/2002	.6 m	566-131-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/10/2002	.6 m	566-131-2	4. TCLP	0.51	mg/l	0.2	7/24/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-131-2	5. PH						Soil	ATL
7/10/2002	.9 m	566-131-3	1. TTLC	30	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-131-3	2. STLC		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-131-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-131-3	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-131-3	5. PH						Soil	ATL
7/10/2002	surface	566-132-0	1. TTLC	1000	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	surface	566-132-0	2. STLC		mg/l			Lead	Soil	ATL
7/10/2002	surface	566-132-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/10/2002	surface	566-132-0	4. TCLP	1.6	mg/l	0.2	7/24/2002	Lead	Soil	ATL
7/10/2002	surface	566-132-0	5. PH						Soil	ATL
7/10/2002	.3 m	566-132-1	1. TTLC	810	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-132-1	2. STLC	89	mg/l	2	7/23/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-132-1	3. STLC-DI	1.6	mg/l	0.2	7/22/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-132-1	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.3 m	566-132-1	5. PH						Soil	ATL
7/10/2002	.6 m	566-132-2	1. TTLC	240	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-132-2	2. STLC	17	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-132-2	3. STLC-DI	0.55	mg/l	0.2	7/22/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-132-2	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.6 m	566-132-2	5. PH						Soil	ATL
7/10/2002	.9 m	566-132-3	1. TTLC	210	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-132-3	2. STLC	25	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-132-3	3. STLC-DI	1	mg/l	0.2	7/22/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-132-3	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-132-3	5. PH	7.8		0.1	7/11/2002		Soil	ATL
7/10/2002	surface	566-133-0	1. TTLC	350	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	surface	566-133-0	2. STLC	90	mg/l	2	7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-133-0	3. STLC-DI	3.2	mg/l	0.2	7/22/2002	Lead	Soil	ATL
7/10/2002	surface	566-133-0	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	surface	566-133-0	5. PH						Soil	ATL
7/10/2002	.3 m	566-133-1	1. TTLC	730	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-133-1	2. STLC	94	mg/l	2	7/23/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-133-1	3. STLC-DI	2.8	mg/l	0.2	7/22/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-133-1	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.3 m	566-133-1	5. PH						Soil	ATL
7/10/2002	.6 m	566-133-2	1. TTLC	370	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-133-2	2. STLC	85	mg/l	2	7/23/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-133-2	3. STLC-DI	2.9	mg/l	0.2	7/22/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-133-2	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.6 m	566-133-2	5. PH						Soil	ATL
7/10/2002	.9 m	566-133-3	1. TTLC	320	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-133-3	2. STLC	54	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-133-3	3. STLC-DI	2.3	mg/l	0.2	7/22/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-133-3	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-133-3	5. PH						Soil	ATL
7/11/2002	surface	566-134-0	1. TTLC	1100	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	surface	566-134-0	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-134-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-134-0	4. TCLP	2.7	mg/l	0.2	7/24/2002	Lead	Soil	ATL
7/11/2002	surface	566-134-0	5. PH	7.51		0.1	7/17/2002		Soil	ATL
7/11/2002	.3 m	566-134-1	1. TTLC	690	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-134-1	2. STLC	45	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-134-1	3. STLC-DI	1.5	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-134-1	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-134-1	5. PH						Soil	ATL

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7/11/2002	.6 m	566-134-2	1. TTLC	310	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-134-2	2. STLC	14	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-134-2	3. STLC-DI	0.21	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-134-2	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-134-2	5. PH					Soil		ATL
7/11/2002	.9 m	566-134-3	1. TTLC	60	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-134-3	2. STLC	5.3	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-134-3	3. STLC-DI	ND	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-134-3	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-134-3	5. PH					Soil		ATL
7/11/2002	surface	566-135-0	1. TTLC	1100	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	surface	566-135-0	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-135-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-135-0	4. TCLP	4.9	mg/l	0.2	7/24/2002	Lead	Soil	ATL
7/11/2002	surface	566-135-0	5. PH					Soil		ATL
7/11/2002	.3 m	566-135-1	1. TTLC	680	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-135-1	2. STLC	58	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-135-1	3. STLC-DI	1.9	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-135-1	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-135-1	5. PH					Soil		ATL
7/11/2002	.6 m	566-135-2	1. TTLC	100	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-135-2	2. STLC	6.3	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-135-2	3. STLC-DI	0.29	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-135-2	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-135-2	5. PH					Soil		ATL
7/11/2002	.9 m	566-135-3	1. TTLC	53	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-135-3	2. STLC	4.1	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-135-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-135-3	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-135-3	5. PH					Soil		ATL
7/11/2002	surface	566-136-0	1. TTLC	650	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	surface	566-136-0	2. STLC	17	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-136-0	3. STLC-DI	ND	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-136-0	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-136-0	5. PH					Soil		ATL
7/11/2002	.3 m	566-136-1	1. TTLC	14	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-136-1	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-136-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-136-1	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-136-1	5. PH	8.41		0.1	7/17/2002	Soil		ATL
7/11/2002	.6 m	566-136-2	1. TTLC	11	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-136-2	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-136-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-136-2	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-136-2	5. PH					Soil		ATL
7/11/2002	.9 m	566-136-3	1. TTLC	10	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-136-3	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-136-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-136-3	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-136-3	5. PH					Soil		ATL
7/11/2002	surface	566-137-0	1. TTLC	1200	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	surface	566-137-0	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-137-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-137-0	4. TCLP	4.3	mg/l	0.2	7/24/2002	Lead	Soil	ATL
7/11/2002	surface	566-137-0	5. PH					Soil		ATL
7/11/2002	.3 m	566-137-1	1. TTLC	790	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-137-1	2. STLC	63	mg/l	1	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-137-1	3. STLC-DI	1.5	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-137-1	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-137-1	5. PH					Soil		ATL
7/11/2002	.6 m	566-137-2	1. TTLC	140	mg/kg	5	7/15/2002	Lead	Soil	ATL

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7/11/2002	.6 m	566-137-2	2. STLC	10	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-137-2	3. STLC-DI	0.49	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-137-2	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-137-2	5. PH						Soil	ATL
7/11/2002	.9 m	566-137-3	1. TTLC	76	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-137-3	2. STLC	3.1	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-137-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-137-3	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-137-3	5. PH						Soil	ATL
7/11/2002	surface	566-138-0	1. TTLC	330	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	surface	566-138-0	2. STLC	27	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-138-0	3. STLC-DI	0.35	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-138-0	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-138-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-138-1	1. TTLC	320	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-138-1	2. STLC	21	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-138-1	3. STLC-DI	0.28	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-138-1	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-138-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-138-2	1. TTLC	63	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-138-2	2. STLC	3.7	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-138-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-138-2	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-138-2	5. PH						Soil	ATL
7/11/2002	.9 m	566-138-3	1. TTLC	140	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-138-3	2. STLC	6.2	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-138-3	3. STLC-DI	ND	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-138-3	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-138-3	5. PH	6.53		0.1	7/17/2002		Soil	ATL
7/11/2002	surface	566-139-0	1. TTLC	910	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	surface	566-139-0	2. STLC	57	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-139-0	3. STLC-DI	1.6	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-139-0	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-139-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-139-1	1. TTLC	690	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-139-1	2. STLC	47	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-139-1	3. STLC-DI	3.2	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-139-1	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-139-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-139-2	1. TTLC	110	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-139-2	2. STLC	5.7	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-139-2	3. STLC-DI	ND	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-139-2	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-139-2	5. PH						Soil	ATL
7/11/2002	.9 m	566-139-3	1. TTLC	87	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-139-3	2. STLC	6.7	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-139-3	3. STLC-DI	ND	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-139-3	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-139-3	5. PH						Soil	ATL
7/11/2002	surface	566-140-0	1. TTLC	760	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	surface	566-140-0	2. STLC	24	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-140-0	3. STLC-DI	1.6	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-140-0	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-140-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-140-1	1. TTLC	240	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-140-1	2. STLC	5.4	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-140-1	3. STLC-DI	0.78	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-140-1	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-140-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-140-2	1. TTLC	140	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-140-2	2. STLC	6.1	mg/l	0.2	7/23/2002	Lead	Soil	ATL

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7/11/2002	.6 m	566-140-2	3. STLC-DI	0.26	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-140-2	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-140-2	5. PH						Soil	ATL
7/11/2002	.9 m	566-140-3	1. TTLC	150	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-140-3	2. STLC	10	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-140-3	3. STLC-DI	0.53	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-140-3	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-140-3	5. PH						Soil	ATL
7/11/2002	surface	566-141-0	1. TTLC	860	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	surface	566-141-0	2. STLC	54	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-141-0	3. STLC-DI	0.62	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-141-0	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-141-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-141-1	1. TTLC	97	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-141-1	2. STLC	6.6	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-141-1	3. STLC-DI	ND	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-141-1	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-141-1	5. PH	6.88		0.1	7/17/2002		Soil	ATL
7/11/2002	.6 m	566-141-2	1. TTLC	220	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-141-2	2. STLC	13	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-141-2	3. STLC-DI	ND	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-141-2	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-141-2	5. PH						Soil	ATL
7/11/2002	.9 m	566-141-3	1. TTLC		mg/kg			Lead	Soil	ATL
7/11/2002	.9 m	566-141-3	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-141-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-141-3	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-141-3	5. PH						Soil	ATL
7/11/2002	surface	566-142-0	1. TTLC	1600	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	surface	566-142-0	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-142-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-142-0	4. TCLP	3.7	mg/l	0.2	7/24/2002	Lead	Soil	ATL
7/11/2002	surface	566-142-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-142-1	1. TTLC	770	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-142-1	2. STLC	100	mg/l	2	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-142-1	3. STLC-DI	4.9	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-142-1	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-142-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-142-2	1. TTLC	140	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-142-2	2. STLC	11	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-142-2	3. STLC-DI	0.43	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-142-2	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-142-2	5. PH						Soil	ATL
7/11/2002	.9 m	566-142-3	1. TTLC	250	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-142-3	2. STLC	22	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-142-3	3. STLC-DI	0.34	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-142-3	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-142-3	5. PH						Soil	ATL
7/11/2002	surface	566-143-0	1. TTLC	2800	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	surface	566-143-0	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-143-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-143-0	4. TCLP	3.8	mg/l	0.2	7/24/2002	Lead	Soil	ATL
7/11/2002	surface	566-143-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-143-1	1. TTLC	1300	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-143-1	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-143-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-143-1	4. TCLP	5.4	mg/l	0.2	7/24/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-143-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-143-2	1. TTLC	190	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-143-2	2. STLC	15	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-143-2	3. STLC-DI	1	mg/l	0.2	7/23/2002	Lead	Soil	ATL

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7/11/2002	.6 m	566-143-2	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-143-2	5. PH						Soil	ATL
	.9 m	566-143-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-143-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-143-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-143-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-143-3	5. PH						Soil	ATL
7/11/2002	surface	566-144-0	1. TTLC	2000	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	surface	566-144-0	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-144-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-144-0	4. TCLP	4.2	mg/l	0.2	7/24/2002	Lead	Soil	ATL
7/11/2002	surface	566-144-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-144-1	1. TTLC	1700	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-144-1	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-144-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-144-1	4. TCLP	4.2	mg/l	0.2	7/24/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-144-1	5. PH	6.86		0.1	7/17/2002		Soil	ATL
7/11/2002	.6 m	566-144-2	1. TTLC	1200	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-144-2	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-144-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-144-2	4. TCLP	4.3	mg/l	0.2	7/24/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-144-2	5. PH						Soil	ATL
7/11/2002	.9 m	566-144-3	1. TTLC	150	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-144-3	2. STLC	9.1	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-144-3	3. STLC-DI	0.59	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-144-3	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-144-3	5. PH						Soil	ATL
7/11/2002	surface	566-145-0	1. TTLC	1600	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	surface	566-145-0	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-145-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-145-0	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-145-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-145-1	1. TTLC	560	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-145-1	2. STLC	48	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-145-1	3. STLC-DI	4.5	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-145-1	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-145-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-145-2	1. TTLC	550	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-145-2	2. STLC	50	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-145-2	3. STLC-DI	2.6	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-145-2	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-145-2	5. PH						Soil	ATL
7/11/2002	.9 m	566-145-3	1. TTLC	99	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-145-3	2. STLC	12	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-145-3	3. STLC-DI	0.49	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-145-3	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-145-3	5. PH						Soil	ATL
7/11/2002	surface	566-146-0	1. TTLC	1300	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	surface	566-146-0	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-146-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-146-0	4. TCLP	2.7	mg/l	0.2	7/25/2002	Lead	Soil	ATL
7/11/2002	surface	566-146-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-146-1	1. TTLC	180	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-146-1	2. STLC	24	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-146-1	3. STLC-DI	0.69	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-146-1	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-146-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-146-2	1. TTLC	350	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-146-2	2. STLC	23	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-146-2	3. STLC-DI	0.95	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-146-2	4. TCLP					Lead	Soil	ATL

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7/11/2002	.6 m	566-146-2	5. PH						Soil	ATL
7/11/2002	.9 m	566-146-3	1. TTLC	92	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-146-3	2. STLC	7.6	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-146-3	3. STLC-DI	0.22	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-146-3	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-146-3	5. PH	8.45		0.1	7/17/2002		Soil	ATL
7/11/2002	surface	566-147-0	1. TTLC	800	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	surface	566-147-0	2. STLC	81	mg/l	2	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-147-0	3. STLC-DI	2.9	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-147-0	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-147-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-147-1	1. TTLC	640	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-147-1	2. STLC	50	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-147-1	3. STLC-DI	3	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-147-1	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-147-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-147-2	1. TTLC	94	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-147-2	2. STLC	7.7	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-147-2	3. STLC-DI	0.64	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-147-2	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-147-2	5. PH						Soil	ATL
7/11/2002	.9 m	566-147-3	1. TTLC	110	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-147-3	2. STLC	10	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-147-3	3. STLC-DI	0.69	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-147-3	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-147-3	5. PH						Soil	ATL
7/11/2002	surface	566-148-0	1. TTLC	1100	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	surface	566-148-0	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-148-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-148-0	4. TCLP	1.9	mg/l	0.2	7/25/2002	Lead	Soil	ATL
7/11/2002	surface	566-148-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-148-1	1. TTLC	360	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-148-1	2. STLC	18	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-148-1	3. STLC-DI	1.3	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-148-1	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-148-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-148-2	1. TTLC	99	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-148-2	2. STLC	5.7	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-148-2	3. STLC-DI	0.35	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-148-2	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-148-2	5. PH						Soil	ATL
7/11/2002	.9 m	566-148-3	1. TTLC	23	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-148-3	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-148-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-148-3	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-148-3	5. PH						Soil	ATL
7/11/2002	surface	566-149-0	1. TTLC	310	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	surface	566-149-0	2. STLC	26	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-149-0	3. STLC-DI	ND	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-149-0	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-149-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-149-1	1. TTLC	18	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-149-1	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-149-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-149-1	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-149-1	5. PH	7.88		0.1	7/17/2002		Soil	ATL
7/11/2002	.6 m	566-149-2	1. TTLC	ND	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-149-2	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-149-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-149-2	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-149-2	5. PH						Soil	ATL

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7/11/2002	.9 m	566-152-3	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-152-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-152-3	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-152-3	5. PH						Soil	ATL
7/11/2002	surface	566-153-0	1. TTLC	510	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	surface	566-153-0	2. STLC	41	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-153-0	3. STLC-DI	1.6	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-153-0	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-153-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-153-1	1. TTLC	190	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-153-1	2. STLC	12	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-153-1	3. STLC-DI	0.27	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-153-1	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-153-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-153-2	1. TTLC	14	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-153-2	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-153-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-153-2	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-153-2	5. PH						Soil	ATL
7/11/2002	.9 m	566-153-3	1. TTLC	38	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-153-3	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-153-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-153-3	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-153-3	5. PH						Soil	ATL
7/11/2002	surface	566-154-0	1. TTLC	1000	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	surface	566-154-0	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-154-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-154-0	4. TCLP	1.2	mg/l	0.2	7/25/2002	Lead	Soil	ATL
7/11/2002	surface	566-154-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-154-1	1. TTLC	41	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-154-1	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-154-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-154-1	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-154-1	5. PH	8.4		0.1	7/17/2002		Soil	ATL
7/11/2002	.6 m	566-154-2	1. TTLC	31	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-154-2	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-154-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-154-2	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-154-2	5. PH						Soil	ATL
7/11/2002	.9 m	566-154-3	1. TTLC	12	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-154-3	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-154-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-154-3	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-154-3	5. PH						Soil	ATL
7/11/2002	surface	566-155-0	1. TTLC	83	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	surface	566-155-0	2. STLC	3.5	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-155-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-155-0	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-155-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-155-1	1. TTLC	510	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-155-1	2. STLC	27	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-155-1	3. STLC-DI	2.4	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-155-1	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-155-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-155-2	1. TTLC	120	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-155-2	2. STLC	8.9	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-155-2	3. STLC-DI	0.83	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-155-2	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-155-2	5. PH						Soil	ATL
7/11/2002	.9 m	566-155-3	1. TTLC		mg/kg			Lead	Soil	ATL
7/11/2002	.9 m	566-155-3	2. STLC		mg/l			Lead	Soil	ATL

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	.9 m	566-155-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-155-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-155-3	5. PH						Soil	ATL
7/11/2002	surface	566-156-0	1. TTLC	2000	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	surface	566-156-0	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-156-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-156-0	4. TCLP	1.8	mg/l	0.2	7/25/2002	Lead	Soil	ATL
7/11/2002	surface	566-156-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-156-1	1. TTLC	610	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-156-1	2. STLC	45	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-156-1	3. STLC-DI	1.1	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-156-1	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-156-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-156-2	1. TTLC	440	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-156-2	2. STLC	29	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-156-2	3. STLC-DI	0.38	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-156-2	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-156-2	5. PH						Soil	ATL
7/11/2002	.9 m	566-156-3	1. TTLC	73	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-156-3	2. STLC	5.3	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-156-3	3. STLC-DI	0.25	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-156-3	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-156-3	5. PH						Soil	ATL
7/11/2002	surface	566-157-0	1. TTLC	670	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	surface	566-157-0	2. STLC	38	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-157-0	3. STLC-DI	2.7	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-157-0	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-157-0	5. PH	7.46		0.1	7/17/2002		Soil	ATL
7/11/2002	.3 m	566-157-1	1. TTLC	570	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-157-1	2. STLC	11	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-157-1	3. STLC-DI	0.69	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-157-1	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-157-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-157-2	1. TTLC	43	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-157-2	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-157-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-157-2	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-157-2	5. PH						Soil	ATL
7/11/2002	.9 m	566-157-3	1. TTLC	750	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-157-3	2. STLC	40	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-157-3	3. STLC-DI	2.5	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-157-3	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-157-3	5. PH						Soil	ATL
7/11/2002	surface	566-158-0	1. TTLC	1200	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	surface	566-158-0	2. STLC		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-158-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-158-0	4. TCLP	4.4	mg/l	0.2	7/25/2002	Lead	Soil	ATL
7/11/2002	surface	566-158-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-158-1	1. TTLC	960	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-158-1	2. STLC	46	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-158-1	3. STLC-DI	6.6	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-158-1	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-158-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-158-2	1. TTLC	950	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-158-2	2. STLC	86	mg/l	2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-158-2	3. STLC-DI	4.7	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-158-2	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-158-2	5. PH						Soil	ATL
7/11/2002	.9 m	566-158-3	1. TTLC	150	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-158-3	2. STLC	9.1	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-158-3	3. STLC-DI	0.77	mg/l	0.2	7/23/2002	Lead	Soil	ATL

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7/11/2002	.9 m	566-158-3	4. TCLP		mg/l				Lead	Soil	ATL
7/11/2002	.9 m	566-158-3	5. PH							Soil	ATL
7/12/2002	surface	566-159-0	1. TTLC	1000	mg/kg	5	7/16/2002		Lead	Soil	ATL
7/12/2002	surface	566-159-0	2. STLC		mg/l				Lead	Soil	ATL
7/12/2002	surface	566-159-0	3. STLC-DI		mg/l				Lead	Soil	ATL
7/12/2002	surface	566-159-0	4. TCLP	0.87	mg/l	0.2	7/25/2002		Lead	Soil	ATL
7/12/2002	surface	566-159-0	5. PH	7.68		0.1	7/18/2002			Soil	ATL
7/12/2002	.3 m	566-159-1	1. TTLC	1300	mg/kg	5	7/16/2002		Lead	Soil	ATL
7/12/2002	.3 m	566-159-1	2. STLC		mg/l				Lead	Soil	ATL
7/12/2002	.3 m	566-159-1	3. STLC-DI		mg/l				Lead	Soil	ATL
7/12/2002	.3 m	566-159-1	4. TCLP	0.43	mg/l	0.2	7/25/2002		Lead	Soil	ATL
7/12/2002	.3 m	566-159-1	5. PH							Soil	ATL
7/12/2002	.6 m	566-159-2	1. TTLC	820	mg/kg	5	7/16/2002		Lead	Soil	ATL
7/12/2002	.6 m	566-159-2	2. STLC	11	mg/l	0.2	7/23/2002		Lead	Soil	ATL
7/12/2002	.6 m	566-159-2	3. STLC-DI	0.4	mg/l	0.2	7/23/2002		Lead	Soil	ATL
7/12/2002	.6 m	566-159-2	4. TCLP		mg/l				Lead	Soil	ATL
7/12/2002	.6 m	566-159-2	5. PH							Soil	ATL
7/12/2002	.9 m	566-159-3	1. TTLC	570	mg/kg	5	7/16/2002		Lead	Soil	ATL
7/12/2002	.9 m	566-159-3	2. STLC	29	mg/l	0.4	7/23/2002		Lead	Soil	ATL
7/12/2002	.9 m	566-159-3	3. STLC-DI	0.65	mg/l	0.2	7/23/2002		Lead	Soil	ATL
7/12/2002	.9 m	566-159-3	4. TCLP		mg/l				Lead	Soil	ATL
7/12/2002	.9 m	566-159-3	5. PH							Soil	ATL
7/12/2002	surface	566-160-0	1. TTLC	62	mg/kg	5	7/16/2002		Lead	Soil	ATL
7/12/2002	surface	566-160-0	2. STLC	39	mg/l	0.8	7/23/2002		Lead	Soil	ATL
7/12/2002	surface	566-160-0	3. STLC-DI	0.26	mg/l	0.2	7/23/2002		Lead	Soil	ATL
7/12/2002	surface	566-160-0	4. TCLP		mg/l				Lead	Soil	ATL
7/12/2002	surface	566-160-0	5. PH							Soil	ATL
7/12/2002	.3 m	566-160-1	1. TTLC	200	mg/kg	5	7/16/2002		Lead	Soil	ATL
7/12/2002	.3 m	566-160-1	2. STLC	7.6	mg/l	0.2	7/23/2002		Lead	Soil	ATL
7/12/2002	.3 m	566-160-1	3. STLC-DI	ND	mg/l	0.2	7/23/2002		Lead	Soil	ATL
7/12/2002	.3 m	566-160-1	4. TCLP		mg/l				Lead	Soil	ATL
7/12/2002	.3 m	566-160-1	5. PH							Soil	ATL
7/12/2002	.6 m	566-160-2	1. TTLC	47	mg/kg	5	7/16/2002		Lead	Soil	ATL
7/12/2002	.6 m	566-160-2	2. STLC		mg/l				Lead	Soil	ATL
7/12/2002	.6 m	566-160-2	3. STLC-DI		mg/l				Lead	Soil	ATL
7/12/2002	.6 m	566-160-2	4. TCLP		mg/l				Lead	Soil	ATL
7/12/2002	.6 m	566-160-2	5. PH							Soil	ATL
7/12/2002	.9 m	566-160-3	1. TTLC	1100	mg/kg	5	7/16/2002		Lead	Soil	ATL
7/12/2002	.9 m	566-160-3	2. STLC		mg/l				Lead	Soil	ATL
7/12/2002	.9 m	566-160-3	3. STLC-DI		mg/l				Lead	Soil	ATL
7/12/2002	.9 m	566-160-3	4. TCLP	ND	mg/l	0.2	7/25/2002		Lead	Soil	ATL
7/12/2002	.9 m	566-160-3	5. PH							Soil	ATL
7/12/2002	surface	566-161-0	1. TTLC	1200	mg/kg	5	7/16/2002		Lead	Soil	ATL
7/12/2002	surface	566-161-0	2. STLC		mg/l				Lead	Soil	ATL
7/12/2002	surface	566-161-0	3. STLC-DI		mg/l				Lead	Soil	ATL
7/12/2002	surface	566-161-0	4. TCLP	0.84	mg/l	0.2	7/25/2002		Lead	Soil	ATL
7/12/2002	surface	566-161-0	5. PH	7.19		0.1	7/18/2002			Soil	ATL
7/12/2002	.3 m	566-161-1	1. TTLC	770	mg/kg	5	7/16/2002		Lead	Soil	ATL
7/12/2002	.3 m	566-161-1	2. STLC	25	mg/l	0.4	7/23/2002		Lead	Soil	ATL
7/12/2002	.3 m	566-161-1	3. STLC-DI	0.5	mg/l	0.2	7/23/2002		Lead	Soil	ATL
7/12/2002	.3 m	566-161-1	4. TCLP		mg/l				Lead	Soil	ATL
7/12/2002	.3 m	566-161-1	5. PH							Soil	ATL
7/12/2002	.6 m	566-161-2	1. TTLC	1300	mg/kg	5	7/16/2002		Lead	Soil	ATL
7/12/2002	.6 m	566-161-2	2. STLC		mg/l				Lead	Soil	ATL
7/12/2002	.6 m	566-161-2	3. STLC-DI		mg/l				Lead	Soil	ATL
7/12/2002	.6 m	566-161-2	4. TCLP	0.75	mg/l	0.2	7/25/2002		Lead	Soil	ATL
7/12/2002	.6 m	566-161-2	5. PH							Soil	ATL
7/12/2002	.9 m	566-161-3	1. TTLC	640	mg/kg	5	7/16/2002		Lead	Soil	ATL
7/12/2002	.9 m	566-161-3	2. STLC	13	mg/l	0.2	7/23/2002		Lead	Soil	ATL
7/12/2002	.9 m	566-161-3	3. STLC-DI	0.35	mg/l	0.2	7/23/2002		Lead	Soil	ATL
7/12/2002	.9 m	566-161-3	4. TCLP		mg/l				Lead	Soil	ATL

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7/12/2002	.9 m	566-161-3	5. PH						Soil	ATL
7/12/2002	surface	566-162-0	1. TTLC	200	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	surface	566-162-0	2. STLC	8.5	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	surface	566-162-0	3. STLC-DI	ND	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	surface	566-162-0	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-162-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-162-1	1. TTLC	220	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-162-1	2. STLC	1.3	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-162-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-162-1	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-162-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-162-2	1. TTLC	1800	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-162-2	2. STLC		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-162-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-162-2	4. TCLP	ND	mg/l	0.2	7/25/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-162-2	5. PH						Soil	ATL
7/12/2002	.9 m	566-162-3	1. TTLC	240	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-162-3	2. STLC	0.55	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-162-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.9 m	566-162-3	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.9 m	566-162-3	5. PH						Soil	ATL
7/12/2002	surface	566-163-0	1. TTLC	89	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	surface	566-163-0	2. STLC	17	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/12/2002	surface	566-163-0	3. STLC-DI	ND	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	surface	566-163-0	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-163-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-163-1	1. TTLC	160	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-163-1	2. STLC	5.1	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-163-1	3. STLC-DI	ND	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-163-1	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-163-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-163-2	1. TTLC	400	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-163-2	2. STLC	4.7	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-163-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-163-2	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-163-2	5. PH	7.68		0.1	7/18/2002		Soil	ATL
7/12/2002	.9 m	566-163-3	1. TTLC	180	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-163-3	2. STLC	8.4	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-163-3	3. STLC-DI	ND	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-163-3	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.9 m	566-163-3	5. PH						Soil	ATL
7/12/2002	surface	566-164-0	1. TTLC	46	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	surface	566-164-0	2. STLC		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-164-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-164-0	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-164-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-164-1	1. TTLC	300	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-164-1	2. STLC	3.1	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-164-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-164-1	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-164-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-164-2	1. TTLC	370	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-164-2	2. STLC	3.3	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-164-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-164-2	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-164-2	5. PH						Soil	ATL
7/12/2002	.9 m	566-164-3	1. TTLC	410	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-164-3	2. STLC	4.6	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-164-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.9 m	566-164-3	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.9 m	566-164-3	5. PH						Soil	ATL

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7/12/2002	surface	566-165-0	1. TTLC	35	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	surface	566-165-0	2. STLC		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-165-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-165-0	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-165-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-165-1	1. TTLC	140	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-165-1	2. STLC	3.8	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-165-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-165-1	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-165-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-165-2	1. TTLC	310	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-165-2	2. STLC	38	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-165-2	3. STLC-DI	ND	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-165-2	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-165-2	5. PH						Soil	ATL
7/12/2002	.9 m	566-165-3	1. TTLC	710	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-165-3	2. STLC	7.5	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-165-3	3. STLC-DI	2.1	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-165-3	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.9 m	566-165-3	5. PH						Soil	ATL
7/12/2002	surface	566-166-0	1. TTLC	21	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	surface	566-166-0	2. STLC		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-166-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-166-0	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-166-0	5. PH	6.2		0.1	7/18/2002		Soil	ATL
7/12/2002	.3 m	566-166-1	1. TTLC	64	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-166-1	2. STLC	15	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-166-1	3. STLC-DI	0.23	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-166-1	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-166-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-166-2	1. TTLC	240	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-166-2	2. STLC	4.7	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-166-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-166-2	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-166-2	5. PH						Soil	ATL
7/12/2002	.9 m	566-166-3	1. TTLC	1300	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-166-3	2. STLC		mg/l			Lead	Soil	ATL
7/12/2002	.9 m	566-166-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.9 m	566-166-3	4. TCLP	ND	mg/l	0.2	7/25/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-166-3	5. PH						Soil	ATL
7/12/2002	surface	566-167-0	1. TTLC	60	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	surface	566-167-0	2. STLC	80	mg/l	2	7/23/2002	Lead	Soil	ATL
7/12/2002	surface	566-167-0	3. STLC-DI	1.2	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	surface	566-167-0	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-167-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-167-1	1. TTLC	380	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-167-1	2. STLC	33	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-167-1	3. STLC-DI	1.1	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-167-1	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-167-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-167-2	1. TTLC	80	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-167-2	2. STLC	7.5	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-167-2	3. STLC-DI	ND	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-167-2	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-167-2	5. PH						Soil	ATL
7/12/2002	.9 m	566-167-3	1. TTLC	950	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-167-3	2. STLC	1.4	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-167-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.9 m	566-167-3	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.9 m	566-167-3	5. PH						Soil	ATL
7/12/2002	surface	566-168-0	1. TTLC	64	mg/kg	5	7/16/2002	Lead	Soil	ATL

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7/12/2002	surface	566-168-0	2. STLC	30	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/12/2002	surface	566-168-0	3. STLC-DI	0.44	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	surface	566-168-0	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-168-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-168-1	1. TTLC	70	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-168-1	2. STLC	35	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-168-1	3. STLC-DI	0.6	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-168-1	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-168-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-168-2	1. TTLC	43	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-168-2	2. STLC		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-168-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-168-2	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-168-2	5. PH	7.23		0.1	7/18/2002		Soil	ATL
7/12/2002	.9 m	566-168-3	1. TTLC	150	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-168-3	2. STLC	2.1	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-168-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.9 m	566-168-3	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.9 m	566-168-3	5. PH						Soil	ATL
7/12/2002	surface	566-169-0	1. TTLC	48	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	surface	566-169-0	2. STLC		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-169-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-169-0	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-169-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-169-1	1. TTLC	47	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-169-1	2. STLC		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-169-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-169-1	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-169-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-169-2	1. TTLC	110	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-169-2	2. STLC	17	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-169-2	3. STLC-DI	0.41	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-169-2	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-169-2	5. PH						Soil	ATL
7/12/2002	.9 m	566-169-3	1. TTLC	150	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-169-3	2. STLC	4.5	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-169-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.9 m	566-169-3	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.9 m	566-169-3	5. PH						Soil	ATL
7/12/2002	surface	566-170-0	1. TTLC	11	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	surface	566-170-0	2. STLC		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-170-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-170-0	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-170-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-170-1	1. TTLC	20	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-170-1	2. STLC		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-170-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-170-1	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-170-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-170-2	1. TTLC	28	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-170-2	2. STLC		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-170-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-170-2	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-170-2	5. PH						Soil	ATL
7/12/2002	.9 m	566-170-3	1. TTLC	97	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-170-3	2. STLC	14	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-170-3	3. STLC-DI	ND	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-170-3	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.9 m	566-170-3	5. PH						Soil	ATL
7/12/2002	surface	566-171-0	1. TTLC	140	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	surface	566-171-0	2. STLC	48	mg/l	1	7/23/2002	Lead	Soil	ATL

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7/12/2002	surface	566-171-0	3. STLC-DI	0.25	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	surface	566-171-0	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-171-0	5. PH	6.7		0.1	7/18/2002		Soil	ATL
7/12/2002	.3 m	566-171-1	1. TTLC	250	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-171-1	2. STLC	150	mg/l	4	7/23/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-171-1	3. STLC-DI	1.3	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-171-1	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-171-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-171-2	1. TTLC	320	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-171-2	2. STLC	100	mg/l	2	7/23/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-171-2	3. STLC-DI	1.7	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-171-2	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-171-2	5. PH						Soil	ATL
7/12/2002	.9 m	566-171-3	1. TTLC	820	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-171-3	2. STLC	170	mg/l	4	7/23/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-171-3	3. STLC-DI	2.2	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-171-3	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.9 m	566-171-3	5. PH						Soil	ATL
7/12/2002	surface	566-172-0	1. TTLC	38	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	surface	566-172-0	2. STLC		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-172-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-172-0	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-172-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-172-1	1. TTLC	10	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-172-1	2. STLC		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-172-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-172-1	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-172-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-172-2	1. TTLC	100	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-172-2	2. STLC	19	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-172-2	3. STLC-DI	1.1	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-172-2	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-172-2	5. PH						Soil	ATL
7/12/2002	.9 m	566-172-3	1. TTLC	520	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-172-3	2. STLC	1.1	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-172-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.9 m	566-172-3	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.9 m	566-172-3	5. PH						Soil	ATL
7/12/2002	surface	566-173-0	1. TTLC	280	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	surface	566-173-0	2. STLC	66	mg/l	2	7/23/2002	Lead	Soil	ATL
7/12/2002	surface	566-173-0	3. STLC-DI	0.74	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	surface	566-173-0	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-173-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-173-1	1. TTLC	170	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-173-1	2. STLC	93	mg/l	2	7/23/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-173-1	3. STLC-DI	3.5	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-173-1	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-173-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-173-2	1. TTLC	86	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-173-2	2. STLC	120	mg/l	2	7/23/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-173-2	3. STLC-DI	7.2	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-173-2	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-173-2	5. PH	6.72		0.1	7/18/2002		Soil	ATL
7/12/2002	.9 m	566-173-3	1. TTLC	360	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-173-3	2. STLC	110	mg/l	2	7/23/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-173-3	3. STLC-DI	5	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-173-3	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.9 m	566-173-3	5. PH						Soil	ATL
7/12/2002	surface	566-174-0	1. TTLC	730	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	surface	566-174-0	2. STLC	83	mg/l	2	7/23/2002	Lead	Soil	ATL
7/12/2002	surface	566-174-0	3. STLC-DI	1.1	mg/l	0.2	7/23/2002	Lead	Soil	ATL

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7/12/2002	surface	566-174-0	4. TCLP		mg/l				Lead	Soil	ATL
7/12/2002	surface	566-174-0	5. PH							Soil	ATL
7/12/2002	.3 m	566-174-1	1. TTLC	130	mg/kg	5	7/16/2002		Lead	Soil	ATL
7/12/2002	.3 m	566-174-1	2. STLC	13	mg/l	0.2	7/23/2002		Lead	Soil	ATL
7/12/2002	.3 m	566-174-1	3. STLC-DI	0.37	mg/l	0.2	7/23/2002		Lead	Soil	ATL
7/12/2002	.3 m	566-174-1	4. TCLP		mg/l				Lead	Soil	ATL
7/12/2002	.3 m	566-174-1	5. PH							Soil	ATL
7/12/2002	.6 m	566-174-2	1. TTLC	36	mg/kg	5	7/16/2002		Lead	Soil	ATL
7/12/2002	.6 m	566-174-2	2. STLC		mg/l				Lead	Soil	ATL
7/12/2002	.6 m	566-174-2	3. STLC-DI		mg/l				Lead	Soil	ATL
7/12/2002	.6 m	566-174-2	4. TCLP		mg/l				Lead	Soil	ATL
7/12/2002	.6 m	566-174-2	5. PH							Soil	ATL
7/12/2002	.9 m	566-174-3	1. TTLC	33	mg/kg	5	7/16/2002		Lead	Soil	ATL
7/12/2002	.9 m	566-174-3	2. STLC		mg/l				Lead	Soil	ATL
7/12/2002	.9 m	566-174-3	3. STLC-DI		mg/l				Lead	Soil	ATL
7/12/2002	.9 m	566-174-3	4. TCLP		mg/l				Lead	Soil	ATL
7/12/2002	.9 m	566-174-3	5. PH							Soil	ATL
7/12/2002	surface	566-175-0	1. TTLC	640	mg/kg	5	7/16/2002		Lead	Soil	ATL
7/12/2002	surface	566-175-0	2. STLC	65	mg/l	2	7/23/2002		Lead	Soil	ATL
7/12/2002	surface	566-175-0	3. STLC-DI	1.3	mg/l	0.2	7/23/2002		Lead	Soil	ATL
7/12/2002	surface	566-175-0	4. TCLP		mg/l				Lead	Soil	ATL
7/12/2002	surface	566-175-0	5. PH							Soil	ATL
7/12/2002	.3 m	566-175-1	1. TTLC	460	mg/kg	5	7/16/2002		Lead	Soil	ATL
7/12/2002	.3 m	566-175-1	2. STLC	65	mg/l	2	7/23/2002		Lead	Soil	ATL
7/12/2002	.3 m	566-175-1	3. STLC-DI	2.1	mg/l	0.2	7/23/2002		Lead	Soil	ATL
7/12/2002	.3 m	566-175-1	4. TCLP		mg/l				Lead	Soil	ATL
7/12/2002	.3 m	566-175-1	5. PH							Soil	ATL
7/12/2002	.6 m	566-175-2	1. TTLC	29	mg/kg	5	7/16/2002		Lead	Soil	ATL
7/12/2002	.6 m	566-175-2	2. STLC		mg/l				Lead	Soil	ATL
7/12/2002	.6 m	566-175-2	3. STLC-DI		mg/l				Lead	Soil	ATL
7/12/2002	.6 m	566-175-2	4. TCLP		mg/l				Lead	Soil	ATL
7/12/2002	.6 m	566-175-2	5. PH							Soil	ATL
7/12/2002	.9 m	566-175-3	1. TTLC	27	mg/kg	5	7/16/2002		Lead	Soil	ATL
7/12/2002	.9 m	566-175-3	2. STLC		mg/l				Lead	Soil	ATL
7/12/2002	.9 m	566-175-3	3. STLC-DI		mg/l				Lead	Soil	ATL
7/12/2002	.9 m	566-175-3	4. TCLP		mg/l				Lead	Soil	ATL
7/12/2002	.9 m	566-175-3	5. PH							Soil	ATL
7/12/2002	surface	566-176-0	1. TTLC	680	mg/kg	5	7/16/2002		Lead	Soil	ATL
7/12/2002	surface	566-176-0	2. STLC	71	mg/l	2	7/23/2002		Lead	Soil	ATL
7/12/2002	surface	566-176-0	3. STLC-DI	2.2	mg/l	0.2	7/23/2002		Lead	Soil	ATL
7/12/2002	surface	566-176-0	4. TCLP		mg/l				Lead	Soil	ATL
7/12/2002	surface	566-176-0	5. PH	7.21		0.1	7/18/2002			Soil	ATL
7/12/2002	.3 m	566-176-1	1. TTLC	110	mg/kg	5	7/16/2002		Lead	Soil	ATL
7/12/2002	.3 m	566-176-1	2. STLC	9.3	mg/l	0.2	7/23/2002		Lead	Soil	ATL
7/12/2002	.3 m	566-176-1	3. STLC-DI	0.6	mg/l	0.2	7/23/2002		Lead	Soil	ATL
7/12/2002	.3 m	566-176-1	4. TCLP		mg/l				Lead	Soil	ATL
7/12/2002	.3 m	566-176-1	5. PH							Soil	ATL
7/12/2002	.6 m	566-176-2	1. TTLC	63	mg/kg	5	7/16/2002		Lead	Soil	ATL
7/12/2002	.6 m	566-176-2	2. STLC	2.8	mg/l	0.2	7/23/2002		Lead	Soil	ATL
7/12/2002	.6 m	566-176-2	3. STLC-DI		mg/l				Lead	Soil	ATL
7/12/2002	.6 m	566-176-2	4. TCLP		mg/l				Lead	Soil	ATL
7/12/2002	.6 m	566-176-2	5. PH							Soil	ATL
7/12/2002	.9 m	566-176-3	1. TTLC	23	mg/kg	5	7/16/2002		Lead	Soil	ATL
7/12/2002	.9 m	566-176-3	2. STLC		mg/l				Lead	Soil	ATL
7/12/2002	.9 m	566-176-3	3. STLC-DI		mg/l				Lead	Soil	ATL
7/12/2002	.9 m	566-176-3	4. TCLP		mg/l				Lead	Soil	ATL
7/12/2002	.9 m	566-176-3	5. PH							Soil	ATL
7/12/2002	surface	566-177-0	1. TTLC	360	mg/kg	5	7/16/2002		Lead	Soil	ATL
7/12/2002	surface	566-177-0	2. STLC	99	mg/l	2	7/23/2002		Lead	Soil	ATL
7/12/2002	surface	566-177-0	3. STLC-DI	1.7	mg/l	0.2	7/23/2002		Lead	Soil	ATL
7/12/2002	surface	566-177-0	4. TCLP						Lead	Soil	ATL

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7/12/2002	surface	566-177-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-177-1	1. TTLC	950	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-177-1	2. STLC	190	mg/l	4	7/23/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-177-1	3. STLC-DI	12	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-177-1	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-177-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-177-2	1. TTLC	470	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-177-2	2. STLC	24	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-177-2	3. STLC-DI	1.8	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-177-2	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-177-2	5. PH						Soil	ATL
7/12/2002	.9 m	566-177-3	1. TTLC	120	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-177-3	2. STLC	8.2	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-177-3	3. STLC-DI	ND	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-177-3	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.9 m	566-177-3	5. PH						Soil	ATL
7/12/2002	surface	566-178-0	1. TTLC	890	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	surface	566-178-0	2. STLC	100	mg/l	2	7/23/2002	Lead	Soil	ATL
7/12/2002	surface	566-178-0	3. STLC-DI	2.4	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	surface	566-178-0	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-178-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-178-1	1. TTLC	230	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-178-1	2. STLC	15	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-178-1	3. STLC-DI	ND	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-178-1	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-178-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-178-2	1. TTLC	370	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-178-2	2. STLC	57	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-178-2	3. STLC-DI	0.82	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-178-2	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-178-2	5. PH	7.16		0.1	7/18/2002		Soil	ATL
7/12/2002	.9 m	566-178-3	1. TTLC	17	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-178-3	2. STLC		mg/l			Lead	Soil	ATL
7/12/2002	.9 m	566-178-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.9 m	566-178-3	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.9 m	566-178-3	5. PH						Soil	ATL
7/12/2002	surface	566-179-0	1. TTLC	500	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	surface	566-179-0	2. STLC	110	mg/l	2	7/23/2002	Lead	Soil	ATL
7/12/2002	surface	566-179-0	3. STLC-DI	1.1	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	surface	566-179-0	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-179-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-179-1	1. TTLC	47	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-179-1	2. STLC		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-179-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-179-1	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-179-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-179-2	1. TTLC	48	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-179-2	2. STLC		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-179-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-179-2	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-179-2	5. PH						Soil	ATL
7/12/2002	.9 m	566-179-3	1. TTLC	23	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-179-3	2. STLC		mg/l			Lead	Soil	ATL
7/12/2002	.9 m	566-179-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.9 m	566-179-3	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.9 m	566-179-3	5. PH						Soil	ATL
7/12/2002	surface	566-180-0	1. TTLC	590	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	surface	566-180-0	2. STLC	6.2	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	surface	566-180-0	3. STLC-DI	0.8	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	surface	566-180-0	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-180-0	5. PH						Soil	ATL

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7/12/2002	.3 m	566-180-1	1. TTLC	40	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-180-1	2. STLC		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-180-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-180-1	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-180-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-180-2	1. TTLC	66	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-180-2	2. STLC	2.7	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-180-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-180-2	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-180-2	5. PH						Soil	ATL
	.9 m	566-180-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-180-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-180-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-180-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-180-3	5. PH						Soil	ATL
7/15/2002	surface	566-181-0	1. TTLC	470	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-181-0	2. STLC	51	mg/l	2	7/28/2002	Lead	Soil	ATL
7/15/2002	surface	566-181-0	3. STLC-DI	1.9	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	surface	566-181-0	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-181-0	5. PH	8.52		0.1	7/19/2002		Soil	ATL
7/15/2002	.3 m	566-181-1	1. TTLC	30	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-181-1	2. STLC		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-181-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-181-1	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-181-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-181-2	1. TTLC	72	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-181-2	2. STLC	5.5	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-181-2	3. STLC-DI	0.36	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-181-2	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-181-2	5. PH						Soil	ATL
7/15/2002	.9 m	566-181-3	1. TTLC	9.8	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-181-3	2. STLC		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-181-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-181-3	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-181-3	5. PH						Soil	ATL
7/15/2002	surface	566-182-0	1. TTLC	710	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-182-0	2. STLC	70	mg/l	2	7/28/2002	Lead	Soil	ATL
7/15/2002	surface	566-182-0	3. STLC-DI	3.5	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	surface	566-182-0	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-182-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-182-1	1. TTLC	180	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-182-1	2. STLC	14	mg/l	0.4	7/28/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-182-1	3. STLC-DI	0.86	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-182-1	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-182-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-182-2	1. TTLC	170	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-182-2	2. STLC	13	mg/l	0.4	7/28/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-182-2	3. STLC-DI	0.39	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-182-2	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-182-2	5. PH						Soil	ATL
7/15/2002	.9 m	566-182-3	1. TTLC	160	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-182-3	2. STLC	8.3	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-182-3	3. STLC-DI	0.23	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-182-3	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-182-3	5. PH						Soil	ATL
7/15/2002	surface	566-183-0	1. TTLC	720	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-183-0	2. STLC	63	mg/l	2	7/28/2002	Lead	Soil	ATL
7/15/2002	surface	566-183-0	3. STLC-DI	1.1	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	surface	566-183-0	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-183-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-183-1	1. TTLC	350	mg/kg	5	7/19/2002	Lead	Soil	ATL

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7/15/2002	.3 m	566-183-1	2. STLC	26	mg/l	0.8	7/28/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-183-1	3. STLC-DI	0.56	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-183-1	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-183-1	5. PH	7.29		0.1	7/19/2002		Soil	ATL
7/15/2002	.6 m	566-183-2	1. TTLC	54	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-183-2	2. STLC	3.9	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-183-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-183-2	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-183-2	5. PH						Soil	ATL
7/15/2002	.9 m	566-183-3	1. TTLC	31	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-183-3	2. STLC		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-183-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-183-3	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-183-3	5. PH						Soil	ATL
7/15/2002	surface	566-184-0	1. TTLC	1400	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-184-0	2. STLC		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-184-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-184-0	4. TCLP	3.5	mg/l	0.2	7/26/2002	Lead	Soil	ATL
7/15/2002	surface	566-184-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-184-1	1. TTLC	560	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-184-1	2. STLC	52	mg/l	2	7/28/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-184-1	3. STLC-DI	1.8	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-184-1	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-184-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-184-2	1. TTLC	210	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-184-2	2. STLC	15	mg/l	0.4	7/28/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-184-2	3. STLC-DI	1.3	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-184-2	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-184-2	5. PH						Soil	ATL
7/15/2002	.9 m	566-184-3	1. TTLC	420	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-184-3	2. STLC	25	mg/l	0.8	7/28/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-184-3	3. STLC-DI	2.6	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-184-3	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-184-3	5. PH						Soil	ATL
7/15/2002	surface	566-185-0	1. TTLC	450	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-185-0	2. STLC	34	mg/l	0.8	7/28/2002	Lead	Soil	ATL
7/15/2002	surface	566-185-0	3. STLC-DI	0.5	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	surface	566-185-0	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-185-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-185-1	1. TTLC	780	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-185-1	2. STLC	91	mg/l	2	7/28/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-185-1	3. STLC-DI	3.4	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-185-1	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-185-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-185-2	1. TTLC	1800	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-185-2	2. STLC		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-185-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-185-2	4. TCLP	9.1	mg/l	0.2	7/26/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-185-2	5. PH						Soil	ATL
7/15/2002	.9 m	566-185-3	1. TTLC	500	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-185-3	2. STLC	43	mg/l	2	7/28/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-185-3	3. STLC-DI	3.2	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-185-3	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-185-3	5. PH	7.19		0.1	7/19/2002		Soil	ATL
7/15/2002	surface	566-186-0	1. TTLC	260	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-186-0	2. STLC	26	mg/l	0.8	7/28/2002	Lead	Soil	ATL
7/15/2002	surface	566-186-0	3. STLC-DI	0.28	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	surface	566-186-0	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-186-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-186-1	1. TTLC	480	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-186-1	2. STLC	55	mg/l	2	7/28/2002	Lead	Soil	ATL

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7/15/2002	.3 m	566-186-1	3. STLC-DI	0.6	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-186-1	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-186-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-186-2	1. TTLC	750	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-186-2	2. STLC	88	mg/l	2	7/28/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-186-2	3. STLC-DI	2.3	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-186-2	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-186-2	5. PH						Soil	ATL
	.9 m	566-186-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-186-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-186-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-186-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-186-3	5. PH						Soil	ATL
7/15/2002	surface	566-187-0	1. TTLC	1000	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-187-0	2. STLC		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-187-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-187-0	4. TCLP	1.4	mg/l	0.2	7/26/2002	Lead	Soil	ATL
7/15/2002	surface	566-187-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-187-1	1. TTLC	390	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-187-1	2. STLC	35	mg/l	0.8	7/28/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-187-1	3. STLC-DI	0.83	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-187-1	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-187-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-187-2	1. TTLC	100	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-187-2	2. STLC	4.4	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-187-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-187-2	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-187-2	5. PH						Soil	ATL
7/15/2002	.9 m	566-187-3	1. TTLC	22	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-187-3	2. STLC		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-187-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-187-3	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-187-3	5. PH						Soil	ATL
7/15/2002	surface	566-188-0	1. TTLC	1100	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-188-0	2. STLC		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-188-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-188-0	4. TCLP	5.4	mg/l	0.2	7/26/2002	Lead	Soil	ATL
7/15/2002	surface	566-188-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-188-1	1. TTLC	1100	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-188-1	2. STLC		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-188-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-188-1	4. TCLP	3.3	mg/l	0.2	7/26/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-188-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-188-2	1. TTLC	1100	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-188-2	2. STLC		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-188-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-188-2	4. TCLP	0.43	mg/l	0.2	7/26/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-188-2	5. PH	7.44		0.1	7/19/2002		Soil	ATL
7/15/2002	.9 m	566-188-3	1. TTLC	550	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-188-3	2. STLC	54	mg/l	2	7/28/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-188-3	3. STLC-DI	1.4	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-188-3	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-188-3	5. PH						Soil	ATL
7/15/2002	surface	566-189-0	1. TTLC	270	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-189-0	2. STLC	50	mg/l	2	7/28/2002	Lead	Soil	ATL
7/15/2002	surface	566-189-0	3. STLC-DI	ND	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	surface	566-189-0	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-189-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-189-1	1. TTLC	560	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-189-1	2. STLC	62	mg/l	2	7/28/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-189-1	3. STLC-DI	5	mg/l	0.2	7/28/2002	Lead	Soil	ATL

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7/15/2002	.3 m	566-189-1	4. TCLP		mg/l				Lead	Soil	ATL
7/15/2002	.3 m	566-189-1	5. PH							Soil	ATL
7/15/2002	.6 m	566-189-2	1. TTLC	47	mg/kg	5	7/19/2002		Lead	Soil	ATL
7/15/2002	.6 m	566-189-2	2. STLC		mg/l				Lead	Soil	ATL
7/15/2002	.6 m	566-189-2	3. STLC-DI		mg/l				Lead	Soil	ATL
7/15/2002	.6 m	566-189-2	4. TCLP		mg/l				Lead	Soil	ATL
7/15/2002	.6 m	566-189-2	5. PH							Soil	ATL
7/15/2002	.9 m	566-189-3	1. TTLC	100	mg/kg	5	7/19/2002		Lead	Soil	ATL
7/15/2002	.9 m	566-189-3	2. STLC	6.6	mg/l	0.2	7/28/2002		Lead	Soil	ATL
7/15/2002	.9 m	566-189-3	3. STLC-DI	0.37	mg/l	0.2	7/28/2002		Lead	Soil	ATL
7/15/2002	.9 m	566-189-3	4. TCLP		mg/l				Lead	Soil	ATL
7/15/2002	.9 m	566-189-3	5. PH							Soil	ATL
7/15/2002	surface	566-190-0	1. TTLC	240	mg/kg	5	7/19/2002		Lead	Soil	ATL
7/15/2002	surface	566-190-0	2. STLC	16	mg/l	0.4	7/28/2002		Lead	Soil	ATL
7/15/2002	surface	566-190-0	3. STLC-DI	0.2	mg/l	0.2	7/28/2002		Lead	Soil	ATL
7/15/2002	surface	566-190-0	4. TCLP		mg/l				Lead	Soil	ATL
7/15/2002	surface	566-190-0	5. PH							Soil	ATL
7/15/2002	.3 m	566-190-1	1. TTLC	100	mg/kg	5	7/19/2002		Lead	Soil	ATL
7/15/2002	.3 m	566-190-1	2. STLC	7.9	mg/l	0.2	7/28/2002		Lead	Soil	ATL
7/15/2002	.3 m	566-190-1	3. STLC-DI	ND	mg/l	0.2	7/28/2002		Lead	Soil	ATL
7/15/2002	.3 m	566-190-1	4. TCLP		mg/l				Lead	Soil	ATL
7/15/2002	.3 m	566-190-1	5. PH							Soil	ATL
7/15/2002	.6 m	566-190-2	1. TTLC	1500	mg/kg	5	7/19/2002		Lead	Soil	ATL
7/15/2002	.6 m	566-190-2	2. STLC		mg/l				Lead	Soil	ATL
7/15/2002	.6 m	566-190-2	3. STLC-DI		mg/l				Lead	Soil	ATL
7/15/2002	.6 m	566-190-2	4. TCLP	4.8	mg/l	0.2	4/26/2002		Lead	Soil	ATL
7/15/2002	.6 m	566-190-2	5. PH							Soil	ATL
7/15/2002	.9 m	566-190-3	1. TTLC	120	mg/kg	5	7/19/2002		Lead	Soil	ATL
7/15/2002	.9 m	566-190-3	2. STLC	12	mg/l	0.4	7/28/2002		Lead	Soil	ATL
7/15/2002	.9 m	566-190-3	3. STLC-DI	0.85	mg/l	0.2	7/28/2002		Lead	Soil	ATL
7/15/2002	.9 m	566-190-3	4. TCLP		mg/l				Lead	Soil	ATL
7/15/2002	.9 m	566-190-3	5. PH							Soil	ATL
7/15/2002	surface	566-191-0	1. TTLC	530	mg/kg	5	7/19/2002		Lead	Soil	ATL
7/15/2002	surface	566-191-0	2. STLC	83	mg/l	2	7/28/2002		Lead	Soil	ATL
7/15/2002	surface	566-191-0	3. STLC-DI	0.8	mg/l	0.2	7/28/2002		Lead	Soil	ATL
7/15/2002	surface	566-191-0	4. TCLP		mg/l				Lead	Soil	ATL
7/15/2002	surface	566-191-0	5. PH	7.56		0.1	7/19/2002			Soil	ATL
7/15/2002	.3 m	566-191-1	1. TTLC	650	mg/kg	5	7/19/2002		Lead	Soil	ATL
7/15/2002	.3 m	566-191-1	2. STLC	62	mg/l	2	7/28/2002		Lead	Soil	ATL
7/15/2002	.3 m	566-191-1	3. STLC-DI	2.3	mg/l	0.2	7/28/2002		Lead	Soil	ATL
7/15/2002	.3 m	566-191-1	4. TCLP		mg/l				Lead	Soil	ATL
7/15/2002	.3 m	566-191-1	5. PH							Soil	ATL
7/15/2002	.6 m	566-191-2	1. TTLC	48	mg/kg	5	7/19/2002		Lead	Soil	ATL
7/15/2002	.6 m	566-191-2	2. STLC		mg/l				Lead	Soil	ATL
7/15/2002	.6 m	566-191-2	3. STLC-DI		mg/l				Lead	Soil	ATL
7/15/2002	.6 m	566-191-2	4. TCLP		mg/l				Lead	Soil	ATL
7/15/2002	.6 m	566-191-2	5. PH							Soil	ATL
7/15/2002	.9 m	566-191-3	1. TTLC	89	mg/kg	5	7/19/2002		Lead	Soil	ATL
7/15/2002	.9 m	566-191-3	2. STLC	1.7	mg/l	0.2	7/28/2002		Lead	Soil	ATL
7/15/2002	.9 m	566-191-3	3. STLC-DI		mg/l				Lead	Soil	ATL
7/15/2002	.9 m	566-191-3	4. TCLP		mg/l				Lead	Soil	ATL
7/15/2002	.9 m	566-191-3	5. PH							Soil	ATL
7/15/2002	surface	566-192-0	1. TTLC	410	mg/kg	5	7/19/2002		Lead	Soil	ATL
7/15/2002	surface	566-192-0	2. STLC	43	mg/l	1.6	7/27/2002		Lead	Soil	ATL
7/15/2002	surface	566-192-0	3. STLC-DI	1.1	mg/l	0.2	7/28/2002		Lead	Soil	ATL
7/15/2002	surface	566-192-0	4. TCLP		mg/l				Lead	Soil	ATL
7/15/2002	surface	566-192-0	5. PH							Soil	ATL
7/15/2002	.3 m	566-192-1	1. TTLC	90	mg/kg	5	7/19/2002		Lead	Soil	ATL
7/15/2002	.3 m	566-192-1	2. STLC	5.8	mg/l	0.2	7/27/2002		Lead	Soil	ATL
7/15/2002	.3 m	566-192-1	3. STLC-DI	0.29	mg/l	0.2	7/28/2002		Lead	Soil	ATL
7/15/2002	.3 m	566-192-1	4. TCLP						Lead	Soil	ATL

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7/15/2002	.3 m	566-192-1	5. PH						Soil	ATL	
7/15/2002	.6 m	566-192-2	1. TTLC	250	mg/kg	5		7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-192-2	2. STLC	28	mg/l	0.8		7/27/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-192-2	3. STLC-DI	1.8	mg/l	0.2		7/28/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-192-2	4. TCLP		mg/l				Lead	Soil	ATL
7/15/2002	.6 m	566-192-2	5. PH							Soil	ATL
7/15/2002	.9 m	566-192-3	1. TTLC	360	mg/kg	5		7/19/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-192-3	2. STLC	29	mg/l	0.8		7/27/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-192-3	3. STLC-DI	1.6	mg/l	0.2		7/28/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-192-3	4. TCLP		mg/l				Lead	Soil	ATL
7/15/2002	.9 m	566-192-3	5. PH							Soil	ATL
7/15/2002	surface	566-193-0	1. TTLC	940	mg/kg	5		7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-193-0	2. STLC	43	mg/l	1.6		7/27/2002	Lead	Soil	ATL
7/15/2002	surface	566-193-0	3. STLC-DI	1	mg/l	0.2		7/28/2002	Lead	Soil	ATL
7/15/2002	surface	566-193-0	4. TCLP		mg/l				Lead	Soil	ATL
7/15/2002	surface	566-193-0	5. PH							Soil	ATL
7/15/2002	.3 m	566-193-1	1. TTLC	870	mg/kg	5		7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-193-1	2. STLC	95	mg/l	3.2		7/27/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-193-1	3. STLC-DI	3.1	mg/l	0.2		7/28/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-193-1	4. TCLP		mg/l				Lead	Soil	ATL
7/15/2002	.3 m	566-193-1	5. PH							Soil	ATL
7/15/2002	.6 m	566-193-2	1. TTLC	69	mg/kg	5		7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-193-2	2. STLC	5.5	mg/l	0.2		7/27/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-193-2	3. STLC-DI	ND	mg/l	0.2		7/28/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-193-2	4. TCLP		mg/l				Lead	Soil	ATL
7/15/2002	.6 m	566-193-2	5. PH	7.86		0.1		7/19/2002		Soil	ATL
	.9 m	566-193-3	1. TTLC		mg/kg				Lead	Soil	ATL
	.9 m	566-193-3	2. STLC		mg/l				Lead	Soil	ATL
	.9 m	566-193-3	3. STLC-DI		mg/l				Lead	Soil	ATL
	.9 m	566-193-3	4. TCLP		mg/l				Lead	Soil	ATL
	.9 m	566-193-3	5. PH							Soil	ATL
7/15/2002	surface	566-194-0	1. TTLC	1100	mg/kg	5		7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-194-0	2. STLC		mg/l				Lead	Soil	ATL
7/15/2002	surface	566-194-0	3. STLC-DI		mg/l				Lead	Soil	ATL
7/15/2002	surface	566-194-0	4. TCLP	4.9	mg/l	0.2		7/26/2002	Lead	Soil	ATL
7/15/2002	surface	566-194-0	5. PH							Soil	ATL
7/15/2002	.3 m	566-194-1	1. TTLC	690	mg/kg	5		7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-194-1	2. STLC	49	mg/l	1.6		7/27/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-194-1	3. STLC-DI	1.3	mg/l	0.2		7/28/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-194-1	4. TCLP		mg/l				Lead	Soil	ATL
7/15/2002	.3 m	566-194-1	5. PH							Soil	ATL
7/15/2002	.6 m	566-194-2	1. TTLC	750	mg/kg	5		7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-194-2	2. STLC	63	mg/l	1.6		7/27/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-194-2	3. STLC-DI	1	mg/l	0.2		7/28/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-194-2	4. TCLP		mg/l				Lead	Soil	ATL
7/15/2002	.6 m	566-194-2	5. PH							Soil	ATL
	.9 m	566-194-3	1. TTLC		mg/kg				Lead	Soil	ATL
	.9 m	566-194-3	2. STLC		mg/l				Lead	Soil	ATL
	.9 m	566-194-3	3. STLC-DI		mg/l				Lead	Soil	ATL
	.9 m	566-194-3	4. TCLP		mg/l				Lead	Soil	ATL
	.9 m	566-194-3	5. PH							Soil	ATL
7/15/2002	surface	566-195-0	1. TTLC	500	mg/kg	5		7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-195-0	2. STLC	25	mg/l	0.8		7/27/2002	Lead	Soil	ATL
7/15/2002	surface	566-195-0	3. STLC-DI	0.3	mg/l	0.2		7/28/2002	Lead	Soil	ATL
7/15/2002	surface	566-195-0	4. TCLP		mg/l				Lead	Soil	ATL
7/15/2002	surface	566-195-0	5. PH							Soil	ATL
7/15/2002	.3 m	566-195-1	1. TTLC	620	mg/kg	5		7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-195-1	2. STLC	.57	mg/l	1.6		7/27/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-195-1	3. STLC-DI	1.7	mg/l	0.2		7/28/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-195-1	4. TCLP		mg/l				Lead	Soil	ATL
7/15/2002	.3 m	566-195-1	5. PH							Soil	ATL

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7/15/2002	.6 m	566-195-2	1. TTLC	140	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-195-2	2. STLC	8.2	mg/l	0.2	7/27/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-195-2	3. STLC-DI	ND	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-195-2	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-195-2	5. PH						Soil	ATL
7/15/2002	.9 m	566-195-3	1. TTLC	230	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-195-3	2. STLC	14	mg/l	0.4	7/27/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-195-3	3. STLC-DI	0.29	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-195-3	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-195-3	5. PH						Soil	ATL
7/15/2002	surface	566-196-0	1. TTLC	670	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-196-0	2. STLC	29	mg/l	0.8	7/27/2002	Lead	Soil	ATL
7/15/2002	surface	566-196-0	3. STLC-DI	0.58	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	surface	566-196-0	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-196-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-196-1	1. TTLC	19	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-196-1	2. STLC		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-196-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-196-1	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-196-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-196-2	1. TTLC	180	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-196-2	2. STLC	13	mg/l	0.4	7/27/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-196-2	3. STLC-DI	0.29	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-196-2	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-196-2	5. PH	8.45		0.1	7/19/2002		Soil	ATL
7/15/2002	.9 m	566-196-3	1. TTLC	34	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-196-3	2. STLC		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-196-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-196-3	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-196-3	5. PH						Soil	ATL
7/15/2002	surface	566-197-0	1. TTLC	170	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-197-0	2. STLC	11	mg/l	0.4	7/27/2002	Lead	Soil	ATL
7/15/2002	surface	566-197-0	3. STLC-DI	ND	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	surface	566-197-0	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-197-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-197-1	1. TTLC	290	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-197-1	2. STLC	17	mg/l	0.4	7/27/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-197-1	3. STLC-DI	0.78	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-197-1	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-197-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-197-2	1. TTLC	120	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-197-2	2. STLC	12	mg/l	0.4	7/27/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-197-2	3. STLC-DI	0.31	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-197-2	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-197-2	5. PH						Soil	ATL
7/15/2002	.9 m	566-197-3	1. TTLC	110	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-197-3	2. STLC	4.5	mg/l	0.2	7/27/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-197-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-197-3	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-197-3	5. PH						Soil	ATL
7/15/2002	surface	566-198-0	1. TTLC	270	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-198-0	2. STLC	19	mg/l	0.4	7/27/2002	Lead	Soil	ATL
7/15/2002	surface	566-198-0	3. STLC-DI	ND	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	surface	566-198-0	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-198-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-198-1	1. TTLC	1500	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-198-1	2. STLC		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-198-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-198-1	4. TCLP	4.9	mg/l	0.2	7/26/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-198-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-198-2	1. TTLC	91	mg/kg	5	7/19/2002	Lead	Soil	ATL

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7/15/2002	.6 m	566-198-2	2. STLC	2	mg/l	0.2	7/27/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-198-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-198-2	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-198-2	5. PH						Soil	ATL
7/15/2002	.9 m	566-198-3	1. TTLC	55	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-198-3	2. STLC	3.4	mg/l	0.2	7/27/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-198-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-198-3	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-198-3	5. PH						Soil	ATL
7/15/2002	surface	566-199-0	1. TTLC	1900	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-199-0	2. STLC		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-199-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-199-0	4. TCLP	5	mg/l	0.2	7/26/2002	Lead	Soil	ATL
7/15/2002	surface	566-199-0	5. PH	6.99		0.1	7/19/2002		Soil	ATL
7/15/2002	.3 m	566-199-1	1. TTLC	1600	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-199-1	2. STLC		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-199-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-199-1	4. TCLP	5.2	mg/l	0.2	7/26/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-199-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-199-2	1. TTLC	620	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-199-2	2. STLC	51	mg/l	1.6	7/27/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-199-2	3. STLC-DI	2.5	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-199-2	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-199-2	5. PH						Soil	ATL
	.9 m	566-199-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-199-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-199-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-199-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-199-3	5. PH						Soil	ATL
7/15/2002	surface	566-200-0	1. TTLC	610	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-200-0	2. STLC	67	mg/l	1.6	7/27/2002	Lead	Soil	ATL
7/15/2002	surface	566-200-0	3. STLC-DI	1.7	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	surface	566-200-0	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-200-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-200-1	1. TTLC	88	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-200-1	2. STLC	7.1	mg/l	0.2	7/27/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-200-1	3. STLC-DI	0.2	mg/l	0.2	7/26/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-200-1	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-200-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-200-2	1. TTLC	60	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-200-2	2. STLC	2.9	mg/l	0.2	7/27/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-200-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-200-2	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-200-2	5. PH						Soil	ATL
7/15/2002	.9 m	566-200-3	1. TTLC	220	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-200-3	2. STLC	21	mg/l	0.8	7/27/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-200-3	3. STLC-DI	0.28	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-200-3	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-200-3	5. PH						Soil	ATL
7/15/2002	surface	566-201-0	1. TTLC	250	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-201-0	2. STLC	27	mg/l	0.8	7/27/2002	Lead	Soil	ATL
7/15/2002	surface	566-201-0	3. STLC-DI	0.79	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	surface	566-201-0	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-201-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-201-1	1. TTLC	43	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-201-1	2. STLC		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-201-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-201-1	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-201-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-201-2	1. TTLC	34	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-201-2	2. STLC		mg/l			Lead	Soil	ATL

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7/15/2002	.6 m	566-201-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-201-2	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-201-2	5. PH						Soil	ATL
	.9 m	566-201-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-201-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-201-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-201-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-201-3	5. PH						Soil	ATL
7/15/2002	surface	566-202-0	1. TTLC	560	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-202-0	2. STLC	67	mg/l	1.6	7/27/2002	Lead	Soil	ATL
7/15/2002	surface	566-202-0	3. STLC-DI	0.46	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	surface	566-202-0	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-202-0	5. PH	7.5		0.1	7/19/2002		Soil	ATL
7/15/2002	.3 m	566-202-1	1. TTLC	710	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-202-1	2. STLC	78	mg/l	1.6	7/27/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-202-1	3. STLC-DI	2.2	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-202-1	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-202-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-202-2	1. TTLC	220	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-202-2	2. STLC	17	mg/l	0.4	7/27/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-202-2	3. STLC-DI	0.92	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-202-2	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-202-2	5. PH						Soil	ATL
7/15/2002	.9 m	566-202-3	1. TTLC	140	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-202-3	2. STLC	15	mg/l	0.4	7/27/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-202-3	3. STLC-DI	0.44	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-202-3	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-202-3	5. PH						Soil	ATL
7/15/2002	surface	566-203-0	1. TTLC	1900	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-203-0	2. STLC		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-203-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-203-0	4. TCLP	14	mg/l	0.4	7/26/2002	Lead	Soil	ATL
7/15/2002	surface	566-203-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-203-1	1. TTLC	330	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-203-1	2. STLC	14	mg/l	0.4	7/27/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-203-1	3. STLC-DI	0.61	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-203-1	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-203-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-203-2	1. TTLC	81	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-203-2	2. STLC	7.1	mg/l	0.2	7/27/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-203-2	3. STLC-DI	0.38	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-203-2	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-203-2	5. PH						Soil	ATL
	.9 m	566-203-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-203-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-203-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-203-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-203-3	5. PH						Soil	ATL
7/15/2002	surface	566-204-0	1. TTLC	910	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-204-0	2. STLC	73	mg/l	1.6	7/27/2002	Lead	Soil	ATL
7/15/2002	surface	566-204-0	3. STLC-DI	1.8	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	surface	566-204-0	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-204-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-204-1	1. TTLC	1000	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-204-1	2. STLC		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-204-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-204-1	4. TCLP	3	mg/l	0.2	7/26/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-204-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-204-2	1. TTLC	170	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-204-2	2. STLC	6.2	mg/l	0.2	7/27/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-204-2	3. STLC-DI	0.21	mg/l	0.2	7/28/2002	Lead	Soil	ATL

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7/15/2002	.6 m	566-204-2	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-204-2	5. PH						Soil	ATL
7/15/2002	.9 m	566-204-3	1. TTLC	170	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-204-3	2. STLC	18	mg/l	0.4	7/27/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-204-3	3. STLC-DI	0.62	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-204-3	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-204-3	5. PH	7.11		0.1	7/19/2002		Soil	ATL
7/15/2002	surface	566-205-0	1. TTLC	1400	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-205-0	2. STLC		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-205-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-205-0	4. TCLP	6.1	mg/l	0.2	7/26/2002	Lead	Soil	ATL
7/15/2002	surface	566-205-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-205-1	1. TTLC	2500	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-205-1	2. STLC		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-205-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-205-1	4. TCLP	13	mg/l	0.4	7/26/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-205-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-205-2	1. TTLC	180	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-205-2	2. STLC	23	mg/l	0.8	7/27/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-205-2	3. STLC-DI	1.6	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-205-2	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-205-2	5. PH						Soil	ATL
7/15/2002	.9 m	566-205-3	1. TTLC		mg/kg			Lead	Soil	ATL
7/15/2002	.9 m	566-205-3	2. STLC		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-205-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-205-3	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-205-3	5. PH						Soil	ATL
7/15/2002	surface	566-206-0	1. TTLC	730	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-206-0	2. STLC	72	mg/l	1.6	7/27/2002	Lead	Soil	ATL
7/15/2002	surface	566-206-0	3. STLC-DI	2.1	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	surface	566-206-0	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-206-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-206-1	1. TTLC	2300	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-206-1	2. STLC		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-206-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-206-1	4. TCLP	18	mg/l	0.4	7/26/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-206-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-206-2	1. TTLC	240	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-206-2	2. STLC	26	mg/l	0.8	7/27/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-206-2	3. STLC-DI	2.9	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-206-2	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-206-2	5. PH						Soil	ATL
7/15/2002	.9 m	566-206-3	1. TTLC	390	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-206-3	2. STLC	32	mg/l	0.8	7/27/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-206-3	3. STLC-DI	3.1	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-206-3	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-206-3	5. PH						Soil	ATL
7/15/2002	surface	566-207-0	1. TTLC	320	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-207-0	2. STLC	29	mg/l	0.8	7/27/2002	Lead	Soil	ATL
7/15/2002	surface	566-207-0	3. STLC-DI	0.43	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	surface	566-207-0	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-207-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-207-1	1. TTLC	240	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-207-1	2. STLC	14	mg/l	0.4	7/27/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-207-1	3. STLC-DI	0.24	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-207-1	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-207-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-207-2	1. TTLC	290	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-207-2	2. STLC	17	mg/l	0.4	7/27/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-207-2	3. STLC-DI	1.4	mg/l	0.2	7/27/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-207-2	4. TCLP					Lead	Soil	ATL

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7/15/2002	.6 m	566-207-2	5. PH	7.67		0.1	7/19/2002	Soil	ATL
7/15/2002	.9 m	566-207-3	1. TTLC	180	mg/kg	5	7/19/2002	Lead	Soil
7/15/2002	.9 m	566-207-3	2. STLC	16	mg/l	0.4	7/27/2002	Lead	Soil
7/15/2002	.9 m	566-207-3	3. STLC-DI	1.1	mg/l	0.2	7/28/2002	Lead	Soil
7/15/2002	.9 m	566-207-3	4. TCLP		mg/l			Lead	Soil
7/15/2002	.9 m	566-207-3	5. PH						Soil
7/15/2002	surface	566-208-0	1. TTLC	590	mg/kg	5	7/19/2002	Lead	Soil
7/15/2002	surface	566-208-0	2. STLC	43	mg/l	1	7/27/2002	Lead	Soil
7/15/2002	surface	566-208-0	3. STLC-DI	0.73	mg/l	0.2	7/28/2002	Lead	Soil
7/15/2002	surface	566-208-0	4. TCLP		mg/l			Lead	Soil
7/15/2002	surface	566-208-0	5. PH						Soil
7/15/2002	.3 m	566-208-1	1. TTLC	150	mg/kg	5	7/19/2002	Lead	Soil
7/15/2002	.3 m	566-208-1	2. STLC	19	mg/l	0.4	7/27/2002	Lead	Soil
7/15/2002	.3 m	566-208-1	3. STLC-DI	0.25	mg/l	0.2	7/28/2002	Lead	Soil
7/15/2002	.3 m	566-208-1	4. TCLP		mg/l			Lead	Soil
7/15/2002	.3 m	566-208-1	5. PH						Soil
7/15/2002	.6 m	566-208-2	1. TTLC	320	mg/kg	5	7/19/2002	Lead	Soil
7/15/2002	.6 m	566-208-2	2. STLC	23	mg/l	0.8	7/27/2002	Lead	Soil
7/15/2002	.6 m	566-208-2	3. STLC-DI	1.6	mg/l	0.2	7/28/2002	Lead	Soil
7/15/2002	.6 m	566-208-2	4. TCLP		mg/l			Lead	Soil
7/15/2002	.6 m	566-208-2	5. PH						Soil
7/15/2002	.9 m	566-208-3	1. TTLC	74	mg/kg	5	7/19/2002	Lead	Soil
7/15/2002	.9 m	566-208-3	2. STLC	7.1	mg/l	0.2	7/27/2002	Lead	Soil
7/15/2002	.9 m	566-208-3	3. STLC-DI	0.51	mg/l	0.2	7/28/2002	Lead	Soil
7/15/2002	.9 m	566-208-3	4. TCLP		mg/l			Lead	Soil
7/15/2002	.9 m	566-208-3	5. PH						Soil
7/16/2002	surface	566-209-0	1. TTLC	560	mg/kg	5	7/18/2002	Lead	Soil
7/16/2002	surface	566-209-0	2. STLC	51	mg/l	1.6	7/27/2002	Lead	Soil
7/16/2002	surface	566-209-0	3. STLC-DI	0.55	mg/l	0.2	7/28/2002	Lead	Soil
7/16/2002	surface	566-209-0	4. TCLP		mg/l			Lead	Soil
7/16/2002	surface	566-209-0	5. PH	6.57		0.1	7/21/2002		Soil
7/16/2002	.3 m	566-209-1	1. TTLC	850	mg/kg	5	7/18/2002	Lead	Soil
7/16/2002	.3 m	566-209-1	2. STLC	110	mg/l	4	7/27/2002	Lead	Soil
7/16/2002	.3 m	566-209-1	3. STLC-DI	4.4	mg/l	0.2	7/28/2002	Lead	Soil
7/16/2002	.3 m	566-209-1	4. TCLP		mg/l			Lead	Soil
7/16/2002	.3 m	566-209-1	5. PH						Soil
7/16/2002	.6 m	566-209-2	1. TTLC	230	mg/kg	5	7/18/2002	Lead	Soil
7/16/2002	.6 m	566-209-2	2. STLC	21	mg/l	0.8	7/27/2002	Lead	Soil
7/16/2002	.6 m	566-209-2	3. STLC-DI	1.5	mg/l	0.2	7/28/2002	Lead	Soil
7/16/2002	.6 m	566-209-2	4. TCLP		mg/l			Lead	Soil
7/16/2002	.6 m	566-209-2	5. PH						Soil
7/16/2002	.9 m	566-209-3	1. TTLC	110	mg/kg	5	7/18/2002	Lead	Soil
7/16/2002	.9 m	566-209-3	2. STLC	7.6	mg/l	0.2	7/27/2002	Lead	Soil
7/16/2002	.9 m	566-209-3	3. STLC-DI	0.51	mg/l	0.2	7/28/2002	Lead	Soil
7/16/2002	.9 m	566-209-3	4. TCLP		mg/l			Lead	Soil
7/16/2002	.9 m	566-209-3	5. PH						Soil
7/16/2002	surface	566-210-0	1. TTLC	220	mg/kg	5	7/18/2002	Lead	Soil
7/16/2002	surface	566-210-0	2. STLC	20	mg/l	0.8	7/27/2002	Lead	Soil
7/16/2002	surface	566-210-0	3. STLC-DI	ND	mg/l	0.2	7/28/2002	Lead	Soil
7/16/2002	surface	566-210-0	4. TCLP		mg/l			Lead	Soil
7/16/2002	surface	566-210-0	5. PH						Soil
7/16/2002	.3 m	566-210-1	1. TTLC	1100	mg/kg	5	7/18/2002	Lead	Soil
7/16/2002	.3 m	566-210-1	2. STLC		mg/l			Lead	Soil
7/16/2002	.3 m	566-210-1	3. STLC-DI		mg/l			Lead	Soil
7/16/2002	.3 m	566-210-1	4. TCLP	4.9	mg/l	0.2	7/26/2002	Lead	Soil
7/16/2002	.3 m	566-210-1	5. PH						Soil
7/16/2002	.6 m	566-210-2	1. TTLC	130	mg/kg	5	7/18/2002	Lead	Soil
7/16/2002	.6 m	566-210-2	2. STLC	16	mg/l	0.4	7/27/2002	Lead	Soil
7/16/2002	.6 m	566-210-2	3. STLC-DI	1.6	mg/l	0.2	7/28/2002	Lead	Soil
7/16/2002	.6 m	566-210-2	4. TCLP		mg/l			Lead	Soil
7/16/2002	.6 m	566-210-2	5. PH						Soil

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7/16/2002	.9 m	566-210-3	1. TTLC	190	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	.9 m	566-210-3	2. STLC	16	mg/l	0.4	7/27/2002	Lead	Soil	ATL
7/16/2002	.9 m	566-210-3	3. STLC-DI	1.6	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/16/2002	.9 m	566-210-3	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	.9 m	566-210-3	5. PH						Soil	ATL
7/16/2002	surface	566-211-0	1. TTLC	340	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	surface	566-211-0	2. STLC	36	mg/l	0.8	7/26/2002	Lead	Soil	ATL
7/16/2002	surface	566-211-0	3. STLC-DI	0.59	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/16/2002	surface	566-211-0	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	surface	566-211-0	5. PH						Soil	ATL
7/16/2002	.3 m	566-211-1	1. TTLC	850	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	.3 m	566-211-1	2. STLC	120	mg/l	4	7/26/2002	Lead	Soil	ATL
7/16/2002	.3 m	566-211-1	3. STLC-DI	5.4	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/16/2002	.3 m	566-211-1	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	.3 m	566-211-1	5. PH	7.11		0.1	7/21/2002		Soil	ATL
7/16/2002	.6 m	566-211-2	1. TTLC	43	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	.6 m	566-211-2	2. STLC		mg/l			Lead	Soil	ATL
7/16/2002	.6 m	566-211-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/16/2002	.6 m	566-211-2	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	.6 m	566-211-2	5. PH						Soil	ATL
7/16/2002	.9 m	566-211-3	1. TTLC	28	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	.9 m	566-211-3	2. STLC		mg/l			Lead	Soil	ATL
7/16/2002	.9 m	566-211-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/16/2002	.9 m	566-211-3	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	.9 m	566-211-3	5. PH						Soil	ATL
7/16/2002	surface	566-212-0	1. TTLC	510	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	surface	566-212-0	2. STLC	57	mg/l	2	7/26/2002	Lead	Soil	ATL
7/16/2002	surface	566-212-0	3. STLC-DI	0.52	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/16/2002	surface	566-212-0	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	surface	566-212-0	5. PH						Soil	ATL
7/16/2002	.3 m	566-212-1	1. TTLC	210	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	.3 m	566-212-1	2. STLC	26	mg/l	0.8	7/26/2002	Lead	Soil	ATL
7/16/2002	.3 m	566-212-1	3. STLC-DI	ND	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/16/2002	.3 m	566-212-1	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	.3 m	566-212-1	5. PH						Soil	ATL
7/16/2002	.6 m	566-212-2	1. TTLC	53	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	.6 m	566-212-2	2. STLC	7.1	mg/l	0.2	7/26/2002	Lead	Soil	ATL
7/16/2002	.6 m	566-212-2	3. STLC-DI	ND	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/16/2002	.6 m	566-212-2	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	.6 m	566-212-2	5. PH						Soil	ATL
7/16/2002	.9 m	566-212-3	1. TTLC	130	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	.9 m	566-212-3	2. STLC	8	mg/l	0.2	7/26/2002	Lead	Soil	ATL
7/16/2002	.9 m	566-212-3	3. STLC-DI	0.5	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/16/2002	.9 m	566-212-3	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	.9 m	566-212-3	5. PH						Soil	ATL
7/16/2002	surface	566-213-0	1. TTLC	1000	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	surface	566-213-0	2. STLC		mg/l			Lead	Soil	ATL
7/16/2002	surface	566-213-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/16/2002	surface	566-213-0	4. TCLP	5.9	mg/l	0.2	7/26/2002	Lead	Soil	ATL
7/16/2002	surface	566-213-0	5. PH						Soil	ATL
7/16/2002	.3 m	566-213-1	1. TTLC	630	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	.3 m	566-213-1	2. STLC	92	mg/l	2	7/26/2002	Lead	Soil	ATL
7/16/2002	.3 m	566-213-1	3. STLC-DI	4	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/16/2002	.3 m	566-213-1	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	.3 m	566-213-1	5. PH						Soil	ATL
7/16/2002	.6 m	566-213-2	1. TTLC	100	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	.6 m	566-213-2	2. STLC	7.4	mg/l	0.2	7/26/2002	Lead	Soil	ATL
7/16/2002	.6 m	566-213-2	3. STLC-DI	0.28	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/16/2002	.6 m	566-213-2	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	.6 m	566-213-2	5. PH						Soil	ATL
7/16/2002	.9 m	566-213-3	1. TTLC	48	mg/kg	5	7/18/2002	Lead	Soil	ATL

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7/16/2002	.9 m	566-213-3	2. STLC		mg/l			Lead	Soil	ATL
7/16/2002	.9 m	566-213-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/16/2002	.9 m	566-213-3	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	.9 m	566-213-3	5. PH	7.81		0.1	7/21/2002		Soil	ATL
7/16/2002	surface	566-214-0	1. TTLC	140	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	surface	566-214-0	2. STLC	13	mg/l	0.4	7/26/2002	Lead	Soil	ATL
7/16/2002	surface	566-214-0	3. STLC-DI	ND	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/16/2002	surface	566-214-0	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	surface	566-214-0	5. PH						Soil	ATL
7/16/2002	.3 m	566-214-1	1. TTLC	150	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	.3 m	566-214-1	2. STLC	14	mg/l	0.4	7/26/2002	Lead	Soil	ATL
7/16/2002	.3 m	566-214-1	3. STLC-DI	ND	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/16/2002	.3 m	566-214-1	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	.3 m	566-214-1	5. PH						Soil	ATL
7/16/2002	.6 m	566-214-2	1. TTLC	150	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	.6 m	566-214-2	2. STLC	13	mg/l	0.4	7/26/2002	Lead	Soil	ATL
7/16/2002	.6 m	566-214-2	3. STLC-DI	ND	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/16/2002	.6 m	566-214-2	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	.6 m	566-214-2	5. PH						Soil	ATL
7/16/2002	.9 m	566-214-3	1. TTLC	29	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	.9 m	566-214-3	2. STLC		mg/l			Lead	Soil	ATL
7/16/2002	.9 m	566-214-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/16/2002	.9 m	566-214-3	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	.9 m	566-214-3	5. PH						Soil	ATL
7/16/2002	surface	566-215-0	1. TTLC	280	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	surface	566-215-0	2. STLC	32	mg/l	0.8	7/26/2002	Lead	Soil	ATL
7/16/2002	surface	566-215-0	3. STLC-DI	ND	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/16/2002	surface	566-215-0	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	surface	566-215-0	5. PH						Soil	ATL
7/16/2002	.3 m	566-215-1	1. TTLC	52	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	.3 m	566-215-1	2. STLC	3	mg/l	0.2	7/26/2002	Lead	Soil	ATL
7/16/2002	.3 m	566-215-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/16/2002	.3 m	566-215-1	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	.3 m	566-215-1	5. PH						Soil	ATL
7/16/2002	.6 m	566-215-2	1. TTLC	130	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	.6 m	566-215-2	2. STLC	6.8	mg/l	0.2	7/26/2002	Lead	Soil	ATL
7/16/2002	.6 m	566-215-2	3. STLC-DI	ND	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/16/2002	.6 m	566-215-2	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	.6 m	566-215-2	5. PH						Soil	ATL
7/16/2002	.9 m	566-215-3	1. TTLC	22	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	.9 m	566-215-3	2. STLC		mg/l			Lead	Soil	ATL
7/16/2002	.9 m	566-215-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/16/2002	.9 m	566-215-3	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	.9 m	566-215-3	5. PH						Soil	ATL
7/16/2002	surface	566-216-0	1. TTLC	310	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	surface	566-216-0	2. STLC	17	mg/l	0.8	7/26/2002	Lead	Soil	ATL
7/16/2002	surface	566-216-0	3. STLC-DI	0.83	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/16/2002	surface	566-216-0	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	surface	566-216-0	5. PH						Soil	ATL
7/16/2002	.3 m	566-216-1	1. TTLC	260	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	.3 m	566-216-1	2. STLC	16	mg/l	0.4	7/26/2002	Lead	Soil	ATL
7/16/2002	.3 m	566-216-1	3. STLC-DI	0.42	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/16/2002	.3 m	566-216-1	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	.3 m	566-216-1	5. PH	8.3		0.1	7/21/2002		Soil	ATL
	.6 m	566-216-2	1. TTLC		mg/kg			Lead	Soil	ATL
	.6 m	566-216-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-216-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-216-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-216-2	5. PH						Soil	ATL
	.9 m	566-216-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-216-3	2. STLC		mg/l			Lead	Soil	ATL

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	.9 m	566-216-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-216-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-216-3	5. PH						Soil	ATL
7/16/2002	surface	566-217-0	1. TTLC	190	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/16/2002	surface	566-217-0	2. STLC	20	mg/l	0.4	7/26/2002	Lead	Soil	ATL
7/16/2002	surface	566-217-0	3. STLC-DI	0.21	mg/l	0.2	7/18/2002	Lead	Soil	ATL
7/16/2002	surface	566-217-0	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	surface	566-217-0	5. PH						Soil	ATL
7/16/2002	.3 m	566-217-1	1. TTLC	170	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	.3 m	566-217-1	2. STLC	28	mg/l	0.8	7/26/2002	Lead	Soil	ATL
7/16/2002	.3 m	566-217-1	3. STLC-DI	0.24	mg/l	0.2	7/26/2002	Lead	Soil	ATL
7/16/2002	.3 m	566-217-1	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	.3 m	566-217-1	5. PH						Soil	ATL
7/16/2002	.6 m	566-217-2	1. TTLC	110	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	.6 m	566-217-2	2. STLC	12	mg/l	0.4	7/26/2002	Lead	Soil	ATL
7/16/2002	.6 m	566-217-2	3. STLC-DI	ND	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/16/2002	.6 m	566-217-2	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	.6 m	566-217-2	5. PH						Soil	ATL
	.9 m	566-217-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-217-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-217-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-217-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-217-3	5. PH						Soil	ATL
7/16/2002	surface	566-218-0	1. TTLC	120	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	surface	566-218-0	2. STLC	6.8	mg/l	0.2	7/26/2002	Lead	Soil	ATL
7/16/2002	surface	566-218-0	3. STLC-DI	ND	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/16/2002	surface	566-218-0	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	surface	566-218-0	5. PH						Soil	ATL
7/16/2002	.3 m	566-218-1	1. TTLC	67	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	.3 m	566-218-1	2. STLC	5.9	mg/l	0.2	7/26/2002	Lead	Soil	ATL
7/16/2002	.3 m	566-218-1	3. STLC-DI	ND	mg/l	0.2	7/26/2002	Lead	Soil	ATL
7/16/2002	.3 m	566-218-1	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	.3 m	566-218-1	5. PH						Soil	ATL
	.6 m	566-218-2	1. TTLC		mg/kg			Lead	Soil	ATL
	.6 m	566-218-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-218-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-218-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-218-2	5. PH						Soil	ATL
	.9 m	566-218-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-218-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-218-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-218-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-218-3	5. PH						Soil	ATL
7/16/2002	surface	566-219-0	1. TTLC	260	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	surface	566-219-0	2. STLC	28	mg/l	0.8	7/26/2002	Lead	Soil	ATL
7/16/2002	surface	566-219-0	3. STLC-DI	0.26	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/16/2002	surface	566-219-0	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	surface	566-219-0	5. PH						Soil	ATL
7/16/2002	.3 m	566-219-1	1. TTLC	18	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	.3 m	566-219-1	2. STLC		mg/l			Lead	Soil	ATL
7/16/2002	.3 m	566-219-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/16/2002	.3 m	566-219-1	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	.3 m	566-219-1	5. PH						Soil	ATL
7/16/2002	.6 m	566-219-2	1. TTLC	ND	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	.6 m	566-219-2	2. STLC		mg/l			Lead	Soil	ATL
7/16/2002	.6 m	566-219-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/16/2002	.6 m	566-219-2	4. TCLP		mg/l			Lead	Soil	ATL
7/16/2002	.6 m	566-219-2	5. PH						Soil	ATL
7/16/2002	.9 m	566-219-3	1. TTLC	6.2	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/16/2002	.9 m	566-219-3	2. STLC		mg/l			Lead	Soil	ATL
7/16/2002	.9 m	566-219-3	3. STLC-DI		mg/l			Lead	Soil	ATL

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7/16/2002	.9 m	566-219-3	4. TCLP		mg/l				Lead	Soil	ATL
7/16/2002	.9 m	566-219-3	5. PH							Soil	ATL
7/16/2002	surface	566-220-0	1. TTLC	66	mg/kg	5	7/18/2002	Lead	Soil	ATL	
7/16/2002	surface	566-220-0	2. STLC	6.2	mg/l	0.2	7/26/2002	Lead	Soil	ATL	
7/16/2002	surface	566-220-0	3. STLC-DI	ND	mg/l	0.2	7/28/2002	Lead	Soil	ATL	
7/16/2002	surface	566-220-0	4. TCLP		mg/l			Lead	Soil	ATL	
7/16/2002	surface	566-220-0	5. PH	8.29		0.1	7/21/2002		Soil	ATL	
7/16/2002	.3 m	566-220-1	1. TTLC	15	mg/kg	5	7/18/2002	Lead	Soil	ATL	
7/16/2002	.3 m	566-220-1	2. STLC		mg/l			Lead	Soil	ATL	
7/16/2002	.3 m	566-220-1	3. STLC-DI		mg/l			Lead	Soil	ATL	
7/16/2002	.3 m	566-220-1	4. TCLP		mg/l			Lead	Soil	ATL	
7/16/2002	.3 m	566-220-1	5. PH						Soil	ATL	
7/16/2002	.6 m	566-220-2	1. TTLC	11	mg/kg	5	7/18/2002	Lead	Soil	ATL	
7/16/2002	.6 m	566-220-2	2. STLC		mg/l			Lead	Soil	ATL	
7/16/2002	.6 m	566-220-2	3. STLC-DI		mg/l			Lead	Soil	ATL	
7/16/2002	.6 m	566-220-2	4. TCLP		mg/l			Lead	Soil	ATL	
7/16/2002	.6 m	566-220-2	5. PH						Soil	ATL	
7/16/2002	.9 m	566-220-3	1. TTLC	9.3	mg/kg	5	7/18/2002	Lead	Soil	ATL	
7/16/2002	.9 m	566-220-3	2. STLC		mg/l			Lead	Soil	ATL	
7/16/2002	.9 m	566-220-3	3. STLC-DI		mg/l			Lead	Soil	ATL	
7/16/2002	.9 m	566-220-3	4. TCLP		mg/l			Lead	Soil	ATL	
7/16/2002	.9 m	566-220-3	5. PH						Soil	ATL	
7/9/2002	surface	566-221-0	1. TTLC	860	mg/kg	5	7/12/2002	Lead	Soil	ATL	
7/9/2002	surface	566-221-0	2. STLC	83	mg/l	2	7/17/2002	Lead	Soil	ATL	
7/9/2002	surface	566-221-0	3. STLC-DI	7.3	mg/l	0.2	7/16/2002	Lead	Soil	ATL	
7/9/2002	surface	566-221-0	4. TCLP		mg/l			Lead	Soil	ATL	
7/9/2002	surface	566-221-0	5. PH						Soil	ATL	
7/9/2002	.3 m	566-221-1	1. TTLC	140	mg/kg	5	7/12/2002	Lead	Soil	ATL	
7/9/2002	.3 m	566-221-1	2. STLC	8.9	mg/l	0.2	7/17/2002	Lead	Soil	ATL	
7/9/2002	.3 m	566-221-1	3. STLC-DI	ND	mg/l	0.2	7/16/2002	Lead	Soil	ATL	
7/9/2002	.3 m	566-221-1	4. TCLP		mg/l			Lead	Soil	ATL	
7/9/2002	.3 m	566-221-1	5. PH						Soil	ATL	
7/9/2002	.6 m	566-221-2	1. TTLC	29	mg/kg	5	7/12/2002	Lead	Soil	ATL	
7/9/2002	.6 m	566-221-2	2. STLC		mg/l			Lead	Soil	ATL	
7/9/2002	.6 m	566-221-2	3. STLC-DI		mg/l			Lead	Soil	ATL	
7/9/2002	.6 m	566-221-2	4. TCLP		mg/l			Lead	Soil	ATL	
7/9/2002	.6 m	566-221-2	5. PH						Soil	ATL	
7/9/2002	.9 m	566-221-3	1. TTLC	61	mg/kg	5	7/12/2002	Lead	Soil	ATL	
7/9/2002	.9 m	566-221-3	2. STLC	3.2	mg/l	0.2	7/17/2002	Lead	Soil	ATL	
7/9/2002	.9 m	566-221-3	3. STLC-DI		mg/l			Lead	Soil	ATL	
7/9/2002	.9 m	566-221-3	4. TCLP		mg/l			Lead	Soil	ATL	
7/9/2002	.9 m	566-221-3	5. PH						Soil	ATL	
7/9/2002	surface	566-222-0	1. TTLC	1100	mg/kg	5	7/12/2002	Lead	Soil	ATL	
7/9/2002	surface	566-222-0	2. STLC		mg/l			Lead	Soil	ATL	
7/9/2002	surface	566-222-0	3. STLC-DI		mg/l			Lead	Soil	ATL	
7/9/2002	surface	566-222-0	4. TCLP	2.6	mg/l	0.2	7/18/2002	Lead	Soil	ATL	
7/9/2002	surface	566-222-0	5. PH						Soil	ATL	
7/9/2002	.3 m	566-222-1	1. TTLC	1500	mg/kg	5	7/12/2002	Lead	Soil	ATL	
7/9/2002	.3 m	566-222-1	2. STLC		mg/l			Lead	Soil	ATL	
7/9/2002	.3 m	566-222-1	3. STLC-DI		mg/l			Lead	Soil	ATL	
7/9/2002	.3 m	566-222-1	4. TCLP	6.1	mg/l	0.2	7/18/2002	Lead	Soil	ATL	
7/9/2002	.3 m	566-222-1	5. PH						Soil	ATL	
7/9/2002	.6 m	566-222-2	1. TTLC	63	mg/kg	5	7/12/2002	Lead	Soil	ATL	
7/9/2002	.6 m	566-222-2	2. STLC	3.9	mg/l	0.2	7/17/2002	Lead	Soil	ATL	
7/9/2002	.6 m	566-222-2	3. STLC-DI		mg/l			Lead	Soil	ATL	
7/9/2002	.6 m	566-222-2	4. TCLP		mg/l			Lead	Soil	ATL	
7/9/2002	.6 m	566-222-2	5. PH						Soil	ATL	
7/9/2002	.9 m	566-222-3	1. TTLC	11	mg/kg	5	7/12/2002	Lead	Soil	ATL	
7/9/2002	.9 m	566-222-3	2. STLC		mg/l			Lead	Soil	ATL	
7/9/2002	.9 m	566-222-3	3. STLC-DI		mg/l			Lead	Soil	ATL	
7/9/2002	.9 m	566-222-3	4. TCLP		mg/l			Lead	Soil	ATL	

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	.9 m	566-222-3	5. PH						Soil	ATL
7/9/2002	surface	566-223-0	1. TTLC	1200	mg/kg	5	7/12/2002	Lead	Soil	ATL
	surface	566-223-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-223-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	surface	566-223-0	4. TCLP	2.7	mg/l	0.2	7/18/2002	Lead	Soil	ATL
	surface	566-223-0	5. PH						Soil	ATL
7/9/2002	.3 m	566-223-1	1. TTLC	1100	mg/kg	5	7/12/2002	Lead	Soil	ATL
	.3 m	566-223-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-223-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	.3 m	566-223-1	4. TCLP	3.7	mg/l	0.2	7/18/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-223-1	5. PH	7.08		0.1	7/11/2002		Soil	ATL
7/9/2002	.6 m	566-223-2	1. TTLC	270	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/9/2002	.6 m	566-223-2	2. STLC	23	mg/l	0.4	7/17/2002	Lead	Soil	ATL
7/9/2002	.6 m	566-223-2	3. STLC-DI	5.6	mg/l	0.2	7/16/2002	Lead	Soil	ATL
	.6 m	566-223-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-223-2	5. PH						Soil	ATL
7/9/2002	.9 m	566-223-3	1. TTLC	15	mg/kg	5	7/12/2002	Lead	Soil	ATL
	.9 m	566-223-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-223-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-223-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-223-3	5. PH						Soil	ATL
7/9/2002	surface	566-224-0	1. TTLC	1000	mg/kg	5	7/12/2002	Lead	Soil	ATL
	surface	566-224-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-224-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	surface	566-224-0	4. TCLP	4.7	mg/l	0.2	7/18/2002	Lead	Soil	ATL
	surface	566-224-0	5. PH						Soil	ATL
7/9/2002	.3 m	566-224-1	1. TTLC	16	mg/kg	5	7/12/2002	Lead	Soil	ATL
	.3 m	566-224-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-224-1	3. STLC-DI		mg/l			Lead	Soil	ATL
	.3 m	566-224-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-224-1	5. PH						Soil	ATL
7/9/2002	.6 m	566-224-2	1. TTLC	ND	mg/kg	5	7/12/2002	Lead	Soil	ATL
	.6 m	566-224-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-224-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-224-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-224-2	5. PH						Soil	ATL
7/9/2002	.9 m	566-224-3	1. TTLC	5.9	mg/kg	5	7/12/2002	Lead	Soil	ATL
	.9 m	566-224-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-224-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-224-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-224-3	5. PH						Soil	ATL
7/9/2002	surface	566-225-0	1. TTLC	280	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/9/2002	surface	566-225-0	2. STLC	29	mg/l	0.4	7/17/2002	Lead	Soil	ATL
7/9/2002	surface	566-225-0	3. STLC-DI	3.6	mg/l	0.2	7/16/2002	Lead	Soil	ATL
	surface	566-225-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-225-0	5. PH						Soil	ATL
7/9/2002	.3 m	566-225-1	1. TTLC	78	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-225-1	2. STLC	5.3	mg/l	0.2	7/17/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-225-1	3. STLC-DI	1	mg/l	0.2	7/16/2002	Lead	Soil	ATL
	.3 m	566-225-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-225-1	5. PH						Soil	ATL
7/9/2002	.6 m	566-225-2	1. TTLC	99	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/9/2002	.6 m	566-225-2	2. STLC	8.5	mg/l	0.2	7/17/2002	Lead	Soil	ATL
7/9/2002	.6 m	566-225-2	3. STLC-DI	1.7	mg/l	0.2	7/16/2002	Lead	Soil	ATL
	.6 m	566-225-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-225-2	5. PH						Soil	ATL
7/9/2002	.9 m	566-225-3	1. TTLC	ND	mg/kg	5	7/12/2002	Lead	Soil	ATL
	.9 m	566-225-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-225-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-225-3	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-225-3	5. PH	7.81	mg/l	0.1	7/11/2002	Lead	Soil	ATL

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7/9/2002	surface	566-226-0	1. TTLC	720	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/9/2002	surface	566-226-0	2. STLC	83	mg/l	2	7/17/2002	Lead	Soil	ATL
7/9/2002	surface	566-226-0	3. STLC-DI	14	mg/l	0.2	7/16/2002	Lead	Soil	ATL
	surface	566-226-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-226-0	5. PH					Lead	Soil	ATL
7/9/2002	.3 m	566-226-1	1. TTLC	190	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-226-1	2. STLC	18	mg/l	0.4	7/17/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-226-1	3. STLC-DI	4.5	mg/l	0.2	7/16/2002	Lead	Soil	ATL
	.3 m	566-226-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-226-1	5. PH					Lead	Soil	ATL
7/9/2002	.6 m	566-226-2	1. TTLC	66	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/9/2002	.6 m	566-226-2	2. STLC	1.2	mg/l	0.2	7/17/2002	Lead	Soil	ATL
	.6 m	566-226-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-226-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-226-2	5. PH					Lead	Soil	ATL
7/9/2002	.9 m	566-226-3	1. TTLC	7.5	mg/kg	5	7/12/2002	Lead	Soil	ATL
	.9 m	566-226-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-226-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-226-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-226-3	5. PH					Lead	Soil	ATL
7/9/2002	surface	566-227-0	1. TTLC	1900	mg/kg	5	7/12/2002	Lead	Soil	ATL
	surface	566-227-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-227-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	surface	566-227-0	4. TCLP	5.4	mg/l	0.2	7/18/2002	Lead	Soil	ATL
	surface	566-227-0	5. PH					Lead	Soil	ATL
7/9/2002	.3 m	566-227-1	1. TTLC	500	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-227-1	2. STLC	44	mg/l	0.8	7/17/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-227-1	3. STLC-DI	0.47	mg/l	0.2	7/16/2002	Lead	Soil	ATL
	.3 m	566-227-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-227-1	5. PH					Lead	Soil	ATL
	.6 m	566-227-2	1. TTLC		mg/kg			Lead	Soil	ATL
	.6 m	566-227-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-227-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-227-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-227-2	5. PH					Lead	Soil	ATL
	.9 m	566-227-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-227-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-227-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-227-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-227-3	5. PH					Lead	Soil	ATL
7/9/2002	surface	566-228-0	1. TTLC	2000	mg/kg	5	7/12/2002	Lead	Soil	ATL
	surface	566-228-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-228-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	surface	566-228-0	4. TCLP	5.2	mg/l	0.2	7/19/2002	Lead	Soil	ATL
	surface	566-228-0	5. PH					Lead	Soil	ATL
7/9/2002	.3 m	566-228-1	1. TTLC	280	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-228-1	2. STLC	19	mg/l	0.4	7/17/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-228-1	3. STLC-DI	3.2	mg/l	0.2	7/16/2002	Lead	Soil	ATL
	.3 m	566-228-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-228-1	5. PH					Lead	Soil	ATL
7/9/2002	.6 m	566-228-2	1. TTLC	23	mg/kg	5	7/12/2002	Lead	Soil	ATL
	.6 m	566-228-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-228-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-228-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-228-2	5. PH					Lead	Soil	ATL
7/9/2002	.9 m	566-228-3	1. TTLC	8.8	mg/kg	5	7/12/2002	Lead	Soil	ATL
	.9 m	566-228-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-228-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-228-3	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-228-3	5. PH	8.29		0.1	7/11/2002	Lead	Soil	ATL
7/9/2002	surface	566-229-0	1. TTLC	1200	mg/kg	5	7/12/2002	Lead	Soil	ATL

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	surface	566-229-0	2. STLC		mg/l				Lead	Soil	ATL
	surface	566-229-0	3. STLC-DI		mg/l				Lead	Soil	ATL
7/9/2002	surface	566-229-0	4. TCLP	2.7	mg/l	0.2	7/18/2002		Lead	Soil	ATL
	surface	566-229-0	5. PH							Soil	ATL
7/9/2002	.3 m	566-229-1	1. TTLC	800	mg/kg	5	7/12/2002		Lead	Soil	ATL
7/9/2002	.3 m	566-229-1	2. STLC	47	mg/l	0.8	7/17/2002		Lead	Soil	ATL
7/9/2002	.3 m	566-229-1	3. STLC-DI	10	mg/l	0.2	7/16/2002		Lead	Soil	ATL
	.3 m	566-229-1	4. TCLP		mg/l				Lead	Soil	ATL
	.3 m	566-229-1	5. PH							Soil	ATL
7/9/2002	.6 m	566-229-2	1. TTLC	11	mg/kg	5	7/12/2002		Lead	Soil	ATL
	.6 m	566-229-2	2. STLC		mg/l				Lead	Soil	ATL
	.6 m	566-229-2	3. STLC-DI		mg/l				Lead	Soil	ATL
	.6 m	566-229-2	4. TCLP		mg/l				Lead	Soil	ATL
	.6 m	566-229-2	5. PH							Soil	ATL
7/9/2002	.9 m	566-229-3	1. TTLC	24	mg/kg	5	7/12/2002		Lead	Soil	ATL
	.9 m	566-229-3	2. STLC		mg/l				Lead	Soil	ATL
	.9 m	566-229-3	3. STLC-DI		mg/l				Lead	Soil	ATL
	.9 m	566-229-3	4. TCLP		mg/l				Lead	Soil	ATL
	.9 m	566-229-3	5. PH							Soil	ATL
7/9/2002	surface	566-230-0	1. TTLC	630	mg/kg	5	7/12/2002		Lead	Soil	ATL
7/9/2002	surface	566-230-0	2. STLC	50	mg/l	1	7/17/2002		Lead	Soil	ATL
7/9/2002	surface	566-230-0	3. STLC-DI	5.6	mg/l	0.2	7/16/2002		Lead	Soil	ATL
	surface	566-230-0	4. TCLP		mg/l				Lead	Soil	ATL
	surface	566-230-0	5. PH							Soil	ATL
	.3 m	566-230-1	1. TTLC		mg/kg				Lead	Soil	ATL
	.3 m	566-230-1	2. STLC		mg/l				Lead	Soil	ATL
	.3 m	566-230-1	3. STLC-DI		mg/l				Lead	Soil	ATL
	.3 m	566-230-1	4. TCLP		mg/l				Lead	Soil	ATL
	.3 m	566-230-1	5. PH							Soil	ATL
	.6 m	566-230-2	1. TTLC		mg/kg				Lead	Soil	ATL
	.6 m	566-230-2	2. STLC		mg/l				Lead	Soil	ATL
	.6 m	566-230-2	3. STLC-DI		mg/l				Lead	Soil	ATL
	.6 m	566-230-2	4. TCLP		mg/l				Lead	Soil	ATL
	.6 m	566-230-2	5. PH							Soil	ATL
	.9 m	566-230-3	1. TTLC		mg/kg				Lead	Soil	ATL
	.9 m	566-230-3	2. STLC		mg/l				Lead	Soil	ATL
	.9 m	566-230-3	3. STLC-DI		mg/l				Lead	Soil	ATL
	.9 m	566-230-3	4. TCLP		mg/l				Lead	Soil	ATL
	.9 m	566-230-3	5. PH							Soil	ATL
7/9/2002	surface	566-231-0	1. TTLC	1100	mg/kg	5	7/12/2002		Lead	Soil	ATL
	surface	566-231-0	2. STLC		mg/l				Lead	Soil	ATL
	surface	566-231-0	3. STLC-DI		mg/l				Lead	Soil	ATL
7/9/2002	surface	566-231-0	4. TCLP	3.1	mg/l	0.2	7/18/2002		Lead	Soil	ATL
	surface	566-231-0	5. PH							Soil	ATL
7/9/2002	.3 m	566-231-1	1. TTLC	390	mg/kg	5	7/12/2002		Lead	Soil	ATL
7/9/2002	.3 m	566-231-1	2. STLC	37	mg/l	0.8	7/17/2002		Lead	Soil	ATL
7/9/2002	.3 m	566-231-1	3. STLC-DI	6.7	mg/l	0.2	7/16/2002		Lead	Soil	ATL
	.3 m	566-231-1	4. TCLP		mg/l				Lead	Soil	ATL
	.3 m	566-231-1	5. PH							Soil	ATL
7/9/2002	.6 m	566-231-2	1. TTLC	14	mg/kg	5	7/12/2002		Lead	Soil	ATL
	.6 m	566-231-2	2. STLC		mg/l				Lead	Soil	ATL
	.6 m	566-231-2	3. STLC-DI		mg/l				Lead	Soil	ATL
	.6 m	566-231-2	4. TCLP		mg/l				Lead	Soil	ATL
	.6 m	566-231-2	5. PH							Soil	ATL
7/9/2002	.9 m	566-231-3	1. TTLC	5.9	mg/kg	5	7/12/2002		Lead	Soil	ATL
	.9 m	566-231-3	2. STLC		mg/l				Lead	Soil	ATL
	.9 m	566-231-3	3. STLC-DI		mg/l				Lead	Soil	ATL
	.9 m	566-231-3	4. TCLP		mg/l				Lead	Soil	ATL
	.9 m	566-231-3	5. PH							Soil	ATL
7/9/2002	surface	566-232-0	1. TTLC	840	mg/kg	5	7/12/2002		Lead	Soil	ATL
7/9/2002	surface	566-232-0	2. STLC	57	mg/l	1	7/17/2002		Lead	Soil	ATL

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7/9/2002	surface	566-232-0	3. STLC-DI	8.9	mg/l	0.2	7/16/2002	Lead	Soil	ATL
	surface	566-232-0	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	surface	566-232-0	5. PH	6.83		0.1	7/11/2002		Soil	ATL
7/9/2002	.3 m	566-232-1	1. TTLC	610	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-232-1	2. STLC	46	mg/l	1	7/17/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-232-1	3. STLC-DI	11	mg/l	0.2	7/16/2002	Lead	Soil	ATL
	.3 m	566-232-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-232-1	5. PH						Soil	ATL
7/9/2002	.6 m	566-232-2	1. TTLC	300	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/9/2002	.6 m	566-232-2	2. STLC	22	mg/l	0.4	7/17/2002	Lead	Soil	ATL
7/9/2002	.6 m	566-232-2	3. STLC-DI	8.1	mg/l	0.2	7/16/2002	Lead	Soil	ATL
	.6 m	566-232-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-232-2	5. PH						Soil	ATL
	.9 m	566-232-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-232-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-232-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-232-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-232-3	5. PH						Soil	ATL
7/9/2002	surface	566-233-0	1. TTLC	1600	mg/kg	5	7/12/2002	Lead	Soil	ATL
	surface	566-233-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-233-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	surface	566-233-0	4. TCLP	3.9	mg/l	0.2	7/18/2002	Lead	Soil	ATL
	surface	566-233-0	5. PH						Soil	ATL
7/9/2002	.3 m	566-233-1	1. TTLC	280	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-233-1	2. STLC	13	mg/l	0.2	7/17/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-233-1	3. STLC-DI	ND	mg/l	0.2	7/16/2002	Lead	Soil	ATL
	.3 m	566-233-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-233-1	5. PH						Soil	ATL
	.6 m	566-233-2	1. TTLC		mg/kg			Lead	Soil	ATL
	.6 m	566-233-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-233-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-233-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-233-2	5. PH						Soil	ATL
	.9 m	566-233-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-233-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-233-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-233-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-233-3	5. PH						Soil	ATL
7/9/2002	surface	566-234-0	1. TTLC	540	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/9/2002	surface	566-234-0	2. STLC	45	mg/l	0.8	7/17/2002	Lead	Soil	ATL
7/9/2002	surface	566-234-0	3. STLC-DI	0.99	mg/l	0.2	7/16/2002	Lead	Soil	ATL
	surface	566-234-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-234-0	5. PH						Soil	ATL
7/9/2002	.3 m	566-234-1	1. TTLC	1100	mg/kg	5	7/12/2002	Lead	Soil	ATL
	.3 m	566-234-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-234-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/9/2002	.3 m	566-234-1	4. TCLP	5.1	mg/l	0.2	7/18/2002	Lead	Soil	ATL
	.3 m	566-234-1	5. PH						Soil	ATL
	.6 m	566-234-2	1. TTLC		mg/kg			Lead	Soil	ATL
	.6 m	566-234-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-234-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-234-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-234-2	5. PH						Soil	ATL
	.9 m	566-234-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-234-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-234-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-234-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-234-3	5. PH						Soil	ATL
7/9/2002	surface	566-235-0	1. TTLC	500	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/9/2002	surface	566-235-0	2. STLC	42	mg/l	0.8	7/17/2002	Lead	Soil	ATL
7/9/2002	surface	566-235-0	3. STLC-DI	2.6	mg/l	0.2	7/16/2002	Lead	Soil	ATL

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	surface	566-235-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-235-0	5. PH						Soil	ATL
7/9/2002	.3 m	566-235-1	1. TTLC	160	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-235-1	2. STLC	9.8	mg/l	0.2	7/17/2002	Lead	Soil	ATL
7/9/2002	.3 m	566-235-1	3. STLC-DI	2.4	mg/l	0.2	7/16/2002	Lead	Soil	ATL
	.3 m	566-235-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-235-1	5. PH						Soil	ATL
7/9/2002	.6 m	566-235-2	1. TTLC	ND	mg/kg	5	7/12/2002	Lead	Soil	ATL
	.6 m	566-235-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-235-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-235-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-235-2	5. PH						Soil	ATL
7/9/2002	.9 m	566-235-3	1. TTLC	8.2	mg/kg	5	7/12/2002	Lead	Soil	ATL
	.9 m	566-235-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-235-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-235-3	4. TCLP		mg/l			Lead	Soil	ATL
7/9/2002	.9 m	566-235-3	5. PH	8.01		0.1	7/11/2002		Soil	ATL
7/10/2002	surface	566-236-0	1. TTLC	600	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	surface	566-236-0	2. STLC	65	mg/l	1	7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-236-0	3. STLC-DI	0.68	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	surface	566-236-0	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	surface	566-236-0	5. PH			0.1	7/12/2002		Soil	ATL
7/10/2002	.3 m	566-236-1	1. TTLC	300	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-236-1	2. STLC	24	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-236-1	3. STLC-DI	0.52	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	.3 m	566-236-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-236-1	5. PH						Soil	ATL
7/10/2002	.6 m	566-236-2	1. TTLC	20	mg/kg	5	7/12/2002	Lead	Soil	ATL
	.6 m	566-236-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-236-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-236-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-236-2	5. PH						Soil	ATL
7/10/2002	.9 m	566-236-3	1. TTLC	11	mg/kg	5	7/12/2002	Lead	Soil	ATL
	.9 m	566-236-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-236-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-236-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-236-3	5. PH						Soil	ATL
7/10/2002	surface	566-237-0	1. TTLC	720	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	surface	566-237-0	2. STLC	79	mg/l	2	7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-237-0	3. STLC-DI	1.1	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	surface	566-237-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-237-0	5. PH						Soil	ATL
7/10/2002	.3 m	566-237-1	1. TTLC	540	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-237-1	2. STLC	59	mg/l	1	7/23/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-237-1	3. STLC-DI	0.81	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	.3 m	566-237-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-237-1	5. PH						Soil	ATL
7/10/2002	.6 m	566-237-2	1. TTLC	190	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-237-2	2. STLC	14	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-237-2	3. STLC-DI	0.22	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	.6 m	566-237-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-237-2	5. PH						Soil	ATL
	.9 m	566-237-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-237-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-237-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-237-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-237-3	5. PH						Soil	ATL
7/10/2002	surface	566-238-0	1. TTLC	1100	mg/kg	5	7/12/2002	Lead	Soil	ATL
	surface	566-238-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-238-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/10/2002	surface	566-238-0	4. TCLP	1.6	mg/l	0.2	7/24/2002	Lead	Soil	ATL

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	surface	566-238-0	5. PH						Soil	ATL
7/10/2002	.3 m	566-238-1	1. TTLC	2000	mg/kg	5	7/12/2002	Lead	Soil	ATL
	.3 m	566-238-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-238-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/10/2002	.3 m	566-238-1	4. TCLP	27	mg/l	0.4	7/24/2002	Lead	Soil	ATL
	.3 m	566-238-1	5. PH						Soil	ATL
7/10/2002	.6 m	566-238-2	1. TTLC	110	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-238-2	2. STLC	12	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-238-2	3. STLC-DI	1.5	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	.6 m	566-238-2	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.6 m	566-238-2	5. PH	7.92		0.1	7/11/2002		Soil	ATL
7/10/2002	.9 m	566-238-3	1. TTLC	300	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-238-3	2. STLC	48	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-238-3	3. STLC-DI	3.2	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	.9 m	566-238-3	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.9 m	566-238-3	5. PH						Soil	ATL
	surface	566-239-0	1. TTLC	1000	mg/kg	5	7/12/2002	Lead	Soil	ATL
	surface	566-239-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-239-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/10/2002	surface	566-239-0	4. TCLP	1.5	mg/l	0.2	7/24/2002	Lead	Soil	ATL
	surface	566-239-0	5. PH						Soil	ATL
7/10/2002	.3 m	566-239-1	1. TTLC	64	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-239-1	2. STLC	5.6	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-239-1	3. STLC-DI	ND	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	.3 m	566-239-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-239-1	5. PH						Soil	ATL
7/10/2002	.6 m	566-239-2	1. TTLC	9.9	mg/kg	5	7/12/2002	Lead	Soil	ATL
	.6 m	566-239-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-239-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-239-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-239-2	5. PH						Soil	ATL
	.9 m	566-239-3	1. TTLC	9.9	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-239-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-239-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-239-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-239-3	5. PH						Soil	ATL
7/10/2002	surface	566-240-0	1. TTLC	500	mg/kg	5	7/12/2002	Lead	Soil	ATL
	surface	566-240-0	2. STLC	46	mg/l	0.8	7/23/2002	Lead	Soil	ATL
	surface	566-240-0	3. STLC-DI	0.29	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	surface	566-240-0	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	surface	566-240-0	5. PH						Soil	ATL
	.3 m	566-240-1	1. TTLC	14	mg/kg	5	7/12/2002	Lead	Soil	ATL
	.3 m	566-240-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-240-1	3. STLC-DI		mg/l			Lead	Soil	ATL
	.3 m	566-240-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-240-1	5. PH						Soil	ATL
7/10/2002	.6 m	566-240-2	1. TTLC	130	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-240-2	2. STLC	15	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-240-2	3. STLC-DI	0.29	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	.6 m	566-240-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-240-2	5. PH						Soil	ATL
	.9 m	566-240-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-240-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-240-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-240-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-240-3	5. PH						Soil	ATL
7/10/2002	surface	566-241-0	1. TTLC	700	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	surface	566-241-0	2. STLC	90	mg/l	2	7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-241-0	3. STLC-DI	0.42	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	surface	566-241-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-241-0	5. PH						Soil	ATL

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7/10/2002	.3 m	566-241-1	1. TTLC	400	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-241-1	2. STLC	48	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-241-1	3. STLC-DI	0.48	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	.3 m	566-241-1	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.3 m	566-241-1	5. PH	7.1		0.1	7/11/2002		Soil	ATL
7/10/2002	.6 m	566-241-2	1. TTLC	180	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-241-2	2. STLC	13	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-241-2	3. STLC-DI	0.21	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	.6 m	566-241-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-241-2	5. PH						Soil	ATL
7/10/2002	.9 m	566-241-3	1. TTLC	41	mg/kg	5	7/12/2002	Lead	Soil	ATL
	.9 m	566-241-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-241-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-241-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-241-3	5. PH						Soil	ATL
7/10/2002	surface	566-242-0	1. TTLC	450	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	surface	566-242-0	2. STLC	28	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-242-0	3. STLC-DI	0.23	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	surface	566-242-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-242-0	5. PH						Soil	ATL
7/10/2002	.3 m	566-242-1	1. TTLC	310	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-242-1	2. STLC	36	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-242-1	3. STLC-DI	0.79	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	.3 m	566-242-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-242-1	5. PH						Soil	ATL
7/10/2002	.6 m	566-242-2	1. TTLC	170	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-242-2	2. STLC	14	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-242-2	3. STLC-DI	ND	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	.6 m	566-242-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-242-2	5. PH						Soil	ATL
	.9 m	566-242-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-242-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-242-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-242-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-242-3	5. PH						Soil	ATL
7/10/2002	surface	566-243-0	1. TTLC	120	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	surface	566-243-0	2. STLC	19	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-243-0	3. STLC-DI	ND	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	surface	566-243-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-243-0	5. PH						Soil	ATL
7/10/2002	.3 m	566-243-1	1. TTLC	440	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-243-1	2. STLC	34	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-243-1	3. STLC-DI	1.4	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	.3 m	566-243-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-243-1	5. PH						Soil	ATL
7/10/2002	.6 m	566-243-2	1. TTLC	ND	mg/kg	5	7/12/2002	Lead	Soil	ATL
	.6 m	566-243-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-243-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-243-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-243-2	5. PH						Soil	ATL
	.9 m	566-243-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-243-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-243-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-243-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-243-3	5. PH						Soil	ATL
7/10/2002	surface	566-244-0	1. TTLC	190	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	surface	566-244-0	2. STLC	24	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-244-0	3. STLC-DI	ND	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	surface	566-244-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-244-0	5. PH						Soil	ATL
	.3 m	566-244-1	1. TTLC					Lead	Soil	ATL

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	.3 m	566-244-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-244-1	3. STLC-DI		mg/l			Lead	Soil	ATL
	.3 m	566-244-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-244-1	5. PH						Soil	ATL
	.6 m	566-244-2	1. TTLC		mg/kg			Lead	Soil	ATL
	.6 m	566-244-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-244-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-244-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-244-2	5. PH						Soil	ATL
	.9 m	566-244-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-244-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-244-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-244-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-244-3	5. PH						Soil	ATL
7/10/2002	surface	566-245-0	1. TTLC	1000	mg/kg	5	7/12/2002	Lead	Soil	ATL
	surface	566-245-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-245-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/10/2002	surface	566-245-0	4. TCLP	3.1	mg/l	0.2	7/24/2002	Lead	Soil	ATL
7/10/2002	surface	566-245-0	5. PH	7.13		0.1	7/11/2002		Soil	ATL
7/10/2002	.3 m	566-245-1	1. TTLC	810	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-245-1	2. STLC	100	mg/l	2	7/23/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-245-1	3. STLC-DI	3.6	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	.3 m	566-245-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-245-1	5. PH						Soil	ATL
	.6 m	566-245-2	1. TTLC		mg/kg			Lead	Soil	ATL
	.6 m	566-245-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-245-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-245-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-245-2	5. PH						Soil	ATL
	.9 m	566-245-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-245-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-245-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-245-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-245-3	5. PH						Soil	ATL
7/10/2002	surface	566-246-0	1. TTLC	430	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	surface	566-246-0	2. STLC	47	mg/l	0.5	7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-246-0	3. STLC-DI	0.36	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	surface	566-246-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-246-0	5. PH						Soil	ATL
7/10/2002	.3 m	566-246-1	1. TTLC	40	mg/kg	5	7/12/2002	Lead	Soil	ATL
	.3 m	566-246-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-246-1	3. STLC-DI		mg/l			Lead	Soil	ATL
	.3 m	566-246-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-246-1	5. PH						Soil	ATL
	.6 m	566-246-2	1. TTLC		mg/kg			Lead	Soil	ATL
	.6 m	566-246-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-246-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-246-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-246-2	5. PH						Soil	ATL
	.9 m	566-246-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-246-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-246-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-246-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-246-3	5. PH						Soil	ATL
7/10/2002	surface	566-247-0	1. TTLC	180	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	surface	566-247-0	2. STLC	20	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-247-0	3. STLC-DI	ND	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	surface	566-247-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-247-0	5. PH						Soil	ATL
7/10/2002	.3 m	566-247-1	1. TTLC	280	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-247-1	2. STLC	27	mg/l	0.4	7/23/2002	Lead	Soil	ATL

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7/10/2002	.3 m	566-247-1	3. STLC-DI	1.5	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	.3 m	566-247-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-247-1	5. PH						Soil	ATL
7/10/2002	.6 m	566-247-2	1. TTLC	140	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-247-2	2. STLC	12	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-247-2	3. STLC-DI	ND	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	.6 m	566-247-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-247-2	5. PH						Soil	ATL
7/10/2002	.9 m	566-247-3	1. TTLC	11	mg/kg	5	7/12/2002	Lead	Soil	ATL
	.9 m	566-247-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-247-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-247-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-247-3	5. PH						Soil	ATL
7/10/2002	surface	566-248-0	1. TTLC	540	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	surface	566-248-0	2. STLC	67	mg/l	1	7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-248-0	3. STLC-DI	0.37	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	surface	566-248-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-248-0	5. PH						Soil	ATL
7/10/2002	.3 m	566-248-1	1. TTLC	580	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-248-1	2. STLC	63	mg/l	1	7/23/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-248-1	3. STLC-DI	1.4	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	.3 m	566-248-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-248-1	5. PH						Soil	ATL
7/10/2002	.6 m	566-248-2	1. TTLC	100	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-248-2	2. STLC	7.5	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-248-2	3. STLC-DI	ND	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	.6 m	566-248-2	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.6 m	566-248-2	5. PH	6.32		0.1	7/11/2002		Soil	ATL
	.9 m	566-248-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-248-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-248-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-248-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-248-3	5. PH						Soil	ATL
7/10/2002	surface	566-249-0	1. TTLC	190	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	surface	566-249-0	2. STLC	14	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-249-0	3. STLC-DI	ND	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	surface	566-249-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-249-0	5. PH						Soil	ATL
7/10/2002	.3 m	566-249-1	1. TTLC	260	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-249-1	2. STLC	140	mg/l	2	7/23/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-249-1	3. STLC-DI	7.3	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	.3 m	566-249-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-249-1	5. PH						Soil	ATL
	.6 m	566-249-2	1. TTLC		mg/kg			Lead	Soil	ATL
	.6 m	566-249-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-249-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-249-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-249-2	5. PH						Soil	ATL
	.9 m	566-249-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-249-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-249-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-249-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-249-3	5. PH						Soil	ATL
7/10/2002	surface	566-250-0	1. TTLC	1400	mg/kg	5	7/12/2002	Lead	Soil	ATL
	surface	566-250-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-250-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/10/2002	surface	566-250-0	4. TCLP	3.8	mg/l	0.2	7/24/2002	Lead	Soil	ATL
	surface	566-250-0	5. PH						Soil	ATL
7/10/2002	.3 m	566-250-1	1. TTLC	99	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-250-1	2. STLC	2.4	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.3 m	566-250-1	3. STLC-DI					Lead	Soil	ATL

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	.3 m	566-250-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-250-1	5. PH						Soil	ATL
	.6 m	566-250-2	1. TTLC		mg/kg			Lead	Soil	ATL
	.6 m	566-250-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-250-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-250-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-250-2	5. PH						Soil	ATL
	.9 m	566-250-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-250-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-250-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-250-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-250-3	5. PH						Soil	ATL
7/10/2002	surface	566-251-0	1. TTLC	380	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	surface	566-251-0	2. STLC	46	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-251-0	3. STLC-DI	1.1	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	surface	566-251-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-251-0	5. PH						Soil	ATL
7/10/2002	.3 m	566-251-1	1. TTLC	220	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-251-1	2. STLC	24	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-251-1	3. STLC-DI	0.28	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	.3 m	566-251-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-251-1	5. PH						Soil	ATL
7/10/2002	.6 m	566-251-2	1. TTLC	20	mg/kg	5	7/12/2002	Lead	Soil	ATL
	.6 m	566-251-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-251-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-251-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-251-2	5. PH						Soil	ATL
	.9 m	566-251-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-251-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-251-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-251-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-251-3	5. PH						Soil	ATL
7/10/2002	surface	566-252-0	1. TTLC	360	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	surface	566-252-0	2. STLC	26	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-252-0	3. STLC-DI	ND	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	surface	566-252-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-252-0	5. PH						Soil	ATL
	.3 m	566-252-1	1. TTLC	1300	mg/kg	5	7/12/2002	Lead	Soil	ATL
	.3 m	566-252-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-252-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/10/2002	.3 m	566-252-1	4. TCLP	8	mg/l	0.2	7/24/2002	Lead	Soil	ATL
	.3 m	566-252-1	5. PH						Soil	ATL
7/10/2002	.6 m	566-252-2	1. TTLC	360	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-252-2	2. STLC	37	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/10/2002	.6 m	566-252-2	3. STLC-DI	3.4	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	.6 m	566-252-2	4. TCLP		mg/l			Lead	Soil	ATL
7/10/2002	.6 m	566-252-2	5. PH	7.83		0.1	7/11/2002		Soil	ATL
7/10/2002	.9 m	566-252-3	1. TTLC	520	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-252-3	2. STLC	35	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-252-3	3. STLC-DI	1.9	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	.9 m	566-252-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-252-3	5. PH						Soil	ATL
7/10/2002	surface	566-253-0	1. TTLC	380	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	surface	566-253-0	2. STLC	46	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-253-0	3. STLC-DI	0.44	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	surface	566-253-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-253-0	5. PH						Soil	ATL
7/10/2002	.3 m	566-253-1	1. TTLC	340	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-253-1	2. STLC	43	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/10/2002	.3 m	566-253-1	3. STLC-DI	ND	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	.3 m	566-253-1	4. TCLP					Lead	Soil	ATL

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	.3 m	566-253-1	5. PH						Soil	ATL
	.6 m	566-253-2	1. TTLC		mg/kg				Lead	Soil
	.6 m	566-253-2	2. STLC		mg/l				Lead	Soil
	.6 m	566-253-2	3. STLC-DI		mg/l				Lead	Soil
	.6 m	566-253-2	4. TCLP		mg/l				Lead	Soil
	.6 m	566-253-2	5. PH						Lead	Soil
	.9 m	566-253-3	1. TTLC		mg/kg				Lead	Soil
	.9 m	566-253-3	2. STLC		mg/l				Lead	Soil
	.9 m	566-253-3	3. STLC-DI		mg/l				Lead	Soil
	.9 m	566-253-3	4. TCLP		mg/l				Lead	Soil
	.9 m	566-253-3	5. PH						Lead	Soil
7/10/2002	surface	566-254-0	1. TTLC	900	mg/kg	5		7/12/2002	Lead	Soil
7/10/2002	surface	566-254-0	2. STLC	87	mg/l	2		7/23/2002	Lead	Soil
7/10/2002	surface	566-254-0	3. STLC-DI	0.28	mg/l	0.2		7/22/2002	Lead	Soil
	surface	566-254-0	4. TCLP		mg/l				Lead	Soil
	surface	566-254-0	5. PH						Lead	Soil
7/10/2002	.3 m	566-254-1	1. TTLC	430	mg/kg	5		7/12/2002	Lead	Soil
7/10/2002	.3 m	566-254-1	2. STLC	46	mg/l	0.8		7/23/2002	Lead	Soil
7/10/2002	.3 m	566-254-1	3. STLC-DI	0.61	mg/l	0.2		7/22/2002	Lead	Soil
	.3 m	566-254-1	4. TCLP		mg/l				Lead	Soil
	.3 m	566-254-1	5. PH						Lead	Soil
7/10/2002	.6 m	566-254-2	1. TTLC	42	mg/kg	5		7/12/2002	Lead	Soil
	.6 m	566-254-2	2. STLC		mg/l				Lead	Soil
	.6 m	566-254-2	3. STLC-DI		mg/l				Lead	Soil
	.6 m	566-254-2	4. TCLP		mg/l				Lead	Soil
	.6 m	566-254-2	5. PH						Lead	Soil
	.9 m	566-254-3	1. TTLC		mg/kg				Lead	Soil
	.9 m	566-254-3	2. STLC		mg/l				Lead	Soil
	.9 m	566-254-3	3. STLC-DI		mg/l				Lead	Soil
	.9 m	566-254-3	4. TCLP		mg/l				Lead	Soil
	.9 m	566-254-3	5. PH						Lead	Soil
7/10/2002	surface	566-255-0	1. TTLC	1600	mg/kg	5		7/12/2002	Lead	Soil
	surface	566-255-0	2. STLC		mg/l				Lead	Soil
	surface	566-255-0	3. STLC-DI		mg/l				Lead	Soil
7/10/2002	surface	566-255-0	4. TCLP	1.3	mg/l	0.2		7/24/2002	Lead	Soil
	surface	566-255-0	5. PH						Lead	Soil
7/10/2002	.3 m	566-255-1	1. TTLC	910	mg/kg	5		7/12/2002	Lead	Soil
7/10/2002	.3 m	566-255-1	2. STLC	89	mg/l	2		7/23/2002	Lead	Soil
7/10/2002	.3 m	566-255-1	3. STLC-DI	0.91	mg/l	0.2		7/22/2002	Lead	Soil
	.3 m	566-255-1	4. TCLP		mg/l				Lead	Soil
	.3 m	566-255-1	5. PH						Lead	Soil
7/10/2002	.6 m	566-255-2	1. TTLC	440	mg/kg	5		7/12/2002	Lead	Soil
7/10/2002	.6 m	566-255-2	2. STLC	37	mg/l	0.8		7/23/2002	Lead	Soil
7/10/2002	.6 m	566-255-2	3. STLC-DI	0.38	mg/l	0.2		7/22/2002	Lead	Soil
	.6 m	566-255-2	4. TCLP		mg/l				Lead	Soil
	.6 m	566-255-2	5. PH						Lead	Soil
	.9 m	566-255-3	1. TTLC		mg/kg				Lead	Soil
	.9 m	566-255-3	2. STLC		mg/l				Lead	Soil
	.9 m	566-255-3	3. STLC-DI		mg/l				Lead	Soil
	.9 m	566-255-3	4. TCLP		mg/l				Lead	Soil
	.9 m	566-255-3	5. PH						Lead	Soil
7/10/2002	surface	566-256-0	1. TTLC	1600	mg/kg	5		7/12/2002	Lead	Soil
	surface	566-256-0	2. STLC		mg/l				Lead	Soil
	surface	566-256-0	3. STLC-DI		mg/l				Lead	Soil
7/10/2002	surface	566-256-0	4. TCLP	5.2	mg/l	0.2		7/24/2002	Lead	Soil
7/10/2002	surface	566-256-0	5. PH	7.64		0.1		7/11/2002	Lead	Soil
7/10/2002	.3 m	566-256-1	1. TTLC	10	mg/kg	5		7/12/2002	Lead	Soil
	.3 m	566-256-1	2. STLC		mg/l				Lead	Soil
	.3 m	566-256-1	3. STLC-DI		mg/l				Lead	Soil
	.3 m	566-256-1	4. TCLP		mg/l				Lead	Soil
	.3 m	566-256-1	5. PH						Lead	Soil

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7/10/2002	.6 m	566-256-2	1. TTLC	41	mg/kg	5	7/12/2002	Lead	Soil	ATL
	.6 m	566-256-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-256-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-256-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-256-2	5. PH					Lead	Soil	ATL
7/10/2002	.9 m	566-256-3	1. TTLC	220	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-256-3	2. STLC	13	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/10/2002	.9 m	566-256-3	3. STLC-DI	0.36	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	.9 m	566-256-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-256-3	5. PH					Lead	Soil	ATL
7/10/2002	surface	566-257-0	1. TTLC	310	mg/kg	5	7/12/2002	Lead	Soil	ATL
7/10/2002	surface	566-257-0	2. STLC	44	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/10/2002	surface	566-257-0	3. STLC-DI	0.87	mg/l	0.2	7/22/2002	Lead	Soil	ATL
	surface	566-257-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-257-0	5. PH					Lead	Soil	ATL
	.3 m	566-257-1	1. TTLC		mg/kg			Lead	Soil	ATL
	.3 m	566-257-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-257-1	3. STLC-DI		mg/l			Lead	Soil	ATL
	.3 m	566-257-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-257-1	5. PH					Lead	Soil	ATL
	.6 m	566-257-2	1. TTLC		mg/kg			Lead	Soil	ATL
	.6 m	566-257-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-257-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-257-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-257-2	5. PH					Lead	Soil	ATL
	.9 m	566-257-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-257-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-257-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-257-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-257-3	5. PH					Lead	Soil	ATL
7/11/2002	surface	566-258-0	1. TTLC	780	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	surface	566-258-0	2. STLC	52	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-258-0	3. STLC-DI	0.44	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	surface	566-258-0	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-258-0	5. PH	6.23		0.1	7/17/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-258-1	1. TTLC	3800	mg/kg	5	7/15/2002	Lead	Soil	ATL
	.3 m	566-258-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-258-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-258-1	4. TCLP	9.7	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.3 m	566-258-1	5. PH					Lead	Soil	ATL
7/11/2002	.6 m	566-258-2	1. TTLC	2000	mg/kg	5	7/15/2002	Lead	Soil	ATL
	.6 m	566-258-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-258-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-258-2	4. TCLP	2.1	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.6 m	566-258-2	5. PH					Lead	Soil	ATL
	.9 m	566-258-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-258-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-258-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-258-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-258-3	5. PH					Lead	Soil	ATL
7/11/2002	surface	566-259-0	1. TTLC	350	mg/kg	5	7/11/2002	Lead	Soil	ATL
7/11/2002	surface	566-259-0	2. STLC	36	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-259-0	3. STLC-DI	ND	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	surface	566-259-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-259-0	5. PH					Lead	Soil	ATL
7/11/2002	.3 m	566-259-1	1. TTLC	1700	mg/kg	5	7/15/2002	Lead	Soil	ATL
	.3 m	566-259-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-259-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-259-1	4. TCLP	4.3	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.3 m	566-259-1	5. PH					Lead	Soil	ATL
7/11/2002	.6 m	566-259-2	1. TTLC	1100	mg/kg	5	7/15/2002	Lead	Soil	ATL

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	.6 m	566-259-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-259-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-259-2	4. TCLP	8.8	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.6 m	566-259-2	5. PH						Soil	ATL
	.9 m	566-259-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-259-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-259-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-259-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-259-3	5. PH						Soil	ATL
7/11/2002	surface	566-260-0	1. TTLC	1900	mg/kg	5	7/15/2002	Lead	Soil	ATL
	surface	566-260-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-260-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-260-0	4. TCLP	1.8	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	surface	566-260-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-260-1	1. TTLC	23	mg/kg	5	7/15/2002	Lead	Soil	ATL
	.3 m	566-260-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-260-1	3. STLC-DI		mg/l			Lead	Soil	ATL
	.3 m	566-260-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-260-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-260-2	1. TTLC	680	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-260-2	2. STLC	39	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-260-2	3. STLC-DI	0.82	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.6 m	566-260-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-260-2	5. PH						Soil	ATL
7/11/2002	.9 m	566-260-3	1. TTLC	ND	mg/kg	5	7/15/2002	Lead	Soil	ATL
	.9 m	566-260-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-260-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-260-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-260-3	5. PH	8.31		0.1	7/17/2002		Soil	ATL
7/11/2002	surface	566-261-0	1. TTLC	390	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	surface	566-261-0	2. STLC	7.8	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-261-0	3. STLC-DI	ND	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	surface	566-261-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-261-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-261-1	1. TTLC	1300	mg/kg	5	7/15/2002	Lead	Soil	ATL
	.3 m	566-261-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-261-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-261-1	4. TCLP	1.6	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.3 m	566-261-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-261-2	1. TTLC	42	mg/kg	5	7/15/2002	Lead	Soil	ATL
	.6 m	566-261-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-261-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-261-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-261-2	5. PH						Soil	ATL
7/11/2002	.9 m	566-261-3	1. TTLC	44	mg/kg	5	7/15/2002	Lead	Soil	ATL
	.9 m	566-261-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-261-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-261-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-261-3	5. PH						Soil	ATL
7/11/2002	surface	566-262-0	1. TTLC	1500	mg/kg	5	7/15/2002	Lead	Soil	ATL
	surface	566-262-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-262-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-262-0	4. TCLP	1.8	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	surface	566-262-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-262-1	1. TTLC	890	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-262-1	2. STLC	44	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-262-1	3. STLC-DI	2.1	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.3 m	566-262-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-262-1	5. PH						Soil	ATL
	.6 m	566-262-2	1. TTLC		mg/kg			Lead	Soil	ATL
	.6 m	566-262-2	2. STLC					Lead	Soil	ATL

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	.6 m	566-262-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-262-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-262-2	5. PH						Soil	ATL
	.9 m	566-262-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-262-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-262-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-262-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-262-3	5. PH						Soil	ATL
7/11/2002	surface	566-263-0	1. TTLC	1900	mg/kg	5	7/15/2002	Lead	Soil	ATL
	surface	566-263-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-263-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-263-0	4. TCLP	3	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	surface	566-263-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-263-1	1. TTLC	46	mg/kg	5	7/15/2002	Lead	Soil	ATL
	.3 m	566-263-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-263-1	3. STLC-DI		mg/l			Lead	Soil	ATL
	.3 m	566-263-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-263-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-263-2	1. TTLC	46	mg/kg	5	7/15/2002	Lead	Soil	ATL
	.6 m	566-263-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-263-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-263-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-263-2	5. PH						Soil	ATL
7/11/2002	.9 m	566-263-3	1. TTLC	9.4	mg/kg	5	7/15/2002	Lead	Soil	ATL
	.9 m	566-263-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-263-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-263-3	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.9 m	566-263-3	5. PH	7.22		0.1	7/17/2002		Soil	ATL
7/11/2002	surface	566-264-0	1. TTLC	1100	mg/kg	5	7/15/2002	Lead	Soil	ATL
	surface	566-264-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-264-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-264-0	4. TCLP	2.8	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	surface	566-264-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-264-1	1. TTLC	1300	mg/kg	5	7/15/2002	Lead	Soil	ATL
	.3 m	566-264-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-264-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-264-1	4. TCLP	3.7	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.3 m	566-264-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-264-2	1. TTLC	200	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-264-2	2. STLC	14	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-264-2	3. STLC-DI	ND	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.6 m	566-264-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-264-2	5. PH						Soil	ATL
	.9 m	566-264-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-264-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-264-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-264-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-264-3	5. PH						Soil	ATL
7/11/2002	surface	566-265-0	1. TTLC	2000	mg/kg	5	7/15/2002	Lead	Soil	ATL
	surface	566-265-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-265-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-265-0	4. TCLP	3	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	surface	566-265-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-265-1	1. TTLC	1300	mg/kg	5	7/15/2002	Lead	Soil	ATL
	.3 m	566-265-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-265-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-265-1	4. TCLP	2.6	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.3 m	566-265-1	5. PH						Soil	ATL
	.6 m	566-265-2	1. TTLC		mg/kg			Lead	Soil	ATL
	.6 m	566-265-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-265-2	3. STLC-DI		mg/l			Lead	Soil	ATL

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	.6 m	566-265-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-265-2	5. PH						Soil	ATL
	.9 m	566-265-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-265-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-265-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-265-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-265-3	5. PH						Soil	ATL
7/11/2002	surface	566-266-0	1. TTLC	1500	mg/kg	5	7/15/2002	Lead	Soil	ATL
	surface	566-266-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-266-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-266-0	4. TCLP	2.2	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	surface	566-266-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-266-1	1. TTLC	490	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-266-1	2. STLC	22	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-266-1	3. STLC-DI	0.81	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.3 m	566-266-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-266-1	5. PH						Soil	ATL
	.6 m	566-266-2	1. TTLC		mg/kg			Lead	Soil	ATL
	.6 m	566-266-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-266-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-266-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-266-2	5. PH						Soil	ATL
	.9 m	566-266-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-266-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-266-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-266-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-266-3	5. PH						Soil	ATL
7/11/2002	surface	566-267-0	1. TTLC	850	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	surface	566-267-0	2. STLC	53	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-267-0	3. STLC-DI	2.2	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	surface	566-267-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-267-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-267-1	1. TTLC	760	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-267-1	2. STLC	48	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-267-1	3. STLC-DI	3.1	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.3 m	566-267-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-267-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-267-2	1. TTLC	74	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-267-2	2. STLC	1.9	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.6 m	566-267-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-267-2	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	.6 m	566-267-2	5. PH	8.63		0.1	7/17/2002		Soil	ATL
7/11/2002	.9 m	566-267-3	1. TTLC	400	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-267-3	2. STLC	28	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-267-3	3. STLC-DI	1.5	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.9 m	566-267-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-267-3	5. PH						Soil	ATL
7/11/2002	surface	566-268-0	1. TTLC	1300	mg/kg	5	7/15/2002	Lead	Soil	ATL
	surface	566-268-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-268-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-268-0	4. TCLP	1.4	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	surface	566-268-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-268-1	1. TTLC	310	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-268-1	2. STLC	29	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-268-1	3. STLC-DI	1.1	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.3 m	566-268-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-268-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-268-2	1. TTLC	180	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-268-2	2. STLC	12	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-268-2	3. STLC-DI	0.21	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.6 m	566-268-2	4. TCLP					Lead	Soil	ATL

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	.6 m	566-268-2	5. PH						Soil	ATL
7/11/2002	.9 m	566-268-3	1. TTLC	360	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-268-3	2. STLC	30	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-268-3	3. STLC-DI	1.3	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.9 m	566-268-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-268-3	5. PH						Soil	ATL
7/11/2002	surface	566-269-0	1. TTLC	810	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	surface	566-269-0	2. STLC	45	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-269-0	3. STLC-DI	2.5	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	surface	566-269-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-269-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-269-1	1. TTLC	220	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-269-1	2. STLC	11	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-269-1	3. STLC-DI	0.28	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.3 m	566-269-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-269-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-269-2	1. TTLC	350	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-269-2	2. STLC	20	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-269-2	3. STLC-DI	0.37	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.6 m	566-269-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-269-2	5. PH						Soil	ATL
	.9 m	566-269-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-269-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-269-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-269-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-269-3	5. PH						Soil	ATL
7/11/2002	surface	566-270-0	1. TTLC	1200	mg/kg	5	7/15/2002	Lead	Soil	ATL
	surface	566-270-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-270-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-270-0	4. TCLP	1.3	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	surface	566-270-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-270-1	1. TTLC	450	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-270-1	2. STLC	22	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-270-1	3. STLC-DI	1	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.3 m	566-270-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-270-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-270-2	1. TTLC	8.33	mg/kg	0.1	7/17/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-270-2	2. STLC	200	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-270-2	2. STLC	19	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-270-2	3. STLC-DI	1.1	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.6 m	566-270-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-270-2	5. PH						Soil	ATL
7/11/2002	.9 m	566-270-3	1. TTLC	180	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-270-3	2. STLC	3.7	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.9 m	566-270-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-270-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-270-3	5. PH						Soil	ATL
7/11/2002	surface	566-271-0	1. TTLC	270	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	surface	566-271-0	2. STLC	18	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-271-0	3. STLC-DI	0.35	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	surface	566-271-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-271-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-271-1	1. TTLC	170	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-271-1	2. STLC	11	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-271-1	3. STLC-DI	0.32	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.3 m	566-271-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-271-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-271-2	1. TTLC	120	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-271-2	2. STLC	11	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-271-2	3. STLC-DI	0.47	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.6 m	566-271-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-271-2	5. PH						Soil	ATL

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	.9 m	566-271-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-271-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-271-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-271-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-271-3	5. PH						Soil	ATL
7/11/2002	surface	566-272-0	1. TTLC	1100	mg/kg	5	7/15/2002	Lead	Soil	ATL
	surface	566-272-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-272-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-272-0	4. TCLP	1.9	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	surface	566-272-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-272-1	1. TTLC	890	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-272-1	2. STLC	65	mg/l	1	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-272-1	3. STLC-DI	3	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.3 m	566-272-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-272-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-272-2	1. TTLC	440	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-272-2	2. STLC	38	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-272-2	3. STLC-DI	2.3	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.6 m	566-272-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-272-2	5. PH						Soil	ATL
7/11/2002	.9 m	566-272-3	1. TTLC	43	mg/kg	5	7/15/2002	Lead	Soil	ATL
	.9 m	566-272-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-272-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-272-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-272-3	5. PH						Soil	ATL
7/11/2002	surface	566-273-0	1. TTLC	770	mg/kg	5	7/15/2002	Lead	Soil	ATL
7/11/2002	surface	566-273-0	2. STLC	130	mg/l	2	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-273-0	3. STLC-DI	1.9	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	surface	566-273-0	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-273-0	5. PH	7.52		0.1	7/17/2002		Soil	ATL
7/11/2002	.3 m	566-273-1	1. TTLC	310	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-273-1	2. STLC	34	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-273-1	3. STLC-DI	1.1	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.3 m	566-273-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-273-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-273-2	1. TTLC	230	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-273-2	2. STLC	14	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-273-2	3. STLC-DI	0.51	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.6 m	566-273-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-273-2	5. PH						Soil	ATL
	.9 m	566-273-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-273-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-273-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-273-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-273-3	5. PH						Soil	ATL
7/11/2002	surface	566-274-0	1. TTLC	3500	mg/kg	5	7/16/2002	Lead	Soil	ATL
	surface	566-274-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-274-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-274-0	4. TCLP	8.2	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	surface	566-274-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-274-1	1. TTLC	310	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-274-1	2. STLC	15	mg/l		7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-274-1	3. STLC-DI	0.62	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.3 m	566-274-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-274-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-274-2	1. TTLC	130	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-274-2	2. STLC	8.1	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-274-2	3. STLC-DI	ND	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.6 m	566-274-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-274-2	5. PH						Soil	ATL
7/11/2002	.9 m	566-274-3	1. TTLC	490	mg/kg	5	7/16/2002	Lead	Soil	ATL

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7/11/2002	.9 m	566-274-3	2. STLC	35	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-274-3	3. STLC-DI	0.63	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.9 m	566-274-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-274-3	5. PH						Soil	ATL
7/11/2002	surface	566-275-0	1. TTLC	730	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	surface	566-275-0	2. STLC	130	mg/l	2	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-275-0	3. STLC-DI	4.5	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	surface	566-275-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-275-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-275-1	1. TTLC	940	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-275-1	2. STLC	140	mg/l	2	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-275-1	3. STLC-DI	7.4	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.3 m	566-275-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-275-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-275-2	1. TTLC	460	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-275-2	2. STLC	36	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-275-2	3. STLC-DI	4.7	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.6 m	566-275-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-275-2	5. PH						Soil	ATL
	.9 m	566-275-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-275-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-275-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-275-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-275-3	5. PH						Soil	ATL
7/11/2002	surface	566-276-0	1. TTLC	720	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	surface	566-276-0	2. STLC	200	mg/l	4	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-276-0	3. STLC-DI	4.5	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	surface	566-276-0	4. TCLP		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-276-0	5. PH	8.07		0.1	7/17/2002		Soil	ATL
7/11/2002	.3 m	566-276-1	1. TTLC	190	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-276-1	2. STLC	8.4	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-276-1	3. STLC-DI	2.6	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.3 m	566-276-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-276-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-276-2	1. TTLC	65	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-276-2	2. STLC	4.5	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.6 m	566-276-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-276-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-276-2	5. PH						Soil	ATL
7/11/2002	.9 m	566-276-3	1. TTLC	160	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-276-3	2. STLC	8.5	mg/l	0.2	7/23/2002	Lead	Soil	ATL
7/11/2002	.9 m	566-276-3	3. STLC-DI	ND	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.9 m	566-276-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-276-3	5. PH						Soil	ATL
7/11/2002	surface	566-277-0	1. TTLC	470	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	surface	566-277-0	2. STLC	63	mg/l	1	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-277-0	3. STLC-DI	2.2	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	surface	566-277-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-277-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-277-1	1. TTLC	260	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-277-1	2. STLC	27	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-277-1	3. STLC-DI	0.6	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.3 m	566-277-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-277-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-277-2	1. TTLC	800	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-277-2	2. STLC	50	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-277-2	3. STLC-DI	2.8	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.6 m	566-277-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-277-2	5. PH						Soil	ATL
	.9 m	566-277-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-277-3	2. STLC		mg/l			Lead	Soil	ATL

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	.9 m	566-277-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-277-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-277-3	5. PH						Soil	ATL
7/11/2002	surface	566-278-0	1. TTLC	3400	mg/kg	5	7/16/2002	Lead	Soil	ATL
	surface	566-278-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-278-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-278-0	4. TCLP	4.6	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	surface	566-278-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-278-1	1. TTLC	1300	mg/kg	5	7/16/2002	Lead	Soil	ATL
	.3 m	566-278-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-278-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	.3 m	566-278-1	4. TCLP	2.6	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.3 m	566-278-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-278-2	1. TTLC	840	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-278-2	2. STLC	89	mg/l	2	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-278-2	3. STLC-DI	1.5	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.6 m	566-278-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-278-2	5. PH						Soil	ATL
	.9 m	566-278-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-278-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-278-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-278-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-278-3	5. PH						Soil	ATL
7/11/2002	surface	566-279-0	1. TTLC	1600	mg/kg	5	7/16/2002	Lead	Soil	ATL
	surface	566-279-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-279-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-279-0	4. TCLP	4.3	mg/l	0.2	7/25/2002	Lead	Soil	ATL
7/11/2002	surface	566-279-0	5. PH	6.37		0.1	7/17/2002		Soil	ATL
7/11/2002	.3 m	566-279-1	1. TTLC	360	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-279-1	2. STLC	51	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-279-1	3. STLC-DI	2.6	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.3 m	566-279-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-279-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-279-2	1. TTLC	28	mg/kg	5	7/16/2002	Lead	Soil	ATL
	.6 m	566-279-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-279-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-279-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-279-2	5. PH						Soil	ATL
	.9 m	566-279-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-279-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-279-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-279-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-279-3	5. PH						Soil	ATL
7/11/2002	surface	566-280-0	1. TTLC	990	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	surface	566-280-0	2. STLC	64	mg/l	1	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-280-0	3. STLC-DI	1.7	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	surface	566-280-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-280-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-280-1	1. TTLC	530	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-280-1	2. STLC	53	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-280-1	3. STLC-DI	2.4	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.3 m	566-280-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-280-1	5. PH						Soil	ATL
	.6 m	566-280-2	1. TTLC		mg/kg			Lead	Soil	ATL
	.6 m	566-280-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-280-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-280-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-280-2	5. PH						Soil	ATL
	.9 m	566-280-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-280-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-280-3	3. STLC-DI		mg/l			Lead	Soil	ATL

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	.9 m	566-280-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-280-3	5. PH						Soil	ATL
7/11/2002	surface	566-281-0	1. TTLC	2200	mg/kg	5	7/16/2002	Lead	Soil	ATL
	surface	566-281-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-281-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/11/2002	surface	566-281-0	4. TCLP	2.9	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	surface	566-281-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-281-1	1. TTLC	890	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-281-1	2. STLC	65	mg/l	1	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-281-1	3. STLC-DI	4.2	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.3 m	566-281-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-281-1	5. PH						Soil	ATL
7/11/2002	.6 m	566-281-2	1. TTLC	500	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-281-2	2. STLC	27	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/11/2002	.6 m	566-281-2	3. STLC-DI	1.3	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.6 m	566-281-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-281-2	5. PH						Soil	ATL
	.9 m	566-281-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-281-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-281-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-281-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-281-3	5. PH						Soil	ATL
7/11/2002	surface	566-282-0	1. TTLC	620	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	surface	566-282-0	2. STLC	4.1	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/11/2002	surface	566-282-0	3. STLC-DI	1.9	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	surface	566-282-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-282-0	5. PH						Soil	ATL
7/11/2002	.3 m	566-282-1	1. TTLC	340	mg/kg	5	7/16/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-282-1	2. STLC	26	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/11/2002	.3 m	566-282-1	3. STLC-DI	1.1	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.3 m	566-282-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-282-1	5. PH						Soil	ATL
	.6 m	566-282-2	1. TTLC		mg/kg			Lead	Soil	ATL
	.6 m	566-282-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-282-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-282-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-282-2	5. PH						Soil	ATL
	.9 m	566-282-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-282-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-282-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-282-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-282-3	5. PH						Soil	ATL
	surface	566-283-0	1. TTLC	540	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/11/2002	surface	566-283-0	2. STLC	52	mg/l	2	7/25/2002	Lead	Soil	ATL
7/11/2002	surface	566-283-0	3. STLC-DI	0.56	mg/l	0.2	7/25/2002	Lead	Soil	ATL
7/11/2002	surface	566-283-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-283-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-283-1	1. TTLC	530	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-283-1	2. STLC	34	mg/l	0.8	7/23/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-283-1	3. STLC-DI	0.96	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.3 m	566-283-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-283-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-283-2	1. TTLC	73	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-283-2	2. STLC	4.2	mg/l	0.2	7/23/2002	Lead	Soil	ATL
	.6 m	566-283-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-283-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-283-2	5. PH						Soil	ATL
7/12/2002	.9 m	566-283-3	1. TTLC	190	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-283-3	2. STLC	3.3	mg/l	0.4	7/23/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-283-3	3. STLC-DI	0.26	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.9 m	566-283-3	4. TCLP					Lead	Soil	ATL

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	.9 m	566-283-3	5. PH						Soil	ATL	
7/12/2002	surface	566-284-0	1. TTLC	1300	mg/kg	5		7/17/2002	Lead	Soil	ATL
	surface	566-284-0	2. STLC		mg/l				Lead	Soil	ATL
	surface	566-284-0	3. STLC-DI		mg/l				Lead	Soil	ATL
7/12/2002	surface	566-284-0	4. TCLP	17	mg/l	0.2		7/25/2002	Lead	Soil	ATL
	surface	566-284-0	5. PH						Lead	Soil	ATL
7/12/2002	.3 m	566-284-1	1. TTLC	810	mg/kg	5		7/17/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-284-1	2. STLC	66	mg/l	2		7/23/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-284-1	3. STLC-DI	1.9	mg/l	0.2		7/25/2002	Lead	Soil	ATL
	.3 m	566-284-1	4. TCLP		mg/l				Lead	Soil	ATL
	.3 m	566-284-1	5. PH						Lead	Soil	ATL
7/12/2002	.6 m	566-284-2	1. TTLC	280	mg/kg	5		7/17/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-284-2	2. STLC	15	mg/l	0.4		7/23/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-284-2	3. STLC-DI	0.34	mg/l	0.2		7/28/2002	Lead	Soil	ATL
	.6 m	566-284-2	4. TCLP		mg/l				Lead	Soil	ATL
7/12/2002	.6 m	566-284-2	5. PH	8.57		0.1		7/18/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-284-3	1. TTLC	280	mg/kg	5		7/17/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-284-3	2. STLC	30	mg/l	0.8		7/23/2002	Lead	Soil	ATL
	.9 m	566-284-3	3. STLC-DI	0.74	mg/l	0.2		7/28/2002	Lead	Soil	ATL
	.9 m	566-284-3	4. TCLP		mg/l				Lead	Soil	ATL
	.9 m	566-284-3	5. PH						Lead	Soil	ATL
7/12/2002	surface	566-285-0	1. TTLC	1000	mg/kg	5		7/17/2002	Lead	Soil	ATL
	surface	566-285-0	2. STLC		mg/l				Lead	Soil	ATL
	surface	566-285-0	3. STLC-DI		mg/l				Lead	Soil	ATL
7/12/2002	surface	566-285-0	4. TCLP	17	mg/l	0.2		7/25/2002	Lead	Soil	ATL
	surface	566-285-0	5. PH						Lead	Soil	ATL
7/12/2002	.3 m	566-285-1	1. TTLC	680	mg/kg	5		7/17/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-285-1	2. STLC	58	mg/l	2		7/23/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-285-1	3. STLC-DI	1.5	mg/l	0.2		7/28/2002	Lead	Soil	ATL
	.3 m	566-285-1	4. TCLP		mg/l				Lead	Soil	ATL
	.3 m	566-285-1	5. PH						Lead	Soil	ATL
7/12/2002	.6 m	566-285-2	1. TTLC	530	mg/kg	5		7/17/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-285-2	2. STLC	36	mg/l	0.8		7/23/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-285-2	3. STLC-DI	1.3	mg/l	0.2		7/28/2002	Lead	Soil	ATL
	.6 m	566-285-2	4. TCLP		mg/l				Lead	Soil	ATL
	.6 m	566-285-2	5. PH						Lead	Soil	ATL
7/12/2002	.9 m	566-285-3	1. TTLC	14	mg/kg	5		7/17/2002	Lead	Soil	ATL
	.9 m	566-285-3	2. STLC		mg/l				Lead	Soil	ATL
	.9 m	566-285-3	3. STLC-DI		mg/l				Lead	Soil	ATL
	.9 m	566-285-3	4. TCLP		mg/l				Lead	Soil	ATL
	.9 m	566-285-3	5. PH						Lead	Soil	ATL
7/12/2002	surface	566-286-0	1. TTLC	1200	mg/kg	5		7/17/2002	Lead	Soil	ATL
	surface	566-286-0	2. STLC		mg/l				Lead	Soil	ATL
	surface	566-286-0	3. STLC-DI		mg/l				Lead	Soil	ATL
7/12/2002	surface	566-286-0	4. TCLP	23	mg/l	0.2		7/25/2002	Lead	Soil	ATL
	surface	566-286-0	5. PH						Lead	Soil	ATL
7/12/2002	.3 m	566-286-1	1. TTLC	790	mg/kg	5		7/17/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-286-1	2. STLC	69	mg/l	2		7/25/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-286-1	3. STLC-DI	3.8	mg/l	0.2		7/28/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-286-1	4. TCLP		mg/l				Lead	Soil	ATL
	.3 m	566-286-1	5. PH						Lead	Soil	ATL
7/12/2002	.6 m	566-286-2	1. TTLC	620	mg/kg	5		7/17/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-286-2	2. STLC	53	mg/l	2		7/25/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-286-2	3. STLC-DI	3.4	mg/l	0.2		7/28/2002	Lead	Soil	ATL
	.6 m	566-286-2	4. TCLP		mg/l				Lead	Soil	ATL
	.6 m	566-286-2	5. PH						Lead	Soil	ATL
	.9 m	566-286-3	1. TTLC		mg/kg				Lead	Soil	ATL
	.9 m	566-286-3	2. STLC		mg/l				Lead	Soil	ATL
	.9 m	566-286-3	3. STLC-DI		mg/l				Lead	Soil	ATL
	.9 m	566-286-3	4. TCLP		mg/l				Lead	Soil	ATL
	.9 m	566-286-3	5. PH						Lead	Soil	ATL

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7/12/2002	surface	566-287-0	1. TTLC	790	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	surface	566-287-0	2. STLC	85	mg/l	2	7/25/2002	Lead	Soil	ATL
7/12/2002	surface	566-287-0	3. STLC-DI	2.4	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	surface	566-287-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-287-0	5. PH					Lead	Soil	ATL
7/12/2002	.3 m	566-287-1	1. TTLC	1100	mg/kg	5	7/17/2002	Lead	Soil	ATL
	.3 m	566-287-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-287-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-287-1	4. TCLP	30	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.3 m	566-287-1	5. PH	8.61		0.1	7/18/2002		Soil	ATL
7/12/2002	.6 m	566-287-2	1. TTLC	580	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-287-2	2. STLC	36	mg/l	0.8	7/25/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-287-2	3. STLC-DI	2.6	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.6 m	566-287-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-287-2	5. PH						Soil	ATL
	.9 m	566-287-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-287-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-287-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-287-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-287-3	5. PH						Soil	ATL
7/12/2002	surface	566-288-0	1. TTLC	1600	mg/kg	5	7/17/2002	Lead	Soil	ATL
	surface	566-288-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-288-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-288-0	4. TCLP	31	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	surface	566-288-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-288-1	1. TTLC	46	mg/kg	5	7/17/2002	Lead	Soil	ATL
	.3 m	566-288-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-288-1	3. STLC-DI		mg/l			Lead	Soil	ATL
	.3 m	566-288-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-288-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-288-2	1. TTLC	1100	mg/kg	5	7/17/2002	Lead	Soil	ATL
	.6 m	566-288-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-288-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-288-2	4. TCLP	2.6	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.6 m	566-288-2	5. PH						Soil	ATL
7/12/2002	.9 m	566-288-3	1. TTLC	28	mg/kg	5	7/17/2002	Lead	Soil	ATL
	.9 m	566-288-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-288-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-288-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-288-3	5. PH						Soil	ATL
7/12/2002	surface	566-289-0	1. TTLC	460	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	surface	566-289-0	2. STLC	87	mg/l	2	7/25/2002	Lead	Soil	ATL
7/12/2002	surface	566-289-0	3. STLC-DI	4	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	surface	566-289-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-289-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-289-1	1. TTLC	1300	mg/kg	5	7/17/2002	Lead	Soil	ATL
	.3 m	566-289-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-289-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-289-1	4. TCLP	32	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.3 m	566-289-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-289-2	1. TTLC	89	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-289-2	2. STLC	4	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.6 m	566-289-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-289-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-289-2	5. PH						Soil	ATL
	.9 m	566-289-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-289-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-289-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-289-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-289-3	5. PH						Soil	ATL
7/12/2002	surface	566-290-0	1. TTLC	610	mg/kg	5	7/17/2002	Lead	Soil	ATL

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7/12/2002	surface	566-290-0	2. STLC	84	mg/l	2	7/25/2002	Lead	Soil	ATL
7/12/2002	surface	566-290-0	3. STLC-DI	0.69	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	surface	566-290-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-290-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-290-1	1. TTLC	78	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-290-1	2. STLC	0.49	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.3 m	566-290-1	3. STLC-DI		mg/l			Lead	Soil	ATL
	.3 m	566-290-1	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-290-1	5. PH	8.85		0.1	7/18/2002		Soil	ATL
7/12/2002	.6 m	566-290-2	1. TTLC	88	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-290-2	2. STLC	3.3	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.6 m	566-290-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-290-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-290-2	5. PH						Soil	ATL
	.9 m	566-290-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-290-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-290-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-290-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-290-3	5. PH						Soil	ATL
7/12/2002	surface	566-291-0	1. TTLC	64	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	surface	566-291-0	2. STLC	6	mg/l	0.2	7/25/2002	Lead	Soil	ATL
7/12/2002	surface	566-291-0	3. STLC-DI	ND	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	surface	566-291-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-291-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-291-1	1. TTLC	13	mg/kg	5	7/17/2002	Lead	Soil	ATL
	.3 m	566-291-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-291-1	3. STLC-DI		mg/l			Lead	Soil	ATL
	.3 m	566-291-1	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-291-1	5. PH						Soil	ATL
	.6 m	566-291-2	1. TTLC	7.8	mg/kg	5	7/17/2002	Lead	Soil	ATL
	.6 m	566-291-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-291-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-291-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-291-2	5. PH						Soil	ATL
	.9 m	566-291-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-291-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-291-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-291-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-291-3	5. PH						Soil	ATL
7/12/2002	surface	566-292-0	1. TTLC	120	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	surface	566-292-0	2. STLC	9	mg/l	0.2	7/25/2002	Lead	Soil	ATL
7/12/2002	surface	566-292-0	3. STLC-DI	ND	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	surface	566-292-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-292-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-292-1	1. TTLC	290	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-292-1	2. STLC	22	mg/l	0.8	7/25/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-292-1	3. STLC-DI	ND	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.3 m	566-292-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-292-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-292-2	1. TTLC	130	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-292-2	2. STLC	8.1	mg/l	0.2	7/25/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-292-2	3. STLC-DI	ND	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.6 m	566-292-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-292-2	5. PH						Soil	ATL
	.9 m	566-292-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-292-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-292-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-292-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-292-3	5. PH						Soil	ATL
7/12/2002	surface	566-293-0	1. TTLC	670	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	surface	566-293-0	2. STLC	61	mg/l	2	7/25/2002	Lead	Soil	ATL

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7/12/2002	surface	566-293-0	3. STLC-DI	0.82	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	surface	566-293-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-293-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-293-1	1. TTLC	930	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-293-1	2. STLC	88	mg/l	2	7/25/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-293-1	3. STLC-DI	2.2	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.3 m	566-293-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-293-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-293-2	1. TTLC	1500	mg/kg	5	7/17/2002	Lead	Soil	ATL
	.6 m	566-293-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-293-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-293-2	4. TCLP	23	mg/l	0.2	7/25/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-293-2	5. PH	8.27		0.1	7/18/2002		Soil	ATL
	.9 m	566-293-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-293-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-293-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-293-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-293-3	5. PH						Soil	ATL
7/12/2002	surface	566-294-0	1. TTLC	170	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	surface	566-294-0	2. STLC	22	mg/l	0.8	7/25/2002	Lead	Soil	ATL
7/12/2002	surface	566-294-0	3. STLC-DI	1.2	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	surface	566-294-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-294-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-294-1	1. TTLC	250	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-294-1	2. STLC	26	mg/l	0.8	7/25/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-294-1	3. STLC-DI	0.86	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.3 m	566-294-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-294-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-294-2	1. TTLC	320	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-294-2	2. STLC	16	mg/l	0.4	7/25/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-294-2	3. STLC-DI	0.68	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.6 m	566-294-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-294-2	5. PH						Soil	ATL
7/12/2002	.9 m	566-294-3	1. TTLC	120	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-294-3	2. STLC	9.1	mg/l	0.2	7/25/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-294-3	3. STLC-DI	ND	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.9 m	566-294-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-294-3	5. PH						Soil	ATL
7/12/2002	surface	566-295-0	1. TTLC	930	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	surface	566-295-0	2. STLC	130	mg/l	4	7/25/2002	Lead	Soil	ATL
7/12/2002	surface	566-295-0	3. STLC-DI	0.92	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	surface	566-295-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-295-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-295-1	1. TTLC	1200	mg/kg	5	7/17/2002	Lead	Soil	ATL
	.3 m	566-295-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-295-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-295-1	4. TCLP	18	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.3 m	566-295-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-295-2	1. TTLC	270	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-295-2	2. STLC	18	mg/l	0.4	7/25/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-295-2	3. STLC-DI	0.63	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.6 m	566-295-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-295-2	5. PH						Soil	ATL
	.9 m	566-295-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-295-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-295-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-295-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-295-3	5. PH						Soil	ATL
7/12/2002	surface	566-296-0	1. TTLC	1300	mg/kg	5	7/17/2002	Lead	Soil	ATL
	surface	566-296-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-296-0	3. STLC-DI					Lead	Soil	ATL

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	surface	566-296-0	4. TCLP	38	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	surface	566-296-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-296-1	1. TTLC	1600	mg/kg	5	7/17/2002	Lead	Soil	ATL
	.3 m	566-296-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-296-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-296-1	4. TCLP	28	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.3 m	566-296-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-296-2	1. TTLC	180	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-296-2	2. STLC	24	mg/l	0.8	7/25/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-296-2	3. STLC-DI	1.5	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.6 m	566-296-2	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-296-2	5. PH	8.59		1	7/18/2002		Soil	ATL
7/12/2002	.9 m	566-296-3	1. TTLC	82	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-296-3	2. STLC	4.4	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.9 m	566-296-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-296-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-296-3	5. PH						Soil	ATL
7/12/2002	surface	566-297-0	1. TTLC	1700	mg/kg	5	7/17/2002	Lead	Soil	ATL
	surface	566-297-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-297-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-297-0	4. TCLP	26	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	surface	566-297-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-297-1	1. TTLC	670	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-297-1	2. STLC	58	mg/l	2	7/25/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-297-1	3. STLC-DI	2.8	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.3 m	566-297-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-297-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-297-2	1. TTLC	2200	mg/kg	5	7/17/2002	Lead	Soil	ATL
	.6 m	566-297-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-297-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.6 m	566-297-2	4. TCLP	150	mg/l	0.2	7/25/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-297-2	5. PH	1					Soil	ATL
7/12/2002	.9 m	566-297-3	1. TTLC	1100	mg/kg	5	7/17/2002	Lead	Soil	ATL
	.9 m	566-297-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-297-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.9 m	566-297-3	4. TCLP	37	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.9 m	566-297-3	5. PH						Soil	ATL
7/12/2002	surface	566-298-0	1. TTLC	1900	mg/kg	5	7/17/2002	Lead	Soil	ATL
	surface	566-298-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-298-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-298-0	4. TCLP	33	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	surface	566-298-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-298-1	1. TTLC	1200	mg/kg	5	7/17/2002	Lead	Soil	ATL
	.3 m	566-298-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-298-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-298-1	4. TCLP	29	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.3 m	566-298-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-298-2	1. TTLC	400	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-298-2	2. STLC	32	mg/l	0.8	7/25/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-298-2	3. STLC-DI	0.52	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.6 m	566-298-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-298-2	5. PH						Soil	ATL
	.9 m	566-298-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-298-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-298-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-298-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-298-3	5. PH						Soil	ATL
7/12/2002	surface	566-299-0	1. TTLC	1400	mg/kg	5	7/17/2002	Lead	Soil	ATL
	surface	566-299-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-299-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-299-0	4. TCLP	12	mg/l	0.2	7/25/2002	Lead	Soil	ATL

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	surface	566-299-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-299-1	1. TTLC	26	mg/kg	5	7/17/2002	Lead	Soil	ATL
	.3 m	566-299-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-299-1	3. STLC-DI		mg/l			Lead	Soil	ATL
	.3 m	566-299-1	4. TCLP		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-299-1	5. PH	8.48		0.1	7/19/2002		Soil	ATL
	.6 m	566-299-2	1. TTLC	5.1	mg/kg	5	7/17/2002	Lead	Soil	ATL
	.6 m	566-299-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-299-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-299-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-299-2	5. PH						Soil	ATL
7/12/2002	.9 m	566-299-3	1. TTLC	39	mg/kg	5	7/17/2002	Lead	Soil	ATL
	.9 m	566-299-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-299-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-299-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-299-3	5. PH						Soil	ATL
7/12/2002	surface	566-300-0	1. TTLC	4000	mg/kg	5	7/17/2002	Lead	Soil	ATL
	surface	566-300-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-300-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-300-0	4. TCLP	36	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	surface	566-300-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-300-1	1. TTLC	1800	mg/kg	5	7/17/2002	Lead	Soil	ATL
	.3 m	566-300-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-300-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-300-1	4. TCLP	31	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.3 m	566-300-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-300-2	1. TTLC	950	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-300-2	2. STLC	64	mg/l	2	7/25/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-300-2	3. STLC-DI	1.5	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.6 m	566-300-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-300-2	5. PH						Soil	ATL
7/12/2002	.9 m	566-300-3	1. TTLC	970	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-300-3	2. STLC	71	mg/l	2	7/25/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-300-3	3. STLC-DI	1.7	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.9 m	566-300-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-300-3	5. PH						Soil	ATL
7/12/2002	surface	566-301-0	1. TTLC	950	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	surface	566-301-0	2. STLC	140	mg/l	4	7/25/2002	Lead	Soil	ATL
7/12/2002	surface	566-301-0	3. STLC-DI	1.1	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	surface	566-301-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-301-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-301-1	1. TTLC	1600	mg/kg	5	7/17/2002	Lead	Soil	ATL
	.3 m	566-301-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-301-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-301-1	4. TCLP	33	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.3 m	566-301-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-301-2	1. TTLC	360	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-301-2	2. STLC	43	mg/l	2	7/25/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-301-2	3. STLC-DI	2.3	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.6 m	566-301-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-301-2	5. PH						Soil	ATL
7/12/2002	.9 m	566-301-3	1. TTLC	950	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-301-3	2. STLC	26	mg/l	0.8	7/25/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-301-3	3. STLC-DI	2.3	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.9 m	566-301-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-301-3	5. PH	8.03		0.1	7/18/2002		Soil	ATL
7/12/2002	surface	566-302-0	1. TTLC	2100	mg/kg	5	7/17/2002	Lead	Soil	ATL
	surface	566-302-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-302-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-302-0	4. TCLP	23	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	surface	566-302-0	5. PH						Soil	ATL

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7/12/2002	.3 m	566-302-1	1. TTLC	2300	mg/kg	5	7/17/2002	Lead	Soil	ATL
	.3 m	566-302-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-302-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	.3 m	566-302-1	4. TCLP	25	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	.3 m	566-302-1	5. PH						Soil	ATL
	.6 m	566-302-2	1. TTLC		mg/kg			Lead	Soil	ATL
	.6 m	566-302-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-302-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-302-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-302-2	5. PH						Soil	ATL
	.9 m	566-302-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-302-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-302-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-302-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-302-3	5. PH						Soil	ATL
7/12/2002	surface	566-303-0	1. TTLC	500	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	surface	566-303-0	2. STLC	33	mg/l	0.8	7/25/2002	Lead	Soil	ATL
7/12/2002	surface	566-303-0	3. STLC-DI	0.43	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	surface	566-303-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-303-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-303-1	1. TTLC	730	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-303-1	2. STLC	44	mg/l	2	7/25/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-303-1	3. STLC-DI	1.1	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.3 m	566-303-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-303-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-303-2	1. TTLC	20	mg/kg	5	7/17/2002	Lead	Soil	ATL
	.6 m	566-303-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-303-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-303-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-303-2	5. PH						Soil	ATL
7/12/2002	.9 m	566-303-3	1. TTLC	200	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-303-3	2. STLC	7.2	mg/l	0.2	7/25/2002	Lead	Soil	ATL
7/12/2002	.9 m	566-303-3	3. STLC-DI	ND	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.9 m	566-303-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-303-3	5. PH						Soil	ATL
7/12/2002	surface	566-304-0	1. TTLC	2400	mg/kg	5	7/17/2002	Lead	Soil	ATL
	surface	566-304-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-304-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/12/2002	surface	566-304-0	4. TCLP	ND	mg/l	0.2	7/25/2002	Lead	Soil	ATL
	surface	566-304-0	5. PH						Soil	ATL
7/12/2002	.3 m	566-304-1	1. TTLC	720	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-304-1	2. STLC	71	mg/l	2	7/25/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-304-1	3. STLC-DI	1	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.3 m	566-304-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-304-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-304-2	1. TTLC	810	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-304-2	2. STLC	55	mg/l	2	7/25/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-304-2	3. STLC-DI	0.65	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.6 m	566-304-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-304-2	5. PH						Soil	ATL
	.9 m	566-304-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-304-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-304-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-304-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-304-3	5. PH						Soil	ATL
7/12/2002	surface	566-305-0	1. TTLC	1100	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	surface	566-305-0	2. STLC	16	mg/l	0.4	7/25/2002	Lead	Soil	ATL
7/12/2002	surface	566-305-0	3. STLC-DI	0.85	mg/l	0.2	7/28/2002	Lead	Soil	ATL
7/12/2002	surface	566-305-0	4. TCLP	ND	mg/l	0.2	7/25/2002	Lead	Soil	ATL
7/12/2002	surface	566-305-0	5. PH	6.9		0.1	7/18/2002		Soil	ATL
7/12/2002	.3 m	566-305-1	1. TTLC	280	mg/kg	5	7/17/2002	Lead	Soil	ATL

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7/12/2002	.3 m	566-305-1	2. STLC	16	mg/l	0.4	7/25/2002	Lead	Soil	ATL
7/12/2002	.3 m	566-305-1	3. STLC-DI	0.85	mg/l	0.2	7/26/2002	Lead	Soil	ATL
	.3 m	566-305-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-305-1	5. PH						Soil	ATL
7/12/2002	.6 m	566-305-2	1. TTLC	800	mg/kg	5	7/17/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-305-2	2. STLC	60	mg/l	2	7/25/2002	Lead	Soil	ATL
7/12/2002	.6 m	566-305-2	3. STLC-DI	2.8	mg/l	0.2	7/26/2002	Lead	Soil	ATL
	.6 m	566-305-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-305-2	5. PH						Soil	ATL
	.9 m	566-305-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-305-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-305-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-305-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-305-3	5. PH						Soil	ATL
7/15/2002	surface	566-306-0	1. TTLC	840	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/15/2002	surface	566-306-0	2. STLC	95	mg/l	2	7/26/2002	Lead	Soil	ATL
7/15/2002	surface	566-306-0	3. STLC-DI	1.8	mg/l	0.2	7/26/2002	Lead	Soil	ATL
	surface	566-306-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-306-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-306-1	1. TTLC	450	mg/kg	5	7/18/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-306-1	2. STLC	49	mg/l	2	7/26/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-306-1	3. STLC-DI	0.88	mg/l	0.2	7/26/2002	Lead	Soil	ATL
	.3 m	566-306-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-306-1	5. PH						Soil	ATL
	.6 m	566-306-2	1. TTLC		mg/kg			Lead	Soil	ATL
	.6 m	566-306-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-306-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-306-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-306-2	5. PH						Soil	ATL
	.9 m	566-306-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-306-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-306-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-306-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-306-3	5. PH						Soil	ATL
7/15/2002	surface	566-307-0	1. TTLC	1200	mg/kg	5	7/19/2002	Lead	Soil	ATL
	surface	566-307-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-307-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-307-0	4. TCLP	3.6	mg/l	0.2	7/26/2002	Lead	Soil	ATL
	surface	566-307-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-307-1	1. TTLC	970	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-307-1	2. STLC	92	mg/l	2	7/26/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-307-1	3. STLC-DI	1.4	mg/l	0.2	7/26/2002	Lead	Soil	ATL
	.3 m	566-307-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-307-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-307-2	1. TTLC	1100	mg/kg	5	7/19/2002	Lead	Soil	ATL
	.6 m	566-307-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-307-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-307-2	4. TCLP	3.7	mg/l	0.2	7/26/2002	Lead	Soil	ATL
	.6 m	566-307-2	5. PH						Soil	ATL
	.9 m	566-307-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-307-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-307-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-307-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-307-3	5. PH						Soil	ATL
7/15/2002	surface	566-308-0	1. TTLC	1700	mg/kg	5	7/19/2002	Lead	Soil	ATL
	surface	566-308-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-308-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-308-0	4. TCLP	8.4	mg/l	0.2	7/26/2002	Lead	Soil	ATL
	surface	566-308-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-308-1	1. TTLC	140	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-308-1	2. STLC	21	mg/l	0.8	7/26/2002	Lead	Soil	ATL

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7/15/2002	.3 m	566-308-1	3. STLC-DI	0.36	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.3 m	566-308-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-308-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-308-2	1. TTLC	1300	mg/kg	5	7/19/2002	Lead	Soil	ATL
	.6 m	566-308-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-308-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-308-2	4. TCLP	7.2	mg/l	0.2	7/26/2002	Lead	Soil	ATL
	.6 m	566-308-2	5. PH						Soil	ATL
7/15/2002	.9 m	566-308-3	1. TTLC	290	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-308-3	2. STLC	35	mg/l	0.2	7/26/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-308-3	3. STLC-DI	1.7	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.9 m	566-308-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-308-3	5. PH						Soil	ATL
7/15/2002	surface	566-309-0	1. TTLC	200	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-309-0	2. STLC	43	mg/l	0.2	7/26/2002	Lead	Soil	ATL
7/15/2002	surface	566-309-0	3. STLC-DI	ND	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	surface	566-309-0	4. TCLP		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-309-0	5. PH	6.9		0.1	7/19/2002		Soil	ATL
7/15/2002	.3 m	566-309-1	1. TTLC	120	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-309-1	2. STLC	4.9	mg/l	0.2	7/26/2002	Lead	Soil	ATL
	.3 m	566-309-1	3. STLC-DI		mg/l			Lead	Soil	ATL
	.3 m	566-309-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-309-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-309-2	1. TTLC	41	mg/kg	5	7/19/2002	Lead	Soil	ATL
	.6 m	566-309-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-309-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-309-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-309-2	5. PH						Soil	ATL
	.9 m	566-309-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-309-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-309-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-309-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-309-3	5. PH						Soil	ATL
7/15/2002	surface	566-310-0	1. TTLC	910	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-310-0	2. STLC	93	mg/l	2	7/26/2002	Lead	Soil	ATL
7/15/2002	surface	566-310-0	3. STLC-DI	0.6	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	surface	566-310-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-310-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-310-1	1. TTLC	330	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-310-1	2. STLC	35	mg/l	0.8	7/26/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-310-1	3. STLC-DI	0.33	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.3 m	566-310-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-310-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-310-2	1. TTLC	750	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-310-2	2. STLC	65	mg/l	2	7/26/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-310-2	3. STLC-DI	0.77	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.6 m	566-310-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-310-2	5. PH						Soil	ATL
7/15/2002	.9 m	566-310-3	1. TTLC	6	mg/kg	5	7/19/2002	Lead	Soil	ATL
	.9 m	566-310-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-310-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-310-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-310-3	5. PH						Soil	ATL
7/15/2002	surface	566-311-0	1. TTLC	150	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-311-0	2. STLC	13	mg/l	0.4	7/26/2002	Lead	Soil	ATL
7/15/2002	surface	566-311-0	3. STLC-DI	ND	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	surface	566-311-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-311-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-311-1	1. TTLC	1000	mg/kg	5	7/19/2002	Lead	Soil	ATL
	.3 m	566-311-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-311-1	3. STLC-DI		mg/l			Lead	Soil	ATL

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7/15/2002	.3 m	566-311-1	4. TCLP	3	mg/l	0.2	7/26/2002	Lead	Soil	ATL
	.3 m	566-311-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-311-2	1. TTLC	2700	mg/kg	5	7/19/2002	Lead	Soil	ATL
	.6 m	566-311-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-311-2	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-311-2	4. TCLP	5.6	mg/l	0.2	7/26/2002	Lead	Soil	ATL
	.6 m	566-311-2	5. PH						Soil	ATL
7/15/2002	.9 m	566-311-3	1. TTLC	1300	mg/kg	5	7/19/2002	Lead	Soil	ATL
	.9 m	566-311-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-311-3	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.9 m	566-311-3	4. TCLP	4.7	mg/l	0.2	7/26/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-311-3	5. PH	6.97		0.1	7/19/2002		Soil	ATL
7/15/2002	surface	566-312-0	1. TTLC	3300	mg/kg	5	7/19/2002	Lead	Soil	ATL
	surface	566-312-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-312-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-312-0	4. TCLP	8.4	mg/l			Lead	Soil	ATL
	surface	566-312-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-312-1	1. TTLC	340	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-312-1	2. STLC	32	mg/l	0.8	7/26/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-312-1	3. STLC-DI	0.58	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.3 m	566-312-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-312-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-312-2	1. TTLC	180	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-312-2	2. STLC	20	mg/l	0.4	7/26/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-312-2	3. STLC-DI	0.75	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.6 m	566-312-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-312-2	5. PH						Soil	ATL
7/15/2002	.9 m	566-312-3	1. TTLC	11	mg/kg	5	7/19/2002	Lead	Soil	ATL
	.9 m	566-312-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-312-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-312-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-312-3	5. PH						Soil	ATL
7/15/2002	surface	566-313-0	1. TTLC	530	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-313-0	2. STLC	57	mg/l	2	7/26/2002	Lead	Soil	ATL
	surface	566-313-0	3. STLC-DI	0.78	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	surface	566-313-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-313-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-313-1	1. TTLC	410	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-313-1	2. STLC	36	mg/l	0.8	7/26/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-313-1	3. STLC-DI	0.95	mg/l			Lead	Soil	ATL
	.3 m	566-313-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-313-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-313-2	1. TTLC	350	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-313-2	2. STLC	28	mg/l	0.8	7/26/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-313-2	3. STLC-DI	0.78	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.6 m	566-313-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-313-2	5. PH						Soil	ATL
	.9 m	566-313-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-313-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-313-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-313-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-313-3	5. PH						Soil	ATL
7/15/2002	surface	566-314-0	1. TTLC	510	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-314-0	2. STLC	51	mg/l	2	7/26/2002	Lead	Soil	ATL
7/15/2002	surface	566-314-0	3. STLC-DI	1.2	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	surface	566-314-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-314-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-314-1	1. TTLC	440	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-314-1	2. STLC	344	mg/l	2	7/26/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-314-1	3. STLC-DI	1.3	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.3 m	566-314-1	4. TCLP					Lead	Soil	ATL

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	.3 m	566-314-1	5. PH						Soil	ATL	
7/15/2002	.6 m	566-314-2	1. TTLC	73	mg/kg	5		7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-314-2	2. STLC	10	mg/l	0.2		7/26/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-314-2	3. STLC-DI	ND	mg/l	0.2		7/28/2002	Lead	Soil	ATL
	.6 m	566-314-2	4. TCLP		mg/l				Lead	Soil	ATL
7/15/2002	.6 m	566-314-2	5. PH	8.54		0.1		7/19/2002		Soil	ATL
7/15/2002	.9 m	566-314-3	1. TTLC	280	mg/kg	5		7/19/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-314-3	2. STLC	16	mg/l	0.4		7/26/2002	Lead	Soil	ATL
	.9 m	566-314-3	3. STLC-DI	0.27	mg/l	0.2		7/28/2002	Lead	Soil	ATL
	.9 m	566-314-3	4. TCLP		mg/l				Lead	Soil	ATL
	.9 m	566-314-3	5. PH							Soil	ATL
7/15/2002	surface	566-315-0	1. TTLC	400	mg/kg	5		7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-315-0	2. STLC	33	mg/l	0.8		7/26/2002	Lead	Soil	ATL
7/15/2002	surface	566-315-0	3. STLC-DI	0.46	mg/l	0.2		7/28/2002	Lead	Soil	ATL
	surface	566-315-0	4. TCLP		mg/l				Lead	Soil	ATL
	surface	566-315-0	5. PH							Soil	ATL
7/15/2002	.3 m	566-315-1	1. TTLC	410	mg/kg	5		7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-315-1	2. STLC	51	mg/l	2		7/26/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-315-1	3. STLC-DI	2.3	mg/l	0.2		7/28/2002	Lead	Soil	ATL
	.3 m	566-315-1	4. TCLP		mg/l				Lead	Soil	ATL
	.3 m	566-315-1	5. PH							Soil	ATL
7/15/2002	.6 m	566-315-2	1. TTLC	250	mg/kg	5		7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-315-2	2. STLC	23	mg/l	0.8		7/26/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-315-2	3. STLC-DI	1.2	mg/l	0.2		7/28/2002	Lead	Soil	ATL
	.6 m	566-315-2	4. TCLP		mg/l				Lead	Soil	ATL
	.6 m	566-315-2	5. PH							Soil	ATL
7/15/2002	.9 m	566-315-3	1. TTLC	620	mg/kg	5		7/19/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-315-3	2. STLC	60	mg/l	2		7/26/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-315-3	3. STLC-DI	2.6	mg/l	0.2		7/28/2002	Lead	Soil	ATL
	.9 m	566-315-3	4. TCLP		mg/l				Lead	Soil	ATL
	.9 m	566-315-3	5. PH							Soil	ATL
7/15/2002	surface	566-316-0	1. TTLC	370	mg/kg	5		7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-316-0	2. STLC	41	mg/l	2		7/26/2002	Lead	Soil	ATL
7/15/2002	surface	566-316-0	3. STLC-DI	1.5	mg/l	0.2		7/28/2002	Lead	Soil	ATL
	surface	566-316-0	4. TCLP		mg/l				Lead	Soil	ATL
	surface	566-316-0	5. PH							Soil	ATL
7/15/2002	.3 m	566-316-1	1. TTLC	64	mg/kg	5		7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-316-1	2. STLC	3.4	mg/l	0.2		7/26/2002	Lead	Soil	ATL
	.3 m	566-316-1	3. STLC-DI		mg/l				Lead	Soil	ATL
	.3 m	566-316-1	4. TCLP		mg/l				Lead	Soil	ATL
	.3 m	566-316-1	5. PH							Soil	ATL
7/15/2002	.6 m	566-316-2	1. TTLC	170	mg/kg	5		7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-316-2	2. STLC	6.6	mg/l	0.2		7/26/2002	Lead	Soil	ATL
	.6 m	566-316-2	3. STLC-DI		mg/l				Lead	Soil	ATL
	.6 m	566-316-2	4. TCLP		mg/l				Lead	Soil	ATL
	.6 m	566-316-2	5. PH							Soil	ATL
	.9 m	566-316-3	1. TTLC		mg/kg				Lead	Soil	ATL
	.9 m	566-316-3	2. STLC		mg/l				Lead	Soil	ATL
	.9 m	566-316-3	3. STLC-DI		mg/l				Lead	Soil	ATL
	.9 m	566-316-3	4. TCLP		mg/l				Lead	Soil	ATL
	.9 m	566-316-3	5. PH							Soil	ATL
7/15/2002	surface	566-317-0	1. TTLC	150	mg/kg	5		7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-317-0	2. STLC	20	mg/l	0.8		7/26/2002	Lead	Soil	ATL
7/15/2002	surface	566-317-0	3. STLC-DI	0.38	mg/l	0.2		7/28/2002	Lead	Soil	ATL
	surface	566-317-0	4. TCLP		mg/l				Lead	Soil	ATL
	surface	566-317-0	5. PH							Soil	ATL
	.3 m	566-317-1	1. TTLC		mg/kg				Lead	Soil	ATL
	.3 m	566-317-1	2. STLC		mg/l				Lead	Soil	ATL
	.3 m	566-317-1	3. STLC-DI		mg/l				Lead	Soil	ATL
	.3 m	566-317-1	4. TCLP		mg/l				Lead	Soil	ATL
	.3 m	566-317-1	5. PH							Soil	ATL

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	.6 m	566-317-2	1. TTLC		mg/kg			Lead	Soil	ATL
	.6 m	566-317-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-317-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-317-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-317-2	5. PH						Soil	ATL
	.9 m	566-317-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-317-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-317-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-317-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-317-3	5. PH						Soil	ATL
7/15/2002	surface	566-318-0	1. TTLC	340	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-318-0	2. STLC	40	mg/l	2	7/26/2002	Lead	Soil	ATL
7/15/2002	surface	566-318-0	3. STLC-DI	0.29	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	surface	566-318-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-318-0	5. PH	7.13		0.1	7/19/2002		Soil	ATL
7/15/2002	.3 m	566-318-1	1. TTLC	76	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-318-1	2. STLC	6.3	mg/l	0.2	7/26/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-318-1	3. STLC-DI	0.21	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.3 m	566-318-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-318-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-318-2	1. TTLC	45	mg/kg	5	7/19/2002	Lead	Soil	ATL
	.6 m	566-318-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-318-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-318-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-318-2	5. PH						Soil	ATL
7/15/2002	.9 m	566-318-3	1. TTLC	36	mg/kg	5	7/19/2002	Lead	Soil	ATL
	.9 m	566-318-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-318-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-318-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-318-3	5. PH						Soil	ATL
7/15/2002	surface	566-319-0	1. TTLC	1000	mg/kg	5	7/19/2002	Lead	Soil	ATL
	surface	566-319-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-319-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-319-0	4. TCLP	2.3	mg/l	0.2	7/26/2002	Lead	Soil	ATL
	surface	566-319-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-319-1	1. TTLC	1300	mg/kg	5	7/19/2002	Lead	Soil	ATL
	.3 m	566-319-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-319-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-319-1	4. TCLP	4.9	mg/l	0.2	7/26/2002	Lead	Soil	ATL
	.3 m	566-319-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-319-2	1. TTLC	170	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-319-2	2. STLC	16	mg/l	0.4	7/26/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-319-2	3. STLC-DI	0.21	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.6 m	566-319-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-319-2	5. PH						Soil	ATL
7/15/2002	.9 m	566-319-3	1. TTLC	350	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-319-3	2. STLC	24	mg/l	0.8	7/26/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-319-3	3. STLC-DI	0.67	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.9 m	566-319-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-319-3	5. PH						Soil	ATL
7/15/2002	surface	566-320-0	1. TTLC	1400	mg/kg	5	7/19/2002	Lead	Soil	ATL
	surface	566-320-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-320-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-320-0	4. TCLP	1.8	mg/l	0.2	7/26/2002	Lead	Soil	ATL
	surface	566-320-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-320-1	1. TTLC	390	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-320-1	2. STLC	41	mg/l	2	7/26/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-320-1	3. STLC-DI	0.43	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.3 m	566-320-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-320-1	5. PH						Soil	ATL
	.6 m	566-320-2	1. TTLC					Lead	Soil	ATL

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	.6 m	566-320-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-320-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-320-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-320-2	5. PH						Soil	ATL
	.9 m	566-320-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-320-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-320-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-320-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-320-3	5. PH						Soil	ATL
	surface	566-321-0	1. TTLC	1100	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-321-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-321-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-321-0	4. TCLP	1.2	mg/l	0.2	7/26/2002	Lead	Soil	ATL
7/15/2002	surface	566-321-0	5. PH	7.68		0.1	7/19/2002		Soil	ATL
7/15/2002	.3 m	566-321-1	1. TTLC	150	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-321-1	2. STLC	13	mg/l	0.4	7/26/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-321-1	3. STLC-DI	0.22	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.3 m	566-321-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-321-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-321-2	1. TTLC	310	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.6 m	566-321-2	2. STLC	48	mg/l			Lead	Soil	ATL
7/15/2002	.6 m	566-321-2	3. STLC-DI	0.38	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.6 m	566-321-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-321-2	5. PH						Soil	ATL
	.9 m	566-321-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-321-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-321-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-321-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-321-3	5. PH						Soil	ATL
7/15/2002	surface	566-322-0	1. TTLC	830	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-322-0	2. STLC	57	mg/l	2	7/26/2002	Lead	Soil	ATL
7/15/2002	surface	566-322-0	3. STLC-DI	0.28	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	surface	566-322-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-322-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-322-1	1. TTLC	730	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-322-1	2. STLC	53	mg/l	2	7/26/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-322-1	3. STLC-DI	0.3	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.3 m	566-322-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-322-1	5. PH						Soil	ATL
	.6 m	566-322-2	1. TTLC		mg/kg			Lead	Soil	ATL
	.6 m	566-322-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-322-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-322-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-322-2	5. PH						Soil	ATL
	.9 m	566-322-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-322-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-322-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-322-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-322-3	5. PH						Soil	ATL
7/15/2002	surface	566-323-0	1. TTLC	900	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-323-0	2. STLC	78	mg/l	2	7/26/2002	Lead	Soil	ATL
7/15/2002	surface	566-323-0	3. STLC-DI	0.56	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	surface	566-323-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-323-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-323-1	1. TTLC	690	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-323-1	2. STLC	69	mg/l	2	7/26/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-323-1	3. STLC-DI	0.68	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.3 m	566-323-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-323-1	5. PH						Soil	ATL
	.6 m	566-323-2	1. TTLC		mg/kg			Lead	Soil	ATL
	.6 m	566-323-2	2. STLC		mg/l			Lead	Soil	ATL

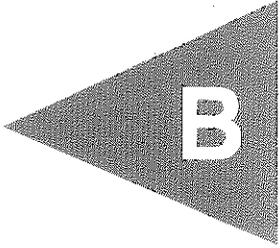
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	.6 m	566-323-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-323-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-323-2	5. PH						Soil	ATL
	.9 m	566-323-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-323-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-323-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-323-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-323-3	5. PH						Soil	ATL
7/15/2002	surface	566-324-0	1. TTLC	920	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-324-0	2. STLC	82	mg/l	2	7/26/2002	Lead	Soil	ATL
7/15/2002	surface	566-324-0	3. STLC-DI	0.74	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	surface	566-324-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-324-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-324-1	1. TTLC	240	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-324-1	2. STLC	24	mg/l	0.8	7/26/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-324-1	3. STLC-DI	0.48	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.3 m	566-324-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-324-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-324-2	1. TTLC	30	mg/kg	5	7/19/2002	Lead	Soil	ATL
	.6 m	566-324-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-324-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-324-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-324-2	5. PH						Soil	ATL
7/15/2002	.9 m	566-324-3	1. TTLC	44	mg/kg	5	7/19/2002	Lead	Soil	ATL
	.9 m	566-324-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-324-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-324-3	4. TCLP		mg/l	0.1	7/19/2002	Lead	Soil	ATL
7/15/2002	.9 m	566-324-3	5. PH	7.95					Soil	ATL
7/15/2002	surface	566-325-0	1. TTLC	1300	mg/kg	5	7/19/2002	Lead	Soil	ATL
	surface	566-325-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-325-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-325-0	4. TCLP	6.6	mg/l	0.2	7/26/2002	Lead	Soil	ATL
7/15/2002	surface	566-325-0	5. PH	6.98		0.1	7/19/2002		Soil	ATL
	.3 m	566-325-1	1. TTLC		mg/kg			Lead	Soil	ATL
	.3 m	566-325-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-325-1	3. STLC-DI		mg/l			Lead	Soil	ATL
	.3 m	566-325-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-325-1	5. PH						Soil	ATL
	.6 m	566-325-2	1. TTLC		mg/kg			Lead	Soil	ATL
	.6 m	566-325-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-325-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-325-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-325-2	5. PH						Soil	ATL
	.9 m	566-325-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-325-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-325-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-325-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-325-3	5. PH						Soil	ATL
7/15/2002	surface	566-326-0	1. TTLC	1400	mg/kg	5	7/19/2002	Lead	Soil	ATL
	surface	566-326-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-326-0	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	surface	566-326-0	4. TCLP	4.1	mg/l	0.2	7/26/2002	Lead	Soil	ATL
	surface	566-326-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-326-1	1. TTLC	1200	mg/kg	5	7/19/2002	Lead	Soil	ATL
	.3 m	566-326-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-326-1	3. STLC-DI		mg/l			Lead	Soil	ATL
7/15/2002	.3 m	566-326-1	4. TCLP	1.3	mg/l	0.2	7/26/2002	Lead	Soil	ATL
	.3 m	566-326-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-326-2	1. TTLC	32	mg/kg	5	7/19/2002	Lead	Soil	ATL
	.6 m	566-326-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-326-2	3. STLC-DI		mg/l			Lead	Soil	ATL

results_spreadsheet

	.6 m	566-326-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-326-2	5. PH						Soil	ATL
7/15/2002	.9 m	566-326-3	1. TTLC	7	mg/kg	5	7/19/2002	Lead	Soil	ATL
	.9 m	566-326-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-326-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-326-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-326-3	5. PH						Soil	ATL
7/15/2002	surface	566-327-0	1. TTLC	410	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-327-0	2. STLC	27	mg/l	0.8	7/27/2002	Lead	Soil	ATL
7/15/2002	surface	566-327-0	3. STLC-DI	0.58	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	surface	566-327-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-327-0	5. PH						Soil	ATL
7/15/2002	.3 m	566-327-1	1. TTLC	170	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-327-1	2. STLC	11	mg/l	0.4	7/27/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-327-1	3. STLC-DI	0.32	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.3 m	566-327-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-327-1	5. PH						Soil	ATL
7/15/2002	.6 m	566-327-2	1. TTLC	22	mg/kg	5	7/19/2002	Lead	Soil	ATL
	.6 m	566-327-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-327-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-327-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-327-2	5. PH						Soil	ATL
7/15/2002	.9 m	566-327-3	1. TTLC	5	mg/kg	5	7/19/2002	Lead	Soil	ATL
	.9 m	566-327-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-327-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-327-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-327-3	5. PH						Soil	ATL
7/15/2002	surface	566-328-0	1. TTLC	430	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	surface	566-328-0	2. STLC	41	mg/l	1	7/27/2002	Lead	Soil	ATL
7/15/2002	surface	566-328-0	3. STLC-DI	0.44	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	surface	566-328-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-328-0	5. PH	6.91					Soil	ATL
7/15/2002	.3 m	566-328-1	1. TTLC	720	mg/kg	5	7/19/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-328-1	2. STLC	68	mg/l	2	7/27/2002	Lead	Soil	ATL
7/15/2002	.3 m	566-328-1	3. STLC-DI	1.3	mg/l	0.2	7/28/2002	Lead	Soil	ATL
	.3 m	566-328-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-328-1	5. PH			0.1	7/19/2002		Soil	ATL
7/15/2002	.6 m	566-328-2	1. TTLC	26	mg/kg	5	7/19/2002	Lead	Soil	ATL
	.6 m	566-328-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-328-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-328-2	4. TCLP		mg/l			Lead	Soil	ATL
	.6 m	566-328-2	5. PH						Soil	ATL
	.9 m	566-328-3	1. TTLC		mg/kg			Lead	Soil	ATL
	.9 m	566-328-3	2. STLC		mg/l			Lead	Soil	ATL
	.9 m	566-328-3	3. STLC-DI		mg/l			Lead	Soil	ATL
	.9 m	566-328-3	4. TCLP		mg/l			Lead	Soil	ATL
	.9 m	566-328-3	5. PH						Soil	ATL
	surface	566-329-0	1. TTLC		mg/kg			Lead	Soil	ATL
	surface	566-329-0	2. STLC		mg/l			Lead	Soil	ATL
	surface	566-329-0	3. STLC-DI		mg/l			Lead	Soil	ATL
	surface	566-329-0	4. TCLP		mg/l			Lead	Soil	ATL
	surface	566-329-0	5. PH						Soil	ATL
	.3 m	566-329-1	1. TTLC		mg/kg			Lead	Soil	ATL
	.3 m	566-329-1	2. STLC		mg/l			Lead	Soil	ATL
	.3 m	566-329-1	3. STLC-DI		mg/l			Lead	Soil	ATL
	.3 m	566-329-1	4. TCLP		mg/l			Lead	Soil	ATL
	.3 m	566-329-1	5. PH						Soil	ATL
	.6 m	566-329-2	1. TTLC		mg/kg			Lead	Soil	ATL
	.6 m	566-329-2	2. STLC		mg/l			Lead	Soil	ATL
	.6 m	566-329-2	3. STLC-DI		mg/l			Lead	Soil	ATL
	.6 m	566-329-2	4. TCLP		mg/l			Lead	Soil	ATL

APPENDIX



B

APPENDIX B

GEOCON CONSULTANTS, INC. MODIFIED STANDARD OPERATING PROCEDURE (SOP) NO. 11 HAND-AUGERING AND SOIL SAMPLE COLLECTION/HANDLING

Purpose

The purpose of this SOP is to outline procedures and methods to be used to advance hand-augers and collect soil samples for chemical analyses.

Hand-Augering and Soil Sample Collection/Handling Procedures

1. Initiate boring using a hand-held 7.62 centimeter diameter stainless steel auger.
2. Advance boring to initial sample depth of approximately 0 to 0.15 m below the ground surface.
3. Transfer the soil sample from the hand auger into a plastic bag to homogenize the sample, transfer the sample from the plastic bag to a glass jar supplied by the laboratory. Label glass jar with the boring number, EA number, and sample depth.
4. Record the sample identification, time and date of sample collection, sample matrix type, turn-around time, and container type on the laboratory chain of custody.
5. Each prepared sample jar will be placed into a cooler for transport to Advanced Technology Laboratories.
6. Repeat the procedure and collect soil samples at subsequent depths as specified in the Task Order, if possible.
7. Backfill the borings to surface grade with soil cuttings generated.
8. Clean and rinse sampling equipment prior to the collection of each soil sample by washing the equipment with a trisodium phosphate solution followed by subsequent tap water and deionized water rinses.
9. Transport all samples to Advance Technology Laboratories under chain of custody control.

**VOLUME 2
AERIALY DEPOSITED LEAD
INVESTIGATION REPORT**

**ROUTE 5 FROM THE ORANGE COUNTY
LINE TO THE ROUTE 605
KP 0.0/10.99 (PM 0.0/6.83)
LOS ANGELES COUNTY, CALIFORNIA
CONTRACT NO. 43A0078
TASK ORDER NO. 07-2159A0-RR**

PREPARED FOR

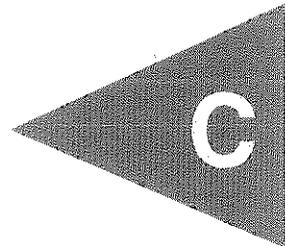
**CALIFORNIA DEPARTMENT
OF TRANSPORTATION
DISTRICT 7
LOS ANGELES, CALIFORNIA**

PREPARED BY

**GEOCON CONSULTANTS, INC.
6970 FLANDERS DRIVE
SAN DIEGO, CALIFORNIA 92121
Tel. 858.558.6100
Fax. 858.558.8437
email: environmental@geoconinc.com**

SEPTEMBER 19, 2002

APPENDIX



August 13, 2002

Chris King

Geocon Environmental
6970 Flanders Drive
San Diego, CA 92121
TEL: (858) 558-6100
FAX: (858) 558-8437

RE: Rte 5 - NB, 9100-06-49

Attention: Chris King

ELAP No.: 1838

NELAP No.: 02107CA

Workorder No.: 057900

Enclosed are the results for sample(s) received on July 12, 2002 by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

This is an amended report. Please disregard all previous documentation that corresponds to the page(s) enclosed.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,



Eddie F. Rodriguez
Laboratory Director

AUG 17 2002

This cover letter is an integral part of this analytical report.



CHAIN OF CUSTODY RECORD



3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: _____	Date: _____	Time: _____

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rep 5-NB</u>	Project #: <u>9100-06-49</u>	Sampler: <u>CSK/GCA</u> (Printed Name)	(Signature) <u>[Signature]</u>
Relinquished by: <u>[Signature]</u> <u>GCA</u> (Signature and Printed Name)	Date: <u>7/12</u>	Time: _____	Received by: <u>[Signature]</u> (Signature and Printed Name)
Relinquished by: _____ (Signature and Printed Name)	Date: _____	Time: _____	Received by: _____ (Signature and Printed Name)
Relinquished by: _____ (Signature and Printed Name)	Date: _____	Time: _____	Received by: _____ (Signature and Printed Name)

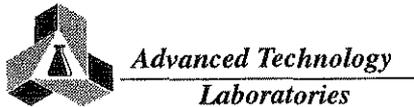
I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>7/12</u> Print Name Date <u>[Signature]</u> Signature	Send Report To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>Attached</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested <u>701 / 8082 (Pesticides PCB GC)</u> <u>8280 (Volatile GC/MS)</u> <u>625 / 8270 (BNA GC/MS)</u> <u>Metals Total (CAC 8010 / 7000)</u> <u>8015M TPH/3B TEX (COMBINATION)</u> <u>8015M TPH/D (Diesel GC)</u> <u>Totals / 2nd 8010</u>	CIRCLE APPROPRIATE MATRIX SOLID (SOIL) SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER TAT # Type	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER _____	REMARKS
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ITEM	LAB USE ONLY:		Sample Description				TAT	#	Type	PRESERVATION	REMARKS
	Batch #:	Lab No.	Sample I.D.	Date	Time						
1	7900-001		N63-S	7/12	9:10				E 1 J G		
2			N63-0.3		9:15						
3			N63-0.6		9:20						
4			N63-0.9		9:25						
5			N64-S		9:10						
6			N64-0.3		9:15						
7			N64-0.6		9:20						
8			N64-0.9		9:26						
9			N65-S		8:27						
10			N65-0.3		9:29						

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(Ac) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Bedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: _____ Date: _____ Time: _____		

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rte 5-NB</u>	Project #: <u>9100-06-49</u>	Sampler: <u>LSK/GCA</u>	(Signature) _____
Relinquished by: <u>[Signature]</u> <u>GCA</u> Date: <u>7/12</u> Time: _____	Received by: <u>[Signature]</u> Date: <u>7/12/07</u> Time: <u>9:00</u>		
Relinquished by: _____ Date: _____ Time: _____	Received by: _____ Date: _____ Time: _____		
Relinquished by: _____ Date: _____ Time: _____	Received by: _____ Date: _____ Time: _____		

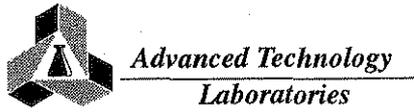
I hereby authorize ATL to perform the work indicated below: Project Mgr/Submitter: <u>CSK</u> <u>7/12</u> Print Name Date <u>[Signature]</u> Signature	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>Attached</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested <u>8081 / 8082 (Pesticides/PCE-GC)</u> <u>8280 (Nitrates-GC/MS)</u> <u>825 / 8270 (BNA-GC/MS)</u> <u>Metals Total (CAC-8010 / 7000)</u> <u>8015M TPH/G/PEX (COMBINATION)</u> <u>8015M TPH/D (Diesel-GC)</u> <u>Total / red 8016</u>	CIRCLE APPROPRIATE MATRIX SOLID / SOIL / SLUDGE OIL / SOLVENT / LIQUID WATER / WASTEWATER DRINKING WATER AIR WIFE / FILTER OTHER TAT # _____ Type _____	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>
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ITEM	LAB USE ONLY:		Sample Description				Analysis										PRESERVATION	REMARKS									
	Batch #:	Lab No.	Sample I.D.	Date	Time	8081 / 8082 (Pesticides/PCE-GC)	8280 (Nitrates-GC/MS)	825 / 8270 (BNA-GC/MS)	Metals Total (CAC-8010 / 7000)	8015M TPH/G/PEX (COMBINATION)	8015M TPH/D (Diesel-GC)	SOLID / SOIL / SLUDGE	OIL / SOLVENT / LIQUID	WATER / WASTEWATER	DRINKING WATER	AIR			WIFE / FILTER	OTHER	TAT	#	Type				
				7/12	9:38					X																	
					9:44																						
					9:38																						
					9:45																						
					9:54																						
					9:46																						
					9:58																						
					10:04																						
					9:58																						
					1000																						

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4'C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____ Logged By: _____ Date: _____ Time: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
--	---	--

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <i>Chris King</i>	City San Diego State CA Zip Code 92121	FAX: (858) 558-8437

Project Name: <i>Rte 5-NB</i>	Project #: <i>9100-06-49</i>	Sampler: <i>CSK/GCA</i> (Printed Name)	(Signature) <i>[Signature]</i>
Relinquished by: <i>[Signature]</i> Date: <i>7/12</i> Time: _____	Received by: <i>[Signature]</i> Date: <i>7/12</i> Time: <i>4:00</i>	Relinquished by: <i>[Signature]</i> Date: _____ Time: _____	Received by: _____ Date: _____ Time: _____
Relinquished by: _____ Date: _____ Time: _____	Received by: _____ Date: _____ Time: _____	Relinquished by: _____ Date: _____ Time: _____	Received by: _____ Date: _____ Time: _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <i>CSK</i> <i>7/12</i> Print Name Date <i>[Signature]</i> Signature	Send Report To: Attn: _____ Co: <i>Client</i> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <i>Client</i> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <div style="font-size: 2em; text-align: center;">Attached</div>
--	--	---	---

Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.
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Circle or Add Analysis(es) Requested 8081 / 8082 (Pesticides/PCB-SC) 8280 Volatiles-COMMS 825 / 8270 (BNA-GCMS) Metals Total (CAC-GCMS) 8018M TPH(GSTEX / 7000) 8018M TPHD (COMBINATION) Total / 1001/201/201	CIRCLE APPROPRIATE MATRIX SOLID • SOIL • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER TAT	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>
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ITEM	LAB USE ONLY:		Sample Description				Container(s)		REMARKS
	Batch #:	Lab No.	Sample I.D.	Date	Time	#	Type		
		21	N68-0.6	7/12	10:05		E 156		
		22	N68-0.9		10:11				
		23	N69-S		10:08				
		24	N69-0.3		10:14				
		25	N69-0.6		10:10				
		26	N70-S		10:12				
		27	N70-0.3		10:22				
		28	N70-0.6		10:34				
		29	N71-S		10:25				
		30	N71-0.3		10:32				

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



**Advanced Technology
Laboratories**

3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: _____	Date: _____	Time: _____

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rte 5 - NB</u>	Project #: <u>9100-06-49</u>	Sampler: <u>CSK/GIA</u> (Printed Name)	(Signature) <u>[Signature]</u>
Relinquished by: <u>[Signature]</u> Date: <u>7/12</u> Time: _____	Received by: <u>[Signature]</u> Date: <u>7/12</u> Time: <u>4:00</u>		
Relinquished by: <u>[Signature]</u> Date: _____ Time: _____	Received by: <u>[Signature]</u> Date: _____ Time: _____		
Relinquished by: <u>[Signature]</u> Date: _____ Time: _____	Received by: <u>[Signature]</u> Date: _____ Time: _____		

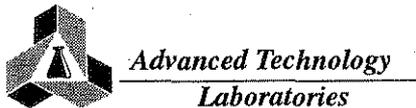
I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>7/12</u> Print Name Date <u>[Signature]</u>	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>Attached</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested <u>8091 / 8092 (Pesticides/PCB GC)</u> <u>8280 (Volatiles GC/MS)</u> <u>923 / 9270 (BNA-GC/MS)</u> <u>Metals Total (CAC-8010 / 7000)</u> <u>8015M TPH/G/TX (COMBINATION)</u> <u>8015M TPH/D (Diesel GC)</u> <u>7070 / 7070</u>	CIRCLE APPROPRIATE MATRIX SOLID (SOIL) SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER _____ TAT # Type	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER _____
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ITEM	LAB USE ONLY:		Sample Description		Date	Time	Analysis	Matrix	TAT	Container(s)		REMARKS
	Batch #:	Lab No.	Sample I.D.							#	Type	
		31	N71-0.6		7/12	10:40			X	E	15G	66
		32	N72-S			10:45						
		33	N72-0.3			10:50						
		34	N72-0.6			10:57						7.2
		35	N73-S			10:53						
		36	N73-0.3			11:00						
		37	N73-0.6			11:05						7.8
		38	N74-S			11:08						
		39	N74-0.3			11:15						
		40	N74-0.6			11:20						

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: _____	Date: _____ Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City San Diego State CA Zip Code 92121	FAX: (858) 558-8437

Project Name: <u>Rep 5-NB</u>	Project #: <u>9100-06-49</u>	Sampler: <u>CSR/GCA</u>	(Signature) _____
Relinquished by: (Signature and Printed Name) _____	Date: <u>7/12</u> Time: _____	Received by: (Signature and Printed Name) _____	Date: <u>7/12/07</u> Time: <u>4:00</u>
Relinquished by: (Signature and Printed Name) _____	Date: _____ Time: _____	Received by: (Signature and Printed Name) _____	Date: _____ Time: _____
Relinquished by: (Signature and Printed Name) _____	Date: _____ Time: _____	Received by: (Signature and Printed Name) _____	Date: _____ Time: _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>SK</u> <u>7/12</u> Print Name Date Signature _____	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>Attached</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested <u>8091 / 8092 (Pesticides/PCB/SC)</u> <u>8280 (Volatile GC/MS)</u> <u>623 / 8270 (BVA-GC/MS)</u> <u>Metals: Total (CAC-9010 / 7000)</u> <u>801 (M) TPH/G/TEX (COMBINA/TOM)</u> <u>801 (M) TPH/D (Diesel/GC)</u> <u>7022 / 7026 GC/MS</u>	CIRCLE APPROPRIATE MATRIX SOLID • SOIL • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER TAT # Type Container(s)	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	REMARKS
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ITEM	LAB USE ONLY:		Sample Description				CIRCLE APPROPRIATE MATRIX		PRESERVATION	REMARKS
	Batch #:	Lab No.	Sample I.D.	Date	Time	TAT #	Type			
		<u>01</u>	<u>N 80-0.3</u>	<u>7/12</u>	<u>12:20</u>	<u>X</u>	<u>E 1 JIG</u>			
		<u>02</u>	<u>N 80-0.6</u>		<u>12:30</u>					
		<u>03</u>	<u>N 80-0.9</u>		<u>12:37</u>				<u>13.5</u>	
		<u>04</u>	<u>N 81-5</u>		<u>12:15</u>					
		<u>05</u>	<u>N 81-0.3</u>		<u>12:20</u>					
		<u>06</u>	<u>N 81-0.6</u>		<u>12:30</u>					
		<u>07</u>	<u>N 81-0.9</u>		<u>12:36</u>				<u>14.4</u>	
		<u>08</u>	<u>N 82-5</u>		<u>12:45</u>					
		<u>09</u>	<u>N 82-0.3</u>		<u>12:44</u>				<u>14.7</u>	
		<u>70</u>	<u>N 83-5</u>		<u>12:44</u>					

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= <input type="checkbox"/> Overnight ≤ 24 hr	B= <input type="checkbox"/> Emergency Next workday	C= <input type="checkbox"/> Critical 2 Workdays	D= <input type="checkbox"/> Urgent 3 Workdays	E= <input type="checkbox"/> Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pin. J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CLIENT: Geocon Environmental
Project: Rte 5 - NB, 9100-06-49
Lab Order: 057900

CASE NARRATIVE

Samples were reanalyzed for TCLP Lead, per client request. Both results are reported.



**LEAD BY ATOMIC ABSORPTION
EPA 1311/ 7420**

CLIENT:	Geocon Environmental	Lab Order:	057900
Project:	Rte 5 - NB, 9100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057900-005A	N64-S	17	mg/L	9824	0.4	2	7/12/2002	7/25/2002
057900-005A	N64-S	2.7	mg/L	10287	0.2	1	7/12/2002	8/12/2002
057900-009A	N65-S	2.9	mg/L	10287	0.2	1	7/12/2002	8/12/2002
057900-009A	N65-S	17	mg/L	9824	0.4	2	7/12/2002	7/25/2002
057900-013A	N66-S	23	mg/L	9824	0.8	4	7/12/2002	7/25/2002
057900-013A	N66-S	4.3	mg/L	10287	0.2	1	7/12/2002	8/12/2002
057900-017A	N67-0.3	5.0	mg/L	10287	0.2	1	7/12/2002	8/12/2002
057900-017A	N67-0.3	30	mg/L	9824	0.8	4	7/12/2002	7/25/2002
057900-019A	N68-S	7.8	mg/L	10287	0.2	1	7/12/2002	8/12/2002
057900-019A	N68-S	31	mg/L	9824	0.8	4	7/12/2002	7/25/2002
057900-021A	N68-0.6	2.6	mg/L	9854	0.2	1	7/12/2002	7/26/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
EPA 1311/ 7420**

CLIENT:	Geocon Environmental	Lab Order:	057900
Project:	Rte 5 - NB, 9100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057900-021A	N68-0.6	4.4	mg/L	10287	0.2	1	7/12/2002	8/12/2002
057900-024A	N69-0.3	32	mg/L	9824	0.8	4	7/12/2002	7/25/2002
057900-024A	N69-0.3	11	mg/L	10287	0.2	1	7/12/2002	8/12/2002
057900-037A	N73-0.6	23	mg/L	9824	0.8	4	7/12/2002	7/25/2002
057900-037A	N73-0.6	4.4	mg/L	10287	0.2	1	7/12/2002	8/12/2002
057900-043A	N75-0.3	2.1	mg/L	10287	0.2	1	7/12/2002	8/12/2002
057900-043A	N75-0.3	18	mg/L	9824	0.4	2	7/12/2002	7/25/2002
057900-045A	N76-S	5.8	mg/L	10128	0.2	1	7/12/2002	8/7/2002
057900-045A	N76-S	38	mg/L	9824	1	5	7/12/2002	7/25/2002
057900-046A	N76-0.3	7.4	mg/L	10287	0.2	1	7/12/2002	8/12/2002
057900-046A	N76-0.3	28	mg/L	9825	0.8	4	7/12/2002	7/25/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
EPA 1311/ 7420**

CLIENT:	Geocon Environmental	Lab Order:	057900
Project:	Rte 5 - NB, 9100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057900-049A	N77-S	14	mg/L	10288	0.4	2	7/12/2002	8/12/2002
057900-049A	N77-S	26	mg/L	9825	0.8	4	7/12/2002	7/25/2002
057900-051A	N77-0.6	150	mg/L	9825	4	20	7/12/2002	7/25/2002
057900-051A	N77-0.6	7.7	mg/L	10128	0.2	1	7/12/2002	8/7/2002
057900-052A	N77-0.9	37	mg/L	9825	0.8	4	7/12/2002	7/25/2002
057900-052A	N77-0.9	5.8	mg/L	10128	0.2	1	7/12/2002	8/7/2002
057900-053A	N78-S	6.5	mg/L	10288	0.2	1	7/12/2002	8/12/2002
057900-053A	N78-S	33	mg/L	9825	0.8	4	7/12/2002	7/25/2002
057900-054A	N78-0.3	5.1	mg/L	10288	0.2	1	7/12/2002	8/12/2002
057900-054A	N78-0.3	29	mg/L	9825	0.8	4	7/12/2002	7/25/2002
057900-056A	N79-S	5.7	mg/L	10288	0.2	1	7/12/2002	8/12/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
EPA 1311/ 7420**

CLIENT:	Geocon Environmental	Lab Order:	057900
Project:	Rte 5 - NB, 9100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057900-056A	N79-S	12	mg/L	9825	0.4	2	7/12/2002	7/25/2002
057900-060A	N80-S	1.5	mg/L	10288	0.2	1	7/12/2002	8/12/2002
057900-060A	N80-S	36	mg/L	9825	0.8	4	7/12/2002	7/25/2002
057900-061A	N80-0.3	9.4	mg/L	10288	0.2	1	7/12/2002	8/12/2002
057900-061A	N80-0.3	31	mg/L	9825	0.8	4	7/12/2002	7/25/2002
057900-065A	N81-0.3	4.5	mg/L	10288	0.2	1	7/12/2002	8/12/2002
057900-065A	N81-0.3	33	mg/L	9825	0.8	4	7/12/2002	7/25/2002
057900-068A	N82-S	4.0	mg/L	10288	0.2	1	7/12/2002	8/12/2002
057900-068A	N82-S	23	mg/L	9826	0.8	4	7/12/2002	7/25/2002
057900-069A	N82-0.3	25	mg/L	9826	0.8	4	7/12/2002	7/25/2002
057900-069A	N82-0.3	6.1	mg/L	10288	0.2	1	7/12/2002	8/12/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
EPA 1311/ 7420**

CLIENT:	Geocon Environmental	Lab Order:	057900
Project:	Rte 5 - NB, 9100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057900-074A	N84-S	3.0	mg/L	10288	0.2	1	7/12/2002	8/12/2002
057900-074A	N84-S	ND	mg/L	9854	0.2	1	7/12/2002	7/26/2002
057900-077A	N85-S	19	mg/L	10288	0.4	2	7/12/2002	8/12/2002
057900-077A	N85-S	ND	mg/L	9854	0.2	1	7/12/2002	7/26/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified





Advanced Technology Laboratories

Date: 13-Aug-02

CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9826, mblk, 7420_TC, mg/L, 7/23/2002, AA2_020725C, ZZZZZ, 9826, EPA 1311/ 74 (EPA 3010A), 7/25/2002, 306005, Lead, 0.05739, 0.20, J

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9767-TCLP, mblk, 7420_TC, mg/L, 7/23/2002, AA2_020725C, ZZZZZ, 9826, EPA 1311/ 74 (EPA 3010A), 7/25/2002, 306006, Lead, 0.09446, 0.20, J

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9824, mblk, 7420_TC, mg/L, 7/23/2002, AA2_020725D, ZZZZZ, 9824, EPA 1311/ 74 (EPA 3010A), 7/25/2002, 306015, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9765-TCLP, mblk, 7420_TC, mg/L, 7/23/2002, AA2_020725D, ZZZZZ, 9824, EPA 1311/ 74 (EPA 3010A), 7/25/2002, 306016, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9825, mblk, 7420_TC, mg/L, 7/23/2002, AA2_020725E, ZZZZZ, 9825, EPA 1311/ 74 (EPA 3010A), 7/25/2002, 306030, Lead, ND, 0.20

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID	MB-9766-TCLP	SampType:	mblk	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020725E			
Client ID:	ZZZZZ	Batch ID:	9825	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/25/2002	SeqNo:	306031			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9854	SampType:	MBLK	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/25/2002	Run ID:	AA2_020726E			
Client ID:	ZZZZZ	Batch ID:	9854	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/26/2002	SeqNo:	306811			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9849-TCLP	SampType:	MBLK	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/25/2002	Run ID:	AA2_020726E			
Client ID:	ZZZZZ	Batch ID:	9854	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/26/2002	SeqNo:	306812			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-10128	SampType:	mblk	TestCode:	7420_TC	Units:	mg/L	Prep Date:	8/6/2002	Run ID:	AA2_020807L			
Client ID:	ZZZZZ	Batch ID:	10128	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	8/7/2002	SeqNo:	315058			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.09013 0.20

Sample ID	MB-10110TCLP	SampType:	mblk	TestCode:	7420_TC	Units:	mg/L	Prep Date:	8/6/2002	Run ID:	AA2_020807L			
Client ID:	ZZZZZ	Batch ID:	10128	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	8/7/2002	SeqNo:	315059			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.09848 0.20 0 0 0 0 0 0 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID	MB-10287	SampType:	MBLK	TestCode:	7420_TC	Units:	mg/L	Prep Date:	8/12/2002	Run ID:	AA2_020812M			
Client ID:	ZZZZZ	Batch ID:	10287	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	8/12/2002	SeqNo:	317275			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		0.06402		0.20										
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Sample ID	MB-10281-TCLP	SampType:	MBLK	TestCode:	7420_TC	Units:	mg/L	Prep Date:	8/12/2002	Run ID:	AA2_020812M			
Client ID:	ZZZZZ	Batch ID:	10287	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	8/12/2002	SeqNo:	317276			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		0.05515		0.20										
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Sample ID	MB-10282-TCLP	SampType:	MBLK	TestCode:	7420_TC	Units:	mg/L	Prep Date:	8/12/2002	Run ID:	AA2_020812N			
Client ID:	ZZZZZ	Batch ID:	10288	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	8/12/2002	SeqNo:	317292			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		ND		0.20										
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Sample ID	LCS-9826	SampType:	Ics	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020725C			
Client ID:	ZZZZZ	Batch ID:	9826	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/25/2002	SeqNo:	306013			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		0.9968		0.20	1	0		99.7	80	120	0	0		
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Sample ID	LCS-9824	SampType:	Ics	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020725D			
Client ID:	ZZZZZ	Batch ID:	9824	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/25/2002	SeqNo:	306029			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		0.875		0.20	1	0		87.5	80	120	0	0		
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID	LCS-9825	SampType:	Ics	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020725E			
Client ID:	ZZZZZ	Batch ID:	9825	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/25/2002	SeqNo:	306045			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		1.07		0.20	1	0		107	80	120	0	0		
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Sample ID	LCS-9854	SampType:	LCS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/25/2002	Run ID:	AA2_020726E			
Client ID:	ZZZZZ	Batch ID:	9854	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/26/2002	SeqNo:	306819			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		1.071		0.20	1	0		107	80	120	0	0		
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Sample ID	LCS-10128	SampType:	Ics	TestCode:	7420_TC	Units:	mg/L	Prep Date:	8/6/2002	Run ID:	AA2_020807L			
Client ID:	ZZZZZ	Batch ID:	10128	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	8/7/2002	SeqNo:	315068			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		1.146		0.20	1	0		115	80	120	0	0		
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Sample ID	LCS-10287	SampType:	LCS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	8/12/2002	Run ID:	AA2_020812M			
Client ID:	ZZZZZ	Batch ID:	10287	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	8/12/2002	SeqNo:	317290			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		1.161		0.20	1	0		116	80	120	0	0		
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Sample ID	LCS-10288	SampType:	LCS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	8/12/2002	Run ID:	AA2_020812N			
Client ID:	ZZZZZ	Batch ID:	10288	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	8/12/2002	SeqNo:	317307			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		1.146		0.20	1	0		115	80	120	0	0		
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID	057900-069AMS	SampType:	MS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020725C		
Client ID:	N82-0.3	Batch ID:	9826	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/25/2002	SeqNo:	306010		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		30.33		0.80	2.5	24.86	219	80	120	0	0		S
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Sample ID	057900-045AMS	SampType:	MS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020725D		
Client ID:	N76-S	Batch ID:	9824	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/25/2002	SeqNo:	306027		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		37.73		1.0	2.5	37.77	-1.57	80	120	0	0		S
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Sample ID	057900-065AMS	SampType:	MS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020725E		
Client ID:	N81-0.3	Batch ID:	9825	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/25/2002	SeqNo:	306043		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		31.13		0.80	2.5	32.68	-61.8	80	120	0	0		S
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Sample ID	057900-021AMS	SampType:	MS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/25/2002	Run ID:	AA2_020726E		
Client ID:	N68-0.6	Batch ID:	9854	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/26/2002	SeqNo:	306817		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		4.734		0.20	2.5	2.56	87	80	120	0	0		
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Sample ID	058010-001AMS	SampType:	MS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	8/6/2002	Run ID:	AA2_020807L		
Client ID:	ZZZZZ	Batch ID:	10128	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	8/7/2002	SeqNo:	315066		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		3.005		0.20	2.5	0.1984	112	80	120	0	0		
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID: 057900-046AMS	SampType: MS	TestCode: 7420_TC	Units: mg/L	Prep Date: 8/12/2002	Run ID: AA2_020812M						
Client ID: N76-0.3	Batch ID: 10287	TestNo: EPA 1311/ 74 (EPA 3010A)		Analysis Date: 8/12/2002	SeqNo: 317288						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	9.469	0.20	2.5	7.377	83.7	80	120	0	0		
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Sample ID: 057900-077AMS	SampType: MS	TestCode: 7420_TC	Units: mg/L	Prep Date: 8/12/2002	Run ID: AA2_020812N						
Client ID: N85-S	Batch ID: 10288	TestNo: EPA 1311/ 74 (EPA 3010A)		Analysis Date: 8/12/2002	SeqNo: 317305						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	21.49	0.40	3.125	19.49	64	80	120	0	0		S
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Sample ID: 057900-069ADUP	SampType: DUP	TestCode: 7420_TC	Units: mg/L	Prep Date: 7/23/2002	Run ID: AA2_020725C						
Client ID: N82-0.3	Batch ID: 9826	TestNo: EPA 1311/ 74 (EPA 3010A)		Analysis Date: 7/25/2002	SeqNo: 306009						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	24.87	0.80	0	0	0	0	0	24.86	0.0351	30	
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Sample ID: 057900-045ADUP	SampType: DUP	TestCode: 7420_TC	Units: mg/L	Prep Date: 7/23/2002	Run ID: AA2_020725D						
Client ID: N76-S	Batch ID: 9824	TestNo: EPA 1311/ 74 (EPA 3010A)		Analysis Date: 7/25/2002	SeqNo: 306026						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	35.27	1.0	0	0	0	0	0	37.77	6.87	30	
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Sample ID: 057900-065ADUP	SampType: DUP	TestCode: 7420_TC	Units: mg/L	Prep Date: 7/23/2002	Run ID: AA2_020725E						
Client ID: N81-0.3	Batch ID: 9825	TestNo: EPA 1311/ 74 (EPA 3010A)		Analysis Date: 7/25/2002	SeqNo: 306042						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	32.88	0.80	0	0	0	0	0	32.68	0.622	30	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID: 057900-021ADUP	SampType: DUP	TestCode: 7420_TC	Units: mg/L	Prep Date: 7/25/2002	Run ID: AA2_020726E						
Client ID: N68-0.6	Batch ID: 9854	TestNo: EPA 1311/ 74 (EPA 3010A)		Analysis Date: 7/26/2002	SeqNo: 306816						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 3.046 0.20 0 0 0 0 0 0 2.56 17.3 30

Sample ID: 058010-001ADUP	SampType: DUP	TestCode: 7420_TC	Units: mg/L	Prep Date: 8/6/2002	Run ID: AA2_020807L						
Client ID: ZZZZZ	Batch ID: 10128	TestNo: EPA 1311/ 74 (EPA 3010A)		Analysis Date: 8/7/2002	SeqNo: 315065						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.1701 0.20 0 0 0 0 0 0 0.1984 0 30 J

Sample ID: 057900-046ADUP	SampType: DUP	TestCode: 7420_TC	Units: mg/L	Prep Date: 8/12/2002	Run ID: AA2_020812M						
Client ID: N76-0.3	Batch ID: 10287	TestNo: EPA 1311/ 74 (EPA 3010A)		Analysis Date: 8/12/2002	SeqNo: 317287						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.648 0.20 0 0 0 0 0 0 7.377 3.61 30

Sample ID: 057900-077ADUP	SampType: DUP	TestCode: 7420_TC	Units: mg/L	Prep Date: 8/12/2002	Run ID: AA2_020812N						
Client ID: N85-S	Batch ID: 10288	TestNo: EPA 1311/ 74 (EPA 3010A)		Analysis Date: 8/12/2002	SeqNo: 317304						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 18.57 0.80 0 0 0 0 0 0 19.49 4.84 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values

July 18, 2002

Chris King
Geocon Environmental
6970 Flanders Drive
San Diego, CA 92121
TEL: (858) 558-6100
FAX: (858) 558-8437
RE: Rte 5-NB, 9100-06-49
Attention: Chris King

AUG 05 2002

ELAP No.: 1838
NELAP No.: 02107CA
Workorder No.: 057892

Enclosed are the results for sample(s) received on July 11, 2002 by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,



Eddie F. Rodriguez
Laboratory Director

This cover letter is an integral part of this analytical report.



CHAIN OF CUSTODY RECORD



**Advanced Technology
Laboratories**

3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: <u>SM</u>	Date: <u>7/12/02</u>	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rte 5-NB</u>	Project #: <u>9100-06-49</u>	Sampler: <u>GCA</u> (Printed Name)	(Signature)
Relinquished by: <u>[Signature]</u> (Signature and Printed Name)	Date: <u>7/10</u> Time: <u>4:30p</u>	Received by: <u>[Signature]</u> (Signature and Printed Name)	Date: <u>7/12/02</u> Time: <u>4:30p</u>
Relinquished by: <u>[Signature]</u> (Signature and Printed Name)	Date: <u>7-11-02</u> Time: <u>8:20p</u>	Received by: <u>[Signature]</u> (Signature and Printed Name)	Date: <u>7/12/02</u> Time: _____
Relinquished by: _____ (Signature and Printed Name)	Date: _____ Time: _____	Received by: _____ (Signature and Printed Name)	Date: _____ Time: _____

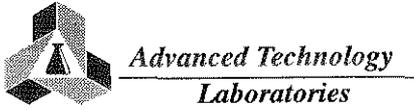
I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>7/10</u> Print Name Date <u>[Signature]</u>	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>Attached</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8081 / 8092 (Pesticides/PCR-GC) 8220 (Nolantils-GC/MS) 825 / 8270 (BNA-GC/MS) Metals Total (CAC-8010 / 7000) 8015M TPH/G/BTEX (COMBINATION) 8015M TP-HD (Diesel-GC) <u>Total lead 6010</u>	CIRCLE APPROPRIATE MATRIX SOLID <input checked="" type="checkbox"/> SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER _____	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER _____
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ITEM	LAB USE ONLY:		Sample Description				CIRCLE APPROPRIATE MATRIX										PRESERVATION	REMARKS			
	Batch #:	Lab No.	Sample I.D.	Date	Time	8081 / 8092 (Pesticides/PCR-GC)	8220 (Nolantils-GC/MS)	825 / 8270 (BNA-GC/MS)	Metals Total (CAC-8010 / 7000)	8015M TPH/G/BTEX (COMBINATION)	8015M TP-HD (Diesel-GC)	SOLID <input checked="" type="checkbox"/> SLUDGE	OIL • SOLVENT • LIQUID	WATER • WASTEWATER	DRINKING WATER	AIR			WIPE • FILTER	OTHER _____	TAT
		057892-001	N38-S	7/10	9:15					X		X							E	154	
		2	N38-0.3		9:20					X											
		3	N38-0.6		9:25																
		4	N39-S		9:20																
		5	N39-0.3		9:25																
		6	N39-0.6		9:30																
		7	N40-S		9:15																
		8	N40-0.3		9:20																
		9	N40-0.6		9:25																
		10	N40-0.9		9:30																

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



**Advanced Technology
Laboratories**
3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Logged By: <u>SM</u>	Date: <u>7/12/02</u>	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Res 5-NB</u>	Project #: <u>9100-06-49</u>	Sampler: <u>CSK/GCA</u> (Signature)
Relinquished by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7/11</u> Time: <u>4:30pm</u>	Received by: (Signature and Printed Name) <u>[Signature]</u> Date: <u>7/12/02</u> Time: <u>4:30pm</u>
Relinquished by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-11-02</u> Time: <u>8:20pm</u>	Received by: (Signature and Printed Name) <u>[Signature]</u> Date: <u>7/12/02</u> Time: _____
Relinquished by: (Signature and Printed Name) _____	Date: _____ Time: _____	Received by: (Signature and Printed Name) _____ Date: _____ Time: _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>7/11</u> Print Name Date <u>[Signature]</u>	Send Report To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>Attached</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8081 / 8092 (Pesticides/PCB-GC) 8289 (Volatiles-GC/MS) 625 / 8270 (BNA-GC/MS) Metals Total (CAC-GC/MS) 8015M TPH/G/BTEX (COMBINATION) 8015M TPH/D (Dissol GC) <u>Total / 8015M</u>	CIRCLE APPROPRIATE MATRIX SOLID • SOIL • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER _____	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER _____
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ITEM	LAB USE ONLY:		Sample Description				CIRCLE APPROPRIATE MATRIX										PRESERVATION	REMARKS							
	Batch #:	Lab No.	Sample I.D.	Date	Time	8081 / 8092 (Pesticides/PCB-GC)	8289 (Volatiles-GC/MS)	625 / 8270 (BNA-GC/MS)	Metals Total (CAC-GC/MS)	8015M TPH/G/BTEX (COMBINATION)	8015M TPH/D (Dissol GC)	SOLID • SOIL • SLUDGE	OIL • SOLVENT • LIQUID	WATER • WASTEWATER	DRINKING WATER	AIR			WIPE • FILTER	OTHER	TAT	#	Type		
		11	N41-S	7/11	9:28						X											E	156		
		12	N41-0.3		9:32																				
		13	N41-0.6		9:36																				
		14	N41-0.9		9:41																				
		15	N42-S		9:40																				
		16	N42-0.3		9:48																				
		17	N43-S		9:45																				
		18	N43-0.3		9:50																				
		19	N43-0.6		9:55																				
		20	N43-0.9		10:01																				

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



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FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7/12/02</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

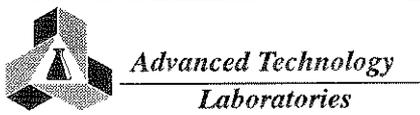
Project Name: <u>Rte 5-NB</u>	Project #: <u>09100-05-19</u>	Sampler: <u>CST/GCA</u> (Signature)
Relinquished by: <u>[Signature]</u> Date: <u>7/11</u> Time: <u>4:30</u>	Received by: <u>[Signature]</u> Date: <u>7/11/02</u> Time: <u>4:30</u>	
Relinquished by: <u>[Signature]</u> Date: <u>7-11-02</u> Time: <u>8:20</u>	Received by: <u>[Signature]</u> Date: <u>7/12/02</u> Time: _____	
Relinquished by: _____ Date: _____ Time: _____	Received by: _____ Date: _____ Time: _____	

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>OSK</u> <u>7/11</u> Print Name Date	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>Attached</u>
---	--	---	---

Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8081 / 8092 (Pesticides/PCB-GC) 8280 (Volatiles-GC/MS) 825 / 8270 (BNA-GC/MS) Metals Total (CAC-8010 / 7000) 8015M TPH/G/BTEX (COMBINATION) 8015M TPH/D (Diesel/GC) <u>Total lead 60ppm</u>	CIRCLE APPROPRIATE MATRIX SOLID • SOIL • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER _____							
LAB USE ONLY: Batch #:		Sample Description									
I T E M	Lab No.	Sample I.D.	Date	Time	TAT	#	Type	Container(s)	REMARKS	PRESERVATION	QA/QC
	31	N47-0.9	7/11	10:42	X			E 1 J G			
	32	N48-S		10:43							
	33	N48-0.3		10:48							
	34	N48-0.6		10:54							
	35	N48-0.9		11:00							
	36	N49-S		10:50							
	37	N49-0.3		10:58							
	38	N49-0.6		11:06							
	39	N50-S		11:10							
	40	N50-0.3		11:20							

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₈
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

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Logged By: <u>SM</u>	Date: <u>7/12/02</u>	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rte 5-NB</u>	Project #: <u>9100-06-49</u>	Sampler: (Printed Name) <u>CSK/GCA</u> (Signature) <u>[Signature]</u>
Relinquished by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7/11</u> Time: <u>4:30p</u>	Received by: (Signature and Printed Name) <u>[Signature]</u> Date: <u>7-11-02</u> Time: <u>4:30p</u>
Relinquished by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-11-02</u> Time: <u>8:20p</u>	Received by: (Signature and Printed Name) <u>[Signature]</u> Date: <u>7-12-02</u> Time: <u>[Time]</u>
Relinquished by: (Signature and Printed Name)	Date:	Received by: (Signature and Printed Name) Date: Time:

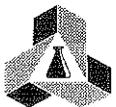
I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>7/11</u> Print Name Date <u>[Signature]</u> Signature	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>Attached</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested <u>to total solid</u> 8081 / 8082 (Pesticides/PCB-GC) 8260 (Volatiles-GC/MS) 825 / 8270 (BNA-GC/MS) Metals Total (CAC-8010 / 7000) 8015M TPH/G/BTEX (COMBINATION) 8015M TPH/D (Diesel/GC)	CIRCLE APPROPRIATE MATRIX SOLID (S) SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER AIR WIFE • FILTER OTHER _____	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER _____
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ITEM	LAB USE ONLY:		Sample Description				CIRCLE APPROPRIATE MATRIX										PRESERVATION	REMARKS									
	Batch #:	Lab No.	Sample I.D.	Date	Time	8081 / 8082 (Pesticides/PCB-GC)	8260 (Volatiles-GC/MS)	825 / 8270 (BNA-GC/MS)	Metals Total (CAC-8010 / 7000)	8015M TPH/G/BTEX (COMBINATION)	8015M TPH/D (Diesel/GC)	SOLID (S) SLUDGE	OIL • SOLVENT • LIQUID	WATER • WASTEWATER	AIR	WIFE • FILTER			OTHER	TAT	#	Type					
		51	N53-0.3	7/11	12:00						X																
		52	N53-0.6		12:10																						
		53	N54-S		11:55																						
		54	N54-0.3		12:01																						
		55	N54-0.6		12:08																						
		56	N54-0.9		12:15																						
		57	N55-S		12:18																						
		58	N55-0.3		12:30																						
		59	N55-0.6		12:38																						
		60	N56-S		12:15																						

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= <input type="checkbox"/> Overnight ≤ 24 hr	B= <input type="checkbox"/> Emergency Next workday	C= <input type="checkbox"/> Critical 2 Workdays	D= <input type="checkbox"/> Urgent 3 Workdays	E= <input type="checkbox"/> Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

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Logged By: <u>SM</u> Date: <u>7/12/02</u> Time: _____		

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rte 5 - NB</u>	Project #: <u>9100-06-49</u>	Sampler: <u>CSK/GCA</u> (Printed Name)	(Signature) <u>[Signature]</u>
Relinquished by: <u>[Signature]</u> Date: <u>7/11</u> Time: <u>4:30p</u>	Received by: <u>[Signature]</u> Date: <u>7-11-02</u> Time: <u>1:30p</u>		
Relinquished by: <u>[Signature]</u> Date: <u>7-11-02</u> Time: <u>8:20p</u>	Received by: <u>[Signature]</u> Date: <u>7-12-02</u> Time: _____		
Relinquished by: <u>[Signature]</u> Date: _____ Time: _____	Received by: <u>[Signature]</u> Date: _____ Time: _____		

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>7/11</u> Print Name Date <u>[Signature]</u>	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>Attached</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8091 / 8092 (Pesticides/PCB-GC) 8260 / 8261 (Volatiles-GC/MS) 825 / 8270 (BNA-GC/MS) Metals Total (CAC-8010 / 7000) 8015M TPH/G/BTEX (COMBINATION) 8015M TPH/D (Diesel/GC) <u>Total Lead Col'd</u>
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ITEM	LAB USE ONLY:		Sample Description				CIRCLE APPROPRIATE MATRIX										PRESERVATION	REMARKS								
	Batch #:	Lab No.	Sample I.D.	Date	Time	8091 / 8092 (Pesticides/PCB-GC)	8260 / 8261 (Volatiles-GC/MS)	825 / 8270 (BNA-GC/MS)	Metals Total (CAC-8010 / 7000)	8015M TPH/G/BTEX (COMBINATION)	8015M TPH/D (Diesel/GC)	SOLID (SOIL) SLUDGE	OIL • SOLVENT • LIQUID	WATER • WASTEWATER	DRINKING WATER	AIR			WIPE • FILTER	OTHER	TAT	#	Type			
		61	N56-0.3	7/11	12:20																					
		62	N56-0.6		12:30																					
		63	N56-0.9		12:40																					
		64	N57-S		12:50																					
		65	N57-0.3		1:00																					
		66	N57-0.6		1:06																					
		67	N58-S		12:51																					
		68	N58-0.3		12:59																					
		69	N58-0.6		1:07																					
		70	N59-S		1:20																					

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



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P.O.#: _____	Method of Transport: Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt: 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Logged By: <u>JML</u>	Date: <u>7/12/02</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rte 5 - NB</u>	Project #: <u>9100-06-49</u>	Sampler: <u>CSK/GCA</u> (Signature)
Relinquished by: <u>[Signature]</u> Date: <u>7/11</u> Time: <u>4:30p</u>	Received by: <u>[Signature]</u> Date: <u>7-11-02</u> Time: <u>4:30p</u>	
Relinquished by: <u>[Signature]</u> Date: <u>7-11-02</u> Time: <u>8:20p</u>	Received by: <u>[Signature]</u> Date: <u>7/12/02</u> Time: _____	

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>7/11</u> Print Name Date	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>Attached</u>
--	--	---	---

Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested: 8081 / 8082 (Pesticides/PCR-GC) 8280 (Halogens-GC/MS) 825 / 8270 (BNA-GC/MS) Metals Total (CAC-8070 / 7000) 8075M TPH/G/BTEX (COMBINATION) 8075M TPH/D (Diesel/GC) <u>Total Lead</u>	CIRCLE APPROPRIATE MATRIX: SOLID • <u>SLUDGE</u> OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER _____	PRESERVATION: RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER _____
---	---	---	--	--

ITEM	LAB USE ONLY:		Sample Description				MATRIX										PRESERVATION	REMARKS										
	Batch #:	Lab No.	Sample I.D.	Date	Time	TAT	#	Type	Container(s)	8081 / 8082 (Pesticides/PCR-GC)	8280 (Halogens-GC/MS)	825 / 8270 (BNA-GC/MS)	Metals Total (CAC-8070 / 7000)	8075M TPH/G/BTEX (COMBINATION)	8075M TPH/D (Diesel/GC)	SOLID • SLUDGE			OIL • SOLVENT • LIQUID	WATER • WASTEWATER	DRINKING WATER	AIR	WIPE • FILTER	OTHER				
		71	N59-0.3	7/11	1:25																							
		72	N59-0.6		1:30																							
		73	N60-S		1:22																							
		74	N60-0.3		1:37																							
		75	N61-S		1:38																							
		76	N61-0.3		1:44																							
		77	N61-0.6		1:50																							
		78	N62-S		1:32																							
		79	N62-0.3		1:45																							

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= <u>Overnight</u> ≤ 24 hr	B= <u>Emergency</u> Next workday	C= <u>Critical</u> 2 Workdays	D= <u>Urgent</u> 3 Workdays	E= <u>Routine</u> 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₈
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

Advanced Technology Laboratories

Date: 7/18/2002

LEAD BY ICP EPA 6010B

CLIENT:	Geocon Environmental	Lab Order:	057892
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/11/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057892-001A	N38-S	780	mg/Kg	9546	5	1	7/11/2002	7/15/2002
057892-002A	N38-0.3	3800	mg/Kg	9546	10	2	7/11/2002	7/16/2002
057892-003A	N38-0.6	2000	mg/Kg	9546	5	1	7/11/2002	7/15/2002
057892-004A	N39-S	350	mg/Kg	9546	5	1	7/11/2002	7/15/2002
057892-005A	N39-0.3	1700	mg/Kg	9546	5	1	7/11/2002	7/15/2002
057892-006A	N39-0.6	1100	mg/Kg	9546	5	1	7/11/2002	7/15/2002
057892-007A	N40-S	1900	mg/Kg	9546	5	1	7/11/2002	7/15/2002
057892-008A	N40-0.3	23	mg/Kg	9546	5	1	7/11/2002	7/15/2002
057892-009A	N40-0.6	680	mg/Kg	9546	5	1	7/11/2002	7/15/2002
057892-010A	N40-0.9	ND	mg/Kg	9546	5	1	7/11/2002	7/15/2002
057892-011A	N41-S	390	mg/Kg	9546	5	1	7/11/2002	7/15/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified

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Advanced Technology Laboratories

Date: 7/18/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057892
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/11/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057892-012A	N41-0.3	1300	mg/Kg	9546	5	1	7/11/2002	7/15/2002
057892-013A	N41-0.6	42	mg/Kg	9546	5	1	7/11/2002	7/15/2002
057892-014A	N41-0.9	44	mg/Kg	9546	5	1	7/11/2002	7/15/2002
057892-015A	N42-S	1500	mg/Kg	9546	5	1	7/11/2002	7/15/2002
057892-016A	N42-0.3	890	mg/Kg	9546	5	1	7/11/2002	7/15/2002
057892-017A	N43-S	1900	mg/Kg	9546	5	1	7/11/2002	7/15/2002
057892-018A	N43-0.3	46	mg/Kg	9546	5	1	7/11/2002	7/15/2002
057892-019A	N43-0.6	46	mg/Kg	9546	5	1	7/11/2002	7/15/2002
057892-020A	N43-0.9	9.4	mg/Kg	9546	5	1	7/11/2002	7/15/2002
057892-021A	N44-S	1100	mg/Kg	9547	5	1	7/11/2002	7/15/2002
057892-022A	N44-0.3	1300	mg/Kg	9547	5	1	7/11/2002	7/15/2002

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/18/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057892
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/11/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057892-023A	N44-0.6	200	mg/Kg	9547	5	1	7/11/2002	7/15/2002
057892-024A	N45-S	2000	mg/Kg	9547	5	1	7/11/2002	7/15/2002
057892-025A	N45-0.3	1300	mg/Kg	9547	5	1	7/11/2002	7/15/2002
057892-026A	N46-S	1500	mg/Kg	9547	5	1	7/11/2002	7/15/2002
057892-027A	N46-0.3	490	mg/Kg	9547	5	1	7/11/2002	7/15/2002
057892-028A	N47-S	850	mg/Kg	9547	5	1	7/11/2002	7/15/2002
057892-029A	N47-0.3	760	mg/Kg	9547	5	1	7/11/2002	7/15/2002
057892-030A	N47-0.6	74	mg/Kg	9547	5	1	7/11/2002	7/15/2002
057892-031A	N47-0.9	400	mg/Kg	9547	5	1	7/11/2002	7/15/2002
057892-032A	N48-S	1300	mg/Kg	9547	5	1	7/11/2002	7/15/2002
057892-033A	N48-0.3	310	mg/Kg	9547	5	1	7/11/2002	7/15/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/18/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057892
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/11/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057892-034A	N48-0.6	180	mg/Kg	9547	5	1	7/11/2002	7/15/2002
057892-035A	N48-0.9	360	mg/Kg	9547	5	1	7/11/2002	7/15/2002
057892-036A	N49-S	810	mg/Kg	9547	5	1	7/11/2002	7/15/2002
057892-037A	N49-0.3	220	mg/Kg	9547	5	1	7/11/2002	7/15/2002
057892-038A	N49-0.6	350	mg/Kg	9547	5	1	7/11/2002	7/15/2002
057892-039A	N50-S	1200	mg/Kg	9547	5	1	7/11/2002	7/15/2002
057892-040A	N50-0.3	450	mg/Kg	9547	5	1	7/11/2002	7/15/2002
057892-041A	N50-0.6	200	mg/Kg	9548	5	1	7/11/2002	7/15/2002
057892-042A	N50-0.9	160	mg/Kg	9548	5	1	7/11/2002	7/15/2002
057892-043A	N51-S	270	mg/Kg	9548	5	1	7/11/2002	7/15/2002
057892-044A	N51-0.3	170	mg/Kg	9548	5	1	7/11/2002	7/15/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/18/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057892
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/11/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057892-045A	N51-0.6	120	mg/Kg	9548	5	1	7/11/2002	7/15/2002
057892-046A	N52-S	1100	mg/Kg	9548	5	1	7/11/2002	7/15/2002
057892-047A	N52-0.3	890	mg/Kg	9548	5	1	7/11/2002	7/15/2002
057892-048A	N52-0.6	440	mg/Kg	9548	5	1	7/11/2002	7/15/2002
057892-049A	N52-0.9	43	mg/Kg	9548	5	1	7/11/2002	7/15/2002
057892-050A	N53-S	770	mg/Kg	9548	5	1	7/11/2002	7/15/2002
057892-051A	N53-0.3	310	mg/Kg	9548	5	1	7/11/2002	7/16/2002
057892-052A	N53-0.6	230	mg/Kg	9548	5	1	7/11/2002	7/16/2002
057892-053A	N54-S	3500	mg/Kg	9548	10	2	7/11/2002	7/16/2002
057892-054A	N54-0.3	310	mg/Kg	9548	5	1	7/11/2002	7/16/2002
057892-055A	N54-0.6	130	mg/Kg	9548	5	1	7/11/2002	7/16/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/18/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057892
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/11/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057892-056A	N54-0.9	490	mg/Kg	9548	5	1	7/11/2002	7/16/2002
057892-057A	N55-S	730	mg/Kg	9548	5	1	7/11/2002	7/16/2002
057892-058A	N55-0.3	940	mg/Kg	9548	5	1	7/11/2002	7/16/2002
057892-059A	N55-0.6	460	mg/Kg	9548	5	1	7/11/2002	7/16/2002
057892-060A	N56-S	720	mg/Kg	9548	5	1	7/11/2002	7/16/2002
057892-061A	N56-0.3	190	mg/Kg	9549	5	1	7/11/2002	7/16/2002
057892-062A	N56-0.6	65	mg/Kg	9549	5	1	7/11/2002	7/16/2002
057892-063A	N56-0.9	160	mg/Kg	9549	5	1	7/11/2002	7/16/2002
057892-064A	N57-S	470	mg/Kg	9549	5	1	7/11/2002	7/16/2002
057892-065A	N57-0.3	260	mg/Kg	9549	5	1	7/11/2002	7/16/2002
057892-066A	N57-0.6	800	mg/Kg	9549	5	1	7/11/2002	7/16/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/18/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057892
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/11/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057892-067A	N58-S	3400	mg/Kg	9549	10	2	7/11/2002	7/16/2002
057892-068A	N58-0.3	1300	mg/Kg	9549	5	1	7/11/2002	7/16/2002
057892-069A	N58-0.6	840	mg/Kg	9549	5	1	7/11/2002	7/16/2002
057892-070A	N59-S	1600	mg/Kg	9549	5	1	7/11/2002	7/16/2002
057892-071A	N59-0.3	360	mg/Kg	9549	5	1	7/11/2002	7/16/2002
057892-072A	N59-0.6	28	mg/Kg	9549	5	1	7/11/2002	7/16/2002
057892-073A	N60-S	990	mg/Kg	9549	5	1	7/11/2002	7/16/2002
057892-074A	N60-0.3	530	mg/Kg	9549	5	1	7/11/2002	7/16/2002
057892-075A	N61-S	2200	mg/Kg	9549	5	1	7/11/2002	7/16/2002
057892-076A	N61-0.3	890	mg/Kg	9549	5	1	7/11/2002	7/16/2002
057892-077A	N61-0.6	500	mg/Kg	9549	5	1	7/11/2002	7/16/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/18/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057892
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/11/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057892-078A	N62-S	620	mg/Kg	9549	5	1	7/11/2002	7/16/2002
057892-079A	N62-0.3	340	mg/Kg	9549	5	1	7/11/2002	7/16/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/18/2002

**ICP METALS
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057892
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/11/2002
Project No:		Matrix:	Water
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057892-080A	C13	ND	mg/L	9582	0.005	1	7/11/2002	7/16/2002
057892-081A	C14	ND	mg/L	9582	0.005	1	7/11/2002	7/16/2002
057892-082A	C15	ND	mg/L	9582	0.005	1	7/11/2002	7/16/2002
057892-083A	C16	ND	mg/L	9582	0.005	1	7/11/2002	7/16/2002
057892-084A	C17	ND	mg/L	9582	0.005	1	7/11/2002	7/16/2002
057892-085A	C18	ND	mg/L	9582	0.005	1	7/11/2002	7/16/2002
057892-086A	C19	0.0068	mg/L	9582	0.005	1	7/11/2002	7/16/2002
057892-087A	C20	ND	mg/L	9582	0.005	1	7/11/2002	7/16/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/18/2002

pH EPA 9045C

CLIENT:	Geocon Environmental	Lab Order:	057892
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/11/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057892-001A	N38-S	6.23	pH Units	R19481	0.1	1	7/11/2002	7/17/2002
057892-010A	N40-0.9	8.31	pH Units	R19481	0.1	1	7/11/2002	7/17/2002
057892-020A	N43-0.9	7.22	pH Units	R19481	0.1	1	7/11/2002	7/17/2002
057892-030A	N47-0.6	8.63	pH Units	R19481	0.1	1	7/11/2002	7/17/2002
057892-040A	N50-0.3	8.33	pH Units	R19481	0.1	1	7/11/2002	7/17/2002
057892-050A	N53-S	7.52	pH Units	R19481	0.1	1	7/11/2002	7/17/2002
057892-060A	N56-S	8.07	pH Units	R19481	0.1	1	7/11/2002	7/17/2002
057892-070A	N59-S	6.37	pH Units	R19481	0.1	1	7/11/2002	7/17/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified

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LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057892
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/11/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057892-001A	N38-S	52	mg/L	9726	0.8	4	7/11/2002	7/23/2002
057892-004A	N39-S	36	mg/L	9726	0.8	4	7/11/2002	7/23/2002
057892-009A	N40-0.6	39	mg/L	9726	0.8	4	7/11/2002	7/23/2002
057892-011A	N41-S	7.8	mg/L	9726	0.2	1	7/11/2002	7/23/2002
057892-016A	N42-0.3	44	mg/L	9726	0.8	4	7/11/2002	7/23/2002
057892-023A	N44-0.6	14	mg/L	9727	0.2	1	7/11/2002	7/23/2002
057892-027A	N46-0.3	22	mg/L	9727	0.4	2	7/11/2002	7/23/2002
057892-028A	N47-S	53	mg/L	9727	0.8	4	7/11/2002	7/23/2002
057892-029A	N47-0.3	48	mg/L	9727	0.8	4	7/11/2002	7/23/2002
057892-030A	N47-0.6	1.9	mg/L	9727	0.2	1	7/11/2002	7/23/2002
057892-031A	N47-0.9	28	mg/L	9727	0.4	2	7/11/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057892
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/11/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057892-033A	N48-0.3	29	mg/L	9727	0.4	2	7/11/2002	7/23/2002
057892-034A	N48-0.6	12	mg/L	9727	0.2	1	7/11/2002	7/23/2002
057892-035A	N48-0.9	30	mg/L	9727	0.4	2	7/11/2002	7/23/2002
057892-036A	N49-S	45	mg/L	9727	0.8	4	7/11/2002	7/23/2002
057892-037A	N49-0.3	11	mg/L	9727	0.2	1	7/11/2002	7/23/2002
057892-038A	N49-0.6	20	mg/L	9727	0.4	2	7/11/2002	7/23/2002
057892-040A	N50-0.3	22	mg/L	9727	0.4	2	7/11/2002	7/23/2002
057892-041A	N50-0.6	19	mg/L	9727	0.4	2	7/11/2002	7/23/2002
057892-042A	N50-0.9	3.7	mg/L	9727	0.2	1	7/11/2002	7/23/2002
057892-043A	N51-S	18	mg/L	9727	0.4	2	7/11/2002	7/23/2002
057892-044A	N51-0.3	11	mg/L	9727	0.2	1	7/11/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057892
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/11/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057892-045A	N51-0.6	11	mg/L	9727	0.2	1	7/11/2002	7/23/2002
057892-047A	N52-0.3	65	mg/L	9727	1	5	7/11/2002	7/23/2002
057892-048A	N52-0.6	38	mg/L	9727	0.8	4	7/11/2002	7/23/2002
057892-050A	N53-S	130	mg/L	9728	2	10	7/11/2002	7/23/2002
057892-051A	N53-0.3	34	mg/L	9728	0.8	4	7/11/2002	7/23/2002
057892-052A	N53-0.6	14	mg/L	9728	0.2	1	7/11/2002	7/23/2002
057892-054A	N54-0.3	15	mg/L	9728	0.2	1	7/11/2002	7/23/2002
057892-055A	N54-0.6	8.1	mg/L	9728	0.2	1	7/11/2002	7/23/2002
057892-056A	N54-0.9	35	mg/L	9728	0.8	4	7/11/2002	7/23/2002
057892-057A	N55-S	130	mg/L	9728	2	10	7/11/2002	7/23/2002
057892-058A	N55-0.3	140	mg/L	9728	2	10	7/11/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057892
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/11/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057892-059A	N55-0.6	36	mg/L	9728	0.8	4	7/11/2002	7/23/2002
057892-060A	N56-S	200	mg/L	9728	4	20	7/11/2002	7/23/2002
057892-061A	N56-0.3	8.4	mg/L	9728	0.2	1	7/11/2002	7/23/2002
057892-062A	N56-0.6	4.5	mg/L	9728	0.2	1	7/11/2002	7/23/2002
057892-063A	N56-0.9	8.5	mg/L	9728	0.2	1	7/11/2002	7/23/2002
057892-064A	N57-S	63	mg/L	9728	1	5	7/11/2002	7/23/2002
057892-065A	N57-0.3	27	mg/L	9728	0.4	2	7/11/2002	7/23/2002
057892-066A	N57-0.6	50	mg/L	9728	0.8	4	7/11/2002	7/23/2002
057892-069A	N58-0.6	89	mg/L	9728	2	10	7/11/2002	7/23/2002
057892-071A	N59-0.3	51	mg/L	9728	0.8	4	7/11/2002	7/23/2002
057892-073A	N60-S	64	mg/L	9728	1	5	7/11/2002	7/23/2002

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057892
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/11/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057892-074A	N60-0.3	53	mg/L	9728	0.8	4	7/11/2002	7/23/2002
057892-076A	N61-0.3	65	mg/L	9729	1	5	7/11/2002	7/23/2002
057892-077A	N61-0.6	27	mg/L	9729	0.4	2	7/11/2002	7/23/2002
057892-078A	N62-S	41	mg/L	9729	0.8	4	7/11/2002	7/23/2002
057892-079A	N62-0.3	26	mg/L	9729	0.4	2	7/11/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
EPA 1311/ 7420

CLIENT:	Geocon Environmental	Lab Order:	057892
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/11/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057892-002A	N38-0.3	9.7	mg/L	9761	0.2	1	7/11/2002	7/25/2002
057892-003A	N38-0.6	2.1	mg/L	9761	0.2	1	7/11/2002	7/25/2002
057892-005A	N39-0.3	4.3	mg/L	9761	0.2	1	7/11/2002	7/25/2002
057892-006A	N39-0.6	8.8	mg/L	9761	0.2	1	7/11/2002	7/25/2002
057892-007A	N40-S	1.8	mg/L	9762	0.2	1	7/11/2002	7/25/2002
057892-012A	N41-0.3	1.6	mg/L	9762	0.2	1	7/11/2002	7/25/2002
057892-015A	N42-S	1.8	mg/L	9762	0.2	1	7/11/2002	7/25/2002
057892-017A	N43-S	3.0	mg/L	9762	0.2	1	7/11/2002	7/25/2002
057892-021A	N44-S	2.8	mg/L	9762	0.2	1	7/11/2002	7/25/2002
057892-022A	N44-0.3	3.7	mg/L	9762	0.2	1	7/11/2002	7/25/2002
057892-024A	N45-S	3.0	mg/L	9762	0.2	1	7/11/2002	7/25/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
EPA 1311/7420

CLIENT:	Geocon Environmental	Lab Order:	057892
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/11/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057892-025A	N45-0.3	2.6	mg/L	9762	0.2	1	7/11/2002	7/25/2002
057892-026A	N46-S	2.2	mg/L	9762	0.2	1	7/11/2002	7/25/2002
057892-032A	N48-S	1.4	mg/L	9762	0.2	1	7/11/2002	7/25/2002
057892-039A	N50-S	1.3	mg/L	9763	0.2	1	7/11/2002	7/25/2002
057892-046A	N52-S	1.9	mg/L	9763	0.2	1	7/11/2002	7/25/2002
057892-053A	N54-S	8.2	mg/L	9763	0.2	1	7/11/2002	7/25/2002
057892-067A	N58-S	4.6	mg/L	9763	0.2	1	7/11/2002	7/25/2002
057892-068A	N58-0.3	2.6	mg/L	9763	0.2	1	7/11/2002	7/25/2002
057892-070A	N59-S	4.3	mg/L	9763	0.2	1	7/11/2002	7/25/2002
057892-075A	N61-S	2.9	mg/L	9763	0.2	1	7/11/2002	7/25/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057892
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/11/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057892-001A	N38-S	0.44	mg/L	9678	0.2	1	7/11/2002	7/23/2002
057892-004A	N39-S	ND	mg/L	9678	0.2	1	7/11/2002	7/23/2002
057892-009A	N40-0.6	0.82	mg/L	9678	0.2	1	7/11/2002	7/23/2002
057892-011A	N41-S	ND	mg/L	9678	0.2	1	7/11/2002	7/23/2002
057892-016A	N42-0.3	2.1	mg/L	9678	0.2	1	7/11/2002	7/23/2002
057892-023A	N44-0.6	ND	mg/L	9678	0.2	1	7/11/2002	7/23/2002
057892-027A	N46-0.3	0.81	mg/L	9678	0.2	1	7/11/2002	7/23/2002
057892-028A	N47-S	2.2	mg/L	9678	0.2	1	7/11/2002	7/23/2002
057892-029A	N47-0.3	3.1	mg/L	9678	0.2	1	7/11/2002	7/23/2002
057892-031A	N47-0.9	1.5	mg/L	9678	0.2	1	7/11/2002	7/23/2002
057892-033A	N48-0.3	1.1	mg/L	9678	0.2	1	7/11/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057892
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/11/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057892-034A	N48-0.6	0.21	mg/L	9678	0.2	1	7/11/2002	7/23/2002
057892-035A	N48-0.9	1.3	mg/L	9678	0.2	1	7/11/2002	7/23/2002
057892-036A	N49-S	2.5	mg/L	9678	0.2	1	7/11/2002	7/23/2002
057892-037A	N49-0.3	0.28	mg/L	9678	0.2	1	7/11/2002	7/23/2002
057892-038A	N49-0.6	0.37	mg/L	9678	0.2	1	7/11/2002	7/23/2002
057892-040A	N50-0.3	1.0	mg/L	9678	0.2	1	7/11/2002	7/23/2002
057892-041A	N50-0.6	1.1	mg/L	9678	0.2	1	7/11/2002	7/23/2002
057892-043A	N51-S	0.35	mg/L	9679	0.2	1	7/11/2002	7/23/2002
057892-044A	N51-0.3	0.32	mg/L	9679	0.2	1	7/11/2002	7/23/2002
057892-045A	N51-0.6	0.47	mg/L	9679	0.2	1	7/11/2002	7/23/2002
057892-047A	N52-0.3	3.0	mg/L	9679	0.2	1	7/11/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057892
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/11/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057892-048A	N52-0.6	2.3	mg/L	9679	0.2	1	7/11/2002	7/23/2002
057892-050A	N53-S	1.9	mg/L	9679	0.2	1	7/11/2002	7/23/2002
057892-051A	N53-0.3	1.1	mg/L	9679	0.2	1	7/11/2002	7/23/2002
057892-052A	N53-0.6	0.51	mg/L	9679	0.2	1	7/11/2002	7/23/2002
057892-054A	N54-0.3	0.62	mg/L	9679	0.2	1	7/11/2002	7/23/2002
057892-055A	N54-0.6	ND	mg/L	9679	0.2	1	7/11/2002	7/23/2002
057892-056A	N54-0.9	0.63	mg/L	9679	0.2	1	7/11/2002	7/23/2002
057892-057A	N55-S	4.5	mg/L	9679	0.2	1	7/11/2002	7/23/2002
057892-058A	N55-0.3	7.4	mg/L	9679	0.2	1	7/11/2002	7/23/2002
057892-059A	N55-0.6	4.7	mg/L	9679	0.2	1	7/11/2002	7/23/2002
057892-060A	N56-S	4.5	mg/L	9679	0.2	1	7/11/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057892
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/11/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057892-061A	N56-0.3	2.6	mg/L	9679	0.2	1	7/11/2002	7/23/2002
057892-063A	N56-0.9	ND	mg/L	9679	0.2	1	7/11/2002	7/23/2002
057892-064A	N57-S	2.2	mg/L	9679	0.2	1	7/11/2002	7/23/2002
057892-065A	N57-0.3	0.60	mg/L	9680	0.2	1	7/11/2002	7/23/2002
057892-066A	N57-0.6	2.8	mg/L	9680	0.2	1	7/11/2002	7/23/2002
057892-069A	N58-0.6	1.5	mg/L	9680	0.2	1	7/11/2002	7/23/2002
057892-071A	N59-0.3	2.6	mg/L	9680	0.2	1	7/11/2002	7/23/2002
057892-073A	N60-S	1.7	mg/L	9680	0.2	1	7/11/2002	7/23/2002
057892-074A	N60-0.3	2.4	mg/L	9680	0.2	1	7/11/2002	7/23/2002
057892-076A	N61-0.3	4.2	mg/L	9680	0.2	1	7/11/2002	7/23/2002
057892-077A	N61-0.6	1.3	mg/L	9680	0.2	1	7/11/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057892
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/11/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057892-078A	N62-S	1.9	mg/L	9680	0.2	1	7/11/2002	7/23/2002
057892-079A	N62-0.3	1.1	mg/L	9680	0.2	1	7/11/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 31-Jul-02

CLIENT: Geocon Environmental
Lab Order: 057892
Project: Rte 5-NB, 9100-06-49
Lab ID: 057892-002A

Client Sample ID: N38-0.3
Collection Date: 7/11/2002
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID:	ICP2_020729C	QC Batch:	9916	Analyst: RQ		
Antimony	2.5	0.25	mg/Kg	1	7/29/2002	
Arsenic	12	0.25	mg/Kg	1	7/29/2002	
Barium	210	0.15	mg/Kg	1	7/29/2002	
Beryllium	ND	0.15	mg/Kg	1	7/29/2002	
Cadmium	ND	0.15	mg/Kg	1	7/29/2002	
Chromium	46	0.15	mg/Kg	1	7/29/2002	
Cobalt	6.5	0.15	mg/Kg	1	7/29/2002	
Copper	94	0.15	mg/Kg	1	7/29/2002	
Lead	3700	2.5	mg/Kg	10	7/29/2002	
Molybdenum	5.5	0.25	mg/Kg	1	7/29/2002	
Nickel	24	0.15	mg/Kg	1	7/29/2002	
Selenium	ND	0.25	mg/Kg	1	7/29/2002	
Silver	0.24	0.15	mg/Kg	1	7/29/2002	
Thallium	0.50	0.25	mg/Kg	1	7/29/2002	
Vanadium	28	0.15	mg/Kg	1	7/29/2002	
Zinc	550	0.50	mg/Kg	1	7/29/2002	

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID:	AA1_020729A	QC Batch:	9919	Analyst: NS		
Mercury	0.12	0.10	mg/Kg	1	7/29/2002	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
Lab Order: 057892
Project: Rte 5-NB, 9100-06-49
Lab ID: 057892-003A

Client Sample ID: N38-0.6
Collection Date: 7/11/2002
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID:	ICP2_020729C	QC Batch:	9916	Analyst: RQ		
Antimony	450	25	mg/Kg	100	7/29/2002	
Arsenic	50	25	mg/Kg	100	7/29/2002	
Barium	100	15	mg/Kg	100	7/29/2002	
Beryllium	ND	15	mg/Kg	100	7/29/2002	
Cadmium	ND	15	mg/Kg	100	7/29/2002	
Chromium	50000	15	mg/Kg	100	7/29/2002	
Cobalt	100	15	mg/Kg	100	7/29/2002	
Copper	150	15	mg/Kg	100	7/29/2002	
Lead	1900	25	mg/Kg	100	7/29/2002	
Molybdenum	1000	25	mg/Kg	100	7/29/2002	
Nickel	600	15	mg/Kg	100	7/29/2002	
Selenium	ND	25	mg/Kg	100	7/29/2002	
Silver	ND	15	mg/Kg	100	7/29/2002	
Thallium	ND	25	mg/Kg	100	7/29/2002	
Vanadium	150	15	mg/Kg	100	7/29/2002	
Zinc	500	50	mg/Kg	100	7/29/2002	

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID:	AA1_020729A	QC Batch:	9919	Analyst: NS		
Mercury	ND	1.0	mg/Kg	10	7/29/2002	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified

Page 2 of 6



Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
Lab Order: 057892
Project: Rte 5-NB, 9100-06-49
Lab ID: 057892-024A

Client Sample ID: N45-S
Collection Date: 7/11/2002
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID:	ICP2_020729C	QC Batch:	9916	Analyst: RQ		
Antimony	2.0	0.25	mg/Kg	1	7/29/2002	
Arsenic	8.5	0.25	mg/Kg	1	7/29/2002	
Barium	200	0.15	mg/Kg	1	7/29/2002	
Beryllium	ND	0.15	mg/Kg	1	7/29/2002	
Cadmium	ND	0.15	mg/Kg	1	7/29/2002	
Chromium	21	0.15	mg/Kg	1	7/29/2002	
Cobalt	6.0	0.15	mg/Kg	1	7/29/2002	
Copper	72	0.15	mg/Kg	1	7/29/2002	
Lead	2100	0.25	mg/Kg	1	7/29/2002	
Molybdenum	2.5	0.25	mg/Kg	1	7/29/2002	
Nickel	16	0.15	mg/Kg	1	7/29/2002	
Selenium	ND	0.25	mg/Kg	1	7/29/2002	
Silver	ND	0.15	mg/Kg	1	7/29/2002	
Thallium	0.50	0.25	mg/Kg	1	7/29/2002	
Vanadium	22	0.15	mg/Kg	1	7/29/2002	
Zinc	390	0.50	mg/Kg	1	7/29/2002	

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID:	AA1_020729B	QC Batch:	9920	Analyst: NS		
Mercury	0.14	0.10	mg/Kg	1	7/29/2002	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
Lab Order: 057892
Project: Rte 5-NB, 9100-06-49
Lab ID: 057892-053A

Client Sample ID: N54-S
Collection Date: 7/11/2002
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID:	ICP2_020729D	QC Batch:	9917				Analyst: RQ
Antimony	2.0	0.25	mg/Kg	1	7/29/2002		
Arsenic	9.0	0.25	mg/Kg	1	7/29/2002		
Barium	170	0.15	mg/Kg	1	7/29/2002		
Beryllium	ND	0.15	mg/Kg	1	7/29/2002		
Cadmium	ND	0.15	mg/Kg	1	7/29/2002		
Chromium	23	0.15	mg/Kg	1	7/29/2002		
Cobalt	6.0	0.15	mg/Kg	1	7/29/2002		
Copper	78	0.15	mg/Kg	1	7/29/2002		
Lead	3800	2.5	mg/Kg	10	7/29/2002		
Molybdenum	4.0	0.25	mg/Kg	1	7/29/2002		
Nickel	19	0.15	mg/Kg	1	7/29/2002		
Selenium	ND	0.25	mg/Kg	1	7/29/2002		
Silver	ND	0.15	mg/Kg	1	7/29/2002		
Thallium	0.50	0.25	mg/Kg	1	7/29/2002		
Vanadium	24	0.15	mg/Kg	1	7/29/2002		
Zinc	350	0.50	mg/Kg	1	7/29/2002		

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID:	AA1_020729B	QC Batch:	9920				Analyst: NS
Mercury	0.14	0.10	mg/Kg	1	7/29/2002		

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified

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Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
Lab Order: 057892
Project: Rte 5-NB, 9100-06-49
Lab ID: 057892-067A

Client Sample ID: N58-S
Collection Date: 7/11/2002
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID:	ICP2_020729D	QC Batch:	9917	Analyst: RQ		
Antimony	2.0	0.25	mg/Kg	1	7/29/2002	
Arsenic	9.0	0.25	mg/Kg	1	7/29/2002	
Barium	170	0.15	mg/Kg	1	7/29/2002	
Beryllium	ND	0.15	mg/Kg	1	7/29/2002	
Cadmium	ND	0.15	mg/Kg	1	7/29/2002	
Chromium	22	0.15	mg/Kg	1	7/29/2002	
Cobalt	5.0	0.15	mg/Kg	1	7/29/2002	
Copper	56	0.15	mg/Kg	1	7/29/2002	
Lead	3700	2.5	mg/Kg	10	7/29/2002	
Molybdenum	3.0	0.25	mg/Kg	1	7/29/2002	
Nickel	18	0.15	mg/Kg	1	7/29/2002	
Selenium	ND	0.25	mg/Kg	1	7/29/2002	
Silver	ND	0.15	mg/Kg	1	7/29/2002	
Thallium	0.50	0.25	mg/Kg	1	7/29/2002	
Vanadium	22	0.15	mg/Kg	1	7/29/2002	
Zinc	300	0.50	mg/Kg	1	7/29/2002	

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID:	AA1_020729B	QC Batch:	9920	Analyst: NS		
Mercury	ND	0.10	mg/Kg	1	7/29/2002	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified

Page 5 of 6



Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
Lab Order: 057892
Project: Rte 5-NB, 9100-06-49
Lab ID: 057892-075A

Client Sample ID: N61-S
Collection Date: 7/11/2002
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID:	ICP2_020729D	QC Batch:	9917				Analyst: RQ
Antimony	2.0	0.25		mg/Kg	1	7/29/2002	
Arsenic	12	0.25		mg/Kg	1	7/29/2002	
Barium	200	0.15		mg/Kg	1	7/29/2002	
Beryllium	ND	0.15		mg/Kg	1	7/29/2002	
Cadmium	ND	0.15		mg/Kg	1	7/29/2002	
Chromium	30	0.15		mg/Kg	1	7/29/2002	
Cobalt	7.0	0.15		mg/Kg	1	7/29/2002	
Copper	110	0.15		mg/Kg	1	7/29/2002	
Lead	1800	0.25		mg/Kg	1	7/29/2002	
Molybdenum	7.0	0.25		mg/Kg	1	7/29/2002	
Nickel	26	0.15		mg/Kg	1	7/29/2002	
Selenium	ND	0.25		mg/Kg	1	7/29/2002	
Silver	ND	0.15		mg/Kg	1	7/29/2002	
Thallium	1.0	0.25		mg/Kg	1	7/29/2002	
Vanadium	29	0.15		mg/Kg	1	7/29/2002	
Zinc	450	0.50		mg/Kg	1	7/29/2002	

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

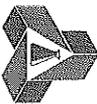
EPA 7471A

RunID:	AA1_020729B	QC Batch:	9920				Analyst: NS
Mercury	ND	0.10		mg/Kg	1	7/29/2002	

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified

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Advanced Technology Laboratories

Date: 18-Jul-02

CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9546A, MBLK, 6010_SPB, mg/Kg, 7/13/2002, ICP5_020715J, ZZZZZ, 9546, EPA 6010B (EPA 3050M), 7/15/2002, 299632, Lead, 0.55, 5.0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9546B, MBLK, 6010_SPB, mg/Kg, 7/13/2002, ICP5_020715J, ZZZZZ, 9546, EPA 6010B (EPA 3050M), 7/15/2002, 299633, Lead, 0.307, 5.0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9547A, MBLK, 6010_SPB, mg/Kg, 7/13/2002, ICP5_020715K, ZZZZZ, 9547, EPA 6010B (EPA 3050M), 7/15/2002, 299707, Lead, 0.715, 5.0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9547B, MBLK, 6010_SPB, mg/Kg, 7/13/2002, ICP5_020715K, ZZZZZ, 9547, EPA 6010B (EPA 3050M), 7/15/2002, 299708, Lead, 0.254, 5.0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9548A, MBLK, 6010_SPB, mg/Kg, 7/13/2002, ICP5_020715L, ZZZZZ, 9548, EPA 6010B (EPA 3050M), 7/15/2002, 299723, Lead, 1.94, 5.0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID MB-9548B	SampType: MBLK	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/13/2002	Run ID: ICP5_020715L						
Client ID: ZZZZZ	Batch ID: 9548	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/16/2002	SeqNo: 299737						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID MB-9549A	SampType: MBLK	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/13/2002	Run ID: ICP5_020715M						
Client ID: ZZZZZ	Batch ID: 9549	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/16/2002	SeqNo: 299763						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID MB-9549B	SampType: MBLK	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/13/2002	Run ID: ICP5_020715M						
Client ID: ZZZZZ	Batch ID: 9549	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/16/2002	SeqNo: 299764						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.309 5.0

Sample ID LCS-9546	SampType: LCS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/13/2002	Run ID: ICP5_020715J						
Client ID: ZZZZZ	Batch ID: 9546	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/15/2002	SeqNo: 299631						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 216.5 5.0 250 0 86.6 80 120 0 0

Sample ID LCS-9547	SampType: LCS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/13/2002	Run ID: ICP5_020715K						
Client ID: ZZZZZ	Batch ID: 9547	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/15/2002	SeqNo: 299706						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 219.7 5.0 250 0 87.9 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID LCS-9548	SampType: LCS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/13/2002	Run ID: ICP5_020715L						
Client ID: ZZZZZ	Batch ID: 9548	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/15/2002	SeqNo: 299722						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	225.2	5.0	250	0	90.1	80	120	0	0		
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Sample ID LCS-9549	SampType: LCS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/13/2002	Run ID: ICP5_020715M						
Client ID: ZZZZZ	Batch ID: 9549	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/16/2002	SeqNo: 299762						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	208.4	5.0	250	0	83.4	80	120	0	0		
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Sample ID 057892-010AMS	SampType: MS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/13/2002	Run ID: ICP5_020715J						
Client ID: N40-0.9	Batch ID: 9546	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/15/2002	SeqNo: 299617						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	149.7	5.0	250	3.895	58.3	47	128	0	0		
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Sample ID 057892-020AMS	SampType: MS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/13/2002	Run ID: ICP5_020715J						
Client ID: N43-0.9	Batch ID: 9546	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/15/2002	SeqNo: 299629						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	170.7	5.0	250	9.424	64.5	47	128	0	0		
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Sample ID 057892-030AMS	SampType: MS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/13/2002	Run ID: ICP5_020715K						
Client ID: N47-0.6	Batch ID: 9547	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/15/2002	SeqNo: 299692						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	248.1	5.0	250	73.9	69.7	47	128	0	0		
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057892-040AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715K		
Client ID:	N50-0.3	Batch ID:	9547	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299704		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		483.3		5.0	250	451.7	12.7	47	128	0	0		S

Sample ID	057892-050AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715L		
Client ID:	N53-S	Batch ID:	9548	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299721		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		816		5.0	250	765.1	20.4	47	128	0	0		S

Sample ID	057892-060AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715L		
Client ID:	N56-S	Batch ID:	9548	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	299735		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		1138		5.0	250	723	166	47	128	0	0		S

Sample ID	057892-070AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715M		
Client ID:	N59-S	Batch ID:	9549	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	299749		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		1606		5.0	250	1576	11.7	47	128	0	0		S

Sample ID	057892-079AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715M		
Client ID:	N62-0.3	Batch ID:	9549	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	299760		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		460.1		5.0	250	341.9	47.3	47	128	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057892-010ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715J
Client ID:	N40-0.9	Batch ID:	9546	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299616
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	3.06	5.0	0	0	0	0	0	3.895	0	30	J
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Sample ID	057892-020ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715J
Client ID:	N43-0.9	Batch ID:	9546	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299628
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	7.172	5.0	0	0	0	0	0	9.424	27.1	30	
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Sample ID	057892-030ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715K
Client ID:	N47-0.6	Batch ID:	9547	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299691
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	55.98	5.0	0	0	0	0	0	73.9	27.6	30	
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Sample ID	057892-040ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715K
Client ID:	N50-0.3	Batch ID:	9547	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299703
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	361.7	5.0	0	0	0	0	0	451.7	22.1	30	
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Sample ID	057892-050ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715L
Client ID:	N53-S	Batch ID:	9548	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299720
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	563.1	5.0	0	0	0	0	0	765.1	30.4	30	R
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057892-060ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715L		
Client ID:	N56-S	Batch ID:	9548	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	299734		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	867.6	5.0	0	0	0	0	0	0	0	723	18.2	30
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Sample ID	057892-070ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715M		
Client ID:	N59-S	Batch ID:	9549	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	299748		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	1721	5.0	0	0	0	0	0	0	0	1576	8.79	30
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Sample ID	057892-079ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715M		
Client ID:	N62-0.3	Batch ID:	9549	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	299759		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	291.8	5.0	0	0	0	0	0	0	0	341.9	15.8	30
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPB

Sample ID	MB-9582	SampType:	MBLK	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/15/2002	Run ID:	ICP5_020716H												
Client ID:	ZZZZZ	Batch ID:	9582	TestNo:	EPA 6010B	(EPA 3010A)		Analysis Date:	7/16/2002	SeqNo:	299891												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead ND 0.0050

Sample ID	LCS-9582	SampType:	LCS	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/15/2002	Run ID:	ICP5_020716H												
Client ID:	ZZZZZ	Batch ID:	9582	TestNo:	EPA 6010B	(EPA 3010A)		Analysis Date:	7/16/2002	SeqNo:	299890												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 1.02 0.0050 1 0 102 80 120 0 0

Sample ID	057892-087AMS	SampType:	MS	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/15/2002	Run ID:	ICP5_020716H												
Client ID:	C20	Batch ID:	9582	TestNo:	EPA 6010B	(EPA 3010A)		Analysis Date:	7/16/2002	SeqNo:	299888												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 2.523 0.0050 2.5 0 101 66 118 0 0

Sample ID	057892-087ADUP	SampType:	DUP	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/15/2002	Run ID:	ICP5_020716H												
Client ID:	C20	Batch ID:	9582	TestNo:	EPA 6010B	(EPA 3010A)		Analysis Date:	7/16/2002	SeqNo:	299887												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead ND 0.0050 0 0 0 0 0 0 0 0 0 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 9045_S

Sample ID	057892-070ADUP	SampType:	DUP	TestCode:	9045_S	Units:	pH Units	Prep Date:	7/17/2002	Run ID:	WETCHEM_020717B		
Client ID:	N59-S	Batch ID:	R19481	TestNo:	EPA 9045C	Analysis Date:	7/17/2002	SeqNo:	300330				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH		6.39		0.10	0	0	0	0	0	6.37	0.313	20	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**



Advanced Technology Laboratories

Date: 24-Jul-02

CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID MB-9728	SampType: MBLK	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/23/2002	Run ID: AA2_020723M
Client ID: ZZZZZ	Batch ID: 9728	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/23/2002	SeqNo: 304831
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead	0.06608	0.20			

Sample ID MB-9728A	SampType: MBLK	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/19/2002	Run ID: AA2_020723M
Client ID: ZZZZZ	Batch ID: 9728	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/23/2002	SeqNo: 304832
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead	ND	0.20			

Sample ID MB-9728B	SampType: MBLK	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/19/2002	Run ID: AA2_020723M
Client ID: ZZZZZ	Batch ID: 9728	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/23/2002	SeqNo: 304845
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead	ND	0.20			

Sample ID MB-9729	SampType: MBLK	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/23/2002	Run ID: AA2_020723N
Client ID: ZZZZZ	Batch ID: 9729	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/23/2002	SeqNo: 304860
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead	ND	0.20			

Sample ID MB-9729A	SampType: MBLK	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/19/2002	Run ID: AA2_020723N
Client ID: ZZZZZ	Batch ID: 9729	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/23/2002	SeqNo: 304861
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead	ND	0.20			

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	MB-9729B	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723N												
Client ID:	ZZZZZ	Batch ID:	9729	TestNo:	WET/ EPA 74 (WET)	Analysis Date:	7/23/2002	SeqNo:	304874														
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead ND 0.20

Sample ID	MB-9726	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723V												
Client ID:	ZZZZZ	Batch ID:	9726	TestNo:	WET/ EPA 74 (WET)	Analysis Date:	7/23/2002	SeqNo:	305208														
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead ND 0.20

Sample ID	MB-9726A	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723V												
Client ID:	ZZZZZ	Batch ID:	9726	TestNo:	WET/ EPA 74 (WET)	Analysis Date:	7/23/2002	SeqNo:	305209														
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead ND 0.20

Sample ID	MB-9726B	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723V												
Client ID:	ZZZZZ	Batch ID:	9726	TestNo:	WET/ EPA 74 (WET)	Analysis Date:	7/23/2002	SeqNo:	305222														
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 0.04724 0.20

Sample ID	MB-9727	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723W												
Client ID:	ZZZZZ	Batch ID:	9727	TestNo:	WET/ EPA 74 (WET)	Analysis Date:	7/23/2002	SeqNo:	305237														
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead ND 0.20

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	MB-9727A	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723W
Client ID:	ZZZZZ	Batch ID:	9727	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305238
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val
Lead		ND		0.20							

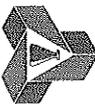
Sample ID	MB-9727B	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723W
Client ID:	ZZZZZ	Batch ID:	9727	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305251
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val
Lead		ND		0.20							

Sample ID	LCS-9728	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723M
Client ID:	ZZZZZ	Batch ID:	9728	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304859
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val
Lead		7.482		0.20	7.5	0		99.8	80	120	0

Sample ID	LCS-9729	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723N
Client ID:	ZZZZZ	Batch ID:	9729	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304896
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val
Lead		7.672		0.20	7.5	0		102	80	120	0

Sample ID	LCS-9726	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723V
Client ID:	ZZZZZ	Batch ID:	9726	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305236
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val
Lead		7.297		0.20	7.5	0		97.3	80	120	0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	LCS-9727	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723W		
Client ID:	ZZZZZ	Batch ID:	9727	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305265		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		7.218		0.20	7.5	0	96.2	80	120	0	0		
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Sample ID	057892-060AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723M		
Client ID:	N56-S	Batch ID:	9728	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304844		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		314.4		5.0	125	196.9	94	80	120	0	0		
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Sample ID	057892-074AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723M		
Client ID:	N60-0.3	Batch ID:	9728	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304857		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		83.19		1.2	30	52.8	101	80	120	0	0		
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Sample ID	057898-012AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723N		
Client ID:	ZZZZZ	Batch ID:	9729	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304873		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		22.46		0.40	10	13.12	93.4	80	120	0	0		
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Sample ID	057898-024AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723N		
Client ID:	ZZZZZ	Batch ID:	9729	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304891		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		9.319		0.20	5	4.63	93.8	80	120	0	0		
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	057890-090AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723V		
Client ID:	ZZZZZ	Batch ID:	9726	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305221		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	65.8	1.0	25	37.81	112	80	120	0	0				
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Sample ID	057892-016AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723V		
Client ID:	N42-0.3	Batch ID:	9726	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305234		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	82.91	1.6	40	44.46	96.1	80	120	0	0				
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Sample ID	057892-036AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723W		
Client ID:	N49-S	Batch ID:	9727	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305250		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	87.97	1.6	40	44.79	108	80	120	0	0				
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Sample ID	057892-048AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723W		
Client ID:	N52-0.6	Batch ID:	9727	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305263		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	54.77	0.80	20	37.98	84	80	120	0	0				
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Sample ID	057892-060ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723M		
Client ID:	N56-S	Batch ID:	9728	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304843		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	194.2	4.0	0	0	0	0	0	0	196.9	1.40	30		
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	057892-074ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723M			
Client ID:	N60-0.3	Batch ID:	9728	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304856			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		52.73		0.80	0	0		0	0	0	52.8	0.142	30	
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Sample ID	057898-012ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723N			
Client ID:	ZZZZZ	Batch ID:	9729	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304872			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		13.2		0.20	0	0		0	0	0	13.12	0.638	30	
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Sample ID	057898-024ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723N			
Client ID:	ZZZZZ	Batch ID:	9729	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304889			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		9.038		0.20	0	0		0	0	0	4.63	64.5	30	R
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Sample ID	057890-090ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723V			
Client ID:	ZZZZZ	Batch ID:	9726	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305220			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		44.67		0.80	0	0		0	0	0	37.81	16.6	30	
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Sample ID	057892-016ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723V			
Client ID:	N42-0.3	Batch ID:	9726	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305233			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		49.07		0.80	0	0		0	0	0	44.46	9.87	30	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	057892-036ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723W		
Client ID:	N49-S	Batch ID:	9727	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305249		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	42.4	0.80	0	0	0	0	0	0	44.79	5.48	30
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Sample ID	057892-048ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723W		
Client ID:	N52-0.6	Batch ID:	9727	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305262		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	34.19	0.80	0	0	0	0	0	0	37.98	10.5	30
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9763, mblk, 7420_TC, mg/L, 7/22/2002, AA2_020725B, ZZZZZ, 9763, EPA 1311/ 74 (EPA 3010A), 7/25/2002, 305986, Lead, 0.07364, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9704-TCLP, mblk, 7420_TC, mg/L, 7/22/2002, AA2_020725B, ZZZZZ, 9763, EPA 1311/ 74 (EPA 3010A), 7/25/2002, 305987, Lead, 0.05161, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9761, mblk, 7420_TC, mg/L, 7/22/2002, AA2_020725F, ZZZZZ, 9761, EPA 1311/ 74 (EPA 3010A), 7/25/2002, 306054, Lead, 0.06383, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9702-TCLP, mblk, 7420_TC, mg/L, 7/22/2002, AA2_020725F, ZZZZZ, 9761, EPA 1311/ 74 (EPA 3010A), 7/25/2002, 306057, Lead, 0.06812, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9762, mblk, 7420_TC, mg/L, 7/22/2002, AA2_020725H, ZZZZZ, 9762, EPA 1311/ 74 (EPA 3010A), 7/25/2002, 306098, Lead, 0.0752, 0.20

Qualifiers: ND - Not Detected at the Reporting Limit, J - Analyte detected below quantitation limits, R - RPD outside accepted recovery limits, S - Spike Recovery outside accepted recovery limits, B - Analyte detected in the associated Method Blank, Calculations are based on raw values, DO- Surrogate dilute out, H - Sample exceeded holding time



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID	MB-9703-TCLP	SampType:	mblk	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020725H			
Client ID:	ZZZZZ	Batch ID:	9762	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/25/2002	SeqNo:	306100			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.06937 0.20

Sample ID	LCS-9763	SampType:	ics	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020725B			
Client ID:	ZZZZZ	Batch ID:	9763	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/25/2002	SeqNo:	306001			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 1.18 0.20 1 0 118 80 120 0 0

Sample ID	LCS-9761	SampType:	ics	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020725F			
Client ID:	ZZZZZ	Batch ID:	9761	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/25/2002	SeqNo:	306077			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.9935 0.20 1 0 99.3 80 120 0 0

Sample ID	LCS-9762	SampType:	ics	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020725H			
Client ID:	ZZZZZ	Batch ID:	9762	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/25/2002	SeqNo:	306136			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 1.123 0.20 1 0 112 80 120 0 0

Sample ID	057898-008AMS	SampType:	MS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020725B			
Client ID:	ZZZZZ	Batch ID:	9763	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/25/2002	SeqNo:	305999			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 2.833 0.20 2.5 0.1728 106 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID	057892-006AMS	SampType: MS	TestCode: 7420_TC	Units: mg/L	Prep Date: 7/22/2002	Run ID: AA2_020725F					
Client ID:	N39-0.6	Batch ID: 9761	TestNo: EPA 1311/ 74 (EPA 3010A)	Analysis Date: 7/25/2002	SeqNo: 306075						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	8.458	0.20	2.5	8.788	-13.2	80	120	0	0		S
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Sample ID	057892-032AMS	SampType: MS	TestCode: 7420_TC	Units: mg/L	Prep Date: 7/22/2002	Run ID: AA2_020725H					
Client ID:	N48-S	Batch ID: 9762	TestNo: EPA 1311/ 74 (EPA 3010A)	Analysis Date: 7/25/2002	SeqNo: 306134						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	5.154	0.20	3.125	1.441	119	80	120	0	0		
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Sample ID	057898-008ADUP	SampType: DUP	TestCode: 7420_TC	Units: mg/L	Prep Date: 7/22/2002	Run ID: AA2_020725B					
Client ID:	ZZZZZ	Batch ID: 9763	TestNo: EPA 1311/ 74 (EPA 3010A)	Analysis Date: 7/25/2002	SeqNo: 305998						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	0.1684	0.20	0	0	0	0	0	0.1728	0	30	J
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Sample ID	057892-006ADUP	SampType: DUP	TestCode: 7420_TC	Units: mg/L	Prep Date: 7/22/2002	Run ID: AA2_020725F					
Client ID:	N39-0.6	Batch ID: 9761	TestNo: EPA 1311/ 74 (EPA 3010A)	Analysis Date: 7/25/2002	SeqNo: 306074						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	8.883	0.20	0	0	0	0	0	8.788	1.08	30	
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Sample ID	057892-032ADUP	SampType: DUP	TestCode: 7420_TC	Units: mg/L	Prep Date: 7/22/2002	Run ID: AA2_020725H					
Client ID:	N48-S	Batch ID: 9762	TestNo: EPA 1311/ 74 (EPA 3010A)	Analysis Date: 7/25/2002	SeqNo: 306133						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	1.089	0.20	0	0	0	0	0	1.441	27.8	30	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 24-Jul-02

CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	MB-9678A	SampType: MBLK	TestCode: 7420_DI	Units: mg/L	Prep Date: 7/18/2002	Run ID: AA2_020723A
Client ID:	ZZZZZ	Batch ID: 9678	TestNo: WET DI/ EPA (WET)		Analysis Date: 7/23/2002	SeqNo: 304342
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead		ND	0.20			

Sample ID	MB-9678	SampType: MBLK	TestCode: 7420_DI	Units: mg/L	Prep Date: 7/23/2002	Run ID: AA2_020723A
Client ID:	ZZZZZ	Batch ID: 9678	TestNo: WET DI/ EPA (WET)		Analysis Date: 7/23/2002	SeqNo: 304343
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead		ND	0.20			

Sample ID	MB-9678B	SampType: MBLK	TestCode: 7420_DI	Units: mg/L	Prep Date: 7/18/2002	Run ID: AA2_020723A
Client ID:	ZZZZZ	Batch ID: 9678	TestNo: WET DI/ EPA (WET)		Analysis Date: 7/23/2002	SeqNo: 304356
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead		ND	0.20			

Sample ID	MB-9679	SampType: MBLK	TestCode: 7420_DI	Units: mg/L	Prep Date: 7/23/2002	Run ID: AA2_020723B
Client ID:	ZZZZZ	Batch ID: 9679	TestNo: WET DI/ EPA (WET)		Analysis Date: 7/23/2002	SeqNo: 304371
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead		ND	0.20			

Sample ID	MB-9679A	SampType: MBLK	TestCode: 7420_DI	Units: mg/L	Prep Date: 7/18/2002	Run ID: AA2_020723B
Client ID:	ZZZZZ	Batch ID: 9679	TestNo: WET DI/ EPA (WET)		Analysis Date: 7/23/2002	SeqNo: 304372
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead		ND	0.20			

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	MB-9679B	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723B			
Client ID:	ZZZZZ	Batch ID:	9679	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304385			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9680	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723C			
Client ID:	ZZZZZ	Batch ID:	9680	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304400			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9680A	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723C			
Client ID:	ZZZZZ	Batch ID:	9680	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304401			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9680B	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723C			
Client ID:	ZZZZZ	Batch ID:	9680	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304414			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	LCS-9678	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723A			
Client ID:	ZZZZZ	Batch ID:	9678	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304370			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.737 0.20 7.5 0 103 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	LCS-9679	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723B			
Client ID:	ZZZZZ	Batch ID:	9679	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304399			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		7.603		0.20	7.5	0		101	80	120	0		0	
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Sample ID	LCS-9680	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723C			
Client ID:	ZZZZZ	Batch ID:	9680	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304428			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		7.712		0.20	7.5	0		103	80	120	0		0	
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Sample ID	057892-029AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723A			
Client ID:	N47-0.3	Batch ID:	9678	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304355			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		7.69		0.20	5	3.095		91.9	80	120	0		0	
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Sample ID	057892-041AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723A			
Client ID:	N50-0.6	Batch ID:	9678	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304368			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		6.538		0.20	5	1.123		108	80	120	0		0	
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Sample ID	057892-054AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723B			
Client ID:	N54-0.3	Batch ID:	9679	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304384			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		6.114		0.20	5	0.6172		110	80	120	0		0	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	057892-064AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723B		
Client ID:	N57-S	Batch ID:	9679	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304397		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	7.606	0.20	5	2.164	109	80	120	0	0				
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Sample ID	057892-079AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723C		
Client ID:	N62-0.3	Batch ID:	9680	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304413		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	6.117	0.20	5	1.107	100	80	120	0	0				
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Sample ID	057898-017AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723C		
Client ID:	ZZZZZ	Batch ID:	9680	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304426		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	5.353	0.20	5	0.1251	105	80	120	0	0				
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Sample ID	057892-029ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723A		
Client ID:	N47-0.3	Batch ID:	9678	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304354		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	1.957	0.20	0	0	0	0	0	0	0	3.095	45.0	30	R
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Sample ID	057892-041ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723A		
Client ID:	N50-0.6	Batch ID:	9678	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304367		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	0.8322	0.20	0	0	0	0	0	0	0	1.123	29.8	30	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	057892-054ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723B			
Client ID:	N54-0.3	Batch ID:	9679	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304383			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.5194 0.20 0 0 0 0 0 0 0.6172 17.2 30

Sample ID	057892-064ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723B			
Client ID:	N57-S	Batch ID:	9679	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304396			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 1.823 0.20 0 0 0 0 0 0 2.164 17.1 30

Sample ID	057892-079ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723C			
Client ID:	N62-0.3	Batch ID:	9680	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304412			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.9542 0.20 0 0 0 0 0 0 1.107 14.9 30

Sample ID	057898-017ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723C			
Client ID:	ZZZZZ	Batch ID:	9680	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304425			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.2225 0.20 0 0 0 0 0 0 0.1251 56.0 30 R

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Table with 6 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID. Row 1: MB-9916, MBLK, 6010_S, mg/Kg, 7/28/2002, ICP2_020729C.

Table with 12 columns: Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Lists various elements like Antimony, Arsenic, Barium, etc.

Table with 6 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID. Row 1: MB-9917, MBLK, 6010_S, mg/Kg, 7/28/2002, ICP2_020729D.

Table with 12 columns: Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Lists elements like Antimony, Arsenic, Barium, etc.

Qualifiers: ND - Not Detected at the Reporting Limit, S - Spike Recovery outside accepted recovery limits, DO- Surrogate dilute out, J - Analyte detected below quantitation limits, B - Analyte detected in the associated Method Blank, H - Sample exceeded holding time, R - RPD outside accepted recovery limits, Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	MB-9917	SampType:	MBLK	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729D												
Client ID:	ZZZZZ	Batch ID:	9917	TestNo:	EPA 6010B (EPA 3050A)			Analysis Date:	7/29/2002	SeqNo:	309112												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead	0.154	0.25																				
Molybdenum	0.013	0.25																				
Nickel	ND	0.15																				
Selenium	ND	0.25																				
Silver	0.059	0.15																				
Thallium	ND	0.25																				
Vanadium	ND	0.15																				
Zinc	0.183	0.50																				

Sample ID	LCS-9916	SampType:	LCS	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729C												
Client ID:	ZZZZZ	Batch ID:	9916	TestNo:	EPA 6010B (EPA 3050A)			Analysis Date:	7/29/2002	SeqNo:	309034												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Antimony	45	0.25	50	0	90	80	120	0	0
Arsenic	46.5	0.25	50	0	93	80	120	0	0
Barium	46.5	0.15	50	0	93	80	120	0	0
Beryllium	46	0.15	50	0	92	80	120	0	0
Cadmium	43.5	0.15	50	0	87	80	120	0	0
Chromium	45.5	0.15	50	0	91	80	120	0	0
Cobalt	43.5	0.15	50	0	87	80	120	0	0
Copper	45.5	0.15	50	0	91	80	120	0	0
Lead	44	0.25	50	0	88	80	120	0	0
Molybdenum	46	0.25	50	0	92	80	120	0	0
Nickel	42.5	0.15	50	0	85	80	120	0	0
Selenium	44	0.25	50	0	88	80	120	0	0
Silver	45	0.15	50	0	90	80	120	0	0
Thallium	45	0.25	50	0	90	80	120	0	0
Vanadium	46.5	0.15	50	0	93	80	120	0	0
Zinc	45	0.50	50	0	90	80	120	0	0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	LCS-9917	SampType:	LCS	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729D
Client ID:	ZZZZZ	Batch ID:	9917	TestNo:	EPA 6010B (EPA 3050A)	Analysis Date:	7/29/2002	SeqNo:	309098		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	52	0.25	50	0	104	80	120	0	0		
Arsenic	53.5	0.25	50	0	107	80	120	0	0		
Barium	53	0.15	50	0	106	80	120	0	0		
Beryllium	51.5	0.15	50	0	103	80	120	0	0		
Cadmium	49	0.15	50	0	98	80	120	0	0		
Chromium	51	0.15	50	0	102	80	120	0	0		
Cobalt	49.5	0.15	50	0	99	80	120	0	0		
Copper	51	0.15	50	0	102	80	120	0	0		
Lead	51	0.25	50	0	102	80	120	0	0		
Molybdenum	52	0.25	50	0	104	80	120	0	0		
Nickel	48.5	0.15	50	0	97	80	120	0	0		
Selenium	50	0.25	50	0	100	80	120	0	0		
Silver	52	0.15	50	0	104	80	120	0	0		
Thallium	51.5	0.25	50	0	103	80	120	0	0		
Vanadium	53	0.15	50	0	106	80	120	0	0		
Zinc	50	0.50	50	0	100	80	120	0	0		

Sample ID	057892-024AMS	SampType:	MS	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729C
Client ID:	N45-S	Batch ID:	9916	TestNo:	EPA 6010B (EPA 3050A)	Analysis Date:	7/29/2002	SeqNo:	309048		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	95	0.25	125	2.5	74	32	115	0	0		
Arsenic	127	0.25	125	8.5	94.8	59	111	0	0		
Barium	307	0.15	125	186	96.8	34	151	0	0		
Beryllium	118	0.15	125	0	94.4	56	112	0	0		
Cadmium	111	0.15	125	0	88.8	52	120	0	0		
Chromium	141	0.15	125	24	93.6	56	118	0	0		
Cobalt	118.5	0.15	125	6	90	58	117	0	0		
Copper	201.5	0.15	125	73.5	102	58	134	0	0		
Lead	2036	0.25	125	2315	-223	47	128	0	0		S

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	057892-024AMS	SampType:	MS	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729C
Client ID:	N45-S	Batch ID:	9916	TestNo:	EPA 6010B (EPA 3050A)			Analysis Date:	7/29/2002	SeqNo:	309048

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	119	0.25	125	5.5	90.8	56	115	0	0		
Nickel	132	0.15	125	18	91.2	52	120	0	0		
Selenium	115	0.25	125	0	92	46	108	0	0		
Silver	121.5	0.15	125	0.1235	97.1	74	117	0	0		
Thallium	115	0.25	125	0.5	91.6	62	117	0	0		
Vanadium	148	0.15	125	23.5	99.6	55	122	0	0		
Zinc	1242	0.50	125	438	644	43	134	0	0		S

Sample ID	057936-019AMS	SampType:	MS	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729D
Client ID:	ZZZZZ	Batch ID:	9917	TestNo:	EPA 6010B (EPA 3050A)			Analysis Date:	7/29/2002	SeqNo:	309110

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	100	0.25	125	2.5	78	32	115	0	0		
Arsenic	126.5	0.25	125	13	90.8	59	111	0	0		
Barium	288	0.15	125	210	62.4	34	151	0	0		
Beryllium	113.5	0.15	125	0	90.8	56	112	0	0		
Cadmium	106.5	0.15	125	0	85.2	52	120	0	0		
Chromium	138.5	0.15	125	28	88.4	56	118	0	0		
Cobalt	115.5	0.15	125	7.5	86.4	58	117	0	0		
Copper	193.5	0.15	125	71.5	97.6	58	134	0	0		
Molybdenum	116	0.25	125	3.5	90	56	115	0	0		
Nickel	129	0.15	125	27.5	81.2	52	120	0	0		
Selenium	113	0.25	125	0	90.4	46	108	0	0		
Silver	119	0.15	125	0.1365	95.1	74	117	0	0		
Thallium	111.5	0.25	125	1	88.4	62	117	0	0		
Vanadium	148.5	0.15	125	29	95.6	55	122	0	0		
Zinc	471.5	0.50	125	594.5	-98.4	43	134	0	0		S

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	057936-019AMS	SampType:	MS	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729D
Client ID:	ZZZZ	Batch ID:	9917	TestNo:	EPA 6010B (EPA 3050A)			Analysis Date:	7/29/2002	SeqNo:	309118

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	3055	2.5	125	3800	-596	47	128	0	0		S

Sample ID	057892-024AMSD	SampType:	MSD	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729C
Client ID:	N45-S	Batch ID:	9916	TestNo:	EPA 6010B (EPA 3050A)			Analysis Date:	7/29/2002	SeqNo:	309049

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	99	0.25	125	2.5	77.2	32	115	95	4.12	20	
Arsenic	129.5	0.25	125	8.5	96.8	59	111	127	1.95	20	
Barium	340	0.15	125	186	123	34	151	307	10.2	20	
Beryllium	120	0.15	125	0	96	56	112	118	1.68	20	
Cadmium	112.5	0.15	125	0	90	52	120	111	1.34	20	
Chromium	144.5	0.15	125	24	96.4	56	118	141	2.45	20	
Cobalt	121	0.15	125	6	92	58	117	118.5	2.09	20	
Copper	216.5	0.15	125	73.5	114	58	134	201.5	7.18	20	
Lead	2292	0.25	125	2315	-18.8	47	128	2036	11.8	20	S
Molybdenum	122.5	0.25	125	5.5	93.6	56	115	119	2.90	20	
Nickel	136.5	0.15	125	18	94.8	52	120	132	3.35	20	
Selenium	117	0.25	125	0	93.6	46	108	115	1.72	20	
Silver	123	0.15	125	0.1235	98.3	74	117	121.5	1.23	20	
Thallium	117	0.25	125	0.5	93.2	62	117	115	1.72	20	
Vanadium	152	0.15	125	23.5	103	55	122	148	2.67	20	
Zinc	502.5	0.50	125	438	51.6	43	134	1242	84.8	20	R

Sample ID	057936-019AMSD	SampType:	MSD	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729D
Client ID:	ZZZZ	Batch ID:	9917	TestNo:	EPA 6010B (EPA 3050A)			Analysis Date:	7/29/2002	SeqNo:	309111

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	107	0.25	125	2.5	83.6	32	115	100	6.76	20	
Arsenic	127	0.25	125	13	91.2	59	111	126.5	0.394	20	
Barium	280.5	0.15	125	210	56.4	34	151	288	2.64	20	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: 057936-019AMSD SampType: MSD TestCode: 6010_S Units: mg/Kg Prep Date: 7/28/2002 Run ID: ICP2_020729D
Client ID: ZZZZZ Batch ID: 9917 TestNo: EPA 6010B (EPA 3050A) Analysis Date: 7/29/2002 SeqNo: 309111

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	116.5	0.15	125	0	93.2	56	112	113.5	2.61	20	
Cadmium	109.5	0.15	125	0	87.6	52	120	106.5	2.78	20	
Chromium	134.5	0.15	125	28	85.2	56	118	138.5	2.93	20	
Cobalt	117	0.15	125	7.5	87.6	58	117	115.5	1.29	20	
Copper	195	0.15	125	71.5	98.8	58	134	193.5	0.772	20	
Molybdenum	119.5	0.25	125	3.5	92.8	56	115	116	2.97	20	
Nickel	128.5	0.15	125	27.5	80.8	52	120	129	0.388	20	
Selenium	115.5	0.25	125	0	92.4	46	108	113	2.19	20	
Silver	120.5	0.15	125	0.1365	96.3	74	117	119	1.25	20	
Thallium	114.5	0.25	125	1	90.8	62	117	111.5	2.65	20	
Vanadium	143.5	0.15	125	29	91.6	55	122	148.5	3.42	20	
Zinc	464	0.50	125	594.5	-104	43	134	471.5	1.60	20	S

Sample ID: 057936-019AMSD SampType: MSD TestCode: 6010_S Units: mg/Kg Prep Date: 7/28/2002 Run ID: ICP2_020729D
Client ID: ZZZZZ Batch ID: 9917 TestNo: EPA 6010B (EPA 3050A) Analysis Date: 7/29/2002 SeqNo: 309119

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	3270	2.5	125	3800	-424	47	128	3055	6.80	20	S

Sample ID: 057892-024ADUP SampType: DUP TestCode: 6010_S Units: mg/Kg Prep Date: 7/28/2002 Run ID: ICP2_020729C
Client ID: N45-S Batch ID: 9916 TestNo: EPA 6010B (EPA 3050A) Analysis Date: 7/29/2002 SeqNo: 309047

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	2.5	0.25	0	0	0	0	0	0	0		
Arsenic	8.5	0.25	0	0	0	0	0	0	0		
Barium	186	0.15	0	0	0	0	0	0	0		
Beryllium	ND	0.15	0	0	0	0	0	0	0		
Cadmium	ND	0.15	0	0	0	0	0	0	0		
Chromium	24	0.15	0	0	0	0	0	0	0		
Cobalt	6	0.15	0	0	0	0	0	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: 057892-024ADUP	SampType: DUP	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/28/2002	Run ID: ICP2_020729C						
Client ID: N45-S	Batch ID: 9916	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309047						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	73.5	0.15	0	0	0	0	0	0	0		
Lead	2315	0.25	0	0	0	0	0	0	0		
Molybdenum	5.5	0.25	0	0	0	0	0	0	0		
Nickel	18	0.15	0	0	0	0	0	0	0		
Selenium	ND	0.25	0	0	0	0	0	0	0		
Silver	0.1235	0.15	0	0	0	0	0	0	0		J
Thallium	0.5	0.25	0	0	0	0	0	0	0		
Vanadium	23.5	0.15	0	0	0	0	0	0	0		
Zinc	438	0.50	0	0	0	0	0	0	0		

Sample ID: 057936-019ADUP	SampType: DUP	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/28/2002	Run ID: ICP2_020729D						
Client ID: ZZZZZ	Batch ID: 9917	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309109						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	2.5	0.25	0	0	0	0	0	2.5	0	30	
Arsenic	13	0.25	0	0	0	0	0	13	0	30	
Barium	210	0.15	0	0	0	0	0	210	0	30	
Beryllium	ND	0.15	0	0	0	0	0	0	0	30	
Cadmium	ND	0.15	0	0	0	0	0	0	0	30	
Chromium	28	0.15	0	0	0	0	0	28	0	30	
Cobalt	7.5	0.15	0	0	0	0	0	7.5	0	30	
Copper	71.5	0.15	0	0	0	0	0	71.5	0	30	
Molybdenum	3.5	0.25	0	0	0	0	0	3.5	0	30	
Nickel	27.5	0.15	0	0	0	0	0	27.5	0	30	
Selenium	ND	0.25	0	0	0	0	0	0	0	30	
Silver	0.1365	0.15	0	0	0	0	0	0.1365	0	30	J
Thallium	1	0.25	0	0	0	0	0	1	0	30	
Vanadium	29	0.15	0	0	0	0	0	29	0	30	
Zinc	594.5	0.50	0	0	0	0	0	594.5	0	30	

Qualifiers: ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	DO- Surrogate dilute out
J - Analyte detected below quantitation limits	B - Analyte detected in the associated Method Blank	H - Sample exceeded holding time
R - RPD outside accepted recovery limits	Calculations are based on raw values	



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	057936-019ADUP	SampType:	DUP	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729D		
Client ID:	ZZZZZ	Batch ID:	9917	TestNo:	EPA 6010B (EPA 3050A)	Analysis Date:	7/29/2002	SeqNo:	309117				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		4210		2.5	0	0	0	0	0	3800	10.2	30	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7471_S

Sample ID	MB-9919	SampType:	mblk	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729A		
Client ID:	ZZZZZ	Batch ID:	9919	TestNo:	EPA 7471A (EPA 7471)	Analysis Date:	7/29/2002	SeqNo:	309061				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury ND 0.10

Sample ID	MB-9920	SampType:	mblk	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729B		
Client ID:	ZZZZZ	Batch ID:	9920	TestNo:	EPA 7471A (EPA 7471)	Analysis Date:	7/29/2002	SeqNo:	309080				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.03565 0.10

Sample ID	LCS-9919	SampType:	lcs	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729A		
Client ID:	ZZZZZ	Batch ID:	9919	TestNo:	EPA 7471A (EPA 7471)	Analysis Date:	7/29/2002	SeqNo:	309060				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 2.02 0.10 2.08 0 97.1 80 120 0 0

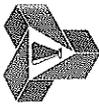
Sample ID	LCS-9920	SampType:	lcs	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729B		
Client ID:	ZZZZZ	Batch ID:	9920	TestNo:	EPA 7471A (EPA 7471)	Analysis Date:	7/29/2002	SeqNo:	309079				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 2.144 0.10 2.08 0 103 80 120 0 0

Sample ID	057892-003AMS	SampType:	MS	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729A		
Client ID:	N38-0.6	Batch ID:	9919	TestNo:	EPA 7471A (EPA 7471)	Analysis Date:	7/29/2002	SeqNo:	309064				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.609 1.0 0.83 0 73.4 62 146 0 0 J

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7471_S

Sample ID	057900-074AMS	SampType:	MS	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729B
Client ID:	ZZZZZ	Batch ID:	9920	TestNo:	EPA 7471A (EPA 7471)	Analysis Date:	7/29/2002	SeqNo:	309077		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	1.067	0.10	0.83	0.218	102	62	146	0	0		
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Sample ID	057892-003AMSD	SampType:	MSD	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729A
Client ID:	N38-0.6	Batch ID:	9919	TestNo:	EPA 7471A (EPA 7471)	Analysis Date:	7/29/2002	SeqNo:	309065		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	0.6339	1.0	0.83	0	76.4	62	146	0.609	0	33	J
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Sample ID	057900-074AMSD	SampType:	MSD	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729B
Client ID:	ZZZZZ	Batch ID:	9920	TestNo:	EPA 7471A (EPA 7471)	Analysis Date:	7/29/2002	SeqNo:	309078		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	1.144	0.10	0.83	0.218	112	62	146	1.067	7.02	33	
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Sample ID	057892-003ADUP	SampType:	DUP	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729A
Client ID:	N38-0.6	Batch ID:	9919	TestNo:	EPA 7471A (EPA 7471)	Analysis Date:	7/29/2002	SeqNo:	309063		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	ND	1.0	0	0	0	0	0	0	0	30	
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Sample ID	057900-074ADUP	SampType:	DUP	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729B
Client ID:	ZZZZZ	Batch ID:	9920	TestNo:	EPA 7471A (EPA 7471)	Analysis Date:	7/29/2002	SeqNo:	309076		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	0.1995	0.10	0	0	0	0	0	0.218	8.85	30	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values

All samples → total lead (6010)

total lead > 50 mg/kg → WET-Citric

WET-CITRIC > 5 mg/L → WET-DI

Total lead > 1,000 mg/kg → TCLP

10% → soil pH (9.045)

Please call when all totals have been run. I will instruct what samples should be run for Title 22 metals.

Thanks - Chris King

REVISIONS
BY _____ DATE _____
BY _____ DATE _____

BY _____ DATE _____
CHECKED BY _____

Diane

From: Chris King [king@geoconinc.com]

Sent: Monday, July 22, 2002 10:57 AM

To: 'Diane'

Subject: 09100-06-49

Diane - please run the 15 samples with the highest total lead content for Title 22 metals. Please do this for each direction (northbound and southbound), so the total number of tests will be 30. Thank you and please call me if you have any questions.

Christopher S. King
Senior Staff Engineer
Geocon Consultants, Inc.

7/22/2002

July 19, 2002

Chris King
Geocon Environmental
6970 Flanders Drive
San Diego, CA 92121
TEL: (858) 558-6100
FAX: (858) 558-8437

RE: Rte 5 - NB, 9100-06-49
Attention: Chris King

ELAP No.: 1838
NELAP No.: 02107CA
Workorder No.: 057900

Enclosed are the results for sample(s) received on July 12, 2002 by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,



Eddie F. Rodriguez
Laboratory Director

This cover letter is an integral part of this analytical report.



CHAIN OF CUSTODY RECORD



**Advanced Technology
Laboratories**

3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: _____ Date: _____ Time: _____		

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rte 5-NB</u>	Project #: <u>9100-06-49</u>	Sampler: <u>CSR/GCA</u> (Printed Name)	(Signature) <u>[Signature]</u>
Relinquished by: <u>[Signature]</u> (Signature and Printed Name)	Date: <u>7/12</u>	Time: _____	Received by: <u>[Signature]</u> (Signature and Printed Name)
Relinquished by: _____ (Signature and Printed Name)	Date: _____	Time: _____	Received by: _____ (Signature and Printed Name)
Relinquished by: _____ (Signature and Printed Name)	Date: _____	Time: _____	Received by: _____ (Signature and Printed Name)

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>7/12</u> Print Name Date <u>[Signature]</u> Signature	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>Attached</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested <u>Total Lead 800</u> 8091 / 8092 (Pesticides/PCB-GC) 8290 (Volatiles-GC/MS) 625 / 8270 (BNA-GC/MS) Metals Total (CAC-8010 / 7000) 8015M TPH/G/BTEX (COMBINATION) 8015M TPH/UD (Diesel-GC)
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ITEM	LAB USE ONLY:		Sample Description				CIRCLE APPROPRIATE MATRIX										PRESERVATION	REMARKS									
	Batch #:	Lab No.	Sample I.D.	Date	Time	8091 / 8092 (Pesticides/PCB-GC)	8290 (Volatiles-GC/MS)	625 / 8270 (BNA-GC/MS)	Metals Total (CAC-8010 / 7000)	8015M TPH/G/BTEX (COMBINATION)	8015M TPH/UD (Diesel-GC)	SOLID • SOIL • SLUDGE	OIL • SOLVENT • LIQUID	WATER • WASTEWATER	DRINKING WATER	AIR			WIPE • FILTER	OTHER	TAT	#	Type				
		11	N65-0.6	7/12	9:38						X																
		12	N65-0.9		9:44																						
		13	N66-S		9:38																						
		14	N66-0.3		9:45																						
		15	N66-0.6		9:54																						
		16	N67-S		9:46																						
		17	N67-0.3		9:58																						
		18	N67-0.6		10:04																						
		19	N68-S		9:58																						
		20	N68-0.3		10:00																						

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



**Advanced Technology
Laboratories**

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(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: _____ Date: _____ Time: _____		

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <i>Chris King</i>	City San Diego State CA Zip Code 92121	FAX: (858) 558-8437

Project Name: <i>Rte 5-NB</i>	Project #: <i>9100-06-49</i>	Sampler: <i>CSK/GCA</i>	(Signature) <i>[Signature]</i>
Relinquished by: <i>[Signature]</i> GCA Date: <i>7/12</i> Time: _____	Received by: <i>[Signature]</i> Date: <i>7/12</i> Time: <i>9:00</i>		
Relinquished by: _____ Date: _____ Time: _____	Received by: _____ Date: _____ Time: _____		
Relinquished by: _____ Date: _____ Time: _____	Received by: _____ Date: _____ Time: _____		

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <i>CSK</i> <i>7/12</i>	Send Report To: Attn: _____ Co: <i>Client</i> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <i>Client</i> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <i>Attached</i>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8091 / 8092 (Pesticides/PCB-GC) 8200 (Volatile-GC/MS) 825 / 8270 (BVA-GC/MS) Metals-Total (CAC-8010 / 7000) 8015M TPH(G)BTEX (COMBINATION) 8015M TPHND (Diesel-GC) <i>Total lead BVA</i>	CIRCLE APPROPRIATE MATRIX SOLIDS (SOIL) • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER			
ITEM	LAB USE ONLY:		Sample Description		Container(s)		REMARKS
	Batch #:	Lab No.	Sample I.D.	Date	Time	#	
		<i>41</i>	<i>N74-0.9</i>	<i>7/12</i>	<i>11:25</i>	<i>X</i>	<i>E 1 JG</i>
		<i>42</i>	<i>N75-S</i>		<i>11:15</i>		
		<i>43</i>	<i>N75-0.3</i>		<i>11:22</i>		
		<i>44</i>	<i>N75-0.6</i>		<i>11:30</i>		
		<i>45</i>	<i>N76-S</i>		<i>11:28</i>		
		<i>46</i>	<i>N76-0.3</i>		<i>11:33</i>		
		<i>47</i>	<i>N76-0.6</i>		<i>11:40</i>		
		<i>48</i>	<i>N76-0.9</i>		<i>11:46</i>		
		<i>49</i>	<i>N77-S</i>		<i>11:29</i>		
		<i>50</i>	<i>N77-0.3</i>		<i>11:35</i>		

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



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FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: _____ Date: _____ Time: _____		

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rte 5-NB</u>	Project #: <u>9100-06-49</u>	Sampler: <u>(Printed Name) CSK/GCA</u>	(Signature) <u>[Signature]</u>
Relinquished by: (Signature and Printed Name) <u>[Signature] GCA</u>	Date: <u>7/12</u> Time: _____	Received by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7/12</u> Time: <u>9:10</u>
Relinquished by: (Signature and Printed Name) _____	Date: _____ Time: _____	Received by: (Signature and Printed Name) _____	Date: _____ Time: _____
Relinquished by: (Signature and Printed Name) _____	Date: _____ Time: _____	Received by: (Signature and Printed Name) _____	Date: _____ Time: _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>7/12</u> Print Name Date <u>[Signature]</u> Signature	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>Attached</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested <u>Total lead sold</u> 8061 / 8062 (Pesticides/PCB-GC) 8260 (Volatiles-GC/MS) 8251 / 8270 (BVA-GC/MS) Metals Total (CAC-8010 / 7000) 8015M TPH/G/BTEX (COMBINATION) 8015M TPH/D (Diesel-GC)	CIRCLE APPROPRIATE MATRIX SOLID • SOLIDS • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER TAT # Type Container(s)	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER
---	---	---	--	---

ITEM	LAB USE ONLY:		Sample Description				CIRCLE APPROPRIATE MATRIX										PRESERVATION	REMARKS								
	Batch #:	Lab No.	Sample I.D.	Date	Time	8061 / 8062 (Pesticides/PCB-GC)	8260 (Volatiles-GC/MS)	8251 / 8270 (BVA-GC/MS)	Metals Total (CAC-8010 / 7000)	8015M TPH/G/BTEX (COMBINATION)	8015M TPH/D (Diesel-GC)	SOLID • SOLIDS • SLUDGE	OIL • SOLVENT • LIQUID	WATER • WASTEWATER	DRINKING WATER	AIR			WIPE • FILTER	OTHER	TAT	#	Type			
		51	N77-0.6	7/12	11:41						X															
		52	N77-0.9		11:44																					
		53	N78-S		11:53																					
		54	N78-0.3		12:03																					
		55	N78-0.6		12:10																					
		56	N79-S		11:49																					
		57	N79-0.3		12:55																					
		58	N79-0.6		12:03																					
		59	N79-0.9		12:10																					
		60	N80-S		12:12																					

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₈
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



**Advanced Technology
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P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: _____ Date: _____ Time: _____		

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: Chris King	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: **Rte 5-NB** Project #: **9100-1649** Sampler: **(Printed Name) csk/CSK** (Signature) *[Signature]*

Relinquished by: (Signature and Printed Name) _____	Date: _____	Time: _____	Received by: (Signature and Printed Name) <i>[Signature]</i>	Date: <i>[Date]</i>	Time: <i>[Time]</i>
Relinquished by: (Signature and Printed Name) _____	Date: _____	Time: _____	Received by: (Signature and Printed Name) _____	Date: _____	Time: _____
Relinquished by: (Signature and Printed Name) _____	Date: _____	Time: _____	Received by: (Signature and Printed Name) _____	Date: _____	Time: _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <i>[Signature]</i> Print Name: <i>[Name]</i> Date: <i>[Date]</i>	Send Report To: Attn: _____ Co: Client Address: _____ City: _____ State: _____ Zip: _____	Bill To: Attn: _____ Co: Client Address: _____ City: _____ State: _____ Zip: _____	Special Instructions/Comments: Attached
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Unless otherwise requested, all samples will be disposed 45 days after receipt.

Sample Archive/Disposal:
 Laboratory Standard
 Other _____
 Return To: _____

* \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.

Circle or Add Analysis(es) Requested 8091 / 8092 (Pesticides/PCB-GC) 8290 (Xenobiotics-GC/MS) 625 / 8270 (BHA-GC/MS) Metals: Total (CAC-8010 / 7000) 8015M TPH/GBTEX (Diesel/GC) 8015M TPH/D (COMBINATION) Total Lead 6018	CIRCLE APPROPRIATE MATRIX SOLID (SOIL) SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIFE • FILTER OTHER Container(s) # Type	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> REMARKS
--	--	---

ITEM	LAB USE ONLY:		Sample Description		
	Batch #:	Lab No.	Sample I.D.	Date	Time
		71	N83-0.3	7/12	12:52
		72	N83-0.6		12:55
		73	N83-0.9		1:00
		74	N84-S		1:03
		75	N84-0.3		1:10
		76	N84-0.6		1:20
		77	N85-S		1:00
		78	N85-0.3		1:09
		79	N85-0.6		1:21
		80			

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

ATTACHMENT 1
Advanced Technology Laboratories
Project Management Checklist

ATL Lab No.: 57900

Client's Name: Geocom

Date Reviewed: 7-30-02

	Yes	No*	N/A	Comments
A Chain of Custody Items				
1 Client ID's correct?	✓			
2 Date Sampled/Time correct?	✓			
3 Analyses requested correct?	✓			
4 Method Numbers correct?	✓			
5 Project Name correct?	✓			

B Organic Data Review Sheet included?			✓	
--	--	--	---	--

C Inorganic Data Review Sheet included?	✓			
--	---	--	--	--

D Reporting				
1 DLRs correct? (In-house or project specific requirements)	✓			
2 Analyzed/Prepped within holding times (if no, documented on cover letter)	✓			
3 Were spls analyzed using a different method (if yes, documented on cover letter)		✓		

E Quality Control				
1 Surrogates within project specific requirements?			✓	
2 MS/MSD within project specific requirements?		✓		For 6010 - non-homo or matrix interf.
3 LCS/LCSD within project specific requirements?	✓			
4 Sample Duplicates within project specific requirements?		✓		For 6010 - non-homo or matrix interf. + TCLP
5 Other project specified requirements: _____ _____ _____				

* For those items checked as "NO" - comments must be included:

Comments:

PM's Approval/Date: P. Malvan / 7-30-02

Advanced Technology Laboratories

Date: 7/19/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057900
Project:	Rte 5 - NB, 9100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057900-001A	N63-S	540	mg/Kg	9572	5	1	7/12/2002	7/17/2002
057900-002A	N63-0.3	530	mg/Kg	9572	5	1	7/12/2002	7/17/2002
057900-003A	N63-0.6	73	mg/Kg	9572	5	1	7/12/2002	7/17/2002
057900-004A	N63-0.9	190	mg/Kg	9572	5	1	7/12/2002	7/17/2002
057900-005A	N64-S	1300	mg/Kg	9572	5	1	7/12/2002	7/17/2002
057900-006A	N64-0.3	810	mg/Kg	9572	5	1	7/12/2002	7/17/2002
057900-007A	N64-0.6	280	mg/Kg	9572	5	1	7/12/2002	7/17/2002
057900-008A	N64-0.9	280	mg/Kg	9572	5	1	7/12/2002	7/17/2002
057900-009A	N65-S	1000	mg/Kg	9572	5	1	7/12/2002	7/17/2002
057900-010A	N65-0.3	680	mg/Kg	9572	5	1	7/12/2002	7/17/2002
057900-011A	N65-0.6	530	mg/Kg	9572	5	1	7/12/2002	7/17/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/19/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057900
Project:	Rte 5 - NB, 9100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057900-012A	N65-0.9	14	mg/Kg	9572	5	1	7/12/2002	7/17/2002
057900-013A	N66-S	1200	mg/Kg	9572	5	1	7/12/2002	7/17/2002
057900-014A	N66-0.3	790	mg/Kg	9572	5	1	7/12/2002	7/17/2002
057900-015A	N66-0.6	620	mg/Kg	9572	5	1	7/12/2002	7/17/2002
057900-016A	N67-S	790	mg/Kg	9572	5	1	7/12/2002	7/17/2002
057900-017A	N67-0.3	1100	mg/Kg	9572	5	1	7/12/2002	7/17/2002
057900-018A	N67-0.6	580	mg/Kg	9572	5	1	7/12/2002	7/17/2002
057900-019A	N68-S	1600	mg/Kg	9572	5	1	7/12/2002	7/17/2002
057900-020A	N68-0.3	46	mg/Kg	9572	5	1	7/12/2002	7/17/2002
057900-021A	N68-0.6	1100	mg/Kg	9573	5	1	7/12/2002	7/17/2002
057900-022A	N68-0.9	28	mg/Kg	9573	5	1	7/12/2002	7/17/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/19/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057900
Project:	Rte 5 - NB, 9100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057900-023A	N69-S	460	mg/Kg	9573	5	1	7/12/2002	7/17/2002
057900-024A	N69-0.3	1300	mg/Kg	9573	5	1	7/12/2002	7/17/2002
057900-025A	N69-0.6	89	mg/Kg	9573	5	1	7/12/2002	7/17/2002
057900-026A	N70-S	610	mg/Kg	9573	5	1	7/12/2002	7/17/2002
057900-027A	N70-0.3	78	mg/Kg	9573	5	1	7/12/2002	7/17/2002
057900-028A	N70-0.6	88	mg/Kg	9573	5	1	7/12/2002	7/17/2002
057900-029A	N71-S	64	mg/Kg	9573	5	1	7/12/2002	7/17/2002
057900-030A	N71-0.3	13	mg/Kg	9573	5	1	7/12/2002	7/17/2002
057900-031A	N71-0.6	7.8	mg/Kg	9573	5	1	7/12/2002	7/17/2002
057900-032A	N72-S	120	mg/Kg	9573	5	1	7/12/2002	7/17/2002
057900-033A	N72-0.3	290	mg/Kg	9573	5	1	7/12/2002	7/17/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/19/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057900
Project:	Rte 5 - NB, 9100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057900-034A	N72-0.6	130	mg/Kg	9573	5	1	7/12/2002	7/17/2002
057900-035A	N73-S	670	mg/Kg	9573	5	1	7/12/2002	7/17/2002
057900-036A	N73-0.3	930	mg/Kg	9573	5	1	7/12/2002	7/17/2002
057900-037A	N73-0.6	1500	mg/Kg	9573	5	1	7/12/2002	7/17/2002
057900-038A	N74-S	170	mg/Kg	9573	5	1	7/12/2002	7/17/2002
057900-039A	N74-0.3	250	mg/Kg	9573	5	1	7/12/2002	7/17/2002
057900-040A	N74-0.6	320	mg/Kg	9573	5	1	7/12/2002	7/17/2002
057900-041A	N74-0.9	120	mg/Kg	9574	5	1	7/12/2002	7/17/2002
057900-042A	N75-S	930	mg/Kg	9574	5	1	7/12/2002	7/17/2002
057900-043A	N75-0.3	1200	mg/Kg	9574	5	1	7/12/2002	7/17/2002
057900-044A	N75-0.6	270	mg/Kg	9574	5	1	7/12/2002	7/17/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/19/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057900
Project:	Rte 5 - NB, 9100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057900-045A	N76-S	1300	mg/Kg	9574	5	1	7/12/2002	7/17/2002
057900-046A	N76-0.3	1600	mg/Kg	9574	5	1	7/12/2002	7/17/2002
057900-047A	N76-0.6	180	mg/Kg	9574	5	1	7/12/2002	7/17/2002
057900-048A	N76-0.9	82	mg/Kg	9574	5	1	7/12/2002	7/17/2002
057900-049A	N77-S	1700	mg/Kg	9574	5	1	7/12/2002	7/17/2002
057900-050A	N77-0.3	670	mg/Kg	9574	5	1	7/12/2002	7/17/2002
057900-051A	N77-0.6	2200	mg/Kg	9574	5	1	7/12/2002	7/17/2002
057900-052A	N77-0.9	1100	mg/Kg	9574	5	1	7/12/2002	7/17/2002
057900-053A	N78-S	1900	mg/Kg	9574	5	1	7/12/2002	7/17/2002
057900-054A	N78-0.3	1200	mg/Kg	9574	5	1	7/12/2002	7/17/2002
057900-055A	N78-0.6	400	mg/Kg	9574	5	1	7/12/2002	7/17/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/19/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057900
Project:	Rte 5 - NB, 9100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057900-056A	N79-S	1400	mg/Kg	9574	5	1	7/12/2002	7/17/2002
057900-057A	N79-0.3	26	mg/Kg	9574	5	1	7/12/2002	7/17/2002
057900-058A	N79-0.6	5.1	mg/Kg	9574	5	1	7/12/2002	7/17/2002
057900-059A	N79-0.9	39	mg/Kg	9574	5	1	7/12/2002	7/17/2002
057900-060A	N80-S	4000	mg/Kg	9574	15	3	7/12/2002	7/18/2002
057900-061A	N80-0.3	1800	mg/Kg	9575	5	1	7/12/2002	7/17/2002
057900-062A	N80-0.6	950	mg/Kg	9575	5	1	7/12/2002	7/17/2002
057900-063A	N80-0.9	970	mg/Kg	9575	5	1	7/12/2002	7/17/2002
057900-064A	N81-S	990	mg/Kg	9575	5	1	7/12/2002	7/17/2002
057900-065A	N81-0.3	1600	mg/Kg	9575	5	1	7/12/2002	7/17/2002
057900-066A	N81-0.6	360	mg/Kg	9575	5	1	7/12/2002	7/17/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/19/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057900
Project:	Rte 5 - NB, 9100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057900-067A	N81-0.9	950	mg/Kg	9575	5	1	7/12/2002	7/17/2002
057900-068A	N82-S	2100	mg/Kg	9575	5	1	7/12/2002	7/17/2002
057900-069A	N82-0.3	2300	mg/Kg	9575	5	1	7/12/2002	7/17/2002
057900-070A	N83-S	500	mg/Kg	9575	5	1	7/12/2002	7/17/2002
057900-071A	N83-0.3	730	mg/Kg	9575	5	1	7/12/2002	7/17/2002
057900-072A	N83-0.6	20	mg/Kg	9575	5	1	7/12/2002	7/17/2002
057900-073A	N83-0.9	200	mg/Kg	9575	5	1	7/12/2002	7/17/2002
057900-074A	N84-S	2400	mg/Kg	9575	5	1	7/12/2002	7/17/2002
057900-075A	N84-0.3	720	mg/Kg	9575	5	1	7/12/2002	7/18/2002
057900-076A	N84-0.6	810	mg/Kg	9575	5	1	7/12/2002	7/18/2002
057900-077A	N85-S	1100	mg/Kg	9575	5	1	7/12/2002	7/18/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/19/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057900
Project:	Rte 5 - NB, 9100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057900-078A	N85-0.3	280	mg/Kg	9575	5	1	7/12/2002	7/18/2002
057900-079A	N85-0.6	800	mg/Kg	9575	5	1	7/12/2002	7/18/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified

Page 8 of 10



**ICP METALS
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057900
Project:	Rte 5 - NB, 9100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Water
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057900-080A	C21	0.0056	mg/L	9584	0.005	1	7/12/2002	7/16/2002
057900-081A	C22	ND	mg/L	9584	0.005	1	7/12/2002	7/16/2002
057900-082A	C23	ND	mg/L	9584	0.005	1	7/12/2002	7/16/2002
057900-083A	C24	ND	mg/L	9584	0.005	1	7/12/2002	7/16/2002
057900-084A	C25	0.0089	mg/L	9584	0.005	1	7/12/2002	7/16/2002
057900-085A	C26	ND	mg/L	9584	0.005	1	7/12/2002	7/16/2002
057900-086A	C27	ND	mg/L	9584	0.005	1	7/12/2002	7/16/2002
057900-087A	C28	ND	mg/L	9584	0.005	1	7/12/2002	7/16/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/19/2002

**pH
EPA 9045C**

CLIENT: Geocon Environmental	Lab Order: 057900
Project: Rte 5 - NB, 9100-06-49	Date Received: 7/12/2002
Project No:	Matrix: Soil
PO No:	Analyst: JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057900-007A	N64-0.6	8.57	pH Units	R19527	0.1	1	7/12/2002	7/18/2002
057900-017A	N67-0.3	8.61	pH Units	R19527	0.1	1	7/12/2002	7/18/2002
057900-027A	N70-0.3	8.85	pH Units	R19527	0.1	1	7/12/2002	7/18/2002
057900-037A	N73-0.6	8.27	pH Units	R19527	0.1	1	7/12/2002	7/18/2002
057900-047A	N76-0.6	8.59	pH Units	R19527	0.1	1	7/12/2002	7/18/2002
057900-057A	N79-0.3	8.48	pH Units	R19527	0.1	1	7/12/2002	7/18/2002
057900-067A	N81-0.9	8.03	pH Units	R19527	0.1	1	7/12/2002	7/18/2002
057900-077A	N85-S	6.90	pH Units	R19527	0.1	1	7/12/2002	7/18/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057900
Project:	Rte 5 - NB, 9100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057900-001A	N63-S	52	mg/L	9733	2	10	7/12/2002	7/25/2002
057900-002A	N63-0.3	34	mg/L	9733	0.8	4	7/12/2002	7/25/2002
057900-003A	N63-0.6	4.2	mg/L	9733	0.2	1	7/12/2002	7/25/2002
057900-004A	N63-0.9	13	mg/L	9733	0.4	2	7/12/2002	7/25/2002
057900-006A	N64-0.3	66	mg/L	9733	2	10	7/12/2002	7/25/2002
057900-007A	N64-0.6	15	mg/L	9733	0.4	2	7/12/2002	7/25/2002
057900-008A	N64-0.9	30	mg/L	9733	0.8	4	7/12/2002	7/25/2002
057900-010A	N65-0.3	58	mg/L	9733	2	10	7/12/2002	7/25/2002
057900-011A	N65-0.6	36	mg/L	9733	0.8	4	7/12/2002	7/25/2002
057900-014A	N66-0.3	69	mg/L	9733	2	10	7/12/2002	7/25/2002
057900-015A	N66-0.6	53	mg/L	9733	2	10	7/12/2002	7/25/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057900
Project:	Rte 5 - NB, 9100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057900-016A	N67-S	85	mg/L	9733	2	10	7/12/2002	7/25/2002
057900-018A	N67-0.6	36	mg/L	9733	0.8	4	7/12/2002	7/25/2002
057900-023A	N69-S	87	mg/L	9733	2	10	7/12/2002	7/25/2002
057900-025A	N69-0.6	4.0	mg/L	9733	0.2	1	7/12/2002	7/25/2002
057900-026A	N70-S	84	mg/L	9733	2	10	7/12/2002	7/25/2002
057900-027A	N70-0.3	0.49	mg/L	9733	0.2	1	7/12/2002	7/25/2002
057900-028A	N70-0.6	3.3	mg/L	9733	0.2	1	7/12/2002	7/25/2002
057900-029A	N71-S	6.0	mg/L	9733	0.2	1	7/12/2002	7/25/2002
057900-032A	N72-S	9.0	mg/L	9733	0.2	1	7/12/2002	7/25/2002
057900-033A	N72-0.3	22	mg/L	9734	0.8	4	7/12/2002	7/25/2002
057900-034A	N72-0.6	8.1	mg/L	9734	0.2	1	7/12/2002	7/25/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057900
Project:	Rte 5 - NB, 9100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057900-035A	N73-S	61	mg/L	9734	2	10	7/12/2002	7/25/2002
057900-036A	N73-0.3	88	mg/L	9734	2	10	7/12/2002	7/25/2002
057900-038A	N74-S	22	mg/L	9734	0.8	4	7/12/2002	7/25/2002
057900-039A	N74-0.3	26	mg/L	9734	0.8	4	7/12/2002	7/25/2002
057900-040A	N74-0.6	16	mg/L	9734	0.4	2	7/12/2002	7/25/2002
057900-041A	N74-0.9	9.1	mg/L	9734	0.2	1	7/12/2002	7/25/2002
057900-042A	N75-S	130	mg/L	9734	4	20	7/12/2002	7/25/2002
057900-044A	N75-0.6	18	mg/L	9734	0.4	2	7/12/2002	7/25/2002
057900-047A	N76-0.6	24	mg/L	9734	0.8	4	7/12/2002	7/25/2002
057900-048A	N76-0.9	4.4	mg/L	9734	0.2	1	7/12/2002	7/25/2002
057900-050A	N77-0.3	58	mg/L	9734	2	10	7/12/2002	7/25/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057900
Project:	Rte 5 - NB, 9100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057900-055A	N78-0.6	32	mg/L	9734	0.8	4	7/12/2002	7/25/2002
057900-062A	N80-0.6	64	mg/L	9734	2	10	7/12/2002	7/25/2002
057900-063A	N80-0.9	71	mg/L	9734	2	10	7/12/2002	7/25/2002
057900-064A	N81-S	140	mg/L	9734	4	20	7/12/2002	7/25/2002
057900-066A	N81-0.6	43	mg/L	9734	2	10	7/12/2002	7/25/2002
057900-067A	N81-0.9	26	mg/L	9734	0.8	4	7/12/2002	7/25/2002
057900-070A	N83-S	33	mg/L	9734	0.8	4	7/12/2002	7/25/2002
057900-071A	N83-0.3	44	mg/L	9748	2	10	7/12/2002	7/25/2002
057900-073A	N83-0.9	7.2	mg/L	9748	0.2	1	7/12/2002	7/25/2002
057900-075A	N84-0.3	71	mg/L	9748	2	10	7/12/2002	7/25/2002
057900-076A	N84-0.6	55	mg/L	9748	2	10	7/12/2002	7/25/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057900
Project:	Rte 5 - NB, 9100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057900-078A	N85-0.3	16	mg/L	9748	0.4	2	7/12/2002	7/25/2002
057900-079A	N85-0.6	60	mg/L	9748	2	10	7/12/2002	7/25/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
EPA 1311/ 7420

CLIENT:	Geocon Environmental	Lab Order:	057900
Project:	Rte 5 - NB, 9100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057900-005A	N64-S	17	mg/L	9824	0.4	2	7/12/2002	7/25/2002
057900-009A	N65-S	17	mg/L	9824	0.4	2	7/12/2002	7/25/2002
057900-013A	N66-S	23	mg/L	9824	0.8	4	7/12/2002	7/25/2002
057900-017A	N67-0.3	30	mg/L	9824	0.8	4	7/12/2002	7/25/2002
057900-019A	N68-S	31	mg/L	9824	0.8	4	7/12/2002	7/25/2002
057900-021A	N68-0.6	2.6	mg/L	9854	0.2	1	7/12/2002	7/26/2002
057900-024A	N69-0.3	32	mg/L	9824	0.8	4	7/12/2002	7/25/2002
057900-037A	N73-0.6	23	mg/L	9824	0.8	4	7/12/2002	7/25/2002
057900-043A	N75-0.3	18	mg/L	9824	0.4	2	7/12/2002	7/25/2002
057900-045A	N76-S	38	mg/L	9824	1	5	7/12/2002	7/25/2002
057900-046A	N76-0.3	28	mg/L	9825	0.8	4	7/12/2002	7/25/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
EPA 1311/ 7420

CLIENT:	Geocon Environmental	Lab Order:	057900
Project:	Rte 5 - NB, 9100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057900-049A	N77-S	26	mg/L	9825	0.8	4	7/12/2002	7/25/2002
057900-051A	N77-0.6	150	mg/L	9825	4	20	7/12/2002	7/25/2002
057900-052A	N77-0.9	37	mg/L	9825	0.8	4	7/12/2002	7/25/2002
057900-053A	N78-S	33	mg/L	9825	0.8	4	7/12/2002	7/25/2002
057900-054A	N78-0.3	29	mg/L	9825	0.8	4	7/12/2002	7/25/2002
057900-056A	N79-S	12	mg/L	9825	0.4	2	7/12/2002	7/25/2002
057900-060A	N80-S	36	mg/L	9825	0.8	4	7/12/2002	7/25/2002
057900-061A	N80-0.3	31	mg/L	9825	0.8	4	7/12/2002	7/25/2002
057900-065A	N81-0.3	33	mg/L	9825	0.8	4	7/12/2002	7/25/2002
057900-068A	N82-S	23	mg/L	9826	0.8	4	7/12/2002	7/25/2002
057900-069A	N82-0.3	25	mg/L	9826	0.8	4	7/12/2002	7/25/2002

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
EPA 1311/7420**

CLIENT:	Geocon Environmental	Lab Order:	057900
Project:	Rte 5 - NB, 9100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057900-074A	N84-S	ND	mg/L	9854	0.2	1	7/12/2002	7/26/2002
057900-077A	N85-S	ND	mg/L	9854	0.2	1	7/12/2002	7/26/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057900
Project:	Rte 5 - NB, 9100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057900-001A	N63-S	0.56	mg/L	9772	0.2	1	7/12/2002	7/28/2002
057900-002A	N63-0.3	0.96	mg/L	9772	0.2	1	7/12/2002	7/28/2002
057900-004A	N63-0.9	0.26	mg/L	9772	0.2	1	7/12/2002	7/28/2002
057900-006A	N64-0.3	1.9	mg/L	9772	0.2	1	7/12/2002	7/28/2002
057900-007A	N64-0.6	0.34	mg/L	9772	0.2	1	7/12/2002	7/28/2002
057900-008A	N64-0.9	0.74	mg/L	9772	0.2	1	7/12/2002	7/28/2002
057900-010A	N65-0.3	1.5	mg/L	9772	0.2	1	7/12/2002	7/28/2002
057900-011A	N65-0.6	1.3	mg/L	9772	0.2	1	7/12/2002	7/28/2002
057900-014A	N66-0.3	3.8	mg/L	9772	0.2	1	7/12/2002	7/28/2002
057900-015A	N66-0.6	3.4	mg/L	9772	0.2	1	7/12/2002	7/28/2002
057900-016A	N67-S	2.4	mg/L	9772	0.2	1	7/12/2002	7/28/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057900
Project:	Rte 5 - NB, 9100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057900-018A	N67-0.6	2.6	mg/L	9772	0.2	1	7/12/2002	7/28/2002
057900-023A	N69-S	4.0	mg/L	9772	0.2	1	7/12/2002	7/28/2002
057900-026A	N70-S	0.69	mg/L	9772	0.2	1	7/12/2002	7/28/2002
057900-029A	N71-S	ND	mg/L	9772	0.2	1	7/12/2002	7/28/2002
057900-032A	N72-S	ND	mg/L	9772	0.2	1	7/12/2002	7/28/2002
057900-033A	N72-0.3	ND	mg/L	9773	0.2	1	7/12/2002	7/28/2002
057900-034A	N72-0.6	ND	mg/L	9773	0.2	1	7/12/2002	7/28/2002
057900-035A	N73-S	0.82	mg/L	9773	0.2	1	7/12/2002	7/28/2002
057900-036A	N73-0.3	2.2	mg/L	9773	0.2	1	7/12/2002	7/28/2002
057900-038A	N74-S	1.2	mg/L	9773	0.2	1	7/12/2002	7/28/2002
057900-039A	N74-0.3	0.86	mg/L	9773	0.2	1	7/12/2002	7/28/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057900
Project:	Rte 5 - NB, 9100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057900-040A	N74-0.6	0.68	mg/L	9773	0.2	1	7/12/2002	7/28/2002
057900-041A	N74-0.9	ND	mg/L	9773	0.2	1	7/12/2002	7/28/2002
057900-042A	N75-S	0.92	mg/L	9773	0.2	1	7/12/2002	7/28/2002
057900-044A	N75-0.6	0.63	mg/L	9773	0.2	1	7/12/2002	7/28/2002
057900-047A	N76-0.6	1.5	mg/L	9773	0.2	1	7/12/2002	7/28/2002
057900-050A	N77-0.3	2.8	mg/L	9773	0.2	1	7/12/2002	7/28/2002
057900-055A	N78-0.6	0.52	mg/L	9773	0.2	1	7/12/2002	7/28/2002
057900-062A	N80-0.6	1.5	mg/L	9773	0.2	1	7/12/2002	7/28/2002
057900-063A	N80-0.9	1.7	mg/L	9773	0.2	1	7/12/2002	7/28/2002
057900-064A	N81-S	1.1	mg/L	9773	0.2	1	7/12/2002	7/28/2002
057900-066A	N81-0.6	2.3	mg/L	9773	0.2	1	7/12/2002	7/28/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057900
Project:	Rte 5 - NB, 9100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057900-067A	N81-0.9	2.3	mg/L	9773	0.2	1	7/12/2002	7/28/2002
057900-070A	N83-S	0.43	mg/L	9773	0.2	1	7/12/2002	7/28/2002
057900-071A	N83-0.3	1.1	mg/L	9774	0.2	1	7/12/2002	7/28/2002
057900-073A	N83-0.9	ND	mg/L	9774	0.2	1	7/12/2002	7/28/2002
057900-075A	N84-0.3	1.0	mg/L	9774	0.2	1	7/12/2002	7/28/2002
057900-076A	N84-0.6	0.65	mg/L	9774	0.2	1	7/12/2002	7/28/2002
057900-078A	N85-0.3	0.85	mg/L	9774	0.2	1	7/12/2002	7/28/2002
057900-079A	N85-0.6	2.8	mg/L	9774	0.2	1	7/12/2002	7/28/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
Lab Order: 057900
Project: Rte 5 - NB, 9100-06-49
Lab ID: 057900-051A

Client Sample ID: N77-0.6
Collection Date: 7/12/2002
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID:	ICP2_020729D	QC Batch:	9917	Analyst: RQ		
Antimony	2.0	0.25	mg/Kg	1	7/29/2002	
Arsenic	10	0.25	mg/Kg	1	7/29/2002	
Barium	120	0.15	mg/Kg	1	7/29/2002	
Beryllium	ND	0.15	mg/Kg	1	7/29/2002	
Cadmium	ND	0.15	mg/Kg	1	7/29/2002	
Chromium	18	0.15	mg/Kg	1	7/29/2002	
Cobalt	7.0	0.15	mg/Kg	1	7/29/2002	
Copper	36	0.15	mg/Kg	1	7/29/2002	
Lead	1900	0.25	mg/Kg	1	7/29/2002	
Molybdenum	3.0	0.25	mg/Kg	1	7/29/2002	
Nickel	14	0.15	mg/Kg	1	7/29/2002	
Selenium	ND	0.25	mg/Kg	1	7/29/2002	
Silver	ND	0.15	mg/Kg	1	7/29/2002	
Thallium	1.0	0.25	mg/Kg	1	7/29/2002	
Vanadium	26	0.15	mg/Kg	1	7/29/2002	
Zinc	290	0.50	mg/Kg	1	7/29/2002	

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID:	AA1_020729B	QC Batch:	9920	Analyst: NS		
Mercury	ND	0.10	mg/Kg	1	7/29/2002	

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified

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Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
 Lab Order: 057900
 Project: Rte 5 - NB, 9100-06-49
 Lab ID: 057900-060A

Client Sample ID: N80-S
 Collection Date: 7/12/2002
 Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID: ICP2_020729D	QC Batch: 9917						Analyst: RQ
Antimony	2.5	0.25		mg/Kg	1	7/29/2002	
Arsenic	12	0.25		mg/Kg	1	7/29/2002	
Barium	210	0.15		mg/Kg	1	7/29/2002	
Beryllium	ND	0.15		mg/Kg	1	7/29/2002	
Cadmium	8.5	0.15		mg/Kg	1	7/29/2002	
Chromium	32	0.15		mg/Kg	1	7/29/2002	
Cobalt	7.0	0.15		mg/Kg	1	7/29/2002	
Copper	80	0.15		mg/Kg	1	7/29/2002	
Lead	4400	2.5		mg/Kg	10	7/29/2002	
Molybdenum	4.0	0.25		mg/Kg	1	7/29/2002	
Nickel	22	0.15		mg/Kg	1	7/29/2002	
Selenium	ND	0.25		mg/Kg	1	7/29/2002	
Silver	140	0.15		mg/Kg	1	7/29/2002	
Thallium	1.0	0.25		mg/Kg	1	7/29/2002	
Vanadium	26	0.15		mg/Kg	1	7/29/2002	
Zinc	490	0.50		mg/Kg	1	7/29/2002	

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID: AA1_020729B	QC Batch: 9920						Analyst: NS
Mercury	0.17	0.10		mg/Kg	1	7/29/2002	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified

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Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
 Lab Order: 057900
 Project: Rte 5 - NB, 9100-06-49
 Lab ID: 057900-068A

Client Sample ID: N82-S
 Collection Date: 7/12/2002
 Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID:	ICP2_020729D	QC Batch:	9917	Analyst: RQ		
Antimony	3.0	0.25	mg/Kg	1	7/29/2002	
Arsenic	11	0.25	mg/Kg	1	7/29/2002	
Barium	240	0.15	mg/Kg	1	7/29/2002	
Beryllium	ND	0.15	mg/Kg	1	7/29/2002	
Cadmium	ND	0.15	mg/Kg	1	7/29/2002	
Chromium	39	0.15	mg/Kg	1	7/29/2002	
Cobalt	6.5	0.15	mg/Kg	1	7/29/2002	
Copper	100	0.15	mg/Kg	1	7/29/2002	
Lead	2300	0.25	mg/Kg	1	7/29/2002	
Molybdenum	5.5	0.25	mg/Kg	1	7/29/2002	
Nickel	32	0.15	mg/Kg	1	7/29/2002	
Selenium	ND	0.25	mg/Kg	1	7/29/2002	
Silver	0.29	0.15	mg/Kg	1	7/29/2002	
Thallium	0.50	0.25	mg/Kg	1	7/29/2002	
Vanadium	30	0.15	mg/Kg	1	7/29/2002	
Zinc	530	0.50	mg/Kg	1	7/29/2002	

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID:	AA1_020729B	QC Batch:	9920	Analyst: NS		
Mercury	0.21	0.10	mg/Kg	1	7/29/2002	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified

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Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
Lab Order: 057900
Project: Rte 5 - NB, 9100-06-49
Lab ID: 057900-069A

Client Sample ID: N82-0.3
Collection Date: 7/12/2002
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID:	ICP2_020729D	QC Batch:	9917				Analyst: RQ
Antimony	2.5	0.25	mg/Kg	1	7/29/2002		
Arsenic	12	0.25	mg/Kg	1	7/29/2002		
Barium	160	0.15	mg/Kg	1	7/29/2002		
Beryllium	ND	0.15	mg/Kg	1	7/29/2002		
Cadmium	ND	0.15	mg/Kg	1	7/29/2002		
Chromium	24	0.15	mg/Kg	1	7/29/2002		
Cobalt	6.5	0.15	mg/Kg	1	7/29/2002		
Copper	68	0.15	mg/Kg	1	7/29/2002		
Lead	2400	0.25	mg/Kg	1	7/29/2002		
Molybdenum	3.0	0.25	mg/Kg	1	7/29/2002		
Nickel	22	0.15	mg/Kg	1	7/29/2002		
Selenium	ND	0.25	mg/Kg	1	7/29/2002		
Silver	0.28	0.15	mg/Kg	1	7/29/2002		
Thallium	1.0	0.25	mg/Kg	1	7/29/2002		
Vanadium	28	0.15	mg/Kg	1	7/29/2002		
Zinc	360	0.50	mg/Kg	1	7/29/2002		

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID:	AA1_020729B	QC Batch:	9920				Analyst: NS
Mercury	0.11	0.10	mg/Kg	1	7/29/2002		

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified

Page 4 of 5



Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
Lab Order: 057900
Project: Rte 5 - NB, 9100-06-49
Lab ID: 057900-074A

Client Sample ID: N84-S
Collection Date: 7/12/2002
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID:	ICP2_020729D	QC Batch:	9917				Analyst:	RQ
Antimony	2.0	0.25	mg/Kg	1	7/29/2002			
Arsenic	9.5	0.25	mg/Kg	1	7/29/2002			
Barium	170	0.15	mg/Kg	1	7/29/2002			
Beryllium	ND	0.15	mg/Kg	1	7/29/2002			
Cadmium	ND	0.15	mg/Kg	1	7/29/2002			
Chromium	26	0.15	mg/Kg	1	7/29/2002			
Cobalt	6.5	0.15	mg/Kg	1	7/29/2002			
Copper	58	0.15	mg/Kg	1	7/29/2002			
Lead	2300	0.25	mg/Kg	1	7/29/2002			
Molybdenum	2.5	0.25	mg/Kg	1	7/29/2002			
Nickel	18	0.15	mg/Kg	1	7/29/2002			
Selenium	ND	0.25	mg/Kg	1	7/29/2002			
Silver	ND	0.15	mg/Kg	1	7/29/2002			
Thallium	0.50	0.25	mg/Kg	1	7/29/2002			
Vanadium	28	0.15	mg/Kg	1	7/29/2002			
Zinc	420	0.50	mg/Kg	1	7/29/2002			

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID:	AA1_020729B	QC Batch:	9920				Analyst:	NS
Mercury	0.22	0.10	mg/Kg	1	7/29/2002			

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified





Advanced Technology Laboratories

Date: 19-Jul-02

CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Table with 5 main rows, each containing sample information (Sample ID, Client ID, Batch ID, TestCode, Units, Prep Date, Run ID, Analysis Date, SeqNo) and a detailed analyte table (Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual).

Qualifiers: ND - Not Detected at the Reporting Limit, S - Spike Recovery outside accepted recovery limits, DO - Surrogate dilute out, I - Analyte detected below quantitation limits, B - Analyte detected in the associated Method Blank, H - Sample exceeded holding time, R - RPD outside accepted recovery limits, Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	MB-9574B	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020717C		
Client ID:	ZZZZZ	Batch ID:	9574	TestNo:	EPA 6010B (EPA 3050M)	Analysis Date:	7/17/2002	SeqNo:	300851				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID	MB-9575A	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020717D		
Client ID:	ZZZZZ	Batch ID:	9575	TestNo:	EPA 6010B (EPA 3050M)	Analysis Date:	7/17/2002	SeqNo:	300869				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID	MB-9575B	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020717D		
Client ID:	ZZZZZ	Batch ID:	9575	TestNo:	EPA 6010B (EPA 3050M)	Analysis Date:	7/17/2002	SeqNo:	300870				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID	MB-9574B	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020718F		
Client ID:	ZZZZZ	Batch ID:	9574	TestNo:	EPA 6010B (EPA 3050M)	Analysis Date:	7/18/2002	SeqNo:	301155				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID	LCS-9572	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020717A		
Client ID:	ZZZZZ	Batch ID:	9572	TestNo:	EPA 6010B (EPA 3050M)	Analysis Date:	7/17/2002	SeqNo:	300793				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 214.9 5.0 250 0 86 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	LCS-9573	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020717B		
Client ID:	ZZZZZ	Batch ID:	9573	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/17/2002	SeqNo:	300821		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 218.3 5.0 250 0 87.3 80 120 0 0

Sample ID	LCS-9574	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020717C		
Client ID:	ZZZZZ	Batch ID:	9574	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/17/2002	SeqNo:	300849		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 220.1 5.0 250 0 88 80 120 0 0

Sample ID	LCS-9575	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020717D		
Client ID:	ZZZZZ	Batch ID:	9575	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/17/2002	SeqNo:	300868		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 223.7 5.0 250 0 89.5 80 120 0 0

Sample ID	LCS-9574	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020718F		
Client ID:	ZZZZZ	Batch ID:	9574	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/18/2002	SeqNo:	301154		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 214.3 5.0 250 0 85.7 80 120 0 0

Sample ID	057900-010AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020717A		
Client ID:	N65-0.3	Batch ID:	9572	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/17/2002	SeqNo:	300779		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 644.8 5.0 250 681.6 -14.7 47 128 0 0 S

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057900-020AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020717A			
Client ID:	N68-0.3	Batch ID:	9572	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/17/2002	SeqNo:	300791			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	213.8	5.0	250	46.1	67.1	47	128	0	0					
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Sample ID	057900-030AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020717B			
Client ID:	N71-0.3	Batch ID:	9573	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/17/2002	SeqNo:	300807			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	191.4	5.0	250	13.15	71.3	47	128	0	0					
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Sample ID	057900-040AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020717B			
Client ID:	N74-0.6	Batch ID:	9573	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/17/2002	SeqNo:	300819			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	510.7	5.0	250	315.4	78.1	47	128	0	0					
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Sample ID	057900-050AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020717C			
Client ID:	N77-0.3	Batch ID:	9574	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/17/2002	SeqNo:	300835			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	1312	5.0	250	674.8	255	47	128	0	0					S
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Sample ID	057900-070AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020717D			
Client ID:	N83-S	Batch ID:	9575	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/17/2002	SeqNo:	300863			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	490.7	5.0	250	504.5	-5.51	47	128	0	0					S
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057900-079AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020717D		
Client ID:	N85-0.6	Batch ID:	9575	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/18/2002	SeqNo:	300877		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	1224	5.0	250	797.3	171	47	128	0	0	S
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Sample ID	057900-060AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020718F		
Client ID:	N80-S	Batch ID:	9574	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/18/2002	SeqNo:	301152		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	3760	15	250	3990	-92.1	47	128	0	0	S
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Sample ID	057900-010ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020717A		
Client ID:	N65-0.3	Batch ID:	9572	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/17/2002	SeqNo:	300778		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	403.8	5.0	0	0	0	0	0	681.6	51.2	30	R
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Sample ID	057900-020ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020717A		
Client ID:	N68-0.3	Batch ID:	9572	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/17/2002	SeqNo:	300790		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	60.17	5.0	0	0	0	0	0	46.1	26.5	30
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Sample ID	057900-030ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020717B		
Client ID:	N71-0.3	Batch ID:	9573	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/17/2002	SeqNo:	300806		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	12.42	5.0	0	0	0	0	0	13.15	5.76	30
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057900-040ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020717B
Client ID:	N74-0.6	Batch ID:	9573	TestNo:	EPA 6010B (EPA 3050M)			Analysis Date:	7/17/2002	SeqNo:	300818
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	204.1	5.0	0	0	0	0	0	315.4	42.9	30	R
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Sample ID	057900-050ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020717C
Client ID:	N77-0.3	Batch ID:	9574	TestNo:	EPA 6010B (EPA 3050M)			Analysis Date:	7/17/2002	SeqNo:	300834
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	1061	5.0	0	0	0	0	0	674.8	44.5	30	R
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Sample ID	057900-070ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020717D
Client ID:	N83-S	Batch ID:	9575	TestNo:	EPA 6010B (EPA 3050M)			Analysis Date:	7/17/2002	SeqNo:	300862
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	460.3	5.0	0	0	0	0	0	504.5	9.15	30	
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Sample ID	057900-079ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020717D
Client ID:	N85-0.6	Batch ID:	9575	TestNo:	EPA 6010B (EPA 3050M)			Analysis Date:	7/18/2002	SeqNo:	300876
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	752.3	5.0	0	0	0	0	0	797.3	5.80	30	
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Sample ID	057900-060ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020718F
Client ID:	N80-S	Batch ID:	9574	TestNo:	EPA 6010B (EPA 3050M)			Analysis Date:	7/18/2002	SeqNo:	301151
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	3421	15	0	0	0	0	0	3990	15.4	30	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPB

Sample ID	MB-9584	SampType:	MBLK	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/15/2002	Run ID:	ICP5_020716I			
Client ID:	ZZZZZ	Batch ID:	9584	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/16/2002	SeqNo:	299904			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.0050

Sample ID	LCS-9584	SampType:	LCS	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/15/2002	Run ID:	ICP5_020716I			
Client ID:	ZZZZZ	Batch ID:	9584	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/16/2002	SeqNo:	299903			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 1.031 0.0050 1 0 103 80 120 0 0

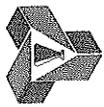
Sample ID	057900-087AMS	SampType:	MS	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/15/2002	Run ID:	ICP5_020716I			
Client ID:	C28	Batch ID:	9584	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/16/2002	SeqNo:	299901			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 2.593 0.0050 2.5 0 104 66 118 0 0

Sample ID	057900-087ADUP	SampType:	DUP	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/15/2002	Run ID:	ICP5_020716I			
Client ID:	C28	Batch ID:	9584	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/16/2002	SeqNo:	299900			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.0050 0 0 0 0 0 0 0 0 0 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 9045_S

Sample ID	057900-077ADUP	SampType:	DUP	TestCode:	9045_S	Units:	pH Units	Prep Date:	7/18/2002	Run ID:	WETCHEM_020718B
Client ID:	N85-S	Batch ID:	R19527	TestNo:	EPA 9045C			Analysis Date:	7/18/2002	SeqNo:	301157

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	6.84	0.10	0	0	0	0	0	6.9	0.873	20	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 26-Jul-02

CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID MB-9733A	SampType: MBLK	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/22/2002	Run ID: AA2_020725L
Client ID: ZZZZZ	Batch ID: 9733	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/25/2002	SeqNo: 306602
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead	0.0754	0.20			

Sample ID MB-9733	SampType: MBLK	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/25/2002	Run ID: AA2_020725L
Client ID: ZZZZZ	Batch ID: 9733	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/25/2002	SeqNo: 306603
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead	0.07474	0.20			

Sample ID MB-9733B	SampType: MBLK	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/22/2002	Run ID: AA2_020725L
Client ID: ZZZZZ	Batch ID: 9733	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/25/2002	SeqNo: 306616
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead	ND	0.20			

Sample ID MB-9734	SampType: MBLK	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/25/2002	Run ID: AA2_020725M
Client ID: ZZZZZ	Batch ID: 9734	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/25/2002	SeqNo: 306631
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead	ND	0.20			

Sample ID MB-9734A	SampType: MBLK	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/22/2002	Run ID: AA2_020725M
Client ID: ZZZZZ	Batch ID: 9734	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/25/2002	SeqNo: 306632
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead	ND	0.20			

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	MB-9734B	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020725M			
Client ID:	ZZZZZ	Batch ID:	9734	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/25/2002	SeqNo:	306650			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.078 0.20

Sample ID	MB-9748	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/25/2002	Run ID:	AA2_020725N			
Client ID:	ZZZZZ	Batch ID:	9748	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/25/2002	SeqNo:	306672			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9748A	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020725N			
Client ID:	ZZZZZ	Batch ID:	9748	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/25/2002	SeqNo:	306673			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9748B	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020725N			
Client ID:	ZZZZZ	Batch ID:	9748	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/25/2002	SeqNo:	306686			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	LCS-9733	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/25/2002	Run ID:	AA2_020725L			
Client ID:	ZZZZZ	Batch ID:	9733	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/25/2002	SeqNo:	306630			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.377 0.20 7.5 0 98.4 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 I - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID LCS-9734	SampType: LCS	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/25/2002	Run ID: AA2_020725M
Client ID: ZZZZZ	Batch ID: 9734	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/25/2002	SeqNo: 306664
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Lead 7.201 0.20 7.5 0 96 80 120 0 0

Sample ID LCS-9748	SampType: LCS	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/25/2002	Run ID: AA2_020725N
Client ID: ZZZZZ	Batch ID: 9748	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/25/2002	SeqNo: 306700
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Lead 7.198 0.20 7.5 0 96 80 120 0 0

Sample ID 057900-014AMS	SampType: MS	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/25/2002	Run ID: AA2_020725L
Client ID: N66-0.3	Batch ID: 9733	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/25/2002	SeqNo: 306615
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Lead 159 4.0 100 69.32 89.6 80 120 0 0

Sample ID 057900-032AMS	SampType: MS	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/25/2002	Run ID: AA2_020725L
Client ID: N72-S	Batch ID: 9733	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/25/2002	SeqNo: 306628
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Lead 17.86 0.40 10 8.969 88.9 80 120 0 0

Sample ID 057900-044AMS	SampType: MS	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/25/2002	Run ID: AA2_020725M
Client ID: N75-0.6	Batch ID: 9734	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/25/2002	SeqNo: 306648
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Lead 38.35 0.80 20 18.15 101 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID: 057900-070AMS	SampType: MS	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/25/2002	Run ID: AA2_020725M						
Client ID: N83-S	Batch ID: 9734	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/25/2002	SeqNo: 306662						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	71.76	1.6	40	33.12	96.6	80	120	0	0
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Sample ID: 057931-007AMS	SampType: MS	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/25/2002	Run ID: AA2_020725N						
Client ID: ZZZZZ	Batch ID: 9748	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/25/2002	SeqNo: 306685						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	74.52	2.0	50	30.65	87.7	80	120	0	0
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Sample ID: 057931-017AMS	SampType: MS	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/25/2002	Run ID: AA2_020725N						
Client ID: ZZZZZ	Batch ID: 9748	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/25/2002	SeqNo: 306698						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	7.39	0.20	5	2.61	95.6	80	120	0	0
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Sample ID: 057900-014ADUP	SampType: DUP	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/22/2002	Run ID: AA2_020725L						
Client ID: N66-0.3	Batch ID: 9733	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/25/2002	SeqNo: 306614						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	61.58	2.0	0	0	0	0	0	69.32	11.8	30
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Sample ID: 057900-032ADUP	SampType: DUP	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/22/2002	Run ID: AA2_020725L						
Client ID: N72-S	Batch ID: 9733	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/25/2002	SeqNo: 306627						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	8.886	0.20	0	0	0	0	0	8.969	0.935	30
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Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	DO- Surrogate dilute out
	J - Analyte detected below quantitation limits	B - Analyte detected in the associated Method Blank	H - Sample exceeded holding time
	R - RPD outside accepted recovery limits	Calculations are based on raw values	



CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	057900-044ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020725M		
Client ID:	N75-0.6	Batch ID:	9734	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/25/2002	SeqNo:	306647		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 21.37 0.40 0 0 0 0 0 0 18.15 16.3 30

Sample ID	057900-070ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020725M		
Client ID:	N83-S	Batch ID:	9734	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/25/2002	SeqNo:	306661		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 35.73 0.80 0 0 0 0 0 0 33.12 7.59 30

Sample ID	057931-007ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020725N		
Client ID:	ZZZZZ	Batch ID:	9748	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/25/2002	SeqNo:	306684		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 25.58 0.80 0 0 0 0 0 0 30.65 18.0 30

Sample ID	057931-017ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020725N		
Client ID:	ZZZZZ	Batch ID:	9748	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/25/2002	SeqNo:	306697		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 2.817 0.20 0 0 0 0 0 0 2.61 7.61 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 26-Jul-02

CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9826, mblk, 7420_TC, mg/L, 7/23/2002, AA2_020725C, ZZZZZ, 9826, EPA 1311/ 74 (EPA 3010A), 7/25/2002, 306005, Lead, 0.05739, 0.20, J

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9767-TCLP, mblk, 7420_TC, mg/L, 7/23/2002, AA2_020725C, ZZZZZ, 9826, EPA 1311/ 74 (EPA 3010A), 7/25/2002, 306006, Lead, 0.09446, 0.20, J

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9824, mblk, 7420_TC, mg/L, 7/23/2002, AA2_020725D, ZZZZZ, 9824, EPA 1311/ 74 (EPA 3010A), 7/25/2002, 306015, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9765-TCLP, mblk, 7420_TC, mg/L, 7/23/2002, AA2_020725D, ZZZZZ, 9824, EPA 1311/ 74 (EPA 3010A), 7/25/2002, 306016, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9825, mblk, 7420_TC, mg/L, 7/23/2002, AA2_020725E, ZZZZZ, 9825, EPA 1311/ 74 (EPA 3010A), 7/25/2002, 306030, Lead, ND, 0.20

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID	MB-9766-TCLP	SampType:	mbllk	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020725E			
Client ID:	ZZZZZ	Batch ID:	9825	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/25/2002	SeqNo:	306031			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9854	SampType:	MBLK	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/25/2002	Run ID:	AA2_020726E			
Client ID:	ZZZZZ	Batch ID:	9854	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/26/2002	SeqNo:	306811			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9849-TCLP	SampType:	MBLK	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/25/2002	Run ID:	AA2_020726E			
Client ID:	ZZZZZ	Batch ID:	9854	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/26/2002	SeqNo:	306812			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	LCS-9826	SampType:	lcs	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020725C			
Client ID:	ZZZZZ	Batch ID:	9826	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/25/2002	SeqNo:	306013			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.9968 0.20 1 0 99.7 80 120 0 0

Sample ID	LCS-9824	SampType:	lcs	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020725D			
Client ID:	ZZZZZ	Batch ID:	9824	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/25/2002	SeqNo:	306029			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.875 0.20 1 0 87.5 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID	LCS-9825	SampType:	lcs	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020725E			
Client ID:	ZZZZZ	Batch ID:	9825	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/25/2002	SeqNo:	306045			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 1.07 0.20 1 0 107 80 120 0 0

Sample ID	LCS-9854	SampType:	LCS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/25/2002	Run ID:	AA2_020726E			
Client ID:	ZZZZZ	Batch ID:	9854	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/26/2002	SeqNo:	306819			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 1.071 0.20 1 0 107 80 120 0 0

Sample ID	057900-069AMS	SampType:	MS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020725C			
Client ID:	N82-0.3	Batch ID:	9826	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/25/2002	SeqNo:	306010			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 30.33 0.80 2.5 24.86 219 80 120 0 0 S

Sample ID	057900-045AMS	SampType:	MS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020725D			
Client ID:	N76-S	Batch ID:	9824	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/25/2002	SeqNo:	306027			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 37.73 1.0 2.5 37.77 -1.57 80 120 0 0 S

Sample ID	057900-065AMS	SampType:	MS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020725E			
Client ID:	N81-0.3	Batch ID:	9825	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/25/2002	SeqNo:	306043			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 31.13 0.80 2.5 32.68 -61.8 80 120 0 0 S

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID	057900-021AMS	SampType:	MS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/25/2002	Run ID:	AA2_020726E
Client ID:	N68-0.6	Batch ID:	9854	TestNo:	EPA 1311/ 74 (EPA 3010A)	Analysis Date:	7/26/2002	SeqNo:	306817		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	4.734	0.20	2.5	2.56	87	80	120	0	0		
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Sample ID	057900-069ADUP	SampType:	DUP	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020725C
Client ID:	N82-0.3	Batch ID:	9826	TestNo:	EPA 1311/ 74 (EPA 3010A)	Analysis Date:	7/25/2002	SeqNo:	306009		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	24.87	0.80	0	0	0	0	0	24.86	0.0351	30	
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Sample ID	057900-045ADUP	SampType:	DUP	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020725D
Client ID:	N76-S	Batch ID:	9824	TestNo:	EPA 1311/ 74 (EPA 3010A)	Analysis Date:	7/25/2002	SeqNo:	306026		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	35.27	1.0	0	0	0	0	0	37.77	6.87	30	
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Sample ID	057900-065ADUP	SampType:	DUP	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020725E
Client ID:	N81-0.3	Batch ID:	9825	TestNo:	EPA 1311/ 74 (EPA 3010A)	Analysis Date:	7/25/2002	SeqNo:	306042		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	32.88	0.80	0	0	0	0	0	32.68	0.622	30	
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Sample ID	057900-021ADUP	SampType:	DUP	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/25/2002	Run ID:	AA2_020726E
Client ID:	N68-0.6	Batch ID:	9854	TestNo:	EPA 1311/ 74 (EPA 3010A)	Analysis Date:	7/26/2002	SeqNo:	306816		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	3.046	0.20	0	0	0	0	0	2.56	17.3	30	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 29-Jul-02

CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9772, MBLK, 7420_DI, mg/L, 7/28/2002, AA2_020728D, ZZZZZ, 9772, WET DI/ EPA (WET), 7/28/2002, 308312, Lead, ND, 0.20

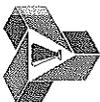
Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9772A, MBLK, 7420_DI, mg/L, 7/23/2002, AA2_020728D, ZZZZZ, 9772, WET DI/ EPA (WET), 7/28/2002, 308313, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9772B, MBLK, 7420_DI, mg/L, 7/23/2002, AA2_020728D, ZZZZZ, 9772, WET DI/ EPA (WET), 7/28/2002, 308326, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9773, MBLK, 7420_DI, mg/L, 7/28/2002, AA2_020728E, ZZZZZ, 9773, WET DI/ EPA (WET), 7/28/2002, 308336, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9773A, MBLK, 7420_DI, mg/L, 7/23/2002, AA2_020728E, ZZZZZ, 9773, WET DI/ EPA (WET), 7/28/2002, 308338, Lead, ND, 0.20

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	MB-9773B	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728E		
Client ID:	ZZZZZ	Batch ID:	9773	TestNo:	WET DI/ EPA (WET)	Analysis Date:	7/28/2002	SeqNo:	308355				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9774	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728F		
Client ID:	ZZZZZ	Batch ID:	9774	TestNo:	WET DI/ EPA (WET)	Analysis Date:	7/28/2002	SeqNo:	308380				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9774A	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728F		
Client ID:	ZZZZZ	Batch ID:	9774	TestNo:	WET DI/ EPA (WET)	Analysis Date:	7/28/2002	SeqNo:	308381				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9774B	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728F		
Client ID:	ZZZZZ	Batch ID:	9774	TestNo:	WET DI/ EPA (WET)	Analysis Date:	7/28/2002	SeqNo:	308394				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	LCS-9772	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728D		
Client ID:	ZZZZZ	Batch ID:	9772	TestNo:	WET DI/ EPA (WET)	Analysis Date:	7/28/2002	SeqNo:	308346				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.462 0.20 7.5 0 99.5 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	LCS-9773	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728E
Client ID:	ZZZZZ	Batch ID:	9773	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308369
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.524 0.20 7.5 0 100 80 120 0 0

Sample ID	LCS-9774	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728F
Client ID:	ZZZZZ	Batch ID:	9774	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308408
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.461 0.20 7.5 0 99.5 80 120 0 0

Sample ID	057900-014AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728D
Client ID:	N66-0.3	Batch ID:	9772	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308325
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 8.743 0.20 5 3.785 99.2 80 120 0 0

Sample ID	057900-032AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728D
Client ID:	N72-S	Batch ID:	9772	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308342
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 5.235 0.20 5 0 105 80 120 0 0

Sample ID	057900-044AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728E
Client ID:	N75-0.6	Batch ID:	9773	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308354
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 5.728 0.20 5 0.6263 102 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	057900-070AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728E			
Client ID:	N83-S	Batch ID:	9773	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308367			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 5.386 0.20 5 0.4319 99.1 80 120 0 0

Sample ID	057936-007AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728F			
Client ID:	ZZZZZ	Batch ID:	9774	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308393			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 5.502 0.20 5 0.3567 103 80 120 0 0

Sample ID	057936-025AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728F			
Client ID:	ZZZZZ	Batch ID:	9774	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308406			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 5.872 0.20 5 0.777 102 80 120 0 0

Sample ID	057936-025AMSD	SampType:	MSD	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728F			
Client ID:	ZZZZZ	Batch ID:	9774	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308407			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 5.885 0.20 5 0.777 102 80 120 5.872 0.213 20

Sample ID	057900-014ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728D			
Client ID:	N66-0.3	Batch ID:	9772	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308324			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 3.571 0.20 0 0 0 0 0 0 0 3.785 5.83 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	057900-032ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728D		
Client ID:	N72-S	Batch ID:	9772	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308339		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		ND		0.20	0	0	0	0	0	0	0	30	
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Sample ID	057900-044ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728E		
Client ID:	N75-0.6	Batch ID:	9773	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308353		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		0.5781		0.20	0	0	0	0	0	0.6263	8.00	30	
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Sample ID	057900-070ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728E		
Client ID:	N83-S	Batch ID:	9773	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308366		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		1.095		0.20	0	0	0	0	0	0.4319	86.9	30	R
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Sample ID	057936-007ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728F		
Client ID:	ZZZZZ	Batch ID:	9774	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308392		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		0.6903		0.20	0	0	0	0	0	0.3567	63.7	30	R
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Sample ID	057936-025ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728F		
Client ID:	ZZZZZ	Batch ID:	9774	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308405		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		0.8496		0.20	0	0	0	0	0	0.777	8.93	30	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Table with 6 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID. Values include MB-9917, MBLK, 6010_S, mg/Kg, 7/28/2002, ICP2_020729D.

Table with 12 columns: Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Lists elements like Antimony, Arsenic, Barium, etc.

Table with 6 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID. Values include LCS-9917, LCS, 6010_S, mg/Kg, 7/28/2002, ICP2_020729D.

Table with 12 columns: Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Lists elements like Antimony, Arsenic, Barium, etc.

Qualifiers: ND - Not Detected at the Reporting Limit, S - Spike Recovery outside accepted recovery limits, DO - Surrogate dilute out, J - Analyte detected below quantitation limits, B - Analyte detected in the associated Method Blank, H - Sample exceeded holding time, R - RPD outside accepted recovery limits, Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	SampType	TestCode	Units	Prep Date	Run ID						
LCS-9917	LCS	6010_S	mg/Kg	7/28/2002	ICP2_020729D						
Client ID: ZZZZZ	Batch ID: 9917	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309098						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	51	0.25	50	0	102	80	120	0	0		
Molybdenum	52	0.25	50	0	104	80	120	0	0		
Nickel	48.5	0.15	50	0	97	80	120	0	0		
Selenium	50	0.25	50	0	100	80	120	0	0		
Silver	52	0.15	50	0	104	80	120	0	0		
Thallium	51.5	0.25	50	0	103	80	120	0	0		
Vanadium	53	0.15	50	0	106	80	120	0	0		
Zinc	50	0.50	50	0	100	80	120	0	0		

Sample ID	SampType	TestCode	Units	Prep Date	Run ID						
057936-019AMS	MS	6010_S	mg/Kg	7/28/2002	ICP2_020729D						
Client ID: ZZZZZ	Batch ID: 9917	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309110						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	100	0.25	125	2.5	78	32	115	0	0		
Arsenic	126.5	0.25	125	13	90.8	59	111	0	0		
Barium	288	0.15	125	210	62.4	34	151	0	0		
Beryllium	113.5	0.15	125	0	90.8	56	112	0	0		
Cadmium	106.5	0.15	125	0	85.2	52	120	0	0		
Chromium	138.5	0.15	125	28	88.4	56	118	0	0		
Cobalt	115.5	0.15	125	7.5	86.4	58	117	0	0		
Copper	193.5	0.15	125	71.5	97.6	58	134	0	0		
Molybdenum	116	0.25	125	3.5	90	56	115	0	0		
Nickel	129	0.15	125	27.5	81.2	52	120	0	0		
Selenium	113	0.25	125	0	90.4	46	108	0	0		
Silver	119	0.15	125	0.1365	95.1	74	117	0	0		
Thallium	111.5	0.25	125	1	88.4	62	117	0	0		
Vanadium	148.5	0.15	125	29	95.6	55	122	0	0		
Zinc	471.5	0.50	125	594.5	-98.4	43	134	0	0		S

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	057936-019AMS	SampType:	MS	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729D
Client ID:	ZZZZZ	Batch ID:	9917	TestNo:	EPA 6010B (EPA 3050A)			Analysis Date:	7/29/2002	SeqNo:	309118

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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Lead	3055	2.5	125	3800	-596	47	128	0	0		S
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Sample ID	057936-019AMSD	SampType:	MSD	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729D
Client ID:	ZZZZZ	Batch ID:	9917	TestNo:	EPA 6010B (EPA 3050A)			Analysis Date:	7/29/2002	SeqNo:	309111

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	107	0.25	125	2.5	83.6	32	115	100	6.76	20	
Arsenic	127	0.25	125	13	91.2	59	111	126.5	0.394	20	
Barium	280.5	0.15	125	210	56.4	34	151	288	2.64	20	
Beryllium	116.5	0.15	125	0	93.2	56	112	113.5	2.61	20	
Cadmium	109.5	0.15	125	0	87.6	52	120	106.5	2.78	20	
Chromium	134.5	0.15	125	28	85.2	56	118	138.5	2.93	20	
Cobalt	117	0.15	125	7.5	87.6	58	117	115.5	1.29	20	
Copper	195	0.15	125	71.5	98.8	58	134	193.5	0.772	20	
Molybdenum	119.5	0.25	125	3.5	92.8	56	115	116	2.97	20	
Nickel	128.5	0.15	125	27.5	80.8	52	120	129	0.388	20	
Selenium	115.5	0.25	125	0	92.4	46	108	113	2.19	20	
Silver	120.5	0.15	125	0.1365	96.3	74	117	119	1.25	20	
Thallium	114.5	0.25	125	1	90.8	62	117	111.5	2.65	20	
Vanadium	143.5	0.15	125	29	91.6	55	122	148.5	3.42	20	
Zinc	464	0.50	125	594.5	-104	43	134	471.5	1.60	20	S

Sample ID	057936-019AMSD	SampType:	MSD	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729D
Client ID:	ZZZZZ	Batch ID:	9917	TestNo:	EPA 6010B (EPA 3050A)			Analysis Date:	7/29/2002	SeqNo:	309119

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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Lead	3270	2.5	125	3800	-424	47	128	3055	6.80	20	S
------	------	-----	-----	------	------	----	-----	------	------	----	---

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	057936-019ADUP	SampType:	DUP	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729D
Client ID:	ZZZZZ	Batch ID:	9917	TestNo:	EPA 6010B (EPA 3050A)	Analysis Date:	7/29/2002	SeqNo:	309109		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	2.5	0.25	0	0	0	0	0	2.5	0	30	
Arsenic	13	0.25	0	0	0	0	0	13	0	30	
Barium	210	0.15	0	0	0	0	0	210	0	30	
Beryllium	ND	0.15	0	0	0	0	0	0	0	30	
Cadmium	ND	0.15	0	0	0	0	0	0	0	30	
Chromium	28	0.15	0	0	0	0	0	28	0	30	
Cobalt	7.5	0.15	0	0	0	0	0	7.5	0	30	
Copper	71.5	0.15	0	0	0	0	0	71.5	0	30	
Molybdenum	3.5	0.25	0	0	0	0	0	3.5	0	30	
Nickel	27.5	0.15	0	0	0	0	0	27.5	0	30	
Selenium	ND	0.25	0	0	0	0	0	0	0	30	
Silver	0.1365	0.15	0	0	0	0	0	0.1365	0	30	J
Thallium	1	0.25	0	0	0	0	0	1	0	30	
Vanadium	29	0.15	0	0	0	0	0	29	0	30	
Zinc	594.5	0.50	0	0	0	0	0	594.5	0	30	

Sample ID	057936-019ADUP	SampType:	DUP	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729D
Client ID:	ZZZZZ	Batch ID:	9917	TestNo:	EPA 6010B (EPA 3050A)	Analysis Date:	7/29/2002	SeqNo:	309117		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	4210	2.5	0	0	0	0	0	3800	10.2	30	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057900
Project: Rte 5 - NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7471_S

Sample ID	MB-9920	SampType:	mblik	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729B		
Client ID:	ZZZZZ	Batch ID:	9920	TestNo:	EPA 7471A (EPA 7471)	Analysis Date:	7/29/2002	SeqNo:	309080				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.03565 0.10

Sample ID	LCS-9920	SampType:	lcs	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729B		
Client ID:	ZZZZZ	Batch ID:	9920	TestNo:	EPA 7471A (EPA 7471)	Analysis Date:	7/29/2002	SeqNo:	309079				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 2.144 0.10 2.08 0 103 80 120 0 0

Sample ID	057900-074AMS	SampType:	MS	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729B		
Client ID:	N84-S	Batch ID:	9920	TestNo:	EPA 7471A (EPA 7471)	Analysis Date:	7/29/2002	SeqNo:	309077				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 1.067 0.10 0.83 0.218 102 62 146 0 0

Sample ID	057900-074AMSD	SampType:	MSD	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729B		
Client ID:	N84-S	Batch ID:	9920	TestNo:	EPA 7471A (EPA 7471)	Analysis Date:	7/29/2002	SeqNo:	309078				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 1.144 0.10 0.83 0.218 112 62 146 1.067 7.02 33

Sample ID	057900-074ADUP	SampType:	DUP	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729B		
Client ID:	N84-S	Batch ID:	9920	TestNo:	EPA 7471A (EPA 7471)	Analysis Date:	7/29/2002	SeqNo:	309076				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.1995 0.10 0 0 0 0 0 0.218 8.85 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values

All samples → total lead (6010)

total lead > 50 mg/kg → WET-Citric

WET-CITRIC > 5 mg/L → WET-DI

Total lead > 1,000 mg/kg → TCLP

10% → soil pH (9045)

Please call when all totals have been run. I will instruct what samples should be run for Title 22 metals.

Thanks - Chris King

REVISIONS
BY _____ DATE _____
BY _____ DATE _____

BY _____ DATE _____
CHECKED BY _____

Diane

From: Chris King [king@geoconinc.com]
Sent: Monday, July 22, 2002 10:57 AM
To: 'Diane'
Subject: 09100-06-49

Diane - please run the 15 samples with the highest total lead content for Title 22 metals. Please do this for each direction (northbound and southbound), so the total number of tests will be 30. Thank you and please call me if you have any questions.

Christopher S. King
Senior Staff Engineer
Geocon Consultants, Inc.

7/22/2002

July 17, 2002

Chris King
Geocon Environmental
6970 Flanders Drive
San Diego, CA 92121
TEL: (858) 558-6100
FAX: (858) 558-8437
RE: Rte 5-NB, 9100-06-49
Attention: Chris King

AUG 05 2002

ELAP No.: 1838
NELAP No.: 02107CA
Workorder No.: 057871

Enclosed are the results for sample(s) received on July 10, 2002 by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,

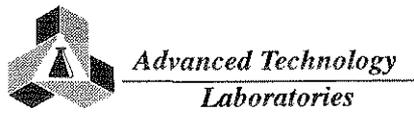


Eddie F. Rodriguez
Laboratory Director

This cover letter is an integral part of this analytical report.



CHAIN OF CUSTODY RECORD



3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport	Sample Condition Upon Receipt
Logged By: <u>MM</u>	Walk-in <input type="checkbox"/>	1. CHILLED <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>
Date: <u>7/10/02</u>	Courier <input type="checkbox"/>	2. HEADSPACE (VOA) <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>
	UPS <input type="checkbox"/>	3. CONTAINER INTACT <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>
	FED. EXP. <input type="checkbox"/>	
	ATL <input checked="" type="checkbox"/>	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rte 5-NB</u>	Project #: <u>9100-06-49</u>	Sampler: <u>CSK/GCA</u>	(Signature) <u>[Signature]</u>
Relinquished by: <u>[Signature]</u>	Date: <u>7/10</u> Time: <u>7:00p</u>	Received by: <u>[Signature]</u>	Date: <u>7-10-02</u> Time: <u>7:00p</u>
Relinquished by: <u>[Signature]</u>	Date: <u>7-16-02</u> Time: <u>7:35p</u>	Received by: <u>[Signature]</u>	Date: <u>7/10/02</u> Time: <u>7:35p</u>

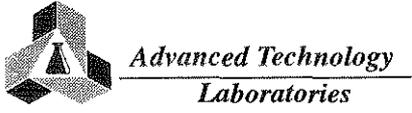
I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>2/10</u> Print Name Date	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>Attached</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested: <u>total lead 601a</u> 8081 / 8082 (Pesticides/PCB-CC) 8260 (Volatiles-GC/MS) 6251 / 8270 (BVA-GC/MS) Metals: Total (CAC-8010 / 7000) 8015M TPH/BTEX (COMBINATION) 8015M TPH/D (Diesel-GC)	CIRCLE APPROPRIATE MATRIX: SOLID (SOIL) <input checked="" type="checkbox"/> OIL • SOLVENT • SLUDGE WATER • LIQUID DRINKING WATER AIR WIPE • FILTER OTHER TAT # Type	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>
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ITEM	LAB USE ONLY:		Sample Description				Analysis	Matrix	TAT	Container(s)		REMARKS
	Batch #:	Lab No.	Sample I.D.	Date	Time	#				Type		
		<u>057871-001</u>	<u>N16-S</u>	<u>7/10</u>	<u>9:05</u>	<u>X</u>	<u>X</u>	<u>E</u>	<u>1</u>	<u>5</u>	<u>G</u>	
		<u>2</u>	<u>N16-0.3</u>	<u>1</u>	<u>9:09</u>							
		<u>3</u>	<u>N16-0.6</u>		<u>9:13</u>							
		<u>4</u>	<u>N16-0.9</u>		<u>9:17</u>							
		<u>5</u>	<u>N17-S</u>		<u>9:15</u>							
		<u>6</u>	<u>N17-0.3</u>		<u>9:20</u>							
		<u>7</u>	<u>N17-0.6</u>		<u>9:24</u>							
		<u>8</u>	<u>N18-S</u>		<u>9:33</u>							
		<u>9</u>	<u>N18-0.3</u>		<u>9:41</u>							
		<u>10</u>	<u>N18-0.6</u>		<u>9:43</u>							

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= <input type="checkbox"/> Overnight ≤ 24 hr	B= <input type="checkbox"/> Emergency Next workday	C= <input type="checkbox"/> Critical 2 Workdays	D= <input type="checkbox"/> Urgent 3 Workdays	E= <input type="checkbox"/> Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7/10/02</u>	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rte 5-NB</u>	Project #: <u>09100-06.49</u>	Sampler: <u>GCA/CSR</u> (Printed Name)	(Signature)
Relinquished by: <u>[Signature]</u>	Date: <u>7/10</u> Time: <u>7:00p</u>	Received by: <u>[Signature]</u>	Date: <u>7-10-02</u> Time: <u>7:00p</u>
Relinquished by: <u>[Signature]</u>	Date: <u>7-10-02</u> Time: <u>7:35p</u>	Received by: <u>[Signature]</u>	Date: <u>7/10/02</u> Time: <u>7:35p</u>

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>7/10</u> Print Name Date <u>[Signature]</u>	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>Attached</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.

Sample Archive/Disposal:
 Laboratory Standard
 Other _____
 Return To: _____

* \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.

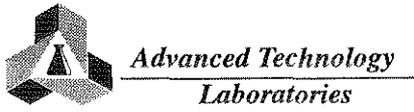
Circle or Add Analysis(es) Requested 8061 / 8062 (Pesticides/PCB-GC) 8260 (Nitrates-C/MS) 625 / 8270 (BVA-GC/MS) Metals Total (CAC-8070 / 7000) 8015M TPH/GBTEX (COMBINATION) 8015M TPH/D (Diesel-GC) <u>Total Lead</u>	CIRCLE APPROPRIATE MATRIX SOLID • SOLID SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER _____ TAT _____	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER _____
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ITEM	LAB USE ONLY:		Sample Description			
	Batch #:	Lab No.	Sample I.D.	Date	Time	
		21	N21-0.6	7/10	10:17	
		22	N21-0.9		10:24	
		23	N22-5		10:26	
		24	N22-0.3		10:34	
		25	N22-0.6		10:42	
		26	N23-5		10:29	
		27	N23-0.3		10:36	
		28	N23-0.6		10:44	
		29	N24-5		11:00	
		30	N25-5		11:05	

PRESERVATION	REMARKS	Container(s)	
		#	Type
		1	JG

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



Advanced Technology Laboratories
 3275 Walnut Avenue
 Signal Hill, CA 90807
 (562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: <u>AKK</u>	Date: <u>7/10/02</u>	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rte 5-NB</u>	Project #: <u>09100-06-49</u>	Sampler: <u>CSK/GCA</u>	(Signature) _____
Relinquished by: <u>[Signature]</u>	Date: <u>7/10</u> Time: <u>7:00P</u>	Received by: <u>[Signature]</u>	Date: <u>7-10-02</u> Time: <u>7:00P</u>
Relinquished by: <u>[Signature]</u>	Date: <u>7-10-02</u> Time: <u>7:35P</u>	Received by: <u>[Signature]</u>	Date: <u>7/10/02</u> Time: <u>7:35P</u>

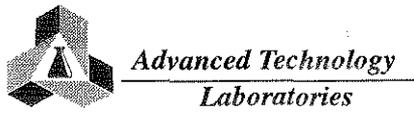
I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>7/10</u>	Send Report To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>Attached</u>
---	---	--	---

Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8081 / 8082 (Pesticides/PCB-GC) 8260 (Nitrates-GC/MS) 625 / 8270 (BVA-GC/MS) Metals Total (CAC-8070 / 7000) 8015M TPHGBTEX (COMBINATION) 8015M TPHUD (Diesel/GC) <u>Total Lead 6070</u>	CIRCLE APPROPRIATE MATRIX SOLID (SOIL) / SLUDGE WATER • SOLVENT • LIQUID DRINKING WATER AIR WIFE • FILTER OTHER _____ TAT # _____ Type _____	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER _____
---	---	---	---	---

ITEM	LAB USE ONLY:		Sample Description				Analysis Requested										PRESERVATION	REMARKS			
	Batch #:	Lab No.	Sample I.D.	Date	Time	8081 / 8082 (Pesticides/PCB-GC)	8260 (Nitrates-GC/MS)	625 / 8270 (BVA-GC/MS)	Metals Total (CAC-8070 / 7000)	8015M TPHGBTEX (COMBINATION)	8015M TPHUD (Diesel/GC)	SOLID (SOIL) / SLUDGE	WATER • SOLVENT • LIQUID	DRINKING WATER	AIR	WIFE • FILTER			OTHER	TAT #	Type
		31	N25-0.3	7/10	11:18					X									E1JG	AD	6.1
		32	N26-5		11:02																
		33	N26-0.3		11:19																6.9
		34	N27-5		11:24																
		35	N27-0.3		11:30																
		36	N27-0.6		11:33																
		37	N27-0.9		11:41																7.8
		38	N28-5		11:31																
		39	N28-0.3		11:38																
		40	N28-0.6		11:49																8.4

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7/10/02</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

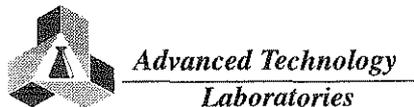
Project Name: <u>Rte 5-NB</u>	Project #: <u>09100-06-49</u>	Sampler: <u>GCA/CSK</u> (Printed Name)	(Signature) <u>[Signature]</u>
Relinquished by: <u>[Signature]</u> <u>GCA</u>	Date: <u>7/10</u> Time: <u>7:00</u>	Received by: <u>[Signature]</u>	Date: <u>7-10-02</u> Time: <u>7:00</u>
Relinquished by: <u>[Signature]</u> <u>WZ</u>	Date: <u>7-10-02</u> Time: <u>7:35p</u>	Received by: <u>[Signature]</u>	Date: <u>7/10/02</u> Time: <u>7:35p</u>

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>7/10</u> Print Name Date <u>[Signature]</u>	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>Attached</u>
--	--	---	---

Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8081 / 8082 (Pesticides/PCB-GC) 8260 (Metals-GC/MS) 625 / 8270 (BVA-GC/MS) Metals Total (CAC-8010 / 7000) 8015M TPRGBTEX (COMBINATION) 8015M TPRPD (Diesel/GC) <u>Total Lead 8010</u>	CIRCLE APPROPRIATE MATRIX SOLID (SOIL) SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER TAT # Type	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	QA/QC REMARKS				
LAB USE ONLY: Batch #:	Sample Description								
LAB No.	Sample I.D.	Date	Time						
41	N29-S	7/10	11:50	X	X	E	1	5	G
42	N29-0.3		12:01						
43	N30-S		12:00						
44	N30-0.3		12:08						
45	N31-S		12:04						
46	N31-0.3		12:10						
47	N31-0.6		12:16						
48	N32-S		12:24						
49	N32-0.3		12:31						
50	N32-0.6		12:37						

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= <input type="checkbox"/> Overnight ≤ 24 hr	B= <input type="checkbox"/> Emergency Next workday	C= <input type="checkbox"/> Critical 2 Workdays	D= <input type="checkbox"/> Urgent 3 Workdays	E= <input type="checkbox"/> Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Teclar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____
 Logged By: [Signature] Date: 7/10/07 Time: _____

Method of Transport

- Walk-in
- Courier
- UPS
- FED. EXP.
- ATL

Sample Condition Upon Receipt

- 1. CHILLED Y N 4. SEALED Y N
- 2. HEADSPACE (VOA) Y N 5. # OF SPLS MATCH COC Y N
- 3. CONTAINER INTACT Y N 6. PRESERVED Y N

Client: **GEOCON ENVIRONMENTAL - SAN DIEGO** Address: 6970 Flanders Drive TEL: (858) 558-6100
 Attn: Chris King City San Diego State CA Zip Code 92121 FAX: (858) 558-8437

Project Name: Rte 5-NB Project #: 09100-06-49 Sampler: [Signature] (Signature)
 Relinquished by: [Signature] Date: 7/10 Time: 7:00 Received by: [Signature] Date: 7-10-07 Time: 7:00
 Relinquished by: [Signature] Date: 7-10-07 Time: 7:35 Received by: [Signature] Date: 7/10/07 Time: 7:35pm

I hereby authorize ATL to perform the work indicated below:
 Project Mgr /Submitter: CSK 7/10
 Print Name Date
[Signature]
 Signature

Send Report To:
 Attn: _____
 Co: Client
 Address _____
 City _____ State _____ Zip _____

Bill To:
 Attn: _____
 Co: Client
 Address _____
 City _____ State _____ Zip _____

Special Instructions/Comments:
Attached

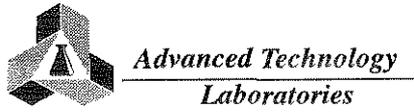
Unless otherwise requested, all samples will be disposed 45 days after receipt.
 Sample Archive/Disposal:
 Laboratory Standard
 Other _____
 Return To: _____
 * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.

Circle or Add Analysis(es) Requested 8081 / 8082 (Pesticides/PCB-CC) 8200 (Xenobiotics-CC/MS) 625 / 8270 (BVA-GC/MS) Metals Total (CAC-8010 / 7000) 8015M TPH/BTEX (COMBINATION) 8015M TPH/D (Diesel/GC) <u>Lead 610</u>	CIRCLE APPROPRIATE MATRIX SOLID • SOIL • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIFE • FILTER OTHER TAT # Type	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	QA/QC REMARKS
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ITEM	LAB USE ONLY:		Sample Description			
	Batch #:	Sample I.D.	Date	Time		
	Lab No.	Sample I.D.	Date	Time		
	61	N36-0.3	7/10	1:30		
	62	N36-0.6		1:35		
	63	N36-0.9		1:38		
	64	N37-S		1:44		

• TAT starts 8 a.m. following day if samples received after 5 p.m.
 TAT: A= Overnight ≤ 24 hr B= Emergency Next workday C= Critical 2 Workdays D= Urgent 3 Workdays E= Routine 7 Workdays
 Preservatives: H=HCl N=HNO₃ S=H₂SO₄ C=4°C
 Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal
 Z=Zn(AC)₂ O=NaOH T=Na₂S₂O₃

CHAIN OF CUSTODY RECORD



Advanced Technology Laboratories
 3275 Walnut Avenue
 Signal Hill, CA 90807
 (562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport: Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt: 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: <u>MM</u> Date: <u>7/10/02</u> Time: _____		

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rte 5-NB</u>	Project #: <u>9100-06-49</u>	Sampler: <u>CSK/GCA</u> (Printed Name)	(Signature)
Relinquished by: (Signature and Printed Name) <u>[Signature]</u> GCA	Date: <u>7/10</u> Time: <u>2:00pm</u>	Received by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-10-02</u> Time: <u>7:00pm</u>
Relinquished by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-10-02</u> Time: <u>2:35pm</u>	Received by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7/10/02</u> Time: <u>9:30pm</u>
Relinquished by: (Signature and Printed Name)	Date: _____ Time: _____	Received by: (Signature and Printed Name)	Date: _____ Time: _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>7/10</u> Print Name Date <u>[Signature]</u> Signature	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments:
---	--	---	--------------------------------

Unless otherwise requested, all samples will be disposed 45 days after receipt.

Sample Archive/Disposal:
 Laboratory Standard
 Other _____
 Return To: _____

* \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.

Circle or Add Analysis(es) Requested: 8081 / 8082 (Pesticides/PCB-GC) 8280 (Volatile-GC/MS) 8251 / 8270 (BVA-GC/MS) Metals: Total (CAC-8010 / 7000) 8015M TPHGBTEX (COMBINATION) 8015M TPHUD (Diesel-GC) <u>Total / Lead 60/11</u>	CIRCLE APPROPRIATE MATRIX: SOLID • SOIL • SLUDGE OIL • SOLVENT • LIQUID WATER DRINKING WATER AIR WIPE • FILTER OTHER	PRESERVATION: RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER
---	---	--

ITEM	LAB USE ONLY:		Sample Description			
	Batch #:	Sample I.D.	Date	Time		
	Lab No.					
	65	C6	7/10	10:08		
	66	C7		10:16		
	67	C8		11:05		
	68	C9		11:55		
	69	C10		12:40		
	70	C11		1:10		
	71	C12		2:05		

TAT	#	Type	CONTAINER(S)	REMARKS
			E 1 P P	

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= <input type="checkbox"/> Overnight ≤ 24 hr	B= <input type="checkbox"/> Emergency Next workday	C= <input type="checkbox"/> Critical 2 Workdays	D= <input type="checkbox"/> Urgent 3 Workdays	E= <input type="checkbox"/> Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₈
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

ATTACHMENT 1
Advanced Technology Laboratories
Project Management Checklist

ATL Lab No.: 57871

Client's Name: Geocon

Date Reviewed: 7-30-02

	Yes	No*	N/A	Comments
A Chain of Custody Items				
1 Client ID's correct?	✓			
2 Date Sampled/Time correct?	✓			
3 Analyses requested correct?	✓			
4 Method Numbers correct?	✓			
5 Project Name correct?	✓			

B	Organic Data Review Sheet included?			✓	
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C	Inorganic Data Review Sheet included?	✓			
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D	Reporting	Yes	No*	N/A	Comments
1	DLRs correct? (In-house or project specific requirements)	✓			
2	Analyzed/Prepped within holding times (if no, documented on cover letter)	✓			
3	Were spls analyzed using a different method (if yes, documented on cover letter)		✓		

E	Quality Control	Yes	No*	N/A	Comments
1	Surrogates within project specific requirements?			✓	
2	MS/MSD within project specific requirements?		✓		For 6010 - non-homog matrix inter
3	LCS/LCSD within project specific requirements?	✓			
4	Sample Duplicates within project specific requirements?	✓			
5	Other project specified requirements: _____ _____ _____				

* For those items checked as "NO" – comments must be included:

Comments:

PM's Approval/Date: P. Mahan / 7-30-02

Advanced Technology Laboratories

Date: 7/17/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057871
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057871-001A	N16-S	600	mg/Kg	9511	5	1	7/10/2002	7/12/2002
057871-002A	N16-0.3	300	mg/Kg	9511	5	1	7/10/2002	7/12/2002
057871-003A	N16-0.6	20	mg/Kg	9511	5	1	7/10/2002	7/12/2002
057871-004A	N16-0.9	11	mg/Kg	9511	5	1	7/10/2002	7/12/2002
057871-005A	N17-S	720	mg/Kg	9511	5	1	7/10/2002	7/12/2002
057871-006A	N17-0.3	540	mg/Kg	9511	5	1	7/10/2002	7/12/2002
057871-007A	N17-0.6	190	mg/Kg	9511	5	1	7/10/2002	7/12/2002
057871-008A	N18-S	1100	mg/Kg	9511	5	1	7/10/2002	7/12/2002
057871-009A	N18-0.3	2000	mg/Kg	9511	5	1	7/10/2002	7/12/2002
057871-010A	N18-0.6	110	mg/Kg	9511	5	1	7/10/2002	7/12/2002
057871-011A	N18-0.9	300	mg/Kg	9511	5	1	7/10/2002	7/12/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/17/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057871
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057871-012A	N19-S	1000	mg/Kg	9511	5	1	7/10/2002	7/12/2002
057871-013A	N19-0.3	64	mg/Kg	9511	5	1	7/10/2002	7/12/2002
057871-014A	N19-0.6	9.9	mg/Kg	9511	5	1	7/10/2002	7/12/2002
057871-015A	N19-0.9	9.9	mg/Kg	9511	5	1	7/10/2002	7/12/2002
057871-016A	N20-S	500	mg/Kg	9511	5	1	7/10/2002	7/12/2002
057871-017A	N20-0.3	14	mg/Kg	9511	5	1	7/10/2002	7/12/2002
057871-018A	N20-0.6	130	mg/Kg	9511	5	1	7/10/2002	7/12/2002
057871-019A	N21-S	700	mg/Kg	9511	5	1	7/10/2002	7/12/2002
057871-020A	N21-0.3	400	mg/Kg	9511	5	1	7/10/2002	7/12/2002
057871-021A	N21-0.6	180	mg/Kg	9512	5	1	7/10/2002	7/12/2002
057871-022A	N21-0.9	41	mg/Kg	9512	5	1	7/10/2002	7/12/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/17/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057871
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057871-023A	N22-S	450	mg/Kg	9512	5	1	7/10/2002	7/12/2002
057871-024A	N22-0.3	310	mg/Kg	9512	5	1	7/10/2002	7/12/2002
057871-025A	N22-0.6	170	mg/Kg	9512	5	1	7/10/2002	7/12/2002
057871-026A	N23-S	120	mg/Kg	9512	5	1	7/10/2002	7/12/2002
057871-027A	N23-0.3	440	mg/Kg	9512	5	1	7/10/2002	7/12/2002
057871-028A	N23-0.6	ND	mg/Kg	9512	5	1	7/10/2002	7/12/2002
057871-029A	N24-S	190	mg/Kg	9512	5	1	7/10/2002	7/12/2002
057871-030A	N25-S	1000	mg/Kg	9512	5	1	7/10/2002	7/12/2002
057871-031A	N25-0.3	810	mg/Kg	9512	5	1	7/10/2002	7/12/2002
057871-032A	N26-S	430	mg/Kg	9512	5	1	7/10/2002	7/12/2002
057871-033A	N26-0.3	40	mg/Kg	9512	5	1	7/10/2002	7/12/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/17/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057871
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057871-034A	N27-S	180	mg/Kg	9512	5	1	7/10/2002	7/12/2002
057871-035A	N27-0.3	280	mg/Kg	9512	5	1	7/10/2002	7/12/2002
057871-036A	N27-0.6	140	mg/Kg	9512	5	1	7/10/2002	7/12/2002
057871-037A	N27-0.9	11	mg/Kg	9512	5	1	7/10/2002	7/12/2002
057871-038A	N28-S	540	mg/Kg	9512	5	1	7/10/2002	7/12/2002
057871-039A	N28-0.3	580	mg/Kg	9512	5	1	7/10/2002	7/12/2002
057871-040A	N28-0.6	100	mg/Kg	9512	5	1	7/10/2002	7/12/2002
057871-041A	N29-S	190	mg/Kg	9513	5	1	7/10/2002	7/12/2002
057871-042A	N29-0.3	260	mg/Kg	9513	5	1	7/10/2002	7/12/2002
057871-043A	N30-S	1400	mg/Kg	9513	5	1	7/10/2002	7/12/2002
057871-044A	N30-0.3	99	mg/Kg	9513	5	1	7/10/2002	7/12/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/17/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057871
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057871-045A	N31-S	380	mg/Kg	9513	5	1	7/10/2002	7/12/2002
057871-046A	N31-0.3	220	mg/Kg	9513	5	1	7/10/2002	7/12/2002
057871-047A	N31-0.6	20	mg/Kg	9513	5	1	7/10/2002	7/12/2002
057871-048A	N32-S	360	mg/Kg	9513	5	1	7/10/2002	7/12/2002
057871-049A	N32-0.3	1300	mg/Kg	9513	5	1	7/10/2002	7/12/2002
057871-050A	N32-0.6	360	mg/Kg	9513	5	1	7/10/2002	7/12/2002
057871-051A	N32-0.9	520	mg/Kg	9513	5	1	7/10/2002	7/12/2002
057871-052A	N33-S	380	mg/Kg	9513	5	1	7/10/2002	7/12/2002
057871-053A	N33-0.3	340	mg/Kg	9513	5	1	7/10/2002	7/12/2002
057871-054A	N34-S	900	mg/Kg	9513	5	1	7/10/2002	7/12/2002
057871-055A	N34-0.3	430	mg/Kg	9513	5	1	7/10/2002	7/12/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/17/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057871
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057871-056A	N34-0.6	42	mg/Kg	9513	5	1	7/10/2002	7/12/2002
057871-057A	N35-S	1600	mg/Kg	9513	5	1	7/10/2002	7/12/2002
057871-058A	N35-0.3	910	mg/Kg	9513	5	1	7/10/2002	7/12/2002
057871-059A	N35-0.6	440	mg/Kg	9513	5	1	7/10/2002	7/12/2002
057871-060A	N36-S	1600	mg/Kg	9513	5	1	7/10/2002	7/12/2002
057871-061A	N36-0.3	10	mg/Kg	9514	5	1	7/10/2002	7/12/2002
057871-062A	N36-0.6	41	mg/Kg	9514	5	1	7/10/2002	7/12/2002
057871-063A	N36-0.9	220	mg/Kg	9514	5	1	7/10/2002	7/12/2002
057871-064A	N37-S	310	mg/Kg	9514	5	1	7/10/2002	7/12/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



ICP METALS
EPA 6010B

CLIENT:	Geocon Environmental	Lab Order:	057871
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Water
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057871-065A	C6	0.0061	mg/L	9531	0.005	1	7/10/2002	7/16/2002
057871-066A	C7	0.020	mg/L	9531	0.005	1	7/10/2002	7/16/2002
057871-067A	C8	0.0052	mg/L	9531	0.005	1	7/10/2002	7/16/2002
057871-068A	C9	0.010	mg/L	9531	0.005	1	7/10/2002	7/16/2002
057871-069A	C10	0.0063	mg/L	9531	0.005	1	7/10/2002	7/16/2002
057871-070A	C11	0.0070	mg/L	9531	0.005	1	7/10/2002	7/16/2002
057871-071A	C12	0.0066	mg/L	9531	0.005	1	7/10/2002	7/16/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/17/2002

**pH
EPA 9045C**

CLIENT:	Geocon Environmental	Lab Order:	057871
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057871-001A	N16-S	6.70	pH Units	R19397	0.1	1	7/10/2002	7/12/2002
057871-010A	N18-0.6	7.92	pH Units	R19311	0.1	1	7/10/2002	7/11/2002
057871-020A	N21-0.3	7.10	pH Units	R19311	0.1	1	7/10/2002	7/11/2002
057871-030A	N25-S	7.13	pH Units	R19311	0.1	1	7/10/2002	7/11/2002
057871-040A	N28-0.6	6.32	pH Units	R19311	0.1	1	7/10/2002	7/11/2002
057871-050A	N32-0.6	7.93	pH Units	R19311	0.1	1	7/10/2002	7/11/2002
057871-060A	N36-S	7.64	pH Units	R19311	0.1	1	7/10/2002	7/11/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057871
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057871-001A	N16-S	65	mg/L	9710	1	5	7/10/2002	7/23/2002
057871-002A	N16-0.3	24	mg/L	9710	0.4	2	7/10/2002	7/23/2002
057871-005A	N17-S	79	mg/L	9710	2	10	7/10/2002	7/23/2002
057871-006A	N17-0.3	59	mg/L	9710	1	5	7/10/2002	7/23/2002
057871-007A	N17-0.6	14	mg/L	9710	0.2	1	7/10/2002	7/23/2002
057871-010A	N18-0.6	12	mg/L	9710	0.2	1	7/10/2002	7/23/2002
057871-011A	N18-0.9	48	mg/L	9710	0.8	4	7/10/2002	7/23/2002
057871-013A	N19-0.3	5.6	mg/L	9710	0.2	1	7/10/2002	7/23/2002
057871-016A	N20-S	46	mg/L	9710	0.8	4	7/10/2002	7/23/2002
057871-018A	N20-0.6	15	mg/L	9710	0.2	1	7/10/2002	7/23/2002
057871-019A	N21-S	90	mg/L	9710	2	10	7/10/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057871
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057871-020A	N21-0.3	48	mg/L	9710	0.8	4	7/10/2002	7/23/2002
057871-021A	N21-0.6	13	mg/L	9710	0.2	1	7/10/2002	7/23/2002
057871-023A	N22-S	28	mg/L	9710	0.4	2	7/10/2002	7/23/2002
057871-024A	N22-0.3	36	mg/L	9710	0.8	4	7/10/2002	7/23/2002
057871-025A	N22-0.6	14	mg/L	9710	0.2	1	7/10/2002	7/23/2002
057871-026A	N23-S	19	mg/L	9710	0.4	2	7/10/2002	7/23/2002
057871-027A	N23-0.3	34	mg/L	9710	0.8	4	7/10/2002	7/23/2002
057871-029A	N24-S	24	mg/L	9710	0.4	2	7/10/2002	7/23/2002
057871-031A	N25-0.3	100	mg/L	9711	2	10	7/10/2002	7/23/2002
057871-032A	N26-S	47	mg/L	9711	0.8	4	7/10/2002	7/23/2002
057871-034A	N27-S	20	mg/L	9711	0.4	2	7/10/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057871
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057871-035A	N27-0.3	27	mg/L	9711	0.4	2	7/10/2002	7/23/2002
057871-036A	N27-0.6	12	mg/L	9711	0.2	1	7/10/2002	7/23/2002
057871-038A	N28-S	67	mg/L	9711	1	5	7/10/2002	7/23/2002
057871-039A	N28-0.3	63	mg/L	9711	1	5	7/10/2002	7/23/2002
057871-040A	N28-0.6	7.5	mg/L	9711	0.2	1	7/10/2002	7/23/2002
057871-041A	N29-S	14	mg/L	9711	0.2	1	7/10/2002	7/23/2002
057871-042A	N29-0.3	140	mg/L	9711	2	10	7/10/2002	7/23/2002
057871-044A	N30-0.3	2.4	mg/L	9711	0.2	1	7/10/2002	7/23/2002
057871-045A	N31-S	46	mg/L	9711	0.8	4	7/10/2002	7/23/2002
057871-046A	N31-0.3	24	mg/L	9711	0.4	2	7/10/2002	7/23/2002
057871-048A	N32-S	26	mg/L	9711	0.4	2	7/10/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057871
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057871-050A	N32-0.6	37	mg/L	9711	0.8	4	7/10/2002	7/23/2002
057871-051A	N32-0.9	35	mg/L	9711	0.8	4	7/10/2002	7/23/2002
057871-052A	N33-S	46	mg/L	9711	0.8	4	7/10/2002	7/23/2002
057871-053A	N33-0.3	43	mg/L	9711	0.8	4	7/10/2002	7/23/2002
057871-054A	N34-S	87	mg/L	9711	2	10	7/10/2002	7/23/2002
057871-055A	N34-0.3	46	mg/L	9711	0.8	4	7/10/2002	7/23/2002
057871-058A	N35-0.3	89	mg/L	9712	2	10	7/10/2002	7/23/2002
057871-059A	N35-0.6	37	mg/L	9712	0.8	4	7/10/2002	7/23/2002
057871-063A	N36-0.9	13	mg/L	9712	0.2	1	7/10/2002	7/23/2002
057871-064A	N37-S	44	mg/L	9712	0.8	4	7/10/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
EPA 1311/ 7420

CLIENT:	Geocon Environmental	Lab Order:	057871
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057871-008A	N18-S	1.6	mg/L	9759	0.2	1	7/10/2002	7/24/2002
057871-009A	N18-0.3	27	mg/L	9759	0.4	2	7/10/2002	7/24/2002
057871-012A	N19-S	1.5	mg/L	9759	0.2	1	7/10/2002	7/24/2002
057871-030A	N25-S	3.1	mg/L	9759	0.2	1	7/10/2002	7/24/2002
057871-043A	N30-S	3.8	mg/L	9759	0.2	1	7/10/2002	7/24/2002
057871-049A	N32-0.3	8.0	mg/L	9759	0.2	1	7/10/2002	7/24/2002
057871-057A	N35-S	1.3	mg/L	9759	0.2	1	7/10/2002	7/24/2002
057871-060A	N36-S	5.2	mg/L	9759	0.2	1	7/10/2002	7/24/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057871
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057871-001A	N16-S	0.68	mg/L	9670	0.2	1	7/10/2002	7/22/2002
057871-002A	N16-0.3	0.52	mg/L	9670	0.2	1	7/10/2002	7/22/2002
057871-005A	N17-S	1.1	mg/L	9670	0.2	1	7/10/2002	7/22/2002
057871-006A	N17-0.3	0.81	mg/L	9670	0.2	1	7/10/2002	7/22/2002
057871-007A	N17-0.6	0.22	mg/L	9670	0.2	1	7/10/2002	7/22/2002
057871-010A	N18-0.6	1.5	mg/L	9670	0.2	1	7/10/2002	7/22/2002
057871-011A	N18-0.9	3.2	mg/L	9670	0.2	1	7/10/2002	7/22/2002
057871-013A	N19-0.3	ND	mg/L	9670	0.2	1	7/10/2002	7/22/2002
057871-016A	N20-S	0.29	mg/L	9670	0.2	1	7/10/2002	7/22/2002
057871-018A	N20-0.6	0.29	mg/L	9670	0.2	1	7/10/2002	7/22/2002
057871-019A	N21-S	0.42	mg/L	9670	0.2	1	7/10/2002	7/22/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057871
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057871-020A	N21-0.3	0.48	mg/L	9670	0.2	1	7/10/2002	7/22/2002
057871-021A	N21-0.6	0.21	mg/L	9670	0.2	1	7/10/2002	7/22/2002
057871-023A	N22-S	0.23	mg/L	9671	0.2	1	7/10/2002	7/22/2002
057871-024A	N22-0.3	0.79	mg/L	9671	0.2	1	7/10/2002	7/22/2002
057871-025A	N22-0.6	ND	mg/L	9671	0.2	1	7/10/2002	7/22/2002
057871-026A	N23-S	ND	mg/L	9671	0.2	1	7/10/2002	7/22/2002
057871-027A	N23-0.3	1.4	mg/L	9671	0.2	1	7/10/2002	7/22/2002
057871-029A	N24-S	ND	mg/L	9671	0.2	1	7/10/2002	7/22/2002
057871-031A	N25-0.3	3.6	mg/L	9671	0.2	1	7/10/2002	7/22/2002
057871-032A	N26-S	0.36	mg/L	9671	0.2	1	7/10/2002	7/22/2002
057871-034A	N27-S	ND	mg/L	9671	0.2	1	7/10/2002	7/22/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057871
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057871-035A	N27-0.3	1.5	mg/L	9671	0.2	1	7/10/2002	7/22/2002
057871-036A	N27-0.6	ND	mg/L	9671	0.2	1	7/10/2002	7/22/2002
057871-038A	N28-S	0.37	mg/L	9671	0.2	1	7/10/2002	7/22/2002
057871-039A	N28-0.3	1.4	mg/L	9671	0.2	1	7/10/2002	7/22/2002
057871-040A	N28-0.6	ND	mg/L	9671	0.2	1	7/10/2002	7/22/2002
057871-041A	N29-S	ND	mg/L	9671	0.2	1	7/10/2002	7/22/2002
057871-042A	N29-0.3	7.3	mg/L	9671	0.2	1	7/10/2002	7/22/2002
057871-045A	N31-S	1.1	mg/L	9671	0.2	1	7/10/2002	7/22/2002
057871-046A	N31-0.3	0.28	mg/L	9671	0.2	1	7/10/2002	7/22/2002
057871-048A	N32-S	ND	mg/L	9671	0.2	1	7/10/2002	7/22/2002
057871-050A	N32-0.6	3.4	mg/L	9672	0.2	1	7/10/2002	7/22/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057871
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057871-051A	N32-0.9	1.9	mg/L	9672	0.2	1	7/10/2002	7/22/2002
057871-052A	N33-S	0.44	mg/L	9672	0.2	1	7/10/2002	7/22/2002
057871-053A	N33-0.3	ND	mg/L	9672	0.2	1	7/10/2002	7/22/2002
057871-054A	N34-S	0.28	mg/L	9672	0.2	1	7/10/2002	7/22/2002
057871-055A	N34-0.3	0.61	mg/L	9672	0.2	1	7/10/2002	7/22/2002
057871-058A	N35-0.3	0.91	mg/L	9672	0.2	1	7/10/2002	7/22/2002
057871-059A	N35-0.6	0.38	mg/L	9672	0.2	1	7/10/2002	7/22/2002
057871-063A	N36-0.9	0.36	mg/L	9672	0.2	1	7/10/2002	7/22/2002
057871-064A	N37-S	0.87	mg/L	9672	0.2	1	7/10/2002	7/22/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
 Lab Order: 057871
 Project: Rte 5-NB, 9100-06-49
 Lab ID: 057871-009A

Client Sample ID: N18-0.3
 Collection Date: 7/10/2002
 Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP METALS						
	(EPA 3050A)			EPA 6010B		
RunID: ICP2_020729C	QC Batch: 9916					Analyst: RQ
Antimony	1.5	0.25		mg/Kg	1	7/29/2002
Arsenic	9.5	0.25		mg/Kg	1	7/29/2002
Barium	240	0.15		mg/Kg	1	7/29/2002
Beryllium	ND	0.15		mg/Kg	1	7/29/2002
Cadmium	ND	0.15		mg/Kg	1	7/29/2002
Chromium	16	0.15		mg/Kg	1	7/29/2002
Cobalt	5.0	0.15		mg/Kg	1	7/29/2002
Copper	150	0.15		mg/Kg	1	7/29/2002
Lead	5000	5.0		mg/Kg	20	7/29/2002
Molybdenum	2.0	0.25		mg/Kg	1	7/29/2002
Nickel	15	0.15		mg/Kg	1	7/29/2002
Selenium	ND	0.25		mg/Kg	1	7/29/2002
Silver	0.34	0.15		mg/Kg	1	7/29/2002
Thallium	1.0	0.25		mg/Kg	1	7/29/2002
Vanadium	22	0.15		mg/Kg	1	7/29/2002
Zinc	410	0.50		mg/Kg	1	7/29/2002

MERCURY BY COLD VAPOR TECHNIQUE

	(EPA 7471)			EPA 7471A		
RunID: AA1_020729A	QC Batch: 9919					Analyst: NS
Mercury	ND	0.10		mg/Kg	1	7/29/2002

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified





Advanced Technology Laboratories

Date: 17-Jul-02

CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID MB-9511A	SampType: MBLK	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/12/2002	Run ID: ICP5_020712F						
Client ID: ZZZZZ	Batch ID: 9511	TestNo: EPA 6010B (EPA 3050M)		Analysis Date: 7/12/2002	SeqNo: 298444						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID MB-9511B	SampType: MBLK	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/12/2002	Run ID: ICP5_020712F						
Client ID: ZZZZZ	Batch ID: 9511	TestNo: EPA 6010B (EPA 3050M)		Analysis Date: 7/12/2002	SeqNo: 298445						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID MB-9513A	SampType: MBLK	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/12/2002	Run ID: ICP5_020712G						
Client ID: ZZZZZ	Batch ID: 9513	TestNo: EPA 6010B (EPA 3050M)		Analysis Date: 7/12/2002	SeqNo: 298472						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID MB-9513B	SampType: MBLK	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/12/2002	Run ID: ICP5_020712G						
Client ID: ZZZZZ	Batch ID: 9513	TestNo: EPA 6010B (EPA 3050M)		Analysis Date: 7/12/2002	SeqNo: 298473						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.3135 5.0

Sample ID MB-9512A	SampType: MBLK	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/12/2002	Run ID: ICP5_020712H						
Client ID: ZZZZZ	Batch ID: 9512	TestNo: EPA 6010B (EPA 3050M)		Analysis Date: 7/12/2002	SeqNo: 298550						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	MB-9512B	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712H			
Client ID:	ZZZZZ	Batch ID:	9512	TestNo:	EPA 6010B (EPA 3050M)			Analysis Date:	7/12/2002	SeqNo:	298551			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID	MB-9514A	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712I			
Client ID:	ZZZZZ	Batch ID:	9514	TestNo:	EPA 6010B (EPA 3050M)			Analysis Date:	7/12/2002	SeqNo:	298560			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.3585 5.0 0 0 0 0 0 0 0 0

Sample ID	LCS-9511	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712F			
Client ID:	ZZZZZ	Batch ID:	9511	TestNo:	EPA 6010B (EPA 3050M)			Analysis Date:	7/12/2002	SeqNo:	298443			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 227.4 5.0 250 0 91 80 120 0 0

Sample ID	LCS-9513	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712G			
Client ID:	ZZZZZ	Batch ID:	9513	TestNo:	EPA 6010B (EPA 3050M)			Analysis Date:	7/12/2002	SeqNo:	298471			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 208.7 5.0 250 0 83.5 80 120 0 0

Sample ID	LCS-9512	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712H			
Client ID:	ZZZZZ	Batch ID:	9512	TestNo:	EPA 6010B (EPA 3050M)			Analysis Date:	7/12/2002	SeqNo:	298549			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 220.7 5.0 250 0 88.3 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	LCS-9514	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712I			
Client ID:	ZZZZZ	Batch ID:	9514	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/12/2002	SeqNo:	298559			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 212.8 5.0 250 0 85.1 80 120 0 0

Sample ID	057871-010AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712F			
Client ID:	N18-0.6	Batch ID:	9511	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/12/2002	SeqNo:	298429			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 250.1 5.0 250 107.3 57.1 47 128 0 0

Sample ID	057871-020AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712F			
Client ID:	N21-0.3	Batch ID:	9511	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/12/2002	SeqNo:	298441			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 739.2 5.0 250 399.7 136 47 128 0 0 S

Sample ID	057871-050AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712G			
Client ID:	N32-0.6	Batch ID:	9513	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/12/2002	SeqNo:	298457			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 527.3 5.0 250 357.1 68.1 47 128 0 0

Sample ID	057871-060AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712G			
Client ID:	N36-S	Batch ID:	9513	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/12/2002	SeqNo:	298469			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 1141 5.0 250 1626 -194 47 128 0 0 S

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057871-030AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712H			
Client ID:	N25-S	Batch ID:	9512	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/12/2002	SeqNo:	298535			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	1187	5.0	250	1012	70.1	47	128	0	0
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Sample ID	057871-040AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712H			
Client ID:	N28-0.6	Batch ID:	9512	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/12/2002	SeqNo:	298547			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	254.6	5.0	250	100.4	61.7	47	128	0	0
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Sample ID	057871-064AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712I			
Client ID:	N37-S	Batch ID:	9514	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/12/2002	SeqNo:	298557			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	452.5	5.0	250	306.4	58.5	47	128	0	0
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Sample ID	057871-010ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712F			
Client ID:	N18-0.6	Batch ID:	9511	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/12/2002	SeqNo:	298428			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	123.6	5.0	0	0	0	0	0	107.3	14.1	30
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Sample ID	057871-020ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712F			
Client ID:	N21-0.3	Batch ID:	9511	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/12/2002	SeqNo:	298440			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	506.8	5.0	0	0	0	0	0	399.7	23.6	30
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: 057871-050ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/12/2002	Run ID: ICP5_020712G						
Client ID: N32-0.6	Batch ID: 9513	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/12/2002	SeqNo: 298456						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	482.3	5.0	0	0	0	0	0	357.1	29.8	30
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Sample ID: 057871-060ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/12/2002	Run ID: ICP5_020712G						
Client ID: N36-S	Batch ID: 9513	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/12/2002	SeqNo: 298468						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	1205	5.0	0	0	0	0	0	1626	29.8	30
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Sample ID: 057871-030ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/12/2002	Run ID: ICP5_020712H						
Client ID: N25-S	Batch ID: 9512	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/12/2002	SeqNo: 298534						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	995.7	5.0	0	0	0	0	0	1012	1.64	30
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Sample ID: 057871-040ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/12/2002	Run ID: ICP5_020712H						
Client ID: N28-0.6	Batch ID: 9512	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/12/2002	SeqNo: 298546						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	87.98	5.0	0	0	0	0	0	100.4	13.2	30
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Sample ID: 057871-064ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/12/2002	Run ID: ICP5_020712I						
Client ID: N37-S	Batch ID: 9514	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/12/2002	SeqNo: 298556						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	370.5	5.0	0	0	0	0	0	306.4	18.9	30
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO - Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**



CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPB

Sample ID	MB-9531	SampType:	MBLK	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/12/2002	Run ID:	ICP5_020716B												
Client ID:	ZZZZZ	Batch ID:	9531	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/16/2002	SeqNo:	299380												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 0.004517 0.0050

Sample ID	LCS-9531	SampType:	LCS	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/12/2002	Run ID:	ICP5_020716B												
Client ID:	ZZZZZ	Batch ID:	9531	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/16/2002	SeqNo:	299379												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 1.057 0.0050 1 0 106 80 120 0 0

Sample ID	057871-071AMS	SampType:	MS	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/12/2002	Run ID:	ICP5_020716B												
Client ID:	C12	Batch ID:	9531	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/16/2002	SeqNo:	299376												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 2.579 0.0050 2.5 0.006592 103 66 118 0 0

Sample ID	057871-071ADUP	SampType:	DUP	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/12/2002	Run ID:	ICP5_020716B												
Client ID:	C12	Batch ID:	9531	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/16/2002	SeqNo:	299375												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 0.005925 0.0050 0 0 0 0 0 0.006592 10.7 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 9045_S

Sample ID	057872-040ADUP	SampType:	DUP	TestCode:	9045_S	Units:	pH Units	Prep Date:	7/11/2002	Run ID:	WETCHEM_020711D		
Client ID:	ZZZZZ	Batch ID:	R19311	TestNo:	EPA 9045C			Analysis Date:	7/11/2002	SeqNo:	297628		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

pH		7.02		0.10	0	0	0	0	0	7.14	1.69	20	
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Sample ID	057872-001ADUP	SampType:	DUP	TestCode:	9045_S	Units:	pH Units	Prep Date:	7/12/2002	Run ID:	WETCHEM_020712B		
Client ID:	ZZZZZ	Batch ID:	R19397	TestNo:	EPA 9045C			Analysis Date:	7/12/2002	SeqNo:	298954		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

pH		6.64		0.10	0	0	0	0	0	6.73	1.35	20	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 24-Jul-02

CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Table with 13 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9710, MBLK, 7420_ST, mg/L, 7/23/2002, AA2_020723I, ZZZZZ, 9710, WET/ EPA 74 (WET), 7/23/2002, 304598, Lead, ND, 0.20

Table with 13 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9710A, MBLK, 7420_ST, mg/L, 7/19/2002, AA2_020723I, ZZZZZ, 9710, WET/ EPA 74 (WET), 7/23/2002, 304599, Lead, ND, 0.20

Table with 13 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9710B, MBLK, 7420_ST, mg/L, 7/19/2002, AA2_020723I, ZZZZZ, 9710, WET/ EPA 74 (WET), 7/23/2002, 304612, Lead, ND, 0.20

Table with 13 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9711, MBLK, 7420_ST, mg/L, 7/23/2002, AA2_020723J, ZZZZZ, 9711, WET/ EPA 74 (WET), 7/23/2002, 304627, Lead, 0.07967, 0.20

Table with 13 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9711A, MBLK, 7420_ST, mg/L, 7/19/2002, AA2_020723J, ZZZZZ, 9711, WET/ EPA 74 (WET), 7/23/2002, 304628, Lead, ND, 0.20

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	MB-9712	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723K			
Client ID:	ZZZZZ	Batch ID:	9712	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304656			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9712A	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723K			
Client ID:	ZZZZZ	Batch ID:	9712	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304657			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9712B	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723K			
Client ID:	ZZZZZ	Batch ID:	9712	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304670			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.08661 0.20

Sample ID	MB-9711B	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723J			
Client ID:	ZZZZZ	Batch ID:	9711	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304693			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	LCS-9710	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723I			
Client ID:	ZZZZZ	Batch ID:	9710	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304626			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.318 0.20 7.5 0 97.6 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	LCS-9711	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723J			
Client ID:	ZZZZZ	Batch ID:	9711	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304655			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		7.169		0.20	7.5	0		95.6	80	120	0	0		
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Sample ID	LCS-9712	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723K			
Client ID:	ZZZZZ	Batch ID:	9712	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304684			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		7.072		0.20	7.5	0		94.3	80	120	0	0		
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Sample ID	057871-016AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723I			
Client ID:	N20-S	Batch ID:	9710	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304611			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		78.61		1.2	30	45.64		110	80	120	0	0		
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Sample ID	057871-029AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723I			
Client ID:	N24-S	Batch ID:	9710	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304624			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		43.21		0.80	20	24.12		95.5	80	120	0	0		
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Sample ID	057871-042AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723J			
Client ID:	N29-0.3	Batch ID:	9711	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304640			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		231		4.0	100	135.5		95.5	80	120	0	0		
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	057871-055AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723J			
Client ID:	N34-0.3	Batch ID:	9711	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304653			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		68.68		1.0	25	46.19		89.9	80	120	0	0	
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Sample ID	057872-009AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723K			
Client ID:	ZZZZZ	Batch ID:	9712	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304669			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		44.51		0.80	20	24.78		98.7	80	120	0	0	
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Sample ID	057872-026AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723K			
Client ID:	ZZZZZ	Batch ID:	9712	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304682			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		12.35		0.20	5	8.343		80.2	80	120	0	0	
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Sample ID	057871-016ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723I			
Client ID:	N20-S	Batch ID:	9710	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304610			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		45.61		0.80	0	0		0	0	0	45.64	0.0666	30
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Sample ID	057871-029ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723I			
Client ID:	N24-S	Batch ID:	9710	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304623			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		24.13		0.40	0	0		0	0	0	24.12	0.0431	30
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	057871-042ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723J			
Client ID:	N29-0.3	Batch ID:	9711	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304639			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 141.3 2.0 0 0 0 0 0 0 135.5 4.15 30

Sample ID	057871-055ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723J			
Client ID:	N34-0.3	Batch ID:	9711	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304652			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 49 0.80 0 0 0 0 0 0 46.19 5.90 30

Sample ID	057872-009ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723K			
Client ID:	ZZZZZ	Batch ID:	9712	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304668			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 23.55 0.40 0 0 0 0 0 0 24.78 5.08 30

Sample ID	057872-026ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723K			
Client ID:	ZZZZZ	Batch ID:	9712	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304681			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 8.295 0.20 0 0 0 0 0 0 8.343 0.576 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 24-Jul-02

CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9759, MBLK, 7420_TC, mg/L, 7/22/2002, AA2_020724G, ZZZZZ, 9759, EPA 1311/ 74 (EPA 3010A), 7/24/2002, 304789, Lead, 0.06796, 0.20, J

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9700-TCLP, MBLK, 7420_TC, mg/L, 7/22/2002, AA2_020724G, ZZZZZ, 9759, EPA 1311/ 74 (EPA 3010A), 7/24/2002, 304790, Lead, 0.04971, 0.20, J

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: LCS-9759, LCS, 7420_TC, mg/L, 7/22/2002, AA2_020724G, ZZZZZ, 9759, EPA 1311/ 74 (EPA 3010A), 7/24/2002, 304804, Lead, 1.094, 0.20, 1, 0, 109, 80, 120, 0, 0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: 057872-075AMS, MS, 7420_TC, mg/L, 7/22/2002, AA2_020724G, ZZZZZ, 9759, EPA 1311/ 74 (EPA 3010A), 7/24/2002, 304802, Lead, 3.317, 0.20, 2.5, 0.5134, 112, 80, 120, 0, 0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: 057872-075ADUP, DUP, 7420_TC, mg/L, 7/22/2002, AA2_020724G, ZZZZZ, 9759, EPA 1311/ 74 (EPA 3010A), 7/24/2002, 304801, Lead, 0.532, 0.20, 0, 0, 0, 0, 0, 0, 0.5134, 3.55, 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 24-Jul-02

CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and a header row for Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual.

Lead 0.06275 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and a header row for Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual.

Lead ND 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and a header row for Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual.

Lead 0.09576 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and a header row for Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual.

Lead ND 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and a header row for Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual.

Lead ND 0.20

Qualifiers: ND - Not Detected at the Reporting Limit, S - Spike Recovery outside accepted recovery limits, DO- Surrogate dilute out, J - Analyte detected below quantitation limits, B - Analyte detected in the associated Method Blank, H - Sample exceeded holding time, R - RPD outside accepted recovery limits, Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	MB-9671B	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020722F			
Client ID:	ZZZZZ	Batch ID:	9671	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	303958			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9672	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020722G			
Client ID:	ZZZZZ	Batch ID:	9672	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	303973			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.06228 0.20

Sample ID	MB-9672A	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020722G			
Client ID:	ZZZZZ	Batch ID:	9672	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	303974			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.06745 0.20

Sample ID	MB-9672B	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020722G			
Client ID:	ZZZZZ	Batch ID:	9672	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	303987			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	LCS-9672	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020722G			
Client ID:	ZZZZZ	Batch ID:	9672	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	304001			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.094 0.20

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO - Surrogate dilute out
 I - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	LCS-9670	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020722E			
Client ID:	ZZZZZ	Batch ID:	9670	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	303943			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.658 0.20 7.5 0 102 80 120 0 0

Sample ID	LCS-9671	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020722F			
Client ID:	ZZZZZ	Batch ID:	9671	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	303972			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.607 0.20 7.5 0 101 80 120 0 0

Sample ID	057871-005AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020722E			
Client ID:	N17-S	Batch ID:	9670	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	303928			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 6.343 0.20 5 1.091 105 80 120 0 0

Sample ID	057871-021AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020722E			
Client ID:	N21-0.6	Batch ID:	9670	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	303941			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 5.518 0.20 5 0.2129 106 80 120 0 0

Sample ID	057871-035AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020722F			
Client ID:	N27-0.3	Batch ID:	9671	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	303957			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 6.644 0.20 5 1.513 103 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	057871-048AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020722F			
Client ID:	N32-S	Batch ID:	9671	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	303970			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		4.955		0.20	5	0.1788		95.5	80	120	0		0	
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Sample ID	057871-064AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020722G			
Client ID:	N37-S	Batch ID:	9672	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	303986			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		5.665		0.20	5	0.8686		95.9	80	120	0		0	
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Sample ID	057872-013AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020722G			
Client ID:	ZZZZZ	Batch ID:	9672	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	303999			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		4.918		0.20	5	0.3208		91.9	80	120	0		0	
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Sample ID	057871-005ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020722E			
Client ID:	N17-S	Batch ID:	9670	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	303927			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		1.092		0.20	0	0		0	0	0	1.091	0.124	30	
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Sample ID	057871-021ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020722E			
Client ID:	N21-0.6	Batch ID:	9670	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	303940			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		0.3062		0.20	0	0		0	0	0	0.2129	35.9	30	R
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	057871-035ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020722F		
Client ID:	N27-0.3	Batch ID:	9671	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	303956		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	1.501	0.20	0	0	0	0	0	0	0	1.513	0.797	30
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Sample ID	057871-048ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020722F		
Client ID:	N32-S	Batch ID:	9671	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	303969		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	0.1729	0.20	0	0	0	0	0	0	0	0.1788	0	30	J
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Sample ID	057871-064ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020722G		
Client ID:	N37-S	Batch ID:	9672	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	303985		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	0.3454	0.20	0	0	0	0	0	0	0	0.8686	86.2	30	R
------	--------	------	---	---	---	---	---	---	---	--------	------	----	---

Sample ID	057872-013ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020722G		
Client ID:	ZZZZZ	Batch ID:	9672	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	303998		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	0.2826	0.20	0	0	0	0	0	0	0	0.3208	12.7	30
------	--------	------	---	---	---	---	---	---	---	--------	------	----

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and Analyte. Row 1: MB-9916, MBLK, 6010_S, mg/Kg, 7/28/2002, ICP2_020729C, ZZZZZ, 9916, EPA 6010B (EPA 3050A), 7/29/2002, 309033.

Table with 12 columns: Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Rows include Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc.

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and Analyte. Row 1: LCS-9916, LCS, 6010_S, mg/Kg, 7/28/2002, ICP2_020729C, ZZZZZ, 9916, EPA 6010B (EPA 3050A), 7/29/2002, 309034.

Table with 12 columns: Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Rows include Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper.

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO - Surrogate dilute out
J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	SampType	TestCode	Units	Prep Date	Run ID						
LCS-9916	LCS	6010_S	mg/Kg	7/28/2002	ICP2_020729C						
Client ID: ZZZZZ	Batch ID: 9916	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309034						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	44	0.25	50	0	88	80	120	0	0		
Molybdenum	46	0.25	50	0	92	80	120	0	0		
Nickel	42.5	0.15	50	0	85	80	120	0	0		
Selenium	44	0.25	50	0	88	80	120	0	0		
Silver	45	0.15	50	0	90	80	120	0	0		
Thallium	45	0.25	50	0	90	80	120	0	0		
Vanadium	46.5	0.15	50	0	93	80	120	0	0		
Zinc	45	0.50	50	0	90	80	120	0	0		

Sample ID	SampType	TestCode	Units	Prep Date	Run ID						
057892-024AMS	MS	6010_S	mg/Kg	7/28/2002	ICP2_020729C						
Client ID: ZZZZZ	Batch ID: 9916	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309048						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	95	0.25	125	2.5	74	32	115	0	0		
Arsenic	127	0.25	125	8.5	94.8	59	111	0	0		
Barium	307	0.15	125	186	96.8	34	151	0	0		
Beryllium	118	0.15	125	0	94.4	56	112	0	0		
Cadmium	111	0.15	125	0	88.8	52	120	0	0		
Chromium	141	0.15	125	24	93.6	56	118	0	0		
Cobalt	118.5	0.15	125	6	90	58	117	0	0		
Copper	201.5	0.15	125	73.5	102	58	134	0	0		
Lead	2036	0.25	125	2315	-223	47	128	0	0		S
Molybdenum	119	0.25	125	5.5	90.8	56	115	0	0		
Nickel	132	0.15	125	18	91.2	52	120	0	0		
Selenium	115	0.25	125	0	92	46	108	0	0		
Silver	121.5	0.15	125	0.1235	97.1	74	117	0	0		
Thallium	115	0.25	125	0.5	91.6	62	117	0	0		
Vanadium	148	0.15	125	23.5	99.6	55	122	0	0		
Zinc	1242	0.50	125	438	644	43	134	0	0		S

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	057892-024AMSD	SampType:	MSD	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729C
Client ID:	ZZZZZ	Batch ID:	9916	TestNo:	EPA 6010B (EPA 3050A)			Analysis Date:	7/29/2002	SeqNo:	309049
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	99	0.25	125	2.5	77.2	32	115	95	4.12	20	
Arsenic	129.5	0.25	125	8.5	96.8	59	111	127	1.95	20	
Barium	340	0.15	125	186	123	34	151	307	10.2	20	
Beryllium	120	0.15	125	0	96	56	112	118	1.68	20	
Cadmium	112.5	0.15	125	0	90	52	120	111	1.34	20	
Chromium	144.5	0.15	125	24	96.4	56	118	141	2.45	20	
Cobalt	121	0.15	125	6	92	58	117	118.5	2.09	20	
Copper	216.5	0.15	125	73.5	114	58	134	201.5	7.18	20	
Lead	2292	0.25	125	2315	-18.8	47	128	2036	11.8	20	S
Molybdenum	122.5	0.25	125	5.5	93.6	56	115	119	2.90	20	
Nickel	136.5	0.15	125	18	94.8	52	120	132	3.35	20	
Selenium	117	0.25	125	0	93.6	46	108	115	1.72	20	
Silver	123	0.15	125	0.1235	98.3	74	117	121.5	1.23	20	
Thallium	117	0.25	125	0.5	93.2	62	117	115	1.72	20	
Vanadium	152	0.15	125	23.5	103	55	122	148	2.67	20	
Zinc	502.5	0.50	125	438	51.6	43	134	1242	84.8	20	R

Sample ID	057892-024ADUP	SampType:	DUP	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729C
Client ID:	ZZZZZ	Batch ID:	9916	TestNo:	EPA 6010B (EPA 3050A)			Analysis Date:	7/29/2002	SeqNo:	309047
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	2.5	0.25	0	0	0	0	0	0	0	0	
Arsenic	8.5	0.25	0	0	0	0	0	0	0	0	
Barium	186	0.15	0	0	0	0	0	0	0	0	
Beryllium	ND	0.15	0	0	0	0	0	0	0	0	
Cadmium	ND	0.15	0	0	0	0	0	0	0	0	
Chromium	24	0.15	0	0	0	0	0	0	0	0	
Cobalt	6	0.15	0	0	0	0	0	0	0	0	
Copper	73.5	0.15	0	0	0	0	0	0	0	0	
Lead	2315	0.25	0	0	0	0	0	0	0	0	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: 057892-024ADUP	SampType: DUP	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/28/2002	Run ID: ICP2_020729C
Client ID: ZZZZZ	Batch ID: 9916	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309047

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	5.5	0.25	0	0	0	0	0	0	0		
Nickel	18	0.15	0	0	0	0	0	0	0		
Selenium	ND	0.25	0	0	0	0	0	0	0		
Silver	0.1235	0.15	0	0	0	0	0	0	0		J
Thallium	0.5	0.25	0	0	0	0	0	0	0		
Vanadium	23.5	0.15	0	0	0	0	0	0	0		
Zinc	438	0.50	0	0	0	0	0	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
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CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7471_S

Sample ID	MB-9919	SampType:	mblk	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729A			
Client ID:	ZZZZZ	Batch ID:	9919	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309061			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury ND 0.10

Sample ID	LCS-9919	SampType:	lcs	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729A			
Client ID:	ZZZZZ	Batch ID:	9919	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309060			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 2.02 0.10 2.08 0 97.1 80 120 0 0

Sample ID	057892-003AMS	SampType:	MS	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729A			
Client ID:	ZZZZZ	Batch ID:	9919	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309064			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.609 1.0 0.83 0 73.4 62 146 0 0 J

Sample ID	057892-003AMSD	SampType:	MSD	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729A			
Client ID:	ZZZZZ	Batch ID:	9919	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309065			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.6339 1.0 0.83 0 76.4 62 146 0.609 0 33 J

Sample ID	057892-003ADUP	SampType:	DUP	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729A			
Client ID:	ZZZZZ	Batch ID:	9919	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309063			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury ND 1.0 0 0 0 0 0 0 0 0 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
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 R - RPD outside accepted recovery limits Calculations are based on raw values

REVISIONS
BY _____ DATE _____
BY _____ DATE _____

BY _____ DATE _____
CHECKED BY _____

All samples → total lead (6010)

total lead > 50 mg/kg → WET-Citric

WET-CITRIC > 5 mg/L → WET-DI

Total lead > 1,000 mg/kg → TCLP

10% → Soil pH (9045)

Please call when all totals have been run. I will instruct what samples should be run for Title 22 metals.

Thanks - Chris King

Diane

From: Chris King [king@geoconinc.com]
Sent: Monday, July 22, 2002 10:57 AM
To: 'Diane'
Subject: 09100-06-49

Diane - please run the 15 samples with the highest total lead content for Title 22 metals. Please do this for each direction (northbound and southbound), so the total number of tests will be 30. Thank you and please call me if you have any questions.

Christopher S. King
Senior Staff Engineer
Geocon Consultants, Inc.

7/22/2002

July 22, 2002

Chris King
Geocon Environmental
6970 Flanders Drive
San Diego, CA 92121
TEL: (858) 558-6100
FAX: (858) 558-8437

AUG 05 2002

RE: Rte 5-NB, 9100-06-49

ELAP No.: 1838

NELAP No.: 02107CA

Workorder No.: 057936

Attention: Chris King

Enclosed are the results for sample(s) received on July 15, 2002 by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,

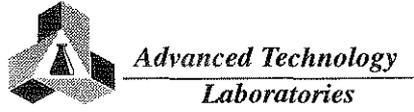


Eddie F. Rodriguez
Laboratory Director

This cover letter is an integral part of this analytical report.



CHAIN OF CUSTODY RECORD



Advanced Technology Laboratories
 3275 Walnut Avenue
 Signal Hill, CA 90807
 (562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport: Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt: 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Logged By: <u>Don</u>	Date: <u>7/15/02</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rte 5-NB</u>	Project #: <u>9100-06-49</u>	Sampler: <u>CA/ACAD</u>	Date: <u>7/15</u> Time: <u>6:00p</u>
Relinquished by: <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:24p</u>	Received by: <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:35pm</u>

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSR</u> <u>7/15</u>	Send Report To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>Attached</u>
---	---	--	---

Unless otherwise requested, all samples will be disposed 45 days after receipt.

Sample Archive/Disposal:
 Laboratory Standard
 Other _____
 Return To: _____

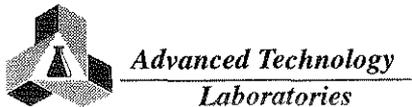
* \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.

Circle or Add Analysis(es) Requested: 8081 / 8082 (Pesticides/PCB-GC) 8200 (Nitrates-GC/MS) 6251 / 8270 (BVA-GC/MS) Metals: Total (CAC-8010 / TOX) 8015M TPH/GBTEX (COMBINATION) 8015M TPH/D (Diesel-GC) <u>709 / 709/60</u>	CIRCLE APPROPRIATE MATRIX: SOLID (SOLID) SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIFE • FILTER OTHER TAT # Type	PRESERVATION: RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>
---	---	---

ITEM	LAB USE ONLY:		Sample Description			
	Batch #:	Sample I.D.	Date	Time		
	057936-001	N86-S	7/15	9:35		
	2	N86-0.3		9:58		
	3	N87-S		9:35		
	4	N87-0.3		9:48		
	5	N87-0.6		9:50		
	6	N88-S		9:55		
	7	N88-0.3		10:03		
	8	N88-0.6		10:07		
	9	N88-0.9		10:13		
	10	N89-S		9:59		

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



**Advanced Technology
Laboratories**
3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport: Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt: 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7/15/02</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

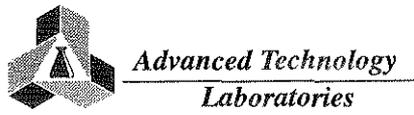
Project Name: <u>Rte 5-NB</u>	Project #: <u>9100-06-49</u>	Sampler: <u>CSK/GCA</u> (Printed Name)	(Signature)
Relinquished by: <u>[Signature]</u> GCA	Date: <u>7/15</u> Time: <u>6:00p</u>	Received by: <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:00p</u>
Relinquished by: <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:40p</u>	Received by: <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:35 pm</u>

I hereby authorize ATL to perform the work indicated below: Project Mgr/Submitter: <u>CSK</u> <u>7/15</u> Print Name Date	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>Attached</u>
---	--	---	---

Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested: 8091 / 8092 (Pesticides/CB-GC) 8260 (Metals-CO/MS) 625 / 8270 (BVA-GC/MS) Metals Total (CAC-GC/MS) 8015M TPHGBTEX (COMBINATION) 8019M TPHVD (Diesel/GC) <u>Total 8092</u>	CIRCLE APPROPRIATE MATRIX: SOLID • SOLID SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER TAT # Type	PRESERVATION: RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	QA/QC REMARKS
LAB USE ONLY: Batch #: Lab No.	Sample Description Sample I.D.	Date Time	Matrix	Container(s)	REMARKS
11	N89-0.3	7/15 10:10	X	E 1 J G	
12	N89-0.6	10:16			
13	N90-S	10:24			
14	N90-0.3	10:32			
15	N90-0.6	10:40			
16	N90-0.9	10:48			
17	N91-S	10:25			
18	N91-0.3	10:31			
19	N91-0.6	10:38			
20	N91-0.9	10:45			

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



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Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7-15-02</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rte 5 - NB</u>	Project #: <u>9100-06-49</u>	Sampler: <u>CSK/GCA</u> (Printed Name)	(Signature) <u>[Signature]</u>
Relinquished by: <u>[Signature]</u>	Date: <u>7/15</u> Time: <u>7:00</u>	Received by: <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:40p</u>
Relinquished by: <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:40</u>	Received by: <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:35pm</u>

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>7/15</u> Print Name Date <u>[Signature]</u> Signature	Send Report To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>Attached</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.

Sample Archive/Disposal:
 Laboratory Standard
 Other
 Return To: _____

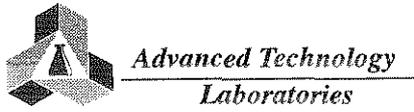
* \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.

Circle or Add Analysis(es) Requested 8081 / 8082 (Pesticides/PCB-CC) 8200 (Volatile/CC/MS) 625 / 8270 (BVA-GC/MS) Metals: Total (CAC-8010 / 7000) 8015M TPH/GBT/EX (COMBINATION) 8015M TPH/D (Diesel/GC) <u>Tox / Lead 8010</u>	CIRCLE APPROPRIATE MATRIX SOLID (S) • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIFE • FILTER OTHER TAT # Type	PRESERVATION QA/QC RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER
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ITEM	LAB USE ONLY:		Sample Description			
	Batch #:	Sample I.D.	Date	Time		
	21	N92-S	7/15	10:30		
	22	N92-0.3		10:45		
	23	N92-0.6		10:50		
	24	N92-0.9		11:00		
	25	N93-S		10:44		
	26	N93-0.3 N93-0.3		10:51		
	27	N93-0.6		10:30		
	28	N94-S		11:04		
	29	N94-0.3		11:09		
	30	N94-0.6		11:15		

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



Advanced Technology Laboratories
 3275 Walnut Avenue
 Signal Hill, CA 90807
 (562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport: Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt: 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7-15-02</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rte 5-NB</u>	Project #: <u>9100-06-49</u>	Sampler: <u>CSK/GCA</u> (Printed Name)	(Signature) <u>[Signature]</u>
Relinquished by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:30P</u>	Received by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:30P</u>
Relinquished by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:30P</u>	Received by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:35PM</u>

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>7/15</u> Print Name Date	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>Attached</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested: 8091 / 8092 (Pesticides/PCB-GC) 8260 (Isotopes-GCMS) 825 / 8270 (BVA-GCMS) Metals Total (CAC-8010 / 7000) 8015M TPH/G/BTEX (COMBINATION) 8015M TPH/D (Diesel-GC) <u>Toxic / lead solid</u>	CIRCLE APPROPRIATE MATRIX: SOLID • POWD • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIFE • FILTER OTHER	PRESERVATION: RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>								
ITEM	LAB USE ONLY:		Sample Description				Container(s)				REMARKS	
	Batch #:	Sample I.D.	Date	Time	TAT	#	Type					
	31	N94-0.9	7/15	11:19								
	32	N95-S		11:18								
	33	N95-0.3		11:25								
	34	N95-0.6		11:31								
	35	N95-0.9		11:40								
	36	N96-S		11:20								
	37	N96-0.3		11:27								
	38	N96-0.6		11:32								
	39	N97-S		12:02								
	40	N98-S		11:40								

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



**Advanced Technology
Laboratories**

3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED <input type="checkbox"/> <input checked="" type="checkbox"/> 4. SEALED <input type="checkbox"/> <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) <input type="checkbox"/> <input checked="" type="checkbox"/> 5. # OF SPLS MATCH COC <input type="checkbox"/> <input checked="" type="checkbox"/> 3. CONTAINER INTACT <input checked="" type="checkbox"/> <input type="checkbox"/> 6. PRESERVED <input type="checkbox"/> <input checked="" type="checkbox"/>
Logged By: <u>[Signature]</u> Date: <u>7/15/02</u> Time: _____		

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rep 5-NB</u>	Project #: <u>9100-06-49</u>	Sampler: <u>CSK/GCA</u>	(Signature) <u>[Signature]</u>
Relinquished by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:00P</u>	Received by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:20P</u>
Relinquished by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:24P</u>	Received by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:35P</u>
Relinquished by: (Signature and Printed Name) _____	Date: _____ Time: _____	Received by: (Signature and Printed Name) _____	Date: _____ Time: _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>7/15</u> Print Name Date	Send Report To: Attn: _____ Co: <u>Client</u> Address: <u>Client</u> City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address: <u>Client</u> City _____ State _____ Zip _____	Special Instructions/Comments: <u>Attached</u>
---	---	--	---

Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8091 / 8092 (Pesticides/PCB/OC) 8280 Volatiles/GC/MS 625 / 8270 (BVA-GC/MS) Metals: Total (CAC-8010 / 7000) 8015M TPH/G/TEX (COMBINATION) 8015M TPH/D (Diesel/GC) <u>Total Lead 6012</u>	CIRCLE APPROPRIATE MATRIX SOLID <input checked="" type="checkbox"/> SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER	PRESERVATION RTNE <input type="checkbox"/> RWCCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER							
LAB USE ONLY: Batch #:	Sample Description									REMARKS	
LAB No.	Sample I.D.	Date	Time								
41	N98-0.3	7/15	11:48	X		X		E	1	JG	
42	N98-0.6		11:55								
43	N98-0.9		12:04								
44	N99-S		12:10								
45	N99-0.3		12:20								
46	N99-0.6		12:30								
47	N99-0.9		12:36								
48	N100-S		12:28								
49	N100-0.3		12:43								
50	N101-S		12:44								

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= <input type="checkbox"/> Overnight ≤ 24 hr	B= <input type="checkbox"/> Emergency Next workday	C= <input type="checkbox"/> Critical 2 Workdays	D= <input type="checkbox"/> Urgent 3 Workdays	E= <input type="checkbox"/> Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₈
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

Advanced Technology Laboratories

Date: 7/22/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057936
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/15/2002 6:36:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057936-001A	N86-S	840	mg/Kg	9612	5	1	7/15/2002	7/19/2002
057936-002A	N86-0.3	450	mg/Kg	9612	5	1	7/15/2002	7/19/2002
057936-003A	N87-S	1200	mg/Kg	9612	5	1	7/15/2002	7/19/2002
057936-004A	N87-0.3	970	mg/Kg	9612	5	1	7/15/2002	7/19/2002
057936-005A	N87-0.6	1100	mg/Kg	9612	5	1	7/15/2002	7/19/2002
057936-006A	N88-S	1700	mg/Kg	9612	5	1	7/15/2002	7/19/2002
057936-007A	N88-0.3	140	mg/Kg	9612	5	1	7/15/2002	7/19/2002
057936-008A	N88-0.6	1300	mg/Kg	9612	5	1	7/15/2002	7/19/2002
057936-009A	N88-0.9	290	mg/Kg	9612	5	1	7/15/2002	7/19/2002
057936-010A	N89-S	200	mg/Kg	9612	5	1	7/15/2002	7/19/2002
057936-011A	N89-0.3	120	mg/Kg	9612	5	1	7/15/2002	7/19/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057936
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/15/2002 6:36:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057936-012A	N89-0.6	41	mg/Kg	9612	5	1	7/15/2002	7/19/2002
057936-013A	N90-S	910	mg/Kg	9612	5	1	7/15/2002	7/19/2002
057936-014A	N90-0.3	330	mg/Kg	9612	5	1	7/15/2002	7/19/2002
057936-015A	N90-0.6	750	mg/Kg	9612	5	1	7/15/2002	7/19/2002
057936-016A	N90-0.9	6.0	mg/Kg	9612	5	1	7/15/2002	7/19/2002
057936-017A	N91-S	150	mg/Kg	9612	5	1	7/15/2002	7/19/2002
057936-018A	N91-0.3	1000	mg/Kg	9612	5	1	7/15/2002	7/19/2002
057936-019A	N91-0.6	2700	mg/Kg	9612	5	1	7/15/2002	7/19/2002
057936-020A	N91-0.9	1300	mg/Kg	9612	5	1	7/15/2002	7/19/2002
057936-021A	N92-S	3300	mg/Kg	9613	10	2	7/15/2002	7/19/2002
057936-022A	N92-0.3	340	mg/Kg	9613	5	1	7/15/2002	7/19/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057936
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/15/2002 6:36:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057936-023A	N92-0.6	180	mg/Kg	9613	5	1	7/15/2002	7/19/2002
057936-024A	N92-0.9	11	mg/Kg	9613	5	1	7/15/2002	7/19/2002
057936-025A	N93-S	530	mg/Kg	9613	5	1	7/15/2002	7/19/2002
057936-026A	N93-0.3	410	mg/Kg	9613	5	1	7/15/2002	7/19/2002
057936-027A	N93-0.6	350	mg/Kg	9613	5	1	7/15/2002	7/19/2002
057936-028A	N94-S	510	mg/Kg	9613	5	1	7/15/2002	7/19/2002
057936-029A	N94-0.3	440	mg/Kg	9613	5	1	7/15/2002	7/19/2002
057936-030A	N94-0.6	73	mg/Kg	9613	5	1	7/15/2002	7/19/2002
057936-031A	N94-0.9	280	mg/Kg	9613	5	1	7/15/2002	7/19/2002
057936-032A	N95-S	400	mg/Kg	9613	5	1	7/15/2002	7/19/2002
057936-033A	N95-0.3	410	mg/Kg	9613	5	1	7/15/2002	7/19/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057936
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/15/2002 6:36:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057936-034A	N95-0.6	250	mg/Kg	9613	5	1	7/15/2002	7/19/2002
057936-035A	N95-0.9	620	mg/Kg	9613	5	1	7/15/2002	7/19/2002
057936-036A	N96-S	370	mg/Kg	9613	5	1	7/15/2002	7/19/2002
057936-037A	N96-0.3	64	mg/Kg	9613	5	1	7/15/2002	7/19/2002
057936-038A	N96-0.6	170	mg/Kg	9613	5	1	7/15/2002	7/19/2002
057936-039A	N97-S	150	mg/Kg	9613	5	1	7/15/2002	7/19/2002
057936-040A	N98-S	340	mg/Kg	9613	5	1	7/15/2002	7/19/2002
057936-041A	N98-0.3	76	mg/Kg	9614	5	1	7/15/2002	7/19/2002
057936-042A	N98-0.6	45	mg/Kg	9614	5	1	7/15/2002	7/19/2002
057936-043A	N98-0.9	36	mg/Kg	9614	5	1	7/15/2002	7/19/2002
057936-044A	N99-S	1000	mg/Kg	9614	5	1	7/15/2002	7/19/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/22/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057936
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/15/2002 6:36:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057936-045A	N99-0.3	1300	mg/Kg	9614	5	1	7/15/2002	7/19/2002
057936-046A	N99-0.6	170	mg/Kg	9614	5	1	7/15/2002	7/19/2002
057936-047A	N99-0.9	350	mg/Kg	9614	5	1	7/15/2002	7/19/2002
057936-048A	N100-S	1400	mg/Kg	9614	5	1	7/15/2002	7/19/2002
057936-049A	N100-0.3	390	mg/Kg	9614	5	1	7/15/2002	7/19/2002
057936-050A	N101-S	1100	mg/Kg	9614	5	1	7/15/2002	7/19/2002
057936-051A	N101-0.3	150	mg/Kg	9614	5	1	7/15/2002	7/19/2002
057936-052A	N101-0.6	310	mg/Kg	9614	5	1	7/15/2002	7/19/2002
057936-053A	N102-S	830	mg/Kg	9614	5	1	7/15/2002	7/19/2002
057936-054A	N102-0.3	730	mg/Kg	9614	5	1	7/15/2002	7/19/2002
057936-055A	N103-S	900	mg/Kg	9614	5	1	7/15/2002	7/19/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057936
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/15/2002 6:36:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057936-056A	N103-0.3	690	mg/Kg	9614	5	1	7/15/2002	7/19/2002
057936-057A	N104-S	920	mg/Kg	9614	5	1	7/15/2002	7/19/2002
057936-058A	N104-0.3	240	mg/Kg	9614	5	1	7/15/2002	7/19/2002
057936-059A	N104-0.6	30	mg/Kg	9614	5	1	7/15/2002	7/19/2002
057936-060A	N104-0.9	44	mg/Kg	9614	5	1	7/15/2002	7/19/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



ICP METALS
EPA 6010B

CLIENT:	Geocon Environmental	Lab Order:	057936
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/15/2002 6:36:0
Project No:		Matrix:	Water
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057936-061A	C29	ND	mg/L	9623	0.005	1	7/15/2002	7/18/2002
057936-062A	C30	ND	mg/L	9623	0.005	1	7/15/2002	7/18/2002
057936-063A	C31	ND	mg/L	9623	0.005	1	7/15/2002	7/18/2002
057936-064A	C32	ND	mg/L	9623	0.005	1	7/15/2002	7/18/2002
057936-065A	C33	ND	mg/L	9623	0.005	1	7/15/2002	7/18/2002
057936-066A	C34	ND	mg/L	9623	0.005	1	7/15/2002	7/18/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/22/2002

**pH
EPA 9045C**

CLIENT:	Geocon Environmental	Lab Order:	057936
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/15/2002 6:36:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057936-010A	N89-S	6.90	pH Units	R19556	0.1	1	7/15/2002	7/19/2002
057936-020A	N91-0.9	6.97	pH Units	R19556	0.1	1	7/15/2002	7/19/2002
057936-030A	N94-0.6	8.54	pH Units	R19558	0.1	1	7/15/2002	7/19/2002
057936-040A	N98-S	7.13	pH Units	R19558	0.1	1	7/15/2002	7/19/2002
057936-050A	N101-S	7.68	pH Units	R19558	0.1	1	7/15/2002	7/19/2002
057936-060A	N104-0.9	7.95	pH Units	R19558	0.1	1	7/15/2002	7/19/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057936
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/15/2002 6:36:0
Project No:		Matrix:	Soil
PO No:		Analyst:	NS

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057936-001A	N86-S	95	mg/L	9784	2	10	7/15/2002	7/26/2002
057936-002A	N86-0.3	49	mg/L	9784	2	10	7/15/2002	7/26/2002
057936-004A	N87-0.3	92	mg/L	9784	2	10	7/15/2002	7/26/2002
057936-007A	N88-0.3	21	mg/L	9784	0.8	4	7/15/2002	7/26/2002
057936-009A	N88-0.9	35	mg/L	9784	1.2	6	7/15/2002	7/26/2002
057936-010A	N89-S	43	mg/L	9784	1.2	6	7/15/2002	7/26/2002
057936-011A	N89-0.3	4.9	mg/L	9784	0.2	1	7/15/2002	7/26/2002
057936-013A	N90-S	93	mg/L	9784	2	10	7/15/2002	7/26/2002
057936-014A	N90-0.3	35	mg/L	9784	0.8	4	7/15/2002	7/26/2002
057936-015A	N90-0.6	65	mg/L	9784	2	10	7/15/2002	7/26/2002
057936-017A	N91-S	13	mg/L	9784	0.4	2	7/15/2002	7/26/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057936
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/15/2002 6:36:0
Project No:		Matrix:	Soil
PO No:		Analyst:	NS

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057936-022A	N92-0.3	32	mg/L	9785	0.8	4	7/15/2002	7/28/2002
057936-023A	N92-0.6	20	mg/L	9785	0.4	2	7/15/2002	7/28/2002
057936-025A	N93-S	57	mg/L	9785	2	10	7/15/2002	7/28/2002
057936-026A	N93-0.3	36	mg/L	9785	0.8	4	7/15/2002	7/28/2002
057936-027A	N93-0.6	28	mg/L	9785	0.8	4	7/15/2002	7/28/2002
057936-028A	N94-S	51	mg/L	9785	2	10	7/15/2002	7/28/2002
057936-029A	N94-0.3	44	mg/L	9785	2	10	7/15/2002	7/28/2002
057936-030A	N94-0.6	10	mg/L	9785	0.2	1	7/15/2002	7/28/2002
057936-031A	N94-0.9	16	mg/L	9785	0.4	2	7/15/2002	7/28/2002
057936-032A	N95-S	33	mg/L	9785	0.8	4	7/15/2002	7/28/2002
057936-033A	N95-0.3	51	mg/L	9785	2	10	7/15/2002	7/28/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057936
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/15/2002 6:36:0
Project No:		Matrix:	Soil
PO No:		Analyst:	NS

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057936-034A	N95-0.6	23	mg/L	9785	0.8	4	7/15/2002	7/28/2002
057936-035A	N95-0.9	60	mg/L	9785	2	10	7/15/2002	7/28/2002
057936-036A	N96-S	41	mg/L	9785	2	10	7/15/2002	7/28/2002
057936-037A	N96-0.3	3.4	mg/L	9785	0.2	1	7/15/2002	7/28/2002
057936-038A	N96-0.6	6.6	mg/L	9785	0.2	1	7/15/2002	7/28/2002
057936-039A	N97-S	20	mg/L	9785	0.8	4	7/15/2002	7/28/2002
057936-040A	N98-S	40	mg/L	9785	2	10	7/15/2002	7/28/2002
057936-041A	N98-0.3	6.3	mg/L	9785	0.2	1	7/15/2002	7/28/2002
057936-046A	N99-0.6	16	mg/L	9785	0.4	2	7/15/2002	7/28/2002
057936-047A	N99-0.9	24	mg/L	9786	0.8	4	7/15/2002	7/28/2002
057936-049A	N100-0.3	41	mg/L	9786	2	10	7/15/2002	7/28/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057936
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/15/2002 6:36:0
Project No:		Matrix:	Soil
PO No:		Analyst:	NS

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057936-051A	N101-0.3	13	mg/L	9786	0.4	2	7/15/2002	7/28/2002
057936-052A	N101-0.6	48	mg/L	9786	2	10	7/15/2002	7/28/2002
057936-053A	N102-S	57	mg/L	9786	2	10	7/15/2002	7/28/2002
057936-054A	N102-0.3	53	mg/L	9786	2	10	7/15/2002	7/28/2002
057936-055A	N103-S	78	mg/L	9786	2	10	7/15/2002	7/28/2002
057936-056A	N103-0.3	69	mg/L	9786	2	10	7/15/2002	7/28/2002
057936-057A	N104-S	82	mg/L	9786	2	10	7/15/2002	7/28/2002
057936-058A	N104-0.3	24	mg/L	9786	0.8	4	7/15/2002	7/28/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
EPA 1311/ 7420**

CLIENT:	Geocon Environmental	Lab Order:	057936
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/15/2002 6:36:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057936-003A	N87-S	3.6	mg/L	9850	0.2	1	7/15/2002	7/26/2002
057936-005A	N87-0.6	3.7	mg/L	9850	0.2	1	7/15/2002	7/26/2002
057936-006A	N88-S	8.4	mg/L	9850	0.2	1	7/15/2002	7/26/2002
057936-008A	N88-0.6	7.2	mg/L	9850	0.2	1	7/15/2002	7/26/2002
057936-018A	N91-0.3	3.0	mg/L	9850	0.2	1	7/15/2002	7/26/2002
057936-019A	N91-0.6	5.6	mg/L	9850	0.2	1	7/15/2002	7/26/2002
057936-020A	N91-0.9	4.7	mg/L	9850	0.2	1	7/15/2002	7/26/2002
057936-021A	N92-S	8.4	mg/L	9850	0.2	1	7/15/2002	7/26/2002
057936-044A	N99-S	2.3	mg/L	9850	0.2	1	7/15/2002	7/26/2002
057936-045A	N99-0.3	4.9	mg/L	9850	0.2	1	7/15/2002	7/26/2002
057936-048A	N100-S	1.8	mg/L	9851	0.2	1	7/15/2002	7/26/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
EPA 1311/7420**

CLIENT:	Geocon Environmental	Lab Order:	057936
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/15/2002 6:36:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057936-050A	N101-S	1.2	mg/L	9851	0.2	1	7/15/2002	7/26/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057936
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/15/2002 6:36:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057936-001A	N86-S	1.8	mg/L	9774	0.2	1	7/15/2002	7/28/2002
057936-002A	N86-0.3	0.88	mg/L	9774	0.2	1	7/15/2002	7/28/2002
057936-004A	N87-0.3	1.4	mg/L	9774	0.2	1	7/15/2002	7/28/2002
057936-007A	N88-0.3	0.36	mg/L	9774	0.2	1	7/15/2002	7/28/2002
057936-009A	N88-0.9	1.7	mg/L	9774	0.2	1	7/15/2002	7/28/2002
057936-010A	N89-S	ND	mg/L	9774	0.2	1	7/15/2002	7/28/2002
057936-013A	N90-S	0.60	mg/L	9774	0.2	1	7/15/2002	7/28/2002
057936-014A	N90-0.3	0.33	mg/L	9774	0.2	1	7/15/2002	7/28/2002
057936-015A	N90-0.6	0.77	mg/L	9774	0.2	1	7/15/2002	7/28/2002
057936-017A	N91-S	ND	mg/L	9774	0.2	1	7/15/2002	7/28/2002
057936-022A	N92-0.3	0.58	mg/L	9774	0.2	1	7/15/2002	7/28/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057936
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/15/2002 6:36:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057936-023A	N92-0.6	0.75	mg/L	9774	0.2	1	7/15/2002	7/28/2002
057936-025A	N93-S	0.78	mg/L	9774	0.2	1	7/15/2002	7/28/2002
057936-026A	N93-0.3	0.95	mg/L	9775	0.2	1	7/15/2002	7/28/2002
057936-027A	N93-0.6	0.78	mg/L	9775	0.2	1	7/15/2002	7/28/2002
057936-028A	N94-S	1.2	mg/L	9775	0.2	1	7/15/2002	7/28/2002
057936-029A	N94-0.3	1.3	mg/L	9775	0.2	1	7/15/2002	7/28/2002
057936-030A	N94-0.6	ND	mg/L	9775	0.2	1	7/15/2002	7/28/2002
057936-031A	N94-0.9	0.27	mg/L	9775	0.2	1	7/15/2002	7/28/2002
057936-032A	N95-S	0.46	mg/L	9775	0.2	1	7/15/2002	7/28/2002
057936-033A	N95-0.3	2.3	mg/L	9775	0.2	1	7/15/2002	7/28/2002
057936-034A	N95-0.6	1.2	mg/L	9775	0.2	1	7/15/2002	7/28/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057936
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/15/2002 6:36:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057936-035A	N95-0.9	2.6	mg/L	9775	0.2	1	7/15/2002	7/28/2002
057936-036A	N96-S	1.5	mg/L	9775	0.2	1	7/15/2002	7/28/2002
057936-038A	N96-0.6	ND	mg/L	9775	0.2	1	7/15/2002	7/28/2002
057936-039A	N97-S	0.38	mg/L	9775	0.2	1	7/15/2002	7/28/2002
057936-040A	N98-S	0.29	mg/L	9775	0.2	1	7/15/2002	7/28/2002
057936-041A	N98-0.3	0.21	mg/L	9775	0.2	1	7/15/2002	7/28/2002
057936-046A	N99-0.6	0.21	mg/L	9775	0.2	1	7/15/2002	7/28/2002
057936-047A	N99-0.9	0.67	mg/L	9775	0.2	1	7/15/2002	7/28/2002
057936-049A	N100-0.3	0.43	mg/L	9775	0.2	1	7/15/2002	7/28/2002
057936-051A	N101-0.3	0.22	mg/L	9775	0.2	1	7/15/2002	7/28/2002
057936-052A	N101-0.6	0.38	mg/L	9777	0.2	1	7/15/2002	7/28/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057936
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/15/2002 6:36:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057936-053A	N102-S	0.28	mg/L	9777	0.2	1	7/15/2002	7/28/2002
057936-054A	N102-0.3	0.30	mg/L	9777	0.2	1	7/15/2002	7/28/2002
057936-055A	N103-S	0.56	mg/L	9777	0.2	1	7/15/2002	7/28/2002
057936-056A	N103-0.3	0.68	mg/L	9777	0.2	1	7/15/2002	7/28/2002
057936-057A	N104-S	0.74	mg/L	9777	0.2	1	7/15/2002	7/28/2002
057936-058A	N104-0.3	0.48	mg/L	9777	0.2	1	7/15/2002	7/28/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
Lab Order: 057936
Project: Rte 5-NB, 9100-06-49
Lab ID: 057936-019A

Client Sample ID: N91-0.6
Collection Date: 7/15/2002
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID:	ICP2_020729D	QC Batch:	9917				Analyst: RQ
Antimony	2.5	0.25	mg/Kg	1	7/29/2002		
Arsenic	12	0.25	mg/Kg	1	7/29/2002		
Barium	180	0.15	mg/Kg	1	7/29/2002		
Beryllium	ND	0.15	mg/Kg	1	7/29/2002		
Cadmium	ND	0.15	mg/Kg	1	7/29/2002		
Chromium	23	0.15	mg/Kg	1	7/29/2002		
Cobalt	6.5	0.15	mg/Kg	1	7/29/2002		
Copper	110	0.15	mg/Kg	1	7/29/2002		
Lead	3800	2.5	mg/Kg	10	7/29/2002		
Molybdenum	3.0	0.25	mg/Kg	1	7/29/2002		
Nickel	22	0.15	mg/Kg	1	7/29/2002		
Selenium	ND	0.25	mg/Kg	1	7/29/2002		
Silver	ND	0.15	mg/Kg	1	7/29/2002		
Thallium	1.0	0.25	mg/Kg	1	7/29/2002		
Vanadium	24	0.15	mg/Kg	1	7/29/2002		
Zinc	610	0.50	mg/Kg	1	7/29/2002		

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID:	AA1_020729C	QC Batch:	9921				Analyst: NS
Mercury	ND	0.10	mg/Kg	1	7/29/2002		

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
Lab Order: 057936
Project: Rte 5-NB, 9100-06-49
Lab ID: 057936-021A

Client Sample ID: N92-S
Collection Date: 7/15/2002
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID:	ICP2_020729E	QC Batch:	9918				Analyst: RQ
Antimony	2.5	0.25	mg/Kg	1	7/29/2002		
Arsenic	14	0.25	mg/Kg	1	7/29/2002		
Barium	210	0.15	mg/Kg	1	7/29/2002		
Beryllium	ND	0.15	mg/Kg	1	7/29/2002		
Cadmium	ND	0.15	mg/Kg	1	7/29/2002		
Chromium	28	0.15	mg/Kg	1	7/29/2002		
Cobalt	8.5	0.15	mg/Kg	1	7/29/2002		
Copper	73	0.15	mg/Kg	1	7/29/2002		
Lead	4000	2.5	mg/Kg	10	7/29/2002		
Molybdenum	3.0	0.25	mg/Kg	1	7/29/2002		
Nickel	22	0.15	mg/Kg	1	7/29/2002		
Selenium	ND	0.25	mg/Kg	1	7/29/2002		
Silver	ND	0.15	mg/Kg	1	7/29/2002		
Thallium	1.0	0.25	mg/Kg	1	7/29/2002		
Vanadium	40	0.15	mg/Kg	1	7/29/2002		
Zinc	550	0.50	mg/Kg	1	7/29/2002		

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID:	AA1_020729C	QC Batch:	9921				Analyst: NS
Mercury	ND	0.10	mg/Kg	1	7/29/2002		

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified

Page 2 of 2





Advanced Technology Laboratories

Date: 22-Jul-02

CLIENT: Geocon Environmental
Work Order: 057936
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	MB-9612A	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719F			
Client ID:	ZZZZZ	Batch ID:	9612	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301882			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID	MB-9612B	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719F			
Client ID:	ZZZZZ	Batch ID:	9612	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301883			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.2211 5.0

Sample ID	MB-9613A	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719G			
Client ID:	ZZZZZ	Batch ID:	9613	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301932			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID	MB-9613B	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719G			
Client ID:	ZZZZZ	Batch ID:	9613	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301933			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID	MB-9614A	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719H			
Client ID:	ZZZZZ	Batch ID:	9614	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301984			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO - Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057936
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	MB-9614B	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719H		
Client ID:	ZZZZZ	Batch ID:	9614	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301985		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.224 5.0 J

Sample ID	LCS-9612	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719F		
Client ID:	ZZZZZ	Batch ID:	9612	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301881		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 217.8 5.0 250 0 87.1 80 120 0 0

Sample ID	LCS-9613	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719G		
Client ID:	ZZZZZ	Batch ID:	9613	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301931		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 228.9 5.0 250 0 91.6 80 120 0 0

Sample ID	LCS-9614	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719H		
Client ID:	ZZZZZ	Batch ID:	9614	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301983		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 223 5.0 250 0 89.2 80 120 0 0

Sample ID	057936-010AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719F		
Client ID:	N89-S	Batch ID:	9612	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301866		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 264 5.0 250 195.7 27.3 47 128 0 0 S

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057936
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057936-020AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719F		
Client ID:	N91-0.9	Batch ID:	9612	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301878		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	3270	5.0	250	1277	797	47	128	0	0			S
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Sample ID	057936-030AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719G		
Client ID:	N94-0.6	Batch ID:	9613	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301916		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	244.7	5.0	250	72.63	68.8	47	128	0	0			
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Sample ID	057936-040AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719G		
Client ID:	N98-S	Batch ID:	9613	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301928		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	601.6	5.0	250	336.4	106	47	128	0	0			
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Sample ID	057936-050AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719H		
Client ID:	N101-S	Batch ID:	9614	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301969		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	1184	5.0	250	1119	25.8	47	128	0	0			S
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Sample ID	057936-060AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719H		
Client ID:	N104-0.9	Batch ID:	9614	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301981		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	225.6	5.0	250	43.56	72.8	47	128	0	0			
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO - Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057936
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057936-010ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719F		
Client ID:	N89-S	Batch ID:	9612	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301865		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	210.7	5.0	0	0	0	0	0	0	195.7	7.34	30	
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Sample ID	057936-020ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719F		
Client ID:	N91-0.9	Batch ID:	9612	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301877		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	1728	5.0	0	0	0	0	0	0	1277	30.0	30	R
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Sample ID	057936-030ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719G		
Client ID:	N94-0.6	Batch ID:	9613	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301915		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	95.61	5.0	0	0	0	0	0	0	72.63	27.3	30	
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Sample ID	057936-040ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719G		
Client ID:	N98-S	Batch ID:	9613	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301927		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	609.3	5.0	0	0	0	0	0	0	336.4	57.7	30	R
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Sample ID	057936-050ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719H		
Client ID:	N101-S	Batch ID:	9614	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301968		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	1224	5.0	0	0	0	0	0	0	1119	8.92	30	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO - Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057936
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057936-060ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719H		
Client ID:	N104-0.9	Batch ID:	9614	TestNo:	EPA 6010B (EPA 3050M)			Analysis Date:	7/19/2002	SeqNo:	301980		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		37.8		5.0	0	0	0	0	0	43.56	14.2	30	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057936
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPB

Sample ID	MB-9623	SampType:	MBLK	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/17/2002	Run ID:	ICP2_020718A			
Client ID:	ZZZZZ	Batch ID:	9623	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/18/2002	SeqNo:	300879			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.0050

Sample ID	LCS-9623	SampType:	LCS	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/17/2002	Run ID:	ICP2_020718A			
Client ID:	ZZZZZ	Batch ID:	9623	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/18/2002	SeqNo:	300880			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.94 0.0050 1 0 94 80 120 0 0

Sample ID	057936-066AMS	SampType:	MS	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/17/2002	Run ID:	ICP2_020718A			
Client ID:	C34	Batch ID:	9623	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/18/2002	SeqNo:	300891			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 2.43 0.0050 2.5 0 97.2 66 118 0 0

Sample ID	057936-066ADUP	SampType:	DUP	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/17/2002	Run ID:	ICP2_020718A			
Client ID:	C34	Batch ID:	9623	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/18/2002	SeqNo:	300890			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.0050 0 0 0 0 0 0 0 0 0 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057936
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 9045_S

Sample ID	057936-020A-DUP	SampType:	DUP	TestCode:	9045_S	Units:	pH Units	Prep Date:	7/19/2002	Run ID:	WETCHEM_020719A		
Client ID:	N91-0.9	Batch ID:	R19556	TestNo:	EPA 9045C			Analysis Date:	7/19/2002	SeqNo:	301616		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

pH		7.065		0.10	0	0	0	0	0	6.97	1.35	20	
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Sample ID	057937-050A-DUP	SampType:	DUP	TestCode:	9045_S	Units:	pH Units	Prep Date:	7/19/2002	Run ID:	WETCHEM_020719B		
Client ID:	ZZZZZ	Batch ID:	R19558	TestNo:	EPA 9045C			Analysis Date:	7/19/2002	SeqNo:	301637		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

pH		7.979		0.10	0	0	0	0	0	7.856	1.55	20	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 29-Jul-02

CLIENT: Geocon Environmental
Work Order: 057936
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9784, mblk, 7420_ST, mg/L, 7/26/2002, AA2_020726M, ZZZZZ, 9784, WET/ EPA 74 (WET), 7/26/2002, 307497, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9784A, mblk, 7420_ST, mg/L, 7/24/2002, AA2_020726M, ZZZZZ, 9784, WET/ EPA 74 (WET), 7/26/2002, 307498, Lead, 0.0712, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9784B, mblk, 7420_ST, mg/L, 7/24/2002, AA2_020726M, ZZZZZ, 9784, WET/ EPA 74 (WET), 7/26/2002, 307511, Lead, 0.08088, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9785, MBLK, 7420_ST, mg/L, 7/28/2002, AA2_020728A, ZZZZZ, 9785, WET/ EPA 74 (WET), 7/28/2002, 308225, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9785A, MBLK, 7420_ST, mg/L, 7/24/2002, AA2_020728A, ZZZZZ, 9785, WET/ EPA 74 (WET), 7/28/2002, 308226, Lead, 0.04995, 0.20

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057936
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID MB-9785B	SampType: MBLK	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/24/2002	Run ID: AA2_020728A						
Client ID: ZZZZZ	Batch ID: 9785	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/28/2002	SeqNo: 308239						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID MB-9786	SampType: MBLK	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/28/2002	Run ID: AA2_020728B						
Client ID: ZZZZZ	Batch ID: 9786	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/28/2002	SeqNo: 308254						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID MB-9786A	SampType: MBLK	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/24/2002	Run ID: AA2_020728B						
Client ID: ZZZZZ	Batch ID: 9786	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/28/2002	SeqNo: 308255						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID MB-9786B	SampType: MBLK	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/24/2002	Run ID: AA2_020728B						
Client ID: ZZZZZ	Batch ID: 9786	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/28/2002	SeqNo: 308268						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID LCS-9784	SampType: lcs	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/26/2002	Run ID: AA2_020726M						
Client ID: ZZZZZ	Batch ID: 9784	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/26/2002	SeqNo: 307525						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.862 0.20 7.5 0 105 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057936
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	LCS-9785	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728A
Client ID:	ZZZZZ	Batch ID:	9785	TestNo:	WET/ EPA 74 (WET)	Analysis Date:	7/28/2002	SeqNo:	308253		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	7.42	0.20	7.5	0	98.9	80	120	0	0		
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Sample ID	LCS-9786	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728B
Client ID:	ZZZZZ	Batch ID:	9786	TestNo:	WET/ EPA 74 (WET)	Analysis Date:	7/28/2002	SeqNo:	308282		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	7.318	0.20	7.5	0	97.6	80	120	0	0		
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Sample ID	057936-001AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/26/2002	Run ID:	AA2_020726M
Client ID:	N86-S	Batch ID:	9784	TestNo:	WET/ EPA 74 (WET)	Analysis Date:	7/26/2002	SeqNo:	307510		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	197.9	4.0	100	94.59	103	80	120	0	0		
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Sample ID	057936-017AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/26/2002	Run ID:	AA2_020726M
Client ID:	N91-S	Batch ID:	9784	TestNo:	WET/ EPA 74 (WET)	Analysis Date:	7/26/2002	SeqNo:	307523		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	32.31	0.80	20	12.94	96.8	80	120	0	0		
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Sample ID	057936-032AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728A
Client ID:	N95-S	Batch ID:	9785	TestNo:	WET/ EPA 74 (WET)	Analysis Date:	7/28/2002	SeqNo:	308238		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	82.2	2.0	50	33.1	98.2	80	120	0	0		
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057936
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID: 057936-046AMS	SampType: MS	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/28/2002	Run ID: AA2_020728A						
Client ID: N99-0.6	Batch ID: 9785	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/28/2002	SeqNo: 308251						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	35.56	0.80	20	16.44	95.6	80	120	0		0	

Sample ID: 057936-058AMS	SampType: MS	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/28/2002	Run ID: AA2_020728B						
Client ID: N104-0.3	Batch ID: 9786	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/28/2002	SeqNo: 308267						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	74.93	2.0	50	23.6	103	80	120	0		0	

Sample ID: 057937-014AMS	SampType: MS	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/28/2002	Run ID: AA2_020728B						
Client ID: ZZZZZ	Batch ID: 9786	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/28/2002	SeqNo: 308280						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	148.8	4.0	100	51.97	96.8	80	120	0		0	

Sample ID: 057936-001ADUP	SampType: DUP	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/24/2002	Run ID: AA2_020726M						
Client ID: N86-S	Batch ID: 9784	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/26/2002	SeqNo: 307509						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	93.43	2.0	0	0	0	0	0	94.59	1.24	30	

Sample ID: 057936-017ADUP	SampType: DUP	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/24/2002	Run ID: AA2_020726M						
Client ID: N91-S	Batch ID: 9784	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/26/2002	SeqNo: 307522						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	12.85	0.40	0	0	0	0	0	12.94	0.750	30	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057936
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	057936-032ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/24/2002	Run ID:	AA2_020728A			
Client ID:	N95-S	Batch ID:	9785	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/28/2002	SeqNo:	308237			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 26.7 0.80 0 0 0 0 0 0 33.1 21.4 30

Sample ID	057936-046ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/24/2002	Run ID:	AA2_020728A			
Client ID:	N99-0.6	Batch ID:	9785	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/28/2002	SeqNo:	308250			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 14.91 0.40 0 0 0 0 0 0 16.44 9.81 30

Sample ID	057936-058ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/24/2002	Run ID:	AA2_020728B			
Client ID:	N104-0.3	Batch ID:	9786	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/28/2002	SeqNo:	308266			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 13.36 0.80 0 0 0 0 0 0 23.6 55.4 30 R

Sample ID	057937-014ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/24/2002	Run ID:	AA2_020728B			
Client ID:	ZZZZZ	Batch ID:	9786	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/28/2002	SeqNo:	308279			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 53.38 2.0 0 0 0 0 0 0 51.97 2.67 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 29-Jul-02

CLIENT: Geocon Environmental
Work Order: 057936
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9850, MBLK, 7420_TC, mg/L, 7/25/2002, AA2_020726A, ZZZZZ, 9850, EPA 1311/ 74 (EPA 3010A), 7/26/2002, 306743, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9845-TCLP, MBLK, 7420_TC, mg/L, 7/25/2002, AA2_020726A, ZZZZZ, 9850, EPA 1311/ 74 (EPA 3010A), 7/26/2002, 306744, Lead, 0.04619, 0.20, J

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9851, MBLK, 7420_TC, mg/L, 7/25/2002, AA2_020726B, ZZZZZ, 9851, EPA 1311/ 74 (EPA 3010A), 7/26/2002, 306764, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9846-TCLP, MBLK, 7420_TC, mg/L, 7/25/2002, AA2_020726B, ZZZZZ, 9851, EPA 1311/ 74 (EPA 3010A), 7/26/2002, 306765, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: LCS-9850, LCS, 7420_TC, mg/L, 7/25/2002, AA2_020726A, ZZZZZ, 9850, EPA 1311/ 74 (EPA 3010A), 7/26/2002, 306758, Lead, 0.9938, 0.20, 1, 0, 99.4, 80, 120, 0, 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057936
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID	LCS-9851	SampType:	LCS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/25/2002	Run ID:	AA2_020726B		
Client ID:	ZZZZZ	Batch ID:	9851	TestNo:	EPA 1311/ 74 (EPA 3010A)	Analysis Date:	7/26/2002	SeqNo:	306785				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 1.138 0.20 1 0 114 80 120 0 0

Sample ID	057936-045AMS	SampType:	MS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/25/2002	Run ID:	AA2_020726A		
Client ID:	N99-0.3	Batch ID:	9850	TestNo:	EPA 1311/ 74 (EPA 3010A)	Analysis Date:	7/26/2002	SeqNo:	306756				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 8.665 0.20 2.5 4.856 152 80 120 0 0 S

Sample ID	057937-051AMS	SampType:	MS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/25/2002	Run ID:	AA2_020726B		
Client ID:	ZZZZZ	Batch ID:	9851	TestNo:	EPA 1311/ 74 (EPA 3010A)	Analysis Date:	7/26/2002	SeqNo:	306783				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 6.541 0.20 2.5 4.893 65.9 80 120 0 0 S

Sample ID	057936-045ADUP	SampType:	DUP	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/25/2002	Run ID:	AA2_020726A		
Client ID:	N99-0.3	Batch ID:	9850	TestNo:	EPA 1311/ 74 (EPA 3010A)	Analysis Date:	7/26/2002	SeqNo:	306755				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 2.886 0.20 0 0 0 0 0 4.856 50.9 30 R

Sample ID	057937-051ADUP	SampType:	DUP	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/25/2002	Run ID:	AA2_020726B		
Client ID:	ZZZZZ	Batch ID:	9851	TestNo:	EPA 1311/ 74 (EPA 3010A)	Analysis Date:	7/26/2002	SeqNo:	306781				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 4.12 0.20 0 0 0 0 0 4.893 17.2 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 29-Jul-02

CLIENT: Geocon Environmental
Work Order: 057936
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9774, MBLK, 7420_DI, mg/L, 7/28/2002, AA2_020728F, ZZZZZ, 9774, WET DI/ EPA (WET), 7/28/2002, 308380, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9774A, MBLK, 7420_DI, mg/L, 7/23/2002, AA2_020728F, ZZZZZ, 9774, WET DI/ EPA (WET), 7/28/2002, 308381, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9774B, MBLK, 7420_DI, mg/L, 7/23/2002, AA2_020728F, ZZZZZ, 9774, WET DI/ EPA (WET), 7/28/2002, 308394, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9775, MBLK, 7420_DI, mg/L, 7/28/2002, AA2_020728G, ZZZZZ, 9775, WET DI/ EPA (WET), 7/28/2002, 308409, Lead, 0.04964, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9775A, MBLK, 7420_DI, mg/L, 7/23/2002, AA2_020728G, ZZZZZ, 9775, WET DI/ EPA (WET), 7/28/2002, 308410, Lead, ND, 0.20

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057936
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	MB-9775B	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728G			
Client ID:	ZZZZZ	Batch ID:	9775	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308423			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9777	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728H			
Client ID:	ZZZZZ	Batch ID:	9777	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308438			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.07936 0.20

Sample ID	MB-9777A	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728H			
Client ID:	ZZZZZ	Batch ID:	9777	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308439			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9777B	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728H			
Client ID:	ZZZZZ	Batch ID:	9777	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308452			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	LCS-9774	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728F			
Client ID:	ZZZZZ	Batch ID:	9774	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308408			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.461 0.20 7.5 0 99.5 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO - Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057936
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID: LCS-9775	SampType: LCS	TestCode: 7420_DI	Units: mg/L	Prep Date:	Run ID: AA2_020728G						
Client ID: ZZZZZ	Batch ID: 9775	TestNo: WET DI/ EPA (WET)		Analysis Date: 7/28/2002	SeqNo: 308437						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	7.528	0.20	7.5	0	100	80	120	0	0		
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Sample ID: LCS-9777	SampType: LCS	TestCode: 7420_DI	Units: mg/L	Prep Date: 7/28/2002	Run ID: AA2_020728H						
Client ID: ZZZZZ	Batch ID: 9777	TestNo: WET DI/ EPA (WET)		Analysis Date: 7/28/2002	SeqNo: 308466						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	7.496	0.20	7.5	0	99.9	80	120	0	0		
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Sample ID: 057936-007AMS	SampType: MS	TestCode: 7420_DI	Units: mg/L	Prep Date: 7/28/2002	Run ID: AA2_020728F						
Client ID: N88-0.3	Batch ID: 9774	TestNo: WET DI/ EPA (WET)		Analysis Date: 7/28/2002	SeqNo: 308393						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	5.502	0.20	5	0.3567	103	80	120	0	0		
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Sample ID: 057936-025AMS	SampType: MS	TestCode: 7420_DI	Units: mg/L	Prep Date: 7/28/2002	Run ID: AA2_020728F						
Client ID: N93-S	Batch ID: 9774	TestNo: WET DI/ EPA (WET)		Analysis Date: 7/28/2002	SeqNo: 308406						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	5.872	0.20	5	0.777	102	80	120	0	0		
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Sample ID: 057936-035AMS	SampType: MS	TestCode: 7420_DI	Units: mg/L	Prep Date:	Run ID: AA2_020728G						
Client ID: N95-0.9	Batch ID: 9775	TestNo: WET DI/ EPA (WET)		Analysis Date: 7/28/2002	SeqNo: 308422						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	7.517	0.20	5	2.554	99.2	80	120	0	0		
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Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	DO- Surrogate dilute out
	J - Analyte detected below quantitation limits	B - Analyte detected in the associated Method Blank	H - Sample exceeded holding time
	R - RPD outside accepted recovery limits	Calculations are based on raw values	



CLIENT: Geocon Environmental
Work Order: 057936
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	057936-051AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:		Run ID:	AA2_020728G			
Client ID:	N101-0.3	Batch ID:	9775	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308435			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 5.341 0.20 5 0.2198 102 80 120 0 0

Sample ID	057937-005AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728H			
Client ID:	ZZZZZ	Batch ID:	9777	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308451			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 8.395 0.20 5 3.485 98.2 80 120 0 0

Sample ID	057937-017AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728H			
Client ID:	ZZZZZ	Batch ID:	9777	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308464			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 5.336 0.20 5 0.499 96.7 80 120 0 0

Sample ID	057936-025AMSD	SampType:	MSD	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728F			
Client ID:	N93-S	Batch ID:	9774	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308407			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 5.885 0.20 5 0.777 102 80 120 5.872 0.213 20

Sample ID	057936-007ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728F			
Client ID:	N88-0.3	Batch ID:	9774	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308392			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.6903 0.20 0 0 0 0 0 0 0 0.3567 63.7 30 R

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
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 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057936
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID: 057936-025ADUP	SampType: DUP	TestCode: 7420_DI	Units: mg/L	Prep Date: 7/23/2002	Run ID: AA2_020728F						
Client ID: N93-S	Batch ID: 9774	TestNo: WET DI/ EPA (WET)		Analysis Date: 7/28/2002	SeqNo: 308405						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	0.8496	0.20	0	0	0	0	0	0.777	8.93	30	
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Sample ID: 057936-035ADUP	SampType: DUP	TestCode: 7420_DI	Units: mg/L	Prep Date: 7/23/2002	Run ID: AA2_020728G						
Client ID: N95-0.9	Batch ID: 9775	TestNo: WET DI/ EPA (WET)		Analysis Date: 7/28/2002	SeqNo: 308421						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	2.601	0.20	0	0	0	0	0	2.554	1.80	30	
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Sample ID: 057936-051ADUP	SampType: DUP	TestCode: 7420_DI	Units: mg/L	Prep Date: 7/23/2002	Run ID: AA2_020728G						
Client ID: N101-0.3	Batch ID: 9775	TestNo: WET DI/ EPA (WET)		Analysis Date: 7/28/2002	SeqNo: 308434						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	0.1987	0.20	0	0	0	0	0	0.2198	0	30	J
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Sample ID: 057937-005ADUP	SampType: DUP	TestCode: 7420_DI	Units: mg/L	Prep Date: 7/23/2002	Run ID: AA2_020728H						
Client ID: ZZZZZ	Batch ID: 9777	TestNo: WET DI/ EPA (WET)		Analysis Date: 7/28/2002	SeqNo: 308450						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	3.798	0.20	0	0	0	0	0	3.485	8.60	30	
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Sample ID: 057937-017ADUP	SampType: DUP	TestCode: 7420_DI	Units: mg/L	Prep Date: 7/23/2002	Run ID: AA2_020728H						
Client ID: ZZZZZ	Batch ID: 9777	TestNo: WET DI/ EPA (WET)		Analysis Date: 7/28/2002	SeqNo: 308463						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	0.3615	0.20	0	0	0	0	0	0.499	32.0	30	R
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 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
Work Order: 057936
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	MB-9917	SampType:	MBLK	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729D
Client ID:	ZZZZZ	Batch ID:	9917	TestNo:	EPA 6010B (EPA 3050A)	Analysis Date:	7/29/2002	SeqNo:	309112		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Antimony	0.078	0.25									
Arsenic	0.0295	0.25									
Barium	ND	0.15									
Beryllium	ND	0.15									
Cadmium	0.0065	0.15									
Chromium	ND	0.15									
Cobalt	0.017	0.15									
Copper	ND	0.15									
Lead	0.154	0.25									
Molybdenum	0.013	0.25									
Nickel	ND	0.15									
Selenium	ND	0.25									
Silver	0.059	0.15									
Thallium	ND	0.25									
Vanadium	ND	0.15									
Zinc	0.183	0.50									

Sample ID	MB-9918	SampType:	MBLK	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729E
Client ID:	ZZZZZ	Batch ID:	9918	TestNo:	EPA 6010B (EPA 3050A)	Analysis Date:	7/29/2002	SeqNo:	309146		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Antimony	ND	0.25									
Arsenic	0.0135	0.25									
Barium	ND	0.15									
Beryllium	ND	0.15									
Cadmium	0.002	0.15									
Chromium	ND	0.15									
Cobalt	0.037	0.15									
Copper	ND	0.15									

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CLIENT: Geocon Environmental
Work Order: 057936
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	MB-9918	SampType:	MBLK	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729E												
Client ID:	ZZZZZ	Batch ID:	9918	TestNo:	EPA 6010B (EPA 3050A)			Analysis Date:	7/29/2002	SeqNo:	309146												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead	0.214	0.25																				
Molybdenum	0.048	0.25																				
Nickel	ND	0.15																				
Selenium	ND	0.25																				
Silver	ND	0.15																				
Thallium	ND	0.25																				
Vanadium	ND	0.15																				
Zinc	0.152	0.50																				

Sample ID	LCS-9917	SampType:	LCS	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729D												
Client ID:	ZZZZZ	Batch ID:	9917	TestNo:	EPA 6010B (EPA 3050A)			Analysis Date:	7/29/2002	SeqNo:	309098												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Antimony	52	0.25	50	0	104	80	120	0	0													
Arsenic	53.5	0.25	50	0	107	80	120	0	0													
Barium	53	0.15	50	0	106	80	120	0	0													
Beryllium	51.5	0.15	50	0	103	80	120	0	0													
Cadmium	49	0.15	50	0	98	80	120	0	0													
Chromium	51	0.15	50	0	102	80	120	0	0													
Cobalt	49.5	0.15	50	0	99	80	120	0	0													
Copper	51	0.15	50	0	102	80	120	0	0													
Lead	51	0.25	50	0	102	80	120	0	0													
Molybdenum	52	0.25	50	0	104	80	120	0	0													
Nickel	48.5	0.15	50	0	97	80	120	0	0													
Selenium	50	0.25	50	0	100	80	120	0	0													
Silver	52	0.15	50	0	104	80	120	0	0													
Thallium	51.5	0.25	50	0	103	80	120	0	0													
Vanadium	53	0.15	50	0	106	80	120	0	0													
Zinc	50	0.50	50	0	100	80	120	0	0													

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
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CLIENT: Geocon Environmental
Work Order: 057936
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	SampType	TestCode	Units	Prep Date	Run ID						
LCS-9918	LCS	6010_S	mg/Kg	7/28/2002	ICP2_020729E						
Client ID: ZZZZ	Batch ID: 9918	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309147						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	47.5	0.25	50	0	95	80	120	0	0		
Arsenic	47.5	0.25	50	0	95	80	120	0	0		
Barium	48.5	0.15	50	0	97	80	120	0	0		
Beryllium	46.5	0.15	50	0	93	80	120	0	0		
Cadmium	44	0.15	50	0	88	80	120	0	0		
Chromium	46	0.15	50	0	92	80	120	0	0		
Cobalt	44.5	0.15	50	0	89	80	120	0	0		
Copper	45.5	0.15	50	0	91	80	120	0	0		
Lead	45.5	0.25	50	0	91	80	120	0	0		
Molybdenum	47	0.25	50	0	94	80	120	0	0		
Nickel	43.5	0.15	50	0	87	80	120	0	0		
Selenium	45.5	0.25	50	0	91	80	120	0	0		
Silver	46	0.15	50	0	92	80	120	0	0		
Thallium	46.5	0.25	50	0	93	80	120	0	0		
Vanadium	47.5	0.15	50	0	95	80	120	0	0		
Zinc	45.5	0.50	50	0	91	80	120	0	0		

Sample ID	SampType	TestCode	Units	Prep Date	Run ID						
057936-019AMS	MS	6010_S	mg/Kg	7/28/2002	ICP2_020729D						
Client ID: N91-0.6	Batch ID: 9917	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309110						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	100	0.25	125	2.5	78	32	115	0	0		
Arsenic	126.5	0.25	125	13	90.8	59	111	0	0		
Barium	288	0.15	125	210	62.4	34	151	0	0		
Beryllium	113.5	0.15	125	0	90.8	56	112	0	0		
Cadmium	106.5	0.15	125	0	85.2	52	120	0	0		
Chromium	138.5	0.15	125	28	88.4	56	118	0	0		
Cobalt	115.5	0.15	125	7.5	86.4	58	117	0	0		
Copper	193.5	0.15	125	71.5	97.6	58	134	0	0		
Molybdenum	116	0.25	125	3.5	90	56	115	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
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CLIENT: Geocon Environmental
Work Order: 057936
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	057936-019AMS	SampType:	MS	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729D
Client ID:	N91-0.6	Batch ID:	9917	TestNo:	EPA 6010B (EPA 3050A)	Analysis Date:	7/29/2002	SeqNo:	309110		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	129	0.15	125	27.5	81.2	52	120	0	0		
Selenium	113	0.25	125	0	90.4	46	108	0	0		
Silver	119	0.15	125	0.1365	95.1	74	117	0	0		
Thallium	111.5	0.25	125	1	88.4	62	117	0	0		
Vanadium	148.5	0.15	125	29	95.6	55	122	0	0		
Zinc	471.5	0.50	125	594.5	-98.4	43	134	0	0		S

Sample ID	057936-019AMS	SampType:	MS	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729D
Client ID:	N91-0.6	Batch ID:	9917	TestNo:	EPA 6010B (EPA 3050A)	Analysis Date:	7/29/2002	SeqNo:	309118		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	3055	2.5	125	3800	-596	47	128	0	0		S

Sample ID	057937-095AMS	SampType:	MS	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729E
Client ID:	ZZZZZ	Batch ID:	9918	TestNo:	EPA 6010B (EPA 3050A)	Analysis Date:	7/29/2002	SeqNo:	309158		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	111.5	0.25	125	2	87.6	32	115	0	0		
Arsenic	141.5	0.25	125	20	97.2	59	111	0	0		
Barium	338	0.15	125	207	105	34	151	0	0		
Beryllium	119.5	0.15	125	0	95.6	56	112	0	0		
Cadmium	114	0.15	125	0.2175	91	52	120	0	0		
Chromium	149	0.15	125	26.5	98	56	118	0	0		
Cobalt	120.5	0.15	125	5.5	92	58	117	0	0		
Copper	225.5	0.15	125	69.5	125	58	134	0	0		
Molybdenum	123.5	0.25	125	3	96.4	56	115	0	0		
Nickel	135	0.15	125	16	95.2	52	120	0	0		
Selenium	118	0.25	125	0	94.4	46	108	0	0		
Silver	128.5	0.15	125	1	102	74	117	0	0		
Thallium	118	0.25	125	0.5	94	62	117	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057936
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: 057937-095AMS	SampType: MS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/28/2002	Run ID: ICP2_020729E						
Client ID: ZZZZZ	Batch ID: 9918	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309158						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	147.5	0.15	125	22.5	100	55	122	0	0		
Zinc	636.5	0.50	125	433.5	162	43	134	0	0		S

Sample ID: 057937-095AMS	SampType: MS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/28/2002	Run ID: ICP2_020729E						
Client ID: ZZZZZ	Batch ID: 9918	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309200						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	3610	2.5	125	3220	312	47	128	0	0		S

Sample ID: 057936-019AMSD	SampType: MSD	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/28/2002	Run ID: ICP2_020729D						
Client ID: N91-0.6	Batch ID: 9917	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309111						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	107	0.25	125	2.5	83.6	32	115	100	6.76	20	
Arsenic	127	0.25	125	13	91.2	59	111	126.5	0.394	20	
Barium	280.5	0.15	125	210	56.4	34	151	288	2.64	20	
Beryllium	116.5	0.15	125	0	93.2	56	112	113.5	2.61	20	
Cadmium	109.5	0.15	125	0	87.6	52	120	106.5	2.78	20	
Chromium	134.5	0.15	125	28	85.2	56	118	138.5	2.93	20	
Cobalt	117	0.15	125	7.5	87.6	58	117	115.5	1.29	20	
Copper	195	0.15	125	71.5	98.8	58	134	193.5	0.772	20	
Molybdenum	119.5	0.25	125	3.5	92.8	56	115	116	2.97	20	
Nickel	128.5	0.15	125	27.5	80.8	52	120	129	0.388	20	
Selenium	115.5	0.25	125	0	92.4	46	108	113	2.19	20	
Silver	120.5	0.15	125	0.1365	96.3	74	117	119	1.25	20	
Thallium	114.5	0.25	125	1	90.8	62	117	111.5	2.65	20	
Vanadium	143.5	0.15	125	29	91.6	55	122	148.5	3.42	20	
Zinc	464	0.50	125	594.5	-104	43	134	471.5	1.60	20	S

Qualifiers: ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	DO- Surrogate dilute out
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CLIENT: Geocon Environmental
Work Order: 057936
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	057936-019AMSD	SampType:	MSD	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729D			
Client ID:	N91-0.6	Batch ID:	9917	TestNo:	EPA 6010B (EPA 3050A)			Analysis Date:	7/29/2002	SeqNo:	309119			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		3270		2.5	125	3800		-424	47	128	3055	6.80	20	S

Sample ID	057937-095AMSD	SampType:	MSD	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729E			
Client ID:	ZZZZZ	Batch ID:	9918	TestNo:	EPA 6010B (EPA 3050A)			Analysis Date:	7/29/2002	SeqNo:	309159			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony		106		0.25	125	2		83.2	32	115	111.5	5.06	20	
Arsenic		132		0.25	125	20		89.6	59	111	141.5	6.95	20	
Barium		301		0.15	125	207		75.2	34	151	338	11.6	20	
Beryllium		113		0.15	125	0		90.4	56	112	119.5	5.59	20	
Cadmium		108		0.15	125	0.2175		86.2	52	120	114	5.41	20	
Chromium		139.5		0.15	125	26.5		90.4	56	118	149	6.59	20	
Cobalt		114		0.15	125	5.5		86.8	58	117	120.5	5.54	20	
Copper		233		0.15	125	69.5		131	58	134	225.5	3.27	20	
Molybdenum		116.5		0.25	125	3		90.8	56	115	123.5	5.83	20	
Nickel		127.5		0.15	125	16		89.2	52	120	135	5.71	20	
Selenium		112		0.25	125	0		89.6	46	108	118	5.22	20	
Silver		121		0.15	125	1		96	74	117	128.5	6.01	20	
Thallium		112.5		0.25	125	0.5		89.6	62	117	118	4.77	20	
Vanadium		138		0.15	125	22.5		92.4	55	122	147.5	6.65	20	
Zinc		557		0.50	125	433.5		98.8	43	134	636.5	13.3	20	

Sample ID	057937-095AMSD	SampType:	MSD	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729E			
Client ID:	ZZZZZ	Batch ID:	9918	TestNo:	EPA 6010B (EPA 3050A)			Analysis Date:	7/29/2002	SeqNo:	309201			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		2995		2.5	125	3220		-180	47	128	3610	18.6	20	S

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057936
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	SampType	TestCode	Units	Prep Date	Run ID						
057936-019ADUP	DUP	6010_S	mg/Kg	7/28/2002	ICP2_020729D						
Client ID: N91-0.6	Batch ID: 9917	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309109						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	2.5	0.25	0	0	0	0	0	2.5	0	30	
Arsenic	13	0.25	0	0	0	0	0	13	0	30	
Barium	210	0.15	0	0	0	0	0	210	0	30	
Beryllium	ND	0.15	0	0	0	0	0	0	0	30	
Cadmium	ND	0.15	0	0	0	0	0	0	0	30	
Chromium	28	0.15	0	0	0	0	0	28	0	30	
Cobalt	7.5	0.15	0	0	0	0	0	7.5	0	30	
Copper	71.5	0.15	0	0	0	0	0	71.5	0	30	
Molybdenum	3.5	0.25	0	0	0	0	0	3.5	0	30	
Nickel	27.5	0.15	0	0	0	0	0	27.5	0	30	
Selenium	ND	0.25	0	0	0	0	0	0	0	30	
Silver	0.1365	0.15	0	0	0	0	0	0.1365	0	30	J
Thallium	1	0.25	0	0	0	0	0	1	0	30	
Vanadium	29	0.15	0	0	0	0	0	29	0	30	
Zinc	594.5	0.50	0	0	0	0	0	594.5	0	30	

Sample ID	SampType	TestCode	Units	Prep Date	Run ID						
057936-019ADUP	DUP	6010_S	mg/Kg	7/28/2002	ICP2_020729D						
Client ID: N91-0.6	Batch ID: 9917	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309117						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	4210	2.5	0	0	0	0	0	3800	10.2	30	

Sample ID	SampType	TestCode	Units	Prep Date	Run ID						
057937-095ADUP	DUP	6010_S	mg/Kg	7/28/2002	ICP2_020729E						
Client ID: ZZZZZ	Batch ID: 9918	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309157						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	2	0.25	0	0	0	0	0	2	0	30	
Arsenic	18	0.25	0	0	0	0	0	20	10.5	30	
Barium	189.5	0.15	0	0	0	0	0	207	8.83	30	
Beryllium	ND	0.15	0	0	0	0	0	0	0	30	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**



CLIENT: Geocon Environmental
Work Order: 057936
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: 057937-095ADUP	SampType: DUP	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/28/2002	Run ID: ICP2_020729E
Client ID: ZZZZZ	Batch ID: 9918	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309157

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.5	0.15	0	0	0	0	0	0.2175	78.7	30	R
Chromium	22.5	0.15	0	0	0	0	0	26.5	16.3	30	
Cobalt	4.5	0.15	0	0	0	0	0	5.5	20.0	30	
Copper	77.5	0.15	0	0	0	0	0	69.5	10.9	30	
Molybdenum	4	0.25	0	0	0	0	0	3	28.6	30	
Nickel	17.5	0.15	0	0	0	0	0	16	8.96	30	
Selenium	ND	0.25	0	0	0	0	0	0	0	30	
Silver	1	0.15	0	0	0	0	0	1	0	30	
Thallium	0.5	0.25	0	0	0	0	0	0.5	0	30	
Vanadium	19.5	0.15	0	0	0	0	0	22.5	14.3	30	
Zinc	505.5	0.50	0	0	0	0	0	433.5	15.3	30	

Sample ID: 057937-095ADUP	SampType: DUP	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/28/2002	Run ID: ICP2_020729E
Client ID: ZZZZZ	Batch ID: 9918	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309199

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2880	2.5	0	0	0	0	0	3220	11.1	30	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057936
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7471_S

Sample ID	MB-9921	SampType:	mblk	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729C												
Client ID:	ZZZZZ	Batch ID:	9921	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309095												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Mercury ND 0.10

Sample ID	LCS-9921	SampType:	lcs	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729C												
Client ID:	ZZZZZ	Batch ID:	9921	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309094												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Mercury 2.243 0.10 2.08 0 108 80 120 0 0

Sample ID	057937-095AMS	SampType:	MS	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729C												
Client ID:	ZZZZZ	Batch ID:	9921	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309092												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Mercury 1.001 0.10 0.83 0.08152 111 62 146 0 0

Sample ID	057937-095AMSD	SampType:	MSD	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729C												
Client ID:	ZZZZZ	Batch ID:	9921	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309093												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Mercury 0.9873 0.10 0.83 0.08152 109 62 146 1.001 1.35 33

Sample ID	057937-095ADUP	SampType:	DUP	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729C												
Client ID:	ZZZZZ	Batch ID:	9921	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309091												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Mercury 0.09527 0.10 0 0 0 0 0 0 0.08152 0 30 J

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values

All samples → total lead (6010)

total lead > 50 mg/kg → WET-Citric

WET-CITRIC > 5 mg/L → WET-DI

Total lead > 1,000 mg/kg → TCLP

10% → Soil pH (9045)

Please call when all totals have been run. I will instruct what samples should be run for Title 22 metals.

Thanks - Chris King

REVISIONS
BY _____ DATE _____
BY _____ DATE _____

BY _____ DATE _____
CHECKED BY _____

Diane

From: Chris King [king@geoconinc.com]**Sent:** Monday, July 22, 2002 10:57 AM**To:** 'Diane'**Subject:** 09100-06-49

Diane - please run the 15 samples with the highest total lead content for Title 22 metals. Please do this for each direction (northbound and southbound), so the total number of tests will be 30. Thank you and please call me if you have any questions.

Christopher S. King
Senior Staff Engineer
Geocon Consultants, Inc.

7/22/2002

July 12, 2002

Chris King
Geocon Environmental
6970 Flanders Drive
San Diego, CA 92121
TEL: (858) 558-6100
FAX: (858) 558-8437

AUG 05 2002

RE: Rte 5-North bound, 09100-06-49

ELAP No.: 1838

NELAP No.: 02107CA

Attention: Chris King

Workorder No.: 057842

Enclosed are the results for sample(s) received on July 09, 2002 by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,



Eddie F. Rodriguez
Laboratory Director

This cover letter is an integral part of this analytical report.



CHAIN OF CUSTODY RECORD



3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____

Logged By: *MM* Date: *7/9/02* Time: _____

Method of Transport

- Walk-in
- Courier
- UPS
- FED. EXP.
- ATL

Sample Condition Upon Receipt

- 1. CHILLED Y N
- 2. HEADSPACE (VOA) Y N
- 3. CONTAINER INTACT Y N
- 4. SEALED Y N
- 5. # OF SPLS MATCH COC Y N
- 6. PRESERVED Y N

Client: GEOCON ENVIRONMENTAL - SAN DIEGO

Address: 6970 Flanders Drive

TEL: (858) 558-6100

Attn: *Chris King*

City San Diego

State CA

Zip Code 92121

FAX: (858) 558-8437

Project Name: *Rte 5 - North bound*

Project #: *09100-06-49*

Sampler: *CSN/GCA*

(Signature) *[Signature]*

Relinquished by: (Signature and Printed Name) *[Signature]*

Date: *7/9* Time: *4 pm*

Received by: (Signature and Printed Name) *[Signature]*

Date: *7-9-02* Time: *5:00 pm*

Relinquished by: (Signature and Printed Name) *[Signature]*

Date: *7-9-02* Time: *18:41*

Received by: (Signature and Printed Name) *[Signature]*

Date: *7/9/02* Time: *1844*

Relinquished by: (Signature and Printed Name) _____

Date: _____ Time: _____

Received by: (Signature and Printed Name) _____

Date: _____ Time: _____

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter:
CSK *7/9*
Print Name Date
[Signature]
Signature

Send Report To:
Attn: _____
Co: *Client*
Address _____
City _____ State _____ Zip _____

Bill To:
Attn: _____
Co: *Client*
Address _____
City _____ State _____ Zip _____

Special Instructions/Comments:
Attached
See Page 1

Unless otherwise requested, all samples will be disposed 45 days after receipt.

Sample Archive/Disposal:
 Laboratory Standard
 Other _____
 Return To: _____

* \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.

Circle or Add Analysis(es) Requested	CIRCLE APPROPRIATE MATRIX										PRESERVATION	QA/QC								
	SOLID (SOL)	OIL • SOLVENT • SLUDGE	WATER • LIQUID	DRINKING WATER	AIR	WIPE • FILTER	OTHER	TAT	#	Type										
8001 / 8002 (Pesticides/PCB-GC)																				
8200 (Volatiles-GC/MS)																				
623 / 8270 (BVA-GC/MS)																				
Metals: Total (CAC-8010 / 7000)																				
8015M TPHIGBTX (COMBINATION)																				
8015M TPHID (Diesel-GC)																				
<i>Total / Lead SOL</i>																				

ITEM	LAB USE ONLY:		Sample Description			
	Batch #:	Lab No.	Sample I.D.	Date	Time	
		<i>057842-001</i>	<i>N1-S</i>	<i>7/9</i>	<i>9:35</i>	
			<i>N1-0.3</i>		<i>9:40</i>	
			<i>N1-0.6</i>		<i>9:45</i>	
			<i>N1-0.9</i>		<i>9:51</i>	
			<i>N2-S</i>		<i>9:45</i>	
			<i>N2-0.3</i>		<i>9:50</i>	
			<i>N2-0.6</i>		<i>9:55</i>	
			<i>N2-0.9</i>		<i>10:00</i>	
			<i>N3-S</i>		<i>11:10</i>	
			<i>N3-0.3</i>		<i>11:15</i>	

• TAT starts 8 a.m. following day if samples received after 5 p.m.

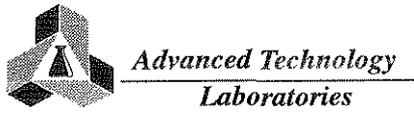
TAT: A= Overnight ≤ 24 hr B= Emergency Next workday C= Critical 2 Workdays D= Urgent 3 Workdays E= Routine 7 Workdays

Preservatives: H=Hcl N=HNO₃ S=H₂SO₄ C=4°C

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Z=Zn(AC)₂ O=NaOH T=Na₂S₂O₃

CHAIN OF CUSTODY RECORD



Advanced Technology Laboratories
 3275 Walnut Avenue
 Signal Hill, CA 90807
 (562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport: Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt: 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: <u>AM</u>	Date: <u>7/9/02</u>	Time: _____

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

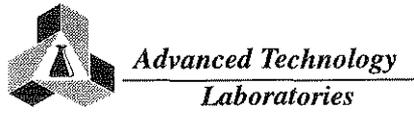
Project Name: <u>Rte 5-NB</u>	Project #: <u>9100-06-49</u>	Sampler: <u>CSK/GCA</u> (Printed Name)	(Signature)
Relinquished by: (Signature and Printed Name) <u>[Signature]</u> <u>GCA</u>	Date: <u>7/9</u>	Time: <u>4pm</u>	Received by: (Signature and Printed Name) <u>[Signature]</u>
Relinquished by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-9-02</u>	Time: <u>18:44</u>	Received by: (Signature and Printed Name) <u>[Signature]</u>
Relinquished by: (Signature and Printed Name) _____	Date: _____	Time: _____	Received by: (Signature and Printed Name) _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>7/9</u> Print Name Date <u>[Signature]</u>	Send Report To: Attn: _____ Co: <u>client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>Attached</u>
---	--	---	---

Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested: 8061 / 8082 (Pesticides/PCB-GC) 8260 (Nitrates-GC/MS) 8257 / 8270 (BVA-GC/MS) Metals Total (CAC-8070 / 7000) 8015M TPHGBTEX (COMBINATION) 8015M TPH/D (Diesel GC) <u>Total / Lead / Cad</u>	CIRCLE APPROPRIATE MATRIX: SOLID (SOL) / SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIFE • FILTER OTHER TAT # Type	Q A / Q C RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER
LAB USE ONLY: Batch #:	Sample Description			PRESERVATION
Lab No.	Sample I.D.	Date	Time	
11	N3-0.6	7/9	11:26	X
12	N3-0.9		11:25	
13	N4-S		10:10	
14	N4-0.3		11:15	
15	N4-0.6		11:21	
16	N4-0.9		11:27	
17	N5-S		11:30	
18	N5-0.3		11:35	
19	N5-0.6		11:40	
20	N5-0.9		11:45	

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: <u>AM</u> Date: <u>7/9/02</u> Time: _____		

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

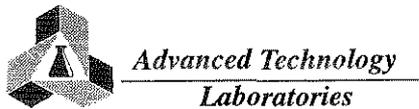
Project Name: <u>Rte 5-NB</u>	Project #: <u>9100-06-49</u>	Sampler: <u>CSK/GCA</u> (Printed Name)	(Signature)
Relinquished by: <u>GCA</u> (Signature and Printed Name)	Date: <u>7/9</u> Time: <u>4pm</u>	Received by: <u>[Signature]</u> (Signature and Printed Name)	Date: <u>7-9-02</u> Time: <u>3p</u>
Relinquished by: <u>[Signature]</u> (Signature and Printed Name)	Date: <u>7-9-02</u> Time: <u>6:44</u>	Received by: <u>[Signature]</u> (Signature and Printed Name)	Date: <u>7/9/02</u> Time: <u>1344</u>
Relinquished by: _____ (Signature and Printed Name)	Date: _____ Time: _____	Received by: _____ (Signature and Printed Name)	Date: _____ Time: _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>7/9</u> Print Name Date <u>[Signature]</u> Signature	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>Attached</u>
---	--	---	---

Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8081 / 8082 (Pesticides/PCB-GC) 8280 (Nitrates-GC/MS) 8281 / 8270 (BVA-GC/MS) Metals: Total (CAC-8010 / 7000) 8015M TPH/GIBTEX (COMBINATION) 8015M TPH/D (Diesel/GC) <u>Total Lead Gold</u>	CIRCLE APPROPRIATE MATRIX SOLID <input checked="" type="checkbox"/> SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIFE • FILTER OTHER TAT # Type	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER	QA/QC						
LAB USE ONLY: Batch #:		Sample Description									
ITEM	Lab No.	Sample I.D.	Date	Time							REMARKS
	21	N6-S	7/9	11:30							
	22	N6-0.3		11:35							
	23	N6-0.6		11:42							
	24	N6-0.9		11:48							
	25	N7-S		12:00							
	26	N7-0.3		12:26							
	27	N7-0.6 N8-S		12:05							
	28	N7 N8-0.3		12:15							
	29	N8-0.6		12:20							
	30	N8-0.9		12:26							

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= <input type="checkbox"/> Overnight ≤ 24 hr	B= <input type="checkbox"/> Emergency Next workday	C= <input type="checkbox"/> Critical 2 Workdays	D= <input type="checkbox"/> Urgent 3 Workdays	E= <input type="checkbox"/> Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₈
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



**Advanced Technology
Laboratories**
3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: <u>MM</u>	Date: <u>7/9/02</u>	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rte - NB</u>	Project #: <u>9100-06-49</u>	Sampler: <u>CSK/GCA</u> (Printed Name)	(Signature) <u>[Signature]</u>
Relinquished by: <u>[Signature]</u> <u>GCA</u>	Date: <u>7/9</u> Time: <u>4pm</u>	Received by: <u>[Signature]</u>	Date: <u>7-9-02</u> Time: <u>5:00</u>
Relinquished by: <u>[Signature]</u> <u>WB</u>	Date: <u>7-9-02</u> Time: <u>18:44</u>	Received by: <u>[Signature]</u>	Date: <u>7/9/02</u> Time: <u>18:44</u>

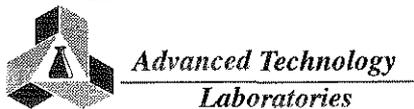
I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>7/9</u> Print Name Date <u>[Signature]</u>	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>Attached</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested <u>Total Lead Gold</u> 8081 / 8082 (Pesticides/PCB-GC) 8260 (Nitrates-GC/MS) 625 / 8270 (BVA-GC/MS) Metals Total (CAC-8010 / 7000) 8015M TPHGBTEX (COMBINATION) 8015M TPHID (Diesel-GC)	CIRCLE APPROPRIATE MATRIX SOLID (SOIL) SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER _____ TAT # _____ Type _____	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER _____
---	---	---	---	---

ITEM	LAB USE ONLY:		Sample Description				Analysis Requested										PRESERVATION	REMARKS								
	Batch #:	Lab No.	Sample I.D.	Date	Time	8081 / 8082 (Pesticides/PCB-GC)	8260 (Nitrates-GC/MS)	625 / 8270 (BVA-GC/MS)	Metals Total (CAC-8010 / 7000)	8015M TPHGBTEX (COMBINATION)	8015M TPHID (Diesel-GC)	SOLID (SOIL) SLUDGE	OIL • SOLVENT • LIQUID	WATER • WASTEWATER	DRINKING WATER	AIR			WIPE • FILTER	OTHER	TAT	#	Type			
		31	N9-S	7/9	12:30					X																
		32	N9-0.3		12:33																					
		33	N9-0.6		12:40																					
		34	N9-0.9		12:43																					
		35	N10-S		12:40																					
		36	N11-S		12:46																					
		37	N11-0.3		12:50																					
		38	N11-0.6		12:55																					
		39	N11-0.9		1:00																					
		40	N12-S		1:00																					

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



Advanced Technology Laboratories
 3275 Walnut Avenue
 Signal Hill, CA 90807
 (562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: <u>DM</u>	Date: <u>7/9/02</u>	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rte 5-NB</u>	Project #: <u>9100-06-49</u>	Sampler: <u>CSK/GCA</u> (Signature)	(Signature)
Relinquished by: <u>[Signature]</u> Date: <u>7/9</u> Time: <u>4pm</u>	Received by: <u>[Signature]</u> Date: <u>7-9-02</u> Time: <u>5p</u>		
Relinquished by: <u>[Signature]</u> Date: <u>7-9-02</u> Time: <u>18:44</u>	Received by: <u>[Signature]</u> Date: <u>7/9/02</u> Time: <u>18:44</u>		

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>7/9</u> Print Name Date <u>[Signature]</u>	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>Attached</u>
---	--	---	---

Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8881 / 8082 (Pesticides/PCB-GC) 8260 (Nitrates-C/MS) 625 / 8270 (BVA-GC/MS) Metals Total (CAC-8070 / 7000) 8015M TPHGBTEX (COMBINATION) 8015M TPH/D (Diesel GC) <u>Tota / lead solo</u>	CIRCLE APPROPRIATE MATRIX SOLID (S) SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER TAT # Type	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER _____
LAB USE ONLY: Batch #:	Sample Description			
Lab No.	Sample I.D.	Date	Time	REMARKS
51	C1	7/9	11:20	E 1 P P
52	C2		11:50	
53	C3		12:30	
54	C4		1:10	
55	C5		1:50	

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

Advanced Technology Laboratories

Date: 7/12/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057842
Project:	Rte 5-North bound, 09100-06-49	Date Received:	7/9/2002 6:44:00
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057842-001A	N1-S	860	mg/Kg	9507	5	1	7/9/2002	7/12/2002
057842-002A	N1-0.3	140	mg/Kg	9507	5	1	7/9/2002	7/12/2002
057842-003A	N1-0.6	29	mg/Kg	9507	5	1	7/9/2002	7/12/2002
057842-004A	N1-0.9	61	mg/Kg	9507	5	1	7/9/2002	7/12/2002
057842-005A	N2-S	1100	mg/Kg	9507	5	1	7/9/2002	7/12/2002
057842-006A	N2-0.3	1500	mg/Kg	9507	5	1	7/9/2002	7/12/2002
057842-007A	N2-0.6	63	mg/Kg	9507	5	1	7/9/2002	7/12/2002
057842-008A	N2-0.9	11	mg/Kg	9507	5	1	7/9/2002	7/12/2002
057842-009A	N3-S	1200	mg/Kg	9507	5	1	7/9/2002	7/12/2002
057842-010A	N3-0.3	1100	mg/Kg	9507	5	1	7/9/2002	7/12/2002
057842-011A	N3-0.6	270	mg/Kg	9507	5	1	7/9/2002	7/12/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/12/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057842
Project:	Rte 5-North bound, 09100-06-49	Date Received:	7/9/2002 6:44:00
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057842-012A	N3-0.9	15	mg/Kg	9507	5	1	7/9/2002	7/12/2002
057842-013A	N4-S	1000	mg/Kg	9507	5	1	7/9/2002	7/12/2002
057842-014A	N4-0.3	16	mg/Kg	9507	5	1	7/9/2002	7/12/2002
057842-015A	N4-0.6	ND	mg/Kg	9507	5	1	7/9/2002	7/12/2002
057842-016A	N4-0.9	5.9	mg/Kg	9507	5	1	7/9/2002	7/12/2002
057842-017A	N5-S	280	mg/Kg	9507	5	1	7/9/2002	7/12/2002
057842-018A	N5-0.3	78	mg/Kg	9507	5	1	7/9/2002	7/12/2002
057842-019A	N5-0.6	99	mg/Kg	9507	5	1	7/9/2002	7/12/2002
057842-020A	N5-0.9	ND	mg/Kg	9507	5	1	7/9/2002	7/12/2002
057842-021A	N6-S	720	mg/Kg	9508	5	1	7/9/2002	7/12/2002
057842-022A	N6-0.3	190	mg/Kg	9508	5	1	7/9/2002	7/12/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/12/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057842
Project:	Rte 5-North bound, 09100-06-49	Date Received:	7/9/2002 6:44:00
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057842-023A	N6-0.6	66	mg/Kg	9508	5	1	7/9/2002	7/12/2002
057842-024A	N6-0.9	7.5	mg/Kg	9508	5	1	7/9/2002	7/12/2002
057842-025A	N7-S	1900	mg/Kg	9508	5	1	7/9/2002	7/12/2002
057842-026A	N7-0.3	500	mg/Kg	9508	5	1	7/9/2002	7/12/2002
057842-027A	N8-S	2000	mg/Kg	9508	5	1	7/9/2002	7/12/2002
057842-028A	N8-0.3	280	mg/Kg	9508	5	1	7/9/2002	7/12/2002
057842-029A	N8-0.6	23	mg/Kg	9508	5	1	7/9/2002	7/12/2002
057842-030A	N8-0.9	8.8	mg/Kg	9508	5	1	7/9/2002	7/12/2002
057842-031A	N9-S	1200	mg/Kg	9508	5	1	7/9/2002	7/12/2002
057842-032A	N9-0.3	800	mg/Kg	9508	5	1	7/9/2002	7/12/2002
057842-033A	N9-0.6	11	mg/Kg	9508	5	1	7/9/2002	7/12/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/12/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057842
Project:	Rte 5-North bound, 09100-06-49	Date Received:	7/9/2002 6:44:00
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057842-034A	N9-0.9	24	mg/Kg	9508	5	1	7/9/2002	7/12/2002
057842-035A	N10-S	630	mg/Kg	9508	5	1	7/9/2002	7/12/2002
057842-036A	N11-S	1100	mg/Kg	9508	5	1	7/9/2002	7/12/2002
057842-037A	N11-0.3	390	mg/Kg	9508	5	1	7/9/2002	7/12/2002
057842-038A	N11-0.6	14	mg/Kg	9508	5	1	7/9/2002	7/12/2002
057842-039A	N11-0.9	5.9	mg/Kg	9508	5	1	7/9/2002	7/12/2002
057842-040A	N12-S	840	mg/Kg	9508	5	1	7/9/2002	7/12/2002
057842-041A	N12-0.3	610	mg/Kg	9509	5	1	7/9/2002	7/12/2002
057842-042A	N12-0.6	300	mg/Kg	9509	5	1	7/9/2002	7/12/2002
057842-043A	N13-S	1600	mg/Kg	9509	5	1	7/9/2002	7/12/2002
057842-044A	N13-0.3	280	mg/Kg	9509	5	1	7/9/2002	7/12/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/12/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057842
Project:	Rte 5-North bound, 09100-06-49	Date Received:	7/9/2002 6:44:00
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057842-045A	N14-S	540	mg/Kg	9509	5	1	7/9/2002	7/12/2002
057842-046A	N14-0.3	1100	mg/Kg	9509	5	1	7/9/2002	7/12/2002
057842-047A	N15-S	500	mg/Kg	9509	5	1	7/9/2002	7/12/2002
057842-048A	N15-0.3	160	mg/Kg	9509	5	1	7/9/2002	7/12/2002
057842-049A	N15-0.6	ND	mg/Kg	9509	5	1	7/9/2002	7/12/2002
057842-050A	N15-0.9	8.2	mg/Kg	9509	5	1	7/9/2002	7/12/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



ICP METALS
EPA 6010B

CLIENT:	Geocon Environmental	Lab Order:	057842
Project:	Rte 5-North bound, 09100-06-49	Date Received:	7/9/2002 6:44:00
Project No:		Matrix:	Water
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057842-051A	C1	ND	mg/L	9484	0.005	1	7/9/2002	7/11/2002
057842-052A	C2	ND	mg/L	9484	0.005	1	7/9/2002	7/11/2002
057842-053A	C3	ND	mg/L	9484	0.005	1	7/9/2002	7/11/2002
057842-054A	C4	0.010	mg/L	9484	0.005	1	7/9/2002	7/11/2002
057842-055A	C5	ND	mg/L	9484	0.005	1	7/9/2002	7/11/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/12/2002

**pH
EPA 9045C**

CLIENT:	Geocon Environmental	Lab Order:	057842
Project:	Rte 5-North bound, 09100-06-49	Date Received:	7/9/2002 6:44:00
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057842-010A	N3-0.3	7.08	pH Units	R19309	0.1	1	7/9/2002	7/11/2002
057842-020A	N5-0.9	7.81	pH Units	R19309	0.1	1	7/9/2002	7/11/2002
057842-030A	N8-0.9	8.29	pH Units	R19309	0.1	1	7/9/2002	7/11/2002
057842-040A	N12-S	6.83	pH Units	R19309	0.1	1	7/9/2002	7/11/2002
057842-050A	N15-0.9	8.01	pH Units	R19309	0.1	1	7/9/2002	7/11/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057842
Project:	Rte 5-North bound, 09100-06-49	Date Received:	7/9/2002 6:44:00
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057842-001A	N1-S	83	mg/L	9551	2	10	7/9/2002	7/17/2002
057842-002A	N1-0.3	8.9	mg/L	9551	0.2	1	7/9/2002	7/17/2002
057842-004A	N1-0.9	3.2	mg/L	9551	0.2	1	7/9/2002	7/17/2002
057842-007A	N2-0.6	3.9	mg/L	9551	0.2	1	7/9/2002	7/17/2002
057842-011A	N3-0.6	23	mg/L	9551	0.4	2	7/9/2002	7/17/2002
057842-017A	N5-S	29	mg/L	9551	0.4	2	7/9/2002	7/17/2002
057842-018A	N5-0.3	5.3	mg/L	9551	0.2	1	7/9/2002	7/17/2002
057842-019A	N5-0.6	8.5	mg/L	9551	0.2	1	7/9/2002	7/17/2002
057842-021A	N6-S	83	mg/L	9551	2	10	7/9/2002	7/17/2002
057842-022A	N6-0.3	18	mg/L	9551	0.4	2	7/9/2002	7/17/2002
057842-023A	N6-0.6	1.2	mg/L	9551	0.2	1	7/9/2002	7/17/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057842
Project:	Rte 5-North bound, 09100-06-49	Date Received:	7/9/2002 6:44:00
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057842-026A	N7-0.3	44	mg/L	9551	0.8	4	7/9/2002	7/17/2002
057842-028A	N8-0.3	19	mg/L	9551	0.4	2	7/9/2002	7/17/2002
057842-032A	N9-0.3	47	mg/L	9551	0.8	4	7/9/2002	7/17/2002
057842-035A	N10-S	50	mg/L	9552	1	5	7/9/2002	7/17/2002
057842-037A	N11-0.3	37	mg/L	9552	0.8	4	7/9/2002	7/17/2002
057842-040A	N12-S	57	mg/L	9552	1	5	7/9/2002	7/17/2002
057842-041A	N12-0.3	46	mg/L	9552	1	5	7/9/2002	7/17/2002
057842-042A	N12-0.6	22	mg/L	9552	0.4	2	7/9/2002	7/17/2002
057842-044A	N13-0.3	13	mg/L	9552	0.2	1	7/9/2002	7/17/2002
057842-045A	N14-S	45	mg/L	9552	0.8	4	7/9/2002	7/17/2002
057842-047A	N15-S	42	mg/L	9552	0.8	4	7/9/2002	7/17/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057842
Project:	Rte 5-North bound, 09100-06-49	Date Received:	7/9/2002 6:44:00
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057842-048A	N15-0.3	9.8	mg/L	9552	0.2	1	7/9/2002	7/17/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
EPA 1311/ 7420

CLIENT:	Geocon Environmental	Lab Order:	057842
Project:	Rte 5-North bound, 09100-06-49	Date Received:	7/9/2002 6:44:00
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057842-005A	N2-S	2.6	mg/L	9595	0.2	1	7/9/2002	7/18/2002
057842-006A	N2-0.3	6.1	mg/L	9595	0.2	1	7/9/2002	7/18/2002
057842-009A	N3-S	2.7	mg/L	9595	0.2	1	7/9/2002	7/18/2002
057842-010A	N3-0.3	3.7	mg/L	9595	0.2	1	7/9/2002	7/18/2002
057842-013A	N4-S	4.7	mg/L	9595	0.2	1	7/9/2002	7/18/2002
057842-025A	N7-S	5.4	mg/L	9595	0.2	1	7/9/2002	7/18/2002
057842-027A	N8-S	5.2	mg/L	9595	0.2	1	7/9/2002	7/18/2002
057842-031A	N9-S	2.7	mg/L	9595	0.2	1	7/9/2002	7/18/2002
057842-036A	N11-S	3.1	mg/L	9595	0.2	1	7/9/2002	7/18/2002
057842-043A	N13-S	3.9	mg/L	9595	0.2	1	7/9/2002	7/18/2002
057842-046A	N14-0.3	5.1	mg/L	9596	0.2	1	7/9/2002	7/18/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057842
Project:	Rte 5-North bound, 09100-06-49	Date Received:	7/9/2002 6:44:00
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057842-001A	N1-S	7.3	mg/L	9555	0.2	1	7/9/2002	7/16/2002
057842-002A	N1-0.3	ND	mg/L	9555	0.2	1	7/9/2002	7/16/2002
057842-011A	N3-0.6	5.6	mg/L	9555	0.2	1	7/9/2002	7/16/2002
057842-017A	N5-S	3.6	mg/L	9555	0.2	1	7/9/2002	7/16/2002
057842-018A	N5-0.3	1.0	mg/L	9555	0.2	1	7/9/2002	7/16/2002
057842-019A	N5-0.6	1.7	mg/L	9555	0.2	1	7/9/2002	7/16/2002
057842-021A	N6-S	14	mg/L	9555	0.2	1	7/9/2002	7/16/2002
057842-022A	N6-0.3	4.5	mg/L	9555	0.2	1	7/9/2002	7/16/2002
057842-026A	N7-0.3	0.47	mg/L	9555	0.2	1	7/9/2002	7/16/2002
057842-028A	N8-0.3	3.2	mg/L	9555	0.2	1	7/9/2002	7/16/2002
057842-032A	N9-0.3	10	mg/L	9555	0.2	1	7/9/2002	7/16/2002

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057842
Project:	Rte 5-North bound, 09100-06-49	Date Received:	7/9/2002 6:44:00
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057842-035A	N10-S	5.6	mg/L	9556	0.2	1	7/9/2002	7/16/2002
057842-037A	N11-0.3	6.7	mg/L	9556	0.2	1	7/9/2002	7/16/2002
057842-040A	N12-S	8.9	mg/L	9556	0.2	1	7/9/2002	7/16/2002
057842-041A	N12-0.3	11	mg/L	9556	0.2	1	7/9/2002	7/16/2002
057842-042A	N12-0.6	8.1	mg/L	9556	0.2	1	7/9/2002	7/16/2002
057842-044A	N13-0.3	ND	mg/L	9556	0.2	1	7/9/2002	7/16/2002
057842-045A	N14-S	0.99	mg/L	9556	0.2	1	7/9/2002	7/16/2002
057842-047A	N15-S	2.6	mg/L	9556	0.2	1	7/9/2002	7/16/2002
057842-048A	N15-0.3	2.4	mg/L	9556	0.2	1	7/9/2002	7/16/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental

Client Sample ID: N8-S

Lab Order: 057842

Project: Rte 5-North bound, 09100-06-49

Collection Date: 7/9/2002

Lab ID: 057842-027A

Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID:	ICP2_020730A	QC Batch:	9925				Analyst: RQ
Antimony	1.5	0.25	mg/Kg	1	7/30/2002		
Arsenic	15	0.25	mg/Kg	1	7/30/2002		
Barium	200	0.15	mg/Kg	1	7/30/2002		
Beryllium	ND	0.15	mg/Kg	1	7/30/2002		
Cadmium	0.50	0.15	mg/Kg	1	7/30/2002		
Chromium	25	0.15	mg/Kg	1	7/30/2002		
Cobalt	6.0	0.15	mg/Kg	1	7/30/2002		
Copper	59	0.15	mg/Kg	1	7/30/2002		
Lead	2000	0.25	mg/Kg	1	7/30/2002		
Molybdenum	2.5	0.25	mg/Kg	1	7/30/2002		
Nickel	16	0.15	mg/Kg	1	7/30/2002		
Selenium	ND	0.25	mg/Kg	1	7/30/2002		
Silver	ND	0.15	mg/Kg	1	7/30/2002		
Thallium	1.0	0.25	mg/Kg	1	7/30/2002		
Vanadium	26	0.15	mg/Kg	1	7/30/2002		
Zinc	650	0.50	mg/Kg	1	7/30/2002		

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID:	AA1_020729A	QC Batch:	9919				Analyst: NS
Mercury	ND	0.10	mg/Kg	1	7/29/2002		

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified





Advanced Technology Laboratories

Date: 12-Jul-02

CLIENT: Geocon Environmental
Work Order: 057842
Project: Rte 5-North bound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, (EPA 3050M), Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Table row for Lead: 0.423, 5.0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, (EPA 3050M), Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Table row for Lead: 232.6, 5.0, 250, 0, 93, 80, 120, 0, 0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, (EPA 3050M), Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Table row for Lead: 171.1, 5.0, 250, 8.166, 65.2, 47, 128, 0, 0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, (EPA 3050M), Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Table row for Lead: 12.72, 5.0, 0, 0, 0, 0, 0, 0, 8.166, 43.6, 30, R

Qualifiers: ND - Not Detected at the Reporting Limit, S - Spike Recovery outside accepted recovery limits, DO- Surrogate dilute out, J - Analyte detected below quantitation limits, B - Analyte detected in the associated Method Blank, H - Sample exceeded holding time, R - RPD outside accepted recovery limits, Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057842
Project: Rte 5-North bound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPB

Sample ID	MB-9484	SampType:	MBLK	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/10/2002	Run ID:	ICP2_020711F			
Client ID:	ZZZZZ	Batch ID:	9484	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/11/2002	SeqNo:	297603			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.0050

Sample ID	LCS-9484	SampType:	LCS	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/10/2002	Run ID:	ICP2_020711F			
Client ID:	ZZZZZ	Batch ID:	9484	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/11/2002	SeqNo:	297604			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.99 0.0050 1 0 99 80 120 0 0

Sample ID	057842-055AMS	SampType:	MS	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/10/2002	Run ID:	ICP2_020711F			
Client ID:	C5	Batch ID:	9484	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/11/2002	SeqNo:	297618			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 2.51 0.0050 2.5 0 100 66 118 0 0

Sample ID	057842-055ADUP	SampType:	DUP	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/10/2002	Run ID:	ICP2_020711F			
Client ID:	C5	Batch ID:	9484	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/11/2002	SeqNo:	297616			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.0050 0 0 0 0 0 0 0 0 0 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057842
Project: Rte 5-North bound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 9045_S

Sample ID: 057842-050ADUP	SampType: DUP	TestCode: 9045_S	Units: pH Units	Prep Date: 7/11/2002	Run ID: WETCHEM_020711C						
Client ID: N15-0.9	Batch ID: R19309	TestNo: EPA 9045C		Analysis Date: 7/11/2002	SeqNo: 297600						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	8.03	0.10	0	0	0	0	0	8.01	0.249	20	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 18-Jul-02

CLIENT: Geocon Environmental
Work Order: 057842
Project: Rte 5-North bound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Lead ND 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Lead 0.07002 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Lead ND 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Lead ND 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Lead ND 0.20

Qualifiers: ND - Not Detected at the Reporting Limit, J - Analyte detected below quantitation limits, R - RPD outside accepted recovery limits, S - Spike Recovery outside accepted recovery limits, B - Analyte detected in the associated Method Blank, Calculations are based on raw values, DO- Surrogate dilute out, H - Sample exceeded holding time



CLIENT: Geocon Environmental
Work Order: 057842
Project: Rte 5-North bound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	MB-9552B	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/13/2002	Run ID:	AA2_020717C			
Client ID:	ZZZZZ	Batch ID:	9552	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/17/2002	SeqNo:	300473			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	LCS-9551	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/17/2002	Run ID:	AA2_020717B			
Client ID:	ZZZZZ	Batch ID:	9551	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/17/2002	SeqNo:	300458			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.471 0.20 7.5 0 99.6 80 120 0 0

Sample ID	LCS-9552	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/17/2002	Run ID:	AA2_020717C			
Client ID:	ZZZZZ	Batch ID:	9552	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/17/2002	SeqNo:	300487			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.508 0.20 7.5 0 100 80 120 0 0

Sample ID	057842-007AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/17/2002	Run ID:	AA2_020717B			
Client ID:	N2-0.6	Batch ID:	9551	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/17/2002	SeqNo:	300443			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 8.479 0.20 5 3.853 92.5 80 120 0 0

Sample ID	057842-032AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/17/2002	Run ID:	AA2_020717B			
Client ID:	N9-0.3	Batch ID:	9551	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/17/2002	SeqNo:	300456			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 67.84 1.0 25 46.92 83.7 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057842
Project: Rte 5-North bound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	SampType	TestCode	Units	Prep Date	Run ID						
057858-003AMS	MS	7420_ST	mg/L	7/17/2002	AA2_020717C						
Client ID: ZZZZ	Batch ID: 9552	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/17/2002	SeqNo: 300472						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	4.939	0.20	5	0.1252	96.3	80	120	0	0		
057842-007ADUP	DUP	7420_ST	mg/L	7/13/2002	AA2_020717B						
Client ID: N2-0.6	Batch ID: 9551	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/17/2002	SeqNo: 300442						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	3.95	0.20	0	0	0	0	0	3.853	2.48	30	
057842-032ADUP	DUP	7420_ST	mg/L	7/13/2002	AA2_020717B						
Client ID: N9-0.3	Batch ID: 9551	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/17/2002	SeqNo: 300455						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	48.39	0.80	0	0	0	0	0	46.92	3.09	30	
057858-003ADUP	DUP	7420_ST	mg/L	7/13/2002	AA2_020717C						
Client ID: ZZZZ	Batch ID: 9552	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/17/2002	SeqNo: 300471						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.20	0	0	0	0	0	0.1252	0	30	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 18-Jul-02

CLIENT: Geocon Environmental
Work Order: 057842
Project: Rte 5-North bound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Contains 5 data rows for different samples (MB-9595, MB-9588-TCLP, MB-9596, MB-9589-TCLP, LCS-9595).

Qualifiers: ND - Not Detected at the Reporting Limit, S - Spike Recovery outside accepted recovery limits, DO- Surrogate dilute out, J - Analyte detected below quantitation limits, B - Analyte detected in the associated Method Blank, H - Sample exceeded holding time, R - RPD outside accepted recovery limits, Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057842
Project: Rte 5-North bound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID	LCS-9596	SampType:	LCS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/16/2002	Run ID:	AA2_020718B
Client ID:	ZZZZZ	Batch ID:	9596	TestNo:	EPA 1311/ 74 (EPA 3010A)	Analysis Date:	7/18/2002	SeqNo:	300701		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	1.14	0.20	1	0	114	80	120	0	0		
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Sample ID	057842-043AMS	SampType:	MS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/16/2002	Run ID:	AA2_020718A
Client ID:	N13-S	Batch ID:	9595	TestNo:	EPA 1311/ 74 (EPA 3010A)	Analysis Date:	7/18/2002	SeqNo:	300692		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	6.132	0.20	2.5	3.917	88.6	80	120	0	0		
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Sample ID	057842-046AMS	SampType:	MS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/16/2002	Run ID:	AA2_020718B
Client ID:	N14-0.3	Batch ID:	9596	TestNo:	EPA 1311/ 74 (EPA 3010A)	Analysis Date:	7/18/2002	SeqNo:	300699		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	7.276	0.20	2.5	5.136	85.6	80	120	0	0		
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Sample ID	057842-043ADUP	SampType:	DUP	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/16/2002	Run ID:	AA2_020718A
Client ID:	N13-S	Batch ID:	9595	TestNo:	EPA 1311/ 74 (EPA 3010A)	Analysis Date:	7/18/2002	SeqNo:	300691		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	4.083	0.20	0	0	0	0	0	3.917	4.16	30	
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Sample ID	057842-046ADUP	SampType:	DUP	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/16/2002	Run ID:	AA2_020718B
Client ID:	N14-0.3	Batch ID:	9596	TestNo:	EPA 1311/ 74 (EPA 3010A)	Analysis Date:	7/18/2002	SeqNo:	300698		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	4.65	0.20	0	0	0	0	0	5.136	9.93	30	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 18-Jul-02

CLIENT: Geocon Environmental
Work Order: 057842
Project: Rte 5-North bound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9555, MBLK, 7420_DI, mg/L, 7/16/2002, AA2_020716C, ZZZZZ, 9555, WET DI/ EPA -(WET), 7/16/2002, 300044, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9555A, MBLK, 7420_DI, mg/L, 7/13/2002, AA2_020716C, ZZZZZ, 9555, WET DI/ EPA (WET), 7/16/2002, 300045, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9555B, MBLK, 7420_DI, mg/L, 7/13/2002, AA2_020716C, ZZZZZ, 9555, WET DI/ EPA (WET), 7/16/2002, 300058, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9556, MBLK, 7420_DI, mg/L, 7/16/2002, AA2_020716D, ZZZZZ, 9556, WET DI/ EPA (WET), 7/16/2002, 300094, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9556A, MBLK, 7420_DI, mg/L, 7/13/2002, AA2_020716D, ZZZZZ, 9556, WET DI/ EPA (WET), 7/16/2002, 300095, Lead, ND, 0.20

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057842
Project: Rte 5-North bound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	LCS-9555	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/16/2002	Run ID:	AA2_020716C			
Client ID:	ZZZZZ	Batch ID:	9555	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/16/2002	SeqNo:	300072			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		7.689		0.20	7.5	0		103	80	120	0		0	
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Sample ID	LCS-9556	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/16/2002	Run ID:	AA2_020716D			
Client ID:	ZZZZZ	Batch ID:	9556	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/16/2002	SeqNo:	300108			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		7.696		0.20	7.5	0		103	80	120	0		0	
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Sample ID	057842-007AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/16/2002	Run ID:	AA2_020716C			
Client ID:	N2-0.6	Batch ID:	9555	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/16/2002	SeqNo:	300057			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		5.464		0.20	5	0		109	80	120	0		0	
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Sample ID	057842-032AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/16/2002	Run ID:	AA2_020716C			
Client ID:	N9-0.3	Batch ID:	9555	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/16/2002	SeqNo:	300070			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		20.55		0.40	10	10.22		103	80	120	0		0	
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Sample ID	057842-048AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/16/2002	Run ID:	AA2_020716D			
Client ID:	N15-0.3	Batch ID:	9556	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/16/2002	SeqNo:	300106			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		7.667		0.20	5	2.437		105	80	120	0		0	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057842
Project: Rte 5-North bound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	057842-007ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/13/2002	Run ID:	AA2_020716C			
Client ID:	N2-0.6	Batch ID:	9555	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/16/2002	SeqNo:	300056			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20 0 0 0 0 0 0 0 0 0 30

Sample ID	057842-032ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/13/2002	Run ID:	AA2_020716C			
Client ID:	N9-0.3	Batch ID:	9555	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/16/2002	SeqNo:	300069			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 10.59 0.20 0 0 0 0 0 0 10.22 3.58 30

Sample ID	057842-048ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/13/2002	Run ID:	AA2_020716D			
Client ID:	N15-0.3	Batch ID:	9556	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/16/2002	SeqNo:	300105			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 1.904 0.20 0 0 0 0 0 0 2.437 24.6 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
 Work Order: 057842
 Project: Rte 5-North bound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	MB-9925	SampType:	MBLK	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/29/2002	Run ID:	ICP2_020730A		
Client ID:	ZZZZZ	Batch ID:	9925	TestNo:	EPA 6010B (EPA 3050A)	Analysis Date:	7/30/2002	SeqNo:	309339				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Antimony	0.2395	0.25											
Arsenic	0.2125	0.25											
Barium	0.0365	0.15											
Beryllium	0.0405	0.15											
Cadmium	0.026	0.15											
Chromium	0.022	0.15											
Cobalt	0.0595	0.15											
Copper	ND	0.15											
Lead	ND	0.25											
Molybdenum	0.0885	0.25											
Nickel	0.017	0.15											
Selenium	0.0205	0.25											
Silver	0.15	0.15											
Thallium	0.1425	0.25											
Vanadium	0.033	0.15											
Zinc	0.215	0.50											

Sample ID	LCS-9925	SampType:	LCS	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/29/2002	Run ID:	ICP2_020730A		
Client ID:	ZZZZZ	Batch ID:	9925	TestNo:	EPA 6010B (EPA 3050A)	Analysis Date:	7/30/2002	SeqNo:	309338				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Antimony	46.5	0.25	50	0	93	80	120	0	0				
Arsenic	48.5	0.25	50	0	97	80	120	0	0				
Barium	48.5	0.15	50	0	97	80	120	0	0				
Beryllium	46	0.15	50	0	92	80	120	0	0				
Cadmium	44.5	0.15	50	0	89	80	120	0	0				
Chromium	46.5	0.15	50	0	93	80	120	0	0				
Cobalt	45	0.15	50	0	90	80	120	0	0				
Copper	46	0.15	50	0	92	80	120	0	0				

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057842
Project: Rte 5-North bound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	SampType	TestCode	Units	Prep Date	Run ID						
LCS-9925	LCS	6010_S	mg/Kg	7/29/2002	ICP2_020730A						
Client ID: ZZZZ	Batch ID: 9925	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/30/2002	SeqNo: 309338						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	45.5	0.25	50	0	91	80	120	0	0		
Molybdenum	47.5	0.25	50	0	95	80	120	0	0		
Nickel	43.5	0.15	50	0	87	80	120	0	0		
Selenium	45.5	0.25	50	0	91	80	120	0	0		
Silver	46	0.15	50	0	92	80	120	0	0		
Thallium	46.5	0.25	50	0	93	80	120	0	0		
Vanadium	47	0.15	50	0	94	80	120	0	0		
Zinc	46	0.50	50	0	92	80	120	0	0		

Sample ID	SampType	TestCode	Units	Prep Date	Run ID						
057842-027AMS	MS	6010_S	mg/Kg	7/29/2002	ICP2_020730A						
Client ID: N8-S	Batch ID: 9925	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/30/2002	SeqNo: 309342						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	71.5	0.25	125	1.5	56	32	115	0	0		
Arsenic	107.5	0.25	125	14.5	74.4	59	111	0	0		
Barium	354.5	0.15	125	196	127	34	151	0	0		
Beryllium	90	0.15	125	0	72	56	112	0	0		
Cadmium	86.5	0.15	125	0.5	68.8	52	120	0	0		
Chromium	114	0.15	125	25	71.2	56	118	0	0		
Cobalt	94.5	0.15	125	6	70.8	58	117	0	0		
Copper	192.5	0.15	125	59	107	58	134	0	0		
Lead	2186	0.25	125	1974	169	47	128	0	0		S
Molybdenum	94	0.25	125	2.5	73.2	56	115	0	0		
Nickel	104.5	0.15	125	15.5	71.2	52	120	0	0		
Selenium	90.5	0.25	125	0.112	72.3	46	108	0	0		
Silver	95.5	0.15	125	0.1425	76.3	74	117	0	0		
Thallium	90	0.25	125	1	71.2	62	117	0	0		
Vanadium	125.5	0.15	125	26.5	79.2	55	122	0	0		
Zinc	799.5	0.50	125	652	118	43	134	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057842
Project: Rte 5-North bound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	057842-027AMSD	SampType: MSD	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/29/2002	Run ID: ICP2_020730A
Client ID:	N8-S	Batch ID: 9925	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/30/2002	SeqNo: 309343

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	63.5	0.25	125	1.5	49.6	32	115	71.5	11.9	20	
Arsenic	95.5	0.25	125	14.5	64.8	59	111	107.5	11.8	20	
Barium	277	0.15	125	196	64.8	34	151	354.5	24.5	20	R
Beryllium	78.5	0.15	125	0	62.8	56	112	90	13.6	20	
Cadmium	79.5	0.15	125	0.5	63.2	52	120	86.5	8.43	20	
Chromium	98.5	0.15	125	25	58.8	56	118	114	14.6	20	
Cobalt	82.5	0.15	125	6	61.2	58	117	94.5	13.6	20	
Copper	139.5	0.15	125	59	64.4	58	134	192.5	31.9	20	R
Lead	1792	0.25	125	1974	-146	47	128	2186	19.8	20	S
Molybdenum	84	0.25	125	2.5	65.2	56	115	94	11.2	20	
Nickel	90.5	0.15	125	15.5	60	52	120	104.5	14.4	20	
Selenium	81	0.25	125	0.112	64.7	46	108	90.5	11.1	20	
Silver	88.5	0.15	125	0.1425	70.7	74	117	95.5	7.61	20	S
Thallium	83	0.25	125	1	65.6	62	117	90	8.09	20	
Vanadium	107.5	0.15	125	26.5	64.8	55	122	125.5	15.5	20	
Zinc	677.5	0.50	125	652	20.4	43	134	799.5	16.5	20	S

Sample ID	057842-027ADUP	SampType: DUP	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/29/2002	Run ID: ICP2_020730A
Client ID:	N8-S	Batch ID: 9925	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/30/2002	SeqNo: 309341

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	1.5	0.25	0	0	0	0	0	1.5	0	30	
Arsenic	15	0.25	0	0	0	0	0	14.5	3.39	30	
Barium	247	0.15	0	0	0	0	0	196	23.0	30	
Beryllium	ND	0.15	0	0	0	0	0	0	0	30	
Cadmium	0.493	0.15	0	0	0	0	0	0.5	1.41	30	
Chromium	22.5	0.15	0	0	0	0	0	25	10.5	30	
Cobalt	7	0.15	0	0	0	0	0	6	15.4	30	
Copper	62	0.15	0	0	0	0	0	59	4.96	30	
Lead	2261	0.25	0	0	0	0	0	1974	13.5	30	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057842
Project: Rte 5-North bound, 09100-06-49

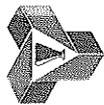
ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: 057842-027ADUP	SampType: DUP	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/29/2002	Run ID: ICP2_020730A
Client ID: N8-S	Batch ID: 9925	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/30/2002	SeqNo: 309341

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	2.5	0.25	0	0	0	0	0	2.5	0	30	
Nickel	18	0.15	0	0	0	0	0	15.5	14.9	30	
Selenium	0.028	0.25	0	0	0	0	0	0.112	0	30	J
Silver	0.1825	0.15	0	0	0	0	0	0.1425	24.6	30	
Thallium	1	0.25	0	0	0	0	0	1	0	30	
Vanadium	30.5	0.15	0	0	0	0	0	26.5	14.0	30	
Zinc	730	0.50	0	0	0	0	0	652	11.3	30	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057842
Project: Rte 5-North bound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7471_S

Sample ID	MB-9919	SampType:	mblk	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729A		
Client ID:	ZZZZZ	Batch ID:	9919	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309061		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury ND 0.10

Sample ID	LCS-9919	SampType:	lcs	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729A		
Client ID:	ZZZZZ	Batch ID:	9919	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309060		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 2.02 0.10 2.08 0 97.1 80 120 0 0

Sample ID	057892-003AMS	SampType:	MS	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729A		
Client ID:	ZZZZZ	Batch ID:	9919	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309064		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.609 1.0 0.83 0 73.4 62 146 0 0 J

Sample ID	057892-003AMSD	SampType:	MSD	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729A		
Client ID:	ZZZZZ	Batch ID:	9919	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309065		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.6339 1.0 0.83 0 76.4 62 146 0.609 0 33 J

Sample ID	057892-003ADUP	SampType:	DUP	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729A		
Client ID:	ZZZZZ	Batch ID:	9919	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309063		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury ND 1.0 0 0 0 0 0 0 0 0 0 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values

REVISIONS
BY _____ DATE _____
BY _____ DATE _____

All samples → total lead (6010)
total lead > 50 mg/kg → WET-Citric
WET-CITRIC > 5 mg/L → WET-DI
Total lead > 1,000 mg/kg → TCLP
10% → Soil pH (9045)

Please call when all totals have been run. I will instruct what samples should be run for Title 22 metals.

Thanks - Chris King

BY _____ DATE _____
CHECKED BY _____

Diane

From: Chris King [king@geoconinc.com]

Sent: Monday, July 22, 2002 10:57 AM

To: 'Diane'

Subject: 09100-06-49

Diane - please run the 15 samples with the highest total lead content for Title 22 metals. Please do this for each direction (northbound and southbound), so the total number of tests will be 30. Thank you and please call me if you have any questions.

Christopher S. King
Senior Staff Engineer
Geocon Consultants, Inc.

7/22/2002

July 29, 2002

Chris King
Geocon Environmental
6970 Flanders Drive
San Diego, CA 92121
TEL: (858) 558-6100
FAX: (858) 558-8437

RE: Rte 5-NB, 9100-06-49

Attention: Chris King

ELAP No.: 1838

NELAP No.: 02107CA

Workorder No.: 057941

Enclosed are the results for sample(s) received on July 16, 2002 by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,



Eddie F. Rodriguez
Laboratory Director

AUG 02 2002

This cover letter is an integral part of this analytical report.



CHAIN OF CUSTODY RECORD



**Advanced Technology
Laboratories**

3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input checked="" type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7/16/02</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rte 5-NB</u>	Project #: <u>9100-06-49</u>	Sampler: <u>[Signature]</u>	(Signature) <u>[Signature]</u>
Relinquished by: <u>[Signature]</u> Date: <u>7/16</u> Time: _____	Received by: <u>[Signature]</u> Date: _____ Time: _____		
Relinquished by: <u>[Signature]</u> Date: <u>7-16</u> Time: _____	Received by: <u>[Signature]</u> Date: <u>7-16-02</u> Time: <u>11:30 AM</u>		
Relinquished by: _____ Date: _____ Time: _____	Received by: _____ Date: _____ Time: _____		

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>7/16</u> Print Name Date	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>Attached</u>
---	--	---	---

Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8091 / 8092 (Pesticides/PCB-SC) 8280 (Volatiles-SCIMS) 625 / 8270 (BVA-GCMS) Metals-Total (CAC-8010 / 7000) 8015M TPH/G/TEX (COMBINATION) 8015M TPH/D (Diesel-GC) <u>Total Lead Sold</u>	CIRCLE APPROPRIATE MATRIX SOLID (SOL) • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER _____	Q A / Q C RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>
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ITEM	LAB USE ONLY:		Sample Description				CIRCLE APPROPRIATE MATRIX										PRESERVATION	REMARKS								
	Batch #:	Lab No.	Sample I.D.	Date	Time	8091 / 8092 (Pesticides/PCB-SC)	8280 (Volatiles-SCIMS)	625 / 8270 (BVA-GCMS)	Metals-Total (CAC-8010 / 7000)	8015M TPH/G/TEX (COMBINATION)	8015M TPH/D (Diesel-GC)	SOLID (SOL) • SLUDGE	OIL • SOLVENT • LIQUID	WATER • WASTEWATER	DRINKING WATER	AIR			WIPE • FILTER	OTHER	TAT	#	Type			
		05794-001	N105-S	7/16	9:18						X															
		2	N106-S		9:15																					
		3	N106-0.3		9:19																					
		4	N106-0.6		9:26																					
		5	N106-0.4		9:29																					
		6	N107-S		9:18																					
		7	N107-0.3		9:25																					
		8	N107-0.6		9:30																					
		9	N107-0.9		9:36																					
		10	N108-S		9:33																					

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



**Advanced Technology
Laboratories**

3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input checked="" type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7/16/02</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: Rte 5-NB Project #: 9100-06-49 Sampler: CSK/GCL (Printed Name) [Signature] (Signature)

Relinquished by: <u>[Signature]</u> Date: <u>7/16</u> Time: _____	Received by: <u>[Signature]</u> Date: _____ Time: _____
Relinquished by: <u>Chris King</u> Date: <u>7/16</u> Time: _____	Received by: <u>[Signature]</u> Date: <u>7/16/02</u> Time: <u>11:30 AM</u>
Relinquished by: _____ Date: _____ Time: _____	Received by: _____ Date: _____ Time: _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>7/16</u> Print Name Date <u>[Signature]</u> Signature	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>Attached</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested <u>Total / K&T 620</u> 8281 / 8082 (Pesticides/PCB-GC) 8280 (Volatile-GC/MS) 625 / 8270 (BVA-GC/MS) Metals Total (CAC-8010 / 7000) 8015M TPH/GSTEX (COMBINATION) 8015M TPH/D (Diesel/GC)	CIRCLE APPROPRIATE MATRIX SOLID • SOLID • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER TAT # Type	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>
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ITEM	LAB USE ONLY:		Sample Description				Analysis	Matrix	TAT	#	Type	REMARKS
	Batch #:	Lab No.	Sample I.D.	Date	Time	Container(s)						
		11	N108-0.3	7/16	9:39	X			E	15.6		
		12	N108-0.6		9:45							

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= <u>Overnight</u> ≤ 24 hr B= <u>Emergency</u> Next workday C= <u>Critical</u> 2 Workdays D= <u>Urgent</u> 3 Workdays E= <u>Routine</u> 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₈
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Teclar G=Glass P=Plastic M=Metal		

Advanced Technology Laboratories

Date: 7/29/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057941
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/16/2002 11:30:
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057941-001A	N105-S	1300	mg/Kg	9621	5	1	7/16/2002	7/18/2002
057941-002A	N106-S	1400	mg/Kg	9621	5	1	7/16/2002	7/18/2002
057941-003A	N106-0.3	1200	mg/Kg	9621	5	1	7/16/2002	7/18/2002
057941-004A	N106-0.6	32	mg/Kg	9621	5	1	7/16/2002	7/18/2002
057941-005A	N106-0.9	7.0	mg/Kg	9621	5	1	7/16/2002	7/18/2002
057941-006A	N107-S	410	mg/Kg	9621	5	1	7/16/2002	7/18/2002
057941-007A	N107-0.3	170	mg/Kg	9621	5	1	7/16/2002	7/18/2002
057941-008A	N107-0.6	22	mg/Kg	9621	5	1	7/16/2002	7/18/2002
057941-009A	N107-0.9	5.0	mg/Kg	9621	5	1	7/16/2002	7/18/2002
057941-010A	N108-S	430	mg/Kg	9621	5	1	7/16/2002	7/18/2002
057941-011A	N108-0.3	720	mg/Kg	9621	5	1	7/16/2002	7/18/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057941
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/16/2002 11:30:
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057941-012A	N108-0.6	26	mg/Kg	9621	5	1	7/16/2002	7/18/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



ICP METALS
EPA 6010B

CLIENT:	Geocon Environmental	Lab Order:	057941
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/16/2002 11:30:
Project No:		Matrix:	Water
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057941-013A	C35	0.0060	mg/L	9686	0.005	1	7/16/2002	7/22/2002
057941-014A	C36	ND	mg/L	9686	0.005	1	7/16/2002	7/22/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



pH
EPA 9045C

CLIENT:	Geocon Environmental	Lab Order:	057941
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/16/2002 11:30:
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057941-001A	N105-S	6.98	pH Units	R19605	0.1	1	7/16/2002	7/21/2002
057941-010A	N108-S	6.91	pH Units	R19605	0.1	1	7/16/2002	7/21/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 29-Jul-02

CLIENT: Geocon Environmental
 Lab Order: 057941
 Project: Rte 5-NB, 9100-06-49
 Lab ID: 057941-015A

Client Sample ID: DRUM
 Collection Date: 7/16/2002
 Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3010A)

EPA 6010B

RunID:	ICP2_020722B	QC Batch:	9686	Analyst:	RQ
Antimony	ND	0.0050	mg/L	1	7/22/2002
Arsenic	ND	0.0050	mg/L	1	7/22/2002
Barium	0.060	0.0030	mg/L	1	7/22/2002
Beryllium	ND	0.0030	mg/L	1	7/22/2002
Cadmium	ND	0.0030	mg/L	1	7/22/2002
Chromium	0.0071	0.0030	mg/L	1	7/22/2002
Cobalt	ND	0.0030	mg/L	1	7/22/2002
Copper	0.040	0.0030	mg/L	1	7/22/2002
Lead	0.10	0.0050	mg/L	1	7/22/2002
Molybdenum	ND	0.0050	mg/L	1	7/22/2002
Nickel	0.0055	0.0030	mg/L	1	7/22/2002
Selenium	ND	0.0050	mg/L	1	7/22/2002
Silver	ND	0.0030	mg/L	1	7/22/2002
Thallium	ND	0.0050	mg/L	1	7/22/2002
Vanadium	0.0070	0.0030	mg/L	1	7/22/2002
Zinc	0.17	0.010	mg/L	1	7/22/2002

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7470)

EPA 7470A

RunID:	AA1_020719A	QC Batch:	9660	Analyst:	NS
Mercury	ND	0.20	µg/L	1	7/19/2002

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057941
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/16/2002 11:30:
Project No:		Matrix:	Soil
PO No:		Analyst:	NS

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057941-006A	N107-S	27	mg/L	9790	0.8	4	7/16/2002	7/27/2002
057941-007A	N107-0.3	11	mg/L	9790	0.4	2	7/16/2002	7/27/2002
057941-010A	N108-S	41	mg/L	9790	1	5	7/16/2002	7/27/2002
057941-011A	N108-0.3	68	mg/L	9790	2	10	7/16/2002	7/27/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
EPA 1311/ 7420

CLIENT:	Geocon Environmental	Lab Order:	057941
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/16/2002 11:30:
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057941-001A	N105-S	6.6	mg/L	9852	0.2	1	7/16/2002	7/26/2002
057941-002A	N106-S	4.1	mg/L	9852	0.2	1	7/16/2002	7/26/2002
057941-003A	N106-0.3	1.3	mg/L	9853	0.2	1	7/16/2002	7/26/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057941
Project:	Rte 5-NB, 9100-06-49	Date Received:	7/16/2002 11:30:
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057941-006A	N107-S	0.58	mg/L	9781	0.2	1	7/16/2002	7/28/2002
057941-007A	N107-0.3	0.32	mg/L	9781	0.2	1	7/16/2002	7/28/2002
057941-010A	N108-S	0.44	mg/L	9781	0.2	1	7/16/2002	7/28/2002
057941-011A	N108-0.3	1.3	mg/L	9781	0.2	1	7/16/2002	7/28/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified





Advanced Technology Laboratories

Date: 29-Jul-02

CLIENT: Geocon Environmental
Work Order: 057941
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, (EPA 3050M), Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Contains 5 sample rows for Lead analysis.

Qualifiers: ND - Not Detected at the Reporting Limit, S - Spike Recovery outside accepted recovery limits, DO - Surrogate dilute out, J - Analyte detected below quantitation limits, B - Analyte detected in the associated Method Blank, H - Sample exceeded holding time, R - RPD outside accepted recovery limits, Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057941
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057941-010ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020718H		
Client ID:	N108-S	Batch ID:	9621	TestNo:	EPA 6010B (EPA 3050M)	Analysis Date:	7/18/2002	SeqNo:	301394				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		653.3		5.0	0	0	0	0	0	429.8	41.3	30	R
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Sample ID	057942-008ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020718H		
Client ID:	ZZZZZ	Batch ID:	9621	TestNo:	EPA 6010B (EPA 3050M)	Analysis Date:	7/18/2002	SeqNo:	301406				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		172.2		5.0	0	0	0	0	0	194.8	12.3	30	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057941
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_W

Sample ID	MB-9686	SampType:	MBLK	TestCode:	6010_W	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	ICP2_020722B												
Client ID:	ZZZZZ	Batch ID:	9686	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/22/2002	SeqNo:	302684												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Antimony	ND	0.0050																				
Arsenic	ND	0.0050																				
Barium	ND	0.0030																				
Beryllium	ND	0.0030																				
Cadmium	ND	0.0030																				
Chromium	ND	0.0030																				
Cobalt	ND	0.0030																				
Copper	0.00131	0.0030																				
Lead	ND	0.0050																				
Molybdenum	ND	0.0050																				
Nickel	ND	0.0030																				
Selenium	ND	0.0050																				
Silver	ND	0.0030																				
Thallium	ND	0.0050																				
Vanadium	ND	0.0030																				
Zinc	ND	0.010																				

Sample ID	LCS-9686	SampType:	LCS	TestCode:	6010_W	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	ICP2_020722B												
Client ID:	ZZZZZ	Batch ID:	9686	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/22/2002	SeqNo:	302685												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Antimony	1.01	0.0050	1	0	101	80	120	0	0
Arsenic	1.03	0.0050	1	0	103	80	120	0	0
Barium	0.99	0.0030	1	0	99	80	120	0	0
Beryllium	1.01	0.0030	1	0	101	80	120	0	0
Cadmium	0.95	0.0030	1	0	95	80	120	0	0
Chromium	0.97	0.0030	1	0	97	80	120	0	0
Cobalt	0.96	0.0030	1	0	96	80	120	0	0
Copper	0.98	0.0030	1	0	98	80	120	0	0
Lead	0.95	0.0050	1	0	95	80	120	0	0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO - Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057941
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_W

Sample ID	LCS-9686	SampType:	LCS	TestCode:	6010_W	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	ICP2_020722B
Client ID:	ZZZZZ	Batch ID:	9686	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/22/2002	SeqNo:	302685

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	1.01	0.0050	1	0	101	80	120	0	0		
Nickel	0.93	0.0030	1	0	93	80	120	0	0		
Selenium	0.99	0.0050	1	0	99	80	120	0	0		
Silver	1	0.0030	1	0	100	80	120	0	0		
Thallium	1	0.0050	1	0	100	80	120	0	0		
Vanadium	1.02	0.0030	1	0	102	80	120	0	0		
Zinc	0.97	0.010	1	0	97	80	120	0	0		

Sample ID	057941-014AMS	SampType:	MS	TestCode:	6010_W	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	ICP2_020722B
Client ID:	C36	Batch ID:	9686	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/22/2002	SeqNo:	302690

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	2.44	0.0050	2.5	0	97.6	69	116	0	0		
Arsenic	2.45	0.0050	2.5	0	98	67	114	0	0		
Barium	2.41	0.0030	2.5	0	96.4	63	125	0	0		
Beryllium	2.45	0.0030	2.5	0	98	60	117	0	0		
Cadmium	2.33	0.0030	2.5	0	93.2	63	123	0	0		
Chromium	2.37	0.0030	2.5	0	94.8	68	118	0	0		
Cobalt	2.35	0.0030	2.5	0	94	68	118	0	0		
Copper	2.48	0.0030	2.5	0	99.2	72	123	0	0		
Lead	2.28	0.0050	2.5	0	91.2	66	118	0	0		
Molybdenum	2.45	0.0050	2.5	0	98	65	111	0	0		
Nickel	2.35	0.0030	2.5	0	94	64	121	0	0		
Selenium	2.44	0.0050	2.5	0	97.6	62	109	0	0		
Silver	2.43	0.0030	2.5	0	97.2	71	137	0	0		
Thallium	2.38	0.0050	2.5	0	95.2	67	122	0	0		
Vanadium	2.45	0.0030	2.5	0	98	69	118	0	0		
Zinc	2.35	0.010	2.5	0.00883	93.6	65	112	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057941
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_W

Sample ID	057941-014AMSD	SampType:	MSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	ICP2_020722B
Client ID:	C36	Batch ID:	9686	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/22/2002	SeqNo:	302691
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Antimony	2.42	0.0050	2.5	0	96.8	69	116	2.44	0.823	20	
Arsenic	2.42	0.0050	2.5	0	96.8	67	114	2.45	1.23	20	
Barium	2.39	0.0030	2.5	0	95.6	63	125	2.41	0.833	20	
Beryllium	2.42	0.0030	2.5	0	96.8	60	117	2.45	1.23	20	
Cadmium	2.31	0.0030	2.5	0	92.4	63	123	2.33	0.862	20	
Chromium	2.36	0.0030	2.5	0	94.4	68	118	2.37	0.423	20	
Cobalt	2.33	0.0030	2.5	0	93.2	68	118	2.35	0.855	20	
Copper	2.45	0.0030	2.5	0	98	72	123	2.48	1.22	20	
Lead	2.27	0.0050	2.5	0	90.8	66	118	2.28	0.440	20	
Molybdenum	2.43	0.0050	2.5	0	97.2	65	111	2.45	0.820	20	
Nickel	2.32	0.0030	2.5	0	92.8	64	121	2.35	1.28	20	
Selenium	2.42	0.0050	2.5	0	96.8	62	109	2.44	0.823	20	
Silver	2.42	0.0030	2.5	0	96.8	71	137	2.43	0.412	20	
Thallium	2.37	0.0050	2.5	0	94.8	67	122	2.38	0.421	20	
Vanadium	2.43	0.0030	2.5	0	97.2	69	118	2.45	0.820	20	
Zinc	2.33	0.010	2.5	0.00883	92.8	65	112	2.35	0.855	20	

Sample ID	057941-014ADUP	SampType:	DUP	TestCode:	6010_W	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	ICP2_020722B
Client ID:	C36	Batch ID:	9686	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/22/2002	SeqNo:	302689
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Antimony	ND	0.0050	0	0	0	0	0	0	0	30	
Arsenic	ND	0.0050	0	0	0	0	0	0	0	30	
Barium	ND	0.0030	0	0	0	0	0	0	0	30	
Beryllium	ND	0.0030	0	0	0	0	0	0	0	30	
Cadmium	ND	0.0030	0	0	0	0	0	0	0	30	
Chromium	ND	0.0030	0	0	0	0	0	0	0	30	
Cobalt	ND	0.0030	0	0	0	0	0	0	0	30	
Copper	ND	0.0030	0	0	0	0	0	0	0	30	
Lead	ND	0.0050	0	0	0	0	0	0	0	30	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057941
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_W

Sample ID: 057941-014ADUP	SampType: DUP	TestCode: 6010_W	Units: mg/L	Prep Date: 7/19/2002	Run ID: ICP2_020722B						
Client ID: C36	Batch ID: 9686	TestNo: EPA 6010B (EPA 3010A)		Analysis Date: 7/22/2002	SeqNo: 302689						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	ND	0.0050	0	0	0	0	0	0	0	30	
Nickel	ND	0.0030	0	0	0	0	0	0	0	30	
Selenium	ND	0.0050	0	0	0	0	0	0	0	30	
Silver	ND	0.0030	0	0	0	0	0	0	0	30	
Thallium	ND	0.0050	0	0	0	0	0	0	0	30	
Vanadium	ND	0.0030	0	0	0	0	0	0	0	30	
Zinc	0.00886	0.010	0	0	0	0	0	0.00883	0	30	J

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**



CLIENT: Geocon Environmental
Work Order: 057941
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPB

Sample ID MB-9686	SampType: MBLK	TestCode: 6010_WPB	Units: mg/L	Prep Date: 7/19/2002	Run ID: ICP2_020722A
Client ID: ZZZZZ	Batch ID: 9686	TestNo: EPA 6010B (EPA 3010A)		Analysis Date: 7/22/2002	SeqNo: 302676
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Lead ND 0.0050

Sample ID LCS-9686	SampType: LCS	TestCode: 6010_WPB	Units: mg/L	Prep Date: 7/19/2002	Run ID: ICP2_020722A
Client ID: ZZZZZ	Batch ID: 9686	TestNo: EPA 6010B (EPA 3010A)		Analysis Date: 7/22/2002	SeqNo: 302677
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Lead 0.95 0.0050 1 0 95 80 120 0 0

Sample ID 057941-014AMS	SampType: MS	TestCode: 6010_WPB	Units: mg/L	Prep Date: 7/19/2002	Run ID: ICP2_020722A
Client ID: C36	Batch ID: 9686	TestNo: EPA 6010B (EPA 3010A)		Analysis Date: 7/22/2002	SeqNo: 302682
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Lead 2.28 0.0050 2.5 0 91.2 66 118 0 0

Sample ID 057941-014ADUP	SampType: DUP	TestCode: 6010_WPB	Units: mg/L	Prep Date: 7/19/2002	Run ID: ICP2_020722A
Client ID: C36	Batch ID: 9686	TestNo: EPA 6010B (EPA 3010A)		Analysis Date: 7/22/2002	SeqNo: 302681
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Lead ND 0.0050 0 0 0 0 0 0 0 0 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**



CLIENT: Geocon Environmental
Work Order: 057941
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7470_W

Sample ID MB-9660	SampType: MBLK	TestCode: 7470_W	Units: µg/L	Prep Date: 7/18/2002	Run ID: AA1_020719A
Client ID: ZZZZZ	Batch ID: 9660	TestNo: EPA 7470A	(EPA 7470)	Analysis Date: 7/19/2002	SeqNo: 301600
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury ND 0.20

Sample ID LCS-9660	SampType: LCS	TestCode: 7470_W	Units: µg/L	Prep Date: 7/18/2002	Run ID: AA1_020719A
Client ID: ZZZZZ	Batch ID: 9660	TestNo: EPA 7470A	(EPA 7470)	Analysis Date: 7/19/2002	SeqNo: 301599
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury 22.58 0.20 25 0 90.3 80 120 0 0

Sample ID 057941-015AMS	SampType: MS	TestCode: 7470_W	Units: µg/L	Prep Date: 7/18/2002	Run ID: AA1_020719A
Client ID: DRUM	Batch ID: 9660	TestNo: EPA 7470A	(EPA 7470)	Analysis Date: 7/19/2002	SeqNo: 301596
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury 23.99 0.20 25 0 96 69 144 0 0

Sample ID 057941-015AMSD	SampType: MSD	TestCode: 7470_W	Units: µg/L	Prep Date: 7/18/2002	Run ID: AA1_020719A
Client ID: DRUM	Batch ID: 9660	TestNo: EPA 7470A	(EPA 7470)	Analysis Date: 7/19/2002	SeqNo: 301597
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury 24.27 0.20 25 0 97.1 69 144 23.99 1.17 20

Sample ID 057941-015ADUP	SampType: DUP	TestCode: 7470_W	Units: µg/L	Prep Date: 7/18/2002	Run ID: AA1_020719A
Client ID: DRUM	Batch ID: 9660	TestNo: EPA 7470A	(EPA 7470)	Analysis Date: 7/19/2002	SeqNo: 301595
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury ND 0.20 0 0 0 0 0 0 0 0 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



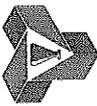
CLIENT: Geocon Environmental
Work Order: 057941
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 9045_S

Sample ID	057948-024A-DUP	SampType:	DUP	TestCode:	9045_S	Units:	pH Units	Prep Date:	7/21/2002	Run ID:	WETCHEM_020721A		
Client ID:	ZZZZZ	Batch ID:	R19605	TestNo:	EPA 9045C	Analysis Date:	7/21/2002	SeqNo:	302534				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH		8.085		0.10	0	0	0	0	0	8.086	0.0124	20	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 29-Jul-02

CLIENT: Geocon Environmental
Work Order: 057941
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Lead ND 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Lead ND 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Lead 0.0481 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Lead 7.422 0.20 7.5 0 99 80 120 0 0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Lead 62.75 1.6 40 26.6 90.4 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057941
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	057942-008AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/27/2002	Run ID:	AA2_020727B			
Client ID:	ZZZZZ	Batch ID:	9790	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/27/2002	SeqNo:	307911			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 34.06 0.80 20 15.64 92.1 80 120 0 0

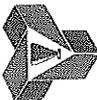
Sample ID	057941-006ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020727B			
Client ID:	N107-S	Batch ID:	9790	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/27/2002	SeqNo:	307897			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 26.35 0.80 0 0 0 0 0 0 26.6 0.961 30

Sample ID	057942-008ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020727B			
Client ID:	ZZZZZ	Batch ID:	9790	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/27/2002	SeqNo:	307910			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 15.58 0.40 0 0 0 0 0 0 15.64 0.443 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 29-Jul-02

CLIENT: Geocon Environmental
Work Order: 057941
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID	MB-9852	SampType: MBLK	TestCode: 7420_TC	Units: mg/L	Prep Date: 7/25/2002	Run ID: AA2_020726C					
Client ID:	ZZZZZ	Batch ID: 9852	TestNo: EPA 1311/ 74 (EPA 3010A)		Analysis Date: 7/26/2002	SeqNo: 306786					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.06093 0.20

Sample ID	MB-9847-TCLP	SampType: MBLK	TestCode: 7420_TC	Units: mg/L	Prep Date: 7/25/2002	Run ID: AA2_020726C					
Client ID:	ZZZZZ	Batch ID: 9852	TestNo: EPA 1311/ 74 (EPA 3010A)		Analysis Date: 7/26/2002	SeqNo: 306787					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.04928 0.20

Sample ID	MB-9853	SampType: MBLK	TestCode: 7420_TC	Units: mg/L	Prep Date: 7/25/2002	Run ID: AA2_020726D					
Client ID:	ZZZZZ	Batch ID: 9853	TestNo: EPA 1311/ 74 (EPA 3010A)		Analysis Date: 7/26/2002	SeqNo: 306802					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.05538 0.20

Sample ID	MB-9848-TCLP	SampType: MBLK	TestCode: 7420_TC	Units: mg/L	Prep Date: 7/25/2002	Run ID: AA2_020726D					
Client ID:	ZZZZZ	Batch ID: 9853	TestNo: EPA 1311/ 74 (EPA 3010A)		Analysis Date: 7/26/2002	SeqNo: 306803					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.0763 0.20

Sample ID	LCS-9852	SampType: LCS	TestCode: 7420_TC	Units: mg/L	Prep Date: 7/25/2002	Run ID: AA2_020726C					
Client ID:	ZZZZZ	Batch ID: 9852	TestNo: EPA 1311/ 74 (EPA 3010A)		Analysis Date: 7/26/2002	SeqNo: 306801					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 1.17 0.20 1 0 117 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057941
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID	LCS-9853	SampType:	LCS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/25/2002	Run ID:	AA2_020726D		
Client ID:	ZZZZZ	Batch ID:	9853	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/26/2002	SeqNo:	306810		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	1.157	0.20	1	0	116	80	120	0	0				
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Sample ID	057941-002AMS	SampType:	MS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/25/2002	Run ID:	AA2_020726C		
Client ID:	N106-S	Batch ID:	9852	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/26/2002	SeqNo:	306799		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	6.023	0.20	2.5	4.118	76.2	80	120	0	0				S
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Sample ID	057942-017AMS	SampType:	MS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/25/2002	Run ID:	AA2_020726D		
Client ID:	ZZZZZ	Batch ID:	9853	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/26/2002	SeqNo:	306808		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	5.563	0.20	2.5	5.86	-11.9	80	120	0	0				S
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Sample ID	057941-002ADUP	SampType:	DUP	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/25/2002	Run ID:	AA2_020726C		
Client ID:	N106-S	Batch ID:	9852	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/26/2002	SeqNo:	306798		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	6.357	0.20	0	0	0	0	0	4.118	42.8	30			R
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Sample ID	057942-017ADUP	SampType:	DUP	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/25/2002	Run ID:	AA2_020726D		
Client ID:	ZZZZZ	Batch ID:	9853	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/26/2002	SeqNo:	306807		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	6.433	0.20	0	0	0	0	0	5.86	9.31	30			
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 29-Jul-02

CLIENT: Geocon Environmental
Work Order: 057941
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9781, MBLK, 7420_DI, mg/L, 7/28/2002, AA2_020728L, ZZZZZ, 9781, WET DI/ EPA (WET), 7/28/2002, 308554, Lead, 0.08497, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9781A, MBLK, 7420_DI, mg/L, 7/23/2002, AA2_020728L, ZZZZZ, 9781, WET DI/ EPA (WET), 7/28/2002, 308555, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9781B, MBLK, 7420_DI, mg/L, 7/23/2002, AA2_020728L, ZZZZZ, 9781, WET DI/ EPA (WET), 7/28/2002, 308568, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: LCS-9781, LCS, 7420_DI, mg/L, 7/28/2002, AA2_020728L, ZZZZZ, 9781, WET DI/ EPA (WET), 7/28/2002, 308582, Lead, 7.49, 0.20, 7.5, 0, 99.9, 80, 120, 0, 0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: 057941-011AMS, MS, 7420_DI, mg/L, 7/28/2002, AA2_020728L, N108-0.3, 9781, WET DI/ EPA (WET), 7/28/2002, 308567, Lead, 6.296, 0.20, 5, 1.277, 100, 80, 120, 0, 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057941
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	057942-013AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728L			
Client ID:	ZZZZZ	Batch ID:	9781	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308580			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		5.719		0.20	5	0.5237		104	80	120	0		0	
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Sample ID	057941-011ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728L			
Client ID:	N108-0.3	Batch ID:	9781	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308566			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		1.094		0.20	0	0		0	0	0	1.277		15.4	30
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Sample ID	057942-013ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728L			
Client ID:	ZZZZZ	Batch ID:	9781	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308579			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		0.6276		0.20	0	0		0	0	0	0.5237		18.0	30
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values

REVISIONS
BY _____ DATE _____
BY _____ DATE _____

BY _____ DATE _____
CHECKED BY _____

All samples → total lead (6010)

total lead > 50 mg/kg → WET-Citric

WET-CITRIC > 5 mg/L → WET-DI

Total lead > 1,000 mg/kg → TCLP

10% → Soil pH (9045)

Please call when all totals have been run. I will instruct what samples should be run for Title 22 metals.

Thanks - Chris King

Diane

From: Chris King [king@geoconinc.com]
Sent: Monday, July 22, 2002 10:57 AM
To: 'Diane'
Subject: 09100-06-49

Diane - please run the 15 samples with the highest total lead content for Title 22 metals. Please do this for each direction (northbound and southbound), so the total number of tests will be 30. Thank you and please call me if you have any questions.

Christopher S. King
Senior Staff Engineer
Geocon Consultants, Inc.

7/22/2002

August 14, 2002

SEP 04 2002

Chris King

Geocon Environmental
6970 Flanders Drive
San Diego, CA 92121
TEL: (858) 558-6100
FAX: (858) 558-8437

RE: Rte 5-NB, 9100-06-49

Attention: Chris King

ELAP No.: 1838

NELAP No.: 02107CA

Workorder No.: 057892

Enclosed are the results for sample(s) received on July 11, 2002 by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,



Eddie F. Rodriguez
Laboratory Director

This cover letter is an integral part of this analytical report.



Advanced Technology Laboratories

Date: 14-Aug-02

CLIENT: Geocon Environmental
Lab Order: 057892
Project: Rte 5-NB, 9100-06-49
Lab ID: 057892-060A

Client Sample ID: N56-S
Collection Date: 7/11/2002
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
LEAD BY ICP						
	(EPA 3050M)			EPA 6010B		
RunID: ICP2_020814E	QC Batch: 10251					Analyst: RQ
Lead	1100	5.0		mg/Kg	1	8/14/2002
Lead	720	5.0		mg/Kg	1	7/16/2002

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified





Advanced Technology Laboratories

Date: 14-Aug-02

CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	MB-9546A	SampType: MBLK	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/13/2002	Run ID: ICP5_020715J
Client ID:	ZZZZZ	Batch ID: 9546	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/15/2002	SeqNo: 299632
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Lead 0.55 5.0

Sample ID	MB-9546B	SampType: MBLK	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/13/2002	Run ID: ICP5_020715J
Client ID:	ZZZZZ	Batch ID: 9546	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/15/2002	SeqNo: 299633
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Lead 0.307 5.0

Sample ID	MB-9547A	SampType: MBLK	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/13/2002	Run ID: ICP5_020715K
Client ID:	ZZZZZ	Batch ID: 9547	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/15/2002	SeqNo: 299707
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Lead 0.715 5.0

Sample ID	MB-9547B	SampType: MBLK	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/13/2002	Run ID: ICP5_020715K
Client ID:	ZZZZZ	Batch ID: 9547	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/15/2002	SeqNo: 299708
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Lead 0.254 5.0

Sample ID	MB-9548A	SampType: MBLK	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/13/2002	Run ID: ICP5_020715L
Client ID:	ZZZZZ	Batch ID: 9548	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/15/2002	SeqNo: 299723
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Lead 1.94 5.0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	MB-9548B	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715L		
Client ID:	ZZZZZ	Batch ID:	9548	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	299737		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		ND		5.0									

Sample ID	MB-9549A	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715M		
Client ID:	ZZZZZ	Batch ID:	9549	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	299763		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		ND		5.0									

Sample ID	MB-9549B	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715M		
Client ID:	ZZZZZ	Batch ID:	9549	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	299764		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		0.309		5.0									

Sample ID	MB-10251	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	8/13/2002	Run ID:	ICP2_020814E		
Client ID:	ZZZZZ	Batch ID:	10251	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	8/14/2002	SeqNo:	318640		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		ND		5.0									

Sample ID	LCS-9546	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715J		
Client ID:	ZZZZZ	Batch ID:	9546	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299631		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		216.5		5.0	250	0	86.6	80	120	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	LCS-9547	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715K		
Client ID:	ZZZZZ	Batch ID:	9547	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299706		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		219.7		5.0	250	0	87.9	80	120	0		0	

Sample ID	LCS-9548	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715L		
Client ID:	ZZZZZ	Batch ID:	9548	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299722		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		225.2		5.0	250	0	90.1	80	120	0		0	

Sample ID	LCS-9549	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715M		
Client ID:	ZZZZZ	Batch ID:	9549	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	299762		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		208.4		5.0	250	0	83.4	80	120	0		0	

Sample ID	LCS-10251	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	8/13/2002	Run ID:	ICP2_020814E		
Client ID:	ZZZZZ	Batch ID:	10251	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	8/14/2002	SeqNo:	318641		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		246		5.0	250	0	98.4	80	120	0		0	

Sample ID	057892-010AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715J		
Client ID:	N40-0.9	Batch ID:	9546	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299617		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		149.7		5.0	250	3.895	58.3	47	128	0		0	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057892-020AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715J		
Client ID:	N43-0.9	Batch ID:	9546	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299629		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		170.7		5.0	250	9.424	64.5	47	128	0		0	

Sample ID	057892-030AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715K		
Client ID:	N47-0.6	Batch ID:	9547	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299692		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		248.1		5.0	250	73.9	69.7	47	128	0		0	

Sample ID	057892-040AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715K		
Client ID:	N50-0.3	Batch ID:	9547	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299704		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		483.3		5.0	250	451.7	12.7	47	128	0		0	S

Sample ID	057892-050AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715L		
Client ID:	N53-S	Batch ID:	9548	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299721		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		816		5.0	250	765.1	20.4	47	128	0		0	S

Sample ID	057892-060AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715L		
Client ID:	N56-S	Batch ID:	9548	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	299735		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		1138		5.0	250	723	166	47	128	0		0	S

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057892-070AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715M		
Client ID:	N59-S	Batch ID:	9549	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	299749		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		1606		5.0	250	1576	11.7	47	128	0	0		S

Sample ID	057892-079AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715M		
Client ID:	N62-0.3	Batch ID:	9549	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	299760		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		460.1		5.0	250	341.9	47.3	47	128	0	0		

Sample ID	058066-007AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	8/13/2002	Run ID:	ICP2_020814E		
Client ID:	ZZZZZ	Batch ID:	10251	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	8/14/2002	SeqNo:	318650		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		262.5		5.0	250	379	-46.6	47	128	0	0		S

Sample ID	057892-010ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715J		
Client ID:	N40-0.9	Batch ID:	9546	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299616		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		3.06		5.0	0	0	0	0	0	3.895	0	30	J

Sample ID	057892-020ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715J		
Client ID:	N43-0.9	Batch ID:	9546	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299628		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		7.172		5.0	0	0	0	0	0	9.424	27.1	30	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057892-030ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715K		
Client ID:	N47-0.6	Batch ID:	9547	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299691		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		55.98		5.0	0	0	0	0	0	73.9	27.6	30	

Sample ID	057892-040ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715K		
Client ID:	N50-0.3	Batch ID:	9547	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299703		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		361.7		5.0	0	0	0	0	0	451.7	22.1	30	

Sample ID	057892-050ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715L		
Client ID:	N53-S	Batch ID:	9548	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299720		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		563.1		5.0	0	0	0	0	0	765.1	30.4	30	R

Sample ID	057892-060ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715L		
Client ID:	N56-S	Batch ID:	9548	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	299734		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		867.6		5.0	0	0	0	0	0	723	18.2	30	

Sample ID	057892-070ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/13/2002	Run ID:	ICP5_020715M		
Client ID:	N59-S	Batch ID:	9549	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	299748		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		1721		5.0	0	0	0	0	0	1576	8.79	30	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057892-079ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/13/2002	Run ID: ICP5_020715M					
Client ID:	N62-0.3	Batch ID: 9549	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/16/2002	SeqNo: 299759					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	291.8	5.0	0	0	0	0	0	341.9	15.8	30	

Sample ID	058066-007ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 8/13/2002	Run ID: ICP2_020814E					
Client ID:	ZZZZZ	Batch ID: 10251	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 8/14/2002	SeqNo: 318649					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	55.5	5.0	0	0	0	0	0	379	149	30	R

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values

Diane

From: Chris King [king@geoconinc.com]

Sent: Monday, August 05, 2002 4:34 PM

To: 'Diane'

Could you please rerun samples 057871-42A (N29-0.3) and 057892-060A (N56-S) for total lead as soon as possible. Thank you.

Christopher S. King
Senior Staff Engineer
Geocon Consultants, Inc.

August 27, 2002

SEP 04 2002

Chris King

Geocon Environmental
6970 Flanders Drive
San Diego, CA 92121
TEL: (858) 558-6100
FAX: (858) 558-8437

RE: Rte 5-NB, 9100-06-49

Attention: Chris King

ELAP No.: 1838

NELAP No.: 02107CA

Workorder No.: 057892

Enclosed are the results for sample(s) received on July 11, 2002 by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,



Eddie F. Rodriguez
Laboratory Director

This cover letter is an integral part of this analytical report.



Advanced Technology Laboratories

Date: 27-Aug-02

CLIENT: Geocon Environmental
Lab Order: 057892
Project: Rte 5-NB, 9100-06-49
Lab ID: 057892-003A

Client Sample ID: N38-0.6
Collection Date: 7/11/2002
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID:	ICP2_020819B	QC Batch:	10418	Analyst: RQ		
Antimony	3.5	0.25	mg/Kg	1	8/19/2002	
Arsenic	9.1	0.25	mg/Kg	1	8/19/2002	
Barium	240	0.15	mg/Kg	1	8/19/2002	
Beryllium	ND	0.15	mg/Kg	1	8/19/2002	
Cadmium	2.9	0.15	mg/Kg	1	8/19/2002	
Chromium	33	0.15	mg/Kg	1	8/19/2002	
Cobalt	6.3	0.15	mg/Kg	1	8/19/2002	
Copper	150	0.15	mg/Kg	1	8/19/2002	
Lead	2200	2.5	mg/Kg	10	8/19/2002	
Molybdenum	5.4	0.25	mg/Kg	1	8/19/2002	
Nickel	25	0.15	mg/Kg	1	8/19/2002	
Selenium	ND	0.25	mg/Kg	1	8/19/2002	
Silver	0.47	0.15	mg/Kg	1	8/19/2002	
Thallium	ND	0.25	mg/Kg	1	8/19/2002	
Vanadium	23	0.15	mg/Kg	1	8/19/2002	
Zinc	850	5.0	mg/Kg	10	8/19/2002	

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID:	AA1_020729A	QC Batch:	9919	Analyst: NS		
Mercury	ND	1.0	mg/Kg	10	7/29/2002	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified

CLIENT: Geocon Environmental
 Work Order: 057892
 Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	MB-9916	SampType:	MBLK	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729C			
Client ID:	ZZZZZ	Batch ID:	9916	TestNo:	EPA 6010B		(EPA 3050A)	Analysis Date:	7/29/2002	SeqNo:	309033			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Antimony	ND	0.25												
Arsenic	ND	0.25												
Barium	ND	0.15												
Beryllium	ND	0.15												
Cadmium	0.015	0.15												
Chromium	ND	0.15												
Cobalt	0.042	0.15												
Copper	ND	0.15												
Lead	ND	0.25												
Molybdenum	0.1325	0.25												
Nickel	ND	0.15												
Selenium	0.1355	0.25												
Silver	0.0465	0.15												
Thallium	ND	0.25												
Vanadium	ND	0.15												
Zinc	0.5	0.50												

Sample ID	MB-9917	SampType:	MBLK	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729D			
Client ID:	ZZZZZ	Batch ID:	9917	TestNo:	EPA 6010B		(EPA 3050A)	Analysis Date:	7/29/2002	SeqNo:	309112			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Antimony	0.078	0.25												
Arsenic	0.0295	0.25												
Barium	ND	0.15												
Beryllium	ND	0.15												
Cadmium	0.0065	0.15												
Chromium	ND	0.15												
Cobalt	0.017	0.15												
Copper	ND	0.15												

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO - Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values

CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID MB-9917	SampType: MBLK	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/28/2002	Run ID: ICP2_020729D
Client ID: ZZZZZ	Batch ID: 9917	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309112

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.154	0.25									
Molybdenum	0.013	0.25									
Nickel	ND	0.15									
Selenium	ND	0.25									
Silver	0.059	0.15									
Thallium	ND	0.25									
Vanadium	ND	0.15									
Zinc	0.183	0.50									

Sample ID MB-10418	SampType: MBLK	TestCode: 6010_S	Units: mg/Kg	Prep Date: 8/16/2002	Run ID: ICP2_020819B
Client ID: ZZZZZ	Batch ID: 10418	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 8/19/2002	SeqNo: 320185

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.25									
Arsenic	ND	0.25									
Barium	ND	0.15									
Beryllium	ND	0.15									
Cadmium	ND	0.15									
Chromium	0.0145	0.15									
Cobalt	0.004	0.15									
Copper	ND	0.15									
Lead	ND	0.25									
Molybdenum	ND	0.25									
Nickel	ND	0.15									
Selenium	ND	0.25									
Silver	0.0205	0.15									
Thallium	0.199	0.25									
Vanadium	ND	0.15									
Zinc	ND	0.50									

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**

CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	LCS-9916	SampType: LCS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/28/2002	Run ID: ICP2_020729C
Client ID:	ZZZZZ	Batch ID: 9916	TestNo: EPA 6010B	(EPA 3050A)	Analysis Date: 7/29/2002	SeqNo: 309034

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	45	0.25	50	0	90	80	120	0	0		
Arsenic	46.5	0.25	50	0	93	80	120	0	0		
Barium	46.5	0.15	50	0	93	80	120	0	0		
Beryllium	46	0.15	50	0	92	80	120	0	0		
Cadmium	43.5	0.15	50	0	87	80	120	0	0		
Chromium	45.5	0.15	50	0	91	80	120	0	0		
Cobalt	43.5	0.15	50	0	87	80	120	0	0		
Copper	45.5	0.15	50	0	91	80	120	0	0		
Lead	44	0.25	50	0	88	80	120	0	0		
Molybdenum	46	0.25	50	0	92	80	120	0	0		
Nickel	42.5	0.15	50	0	85	80	120	0	0		
Selenium	44	0.25	50	0	88	80	120	0	0		
Silver	45	0.15	50	0	90	80	120	0	0		
Thallium	45	0.25	50	0	90	80	120	0	0		
Vanadium	46.5	0.15	50	0	93	80	120	0	0		
Zinc	45	0.50	50	0	90	80	120	0	0		

Sample ID	LCS-9917	SampType: LCS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/28/2002	Run ID: ICP2_020729D
Client ID:	ZZZZZ	Batch ID: 9917	TestNo: EPA 6010B	(EPA 3050A)	Analysis Date: 7/29/2002	SeqNo: 309098

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	52	0.25	50	0	104	80	120	0	0		
Arsenic	53.5	0.25	50	0	107	80	120	0	0		
Barium	53	0.15	50	0	106	80	120	0	0		
Beryllium	51.5	0.15	50	0	103	80	120	0	0		
Cadmium	49	0.15	50	0	98	80	120	0	0		
Chromium	51	0.15	50	0	102	80	120	0	0		
Cobalt	49.5	0.15	50	0	99	80	120	0	0		
Copper	51	0.15	50	0	102	80	120	0	0		
Lead	51	0.25	50	0	102	80	120	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values

CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	LCS-9917	SampType: LCS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/28/2002	Run ID: ICP2_020729D
Client ID:	ZZZZZ	Batch ID: 9917	TestNo: EPA 6010B	(EPA 3050A)	Analysis Date: 7/29/2002	SeqNo: 309098

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	52	0.25	50	0	104	80	120	0	0		
Nickel	48.5	0.15	50	0	97	80	120	0	0		
Selenium	50	0.25	50	0	100	80	120	0	0		
Silver	52	0.15	50	0	104	80	120	0	0		
Thallium	51.5	0.25	50	0	103	80	120	0	0		
Vanadium	53	0.15	50	0	106	80	120	0	0		
Zinc	50	0.50	50	0	100	80	120	0	0		

Sample ID	LCS-10418	SampType: LCS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 8/16/2002	Run ID: ICP2_020819B
Client ID:	ZZZZZ	Batch ID: 10418	TestNo: EPA 6010B	(EPA 3050A)	Analysis Date: 8/19/2002	SeqNo: 320186

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	52.85	0.25	50	0	106	80	120	0	0		
Arsenic	52.95	0.25	50	0	106	80	120	0	0		
Barium	51.35	0.15	50	0	103	80	120	0	0		
Beryllium	52.15	0.15	50	0	104	80	120	0	0		
Cadmium	50.95	0.15	50	0	102	80	120	0	0		
Chromium	50.45	0.15	50	0	101	80	120	0	0		
Cobalt	51.2	0.15	50	0	102	80	120	0	0		
Copper	51.45	0.15	50	0	103	80	120	0	0		
Lead	52.3	0.25	50	0	105	80	120	0	0		
Molybdenum	51.55	0.25	50	0	103	80	120	0	0		
Nickel	51.3	0.15	50	0	103	80	120	0	0		
Selenium	54.25	0.25	50	0	108	80	120	0	0		
Silver	51.9	0.15	50	0	104	80	120	0	0		
Thallium	54.35	0.25	50	0	109	80	120	0	0		
Vanadium	50.8	0.15	50	0	102	80	120	0	0		
Zinc	52.55	0.50	50	0	105	80	120	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values

CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT**TestCode: 6010_S**

Sample ID	057892-024AMS	SampType: MS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/28/2002	Run ID: ICP2_020729C					
Client ID:	N45-S	Batch ID: 9916	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309048					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	95	0.25	125	2.5	74	32	115	0	0		
Arsenic	127	0.25	125	8.5	94.8	59	111	0	0		
Barium	307	0.15	125	186	96.8	34	151	0	0		
Beryllium	118	0.15	125	0	94.4	56	112	0	0		
Cadmium	111	0.15	125	0	88.8	52	120	0	0		
Chromium	141	0.15	125	24	93.6	56	118	0	0		
Cobalt	118.5	0.15	125	6	90	58	117	0	0		
Copper	201.5	0.15	125	73.5	102	58	134	0	0		
Lead	2036	0.25	125	2315	-223	47	128	0	0		S
Molybdenum	119	0.25	125	5.5	90.8	56	115	0	0		
Nickel	132	0.15	125	18	91.2	52	120	0	0		
Selenium	115	0.25	125	0	92	46	108	0	0		
Silver	121.5	0.15	125	0.1235	97.1	74	117	0	0		
Thallium	115	0.25	125	0.5	91.6	62	117	0	0		
Vanadium	148	0.15	125	23.5	99.6	55	122	0	0		
Zinc	1242	0.50	125	438	644	43	134	0	0		S

Sample ID	057936-019AMS	SampType: MS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/28/2002	Run ID: ICP2_020729D					
Client ID:	ZZZZZ	Batch ID: 9917	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309110					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	100	0.25	125	2.5	78	32	115	0	0		
Arsenic	126.5	0.25	125	13	90.8	59	111	0	0		
Barium	288	0.15	125	210	62.4	34	151	0	0		
Beryllium	113.5	0.15	125	0	90.8	56	112	0	0		
Cadmium	106.5	0.15	125	0	85.2	52	120	0	0		
Chromium	138.5	0.15	125	28	88.4	56	118	0	0		
Cobalt	115.5	0.15	125	7.5	86.4	58	117	0	0		
Copper	193.5	0.15	125	71.5	97.6	58	134	0	0		
Molybdenum	116	0.25	125	3.5	90	56	115	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values

CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	057936-019AMS	SampType: MS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/28/2002	Run ID: ICP2_020729D					
Client ID:	ZZZZZ	Batch ID: 9917	TestNo: EPA 6010B (EPA 3050A)	Analysis Date: 7/29/2002	SeqNo: 309110						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	129	0.15	125	27.5	81.2	52	120	0	0		
Selenium	113	0.25	125	0	90.4	46	108	0	0		
Silver	119	0.15	125	0.1365	95.1	74	117	0	0		
Thallium	111.5	0.25	125	1	88.4	62	117	0	0		
Vanadium	148.5	0.15	125	29	95.6	55	122	0	0		
Zinc	471.5	0.50	125	594.5	-98.4	43	134	0	0		S

Sample ID	057936-019AMS	SampType: MS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/28/2002	Run ID: ICP2_020729D					
Client ID:	ZZZZZ	Batch ID: 9917	TestNo: EPA 6010B (EPA 3050A)	Analysis Date: 7/29/2002	SeqNo: 309118						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	3055	2.5	125	3800	-596	47	128	0	0		S

Sample ID	057892-003AMS	SampType: MS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 8/16/2002	Run ID: ICP2_020819B					
Client ID:	N38-0.6	Batch ID: 10418	TestNo: EPA 6010B (EPA 3050A)	Analysis Date: 8/19/2002	SeqNo: 320189						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	95	0.25	125	3.515	73.2	32	115	0	0		
Arsenic	117.5	0.25	125	9.13	86.7	59	111	0	0		
Barium	415.5	0.15	125	235.6	144	34	151	0	0		
Beryllium	106	0.15	125	0	84.8	56	112	0	0		
Cadmium	105.5	0.15	125	2.92	82.1	52	120	0	0		
Chromium	154	0.15	125	32.91	96.9	56	118	0	0		
Cobalt	119.5	0.15	125	6.32	90.5	58	117	0	0		
Copper	259	0.15	125	147.2	89.4	58	134	0	0		
Lead	1914	0.25	125	1964	-40.4	47	128	0	0		S
Molybdenum	120	0.25	125	5.41	91.7	56	115	0	0		
Nickel	144.5	0.15	125	25.02	95.6	52	120	0	0		
Selenium	103.5	0.25	125	0	82.8	46	108	0	0		
Silver	27	0.15	125	0.47	21.2	74	117	0	0		S

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values

CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: 057892-003AMS	SampType: MS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 8/16/2002	Run ID: ICP2_020819B
Client ID: N38-0.6	Batch ID: 10418	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 8/19/2002	SeqNo: 320189

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	111.5	0.25	125	0	89.2	62	117	0	0		
Vanadium	142	0.15	125	23.04	95.2	55	122	0	0		
Zinc	685	0.50	125	637.5	38	43	134	0	0		S

Sample ID: 057892-024AMSD	SampType: MSD	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/28/2002	Run ID: ICP2_020729C
Client ID: N45-S	Batch ID: 9916	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309049

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	99	0.25	125	2.5	77.2	32	115	95	4.12	20	
Arsenic	129.5	0.25	125	8.5	96.8	59	111	127	1.95	20	
Barium	340	0.15	125	186	123	34	151	307	10.2	20	
Beryllium	120	0.15	125	0	96	56	112	118	1.68	20	
Cadmium	112.5	0.15	125	0	90	52	120	111	1.34	20	
Chromium	144.5	0.15	125	24	96.4	56	118	144	2.45	20	
Cobalt	121	0.15	125	6	92	58	117	118.5	2.09	20	
Copper	216.5	0.15	125	73.5	114	58	134	201.5	7.18	20	
Lead	2292	0.25	125	2315	-18.8	47	126	2036	11.8	20	S
Molybdenum	122.5	0.25	125	5.5	93.6	56	115	119	2.90	20	
Nickel	136.5	0.15	125	18	94.8	52	120	132	3.35	20	
Selenium	117	0.25	125	0	93.6	46	108	115	1.72	20	
Silver	123	0.15	125	0.1235	98.3	74	117	121.5	1.23	20	
Thallium	117	0.25	125	0.5	93.2	62	117	115	1.72	20	
Vanadium	152	0.15	125	23.5	103	55	122	148	2.67	20	
Zinc	502.5	0.50	125	438	51.6	43	134	1242	84.8	20	R

Sample ID: 057936-019AMSD	SampType: MSD	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/28/2002	Run ID: ICP2_020729D
Client ID: ZZZZZ	Batch ID: 9917	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309111

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	107	0.25	125	2.5	83.6	32	115	100	6.76	20	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values

CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	057936-019AMSD	SampType: MSD	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/28/2002	Run ID: ICP2_020729D					
Client ID:	ZZZZZ	Batch ID: 9917	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309111					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	127	0.25	125	13	91.2	59	111	126.5	0.394	20	
Barium	280.5	0.15	125	210	56.4	34	151	288	2.64	20	
Beryllium	116.5	0.15	125	0	93.2	56	112	113.5	2.61	20	
Cadmium	109.5	0.15	125	0	87.6	52	120	106.5	2.78	20	
Chromium	134.5	0.15	125	28	85.2	56	118	138.5	2.93	20	
Cobalt	117	0.15	125	7.5	87.6	58	117	115.5	1.29	20	
Copper	195	0.15	125	71.5	98.8	58	134	193.5	0.772	20	
Molybdenum	119.5	0.25	125	3.5	92.8	56	115	116	2.97	20	
Nickel	128.5	0.15	125	27.5	80.8	52	120	129	0.388	20	
Selenium	115.5	0.25	125	0	92.4	46	108	113	2.19	20	
Silver	120.5	0.15	125	0.1365	96.3	74	117	119	1.25	20	
Thallium	114.5	0.25	125	1	90.8	62	117	111.5	2.65	20	
Vanadium	143.5	0.15	125	29	91.6	55	122	148.5	3.42	20	
Zinc	464	0.50	125	594.5	-104	43	134	471.5	1.60	20	S

Sample ID	057936-019AMSD	SampType: MSD	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/28/2002	Run ID: ICP2_020729D					
Client ID:	ZZZZZ	Batch ID: 9917	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309119					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	3270	2.5	125	3800	-424	47	128	3055	6.80	20	S

Sample ID	057892-003AMSD	SampType: MSD	TestCode: 6010_S	Units: mg/Kg	Prep Date: 8/16/2002	Run ID: ICP2_020819B					
Client ID:	N38-0.6	Batch ID: 10418	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 8/19/2002	SeqNo: 320190					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	96.5	0.25	125	3.515	74.4	32	115	95	1.57	20	
Arsenic	116.5	0.25	125	9.13	85.9	59	111	117.5	0.855	20	
Barium	356	0.15	125	235.6	96.3	34	151	415.5	15.4	20	
Beryllium	105.5	0.15	125	0	84.4	56	112	106	0.473	20	
Cadmium	105	0.15	125	2.92	81.7	52	120	105.5	0.475	20	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values

CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: 057892-003AMSD	SampType: MSD	TestCode: 6010_S	Units: mg/Kg	Prep Date: 8/16/2002	Run ID: ICP2_020819B
Client ID: N38-0.6	Batch ID: 10418	TestNo: EPA 6010B	(EPA 3050A)	Analysis Date: 8/19/2002	SeqNo: 320190

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	149.5	0.15	125	32.91	93.3	56	118	154	2.97	20	
Cobalt	119	0.15	125	6.32	90.1	58	117	119.5	0.419	20	
Copper	238	0.15	125	147.2	72.6	58	134	259	8.45	20	
Lead	2190	0.25	125	1964	180	47	128	1914	13.5	20	S
Molybdenum	118.5	0.25	125	5.41	90.5	56	115	120	1.26	20	
Nickel	138.5	0.15	125	25.02	90.8	52	120	144.5	4.24	20	
Selenium	103	0.25	125	0	82.4	46	108	103.5	0.484	20	
Silver	14	0.15	125	0.47	10.8	74	117	27	63.4	20	SR
Thallium	111.5	0.25	125	0	89.2	62	117	111.5	0	20	
Vanadium	143	0.15	125	23.04	96	55	122	142	0.702	20	
Zinc	641.5	0.50	125	637.5	3.2	43	134	685	6.56	20	S

Sample ID: 057892-024ADUP	SampType: DUP	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/28/2002	Run ID: ICP2_020729C
Client ID: N45-S	Batch ID: 9916	TestNo: EPA 6010B	(EPA 3050A)	Analysis Date: 7/29/2002	SeqNo: 309047

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	2.5	0.25	0	0	0	0	0	0	0		
Arsenic	8.5	0.25	0	0	0	0	0	0	0		
Barium	186	0.15	0	0	0	0	0	0	0		
Beryllium	ND	0.15	0	0	0	0	0	0	0		
Cadmium	ND	0.15	0	0	0	0	0	0	0		
Chromium	24	0.15	0	0	0	0	0	0	0		
Cobalt	6	0.15	0	0	0	0	0	0	0		
Copper	73.5	0.15	0	0	0	0	0	0	0		
Lead	2315	0.25	0	0	0	0	0	0	0		
Molybdenum	5.5	0.25	0	0	0	0	0	0	0		
Nickel	18	0.15	0	0	0	0	0	0	0		
Selenium	ND	0.25	0	0	0	0	0	0	0		
Silver	0.1235	0.15	0	0	0	0	0	0	0		J
Thallium	0.5	0.25	0	0	0	0	0	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values

CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: 057892-024ADUP	SampType: DUP	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/28/2002	Run ID: ICP2_020729C						
Client ID: N45-S	Batch ID: 9916	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309047						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Vanadium	23.5	0.15	0	0	0	0	0	0	0		
Zinc	438	0.50	0	0	0	0	0	0	0		

Sample ID: 057936-019ADUP	SampType: DUP	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/28/2002	Run ID: ICP2_020729D						
Client ID: ZZZZZ	Batch ID: 9917	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309109						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Antimony	2.5	0.25	0	0	0	0	0	2.5	0	30	
Arsenic	13	0.25	0	0	0	0	0	13	0	30	
Barium	210	0.15	0	0	0	0	0	210	0	30	
Beryllium	ND	0.15	0	0	0	0	0	0	0	30	
Cadmium	ND	0.15	0	0	0	0	0	0	0	30	
Chromium	28	0.15	0	0	0	0	0	28	0	30	
Cobalt	7.5	0.15	0	0	0	0	0	7.5	0	30	
Copper	71.5	0.15	0	0	0	0	0	71.5	0	30	
Molybdenum	3.5	0.25	0	0	0	0	0	3.5	0	30	
Nickel	27.5	0.15	0	0	0	0	0	27.5	0	30	
Selenium	ND	0.25	0	0	0	0	0	0	0	30	
Silver	0.1365	0.15	0	0	0	0	0	0.1365	0	30	J
Thallium	1	0.25	0	0	0	0	0	1	0	30	
Vanadium	29	0.15	0	0	0	0	0	29	0	30	
Zinc	594.5	0.50	0	0	0	0	0	594.5	0	30	

Sample ID: 057936-019ADUP	SampType: DUP	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/28/2002	Run ID: ICP2_020729D						
Client ID: ZZZZZ	Batch ID: 9917	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309117						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	4210	2.5	0	0	0	0	0	3800	10.2	30	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**

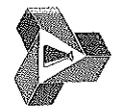
CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	057892-003ADUP	SampType:	DUP	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	8/16/2002	Run ID:	ICP2_020819B
Client ID:	N38-0.6	Batch ID:	10418	TestNo:	EPA 6010B (EPA 3050A)	Analysis Date:	8/19/2002	SeqNo:	320188		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	2	0.25	0	0	0	0	0	3.515	54.9	30	R
Arsenic	8	0.25	0	0	0	0	0	9.13	13.2	30	
Barium	234.5	0.15	0	0	0	0	0	235.6	0.489	30	
Beryllium	ND	0.15	0	0	0	0	0	0	0	30	
Cadmium	1	0.15	0	0	0	0	0	2.92	98.0	30	R
Chromium	28	0.15	0	0	0	0	0	32.91	16.1	30	
Cobalt	6	0.15	0	0	0	0	0	6.32	5.19	30	
Copper	111	0.15	0	0	0	0	0	147.2	28.1	30	
Lead	1780	0.25	0	0	0	0	0	1964	9.83	30	
Molybdenum	8.5	0.25	0	0	0	0	0	5.41	44.4	30	R
Nickel	21.5	0.15	0	0	0	0	0	25.02	15.1	30	
Selenium	ND	0.25	0	0	0	0	0	0	0	30	
Silver	0.5	0.15	0	0	0	0	0	0.47	6.19	30	
Thallium	0.0935	0.25	0	0	0	0	0	0	0	30	J
Vanadium	21	0.15	0	0	0	0	0	23.04	9.29	30	
Zinc	599.5	0.50	0	0	0	0	0	637.5	6.14	30	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**



CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7471_S

Sample ID	MB-9919	SampType	mblk	TestCode	7471_S	Units	mg/Kg	Prep Date	7/28/2002	Run ID	AA1_020729A												
Client ID	ZZZZZ	Batch ID	9919	TestNo	EPA 7471A (EPA 7471)			Analysis Date	7/29/2002	SeqNo	309061												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Mercury ND 0.10

Sample ID	MB-9920	SampType	mblk	TestCode	7471_S	Units	mg/Kg	Prep Date	7/28/2002	Run ID	AA1_020729B												
Client ID	ZZZZZ	Batch ID	9920	TestNo	EPA 7471A (EPA 7471)			Analysis Date	7/29/2002	SeqNo	309080												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Mercury 0.03565 0.10

Sample ID	LCS-9919	SampType	ics	TestCode	7471_S	Units	mg/Kg	Prep Date	7/28/2002	Run ID	AA1_020729A												
Client ID	ZZZZZ	Batch ID	9919	TestNo	EPA 7471A (EPA 7471)			Analysis Date	7/29/2002	SeqNo	309060												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Mercury 2.02 0.10 2.08 0 97.1 80 120 0 0

Sample ID	LCS-9920	SampType	ics	TestCode	7471_S	Units	mg/Kg	Prep Date	7/28/2002	Run ID	AA1_020729B												
Client ID	ZZZZZ	Batch ID	9920	TestNo	EPA 7471A (EPA 7471)			Analysis Date	7/29/2002	SeqNo	309079												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Mercury 2.144 0.10 2.08 0 103 80 120 0 0

Sample ID	057892-003AMS	SampType	MS	TestCode	7471_S	Units	mg/Kg	Prep Date	7/28/2002	Run ID	AA1_020729A												
Client ID	N38-0.6	Batch ID	9919	TestNo	EPA 7471A (EPA 7471)			Analysis Date	7/29/2002	SeqNo	309064												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Mercury 0.609 1.0 0.83 0 73.4 62 146 0 0 J

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
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CLIENT: Geocon Environmental
Work Order: 057892
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7471_S

Sample ID	057900-074AMS	SampType:	MS	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729B		
Client ID:	ZZZZZ	Batch ID:	9920	TestNo:	EPA 7471A	(EPA 7471)		Analysis Date:	7/29/2002	SeqNo:	309077		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		1.067		0.10	0.83	0.218	102	62	146	0	0		

Sample ID	057892-003AMSD	SampType:	MSD	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729A		
Client ID:	N38-0.6	Batch ID:	9919	TestNo:	EPA 7471A	(EPA 7471)		Analysis Date:	7/29/2002	SeqNo:	309065		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0.6339		1.0	0.83	0	76.4	62	146	0.609	0	33	J

Sample ID	057900-074AMSD	SampType:	MSD	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729B		
Client ID:	ZZZZZ	Batch ID:	9920	TestNo:	EPA 7471A	(EPA 7471)		Analysis Date:	7/29/2002	SeqNo:	309078		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		1.144		0.10	0.83	0.218	112	62	146	1.067	7.02	33	

Sample ID	057892-003ADUP	SampType:	DUP	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729A		
Client ID:	N38-0.6	Batch ID:	9919	TestNo:	EPA 7471A	(EPA 7471)		Analysis Date:	7/29/2002	SeqNo:	309063		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		ND		1.0	0	0	0	0	0	0	0	30	

Sample ID	057900-074ADUP	SampType:	DUP	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729B		
Client ID:	ZZZZZ	Batch ID:	9920	TestNo:	EPA 7471A	(EPA 7471)		Analysis Date:	7/29/2002	SeqNo:	309076		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0.1995		0.10	0	0	0	0	0	0.218	8.85	30	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
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Diane

From: Chris King [king@geoconinc.com]

Sent: Tuesday, August 27, 2002 11:54 AM

To: 'Diane'

Diane, I got your message. Wasn't that sample supposed to be rerun last week? Please rerun sample 57892-003 for title 22 metals. Thanks.

Christopher S. King
Senior Staff Engineer
Geocon Consultants, Inc.

August 14, 2002

~~Chris King~~

Geocon Environmental
6970 Flanders Drive
San Diego, CA 92121
TEL: (858) 558-6100
FAX: (858) 558-8437

RE: Rte 5-NB, 9100-06-49

Attention: Chris King

ELAP No.: 1838

NELAP No.: 02107CA

Workorder No.: 057871

Enclosed are the results for sample(s) received on July 10, 2002 by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,



Eddie F. Rodriguez
Laboratory Director

AUG 17 2002

This cover letter is an integral part of this analytical report.



Advanced Technology Laboratories

Date: 14-Aug-02

CLIENT: Geocon Environmental
Lab Order: 057871
Project: Rte 5-NB, 9100-06-49
Lab ID: 057871-042A

Client Sample ID: N29-0.3
Collection Date: 7/10/2002
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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LEAD BY ICP

(EPA 3050M)

EPA 6010B

RunID: ICP2_020814E

QC Batch: 10251

Analyst: RQ

Lead	2000	5.0		mg/Kg	1	8/14/2002
Lead	260	5.0		mg/Kg	1	7/12/2002

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified

Page 1 of 1





Advanced Technology Laboratories

Date: 14-Aug-02

CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, (EPA 3050M), Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Table with 12 columns: Lead, ND, 5.0

Table with 12 columns: Sample ID MB-9511B, SampType: MBLK, TestCode: 6010_SPB, Units: mg/Kg, Prep Date: 7/12/2002, Run ID: ICP5_020712F, Client ID: ZZZZZ, Batch ID: 9511, TestNo: EPA 6010B (EPA 3050M), Analysis Date: 7/12/2002, SeqNo: 298445

Table with 12 columns: Lead, ND, 5.0

Table with 12 columns: Sample ID MB-9513A, SampType: MBLK, TestCode: 6010_SPB, Units: mg/Kg, Prep Date: 7/12/2002, Run ID: ICP5_020712G, Client ID: ZZZZZ, Batch ID: 9513, TestNo: EPA 6010B (EPA 3050M), Analysis Date: 7/12/2002, SeqNo: 298472

Table with 12 columns: Lead, ND, 5.0

Table with 12 columns: Sample ID MB-9513B, SampType: MBLK, TestCode: 6010_SPB, Units: mg/Kg, Prep Date: 7/12/2002, Run ID: ICP5_020712G, Client ID: ZZZZZ, Batch ID: 9513, TestNo: EPA 6010B (EPA 3050M), Analysis Date: 7/12/2002, SeqNo: 298473

Table with 12 columns: Lead, 0.3135, 5.0

Table with 12 columns: Sample ID MB-9512A, SampType: MBLK, TestCode: 6010_SPB, Units: mg/Kg, Prep Date: 7/12/2002, Run ID: ICP5_020712H, Client ID: ZZZZZ, Batch ID: 9512, TestNo: EPA 6010B (EPA 3050M), Analysis Date: 7/12/2002, SeqNo: 298550

Table with 12 columns: Lead, ND, 5.0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	MB-9512B	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712H			
Client ID:	ZZZZZ	Batch ID:	9512	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/12/2002	SeqNo:	298551			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		ND		5.0										
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Sample ID	MB-9514A	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712I			
Client ID:	ZZZZZ	Batch ID:	9514	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/12/2002	SeqNo:	298560			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		0.3585		5.0	0	0		0	0	0	0	0	0	
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Sample ID	MB-10251	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	8/13/2002	Run ID:	ICP2_020814E			
Client ID:	ZZZZZ	Batch ID:	10251	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	8/14/2002	SeqNo:	318640			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		ND		5.0										
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Sample ID	LCS-9511	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712F			
Client ID:	ZZZZZ	Batch ID:	9511	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/12/2002	SeqNo:	298443			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		227.4		5.0	250	0		91	80	120	0	0	0	
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Sample ID	LCS-9513	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712G			
Client ID:	ZZZZZ	Batch ID:	9513	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/12/2002	SeqNo:	298471			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		208.7		5.0	250	0		83.5	80	120	0	0	0	
------	--	-------	--	-----	-----	---	--	------	----	-----	---	---	---	--

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**



CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	LCS-9512	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712H		
Client ID:	ZZZZZ	Batch ID:	9512	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/12/2002	SeqNo:	298549		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		220.7		5.0	250	0	88.3	80	120	0	0		

Sample ID	LCS-9514	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712I		
Client ID:	ZZZZZ	Batch ID:	9514	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/12/2002	SeqNo:	298559		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		212.8		5.0	250	0	85.1	80	120	0	0		

Sample ID	LCS-10251	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	8/13/2002	Run ID:	ICP2_020814E		
Client ID:	ZZZZZ	Batch ID:	10251	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	8/14/2002	SeqNo:	318641		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		246		5.0	250	0	98.4	80	120	0	0		

Sample ID	057871-010AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712F		
Client ID:	N18-0.6	Batch ID:	9511	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/12/2002	SeqNo:	298429		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		250.1		5.0	250	107.3	57.1	47	128	0	0		

Sample ID	057871-020AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712F		
Client ID:	N21-0.3	Batch ID:	9511	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/12/2002	SeqNo:	298441		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		739.2		5.0	250	399.7	136	47	128	0	0		S

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057871-050AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712G		
Client ID:	N32-0.6	Batch ID:	9513	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/12/2002	SeqNo:	298457		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		527.3		5.0	250	357.1	68.1	47	128	0		0	

Sample ID	057871-060AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712G		
Client ID:	N36-S	Batch ID:	9513	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/12/2002	SeqNo:	298469		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		1141		5.0	250	1626	-194	47	128	0		0	S

Sample ID	057871-030AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712H		
Client ID:	N25-S	Batch ID:	9512	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/12/2002	SeqNo:	298535		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		1187		5.0	250	1012	70.1	47	128	0		0	

Sample ID	057871-040AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712H		
Client ID:	N28-0.6	Batch ID:	9512	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/12/2002	SeqNo:	298547		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		254.6		5.0	250	100.4	61.7	47	128	0		0	

Sample ID	057871-064AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712I		
Client ID:	N37-S	Batch ID:	9514	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/12/2002	SeqNo:	298557		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		452.5		5.0	250	306.4	58.5	47	128	0		0	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: 058066-007AMS	SampType: MS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 8/13/2002	Run ID: ICP2_020814E						
Client ID: ZZZZZ	Batch ID: 10251	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 8/14/2002	SeqNo: 318650						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	262.5	5.0	250	379	-46.6	47	128	0	0		S

Sample ID: 057871-010ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/12/2002	Run ID: ICP5_020712F						
Client ID: N18-0.6	Batch ID: 9511	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/12/2002	SeqNo: 298428						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	123.6	5.0	0	0	0	0	0	107.3	14.1	30	

Sample ID: 057871-020ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/12/2002	Run ID: ICP5_020712F						
Client ID: N21-0.3	Batch ID: 9511	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/12/2002	SeqNo: 298440						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	506.8	5.0	0	0	0	0	0	399.7	23.6	30	

Sample ID: 057871-050ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/12/2002	Run ID: ICP5_020712G						
Client ID: N32-0.6	Batch ID: 9513	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/12/2002	SeqNo: 298456						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	482.3	5.0	0	0	0	0	0	357.1	29.8	30	

Sample ID: 057871-060ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/12/2002	Run ID: ICP5_020712G						
Client ID: N36-S	Batch ID: 9513	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/12/2002	SeqNo: 298468						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	1205	5.0	0	0	0	0	0	1626	29.8	30	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057871
Project: Rte 5-NB, 9100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057871-030ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712H		
Client ID:	N25-S	Batch ID:	9512	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/12/2002	SeqNo:	298534		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		995.7		5.0	0	0	0	0	0	1012	1.64	30	

Sample ID	057871-040ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712H		
Client ID:	N28-0.6	Batch ID:	9512	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/12/2002	SeqNo:	298546		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		87.98		5.0	0	0	0	0	0	100.4	13.2	30	

Sample ID	057871-064ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020712I		
Client ID:	N37-S	Batch ID:	9514	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/12/2002	SeqNo:	298556		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		370.5		5.0	0	0	0	0	0	306.4	18.9	30	

Sample ID	058066-007ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	8/13/2002	Run ID:	ICP2_020814E		
Client ID:	ZZZZZ	Batch ID:	10251	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	8/14/2002	SeqNo:	318649		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		55.5		5.0	0	0	0	0	0	379	149	30	R

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**

Diane

From: Chris King [king@geoconinc.com]

Sent: Monday, August 05, 2002 4:34 PM

To: 'Diane'

Could you please rerun samples 057871-42A.(N29-0.3) and 057892-060A.(N56-S) for total lead as soon as possible. Thank you.

Christopher S. King
Senior Staff Engineer
Geocon Consultants, Inc.

8/5/2002

August 13, 2002

Chris King
Geocon Environmental
6970 Flanders Drive
San Diego, CA 92121
TEL: (858) 558-6100
FAX: (858) 558-8437

RE: Rte 5 - Southbound, 09100-06-49

Attention: Chris King

ELAP No.: 1838

NELAP No.: 02107CA

Workorder No.: 057898

Enclosed are the results for sample(s) received on July 12, 2002 by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,



Eddie F. Rodriguez
Laboratory Director

AUG 17 2002

This cover letter is an integral part of this analytical report.



Advanced Technology Laboratories

Date: 13-Aug-02

CLIENT: Geocon Environmental
Lab Order: 057898
Project: Rte 5 - Southbound, 09100-06-49
Lab ID: 057898-003A

Client Sample ID: S59-2
Collection Date: 7/12/2002
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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**LEAD BY ATOMIC ABSORPTION BY STLC
(WET)**

WET/ EPA 7420

RunID: AA2_020813C	QC Batch: 10178					Analyst: NS
Lead	6.8	0.20		mg/L	1	8/13/2002
Lead	11	0.20		mg/L	1	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 13-Aug-02

CLIENT: Geocon Environmental
Lab Order: 057898
Project: Rte 5 - Southbound, 09100-06-49
Lab ID: 057898-033A

Client Sample ID: S67-S
Collection Date: 7/12/2002
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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LEAD BY ATOMIC ABSORPTION BY STLC (WET)

WET/ EPA 7420

RunID: AA2_020813C	QC Batch: 10178					Analyst: NS
Lead	75	2.0		mg/L	10	8/13/2002
Lead	80	2.0		mg/L	10	7/23/2002

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
B - Analyte detected in the associated Method Blank E - Value above quantitation range
DO - Surrogate Diluted Out Results are wet unless otherwise specified

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Advanced Technology Laboratories

Date: 13-Aug-02

CLIENT: Geocon Environmental
Lab Order: 057898
Project: Rte 5 - Southbound, 09100-06-49
Lab ID: 057898-036A

Client Sample ID: S67-3
Collection Date: 7/12/2002
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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**LEAD BY ATOMIC ABSORPTION BY STLC
(WET)**

WET/ EPA 7420

RunID: AA2_020813C	QC Batch: 10178					Analyst: NS
Lead	1.7	0.20		mg/L	1	8/13/2002
Lead	1.4	0.20		mg/L	1	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified

Page 1 of 1



Advanced Technology Laboratories

Date: 13-Aug-02

CLIENT: Geocon Environmental

Client Sample ID: S71-1

Lab Order: 057898

Project: Rte 5 - Southbound, 09100-06-49

Collection Date: 7/12/2002

Lab ID: 057898-050A

Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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**LEAD BY ATOMIC ABSORPTION BY STLC
(WET)**

WET/ EPA 7420

RunID: AA2_020813C	QC Batch: 10178					Analyst: NS
Lead	190	4.0		mg/L	20	8/13/2002
Lead	150	4.0		mg/L	20	7/23/2002

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified

Page 1 of 1



Advanced Technology Laboratories

Date: 13-Aug-02

CLIENT: Geocon Environmental
Lab Order: 057898
Project: Rte 5 - Southbound, 09100-06-49
Lab ID: 057898-051A

Client Sample ID: S71-2
Collection Date: 7/12/2002
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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**LEAD BY ATOMIC ABSORPTION BY STLC
(WET)**

WET/ EPA 7420

RunID: AA2_020813C	QC Batch: 10178					Analyst: NS
Lead	99	2.0		mg/L	10	8/13/2002
Lead	100	2.0		mg/L	10	7/23/2002

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
B - Analyte detected in the associated Method Blank E - Value above quantitation range
DO - Surrogate Diluted Out Results are wet unless otherwise specified

Page 1 of 1



Advanced Technology Laboratories

Date: 13-Aug-02

CLIENT:	Geocon Environmental	Client Sample ID:	S71-3
Lab Order:	057898		
Project:	Rte 5 - Southbound, 09100-06-49	Collection Date:	7/12/2002
Lab ID:	057898-052A	Matrix:	SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
LEAD BY ATOMIC ABSORPTION BY STLC						
	(WET)			WET/ EPA 7420		
RunID: AA2_020813C	QC Batch: 10178					Analyst: NS
Lead	140	4.0		mg/L	20	8/13/2002
Lead	170	4.0		mg/L	20	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 13-Aug-02

CLIENT: Geocon Environmental
Lab Order: 057898
Project: Rte 5 - Southbound, 09100-06-49
Lab ID: 057898-056A

Client Sample ID: S72-3
Collection Date: 7/12/2002
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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LEAD BY ATOMIC ABSORPTION BY STLC (WET)

WET/ EPA 7420

RunID: AA2_020813C	QC Batch: 10178					Analyst: NS
Lead	1.1	0.20		mg/L	1	8/13/2002
Lead	1.1	0.20		mg/L	1	7/23/2002

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interfere
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

Page 1 of 1



Advanced Technology Laboratories

Date: 13-Aug-02

CLIENT: Geocon Environmental
Lab Order: 057898
Project: Rte 5 - Southbound, 09100-06-49
Lab ID: 057898-058A

Client Sample ID: S73-1
Collection Date: 7/12/2002
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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**LEAD BY ATOMIC ABSORPTION BY STLC
(WET)**

WET/ EPA 7420

RunID: AA2_020813C	QC Batch: 10178					Analyst: NS
Lead	82	2.0		mg/L	10	8/13/2002
Lead	93	2.0		mg/L	10	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 13-Aug-02

CLIENT: Geocon Environmental

Client Sample ID: S73-2

Lab Order: 057898

Project: Rte 5 - Southbound, 09100-06-49

Collection Date: 7/12/2002

Lab ID: 057898-059A

Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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**LEAD BY ATOMIC ABSORPTION BY STLC
(WET)**

WET/ EPA 7420

RunID: AA2_020813C

QC Batch: 10178

Analyst: NS

Lead	110	4.0		mg/L	20	8/13/2002
Lead	120	2.0		mg/L	10	7/23/2002

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified

Page 1 of 1



Advanced Technology Laboratories

Date: 13-Aug-02

CLIENT: Geocon Environmental

Client Sample ID: S73-3

Lab Order: 057898

Project: Rte 5 - Southbound, 09100-06-49

Collection Date: 7/12/2002

Lab ID: 057898-060A

Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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LEAD BY ATOMIC ABSORPTION BY STLC

(WET)

WET/ EPA 7420

RunID: AA2_020813C

QC Batch: 10178

Analyst: NS

Lead	58	2.0		mg/L	10	8/13/2002
Lead	110	2.0		mg/L	10	7/23/2002

Qualifiers:
 ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 B - Analyte detected in the associated Method Blank
 DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interfere
 H - Sample exceeded analytical holding time
 E - Value above quantitation range
 Results are wet unless otherwise specified

Page 1 of 1



Advanced Technology Laboratories

Date: 13-Aug-02

CLIENT: Geocon Environmental

Client Sample ID: S77-S

Lab Order: 057898

Project: Rte 5 - Southbound, 09100-06-49

Collection Date: 7/12/2002

Lab ID: 057898-073A

Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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**LEAD BY ATOMIC ABSORPTION BY STLC
(WET)**

WET/ EPA 7420

RunID: AA2_020813C

QC Batch: 10178

Analyst: NS

Lead	33	0.80		mg/L	4	8/13/2002
Lead	99	2.0		mg/L	10	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified

Page 1 of 1



Advanced Technology Laboratories

Date: 13-Aug-02

CLIENT: Geocon Environmental

Client Sample ID: S77-1

Lab Order: 057898

Project: Rte 5 - Southbound, 09100-06-49

Collection Date: 7/12/2002

Lab ID: 057898-074A

Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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LEAD BY ATOMIC ABSORPTION BY STLC

(WET)

WET/ EPA 7420

RunID: AA2_020813C

QC Batch: 10178

Analyst: NS

Lead	160	4.0		mg/L	20	8/13/2002
Lead	190	4.0		mg/L	20	7/23/2002

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified

Page 1 of 1





Advanced Technology Laboratories

Date: 13-Aug-02

CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and 4 columns for analyte results (PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual). Row 1: MB-9729, MBLK, 7420_ST, mg/L, 7/23/2002, AA2_020723N, ZZZZ, 9729, WET/ EPA 74 (WET), 7/23/2002, 304860. Analyte: Lead, Result: ND, PQL: 0.20.

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and 4 columns for analyte results. Row 1: MB-9729A, MBLK, 7420_ST, mg/L, 7/19/2002, AA2_020723N, ZZZZ, 9729, WET/ EPA 74 (WET), 7/23/2002, 304861. Analyte: Lead, Result: ND, PQL: 0.20.

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and 4 columns for analyte results. Row 1: MB-9729B, MBLK, 7420_ST, mg/L, 7/19/2002, AA2_020723N, ZZZZ, 9729, WET/ EPA 74 (WET), 7/23/2002, 304874. Analyte: Lead, Result: ND, PQL: 0.20.

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and 4 columns for analyte results. Row 1: MB-9730, MBLK, 7420_ST, mg/L, 7/23/2002, AA2_020723R, ZZZZ, 9730, WET/ EPA 74 (WET), 7/23/2002, 304981. Analyte: Lead, Result: ND, PQL: 0.20.

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and 4 columns for analyte results. Row 1: MB-9730A, MBLK, 7420_ST, mg/L, 7/19/2002, AA2_020723R, ZZZZ, 9730, WET/ EPA 74 (WET), 7/23/2002, 304982. Analyte: Lead, Result: ND, PQL: 0.20.

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO - Surrogate dilute out
J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	MB-9730B	SampType: MBLK	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/19/2002	Run ID: AA2_020723R						
Client ID:	ZZZZZ	Batch ID: 9730	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/23/2002	SeqNo: 304995						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9731	SampType: MBLK	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/23/2002	Run ID: AA2_020723S						
Client ID:	ZZZZZ	Batch ID: 9731	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/23/2002	SeqNo: 305013						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9731A	SampType: MBLK	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/19/2002	Run ID: AA2_020723S						
Client ID:	ZZZZZ	Batch ID: 9731	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/23/2002	SeqNo: 305014						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.1553 0.20

Sample ID	MB-9731B	SampType: MBLK	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/19/2002	Run ID: AA2_020723S						
Client ID:	ZZZZZ	Batch ID: 9731	TestNo: WET/ EPA 74 (WET)		Analysis Date: 7/23/2002	SeqNo: 305027						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.09035 0.20

Sample ID	MB-10178	SampType: MBLK	TestCode: 7420_ST	Units: mg/L	Prep Date: 8/13/2002	Run ID: AA2_020813C						
Client ID:	ZZZZZ	Batch ID: 10178	TestNo: WET/ EPA 74 (WET)		Analysis Date: 8/13/2002	SeqNo: 317694						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	MB-10178A	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	8/8/2002	Run ID:	AA2_020813C			
Client ID:	ZZZZZ	Batch ID:	10178	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	8/13/2002	SeqNo:	317695			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-10178B	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	8/8/2002	Run ID:	AA2_020813C			
Client ID:	ZZZZZ	Batch ID:	10178	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	8/13/2002	SeqNo:	317703			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	LCS-9729	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723N			
Client ID:	ZZZZZ	Batch ID:	9729	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304896			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.672 0.20 7.5 0 102 80 120 0 0

Sample ID	LCS-9730	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723R			
Client ID:	ZZZZZ	Batch ID:	9730	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305008			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.673 0.20 7.5 0 102 80 120 0 0

Sample ID	LCS-9731	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723S			
Client ID:	ZZZZZ	Batch ID:	9731	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305040			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.722 0.20 7.5 0 103 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	LCS-10178	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	8/13/2002	Run ID:	AA2_020813C			
Client ID:	ZZZZZ	Batch ID:	10178	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	8/13/2002	SeqNo:	317722			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	7.023	0.20	7.5	0	93.6	80	120	0	0					
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Sample ID	057898-012AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723N			
Client ID:	S61-3	Batch ID:	9729	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304873			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	22.46	0.40	10	13.12	93.4	80	120	0	0					
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Sample ID	057898-024AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723N			
Client ID:	S64-3	Batch ID:	9729	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304891			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	9.319	0.20	5	4.63	93.8	80	120	0	0					
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Sample ID	057898-037AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723R			
Client ID:	S68-S	Batch ID:	9730	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304994			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	49.85	0.80	20	30.4	97.3	80	120	0	0					
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Sample ID	057898-052AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723R			
Client ID:	S71-3	Batch ID:	9730	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305006			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	260.5	4.0	100	173.5	87	80	120	0	0					
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	057898-066AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723S			
Client ID:	S75-1	Batch ID:	9731	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305026			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	111.6	2.0	50	65.34	92.5	80	120	0	0					
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Sample ID	057898-078AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723S			
Client ID:	S78-1	Batch ID:	9731	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305038			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	24.71	0.40	10	14.74	99.8	80	120	0	0					
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Sample ID	057898-087AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723T			
Client ID:	S80-2	Batch ID:	9732	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305048			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	7.411	0.20	5	2.734	93.5	80	120	0	0					
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Sample ID	057898-051AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	8/13/2002	Run ID:	AA2_020813C			
Client ID:	S71-2	Batch ID:	10178	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	8/13/2002	SeqNo:	317702			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	199.7	4.0	100	98.92	101	80	120	0	0					
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Sample ID	057898-074AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	8/13/2002	Run ID:	AA2_020813C			
Client ID:	S77-1	Batch ID:	10178	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	8/13/2002	SeqNo:	317718			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	337.4	8.0	200	155.5	90.9	80	120	0	0					
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	057898-012ADUP	SampType: DUP	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/19/2002	Run ID: AA2_020723N					
Client ID:	S61-3	Batch ID: 9729	TestNo: WET/ EPA 74 (WET)	Analysis Date: 7/23/2002	SeqNo: 304872						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	13.2	0.20	0	0	0	0	0	13.12	0.638	30	
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Sample ID	057898-024ADUP	SampType: DUP	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/19/2002	Run ID: AA2_020723N					
Client ID:	S64-3	Batch ID: 9729	TestNo: WET/ EPA 74 (WET)	Analysis Date: 7/23/2002	SeqNo: 304889						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	9.038	0.20	0	0	0	0	0	4.63	64.5	30	R
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Sample ID	057898-037ADUP	SampType: DUP	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/19/2002	Run ID: AA2_020723R					
Client ID:	S68-S	Batch ID: 9730	TestNo: WET/ EPA 74 (WET)	Analysis Date: 7/23/2002	SeqNo: 304993						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	30.41	0.80	0	0	0	0	0	30.4	0.0295	30	
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Sample ID	057898-052ADUP	SampType: DUP	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/19/2002	Run ID: AA2_020723R					
Client ID:	S71-3	Batch ID: 9730	TestNo: WET/ EPA 74 (WET)	Analysis Date: 7/23/2002	SeqNo: 305005						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	130.7	4.0	0	0	0	0	0	173.5	28.1	30	
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Sample ID	057898-066ADUP	SampType: DUP	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/19/2002	Run ID: AA2_020723S					
Client ID:	S75-1	Batch ID: 9731	TestNo: WET/ EPA 74 (WET)	Analysis Date: 7/23/2002	SeqNo: 305025						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	60.41	2.0	0	0	0	0	0	65.34	7.84	30	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	057898-078ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723S			
Client ID:	S78-1	Batch ID:	9731	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305037			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 14.17 0.20 0 0 0 0 0 0 14.74 3.90 30

Sample ID	057898-087ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723T			
Client ID:	S80-2	Batch ID:	9732	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305047			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 2.655 0.20 0 0 0 0 0 0 2.734 2.92 30

Sample ID	057898-051ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	8/8/2002	Run ID:	AA2_020813C			
Client ID:	S71-2	Batch ID:	10178	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	8/13/2002	SeqNo:	317701			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 99.42 2.0 0 0 0 0 0 0 98.92 0.511 30

Sample ID	057898-074ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	8/8/2002	Run ID:	AA2_020813C			
Client ID:	S77-1	Batch ID:	10178	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	8/13/2002	SeqNo:	317716			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 152.7 4.0 0 0 0 0 0 0 155.5 1.79 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values

Diane

From: Chris King [king@geoconinc.com]**Sent:** Tuesday, August 06, 2002 2:43 PM**To:** 'Diane'

Please rerun the WET-Citric tests for the following samples per our telephone conversation: s59-2, s67 -s, s67-3, s71-1, s71-2, s71-3, s72-3, s73-1, s73-2, s73-3, s77-s, s77-1. The correlation between total lead and soluble lead was very low for these. Thank you.

Christopher S. King
Senior Staff Engineer
Geocon Consultants, Inc.

8/6/2002

July 29, 2002

AUG 05 2002

Chris King
Geocon Environmental
6970 Flanders Drive
San Diego, CA 92121
TEL: (858) 558-6100
FAX: (858) 558-8437

RE: Rte 5 South, 09100-06-49

Attention: Chris King

ELAP No.: 1838

NELAP No.: 02107CA

Workorder No.: 057937

Enclosed are the results for sample(s) received on July 15, 2002 by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,



Eddie F. Rodriguez
Laboratory Director

This cover letter is an integral part of this analytical report.



CHAIN OF CUSTODY RECORD



**Advanced Technology
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P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC <input type="checkbox"/> Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED <input type="checkbox"/> Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7/15/02</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City San Diego State CA Zip Code 92121	FAX: (858) 558-8437

Project Name: <u>PT5 South</u>	Project #: <u>09100-06-49</u>	Sampler: <u>CCB/GCA</u> (Printed Name)	(Signature)
Relinquished by: (Signature and Printed Name) <u>Chad Beaber</u>	Date: <u>7-15-02</u> Time: <u>6:00p</u>	Received by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:00p</u>
Relinquished by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:40p</u>	Received by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:35p</u>
Relinquished by: (Signature and Printed Name)	Date: _____ Time: _____	Received by: (Signature and Printed Name)	Date: _____ Time: _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>Chris King</u> <u>7-15-02</u> Print Name Date <u>[Signature]</u> Signature	Send Report To: Attn: _____ Co: _____ Address: _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: _____ Address: _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>SEE PAGE 2</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.
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Circle or Add Analysis(es) Requested <u>8091 / 8092 (Pesticides/PCB/OC)</u> <u>8280 (Volatiles-GC/MS)</u> <u>6251 / 8270 (BVA-GC/MS)</u> <u>Metalis-Total (CAC-8010 / 7000)</u> <u>8015M TPH/GSTEX (COMBINATION)</u> <u>8015M TPH/D (Diesel-GC)</u> <u>TOTAL LEAD</u>	CIRCLE APPROPRIATE MATRIX SOLID • SOLID • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER	PRESERVATION QA/QC RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> REMARKS
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ITEM	LAB USE ONLY:		Sample Description			
	Batch #:	Sample I.D.	Date	Time	Container(s)	Type
	057937-001	S-81-5	7/15/02	923	X	E 1 5 6
	002	S-81-1		928	X	X X X
	3	S81-2		930		
	4	S81-3		934		
	5	S82-5		925		
	6	S82-1		929		
	7	S82-2		933		
	8	S82-3		937		
	9	S83-5		953		
	10	S83-1		957		

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= <input type="checkbox"/> Overnight ≤ 24 hr	B= <input type="checkbox"/> Emergency Next workday	C= <input type="checkbox"/> Critical 2 Workdays	D= <input type="checkbox"/> Urgent 3 Workdays	E= <input type="checkbox"/> Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

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**Advanced Technology
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Signal Hill, CA 90807
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P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7-15-02</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City San Diego State CA Zip Code 92121	FAX: (858) 558-8437

Project Name: <u>Rt 5 South</u>	Project #: <u>09100-06-219</u>	Sampler: <u>CIGB/GCA</u> (Printed Name)	(Signature)
Relinquished by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:00P</u>	Received by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:20P</u>
Relinquished by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:24P</u>	Received by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:35</u>

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>Chris King</u> <u>7-15-02</u> <u>[Signature]</u> Print Name Date	Send Report To: Attn: <u>[Signature]</u> Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>see page 2</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.
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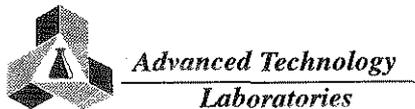
Circle or Add Analysis(es) Requested 8091 / 8092 (Pesticides/PCB-SC) 8280 (Volatiles-GCMS) 625 / 8270 (BVA-GCMS) Metals: Total (CAC-8010 / 7000) 8015M TPH/G/TEXT (COMBINATION) 8015M TPH/D (Diger-GC) <u>TOTAL LAB CODE</u>	CIRCLE APPROPRIATE MATRIX SOLID • SOIL • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER _____	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input type="checkbox"/> OTHER _____
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ITEM	LAB USE ONLY:		Sample Description			
	Batch #:	Sample I.D.	Date	Time		
	Lab No.	Sample I.D.	Date	Time		
	11	583-2	7/15/02	1005		
	12	583-3		1005		
	13	584-5		951		
	14	584-1		957		
	15	584-2		1002		
	16	584-3		1006		
	17	585-5		1012		
	18	585-1		1018		
	19	585-2		1023		
	20	585-3		1027		

Container(s)		TAT	#	Type	REMARKS
		X	E	L J G	
		X	X	X X	

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=Hcl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₅
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

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P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: <u>[Signature]</u> Date: <u>7-15-02</u> Time: _____		

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City San Diego State CA Zip Code 92121	FAX: (858) 558-8437

Project Name: <u>Rt 5 South</u>	Project #: <u>09100-06-49</u>	Sampler: <u>CB BIGCA</u> (Printed Name)	(Signature)
Relinquished by: <u>[Signature]</u> Date: <u>7-15-02</u> Time: <u>6:00p</u>	Received by: <u>[Signature]</u> Date: <u>7-15-02</u> Time: <u>6:00p</u>		
Relinquished by: <u>[Signature]</u> Date: <u>7-15-02</u> Time: <u>6:41p</u>	Received by: <u>[Signature]</u> Date: <u>7-15-02</u> Time: <u>6:30</u>		
Relinquished by: _____ Date: _____ Time: _____	Received by: _____ Date: _____ Time: _____		

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>Chris King 7/5/02</u> Print Name Date <u>[Signature]</u> Signature	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>For Instructions (see DMs)</u>
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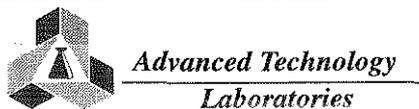
Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.
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Circle or Add Analysis(es) Requested 8091 / 8092 (Pesticides/PCB-GC) 8200 (Volatiles-GC/MS) 625 / 8270 (BNA-GC/MS) Metals: Total (CAC-5010 / 7000) 8015M TPH/G/TEX (COMBINATION) 8015M TPMD (Diesel-GC) <u>Lead / Lead Sol</u>	CIRCLE APPROPRIATE MATRIX SOLID • SOIL • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER _____
---	---	---

ITEM	LAB USE ONLY:		Sample Description				Container(s)	TAT	#	Type	REMARKS
	Batch #:	Lab No.	Sample I.D.	Date	Time						
		21	586-5	7/15/02	1031				E	ITG	
		22	586-1		1025				X	XXX	
		23	586-2		1029						
		24	587-5		1032						
		25	587-1		1038						
		26	587-2		1042						
		27	587-3		1046						
		28	588-5		1037						
		29	588-1		1043						
		30	588-2		1048						

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=Hcl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₈
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

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P.O.#: _____	Method of Transport: Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt: 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7-15-02</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Christ King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rt 5 South</u>	Project #: <u>09100-06-49</u>	Sampler: <u>CIGB (GCA)</u> (Printed Name)	(Signature)
Relinquished by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:00P</u>	Received by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:00P</u>
Relinquished by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:40P</u>	Received by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:35P</u>
Relinquished by: (Signature and Printed Name) _____	Date: _____ Time: _____	Received by: (Signature and Printed Name) _____	Date: _____ Time: _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>Christ King</u> <u>7-15-02</u> Print Name Date <u>[Signature]</u> Signature	Send Report To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>See Page 2</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested: 8091 / 8092 (Pesticides/PGB-OC) 8200 (Volatiles-GCMS) 823 / 8270 (DNA-GC/MS) Metals: Total (CAC-8010 / 7000) 8015M TPH3/BTEX (COMBINATION) 8015M TPH3/BTEX (Diesel/GC) <u>TOTAL LAB</u>	CIRCLE APPROPRIATE MATRIX: SOLID (SOIL) • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER TAT # Type CONTAINER(S)	QA/QC RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER <input checked="" type="checkbox"/>
LAB USE ONLY: Batch #:	Sample Description			
Lab No.	Sample I.D.	Date	Time	REMARKS
41	591-1	7/15/02	11:14	
42	591-2		11:17	
43	591-3		11:21	
44	592-5		11:37	
45	592-1		11:42	
46	592-2		11:46	
47	592-3		11:38	
48	593-3		11:43	
49	593-1		11:47	
50	593-2		11:51	

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight < 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Teclar G=Glass P=Plastic M=Metal						

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P.O.#: _____	Method of Transport: Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt: 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7-15-02</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>R+S South</u>	Project #: <u>09100-00-49</u>	Sampler: <u>CC/ACLA</u> (Printed Name)	(Signature)
Relinquished by: <u>[Signature]</u> (Signature and Printed Name)	Date: <u>7-15-02</u> Time: <u>6:00p</u>	Received by: <u>[Signature]</u> (Signature and Printed Name)	Date: <u>7-15-02</u> Time: <u>6:00p</u>
Relinquished by: <u>[Signature]</u> (Signature and Printed Name)	Date: <u>7-15-02</u> Time: <u>6:40p</u>	Received by: <u>[Signature]</u> (Signature and Printed Name)	Date: <u>7-15-02</u> Time: <u>6:35p</u>
Relinquished by: <u>[Signature]</u> (Signature and Printed Name)	Date: _____ Time: _____	Received by: <u>[Signature]</u> (Signature and Printed Name)	Date: _____ Time: _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>[Signature]</u> <u>7-15-02</u> Print Name Date	Send Report To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>SEE PAGES 4</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested: 8091 / 8082 (Pesticides/PCB/OC) 8200 (Volatiles-GC/MS) 625 / 8270 (BVA-GC/MS) Metals: Total (CAC-8010 / 7000) 8015M TPH (G/TEXT) (COMBINATION) 8015M TPH (DIESEL-GC) <u>TAM LMO</u>	CIRCLE APPROPRIATE MATRIX: SOLID (SOIL) SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER _____	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER _____
LAB USE ONLY: Batch #:	Sample Description			
Lab No.	Sample I.D.	Date	Time	Container(s) TAT # Type
51	594-5	7-15-02	1148	E 1 J:6
52	594-1		1150	X X X X
53	594-2		1156	
54	595-5		1203	
55	595-1		1207	
56	595-2		1210	
57	595-3		1217	
58	596-5		1211	
59	596-1		1215	
60	596-2		1219	

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=Hcl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₈
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



**Advanced Technology
Laboratories**

3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Logged By: <u>[Signature]</u> Date: <u>7-15-02</u> Time: _____		

Client: GEOGON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Christina King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>R/S - South</u>	Project #: <u>09100-06-49</u>	Sampler: <u>CGA-GCA</u> (Printed Name)	(Signature)
Relinquished by: <u>[Signature]</u> Date: <u>7-15-02</u> Time: <u>6:00p</u>	Received by: <u>[Signature]</u> Date: <u>7-15-02</u> Time: <u>6:00p</u>		
Relinquished by: <u>[Signature]</u> Date: <u>7-15-02</u> Time: <u>6:24p</u>	Received by: <u>[Signature]</u> Date: <u>7-15-02</u> Time: <u>6:35p</u>		
Relinquished by: _____ Date: _____ Time: _____	Received by: _____ Date: _____ Time: _____		

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>[Signature]</u> <u>7-15-02</u> Print Name Date	Send Report To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>See Page 1</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8091 / 8092 (Pesticides/PCB-GC) 8200 (Volatiles-GC/MS) 825 / 8270 (BNA-GC/MS) Metals: Total (CAC-8010 / 7000) 8015M TPH/G8/TEX (COMBINATION) 8015M TPH/G8/TEX (Diesel-GC) <u>TOTAL 1340 6010</u>	CIRCLE APPROPRIATE MATRIX SOLIDS • SOL • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIFE • FILTER OTHER	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER
LAB USE ONLY: Batch #:	Sample Description			
Lab No.	Sample I.D.	Date	Time	Container(s) TAT # Type
61	596-3	7-15-02	12:23	E 1 J G
62	597-5		12:14	X D F X
63	597-1		12:10	
64	597-2		12:23	
65	597-3		12:27	
66	598-5		12:23	
67	598-1		12:29	
68	598-2		12:34	
69	598-3		12:38	
70	599-5		12:41	

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=Hcl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



3275 Walnut Avenue
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FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport: Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt: 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Logged By: <u>Don</u> Date: <u>7-15-02</u> Time: _____		

Client: <u>GEOCON ENVIRONMENTAL - SAN DIEGO</u>	Address: <u>6970 Flanders Drive</u>	TEL: <u>(858) 558-6100</u>
Attn: <u>Chris King</u>	City: <u>San Diego</u> State: <u>CA</u> Zip Code: <u>92121</u>	FAX: <u>(858) 558-8437</u>

Project Name: <u>RTS - South</u>	Project #: <u>09100-06-419</u>	Sampler: <u>CCB/GCA</u> (Printed Name)	(Signature)
Relinquished by: (Signature and Printed Name) <u>Chad B. ...</u>	Date: <u>7-15-02</u> Time: <u>6:00P</u>	Received by: (Signature and Printed Name) <u>Just</u>	Date: <u>7-15-02</u> Time: <u>6:00P</u>
Relinquished by: (Signature and Printed Name) <u>WBS</u>	Date: <u>7-15-02</u> Time: <u>6:45P</u>	Received by: (Signature and Printed Name) <u>Don</u>	Date: <u>7-15-02</u> Time: <u>6:35P</u>

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>Chris King</u> <u>7-15-02</u>	Send Report To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>SEE PAGE 1</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested: 8091 / 8082 (Pesticides/PCB-CC) 8200 IV Volatiles (CC/MS) 635 / 8270 (BVA-GC/MS) Metals: Total (CAC-8010 / 7200) 8015M TPH/G/TEXT (COMBINATION) 8015M TPH/D (Diesel-GC) <u>12010/12010</u>	CIRCLE APPROPRIATE MATRIX: SOLID • SOL • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIFE • FILTER OTHER	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER	QA/QC							
LAB USE ONLY:		Sample Description				Container(s)						
I	T	E	M	Batch #:	Lab No.	Sample I.D.	Date	Time	TAT	#	Type	REMARKS
					<u>599-1</u> 71	<u>599-1</u>	<u>7-15-02</u>	<u>1245</u>	<u>X</u>	<u>E</u>	<u>1 JG</u>	
					<u>599</u> 72	<u>599-2</u>				<u>X</u>	<u>X</u>	<u>X</u>
					73	<u>5100-5</u>						
					74	<u>5100-1</u>						
					75	<u>5100-2</u>						
					76	<u>5100-3</u>						
					77	<u>5101-5</u>						
					78	<u>5101-1</u>						
					79	<u>5101-2</u>						
					80	<u>5102-5</u>						

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



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P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7-15-02</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rt 5 South</u>	Project #: <u>09100-06-49</u>	Sampler: <u>CGB/GCA</u> (Printed Name)	(Signature)
Relinquished by: <u>[Signature]</u> Date: <u>7-15-02</u> Time: <u>6:44</u>	Received by: <u>[Signature]</u> Date: <u>7-15-02</u> Time: <u>6:00</u>	Relinquished by: <u>[Signature]</u> Date: <u>7-15-02</u> Time: <u>6:44</u>	Received by: <u>[Signature]</u> Date: <u>7-15-02</u> Time: <u>6:35</u>

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>Chris King</u> <u>7-15-02</u>	Send Report To: Attn: <u>Client</u> Co: <u>Client</u> Address: _____ City: _____ State: _____ Zip: _____	Bill To: Attn: <u>Client</u> Co: <u>Client</u> Address: _____ City: _____ State: _____ Zip: _____	Special Instructions/Comments: <u>SEE PAGE 4</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested <u>8091 / 8082 (Pesticides-PCB-CC)</u> <u>8200 (Volatile-CC/MS)</u> <u>8237 / 8270 (BVA-CC/MS)</u> <u>Metals-Total (CAC-8010 / 7000)</u> <u>8015M TPH/GH/TEX (COMBINATION)</u> <u>8015M TPH/D (Diesel-CC)</u> <u>1541/1540</u>	CIRCLE APPROPRIATE MATRIX <u>SOLID (SOIL) • SLUDGE</u> <u>OIL • SOLVENT • LIQUID</u> <u>WATER • WASTEWATER</u> <u>DRINKING WATER</u> <u>AIR</u> <u>WIPE • FILTER</u> <u>OTHER</u>	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	QA/QC	
I T E M	LAB USE ONLY: Batch #: Lab No.	Sample Description Sample I.D.	Date	Time	Container(s) TAT # Type	REMARKS
	81	S102-1	7-15-02	1:08	E 1 5 G	
	82	S102-2	*	1:12	* K K *	
	83	S102-3	↓	1:16	↓ ↓ ↓ ↓	
	84	S103-5	↓	1:10	↓ ↓ ↓ ↓	
	85	S103-1	↓	1:14	↓ ↓ ↓ ↓	
	86	S103-2 *	↓	1:18	↓ ↓ ↓ ↓	*
	87	S104-5	↓	1:14	↓ ↓ ↓ ↓	
	88	S104-1	↓	1:28	↓ ↓ ↓ ↓	
	89	S104-2	↓	1:24	↓ ↓ ↓ ↓	
	90	S104-3	↓	1:26	↓ ↓ ↓ ↓	

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= <input type="checkbox"/> Overnight ≤ 24 hr	B= <input type="checkbox"/> Emergency Next workday	C= <input type="checkbox"/> Critical 2 Workdays	D= <input type="checkbox"/> Urgent 3 Workdays	E= <input type="checkbox"/> Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Teclar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



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(562) 989-4045 • FAX (562) 989-4040

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P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Logged By: <u>JML</u> Date: <u>7-15-02</u> Time: _____		

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Christina</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

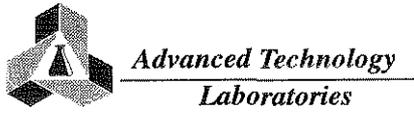
Project Name: <u>RTS South</u>	Project #: <u>09100-06-49</u>	Sampler: <u>CGB/GCA</u> (Printed Name)	(Signature)
Relinquished by: (Signature and Printed Name) <u>CHAD BENTON</u>	Date: <u>7-15-02</u> Time: <u>6:00P</u>	Received by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:20P</u>
Relinquished by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:40P</u>	Received by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-15-02</u> Time: <u>6:35P</u>
Relinquished by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-15-02</u> Time: _____	Received by: (Signature and Printed Name) _____	Date: _____ Time: _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>[Signature]</u> <u>7-15-02</u> Print Name Date	Send Report To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>SEE PAGES 1</u>
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ITEM	LAB USE ONLY: Batch #: Lab No.	Sample Description Sample I.D.	Date	Time	Circle or Add Analysis(es) Requested <i>8091 / 8092 (Pesticides/PCB-CC) 8230 (Volatiles-CC/MS) 623 / 8270 (BVA-GC/MS) Metals: Total (CAC-8010 / 7090) 8015M TPH/STEX (COMBINATION) 8015M TPH/D (Diesel-GC) <u>Total Lead</u></i>	CIRCLE APPROPRIATE MATRIX							Container(s) # Type	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	REMARKS
						SOLID (SOIL) SLUDGE	OIL • SOLVENT • LIQUID	WATER • WASTEWATER	DRINKING WATER	AIR	WIPE • FILTER	OTHER			
	91	S105-S	7-15-02	1:26									E	1 J:G	
	92	S105-1	7-15-02	1:30									X	X X X	
	93	S105-2 *		1:34											
	94	S106-S		1:35											
	95	S106-1		1:36											
	96	S106-2		1:34											
	97	S106-3		1:37											
	98	S107-S		1:38											
	99	S107-1		1:43											
	100	S107-2		1:48											

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=Hcl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) O=NaOH T=Na ₂ S ₂ O ₈
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



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FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport: Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt: 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7-15-02</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Christina</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rt 5-South</u>	Project #: <u>09160-06-49</u>	Sampler: <u>CG3/GCA</u>	(Signature) <u>[Signature]</u>
Relinquished by: <u>[Signature]</u> Date: <u>7-15-02</u> Time: <u>6:30am</u>	Received by: <u>[Signature]</u> Date: <u>7-15-02</u> Time: <u>6:00pm</u>		
Relinquished by: <u>[Signature]</u> Date: <u>7-15-02</u> Time: <u>6:40am</u>	Received by: <u>[Signature]</u> Date: <u>7-15-02</u> Time: <u>6:30pm</u>		

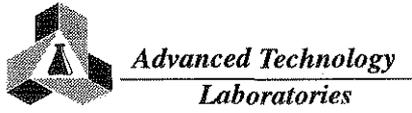
I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>[Signature]</u> <u>7-15-02</u> Print Name: _____ Date: _____ Signature: _____	Send Report To: Attn: _____ Co: <u>Client</u> Address: _____ City: _____ State: _____ Zip: _____	Bill To: Attn: _____ Co: <u>Client</u> Address: _____ City: _____ State: _____ Zip: _____	Special Instructions/Comments: <u>See Page 1</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested: <u>TAAL/Lead/GSA</u>	CIRCLE APPROPRIATE MATRIX: <input type="checkbox"/> SOLIDS/SOL <input type="checkbox"/> OIL • SOLVENT • SLUDGE <input type="checkbox"/> WATER • LIQUID <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> AIR <input type="checkbox"/> WIFE • FILTER <input type="checkbox"/> OTHER	PRESERVATION: RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>
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ITEM	LAB USE ONLY:		Sample Description				CIRCLE APPROPRIATE MATRIX										PRESERVATION	REMARKS					
	Batch #:	Lab No.	Sample I.D.	Date	Time	8061 / 8082 (Pesticides/POB-GC)	8260 (Halides-GCMS)	625 / 8270 (BVA-GCM/MS)	Metals Total (CAC-MS)	8015M TPH/G/TEX (COMBINATION)	8015M TPH/D (Diesel-GC)	SOLIDS/SOL	OIL • SOLVENT • SLUDGE	WATER • LIQUID	DRINKING WATER	AIR			WIFE • FILTER	OTHER	TAT	Container(s) #	Type
		101	5107-3	7-15-02	1:52															E	156		
		102	5108-6		1:39															X	KXX		
		103	5105-01		1:43																		
		104	5108-2		1:47																		
		105	5108-3		1:51																		

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₈
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

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P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Logged By: <u>DK</u> Date: <u>7-15-02</u> Time: _____		

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City San Diego State CA Zip Code 92121	FAX: (858) 558-8437

Project Name: <u>P+5 South</u>	Project #: <u>09100-06-49</u>	Sampler: <u>IGB/GCA</u> (Printed Name)	(Signature) _____
Relinquished by: <u>Chris King</u> (Signature and Printed Name)	Date: <u>7-15-02</u> Time: <u>6:00P</u>	Received by: <u>DK</u> (Signature and Printed Name)	Date: <u>7-15-02</u> Time: <u>6:30P</u>
Relinquished by: _____ (Signature and Printed Name)	Date: _____ Time: _____	Received by: _____ (Signature and Printed Name)	Date: _____ Time: _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>Chris King</u> (Print Name) Date: <u>7-15-02</u>	Send Report To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: _____ Address: _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>See folder</u>
--	---	--	---

Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.
---	---

Circle or Add Analysis(es) Requested <u>8091 / 8092 (Pesticides/PCB-CC)</u> <u>8280 (Metals-GC/MS)</u> <u>625 / 8270 (PVA-GC/MS)</u> <u>Metals Total (CAC-8010 / 7000)</u> <u>8015M TPH/G/BTEX (COMBINATION)</u> <u>8015M TPH/D (Diesel-GC)</u> <u>TOTAL CAS</u>	CIRCLE APPROPRIATE MATRIX <u>SOLID • SOIL • SLUDGE</u> <u>OIL • SOLVENT • LIQUID</u> <u>WATER • WASTEWATER</u> <u>DRINKING WATER</u> <u>AIR</u> <u>WIPE • FILTER</u> <u>OTHER</u>	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>
---	--	--

ITEM	LAB USE ONLY:		Sample Description			
	Batch #:	Lab No.	Sample I.D.	Date	Time	
		106	EB-34	7-15-02	1005	
		107	EB-35		1030	
		108	EB-36		1058	
		109	EB-37		1122	
		110	EB-38		1157	
		111	EB-39		1204	
		112	EB-40		1241	
		113	EB-41		1300	
		114	EB-42		1316	
		115	EB-43		1345	

TAT	#	Type	PRESERVATION	REMARKS
E	1	P	C	
X	X	X	X	

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

Advanced Technology Laboratories

Date: 7/29/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-001A	S-81-S	470	mg/Kg	9615	5	1	7/15/2002	7/19/2002
057937-002A	S-81-1	30	mg/Kg	9615	5	1	7/15/2002	7/19/2002
057937-003A	S81-2	72	mg/Kg	9615	5	1	7/15/2002	7/19/2002
057937-004A	S81-3	9.8	mg/Kg	9615	5	1	7/15/2002	7/19/2002
057937-005A	S82-S	710	mg/Kg	9615	5	1	7/15/2002	7/19/2002
057937-006A	S82-1	180	mg/Kg	9615	5	1	7/15/2002	7/19/2002
057937-007A	S82-2	170	mg/Kg	9615	5	1	7/15/2002	7/19/2002
057937-008A	S82-3	160	mg/Kg	9615	5	1	7/15/2002	7/19/2002
057937-009A	S83-S	720	mg/Kg	9615	5	1	7/15/2002	7/19/2002
057937-010A	S83-1	350	mg/Kg	9615	5	1	7/15/2002	7/19/2002
057937-011A	S83-2	54	mg/Kg	9615	5	1	7/15/2002	7/19/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/29/2002

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EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-012A	S83-3	31	mg/Kg	9615	5	1	7/15/2002	7/19/2002
057937-013A	S84-S	1400	mg/Kg	9615	5	1	7/15/2002	7/19/2002
057937-014A	S84-1	560	mg/Kg	9615	5	1	7/15/2002	7/19/2002
057937-015A	S84-2	210	mg/Kg	9615	5	1	7/15/2002	7/19/2002
057937-016A	S84-3	420	mg/Kg	9615	5	1	7/15/2002	7/19/2002
057937-017A	S85-S	450	mg/Kg	9615	5	1	7/15/2002	7/19/2002
057937-018A	S85-1	780	mg/Kg	9615	5	1	7/15/2002	7/19/2002
057937-019A	S85-2	1800	mg/Kg	9615	5	1	7/15/2002	7/19/2002
057937-020A	S85-3	500	mg/Kg	9615	5	1	7/15/2002	7/19/2002
057937-021A	S86-S	260	mg/Kg	9616	5	1	7/15/2002	7/19/2002
057937-022A	S86-1	480	mg/Kg	9616	5	1	7/15/2002	7/19/2002

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	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/29/2002

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EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-023A	S86-2	750	mg/Kg	9616	5	1	7/15/2002	7/19/2002
057937-024A	S87-S	1000	mg/Kg	9616	5	1	7/15/2002	7/19/2002
057937-025A	S87-1	390	mg/Kg	9616	5	1	7/15/2002	7/19/2002
057937-026A	S87-2	100	mg/Kg	9616	5	1	7/15/2002	7/19/2002
057937-027A	S87-3	22	mg/Kg	9616	5	1	7/15/2002	7/19/2002
057937-028A	S88-S	1100	mg/Kg	9616	5	1	7/15/2002	7/19/2002
057937-029A	S88-1	1100	mg/Kg	9616	5	1	7/15/2002	7/19/2002
057937-030A	S88-2	1100	mg/Kg	9616	5	1	7/15/2002	7/19/2002
057937-031A	S88-3	550	mg/Kg	9616	5	1	7/15/2002	7/19/2002
057937-032A	S89-S	270	mg/Kg	9616	5	1	7/15/2002	7/19/2002
057937-033A	S89-1	560	mg/Kg	9616	5	1	7/15/2002	7/19/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



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EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-034A	S89-2	47	mg/Kg	9616	5	1	7/15/2002	7/19/2002
057937-035A	S89-3	100	mg/Kg	9616	5	1	7/15/2002	7/19/2002
057937-036A	S90-S	240	mg/Kg	9616	5	1	7/15/2002	7/19/2002
057937-037A	S90-1	100	mg/Kg	9616	5	1	7/15/2002	7/19/2002
057937-038A	S90-2	1500	mg/Kg	9616	5	1	7/15/2002	7/19/2002
057937-039A	S90-3	120	mg/Kg	9616	5	1	7/15/2002	7/19/2002
057937-040A	S91-S	530	mg/Kg	9616	5	1	7/15/2002	7/19/2002
057937-041A	S91-1	650	mg/Kg	9617	5	1	7/15/2002	7/19/2002
057937-042A	S91-2	48	mg/Kg	9617	5	1	7/15/2002	7/19/2002
057937-043A	S91-3	89	mg/Kg	9617	5	1	7/15/2002	7/19/2002
057937-044A	S92-S	410	mg/Kg	9617	5	1	7/15/2002	7/19/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
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	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
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Advanced Technology Laboratories

Date: 7/29/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-045A	S92-1	90	mg/Kg	9617	5	1	7/15/2002	7/19/2002
057937-046A	S92-2	250	mg/Kg	9617	5	1	7/15/2002	7/19/2002
057937-047A	S92-3	360	mg/Kg	9617	5	1	7/15/2002	7/19/2002
057937-048A	S93-S	940	mg/Kg	9617	5	1	7/15/2002	7/19/2002
057937-049A	S93-1	870	mg/Kg	9617	5	1	7/15/2002	7/19/2002
057937-050A	S93-2	69	mg/Kg	9617	5	1	7/15/2002	7/19/2002
057937-051A	S94-S	1100	mg/Kg	9617	5	1	7/15/2002	7/19/2002
057937-052A	S94-1	690	mg/Kg	9617	5	1	7/15/2002	7/19/2002
057937-053A	S94-2	750	mg/Kg	9617	5	1	7/15/2002	7/19/2002
057937-054A	S95-S	500	mg/Kg	9617	5	1	7/15/2002	7/19/2002
057937-055A	S95-1	620	mg/Kg	9617	5	1	7/15/2002	7/19/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
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	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



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EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-056A	S95-2	140	mg/Kg	9617	5	1	7/15/2002	7/19/2002
057937-057A	S95-3	230	mg/Kg	9617	5	1	7/15/2002	7/19/2002
057937-058A	S96-S	670	mg/Kg	9617	5	1	7/15/2002	7/19/2002
057937-059A	S96-1	19	mg/Kg	9617	5	1	7/15/2002	7/19/2002
057937-060A	S96-2	180	mg/Kg	9617	5	1	7/15/2002	7/19/2002
057937-061A	S96-3	34	mg/Kg	9618	5	1	7/15/2002	7/19/2002
057937-062A	S97-S	170	mg/Kg	9618	5	1	7/15/2002	7/19/2002
057937-063A	S97-1	290	mg/Kg	9618	5	1	7/15/2002	7/19/2002
057937-064A	S97-2	120	mg/Kg	9618	5	1	7/15/2002	7/19/2002
057937-065A	S97-3	110	mg/Kg	9618	5	1	7/15/2002	7/19/2002
057937-066A	S98-S	270	mg/Kg	9618	5	1	7/15/2002	7/19/2002

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	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
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**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-067A	S98-1	1500	mg/Kg	9618	5	1	7/15/2002	7/19/2002
057937-068A	S98-2	91	mg/Kg	9618	5	1	7/15/2002	7/19/2002
057937-069A	S98-3	55	mg/Kg	9618	5	1	7/15/2002	7/19/2002
057937-070A	S99-S	1900	mg/Kg	9618	5	1	7/15/2002	7/19/2002
057937-071A	S99-1	1600	mg/Kg	9618	5	1	7/15/2002	7/19/2002
057937-072A	S99-2	620	mg/Kg	9618	5	1	7/15/2002	7/19/2002
057937-073A	S100-S	610	mg/Kg	9618	5	1	7/15/2002	7/19/2002
057937-074A	S100-1	88	mg/Kg	9618	5	1	7/15/2002	7/19/2002
057937-075A	S100-2	60	mg/Kg	9618	5	1	7/15/2002	7/19/2002
057937-076A	S100-3	220	mg/Kg	9618	5	1	7/15/2002	7/19/2002
057937-077A	S101-S	250	mg/Kg	9618	5	1	7/15/2002	7/19/2002

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	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
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Advanced Technology Laboratories

Date: 7/29/2002

LEAD BY ICP EPA 6010B

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-078A	S101-1	43	mg/Kg	9618	5	1	7/15/2002	7/19/2002
057937-079A	S101-2	34	mg/Kg	9618	5	1	7/15/2002	7/19/2002
057937-080A	S102-S	560	mg/Kg	9618	5	1	7/15/2002	7/19/2002
057937-081A	S102-1	710	mg/Kg	9619	5	1	7/15/2002	7/19/2002
057937-082A	S102-2	220	mg/Kg	9619	5	1	7/15/2002	7/19/2002
057937-083A	S102-3	140	mg/Kg	9619	5	1	7/15/2002	7/19/2002
057937-084A	S103-S	1900	mg/Kg	9619	5	1	7/15/2002	7/19/2002
057937-085A	S103-1	330	mg/Kg	9619	5	1	7/15/2002	7/19/2002
057937-086A	S103-2	81	mg/Kg	9619	5	1	7/15/2002	7/19/2002
057937-087A	S104-S	910	mg/Kg	9619	5	1	7/15/2002	7/19/2002
057937-088A	S101-1	1000	mg/Kg	9619	5	1	7/15/2002	7/19/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
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Date: 7/29/2002

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EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-089A	S104-2	170	mg/Kg	9619	5	1	7/15/2002	7/19/2002
057937-090A	S104-3	170	mg/Kg	9619	5	1	7/15/2002	7/19/2002
057937-091A	S105-S	1400	mg/Kg	9619	5	1	7/15/2002	7/19/2002
057937-092A	S105-1	2500	mg/Kg	9619	5	1	7/15/2002	7/19/2002
057937-093A	S105-2	180	mg/Kg	9619	5	1	7/15/2002	7/19/2002
057937-094A	S106-S	730	mg/Kg	9619	5	1	7/15/2002	7/19/2002
057937-095A	S106-1	2300	mg/Kg	9619	5	1	7/15/2002	7/19/2002
057937-096A	S106-2	240	mg/Kg	9619	5	1	7/15/2002	7/19/2002
057937-097A	S106-3	390	mg/Kg	9619	5	1	7/15/2002	7/19/2002
057937-098A	S107-S	320	mg/Kg	9619	5	1	7/15/2002	7/19/2002
057937-099A	S107-1	240	mg/Kg	9619	5	1	7/15/2002	7/19/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
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	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
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Advanced Technology Laboratories

Date: 7/29/2002

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EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-100A	S107-2	290	mg/Kg	9619	5	1	7/15/2002	7/19/2002
057937-101A	S107-3	180	mg/Kg	9620	5	1	7/15/2002	7/19/2002
057937-102A	S108-S	590	mg/Kg	9620	5	1	7/15/2002	7/19/2002
057937-103A	S108-1	150	mg/Kg	9620	5	1	7/15/2002	7/19/2002
057937-104A	S108-2	320	mg/Kg	9620	5	1	7/15/2002	7/19/2002
057937-105A	S108-3	74	mg/Kg	9620	5	1	7/15/2002	7/19/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



ICP METALS
EPA 6010B

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Water
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-106A	EB-34	0.0062	mg/L	9645	0.005	1	7/15/2002	7/18/2002
057937-107A	EB-35	ND	mg/L	9645	0.005	1	7/15/2002	7/18/2002
057937-108A	EB-36	ND	mg/L	9645	0.005	1	7/15/2002	7/18/2002
057937-109A	EB-37	ND	mg/L	9645	0.005	1	7/15/2002	7/18/2002
057937-110A	EB-38	0.0068	mg/L	9842	0.005	1	7/15/2002	7/25/2002
057937-110A	EB-38	0.22	mg/L	9645	0.005	1	7/15/2002	7/18/2002
057937-111A	EB-39	ND	mg/L	9645	0.005	1	7/15/2002	7/18/2002
057937-112A	EB-40	ND	mg/L	9645	0.005	1	7/15/2002	7/18/2002
057937-113A	EB-41	ND	mg/L	9645	0.005	1	7/15/2002	7/18/2002
057937-114A	EB-42	0.010	mg/L	9645	0.005	1	7/15/2002	7/18/2002
057937-115A	EB-43	ND	mg/L	9645	0.005	1	7/15/2002	7/18/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



ICP METALS
EPA 6010B

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Water
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-116A	EB-44	0.0086	mg/L	9646	0.005	1	7/15/2002	7/18/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



pH
EPA 9045C

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-001A	S-81-S	8.52	pH Units	R19558	0.1	1	7/15/2002	7/19/2002
057937-010A	S83-1	7.29	pH Units	R19558	0.1	1	7/15/2002	7/19/2002
057937-020A	S85-3	7.19	pH Units	R19558	0.1	1	7/15/2002	7/19/2002
057937-030A	S88-2	7.44	pH Units	R19558	0.1	1	7/15/2002	7/19/2002
057937-040A	S91-S	7.56	pH Units	R19558	0.1	1	7/15/2002	7/19/2002
057937-050A	S93-2	7.86	pH Units	R19558	0.1	1	7/15/2002	7/19/2002
057937-060A	S96-2	8.45	pH Units	R19559	0.1	1	7/15/2002	7/19/2002
057937-070A	S99-S	6.99	pH Units	R19559	0.1	1	7/15/2002	7/19/2002
057937-080A	S102-S	7.50	pH Units	R19559	0.1	1	7/15/2002	7/19/2002
057937-090A	S104-3	7.11	pH Units	R19559	0.1	1	7/15/2002	7/19/2002
057937-100A	S107-2	7.67	pH Units	R19559	0.1	1	7/15/2002	7/19/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	NS

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-001A	S-81-S	51	mg/L	9786	2	10	7/15/2002	7/28/2002
057937-003A	S81-2	5.5	mg/L	9786	0.2	1	7/15/2002	7/28/2002
057937-005A	S82-S	70	mg/L	9786	2	10	7/15/2002	7/28/2002
057937-006A	S82-1	14	mg/L	9786	0.4	2	7/15/2002	7/28/2002
057937-007A	S82-2	13	mg/L	9786	0.4	2	7/15/2002	7/28/2002
057937-008A	S82-3	8.3	mg/L	9786	0.2	1	7/15/2002	7/28/2002
057937-009A	S83-S	63	mg/L	9786	2	10	7/15/2002	7/28/2002
057937-010A	S83-1	26	mg/L	9786	0.8	4	7/15/2002	7/28/2002
057937-011A	S83-2	3.9	mg/L	9786	0.2	1	7/15/2002	7/28/2002
057937-014A	S84-1	52	mg/L	9786	2	10	7/15/2002	7/28/2002
057937-015A	S84-2	15	mg/L	9787	0.4	2	7/15/2002	7/28/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
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	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
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**LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	NS

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-016A	S84-3	25	mg/L	9787	0.8	4	7/15/2002	7/28/2002
057937-017A	S85-S	34	mg/L	9787	0.8	4	7/15/2002	7/28/2002
057937-018A	S85-1	91	mg/L	9787	2	10	7/15/2002	7/28/2002
057937-020A	S85-3	43	mg/L	9787	2	10	7/15/2002	7/28/2002
057937-021A	S86-S	26	mg/L	9787	0.8	4	7/15/2002	7/28/2002
057937-022A	S86-1	55	mg/L	9787	2	10	7/15/2002	7/28/2002
057937-023A	S86-2	88	mg/L	9787	2	10	7/15/2002	7/28/2002
057937-025A	S87-1	35	mg/L	9787	0.8	4	7/15/2002	7/28/2002
057937-026A	S87-2	4.4	mg/L	9787	0.2	1	7/15/2002	7/28/2002
057937-031A	S88-3	54	mg/L	9787	2	10	7/15/2002	7/28/2002
057937-032A	S89-S	50	mg/L	9787	2	10	7/15/2002	7/28/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	NS

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-033A	S89-1	62	mg/L	9787	2	10	7/15/2002	7/28/2002
057937-035A	S89-3	6.6	mg/L	9787	0.2	1	7/15/2002	7/28/2002
057937-036A	S90-S	16	mg/L	9787	0.4	2	7/15/2002	7/28/2002
057937-037A	S90-1	7.9	mg/L	9787	0.2	1	7/15/2002	7/28/2002
057937-039A	S90-3	12	mg/L	9787	0.4	2	7/15/2002	7/28/2002
057937-040A	S91-S	83	mg/L	9787	2	10	7/15/2002	7/28/2002
057937-041A	S91-1	62	mg/L	9787	2	10	7/15/2002	7/28/2002
057937-043A	S91-3	1.7	mg/L	9787	0.2	1	7/15/2002	7/28/2002
057937-044A	S92-S	43	mg/L	9788	1.6	8	7/15/2002	7/27/2002
057937-045A	S92-1	5.8	mg/L	9788	0.2	1	7/15/2002	7/27/2002
057937-046A	S92-2	28	mg/L	9788	0.8	4	7/15/2002	7/27/2002

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
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 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified



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WET/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	NS

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-047A	S92-3	29	mg/L	9788	0.8	4	7/15/2002	7/27/2002
057937-048A	S93-S	43	mg/L	9788	1.6	8	7/15/2002	7/27/2002
057937-049A	S93-1	95	mg/L	9788	3.2	16	7/15/2002	7/27/2002
057937-050A	S93-2	5.5	mg/L	9788	0.2	1	7/15/2002	7/27/2002
057937-052A	S94-1	49	mg/L	9788	1.6	8	7/15/2002	7/27/2002
057937-053A	S94-2	63	mg/L	9788	1.6	8	7/15/2002	7/27/2002
057937-054A	S95-S	25	mg/L	9788	0.8	4	7/15/2002	7/27/2002
057937-055A	S95-1	57	mg/L	9788	1.6	8	7/15/2002	7/27/2002
057937-056A	S95-2	8.2	mg/L	9788	0.2	1	7/15/2002	7/27/2002
057937-057A	S95-3	14	mg/L	9788	0.4	2	7/15/2002	7/27/2002
057937-058A	S96-S	29	mg/L	9788	0.8	4	7/15/2002	7/27/2002

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	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



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WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	NS

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-060A	S96-2	13	mg/L	9788	0.4	2	7/15/2002	7/27/2002
057937-062A	S97-S	11	mg/L	9788	0.4	2	7/15/2002	7/27/2002
057937-063A	S97-1	17	mg/L	9788	0.4	2	7/15/2002	7/27/2002
057937-064A	S97-2	12	mg/L	9788	0.4	2	7/15/2002	7/27/2002
057937-065A	S97-3	4.5	mg/L	9788	0.2	1	7/15/2002	7/27/2002
057937-066A	S98-S	19	mg/L	9788	0.4	2	7/15/2002	7/27/2002
057937-068A	S98-2	2.0	mg/L	9789	0.2	1	7/15/2002	7/27/2002
057937-069A	S98-3	3.4	mg/L	9789	0.2	1	7/15/2002	7/27/2002
057937-072A	S99-2	51	mg/L	9789	1.6	8	7/15/2002	7/27/2002
057937-073A	S100-S	67	mg/L	9789	1.6	8	7/15/2002	7/27/2002
057937-074A	S100-1	7.1	mg/L	9789	0.2	1	7/15/2002	7/27/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



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WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	NS

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-075A	S100-2	2.9	mg/L	9789	0.2	1	7/15/2002	7/27/2002
057937-076A	S100-3	21	mg/L	9789	0.8	4	7/15/2002	7/27/2002
057937-077A	S101-S	27	mg/L	9789	0.8	4	7/15/2002	7/27/2002
057937-080A	S102-S	67	mg/L	9789	1.6	8	7/15/2002	7/27/2002
057937-081A	S102-1	78	mg/L	9789	1.6	8	7/15/2002	7/27/2002
057937-082A	S102-2	17	mg/L	9789	0.4	2	7/15/2002	7/27/2002
057937-083A	S102-3	15	mg/L	9789	0.4	2	7/15/2002	7/27/2002
057937-085A	S103-1	14	mg/L	9789	0.4	2	7/15/2002	7/27/2002
057937-086A	S103-2	7.1	mg/L	9789	0.2	1	7/15/2002	7/27/2002
057937-087A	S104-S	73	mg/L	9789	1.6	8	7/15/2002	7/27/2002
057937-089A	S104-2	6.2	mg/L	9789	0.2	1	7/15/2002	7/27/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
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WET/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	NS

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-090A	S104-3	18	mg/L	9789	0.4	2	7/15/2002	7/27/2002
057937-093A	S105-2	23	mg/L	9789	0.8	4	7/15/2002	7/27/2002
057937-094A	S106-S	72	mg/L	9789	1.6	8	7/15/2002	7/27/2002
057937-096A	S106-2	26	mg/L	9789	0.8	4	7/15/2002	7/27/2002
057937-097A	S106-3	32	mg/L	9790	0.8	4	7/15/2002	7/27/2002
057937-098A	S107-S	29	mg/L	9790	0.8	4	7/15/2002	7/27/2002
057937-099A	S107-1	14	mg/L	9790	0.4	2	7/15/2002	7/27/2002
057937-100A	S107-2	17	mg/L	9790	0.4	2	7/15/2002	7/27/2002
057937-101A	S107-3	16	mg/L	9790	0.4	2	7/15/2002	7/27/2002
057937-102A	S108-S	43	mg/L	9790	1	5	7/15/2002	7/27/2002
057937-103A	S108-1	19	mg/L	9790	0.4	2	7/15/2002	7/27/2002

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WET/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	NS

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-104A	S108-2	23	mg/L	9790	0.8	4	7/15/2002	7/27/2002
057937-105A	S108-3	7.1	mg/L	9790	0.2	1	7/15/2002	7/27/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
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LEAD BY ATOMIC ABSORPTION
EPA 1311/ 7420

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-013A	S84-S	3.5	mg/L	9851	0.2	1	7/15/2002	7/26/2002
057937-019A	S85-2	9.1	mg/L	9851	0.2	1	7/15/2002	7/26/2002
057937-024A	S87-S	1.4	mg/L	9851	0.2	1	7/15/2002	7/26/2002
057937-028A	S88-S	5.4	mg/L	9851	0.2	1	7/15/2002	7/26/2002
057937-029A	S88-1	3.3	mg/L	9851	0.2	1	7/15/2002	7/26/2002
057937-030A	S88-2	0.43	mg/L	9851	0.2	1	7/15/2002	7/26/2002
057937-038A	S90-2	4.8	mg/L	9851	0.2	1	7/15/2002	7/26/2002
057937-051A	S94-S	4.9	mg/L	9851	0.2	1	7/15/2002	7/26/2002
057937-067A	S98-1	4.9	mg/L	9852	0.2	1	7/15/2002	7/26/2002
057937-070A	S99-S	5.0	mg/L	9852	0.2	1	7/15/2002	7/26/2002
057937-071A	S99-1	5.2	mg/L	9852	0.2	1	7/15/2002	7/26/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
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LEAD BY ATOMIC ABSORPTION
EPA 1311/ 7420

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-084A	S103-S	14	mg/L	9852	0.4	2	7/15/2002	7/26/2002
057937-088A	S101-1	3.0	mg/L	9852	0.2	1	7/15/2002	7/26/2002
057937-091A	S105-S	6.1	mg/L	9852	0.2	1	7/15/2002	7/26/2002
057937-092A	S105-1	13	mg/L	9852	0.4	2	7/15/2002	7/26/2002
057937-095A	S106-1	18	mg/L	9852	0.4	2	7/15/2002	7/26/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interference
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
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WET DI/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-001A	S-81-S	1.9	mg/L	9777	0.2	1	7/15/2002	7/28/2002
057937-003A	S81-2	0.36	mg/L	9777	0.2	1	7/15/2002	7/28/2002
057937-005A	S82-S	3.5	mg/L	9777	0.2	1	7/15/2002	7/28/2002
057937-006A	S82-1	0.86	mg/L	9777	0.2	1	7/15/2002	7/28/2002
057937-007A	S82-2	0.39	mg/L	9777	0.2	1	7/15/2002	7/28/2002
057937-008A	S82-3	0.23	mg/L	9777	0.2	1	7/15/2002	7/28/2002
057937-009A	S83-S	1.1	mg/L	9777	0.2	1	7/15/2002	7/28/2002
057937-010A	S83-1	0.56	mg/L	9777	0.2	1	7/15/2002	7/28/2002
057937-014A	S84-1	1.8	mg/L	9777	0.2	1	7/15/2002	7/28/2002
057937-015A	S84-2	1.3	mg/L	9777	0.2	1	7/15/2002	7/28/2002
057937-016A	S84-3	2.6	mg/L	9777	0.2	1	7/15/2002	7/28/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-017A	S85-S	0.50	mg/L	9777	0.2	1	7/15/2002	7/28/2002
057937-018A	S85-1	3.4	mg/L	9778	0.2	1	7/15/2002	7/28/2002
057937-020A	S85-3	3.2	mg/L	9778	0.2	1	7/15/2002	7/28/2002
057937-021A	S86-S	0.28	mg/L	9778	0.2	1	7/15/2002	7/28/2002
057937-022A	S86-1	0.60	mg/L	9778	0.2	1	7/15/2002	7/28/2002
057937-023A	S86-2	2.3	mg/L	9778	0.2	1	7/15/2002	7/28/2002
057937-025A	S87-1	0.83	mg/L	9778	0.2	1	7/15/2002	7/28/2002
057937-031A	S88-3	1.4	mg/L	9778	0.2	1	7/15/2002	7/28/2002
057937-032A	S89-S	ND	mg/L	9778	0.2	1	7/15/2002	7/28/2002
057937-033A	S89-1	5.0	mg/L	9778	0.2	1	7/15/2002	7/28/2002
057937-035A	S89-3	0.37	mg/L	9778	0.2	1	7/15/2002	7/28/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-036A	S90-S	0.20	mg/L	9778	0.2	1	7/15/2002	7/28/2002
057937-037A	S90-1	ND	mg/L	9778	0.2	1	7/15/2002	7/28/2002
057937-039A	S90-3	0.85	mg/L	9778	0.2	1	7/15/2002	7/28/2002
057937-040A	S91-S	0.60	mg/L	9778	0.2	1	7/15/2002	7/28/2002
057937-041A	S91-1	2.3	mg/L	9778	0.2	1	7/15/2002	7/28/2002
057937-044A	S92-S	1.1	mg/L	9778	0.2	1	7/15/2002	7/28/2002
057937-045A	S92-1	0.29	mg/L	9778	0.2	1	7/15/2002	7/28/2002
057937-046A	S92-2	1.8	mg/L	9778	0.2	1	7/15/2002	7/28/2002
057937-047A	S92-3	1.6	mg/L	9779	0.2	1	7/15/2002	7/28/2002
057937-048A	S93-S	1.0	mg/L	9779	0.2	1	7/15/2002	7/28/2002
057937-049A	S93-1	3.1	mg/L	9779	0.2	1	7/15/2002	7/28/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-050A	S93-2	ND	mg/L	9779	0.2	1	7/15/2002	7/28/2002
057937-052A	S94-1	1.3	mg/L	9779	0.2	1	7/15/2002	7/28/2002
057937-053A	S94-2	1.0	mg/L	9779	0.2	1	7/15/2002	7/28/2002
057937-054A	S95-S	0.30	mg/L	9779	0.2	1	7/15/2002	7/28/2002
057937-055A	S95-1	1.7	mg/L	9779	0.2	1	7/15/2002	7/28/2002
057937-056A	S95-2	ND	mg/L	9779	0.2	1	7/15/2002	7/28/2002
057937-057A	S95-3	0.29	mg/L	9779	0.2	1	7/15/2002	7/28/2002
057937-058A	S96-S	0.58	mg/L	9779	0.2	1	7/15/2002	7/28/2002
057937-060A	S96-2	0.29	mg/L	9779	0.2	1	7/15/2002	7/28/2002
057937-062A	S97-S	ND	mg/L	9779	0.2	1	7/15/2002	7/28/2002
057937-063A	S97-1	0.78	mg/L	9779	0.2	1	7/15/2002	7/28/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-064A	S97-2	0.31	mg/L	9779	0.2	1	7/15/2002	7/28/2002
057937-066A	S98-S	ND	mg/L	9779	0.2	1	7/15/2002	7/28/2002
057937-072A	S99-2	2.5	mg/L	9779	0.2	1	7/15/2002	7/28/2002
057937-073A	S100-S	1.7	mg/L	9780	0.2	1	7/15/2002	7/28/2002
057937-074A	S100-1	0.20	mg/L	9780	0.2	1	7/15/2002	7/28/2002
057937-076A	S100-3	0.28	mg/L	9780	0.2	1	7/15/2002	7/28/2002
057937-077A	S101-S	0.79	mg/L	9780	0.2	1	7/15/2002	7/28/2002
057937-080A	S102-S	0.46	mg/L	9780	0.2	1	7/15/2002	7/28/2002
057937-081A	S102-1	2.2	mg/L	9780	0.2	1	7/15/2002	7/28/2002
057937-082A	S102-2	0.92	mg/L	9780	0.2	1	7/15/2002	7/28/2002
057937-083A	S102-3	0.44	mg/L	9780	0.2	1	7/15/2002	7/28/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-085A	S103-1	0.61	mg/L	9780	0.2	1	7/15/2002	7/28/2002
057937-086A	S103-2	0.38	mg/L	9780	0.2	1	7/15/2002	7/28/2002
057937-087A	S104-S	1.8	mg/L	9780	0.2	1	7/15/2002	7/28/2002
057937-089A	S104-2	0.21	mg/L	9780	0.2	1	7/15/2002	7/28/2002
057937-090A	S104-3	0.62	mg/L	9780	0.2	1	7/15/2002	7/28/2002
057937-093A	S105-2	1.6	mg/L	9780	0.2	1	7/15/2002	7/28/2002
057937-094A	S106-S	2.1	mg/L	9780	0.2	1	7/15/2002	7/28/2002
057937-096A	S106-2	2.9	mg/L	9780	0.2	1	7/15/2002	7/28/2002
057937-097A	S106-3	3.1	mg/L	9780	0.2	1	7/15/2002	7/28/2002
057937-098A	S107-S	0.43	mg/L	9780	0.2	1	7/15/2002	7/28/2002
057937-099A	S107-1	0.24	mg/L	9780	0.2	1	7/15/2002	7/28/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057937
Project:	Rte 5 South, 09100-06-49	Date Received:	7/15/2002 6:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057937-100A	S107-2	1.4	mg/L	9781	0.2	1	7/15/2002	7/28/2002
057937-101A	S107-3	1.1	mg/L	9781	0.2	1	7/15/2002	7/28/2002
057937-102A	S108-S	0.73	mg/L	9781	0.2	1	7/15/2002	7/28/2002
057937-103A	S108-1	0.25	mg/L	9781	0.2	1	7/15/2002	7/28/2002
057937-104A	S108-2	1.6	mg/L	9781	0.2	1	7/15/2002	7/28/2002
057937-105A	S108-3	0.51	mg/L	9781	0.2	1	7/15/2002	7/28/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
Lab Order: 057937
Project: Rte 5 South, 09100-06-49
Lab ID: 057937-019A

Client Sample ID: S85-2
Collection Date: 7/15/2002
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID:	ICP2_020729E	QC Batch:	9918				Analyst: RQ
Antimony	1.5	0.25	mg/Kg	1	7/29/2002		
Arsenic	18	0.25	mg/Kg	1	7/29/2002		
Barium	160	0.15	mg/Kg	1	7/29/2002		
Beryllium	ND	0.15	mg/Kg	1	7/29/2002		
Cadmium	ND	0.15	mg/Kg	1	7/29/2002		
Chromium	18	0.15	mg/Kg	1	7/29/2002		
Cobalt	5.5	0.15	mg/Kg	1	7/29/2002		
Copper	48	0.15	mg/Kg	1	7/29/2002		
Lead	1700	0.25	mg/Kg	1	7/29/2002		
Molybdenum	2.0	0.25	mg/Kg	1	7/29/2002		
Nickel	15	0.15	mg/Kg	1	7/29/2002		
Selenium	ND	0.25	mg/Kg	1	7/29/2002		
Silver	ND	0.15	mg/Kg	1	7/29/2002		
Thallium	0.50	0.25	mg/Kg	1	7/29/2002		
Vanadium	25	0.15	mg/Kg	1	7/29/2002		
Zinc	240	0.50	mg/Kg	1	7/29/2002		

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID:	AA1_020729C	QC Batch:	9921				Analyst: NS
Mercury	ND	0.10	mg/Kg	1	7/29/2002		

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
 Lab Order: 057937
 Project: Rte 5 South, 09100-06-49
 Lab ID: 057937-038A

Client Sample ID: S90-2
 Collection Date: 7/15/2002
 Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID:	ICP2_020729E	QC Batch:	9918	Analyst: RQ		
Antimony	1.5	0.25	mg/Kg	1	7/29/2002	
Arsenic	12	0.25	mg/Kg	1	7/29/2002	
Barium	160	0.15	mg/Kg	1	7/29/2002	
Beryllium	ND	0.15	mg/Kg	1	7/29/2002	
Cadmium	ND	0.15	mg/Kg	1	7/29/2002	
Chromium	32	0.15	mg/Kg	1	7/29/2002	
Cobalt	6.0	0.15	mg/Kg	1	7/29/2002	
Copper	110	0.15	mg/Kg	1	7/29/2002	
Lead	1600	0.25	mg/Kg	1	7/29/2002	
Molybdenum	2.5	0.25	mg/Kg	1	7/29/2002	
Nickel	17	0.15	mg/Kg	1	7/29/2002	
Selenium	ND	0.25	mg/Kg	1	7/29/2002	
Silver	ND	0.15	mg/Kg	1	7/29/2002	
Thallium	0.50	0.25	mg/Kg	1	7/29/2002	
Vanadium	26	0.15	mg/Kg	1	7/29/2002	
Zinc	300	0.50	mg/Kg	1	7/29/2002	

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID:	AA1_020729C	QC Batch:	9921	Analyst: NS		
Mercury	0.11	0.10	mg/Kg	1	7/29/2002	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
Lab Order: 057937
Project: Rte 5 South, 09100-06-49
Lab ID: 057937-067A

Client Sample ID: S98-1
Collection Date: 7/15/2002
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID:	ICP2_020729E	QC Batch:	9918	Analyst: RQ		
Antimony	1.0	0.25	mg/Kg	1	7/29/2002	
Arsenic	12	0.25	mg/Kg	1	7/29/2002	
Barium	110	0.15	mg/Kg	1	7/29/2002	
Beryllium	ND	0.15	mg/Kg	1	7/29/2002	
Cadmium	ND	0.15	mg/Kg	1	7/29/2002	
Chromium	14	0.15	mg/Kg	1	7/29/2002	
Cobalt	5.0	0.15	mg/Kg	1	7/29/2002	
Copper	38	0.15	mg/Kg	1	7/29/2002	
Lead	1000	0.25	mg/Kg	1	7/29/2002	
Molybdenum	1.5	0.25	mg/Kg	1	7/29/2002	
Nickel	12	0.15	mg/Kg	1	7/29/2002	
Selenium	ND	0.25	mg/Kg	1	7/29/2002	
Silver	ND	0.15	mg/Kg	1	7/29/2002	
Thallium	0.44	0.25	mg/Kg	1	7/29/2002	
Vanadium	21	0.15	mg/Kg	1	7/29/2002	
Zinc	220	0.50	mg/Kg	1	7/29/2002	

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID:	AA1_020729C	QC Batch:	9921	Analyst: NS		
Mercury	ND	0.10	mg/Kg	1	7/29/2002	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
 Lab Order: 057937
 Project: Rte 5 South, 09100-06-49
 Lab ID: 057937-070A

Client Sample ID: S99-S
 Collection Date: 7/15/2002
 Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID:	ICP2_020729E	QC Batch:	9918	Analyst: RQ		
Antimony	2.0	0.25	mg/Kg	1	7/29/2002	
Arsenic	9.5	0.25	mg/Kg	1	7/29/2002	
Barium	190	0.15	mg/Kg	1	7/29/2002	
Beryllium	ND	0.15	mg/Kg	1	7/29/2002	
Cadmium	ND	0.15	mg/Kg	1	7/29/2002	
Chromium	24	0.15	mg/Kg	1	7/29/2002	
Cobalt	7.0	0.15	mg/Kg	1	7/29/2002	
Copper	61	0.15	mg/Kg	1	7/29/2002	
Lead	1900	0.25	mg/Kg	1	7/29/2002	
Molybdenum	3.5	0.25	mg/Kg	1	7/29/2002	
Nickel	20	0.15	mg/Kg	1	7/29/2002	
Selenium	ND	0.25	mg/Kg	1	7/29/2002	
Silver	ND	0.15	mg/Kg	1	7/29/2002	
Thallium	1.0	0.25	mg/Kg	1	7/29/2002	
Vanadium	29	0.15	mg/Kg	1	7/29/2002	
Zinc	620	0.50	mg/Kg	1	7/29/2002	

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID:	AA1_020729C	QC Batch:	9921	Analyst: NS		
Mercury	ND	0.10	mg/Kg	1	7/29/2002	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
 Lab Order: 057937
 Project: Rte 5 South, 09100-06-49
 Lab ID: 057937-071A

Client Sample ID: S99-1
 Collection Date: 7/15/2002
 Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID:	ICP2_020729E	QC Batch:	9918				Analyst: RQ
Antimony	1.5	0.25	mg/Kg	1	7/29/2002		
Arsenic	10	0.25	mg/Kg	1	7/29/2002		
Barium	170	0.15	mg/Kg	1	7/29/2002		
Beryllium	ND	0.15	mg/Kg	1	7/29/2002		
Cadmium	ND	0.15	mg/Kg	1	7/29/2002		
Chromium	28	0.15	mg/Kg	1	7/29/2002		
Cobalt	7.5	0.15	mg/Kg	1	7/29/2002		
Copper	51	0.15	mg/Kg	1	7/29/2002		
Lead	1900	0.25	mg/Kg	1	7/29/2002		
Molybdenum	2.5	0.25	mg/Kg	1	7/29/2002		
Nickel	21	0.15	mg/Kg	1	7/29/2002		
Selenium	ND	0.25	mg/Kg	1	7/29/2002		
Silver	ND	0.15	mg/Kg	1	7/29/2002		
Thallium	0.50	0.25	mg/Kg	1	7/29/2002		
Vanadium	34	0.15	mg/Kg	1	7/29/2002		
Zinc	600	0.50	mg/Kg	1	7/29/2002		

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID:	AA1_020729C	QC Batch:	9921				Analyst: NS
Mercury	ND	0.10	mg/Kg	1	7/29/2002		

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified

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Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental

Client Sample ID: S103-S

Lab Order: 057937

Project: Rte 5 South, 09100-06-49

Collection Date: 7/15/2002

Lab ID: 057937-084A

Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID: ICP2_020729E

QC Batch: 9918

Analyst: RQ

Antimony	2.5	0.25		mg/Kg	1	7/29/2002
Arsenic	20	0.25		mg/Kg	1	7/29/2002
Barium	160	0.15		mg/Kg	1	7/29/2002
Beryllium	ND	0.15		mg/Kg	1	7/29/2002
Cadmium	0.50	0.15		mg/Kg	1	7/29/2002
Chromium	36	0.15		mg/Kg	1	7/29/2002
Cobalt	6.0	0.15		mg/Kg	1	7/29/2002
Copper	140	0.15		mg/Kg	1	7/29/2002
Lead	2900	2.5		mg/Kg	10	7/29/2002
Molybdenum	5.5	0.25		mg/Kg	1	7/29/2002
Nickel	26	0.15		mg/Kg	1	7/29/2002
Selenium	ND	0.25		mg/Kg	1	7/29/2002
Silver	2.0	0.15		mg/Kg	1	7/29/2002
Thallium	0.50	0.25		mg/Kg	1	7/29/2002
Vanadium	22	0.15		mg/Kg	1	7/29/2002
Zinc	1100	5.0		mg/Kg	10	7/29/2002

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID: AA1_020729C

QC Batch: 9921

Analyst: NS

Mercury	0.24	0.10		mg/Kg	1	7/29/2002
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Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 B - Analyte detected in the associated Method Blank
 DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interfere
 H - Sample exceeded analytical holding time
 E - Value above quantitation range
 Results are wet unless otherwise specified

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Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
Lab Order: 057937
Project: Rte 5 South, 09100-06-49
Lab ID: 057937-092A

Client Sample ID: S105-1
Collection Date: 7/15/2002
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID:	ICP2_020729E	QC Batch:	9918				Analyst: RQ
Antimony	2.5	0.25	mg/Kg	1	7/29/2002		
Arsenic	23	0.25	mg/Kg	1	7/29/2002		
Barium	210	0.15	mg/Kg	1	7/29/2002		
Beryllium	ND	0.15	mg/Kg	1	7/29/2002		
Cadmium	2.5	0.15	mg/Kg	1	7/29/2002		
Chromium	35	0.15	mg/Kg	1	7/29/2002		
Cobalt	6.5	0.15	mg/Kg	1	7/29/2002		
Copper	88	0.15	mg/Kg	1	7/29/2002		
Lead	3800	2.5	mg/Kg	10	7/29/2002		
Molybdenum	4.0	0.25	mg/Kg	1	7/29/2002		
Nickel	20	0.15	mg/Kg	1	7/29/2002		
Selenium	ND	0.25	mg/Kg	1	7/29/2002		
Silver	5.0	0.15	mg/Kg	1	7/29/2002		
Thallium	1.0	0.25	mg/Kg	1	7/29/2002		
Vanadium	24	0.15	mg/Kg	1	7/29/2002		
Zinc	430	0.50	mg/Kg	1	7/29/2002		

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID:	AA1_020729C	QC Batch:	9921				Analyst: NS
Mercury	0.14	0.10	mg/Kg	1	7/29/2002		

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
Lab Order: 057937
Project: Rte 5 South, 09100-06-49
Lab ID: 057937-095A

Client Sample ID: S106-1
Collection Date: 7/15/2002
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID:	ICP2_020729E	QC Batch:	9918	Analyst: RQ		
Antimony	2.0	0.25	mg/Kg	1	7/29/2002	
Arsenic	20	0.25	mg/Kg	1	7/29/2002	
Barium	210	0.15	mg/Kg	1	7/29/2002	
Beryllium	ND	0.15	mg/Kg	1	7/29/2002	
Cadmium	0.22	0.15	mg/Kg	1	7/29/2002	
Chromium	26	0.15	mg/Kg	1	7/29/2002	
Cobalt	5.5	0.15	mg/Kg	1	7/29/2002	
Copper	70	0.15	mg/Kg	1	7/29/2002	
Lead	3200	2.5	mg/Kg	10	7/29/2002	
Molybdenum	3.0	0.25	mg/Kg	1	7/29/2002	
Nickel	16	0.15	mg/Kg	1	7/29/2002	
Selenium	ND	0.25	mg/Kg	1	7/29/2002	
Silver	1.0	0.15	mg/Kg	1	7/29/2002	
Thallium	0.50	0.25	mg/Kg	1	7/29/2002	
Vanadium	22	0.15	mg/Kg	1	7/29/2002	
Zinc	430	0.50	mg/Kg	1	7/29/2002	

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID:	AA1_020729C	QC Batch:	9921	Analyst: NS		
Mercury	ND	0.10	mg/Kg	1	7/29/2002	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified





Advanced Technology Laboratories

Date: 29-Jul-02

CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, (EPA 3050M), Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Lead ND 5.0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, (EPA 3050M), Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Lead ND 5.0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, (EPA 3050M), Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Lead ND 5.0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, (EPA 3050M), Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Lead ND 5.0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, (EPA 3050M), Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Lead ND 5.0

Qualifiers: ND - Not Detected at the Reporting Limit, S - Spike Recovery outside accepted recovery limits, DO- Surrogate dilute out, J - Analyte detected below quantitation limits, B - Analyte detected in the associated Method Blank, H - Sample exceeded holding time, R - RPD outside accepted recovery limits, Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	MB-9617A	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719C			
Client ID:	ZZZZZ	Batch ID:	9617	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301756			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID	MB-9617B	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719C			
Client ID:	ZZZZZ	Batch ID:	9617	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301757			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID	MB-9618A	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/18/2002	Run ID:	ICP5_020719D			
Client ID:	ZZZZZ	Batch ID:	9618	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301784			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID	MB-9618B	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/18/2002	Run ID:	ICP5_020719D			
Client ID:	ZZZZZ	Batch ID:	9618	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301785			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID	MB-9619A	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/18/2002	Run ID:	ICP5_020719E			
Client ID:	ZZZZZ	Batch ID:	9619	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301812			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	MB-9619B	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/18/2002	Run ID:	ICP5_020719E		
Client ID:	ZZZZZ	Batch ID:	9619	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301813		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID	LCS-9620	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/18/2002	Run ID:	ICP2_020719A		
Client ID:	ZZZZZ	Batch ID:	9620	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301580		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 212.5 5.0 250 0 85 80 120 0 0

Sample ID	LCS-9615	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719A		
Client ID:	ZZZZZ	Batch ID:	9615	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301699		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 218.7 5.0 250 0 87.5 80 120 0 0

Sample ID	LCS-9616	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719B		
Client ID:	ZZZZZ	Batch ID:	9616	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301727		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 225.3 5.0 250 0 90.1 80 120 0 0

Sample ID	LCS-9617	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719C		
Client ID:	ZZZZZ	Batch ID:	9617	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301755		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 230.2 5.0 250 0 92.1 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	LCS-9618	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/18/2002	Run ID:	ICP5_020719D			
Client ID:	ZZZZZ	Batch ID:	9618	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301783			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 220.6 5.0 250 0 88.3 80 120 0 0

Sample ID	LCS-9619	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/18/2002	Run ID:	ICP5_020719E			
Client ID:	ZZZZZ	Batch ID:	9619	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301811			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 222.8 5.0 250 0 89.1 80 120 0 0

Sample ID	057937-105AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/18/2002	Run ID:	ICP2_020719A			
Client ID:	S108-3	Batch ID:	9620	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301587			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 268.5 5.0 250 73.5 78 47 128 0 0

Sample ID	057937-010AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719A			
Client ID:	S83-1	Batch ID:	9615	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301685			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 528.1 5.0 250 352.1 70.4 47 128 0 0

Sample ID	057937-020AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719A			
Client ID:	S85-3	Batch ID:	9615	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301697			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 676 5.0 250 495.4 72.2 47 128 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057937-030AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719B			
Client ID:	S88-2	Batch ID:	9616	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301713			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	1246	5.0	250	1076	67.8	47	128	0	0					
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Sample ID	057937-040AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719B			
Client ID:	S91-S	Batch ID:	9616	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301725			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	664	5.0	250	530	53.6	47	128	0	0					
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Sample ID	057937-050AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719C			
Client ID:	S93-2	Batch ID:	9617	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301741			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	260.3	5.0	250	68.79	76.6	47	128	0	0					
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Sample ID	057937-060AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020719C			
Client ID:	S96-2	Batch ID:	9617	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301753			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	409.8	5.0	250	180.4	91.8	47	128	0	0					
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Sample ID	057937-070AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/18/2002	Run ID:	ICP5_020719D			
Client ID:	S99-S	Batch ID:	9618	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/19/2002	SeqNo:	301769			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	1844	5.0	250	1891	-18.5	47	128	0	0					S
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO - Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057937-080AMS	SampType: MS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/18/2002	Run ID: ICP5_020719D					
Client ID:	S102-S	Batch ID: 9618	TestNo: EPA 6010B (EPA 3050M)	Analysis Date: 7/19/2002	SeqNo: 301781						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	599	5.0	250	563.3	14.3	47	128	0	0		S

Sample ID	057937-090AMS	SampType: MS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/18/2002	Run ID: ICP5_020719E					
Client ID:	S104-3	Batch ID: 9619	TestNo: EPA 6010B (EPA 3050M)	Analysis Date: 7/19/2002	SeqNo: 301797						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	368	5.0	250	170.2	79.1	47	128	0	0		

Sample ID	057937-100AMS	SampType: MS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/18/2002	Run ID: ICP5_020719E					
Client ID:	S107-2	Batch ID: 9619	TestNo: EPA 6010B (EPA 3050M)	Analysis Date: 7/19/2002	SeqNo: 301809						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	427.3	5.0	250	294.7	53.1	47	128	0	0		

Sample ID	057937-105ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/18/2002	Run ID: ICP2_020719A					
Client ID:	S108-3	Batch ID: 9620	TestNo: EPA 6010B (EPA 3050M)	Analysis Date: 7/19/2002	SeqNo: 301586						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	119	5.0	0	0	0	0	0	73.5	47.3	30	R

Sample ID	057937-010ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/17/2002	Run ID: ICP5_020719A					
Client ID:	S83-1	Batch ID: 9615	TestNo: EPA 6010B (EPA 3050M)	Analysis Date: 7/19/2002	SeqNo: 301684						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	296.4	5.0	0	0	0	0	0	352.1	17.2	30	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: 057937-020ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/17/2002	Run ID: ICP5_020719A						
Client ID: S85-3	Batch ID: 9615	TestNo: EPA 6010B (EPA 3050M)		Analysis Date: 7/19/2002	SeqNo: 301696						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	511	5.0	0	0	0	0	0	495.4	3.10	30	
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Sample ID: 057937-030ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/17/2002	Run ID: ICP5_020719B						
Client ID: S88-2	Batch ID: 9616	TestNo: EPA 6010B (EPA 3050M)		Analysis Date: 7/19/2002	SeqNo: 301712						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	1091	5.0	0	0	0	0	0	1076	1.35	30	
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Sample ID: 057937-040ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/17/2002	Run ID: ICP5_020719B						
Client ID: S91-S	Batch ID: 9616	TestNo: EPA 6010B (EPA 3050M)		Analysis Date: 7/19/2002	SeqNo: 301724						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	778.1	5.0	0	0	0	0	0	530	37.9	30	R
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Sample ID: 057937-050ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/17/2002	Run ID: ICP5_020719C						
Client ID: S93-2	Batch ID: 9617	TestNo: EPA 6010B (EPA 3050M)		Analysis Date: 7/19/2002	SeqNo: 301740						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	101.3	5.0	0	0	0	0	0	68.79	38.2	30	R
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Sample ID: 057937-060ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/17/2002	Run ID: ICP5_020719C						
Client ID: S96-2	Batch ID: 9617	TestNo: EPA 6010B (EPA 3050M)		Analysis Date: 7/19/2002	SeqNo: 301752						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	228.7	5.0	0	0	0	0	0	180.4	23.6	30	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: 057937-070ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/18/2002	Run ID: ICP5_020719D						
Client ID: S99-S	Batch ID: 9618	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/19/2002	SeqNo: 301768						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 1746 5.0 0 0 0 0 0 0 1891 7.95 30

Sample ID: 057937-080ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/18/2002	Run ID: ICP5_020719D						
Client ID: S102-S	Batch ID: 9618	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/19/2002	SeqNo: 301780						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 418.8 5.0 0 0 0 0 0 0 563.3 29.4 30

Sample ID: 057937-090ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/18/2002	Run ID: ICP5_020719E						
Client ID: S104-3	Batch ID: 9619	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/19/2002	SeqNo: 301796						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 291.4 5.0 0 0 0 0 0 0 170.2 52.5 30 R

Sample ID: 057937-100ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/18/2002	Run ID: ICP5_020719E						
Client ID: S107-2	Batch ID: 9619	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/19/2002	SeqNo: 301808						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 288.2 5.0 0 0 0 0 0 0 294.7 2.24 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPB

Sample ID	MB-9645	SampType:	MBLK	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/17/2002	Run ID:	ICP2_020718B			
Client ID:	ZZZZZ	Batch ID:	9645	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/18/2002	SeqNo:	300893			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.0050

Sample ID	MB-9646	SampType:	MBLK	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/17/2002	Run ID:	ICP2_020718C			
Client ID:	ZZZZZ	Batch ID:	9646	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/18/2002	SeqNo:	300952			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.0050

Sample ID	MB-9842	SampType:	MBLK	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/24/2002	Run ID:	ICP2_020725A			
Client ID:	ZZZZZ	Batch ID:	9842	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/25/2002	SeqNo:	306046			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.0050

Sample ID	LCS-9645	SampType:	LCS	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/17/2002	Run ID:	ICP2_020718B			
Client ID:	ZZZZZ	Batch ID:	9645	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/18/2002	SeqNo:	300894			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.99 0.0050 1 0 99 80 120 0 0

Sample ID	LCS-9646	SampType:	LCS	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/17/2002	Run ID:	ICP2_020718C			
Client ID:	ZZZZZ	Batch ID:	9646	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/18/2002	SeqNo:	300953			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 1 0.0050 1 0 100 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPB

Sample ID	LCS-9842	SampType:	LCS	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/24/2002	Run ID:	ICP2_020725A												
Client ID:	ZZZZZ	Batch ID:	9842	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/25/2002	SeqNo:	306047												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 0.98 0.0050 1 0 98 80 120 0 0

Sample ID	057937-115AMS	SampType:	MS	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/17/2002	Run ID:	ICP2_020718B												
Client ID:	EB-43	Batch ID:	9645	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/18/2002	SeqNo:	300906												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 2.41 0.0050 2.5 0 96.4 66 118 0 0

Sample ID	057942-048AMS	SampType:	MS	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/17/2002	Run ID:	ICP2_020718C												
Client ID:	ZZZZZ	Batch ID:	9646	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/18/2002	SeqNo:	300961												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 2.58 0.0050 2.5 0.00471 103 66 118 0 0

Sample ID	057937-110AMS	SampType:	MS	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/24/2002	Run ID:	ICP2_020725A												
Client ID:	EB-38	Batch ID:	9842	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/25/2002	SeqNo:	306050												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 2.48 0.0050 2.5 0.00679 98.9 66 118 0 0

Sample ID	057942-048AMSD	SampType:	MSD	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/17/2002	Run ID:	ICP2_020718C												
Client ID:	ZZZZZ	Batch ID:	9646	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/18/2002	SeqNo:	300962												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 2.47 0.0050 2.5 0.00471 98.6 66 118 2.58 4.36 20

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPB

Sample ID	057937-115ADUP	SampType:	DUP	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/17/2002	Run ID:	ICP2_020718B												
Client ID:	EB-43	Batch ID:	9645	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/18/2002	SeqNo:	300905												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead	0.03	0.0050	0	0	0	0	0	0	0	0	200	30	R
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Sample ID	057942-048ADUP	SampType:	DUP	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/17/2002	Run ID:	ICP2_020718C												
Client ID:	ZZZZZ	Batch ID:	9646	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/18/2002	SeqNo:	300960												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead	ND	0.0050	0	0	0	0	0	0	0.00471	0	30	
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Sample ID	057937-110ADUP	SampType:	DUP	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/24/2002	Run ID:	ICP2_020725A												
Client ID:	EB-38	Batch ID:	9842	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/25/2002	SeqNo:	306049												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead	ND	0.0050	0	0	0	0	0	0	0.00679	0	30	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 9045_S

Sample ID	057937-050A-DUP	SampType:	DUP	TestCode:	9045_S	Units:	pH Units	Prep Date:	7/19/2002	Run ID:	WETCHEM_020719B		
Client ID:	S93-2	Batch ID:	R19558	TestNo:	EPA 9045C			Analysis Date:	7/19/2002	SeqNo:	301637		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

pH		7.979		0.10	0	0	0	0	0	7.856	1.55	20	
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Sample ID	057937-100A-DUP	SampType:	DUP	TestCode:	9045_S	Units:	pH Units	Prep Date:	7/19/2002	Run ID:	WETCHEM_020719C		
Client ID:	S107-2	Batch ID:	R19559	TestNo:	EPA 9045C			Analysis Date:	7/19/2002	SeqNo:	301645		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

pH		7.705		0.10	0	0	0	0	0	7.672	0.429	20	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 29-Jul-02

CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Table with 12 columns: Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Table with 12 columns: Lead, 0.0533, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Table with 12 columns: Lead, 0.08295, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Table with 12 columns: Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Table with 12 columns: Lead, ND, 0.20

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	MB-9790B	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020727B			
Client ID:	ZZZZZ	Batch ID:	9790	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/27/2002	SeqNo:	307899			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.0481 0.20

Sample ID	MB-9789	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/27/2002	Run ID:	AA2_020727C			
Client ID:	ZZZZZ	Batch ID:	9789	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/27/2002	SeqNo:	307914			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9789A	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020727C			
Client ID:	ZZZZZ	Batch ID:	9789	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/27/2002	SeqNo:	307915			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9789B	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020727C			
Client ID:	ZZZZZ	Batch ID:	9789	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/27/2002	SeqNo:	307928			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9786	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728B			
Client ID:	ZZZZZ	Batch ID:	9786	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/28/2002	SeqNo:	308254			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	MB-9786A	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/24/2002	Run ID:	AA2_020728B			
Client ID:	ZZZZZ	Batch ID:	9786	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/28/2002	SeqNo:	308255			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9786B	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/24/2002	Run ID:	AA2_020728B			
Client ID:	ZZZZZ	Batch ID:	9786	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/28/2002	SeqNo:	308268			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9787	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728C			
Client ID:	ZZZZZ	Batch ID:	9787	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/28/2002	SeqNo:	308283			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.04835 0.20

Sample ID	MB-9787A	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/24/2002	Run ID:	AA2_020728C			
Client ID:	ZZZZZ	Batch ID:	9787	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/28/2002	SeqNo:	308284			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.04734 0.20

Sample ID	MB-9787B	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/24/2002	Run ID:	AA2_020728C			
Client ID:	ZZZZZ	Batch ID:	9787	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/28/2002	SeqNo:	308297			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	LCS-9788	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/27/2002	Run ID:	AA2_020727A
Client ID:	ZZZZZ	Batch ID:	9788	TestNo:	WET/ EPA 74 (WET)	Analysis Date:	7/27/2002	SeqNo:	307884		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	7.569	0.20	7.5	0	101	80	120	0	0		
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Sample ID	LCS-9790	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/27/2002	Run ID:	AA2_020727B
Client ID:	ZZZZZ	Batch ID:	9790	TestNo:	WET/ EPA 74 (WET)	Analysis Date:	7/27/2002	SeqNo:	307913		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	7.422	0.20	7.5	0	99	80	120	0	0		
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Sample ID	LCS-9789	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/27/2002	Run ID:	AA2_020727C
Client ID:	ZZZZZ	Batch ID:	9789	TestNo:	WET/ EPA 74 (WET)	Analysis Date:	7/27/2002	SeqNo:	307942		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	7.428	0.20	7.5	0	99	80	120	0	0		
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Sample ID	LCS-9786	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728B
Client ID:	ZZZZZ	Batch ID:	9786	TestNo:	WET/ EPA 74 (WET)	Analysis Date:	7/28/2002	SeqNo:	308282		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	7.318	0.20	7.5	0	97.6	80	120	0	0		
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Sample ID	LCS-9787	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728C
Client ID:	ZZZZZ	Batch ID:	9787	TestNo:	WET/ EPA 74 (WET)	Analysis Date:	7/28/2002	SeqNo:	308311		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	7.153	0.20	7.5	0	95.4	80	120	0	0		
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	057937-054AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/27/2002	Run ID:	AA2_020727A			
Client ID:	S95-S	Batch ID:	9788	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/27/2002	SeqNo:	307869			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	59.69	1.6	40	25.38	85.8	80	120	0	0					
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Sample ID	057937-066AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/27/2002	Run ID:	AA2_020727A			
Client ID:	S98-S	Batch ID:	9788	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/27/2002	SeqNo:	307882			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	61.65	1.6	40	19.13	106	80	120	0	0					
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Sample ID	057941-006AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/27/2002	Run ID:	AA2_020727B			
Client ID:	ZZZZZ	Batch ID:	9790	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/27/2002	SeqNo:	307898			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	62.75	1.6	40	26.6	90.4	80	120	0	0					
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Sample ID	057942-008AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/27/2002	Run ID:	AA2_020727B			
Client ID:	ZZZZZ	Batch ID:	9790	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/27/2002	SeqNo:	307911			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	34.06	0.80	20	15.64	92.1	80	120	0	0					
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Sample ID	057937-081AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/27/2002	Run ID:	AA2_020727C			
Client ID:	S102-1	Batch ID:	9789	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/27/2002	SeqNo:	307927			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	153.8	3.2	80	78.46	94.2	80	120	0	0					
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO - Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	057937-096AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/27/2002	Run ID:	AA2_020727C			
Client ID:	S106-2	Batch ID:	9789	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/27/2002	SeqNo:	307940			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		59.17		1.6	40	25.77		83.5	80	120	0		0	
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Sample ID	057936-058AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728B			
Client ID:	ZZZZ	Batch ID:	9786	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/28/2002	SeqNo:	308267			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		74.93		2.0	50	23.6		103	80	120	0		0	
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Sample ID	057937-014AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728B			
Client ID:	S84-1	Batch ID:	9786	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/28/2002	SeqNo:	308280			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		148.8		4.0	100	51.97		96.8	80	120	0		0	
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Sample ID	057937-026AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728C			
Client ID:	S87-2	Batch ID:	9787	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/28/2002	SeqNo:	308296			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		8.568		0.20	5	4.382		83.7	80	120	0		0	
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Sample ID	057937-043AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728C			
Client ID:	S91-3	Batch ID:	9787	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/28/2002	SeqNo:	308309			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		6.096		0.20	5	1.704		87.8	80	120	0		0	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	057937-054ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020727A		
Client ID:	S95-S	Batch ID:	9788	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/27/2002	SeqNo:	307868		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 25.6 0.80 0 0 0 0 0 0 25.38 0.880 30

Sample ID	057937-066ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020727A		
Client ID:	S98-S	Batch ID:	9788	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/27/2002	SeqNo:	307881		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 18.95 0.40 0 0 0 0 0 0 19.13 0.950 30

Sample ID	057941-006ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020727B		
Client ID:	ZZZZZ	Batch ID:	9790	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/27/2002	SeqNo:	307897		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 26.35 0.80 0 0 0 0 0 0 26.6 0.961 30

Sample ID	057942-008ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020727B		
Client ID:	ZZZZZ	Batch ID:	9790	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/27/2002	SeqNo:	307910		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 15.58 0.40 0 0 0 0 0 0 15.64 0.443 30

Sample ID	057937-081ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020727C		
Client ID:	S102-1	Batch ID:	9789	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/27/2002	SeqNo:	307926		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 78.35 1.6 0 0 0 0 0 0 78.46 0.140 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	057937-096ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020727C		
Client ID:	S106-2	Batch ID:	9789	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/27/2002	SeqNo:	307939		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	25.86	0.80	0	0	0	0	0	0	0	25.77	0.351	30	
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Sample ID	057936-058ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/24/2002	Run ID:	AA2_020728B		
Client ID:	ZZZZZ	Batch ID:	9786	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/28/2002	SeqNo:	308266		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	13.36	0.80	0	0	0	0	0	0	0	23.6	55.4	30	R
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Sample ID	057937-014ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/24/2002	Run ID:	AA2_020728B		
Client ID:	S84-1	Batch ID:	9786	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/28/2002	SeqNo:	308279		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	53.38	2.0	0	0	0	0	0	0	0	51.97	2.67	30	
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Sample ID	057937-026ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/24/2002	Run ID:	AA2_020728C		
Client ID:	S87-2	Batch ID:	9787	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/28/2002	SeqNo:	308295		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	4.41	0.20	0	0	0	0	0	0	0	4.382	0.631	30	
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Sample ID	057937-043ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/24/2002	Run ID:	AA2_020728C		
Client ID:	S91-3	Batch ID:	9787	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/28/2002	SeqNo:	308308		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	1.838	0.20	0	0	0	0	0	0	0	1.704	7.57	30	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 29-Jul-02

CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9851, MBLK, 7420_TC, mg/L, 7/25/2002, AA2_020726B, ZZZZZ, 9851, EPA 1311/ 74 (EPA 3010A), 7/26/2002, 306764, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9846-TCLP, MBLK, 7420_TC, mg/L, 7/25/2002, AA2_020726B, ZZZZZ, 9851, EPA 1311/ 74 (EPA 3010A), 7/26/2002, 306765, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9852, MBLK, 7420_TC, mg/L, 7/25/2002, AA2_020726C, ZZZZZ, 9852, EPA 1311/ 74 (EPA 3010A), 7/26/2002, 306786, Lead, 0.06093, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9847-TCLP, MBLK, 7420_TC, mg/L, 7/25/2002, AA2_020726C, ZZZZZ, 9852, EPA 1311/ 74 (EPA 3010A), 7/26/2002, 306787, Lead, 0.04928, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: LCS-9851, LCS, 7420_TC, mg/L, 7/25/2002, AA2_020726B, ZZZZZ, 9851, EPA 1311/ 74 (EPA 3010A), 7/26/2002, 306785, Lead, 1.138, 0.20, 1, 0, 114, 80, 120, 0, 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO - Surrogate dilute out
J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID	LCS-9852	SampType:	LCS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/25/2002	Run ID:	AA2_020726C			
Client ID:	ZZZZZ	Batch ID:	9852	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/26/2002	SeqNo:	306801			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		1.17		0.20	1	0		117	80	120	0	0		
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Sample ID	057937-051AMS	SampType:	MS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/25/2002	Run ID:	AA2_020726B			
Client ID:	S94-S	Batch ID:	9851	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/26/2002	SeqNo:	306783			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		6.541		0.20	2.5	4.893		65.9	80	120	0	0		S
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Sample ID	057941-002AMS	SampType:	MS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/25/2002	Run ID:	AA2_020726C			
Client ID:	ZZZZZ	Batch ID:	9852	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/26/2002	SeqNo:	306799			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		6.023		0.20	2.5	4.118		76.2	80	120	0	0		S
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Sample ID	057937-051ADUP	SampType:	DUP	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/25/2002	Run ID:	AA2_020726B			
Client ID:	S94-S	Batch ID:	9851	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/26/2002	SeqNo:	306781			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		4.12		0.20	0	0		0	0	0	4.893	17.2	30	
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Sample ID	057941-002ADUP	SampType:	DUP	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/25/2002	Run ID:	AA2_020726C			
Client ID:	ZZZZZ	Batch ID:	9852	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/26/2002	SeqNo:	306798			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		6.357		0.20	0	0		0	0	0	4.118	42.8	30	R
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO - Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 29-Jul-02

CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9777, MBLK, 7420_DI, mg/L, 7/28/2002, AA2_020728H, ZZZZZ, 9777, WET DI/ EPA (WET), 7/28/2002, 308438, Lead, 0.07936, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9777A, MBLK, 7420_DI, mg/L, 7/23/2002, AA2_020728H, ZZZZZ, 9777, WET DI/ EPA (WET), 7/28/2002, 308439, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9777B, MBLK, 7420_DI, mg/L, 7/23/2002, AA2_020728H, ZZZZZ, 9777, WET DI/ EPA (WET), 7/28/2002, 308452, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9778, MBLK, 7420_DI, mg/L, 7/28/2002, AA2_020728I, ZZZZZ, 9778, WET DI/ EPA (WET), 7/28/2002, 308467, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9778A, MBLK, 7420_DI, mg/L, 7/23/2002, AA2_020728I, ZZZZZ, 9778, WET DI/ EPA (WET), 7/28/2002, 308468, Lead, ND, 0.20

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	MB-9778B	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728I		
Client ID:	ZZZZZ	Batch ID:	9778	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308481		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.07969 0.20

Sample ID	MB-9779	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728J		
Client ID:	ZZZZZ	Batch ID:	9779	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308496		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9779A	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728J		
Client ID:	ZZZZZ	Batch ID:	9779	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308497		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9779B	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728J		
Client ID:	ZZZZZ	Batch ID:	9779	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308510		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9780	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728K		
Client ID:	ZZZZZ	Batch ID:	9780	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308525		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	MB-9780A	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728K		
Client ID:	ZZZZZ	Batch ID:	9780	TestNo:	WET DI/ EPA (WET)	Analysis Date:	7/28/2002	SeqNo:	308526				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.05895 0.20

Sample ID	MB-9780B	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728K		
Client ID:	ZZZZZ	Batch ID:	9780	TestNo:	WET DI/ EPA (WET)	Analysis Date:	7/28/2002	SeqNo:	308539				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9781	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728L		
Client ID:	ZZZZZ	Batch ID:	9781	TestNo:	WET DI/ EPA (WET)	Analysis Date:	7/28/2002	SeqNo:	308554				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.08497 0.20

Sample ID	MB-9781A	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728L		
Client ID:	ZZZZZ	Batch ID:	9781	TestNo:	WET DI/ EPA (WET)	Analysis Date:	7/28/2002	SeqNo:	308555				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9781B	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728L		
Client ID:	ZZZZZ	Batch ID:	9781	TestNo:	WET DI/ EPA (WET)	Analysis Date:	7/28/2002	SeqNo:	308568				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	LCS-9777	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728H			
Client ID:	ZZZZZ	Batch ID:	9777	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308466			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		7.496		0.20	7.5	0		99.9	80	120	0		0	
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Sample ID	LCS-9778	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728I			
Client ID:	ZZZZZ	Batch ID:	9778	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308495			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		7.485		0.20	7.5	0		99.8	80	120	0		0	
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Sample ID	LCS-9779	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728J			
Client ID:	ZZZZZ	Batch ID:	9779	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308524			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		7.517		0.20	7.5	0		100	80	120	0		0	
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Sample ID	LCS-9780	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728K			
Client ID:	ZZZZZ	Batch ID:	9780	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308553			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		7.814		0.20	7.5	0		104	80	120	0		0	
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Sample ID	LCS-9781	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728L			
Client ID:	ZZZZZ	Batch ID:	9781	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308582			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		7.49		0.20	7.5	0		99.9	80	120	0		0	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	057937-005AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728H		
Client ID:	S82-S	Batch ID:	9777	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308451		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		8.395		0.20	5	3.485	98.2	80	120	0	0		
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Sample ID	057937-017AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728H		
Client ID:	S85-S	Batch ID:	9777	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308464		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		5.336		0.20	5	0.499	96.7	80	120	0	0		
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Sample ID	057937-033AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728I		
Client ID:	S89-1	Batch ID:	9778	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308480		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		9.807		0.20	5	5.004	96.1	80	120	0	0		
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Sample ID	057937-046AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728I		
Client ID:	S92-2	Batch ID:	9778	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308493		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		6.815		0.20	5	1.842	99.4	80	120	0	0		
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Sample ID	057937-057AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728J		
Client ID:	S95-3	Batch ID:	9779	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308509		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		5.449		0.20	5	0.2881	103	80	120	0	0		
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO - Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	057937-072AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728J			
Client ID:	S99-2	Batch ID:	9779	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308522			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	7.507	0.20	5	2.539	99.4	80	120	0	0					
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Sample ID	057937-085AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728K			
Client ID:	S103-1	Batch ID:	9780	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308538			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	5.553	0.20	5	0.6106	98.8	80	120	0	0					
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Sample ID	057937-099AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728K			
Client ID:	S107-1	Batch ID:	9780	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308551			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	5.496	0.20	5	0.2416	105	80	120	0	0					
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Sample ID	057941-011AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728L			
Client ID:	ZZZZZ	Batch ID:	9781	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308567			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	6.296	0.20	5	1.277	100	80	120	0	0					
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Sample ID	057942-013AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728L			
Client ID:	ZZZZZ	Batch ID:	9781	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308580			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	5.719	0.20	5	0.5237	104	80	120	0	0					
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	057937-046AMSD	SampType:	MSD	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728I		
Client ID:	S92-2	Batch ID:	9778	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308494		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	6.796	0.20	5	1.842	99.1	80	120	6.815	0.280	20		
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Sample ID	057937-005ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728H		
Client ID:	S82-S	Batch ID:	9777	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308450		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	3.798	0.20	0	0	0	0	0	3.485	8.60	30		
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Sample ID	057937-017ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728H		
Client ID:	S85-S	Batch ID:	9777	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308463		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	0.3615	0.20	0	0	0	0	0	0.499	32.0	30	R	
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Sample ID	057937-033ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728I		
Client ID:	S89-1	Batch ID:	9778	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308479		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	5.442	0.20	0	0	0	0	0	5.004	8.39	30		
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Sample ID	057937-046ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728I		
Client ID:	S92-2	Batch ID:	9778	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308492		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	1.207	0.20	0	0	0	0	0	1.842	41.7	30	R	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	057937-057ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728J			
Client ID:	S95-3	Batch ID:	9779	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308508			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.2534 0.20 0 0 0 0 0 0.2881 12.8 30

Sample ID	057937-072ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728J			
Client ID:	S99-2	Batch ID:	9779	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308521			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 2.442 0.20 0 0 0 0 0 2.539 3.88 30

Sample ID	057937-085ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728K			
Client ID:	S103-1	Batch ID:	9780	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308537			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.5608 0.20 0 0 0 0 0 0.6106 8.51 30

Sample ID	057937-099ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728K			
Client ID:	S107-1	Batch ID:	9780	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308550			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.2393 0.20 0 0 0 0 0 0.2416 0.951 30

Sample ID	057941-011ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728L			
Client ID:	ZZZZZ	Batch ID:	9781	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308566			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 1.094 0.20 0 0 0 0 0 1.277 15.4 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID: 057942-013ADUP	SampType: DUP	TestCode: 7420_DI	Units: mg/L	Prep Date: 7/23/2002	Run ID: AA2_020728L						
Client ID: ZZZZZ	Batch ID: 9781	TestNo: WET DI/ EPA (WET)		Analysis Date: 7/28/2002	SeqNo: 308579						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.6276	0.20	0	0	0	0	0	0.5237	18.0	30	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits

S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank
Calculatfons are based on raw values

DO- Surrogate dilute out
H - Sample exceeded holding time



Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID MB-9918 SampType: MBLK TestCode: 6010_S Units: mg/Kg Prep Date: 7/28/2002 Run ID: ICP2_020729E
Client ID: ZZZZZ Batch ID: 9918 TestNo: EPA 6010B (EPA 3050A) Analysis Date: 7/29/2002 SeqNo: 309146

Table with 12 columns: Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Rows include Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc.

Sample ID LCS-9918 SampType: LCS TestCode: 6010_S Units: mg/Kg Prep Date: 7/28/2002 Run ID: ICP2_020729E
Client ID: ZZZZZ Batch ID: 9918 TestNo: EPA 6010B (EPA 3050A) Analysis Date: 7/29/2002 SeqNo: 309147

Table with 12 columns: Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Rows include Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper.

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: LCS-9918	SampType: LCS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/28/2002	Run ID: ICP2_020729E
Client ID: ZZZZZ	Batch ID: 9918	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309147

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	45.5	0.25	50	0	91	80	120	0	0		
Molybdenum	47	0.25	50	0	94	80	120	0	0		
Nickel	43.5	0.15	50	0	87	80	120	0	0		
Selenium	45.5	0.25	50	0	91	80	120	0	0		
Silver	46	0.15	50	0	92	80	120	0	0		
Thallium	46.5	0.25	50	0	93	80	120	0	0		
Vanadium	47.5	0.15	50	0	95	80	120	0	0		
Zinc	45.5	0.50	50	0	91	80	120	0	0		

Sample ID: 057937-095AMS	SampType: MS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/28/2002	Run ID: ICP2_020729E
Client ID: S106-1	Batch ID: 9918	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309158

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	111.5	0.25	125	2	87.6	32	115	0	0		
Arsenic	141.5	0.25	125	20	97.2	59	111	0	0		
Barium	338	0.15	125	207	105	34	151	0	0		
Beryllium	119.5	0.15	125	0	95.6	56	112	0	0		
Cadmium	114	0.15	125	0.2175	91	52	120	0	0		
Chromium	149	0.15	125	26.5	98	56	118	0	0		
Cobalt	120.5	0.15	125	5.5	92	58	117	0	0		
Copper	225.5	0.15	125	69.5	125	58	134	0	0		
Molybdenum	123.5	0.25	125	3	96.4	56	115	0	0		
Nickel	135	0.15	125	16	95.2	52	120	0	0		
Selenium	118	0.25	125	0	94.4	46	108	0	0		
Silver	128.5	0.15	125	1	102	74	117	0	0		
Thallium	118	0.25	125	0.5	94	62	117	0	0		
Vanadium	147.5	0.15	125	22.5	100	55	122	0	0		
Zinc	636.5	0.50	125	433.5	162	43	134	0	0		S

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	057937-095AMS	SampType:	MS	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729E		
Client ID:	S106-1	Batch ID:	9918	TestNo:	EPA 6010B (EPA 3050A)	Analysis Date:	7/29/2002	SeqNo:	309200				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	3610	2.5	125	3220	312	47	128	0	0	S
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Sample ID	057937-095AMSD	SampType:	MSD	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729E		
Client ID:	S106-1	Batch ID:	9918	TestNo:	EPA 6010B (EPA 3050A)	Analysis Date:	7/29/2002	SeqNo:	309159				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Antimony	106	0.25	125	2	83.2	32	115	111.5	5.06	20
Arsenic	132	0.25	125	20	89.6	59	111	141.5	6.95	20
Barium	301	0.15	125	207	75.2	34	151	338	11.6	20
Beryllium	113	0.15	125	0	90.4	56	112	119.5	5.59	20
Cadmium	108	0.15	125	0.2175	86.2	52	120	114	5.41	20
Chromium	139.5	0.15	125	26.5	90.4	56	118	149	6.59	20
Cobalt	114	0.15	125	5.5	86.8	58	117	120.5	5.54	20
Copper	233	0.15	125	69.5	131	58	134	225.5	3.27	20
Molybdenum	116.5	0.25	125	3	90.8	56	115	123.5	5.83	20
Nickel	127.5	0.15	125	16	89.2	52	120	135	5.71	20
Selenium	112	0.25	125	0	89.6	46	108	118	5.22	20
Silver	121	0.15	125	1	96	74	117	128.5	6.01	20
Thallium	112.5	0.25	125	0.5	89.6	62	117	118	4.77	20
Vanadium	138	0.15	125	22.5	92.4	55	122	147.5	6.65	20
Zinc	557	0.50	125	433.5	98.8	43	134	636.5	13.3	20

Sample ID	057937-095AMSD	SampType:	MSD	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729E		
Client ID:	S106-1	Batch ID:	9918	TestNo:	EPA 6010B (EPA 3050A)	Analysis Date:	7/29/2002	SeqNo:	309201				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	2995	2.5	125	3220	-180	47	128	3610	18.6	20	S
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO - Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	057937-095ADUP	SampType:	DUP	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729E
Client ID:	S106-1	Batch ID:	9918	TestNo:	EPA 6010B (EPA 3050A)	Analysis Date:	7/29/2002	SeqNo:	309157		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	2	0.25	0	0	0	0	0	2	0	30	
Arsenic	18	0.25	0	0	0	0	0	20	10.5	30	
Barium	189.5	0.15	0	0	0	0	0	207	8.83	30	
Beryllium	ND	0.15	0	0	0	0	0	0	0	30	
Cadmium	0.5	0.15	0	0	0	0	0	0.2175	78.7	30	R
Chromium	22.5	0.15	0	0	0	0	0	26.5	16.3	30	
Cobalt	4.5	0.15	0	0	0	0	0	5.5	20.0	30	
Copper	77.5	0.15	0	0	0	0	0	69.5	10.9	30	
Molybdenum	4	0.25	0	0	0	0	0	3	28.6	30	
Nickel	17.5	0.15	0	0	0	0	0	16	8.96	30	
Selenium	ND	0.25	0	0	0	0	0	0	0	30	
Silver	1	0.15	0	0	0	0	0	1	0	30	
Thallium	0.5	0.25	0	0	0	0	0	0.5	0	30	
Vanadium	19.5	0.15	0	0	0	0	0	22.5	14.3	30	
Zinc	505.5	0.50	0	0	0	0	0	433.5	15.3	30	

Sample ID	057937-095ADUP	SampType:	DUP	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729E
Client ID:	S106-1	Batch ID:	9918	TestNo:	EPA 6010B (EPA 3050A)	Analysis Date:	7/29/2002	SeqNo:	309199		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2880	2.5	0	0	0	0	0	3220	11.1	30	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057937
Project: Rte 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7471_S

Sample ID	MB-9921	SampType:	mblk	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729C			
Client ID:	ZZZZZ	Batch ID:	9921	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309095			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury ND 0.10

Sample ID	LCS-9921	SampType:	lcs	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729C			
Client ID:	ZZZZZ	Batch ID:	9921	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309094			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 2.243 0.10 2.08 0 108 80 120 0 0

Sample ID	057937-095AMS	SampType:	MS	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729C			
Client ID:	S106-1	Batch ID:	9921	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309092			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 1.001 0.10 0.83 0.08152 111 62 146 0 0

Sample ID	057937-095AMSD	SampType:	MSD	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729C			
Client ID:	S106-1	Batch ID:	9921	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309093			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.9873 0.10 0.83 0.08152 109 62 146 1.001 1.35 33

Sample ID	057937-095ADUP	SampType:	DUP	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729C			
Client ID:	S106-1	Batch ID:	9921	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309091			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.09527 0.10 0 0 0 0 0 0 0.08152 0 30 J

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values

All samples → total lead (6010)
total lead > 50 mg/kg → WET-Citric
WET-CITRIC > 5 mg/L → WET-DI
Total lead > 1,000 mg/kg → TCLP
10% → Soil pH (9045)

Please call when all totals have been run. I will instruct what samples should be run for Title 22 metals.

Thanks - Chris King

REVISIONS
BY _____ DATE _____
BY _____ DATE _____

BY _____ DATE _____
CHECKED BY _____

Diane

From: Chris King [king@geoconinc.com]
Sent: Monday, July 22, 2002 10:57 AM
To: 'Diane'
Subject: 09100-06-49

Diane - please run the 15 samples with the highest total lead content for Title 22 metals. Please do this for each direction (northbound and southbound), so the total number of tests will be 30. Thank you and please call me if you have any questions.

Christopher S. King
Senior Staff Engineer
Geocon Consultants, Inc.

Diane

From: Chris King [king@geoconinc.com]

Sent: Tuesday, July 23, 2002 2:47 PM

To: 'Diane'

Subject: 09100-06-49

Would you please rerun sample EB-38 (057937-110A) for total lead. Thank You!

Christopher S. King
Senior Staff Engineer
Geocon Consultants, Inc.

July 19, 2002

Chris King
Geocon Environmental
6970 Flanders Drive
San Diego, CA 92121
TEL: (858) 558-6100
FAX: (858) 558-8437

AUG 05 2002

RE: Rte 5 - Southbound, 09100-06-49

ELAP No.: 1838

NELAP No.: 02107CA

Attention: Chris King

Workorder No.: 057898

Enclosed are the results for sample(s) received on July 12, 2002 by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,



Eddie F. Rodriguez
Laboratory Director

This cover letter is an integral part of this analytical report.



CHAIN OF CUSTODY RECORD



**Advanced Technology
Laboratories**

3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____ Logged By: _____ Date: _____ Time: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
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Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: Chris King	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: Rte 5 - Southbound	Project #: 09100-06-49	Sampler: CGB/IGCA (Printed Name)	(Signature)
Relinquished by: CHAD DEAR (Signature and Printed Name)	Date: 7-12-02	Time: _____	Received by: _____ (Signature and Printed Name)
Relinquished by: _____ (Signature and Printed Name)	Date: _____	Time: _____	Received by: _____ (Signature and Printed Name)
Relinquished by: _____ (Signature and Printed Name)	Date: _____	Time: _____	Received by: _____ (Signature and Printed Name)

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: Chris King 7-12-02 (Print Name Date) For Chris King (Signature)	Send Report To: Attn: _____ Co: Client Address: _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: Client Address: _____ City _____ State _____ Zip _____	Special Instructions/Comments: <p style="font-size: 2em; text-align: center;">For Instructions (See Diac)</p>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8081 / 8082 (Pesticides/PCB-CC) 8200 (Volatiles-GC/MS) 623 / 8270 (BVA-GC/MS) Metals: Total (CAC-8010 / 7000) 8015M TPH-GC/MS (COMBINATION) 8015M TPH-HD (Diesel-GC) TOTAL LEAD 6010	CIRCLE APPROPRIATE MATRIX SOLID <input checked="" type="checkbox"/> SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER TAT # Type	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER	QA/QC						
LAB USE ONLY:		Sample Description									
ITEM	Batch #:	Sample I.D.	Date	Time							
	Lab No.										REMARKS
	57818-001	559-5	7-12-02	930							
	2	559-1		936							
	3	559-2		943							
	4	559-3		945							
	5	560-5		935							
	6	560-1		940							
	7	560-2		945							
	8	560-3		950							
	9	561-5		946							
	10	561-1		950							

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr B= Emergency Next workday C= Critical 2 Workdays D= Urgent 3 Workdays E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₅
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tecllar G=Glass P=Plastic M=Metal		

CHAIN OF CUSTODY RECORD



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Logged By: _____ Date: _____ Time: _____		

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City San Diego State CA Zip Code 92121	FAX: (858) 558-8437

Project Name: <u>Rte 5 Southbound</u>	Project #: <u>09100-06-49</u>	Sampler: <u>CGB/GAC</u> (Printed Name)	(Signature)
Relinquished by: (Signature and Printed Name) <u>CHAD BEARER</u>	Date: <u>7-12-02</u>	Time: _____	Received by: (Signature and Printed Name) _____
Relinquished by: (Signature and Printed Name) _____	Date: _____	Time: _____	Received by: (Signature and Printed Name) _____
Relinquished by: (Signature and Printed Name) _____	Date: _____	Time: _____	Received by: (Signature and Printed Name) _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>Chris King</u> <u>7-12-02</u> <u>FalChris King</u> (Signature)	Send Report To: Attn: <u>Client</u> Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: <u>Client</u> Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>SEE PAGE 1</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested <u>8091 / 8082 (Pesticides/PCB-GC)</u> <u>8280 (Volatiles-GC/MS)</u> <u>625 / 8270 (BVA-GC/MS)</u> <u>Metals-Total (CAC-8010 / 7200)</u> <u>8015M TPH/GIBTEX (COMBINATION)</u> <u>8075M TPH/D (Diesel-GC)</u> <u>TOTAL LAB GOLD</u>	CIRCLE APPROPRIATE MATRIX <u>SOLID (SOD) • SLUDGE</u> <u>OIL • SOLVENT • LIQUID</u> <u>WATER • WASTEWATER</u> <u>DRINKING WATER</u> <u>AIR</u> <u>WIPE • FILTER</u> <u>OTHER</u>	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER _____	QA/QC												
ITEM	LAB USE ONLY: Batch #:	Sample Description													REMARKS		
	Lab No.	Sample I.D.	Date	Time	Container(s) TAT # Type												
	11	SL1-2	7-12-02	9:54	X	E	1	J	G								
	12	SL1-3		9:59	X	X	X	X									
	13	SL2-5		10:06													
	14	SL2-1		10:10													
	15	SL2-2		10:14													
	16	SL2-3		10:18													
	17	SL2-5		10:24													
	18	SL3-1		10:29													
	19	SL3-2		10:15													
	20	SL3-3		10:21													

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=Hcl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₈
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

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Logged By: _____ Date: _____ Time: _____		

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: Chris King	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

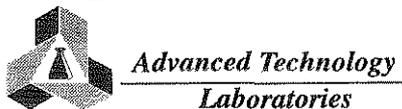
Project Name: RTS Southbound	Project #: 09100-06-49	Sampler: CGB/GCA (Printed Name)	(Signature)
Relinquished by: (Signature and Printed Name) Chao Bear	Date: 7-12-02	Time: _____	Received by: (Signature and Printed Name) [Signature]
Relinquished by: (Signature and Printed Name)	Date: _____	Time: _____	Received by: (Signature and Printed Name)
Relinquished by: (Signature and Printed Name)	Date: _____	Time: _____	Received by: (Signature and Printed Name)

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: Chris King 7-12-02 Print Name Date [Signature] Signature	Send Report To: Attn: _____ Co: Client Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: Client Address _____ City _____ State _____ Zip _____	Special Instructions/Comments:
--	--	---	--------------------------------

Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8081 / 8082 (Pesticides/PCB-GC) 8280 (Volatiles-GC/MS) 823 / 8270 (BNA-GC/MS) Metals: Total (CAC-8010 / 7000) 8015M TPH/GT/TEX (COMBINATION) 8015M TPH/D (Diesel-GC) TOTAL LEAD 6016	CIRCLE APPROPRIATE MATRIX SOLID <input checked="" type="checkbox"/> SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER	Container(s) TAT # Type	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER	QA/QC
LAB USE ONLY: Batch #:	Sample Description					
Lab No.	Sample I.D.	Date	Time			
21	SL4-5	7-12-02	1015	X	E	1 JIG
22	SL4-2		1019		X	X X X
23	SL4-8		1023			
24	SL4-3		1027			
25	SL5-5		1036			
26	SL5-1		1040			
27	SL5-2		1044			
28	SL5-3		1048			
29	SL6-5		1038			
30	SL6-1		1048			

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₈
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Teclar G=Glass P=Plastic M=Metal						

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P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: _____ Date: _____ Time: _____		

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: Chris King	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

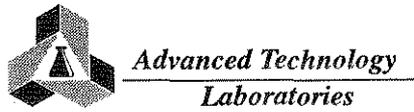
Project Name: Rte 5 South bound	Project #: 09100-06-49	Sampler: CGBIGCA (Printed Name)	(Signature)
Relinquished by: (Signature and Printed Name) CHAD BENTON	Date: 7-12-02 Time: _____	Received by: (Signature and Printed Name) [Signature]	Date: 7/12/02 Time: 4:15
Relinquished by: (Signature and Printed Name)	Date: _____ Time: _____	Received by: (Signature and Printed Name)	Date: _____ Time: _____
Relinquished by: (Signature and Printed Name)	Date: _____ Time: _____	Received by: (Signature and Printed Name)	Date: _____ Time: _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: Chris King 7-12-02 Print Name Date [Signature] Signature	Send Report To: Attn: _____ Co: Client Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: Client Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: SEE PAGE 1
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8081 / 8082 (Pesticides/PCB-CC) 8200 (Nitrates-GC/MS) 625 / 8270 (BNA-GC/MS) Metals Total (CAC-8010 / 7000) 8015M TPH/GSTEX (COMBINATION) 8015M TPH/D (Diesel-GC) TOTAL LEAD GOLD	CIRCLE APPROPRIATE MATRIX SOLID (SOIL) SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER	Container(s) TAT # Type	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER	REMARKS
LAB USE ONLY: Batch #:	Sample Description					
Lab No.	Sample I.D.	Date	Time			
31	566-2	7-12-02	1046	X	E	L J G
32	566-3 ✓	7-12-02	1050	X	X	X X
33	567-5	7-12-02	1055			
34	567-1	7-12-02	1100			
35	567-2	7-12-02	1104			
36	567-3 ✓	7-12-02	1105			
37	568-5	7-12-02	1056			
38	568-1	7-12-02	1103			
39	568-2	7-12-02	1107			
40	568-3 ✓	7-12-02	1121			

• TAT starts 9 a.m. following day if samples received after 5 p.m.	TAT: A= <input type="checkbox"/> Overnight ≤ 24 hr	B= <input type="checkbox"/> Emergency Next workday	C= <input type="checkbox"/> Critical 2 Workdays	D= <input type="checkbox"/> Urgent 3 Workdays	E= <input type="checkbox"/> Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₈
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



**Advanced Technology
Laboratories**
3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: _____ Date: _____ Time: _____		

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: Chris King	City San Diego State CA Zip Code 92121	FAX: (858) 558-8437

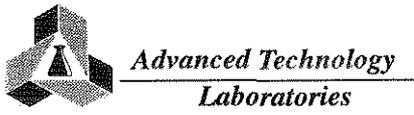
Project Name: Rte 5 Southbound	Project #: 09100-06-49	Sampler: CGB/GCA (Printed Name)	(Signature)
Relinquished by: (Signature and Printed Name) Chao Beaker	Date: 7-10-02	Time: _____	Received by: (Signature and Printed Name) _____
Relinquished by: (Signature and Printed Name) _____	Date: _____	Time: _____	Received by: (Signature and Printed Name) _____
Relinquished by: (Signature and Printed Name) _____	Date: _____	Time: _____	Received by: (Signature and Printed Name) _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: Chris King 7-10-02 Print Name Date Chris King Signature	Send Report To: Attn: _____ Co: Client Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: Client Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: SEE PAGE 1
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested <i>8091 / 8092 (Pesticides/PCB-EC) 8230 (Volatiles-GC/MS) 825 / 8270 (BVA-GC/MS) Metals Total (CAC-8010 / 7000) 8015M TPH-GT/TEX (COMBINATION) 8015M TPH-ID (Diesel-GC) Total 1200 Lab</i>	CIRCLE APPROPRIATE MATRIX <i>SOLID • SOIL • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER</i>	Container(s) TAT # Type	PRESERVATION QA/QC RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER	REMARKS			
ITEM	LAB USE ONLY: Batch #: Lab No.	Sample Description Sample I.D.	Date	Time					
	61	574-5	7-10-02	1221			E	1 J G	
	62	574-1		1225			X	X X X	
	63	574-2		1229					
	64	574-3		1233					
	65	575-5		1221					
	66	575-1		1226					
	67	575-2		1230					
	68	575-3		1235					
	69	576-3		1241					
	70	576-1		1248					

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= <input type="checkbox"/> Overnight ≤ 24 hr	B= <input type="checkbox"/> Emergency Next workday	C= <input type="checkbox"/> Critical 2 Workdays	D= <input type="checkbox"/> Urgent 3 Workdays	E= <input type="checkbox"/> Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Teclar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



Advanced Technology Laboratories
 3275 Walnut Avenue
 Signal Hill, CA 90807
 (562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: _____ Date: _____ Time: _____		

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rte 5 South bound</u>	Project #: <u>09100-06-49</u>	Sampler: <u>CGB/CA</u> (Printed Name)	(Signature)
Relinquished by: <u>CHAD BEAVER</u> (Signature and Printed Name)	Date: _____ Time: _____	Received by: _____ (Signature and Printed Name)	Date: <u>7/11/02</u> Time: <u>4:10</u>
Relinquished by: _____ (Signature and Printed Name)	Date: _____ Time: _____	Received by: _____ (Signature and Printed Name)	Date: _____ Time: _____
Relinquished by: _____ (Signature and Printed Name)	Date: _____ Time: _____	Received by: _____ (Signature and Printed Name)	Date: _____ Time: _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>Chris King</u> <u>7-12-02</u> <u>Per Chris King</u> (Signature)	Send Report To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>SEE PAGE 1</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8081 / 8082 (Pesticides/PCB-CO) 8260 (Nitrates-GC/MS) 825 / 820 (VIA-GC/MS) Metals Total (CAC-8070 / 7000) 8015M TPHGBTEX (COMBINATORY) 8015M TPHVD (Diesel-GC) <u>Vol / Lead (Lead)</u>	CIRCLE APPROPRIATE MATRIX SOLID • <u>SOIL</u> • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER	Container(s) # Type	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER	QA/QC REMARKS				
LAB USE ONLY: Batch #:	Sample Description	Date		Time			TAT	#	Type	REMARKS
LAB No.	Sample I.D.	Date	Time			TAT	#	Type	REMARKS	
71	576-2	7-12-02	12:52	X	X	E	1	J	G	
72	576-3	↓	12:56	↓	↓	X	^	X	X	
73	577-5	↓	11:42	↓	↓	↓	↓	↓	↓	
74	577-1	↓	11:47	↓	↓	↓	↓	↓	↓	
75	577-2	↓	12:51	↓	↓	↓	↓	↓	↓	
76	577-3	↓	12:55	↓	↓	↓	↓	↓	↓	
77	578-5	↓	12:59	↓	↓	↓	↓	↓	↓	
78	578-1	↓	1:02	↓	↓	↓	↓	↓	↓	
79	578-2	↓	1:06	↓	↓	↓	↓	↓	↓	
80	578-3	↓	1:40	↓	↓	↓	↓	↓	↓	

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



**Advanced Technology
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3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____ Logged By: _____ Date: _____ Time: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED <input type="checkbox"/> N <input type="checkbox"/> 2. HEADSPACE (VOA) <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>
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Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: Chris King	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: Rte 5 Southbound	Project #: 09100-06-45	Sampler: CGB/GAC (Printed Name)	(Signature)
Relinquished by: (Signature and Printed Name) Chris King	Date: 7-12-02	Time: _____	Received by: (Signature and Printed Name) _____
Relinquished by: (Signature and Printed Name) _____	Date: _____	Time: _____	Received by: (Signature and Printed Name) _____
Relinquished by: (Signature and Printed Name) _____	Date: _____	Time: _____	Received by: (Signature and Printed Name) _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: Chris King 7-12-02 Print Name Date Signature _____	Send Report To: Attn: _____ Co: Client Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: Client Address _____ City _____ State _____ Zip _____	Special Instructions/Comments:
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8091 / 8092 (Pesticides/PCB-OC) 8200 (Volatile/OC/MS) 625 / 8270 (BVA-CO/MS) Metals: Total (CAC-8010 / 7000) 8015M TPH/G/TEXT (COMBINATION) 8015M TPH/D (Diesel-OC) TOTAL Lead	CIRCLE APPROPRIATE MATRIX SOLID • SOIL • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER _____					
ITEM	LAB USE ONLY:		Sample Description				Container(s)		REMARKS
	Batch #:	Lab No.	Sample I.D.	Date	Time	TAT	#	Type	
		88	EB-25	7-12-02	9:56		E	1 P P	
		89	EB-26		10:28		X	X X X	
		90	EB-27		11:03				
		91	EB-28		11:13				
		92	EB-29		11:55				
		93	EB-30		12:40				
		94	EB-31		12:59				
		95	EB-32		1:05				
		96	EB-33		1:31				

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= <input type="checkbox"/> Overnight ≤ 24 hr B= <input type="checkbox"/> Emergency Next workday C= <input type="checkbox"/> Critical 2 Workdays D= <input type="checkbox"/> Urgent 3 Workdays E= <input type="checkbox"/> Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal		

CLIENT: Geocon Environmental
Project: Rte 5 - Southbound, 09100-06-49
Lab Order: 057898

CASE NARRATIVE

Sample EB-30 was not received by the laboratory.



Advanced Technology Laboratories

Date: 7/19/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057898
Project:	Rte 5 - Southbound, 09100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057898-001A	S59-S	1000	mg/Kg	9534	5	1	7/12/2002	7/16/2002
057898-002A	S59-1	1300	mg/Kg	9534	5	1	7/12/2002	7/16/2002
057898-003A	S59-2	820	mg/Kg	9534	5	1	7/12/2002	7/16/2002
057898-004A	S59-3	570	mg/Kg	9534	5	1	7/12/2002	7/16/2002
057898-005A	S60-S	62	mg/Kg	9534	5	1	7/12/2002	7/16/2002
057898-006A	S60-1	200	mg/Kg	9534	5	1	7/12/2002	7/16/2002
057898-007A	S60-2	47	mg/Kg	9534	5	1	7/12/2002	7/16/2002
057898-008A	S60-3	1100	mg/Kg	9534	5	1	7/12/2002	7/16/2002
057898-009A	S61-S	1200	mg/Kg	9534	5	1	7/12/2002	7/16/2002
057898-010A	S61-1	770	mg/Kg	9534	5	1	7/12/2002	7/16/2002
057898-011A	S61-2	1300	mg/Kg	9534	5	1	7/12/2002	7/16/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/19/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057898
Project:	Rte 5 - Southbound, 09100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057898-012A	S61-3	640	mg/Kg	9534	5	1	7/12/2002	7/16/2002
057898-013A	S62-S	200	mg/Kg	9534	5	1	7/12/2002	7/16/2002
057898-014A	S62-1	220	mg/Kg	9534	5	1	7/12/2002	7/16/2002
057898-015A	S62-2	1800	mg/Kg	9534	5	1	7/12/2002	7/16/2002
057898-016A	S62-3	240	mg/Kg	9534	5	1	7/12/2002	7/16/2002
057898-017A	S63-S	89	mg/Kg	9534	5	1	7/12/2002	7/16/2002
057898-018A	S63-1	160	mg/Kg	9534	5	1	7/12/2002	7/16/2002
057898-019A	S63-2	400	mg/Kg	9534	5	1	7/12/2002	7/16/2002
057898-020A	S63-3	180	mg/Kg	9534	5	1	7/12/2002	7/16/2002
057898-021A	S64-S	46	mg/Kg	9545	5	1	7/12/2002	7/16/2002
057898-022A	S64-1	300	mg/Kg	9545	5	1	7/12/2002	7/16/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/19/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057898
Project:	Rte 5 - Southbound, 09100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057898-023A	S64-2	370	mg/Kg	9545	5	1	7/12/2002	7/16/2002
057898-024A	S64-3	410	mg/Kg	9545	5	1	7/12/2002	7/16/2002
057898-025A	S65-S	35	mg/Kg	9545	5	1	7/12/2002	7/16/2002
057898-026A	S65-1	140	mg/Kg	9545	5	1	7/12/2002	7/16/2002
057898-027A	S65-2	310	mg/Kg	9545	5	1	7/12/2002	7/16/2002
057898-028A	S65-3	710	mg/Kg	9545	5	1	7/12/2002	7/16/2002
057898-029A	S66-S	21	mg/Kg	9545	5	1	7/12/2002	7/16/2002
057898-030A	S66-1	64	mg/Kg	9545	5	1	7/12/2002	7/16/2002
057898-031A	S66-2	240	mg/Kg	9545	5	1	7/12/2002	7/16/2002
057898-032A	S66-3	1300	mg/Kg	9545	5	1	7/12/2002	7/16/2002
057898-033A	S67-S	60	mg/Kg	9545	5	1	7/12/2002	7/16/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/19/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057898
Project:	Rte 5 - Southbound, 09100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057898-034A	S67-1	380	mg/Kg	9545	5	1	7/12/2002	7/16/2002
057898-035A	S67-2	80	mg/Kg	9545	5	1	7/12/2002	7/16/2002
057898-036A	S67-3	950	mg/Kg	9545	5	1	7/12/2002	7/16/2002
057898-037A	S68-S	64	mg/Kg	9545	5	1	7/12/2002	7/16/2002
057898-038A	S68-1	70	mg/Kg	9545	5	1	7/12/2002	7/16/2002
057898-039A	S68-2	43	mg/Kg	9545	5	1	7/12/2002	7/16/2002
057898-040A	S68-3	150	mg/Kg	9545	5	1	7/12/2002	7/16/2002
057898-041A	S69-S	48	mg/Kg	9557	5	1	7/12/2002	7/16/2002
057898-042A	S69-1	47	mg/Kg	9557	5	1	7/12/2002	7/16/2002
057898-043A	S69-2	110	mg/Kg	9557	5	1	7/12/2002	7/16/2002
057898-044A	S69-3	150	mg/Kg	9557	5	1	7/12/2002	7/16/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/19/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057898
Project:	Rte 5 - Southbound, 09100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057898-045A	S70-S	11	mg/Kg	9557	5	1	7/12/2002	7/16/2002
057898-046A	S70-1	20	mg/Kg	9557	5	1	7/12/2002	7/16/2002
057898-047A	S70-2	28	mg/Kg	9557	5	1	7/12/2002	7/16/2002
057898-048A	S70-3	97	mg/Kg	9557	5	1	7/12/2002	7/16/2002
057898-049A	S71-S	140	mg/Kg	9557	5	1	7/12/2002	7/16/2002
057898-050A	S71-1	250	mg/Kg	9557	5	1	7/12/2002	7/16/2002
057898-051A	S71-2	320	mg/Kg	9557	5	1	7/12/2002	7/16/2002
057898-052A	S71-3	820	mg/Kg	9557	5	1	7/12/2002	7/16/2002
057898-053A	S72-S	38	mg/Kg	9557	5	1	7/12/2002	7/16/2002
057898-054A	S72-1	10	mg/Kg	9557	5	1	7/12/2002	7/16/2002
057898-055A	S72-2	100	mg/Kg	9557	5	1	7/12/2002	7/16/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/19/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057898
Project:	Rte 5 - Southbound, 09100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057898-056A	S72-3	520	mg/Kg	9557	5	1	7/12/2002	7/16/2002
057898-057A	S73-S	280	mg/Kg	9557	5	1	7/12/2002	7/16/2002
057898-058A	S73-1	170	mg/Kg	9557	5	1	7/12/2002	7/16/2002
057898-059A	S73-2	86	mg/Kg	9557	5	1	7/12/2002	7/16/2002
057898-060A	S73-3	360	mg/Kg	9557	5	1	7/12/2002	7/16/2002
057898-061A	S74-S	730	mg/Kg	9570	5	1	7/12/2002	7/16/2002
057898-062A	S74-1	130	mg/Kg	9570	5	1	7/12/2002	7/16/2002
057898-063A	S74-2	36	mg/Kg	9570	5	1	7/12/2002	7/16/2002
057898-064A	S74-3	33	mg/Kg	9570	5	1	7/12/2002	7/16/2002
057898-065A	S75-S	640	mg/Kg	9570	5	1	7/12/2002	7/16/2002
057898-066A	S75-1	460	mg/Kg	9570	5	1	7/12/2002	7/16/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/19/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057898
Project:	Rte 5 - Southbound, 09100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057898-067A	S75-2	29	mg/Kg	9570	5	1	7/12/2002	7/16/2002
057898-068A	S75-3	27	mg/Kg	9570	5	1	7/12/2002	7/16/2002
057898-069A	S76-S	680	mg/Kg	9570	5	1	7/12/2002	7/16/2002
057898-070A	S76-1	110	mg/Kg	9570	5	1	7/12/2002	7/16/2002
057898-071A	S76-2	63	mg/Kg	9570	5	1	7/12/2002	7/16/2002
057898-072A	S76-3	23	mg/Kg	9570	5	1	7/12/2002	7/16/2002
057898-073A	S77-S	360	mg/Kg	9570	5	1	7/12/2002	7/16/2002
057898-074A	S77-1	950	mg/Kg	9570	5	1	7/12/2002	7/16/2002
057898-075A	S77-2	470	mg/Kg	9570	5	1	7/12/2002	7/16/2002
057898-076A	S77-3	120	mg/Kg	9570	5	1	7/12/2002	7/16/2002
057898-077A	S78-S	890	mg/Kg	9570	5	1	7/12/2002	7/16/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/19/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057898
Project:	Rte 5 - Southbound, 09100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057898-078A	S78-1	230	mg/Kg	9570	5	1	7/12/2002	7/16/2002
057898-079A	S78-2	370	mg/Kg	9570	5	1	7/12/2002	7/16/2002
057898-080A	S78-3	17	mg/Kg	9570	5	1	7/12/2002	7/16/2002
057898-081A	S79-S	500	mg/Kg	9571	5	1	7/12/2002	7/16/2002
057898-082A	S79-1	47	mg/Kg	9571	5	1	7/12/2002	7/16/2002
057898-083A	S79-2	48	mg/Kg	9571	5	1	7/12/2002	7/16/2002
057898-084A	S79-3	23	mg/Kg	9571	5	1	7/12/2002	7/16/2002
057898-085A	S80-S	590	mg/Kg	9571	5	1	7/12/2002	7/16/2002
057898-086A	S80-1	40	mg/Kg	9571	5	1	7/12/2002	7/16/2002
057898-087A	S80-2	66	mg/Kg	9571	5	1	7/12/2002	7/16/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**ICP METALS
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057898
Project:	Rte 5 - Southbound, 09100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Water
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057898-088A	EB-25	ND	mg/L	9583	0.005	1	7/12/2002	7/16/2002
057898-089A	EB-26	ND	mg/L	9583	0.005	1	7/12/2002	7/16/2002
057898-090A	EB-27	ND	mg/L	9583	0.005	1	7/12/2002	7/16/2002
057898-091A	EB-28	ND	mg/L	9583	0.005	1	7/12/2002	7/16/2002
057898-092A	EB-29	0.0071	mg/L	9583	0.005	1	7/12/2002	7/16/2002
057898-094A	EB-31	ND	mg/L	9583	0.005	1	7/12/2002	7/16/2002
057898-095A	EB-32	ND	mg/L	9583	0.005	1	7/12/2002	7/16/2002
057898-096A	EB-33	ND	mg/L	9583	0.005	1	7/12/2002	7/16/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/19/2002

**pH
EPA 9045C**

CLIENT:	Geocon Environmental	Lab Order:	057898
Project:	Rte 5 - Southbound, 09100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057898-001A	S59-S	7.68	pH Units	R19519	0.1	1	7/12/2002	7/18/2002
057898-009A	S61-S	7.19	pH Units	R19519	0.1	1	7/12/2002	7/18/2002
057898-019A	S63-2	7.68	pH Units	R19519	0.1	1	7/12/2002	7/18/2002
057898-029A	S66-S	6.20	pH Units	R19519	0.1	1	7/12/2002	7/18/2002
057898-039A	S68-2	7.23	pH Units	R19519	0.1	1	7/12/2002	7/18/2002
057898-049A	S71-S	6.70	pH Units	R19519	0.1	1	7/12/2002	7/18/2002
057898-059A	S73-2	6.72	pH Units	R19519	0.1	1	7/12/2002	7/18/2002
057898-069A	S76-S	7.21	pH Units	R19519	0.1	1	7/12/2002	7/18/2002
057898-079A	S78-2	7.16	pH Units	R19519	0.1	1	7/12/2002	7/18/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057898
Project:	Rte 5 - Southbound, 09100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057898-003A	S59-2	11	mg/L	9729	0.2	1	7/12/2002	7/23/2002
057898-004A	S59-3	29	mg/L	9729	0.4	2	7/12/2002	7/23/2002
057898-005A	S60-S	39	mg/L	9729	0.8	4	7/12/2002	7/23/2002
057898-006A	S60-1	7.6	mg/L	9729	0.2	1	7/12/2002	7/23/2002
057898-010A	S61-1	25	mg/L	9729	0.4	2	7/12/2002	7/23/2002
057898-012A	S61-3	13	mg/L	9729	0.2	1	7/12/2002	7/23/2002
057898-013A	S62-S	8.5	mg/L	9729	0.2	1	7/12/2002	7/23/2002
057898-014A	S62-1	1.3	mg/L	9729	0.2	1	7/12/2002	7/23/2002
057898-016A	S62-3	0.55	mg/L	9729	0.2	1	7/12/2002	7/23/2002
057898-017A	S63-S	17	mg/L	9729	0.4	2	7/12/2002	7/23/2002
057898-018A	S63-1	5.1	mg/L	9729	0.2	1	7/12/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057898
Project:	Rte 5 - Southbound, 09100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057898-019A	S63-2	4.7	mg/L	9729	0.2	1	7/12/2002	7/23/2002
057898-020A	S63-3	8.4	mg/L	9729	0.2	1	7/12/2002	7/23/2002
057898-022A	S64-1	3.1	mg/L	9729	0.2	1	7/12/2002	7/23/2002
057898-023A	S64-2	3.3	mg/L	9729	0.2	1	7/12/2002	7/23/2002
057898-024A	S64-3	4.6	mg/L	9729	0.2	1	7/12/2002	7/23/2002
057898-026A	S65-1	3.8	mg/L	9730	0.2	1	7/12/2002	7/23/2002
057898-027A	S65-2	38	mg/L	9730	0.8	4	7/12/2002	7/23/2002
057898-028A	S65-3	7.5	mg/L	9730	0.2	1	7/12/2002	7/23/2002
057898-030A	S66-1	15	mg/L	9730	0.2	1	7/12/2002	7/23/2002
057898-031A	S66-2	4.7	mg/L	9730	0.2	1	7/12/2002	7/23/2002
057898-033A	S67-S	80	mg/L	9730	2	10	7/12/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057898
Project:	Rte 5 - Southbound, 09100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057898-034A	S67-1	33	mg/L	9730	0.8	4	7/12/2002	7/23/2002
057898-035A	S67-2	7.5	mg/L	9730	0.2	1	7/12/2002	7/23/2002
057898-036A	S67-3	1.4	mg/L	9730	0.2	1	7/12/2002	7/23/2002
057898-037A	S68-S	30	mg/L	9730	0.8	4	7/12/2002	7/23/2002
057898-038A	S68-1	35	mg/L	9730	0.8	4	7/12/2002	7/23/2002
057898-040A	S68-3	2.1	mg/L	9730	0.2	1	7/12/2002	7/23/2002
057898-043A	S69-2	17	mg/L	9730	0.4	2	7/12/2002	7/23/2002
057898-044A	S69-3	4.5	mg/L	9730	0.2	1	7/12/2002	7/23/2002
057898-048A	S70-3	14	mg/L	9730	0.2	1	7/12/2002	7/23/2002
057898-049A	S71-S	48	mg/L	9730	1	5	7/12/2002	7/23/2002
057898-050A	S71-1	150	mg/L	9730	4	20	7/12/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057898
Project:	Rte 5 - Southbound, 09100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057898-051A	S71-2	100	mg/L	9730	2	10	7/12/2002	7/23/2002
057898-052A	S71-3	170	mg/L	9730	4	20	7/12/2002	7/23/2002
057898-055A	S72-2	19	mg/L	9731	0.4	2	7/12/2002	7/23/2002
057898-056A	S72-3	1.1	mg/L	9731	0.2	1	7/12/2002	7/23/2002
057898-057A	S73-S	66	mg/L	9731	2	10	7/12/2002	7/23/2002
057898-058A	S73-1	93	mg/L	9731	2	10	7/12/2002	7/23/2002
057898-059A	S73-2	120	mg/L	9731	2	10	7/12/2002	7/23/2002
057898-060A	S73-3	110	mg/L	9731	2	10	7/12/2002	7/23/2002
057898-061A	S74-S	83	mg/L	9731	2	10	7/12/2002	7/23/2002
057898-062A	S74-1	13	mg/L	9731	0.2	1	7/12/2002	7/23/2002
057898-065A	S75-S	65	mg/L	9731	2	10	7/12/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057898
Project:	Rte 5 - Southbound, 09100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057898-066A	S75-1	65	mg/L	9731	2	10	7/12/2002	7/23/2002
057898-069A	S76-S	71	mg/L	9731	2	10	7/12/2002	7/23/2002
057898-070A	S76-1	9.3	mg/L	9731	0.2	1	7/12/2002	7/23/2002
057898-071A	S76-2	2.8	mg/L	9731	0.2	1	7/12/2002	7/23/2002
057898-073A	S77-S	99	mg/L	9731	2	10	7/12/2002	7/23/2002
057898-074A	S77-1	190	mg/L	9731	4	20	7/12/2002	7/23/2002
057898-075A	S77-2	24	mg/L	9731	0.4	2	7/12/2002	7/23/2002
057898-076A	S77-3	8.2	mg/L	9731	0.2	1	7/12/2002	7/23/2002
057898-077A	S78-S	100	mg/L	9731	2	10	7/12/2002	7/23/2002
057898-078A	S78-1	15	mg/L	9731	0.2	1	7/12/2002	7/23/2002
057898-079A	S78-2	57	mg/L	9732	1	5	7/12/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057898
Project:	Rte 5 - Southbound, 09100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057898-081A	S79-S	110	mg/L	9732	2	10	7/12/2002	7/23/2002
057898-085A	S80-S	6.2	mg/L	9732	0.2	1	7/12/2002	7/23/2002
057898-087A	S80-2	2.7	mg/L	9732	0.2	1	7/12/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
EPA 1311/ 7420**

CLIENT:	Geocon Environmental	Lab Order:	057898
Project:	Rte 5 - Southbound, 09100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057898-001A	S59-S	0.87	mg/L	9763	0.2	1	7/12/2002	7/25/2002
057898-002A	S59-1	0.43	mg/L	9763	0.2	1	7/12/2002	7/25/2002
057898-008A	S60-3	ND	mg/L	9763	0.2	1	7/12/2002	7/25/2002
057898-009A	S61-S	0.84	mg/L	9764	0.2	1	7/12/2002	7/25/2002
057898-011A	S61-2	0.75	mg/L	9764	0.2	1	7/12/2002	7/25/2002
057898-015A	S62-2	ND	mg/L	9764	0.2	1	7/12/2002	7/25/2002
057898-032A	S66-3	ND	mg/L	9764	0.2	1	7/12/2002	7/25/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057898
Project:	Rte 5 - Southbound, 09100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057898-003A	S59-2	0.40	mg/L	9680	0.2	1	7/12/2002	7/23/2002
057898-004A	S59-3	0.65	mg/L	9680	0.2	1	7/12/2002	7/23/2002
057898-005A	S60-S	0.26	mg/L	9680	0.2	1	7/12/2002	7/23/2002
057898-006A	S60-1	ND	mg/L	9680	0.2	1	7/12/2002	7/23/2002
057898-010A	S61-1	0.50	mg/L	9680	0.2	1	7/12/2002	7/23/2002
057898-012A	S61-3	0.35	mg/L	9680	0.2	1	7/12/2002	7/23/2002
057898-013A	S62-S	ND	mg/L	9680	0.2	1	7/12/2002	7/23/2002
057898-017A	S63-S	ND	mg/L	9680	0.2	1	7/12/2002	7/23/2002
057898-018A	S63-1	ND	mg/L	9681	0.2	1	7/12/2002	7/23/2002
057898-020A	S63-3	ND	mg/L	9681	0.2	1	7/12/2002	7/23/2002
057898-027A	S65-2	ND	mg/L	9681	0.2	1	7/12/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	I - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057898
Project:	Rte 5 - Southbound, 09100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057898-028A	S65-3	2.1	mg/L	9681	0.2	1	7/12/2002	7/23/2002
057898-030A	S66-1	0.23	mg/L	9681	0.2	1	7/12/2002	7/23/2002
057898-033A	S67-S	1.2	mg/L	9681	0.2	1	7/12/2002	7/23/2002
057898-034A	S67-1	1.1	mg/L	9681	0.2	1	7/12/2002	7/23/2002
057898-035A	S67-2	ND	mg/L	9681	0.2	1	7/12/2002	7/23/2002
057898-037A	S68-S	0.44	mg/L	9681	0.2	1	7/12/2002	7/23/2002
057898-038A	S68-1	0.60	mg/L	9681	0.2	1	7/12/2002	7/23/2002
057898-043A	S69-2	0.41	mg/L	9681	0.2	1	7/12/2002	7/23/2002
057898-048A	S70-3	ND	mg/L	9682	0.2	1	7/12/2002	7/23/2002
057898-049A	S71-S	0.25	mg/L	9682	0.2	1	7/12/2002	7/23/2002
057898-050A	S71-1	1.3	mg/L	9682	0.2	1	7/12/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057898
Project:	Rte 5 - Southbound, 09100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057898-051A	S71-2	1.7	mg/L	9682	0.2	1	7/12/2002	7/23/2002
057898-052A	S71-3	2.2	mg/L	9682	0.2	1	7/12/2002	7/23/2002
057898-055A	S72-2	1.1	mg/L	9682	0.2	1	7/12/2002	7/23/2002
057898-057A	S73-S	0.74	mg/L	9682	0.2	1	7/12/2002	7/23/2002
057898-058A	S73-1	3.5	mg/L	9682	0.2	1	7/12/2002	7/23/2002
057898-059A	S73-2	7.2	mg/L	9682	0.2	1	7/12/2002	7/23/2002
057898-060A	S73-3	5.0	mg/L	9682	0.2	1	7/12/2002	7/23/2002
057898-061A	S74-S	1.1	mg/L	9682	0.2	1	7/12/2002	7/23/2002
057898-062A	S74-1	0.37	mg/L	9682	0.2	1	7/12/2002	7/23/2002
057898-065A	S75-S	1.3	mg/L	9682	0.2	1	7/12/2002	7/23/2002
057898-066A	S75-1	2.1	mg/L	9682	0.2	1	7/12/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057898
Project:	Rte 5 - Southbound, 09100-06-49	Date Received:	7/12/2002
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057898-069A	S76-S	2.2	mg/L	9682	0.2	1	7/12/2002	7/23/2002
057898-070A	S76-1	0.60	mg/L	9682	0.2	1	7/12/2002	7/23/2002
057898-073A	S77-S	1.7	mg/L	9682	0.2	1	7/12/2002	7/23/2002
057898-074A	S77-1	12	mg/L	9682	0.2	1	7/12/2002	7/23/2002
057898-075A	S77-2	1.8	mg/L	9683	0.2	1	7/12/2002	7/23/2002
057898-076A	S77-3	ND	mg/L	9683	0.2	1	7/12/2002	7/23/2002
057898-077A	S78-S	2.4	mg/L	9683	0.2	1	7/12/2002	7/23/2002
057898-078A	S78-1	ND	mg/L	9683	0.2	1	7/12/2002	7/23/2002
057898-079A	S78-2	0.82	mg/L	9683	0.2	1	7/12/2002	7/23/2002
057898-081A	S79-S	1.1	mg/L	9683	0.2	1	7/12/2002	7/23/2002
057898-085A	S80-S	0.80	mg/L	9683	0.2	1	7/12/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
Lab Order: 057898
Project: Rte 5 - Southbound, 09100-06-49
Lab ID: 057898-015A

Client Sample ID: S62-2
Collection Date: 7/12/2002
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID:	ICP2_020729D	QC Batch:	9917				Analyst:	RQ
Antimony	1.0	0.25	mg/Kg	1	7/29/2002			
Arsenic	11	0.25	mg/Kg	1	7/29/2002			
Barium	98	0.15	mg/Kg	1	7/29/2002			
Beryllium	ND	0.15	mg/Kg	1	7/29/2002			
Cadmium	ND	0.15	mg/Kg	1	7/29/2002			
Chromium	16	0.15	mg/Kg	1	7/29/2002			
Cobalt	8.0	0.15	mg/Kg	1	7/29/2002			
Copper	20	0.15	mg/Kg	1	7/29/2002			
Lead	23	0.25	mg/Kg	1	7/29/2002			
Molybdenum	0.50	0.25	mg/Kg	1	7/29/2002			
Nickel	12	0.15	mg/Kg	1	7/29/2002			
Selenium	ND	0.25	mg/Kg	1	7/29/2002			
Silver	ND	0.15	mg/Kg	1	7/29/2002			
Thallium	1.0	0.25	mg/Kg	1	7/29/2002			
Vanadium	33	0.15	mg/Kg	1	7/29/2002			
Zinc	48	0.50	mg/Kg	1	7/29/2002			

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID:	AA1_020729B	QC Batch:	9920				Analyst:	NS
Mercury	ND	0.10	mg/Kg	1	7/29/2002			

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified





Advanced Technology Laboratories

Date: 19-Jul-02

CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9534A, MBLK, 6010_SPB, mg/Kg, 7/15/2002, ICP5_020716K, ZZZZZ, 9534, EPA 6010B (EPA 3050M), 7/16/2002, 300150, Lead, ND, 5.0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9534B, MBLK, 6010_SPB, mg/Kg, 7/15/2002, ICP5_020716K, ZZZZZ, 9534, EPA 6010B (EPA 3050M), 7/16/2002, 300151, Lead, ND, 5.0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9545A, MBLK, 6010_SPB, mg/Kg, 7/15/2002, ICP5_020716L, ZZZZZ, 9545, EPA 6010B (EPA 3050M), 7/16/2002, 300178, Lead, ND, 5.0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9545B, MBLK, 6010_SPB, mg/Kg, 7/15/2002, ICP5_020716L, ZZZZZ, 9545, EPA 6010B (EPA 3050M), 7/16/2002, 300179, Lead, ND, 5.0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9557A, MBLK, 6010_SPB, mg/Kg, 7/15/2002, ICP5_020716M, ZZZZZ, 9557, EPA 6010B (EPA 3050M), 7/16/2002, 300206, Lead, ND, 5.0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
I - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	MB-9557B	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/15/2002	Run ID:	ICP5_020716M			
Client ID:	ZZZZZ	Batch ID:	9557	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	300207			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID	MB-9570A	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/15/2002	Run ID:	ICP5_020716N			
Client ID:	ZZZZZ	Batch ID:	9570	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	300234			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID	MB-9570B	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/15/2002	Run ID:	ICP5_020716N			
Client ID:	ZZZZZ	Batch ID:	9570	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	300235			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID	MB-9571A	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/15/2002	Run ID:	ICP5_020716O			
Client ID:	ZZZZZ	Batch ID:	9571	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	300252			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID	LCS-9534	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/15/2002	Run ID:	ICP5_020716K			
Client ID:	ZZZZZ	Batch ID:	9534	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	300149			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 230.3 5.0 250 0 92.1 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	LCS-9545	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/15/2002	Run ID:	ICP5_020716L			
Client ID:	ZZZZZ	Batch ID:	9545	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	300177			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		222.8		5.0	250	0		89.1	80	120	0	0	
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Sample ID	LCS-9557	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/15/2002	Run ID:	ICP5_020716M			
Client ID:	ZZZZZ	Batch ID:	9557	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	300205			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		233.3		5.0	250	0		93.3	80	120	0	0	
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Sample ID	LCS-9570	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/15/2002	Run ID:	ICP5_020716N			
Client ID:	ZZZZZ	Batch ID:	9570	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	300233			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		229.7		5.0	250	0		91.9	80	120	0	0	
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Sample ID	LCS-9571	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/15/2002	Run ID:	ICP5_020716O			
Client ID:	ZZZZZ	Batch ID:	9571	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	300251			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		227.6		5.0	250	0		91	80	120	0	0	
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Sample ID	057898-010AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/15/2002	Run ID:	ICP5_020716K			
Client ID:	S61-1	Batch ID:	9534	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	300135			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		1054		5.0	250	772.8		113	47	128	0	0	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057898-020AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/15/2002	Run ID:	ICP5_020716K		
Client ID:	S63-3	Batch ID:	9534	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	300147		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	198.3	5.0	250	184.9	5.39	47	128	0	0	S
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Sample ID	057898-030AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/15/2002	Run ID:	ICP5_020716L		
Client ID:	S66-1	Batch ID:	9545	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	300163		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	195.6	5.0	250	63.5	52.8	47	128	0	0
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Sample ID	057898-040AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/15/2002	Run ID:	ICP5_020716L		
Client ID:	S68-3	Batch ID:	9545	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	300175		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	220.3	5.0	250	150.9	27.8	47	128	0	0	S
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Sample ID	057898-050AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/15/2002	Run ID:	ICP5_020716M		
Client ID:	S71-1	Batch ID:	9557	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	300191		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	379.5	5.0	250	247.8	52.7	47	128	0	0
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Sample ID	057898-060AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/15/2002	Run ID:	ICP5_020716M		
Client ID:	S73-3	Batch ID:	9557	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	300203		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	916.5	5.0	250	356.3	224	47	128	0	0	S
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057898-070AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/15/2002	Run ID:	ICP5_020716N		
Client ID:	S76-1	Batch ID:	9570	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	300219		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	288.2	5.0	250	108.8	71.8	47	128	0	0				
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Sample ID	057898-080AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/15/2002	Run ID:	ICP5_020716N		
Client ID:	S78-3	Batch ID:	9570	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	300231		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	178.7	5.0	250	16.85	64.7	47	128	0	0				
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Sample ID	057898-087AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/15/2002	Run ID:	ICP5_020716O		
Client ID:	S80-2	Batch ID:	9571	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	300249		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	237.1	5.0	250	65.61	68.6	47	128	0	0				
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Sample ID	057898-010ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/15/2002	Run ID:	ICP5_020716K		
Client ID:	S61-1	Batch ID:	9534	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	300134		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	1343	5.0	0	0	0	0	0	0	772.8	53.9	30	R	
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Sample ID	057898-020ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/15/2002	Run ID:	ICP5_020716K		
Client ID:	S63-3	Batch ID:	9534	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	300146		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	216.3	5.0	0	0	0	0	0	0	184.9	15.7	30		
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057898-030ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/15/2002	Run ID:	ICP5_020716L
Client ID:	S66-1	Batch ID:	9545	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	300162
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	340.4	5.0	0	0	0	0	0	63.5	137	30	R
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Sample ID	057898-040ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/15/2002	Run ID:	ICP5_020716L
Client ID:	S68-3	Batch ID:	9545	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	300174
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	196.8	5.0	0	0	0	0	0	150.9	26.4	30	
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Sample ID	057898-050ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/15/2002	Run ID:	ICP5_020716M
Client ID:	S71-1	Batch ID:	9557	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	300190
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	491	5.0	0	0	0	0	0	247.8	65.8	30	R
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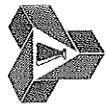
Sample ID	057898-060ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/15/2002	Run ID:	ICP5_020716M
Client ID:	S73-3	Batch ID:	9557	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	300202
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	919.4	5.0	0	0	0	0	0	356.3	88.3	30	R
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Sample ID	057898-070ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/15/2002	Run ID:	ICP5_020716N
Client ID:	S76-1	Batch ID:	9570	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	300218
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	104.6	5.0	0	0	0	0	0	108.8	3.88	30	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057898-080ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/15/2002	Run ID:	ICP5_020716N			
Client ID:	S78-3	Batch ID:	9570	TestNo:	EPA 6010B (EPA 3050M)			Analysis Date:	7/16/2002	SeqNo:	300230			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	14.96	5.0	0	0	0	0	0	0	0	0	16.85	11.9	30
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Sample ID	057898-087ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/15/2002	Run ID:	ICP5_020716O			
Client ID:	S80-2	Batch ID:	9571	TestNo:	EPA 6010B (EPA 3050M)			Analysis Date:	7/16/2002	SeqNo:	300248			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	59.57	5.0	0	0	0	0	0	0	0	0	65.61	9.66	30
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPB

Sample ID	MB-9583	SampType:	MBLK	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/15/2002	Run ID:	ICP5_020716G												
Client ID:	ZZZZZ	Batch ID:	9583	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/16/2002	SeqNo:	299878												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead ND 0.0050

Sample ID	LCS-9583	SampType:	LCS	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/15/2002	Run ID:	ICP5_020716G												
Client ID:	ZZZZZ	Batch ID:	9583	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/16/2002	SeqNo:	299877												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 1.076 0.0050 1 0 108 80 120 0 0

Sample ID	057898-096AMS	SampType:	MS	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/15/2002	Run ID:	ICP5_020716G												
Client ID:	EB-33	Batch ID:	9583	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/16/2002	SeqNo:	299875												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 2.444 0.0050 2.5 0 97.8 66 118 0 0

Sample ID	057898-096ADUP	SampType:	DUP	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/15/2002	Run ID:	ICP5_020716G												
Client ID:	EB-33	Batch ID:	9583	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/16/2002	SeqNo:	299874												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead ND 0.0050 0 0 0 0 0 0 0 0 0 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 9045_S

Sample ID	057898-079ADUP	SampType:	DUP	TestCode:	9045_S	Units:	pH Units	Prep Date:	7/18/2002	Run ID:	WETCHEM_020718A		
Client ID:	S78-2	Batch ID:	R19519	TestNo:	EPA 9045C	Analysis Date:	7/18/2002	SeqNo:	301008				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH		7.15		0.10	0	0	0	0	0	7.16	0.140	20	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 24-Jul-02

CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	MB-9729	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723N			
Client ID:	ZZZZZ	Batch ID:	9729	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304860			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9729A	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723N			
Client ID:	ZZZZZ	Batch ID:	9729	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304861			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9729B	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723N			
Client ID:	ZZZZZ	Batch ID:	9729	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304874			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9730	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723R			
Client ID:	ZZZZZ	Batch ID:	9730	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304981			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9730A	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723R			
Client ID:	ZZZZZ	Batch ID:	9730	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304982			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	MB-9730B	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723R			
Client ID:	ZZZZZ	Batch ID:	9730	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304995			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9731	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723S			
Client ID:	ZZZZZ	Batch ID:	9731	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305013			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9731A	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723S			
Client ID:	ZZZZZ	Batch ID:	9731	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305014			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.1553 0.20

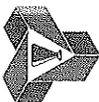
Sample ID	MB-9731B	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723S			
Client ID:	ZZZZZ	Batch ID:	9731	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305027			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.09035 0.20

Sample ID	LCS-9729	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723N			
Client ID:	ZZZZZ	Batch ID:	9729	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304896			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.672 0.20 7.5 0 102 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO - Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	LCS-9730	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723R		
Client ID:	ZZZZZ	Batch ID:	9730	TestNo:	WET/ EPA 74 (WET)	Analysis Date:	7/23/2002	SeqNo:	305008				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	7.673	0.20	7.5	0	102	80	120	0	0				
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Sample ID	LCS-9731	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723S		
Client ID:	ZZZZZ	Batch ID:	9731	TestNo:	WET/ EPA 74 (WET)	Analysis Date:	7/23/2002	SeqNo:	305040				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	7.722	0.20	7.5	0	103	80	120	0	0				
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Sample ID	057898-012AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723N		
Client ID:	S61-3	Batch ID:	9729	TestNo:	WET/ EPA 74 (WET)	Analysis Date:	7/23/2002	SeqNo:	304873				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	22.46	0.40	10	13.12	93.4	80	120	0	0				
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Sample ID	057898-024AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723N		
Client ID:	S64-3	Batch ID:	9729	TestNo:	WET/ EPA 74 (WET)	Analysis Date:	7/23/2002	SeqNo:	304891				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	9.319	0.20	5	4.63	93.8	80	120	0	0				
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Sample ID	057898-037AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723R		
Client ID:	S68-S	Batch ID:	9730	TestNo:	WET/ EPA 74 (WET)	Analysis Date:	7/23/2002	SeqNo:	304994				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	49.85	0.80	20	30.4	97.3	80	120	0	0				
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	057898-052AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723R			
Client ID:	S71-3	Batch ID:	9730	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305006			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	260.5	4.0	100	173.5	87	80	120	0	0					
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Sample ID	057898-066AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723S			
Client ID:	S75-1	Batch ID:	9731	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305026			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	111.6	2.0	50	65.34	92.5	80	120	0	0					
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Sample ID	057898-078AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723S			
Client ID:	S78-1	Batch ID:	9731	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305038			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	24.71	0.40	10	14.74	99.8	80	120	0	0					
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Sample ID	057898-087AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723T			
Client ID:	S80-2	Batch ID:	9732	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305048			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	7.411	0.20	5	2.734	93.5	80	120	0	0					
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Sample ID	057898-012ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723N			
Client ID:	S61-3	Batch ID:	9729	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304872			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	13.2	0.20	0	0	0	0	0	0	13.12	0.638	30			
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	057898-024ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723N												
Client ID:	S64-3	Batch ID:	9729	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304889												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead		9.038		0.20		0		0		0		0		0		4.63		64.5		30		R	
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Sample ID	057898-037ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723R												
Client ID:	S68-S	Batch ID:	9730	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304993												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead		30.41		0.80		0		0		0		0		0		30.4		0.0295		30			
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Sample ID	057898-052ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723R												
Client ID:	S71-3	Batch ID:	9730	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305005												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead		130.7		4.0		0		0		0		0		0		173.5		28.1		30			
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Sample ID	057898-066ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723S												
Client ID:	S75-1	Batch ID:	9731	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305025												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead		60.41		2.0		0		0		0		0		0		65.34		7.84		30			
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Sample ID	057898-078ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723S												
Client ID:	S78-1	Batch ID:	9731	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305037												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead		14.17		0.20		0		0		0		0		0		14.74		3.90		30			
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



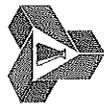
CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	057898-087ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723T		
Client ID:	S80-2	Batch ID:	9732	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305047		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		2.655		0.20	0	0	0	0	0	2.734	2.92	30	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 26-Jul-02

CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Table with 13 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Contains 5 data rows for different samples (MB-9764, MB-9705-TCLP, MB-9763, MB-9704-TCLP, LCS-9764).

Qualifiers: ND - Not Detected at the Reporting Limit, S - Spike Recovery outside accepted recovery limits, DO- Surrogate dilute out, J - Analyte detected below quantitation limits, B - Analyte detected in the associated Method Blank, H - Sample exceeded holding time, R - RPD outside accepted recovery limits, Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID	LCS-9763	SampType:	lcs	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020725B
Client ID:	ZZZZZ	Batch ID:	9763	TestNo:	EPA 1311/ 74 (EPA 3010A)	Analysis Date:	7/25/2002	SeqNo:	306001		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	1.18	0.20	1	0	118	80	120	0	0		
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Sample ID	057898-032AMS	SampType:	MS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020725A
Client ID:	S66-3	Batch ID:	9764	TestNo:	EPA 1311/ 74 (EPA 3010A)	Analysis Date:	7/25/2002	SeqNo:	305920		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	2.665	0.20	2.5	0	107	80	120	0	0		
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Sample ID	057898-008AMS	SampType:	MS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020725B
Client ID:	S60-3	Batch ID:	9763	TestNo:	EPA 1311/ 74 (EPA 3010A)	Analysis Date:	7/25/2002	SeqNo:	305999		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	2.833	0.20	2.5	0.1728	106	80	120	0	0		
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Sample ID	057898-032AMSD	SampType:	MSD	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020725A
Client ID:	S66-3	Batch ID:	9764	TestNo:	EPA 1311/ 74 (EPA 3010A)	Analysis Date:	7/25/2002	SeqNo:	305921		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	3.062	0.20	2.5	0	122	80	120	2.665	13.8	20	S
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Sample ID	057898-032ADUP	SampType:	DUP	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020725A
Client ID:	S66-3	Batch ID:	9764	TestNo:	EPA 1311/ 74 (EPA 3010A)	Analysis Date:	7/25/2002	SeqNo:	305919		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	ND	0.20	0	0	0	0	0	0	0	30	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID	057898-008ADUP	SampType:	DUP	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020725B		
Client ID:	S60-3	Batch ID:	9763	TestNo:	EPA 1311/ 74 (EPA 3010A)	Analysis Date:	7/25/2002	SeqNo:	305998				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		0.1684		0.20	0	0	0	0	0	0.1728	0	30	J

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**



Advanced Technology Laboratories

Date: 24-Jul-02

CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID MB-9680	SampType: MBLK	TestCode: 7420_DI	Units: mg/L	Prep Date: 7/23/2002	Run ID: AA2_020723C
Client ID: ZZZZZ	Batch ID: 9680	TestNo: WET DI/ EPA (WET)		Analysis Date: 7/23/2002	SeqNo: 304400
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead	ND	0.20			

Sample ID MB-9680A	SampType: MBLK	TestCode: 7420_DI	Units: mg/L	Prep Date: 7/18/2002	Run ID: AA2_020723C
Client ID: ZZZZZ	Batch ID: 9680	TestNo: WET DI/ EPA (WET)		Analysis Date: 7/23/2002	SeqNo: 304401
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead	ND	0.20			

Sample ID MB-9680B	SampType: MBLK	TestCode: 7420_DI	Units: mg/L	Prep Date: 7/18/2002	Run ID: AA2_020723C
Client ID: ZZZZZ	Batch ID: 9680	TestNo: WET DI/ EPA (WET)		Analysis Date: 7/23/2002	SeqNo: 304414
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead	ND	0.20			

Sample ID MB-9681	SampType: MBLK	TestCode: 7420_DI	Units: mg/L	Prep Date: 7/23/2002	Run ID: AA2_020723D
Client ID: ZZZZZ	Batch ID: 9681	TestNo: WET DI/ EPA (WET)		Analysis Date: 7/23/2002	SeqNo: 304439
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead	ND	0.20			

Sample ID MB-9681A	SampType: MBLK	TestCode: 7420_DI	Units: mg/L	Prep Date: 7/18/2002	Run ID: AA2_020723D
Client ID: ZZZZZ	Batch ID: 9681	TestNo: WET DI/ EPA (WET)		Analysis Date: 7/23/2002	SeqNo: 304441
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead	ND	0.20			

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	MB-9681B	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723D			
Client ID:	ZZZZZ	Batch ID:	9681	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304461			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9682	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723E			
Client ID:	ZZZZZ	Batch ID:	9682	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304481			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9682A	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723E			
Client ID:	ZZZZZ	Batch ID:	9682	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304482			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9682B	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723E			
Client ID:	ZZZZZ	Batch ID:	9682	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304495			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9683	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723F			
Client ID:	ZZZZZ	Batch ID:	9683	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304510			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	MB-9883A	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723F			
Client ID:	ZZZZZ	Batch ID:	9683	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304511			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	LCS-9680	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723C			
Client ID:	ZZZZZ	Batch ID:	9680	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304428			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.712 0.20 7.5 0 103 80 120 0 0

Sample ID	LCS-9681	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723D			
Client ID:	ZZZZZ	Batch ID:	9681	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304475			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.752 0.20 7.5 0 103 80 120 0 0

Sample ID	LCS-9682	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723E			
Client ID:	ZZZZZ	Batch ID:	9682	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304509			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.712 0.20 7.5 0 103 80 120 0 0

Sample ID	LCS-9683	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723F			
Client ID:	ZZZZZ	Batch ID:	9683	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304523			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.677 0.20 7.5 0 102 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	057892-079AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723C
Client ID:	ZZZZZ	Batch ID:	9680	TestNo:	WET DI/ EPA (WET)	Analysis Date:	7/23/2002	SeqNo:	304413		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	6.117	0.20	5	1.107	100	80	120	0	0		
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Sample ID	057898-017AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723C
Client ID:	S63-S	Batch ID:	9680	TestNo:	WET DI/ EPA (WET)	Analysis Date:	7/23/2002	SeqNo:	304426		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	5.353	0.20	5	0.1251	105	80	120	0	0		
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Sample ID	057898-044AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723D
Client ID:	S69-3	Batch ID:	9681	TestNo:	WET DI/ EPA (WET)	Analysis Date:	7/23/2002	SeqNo:	304473		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	5.189	0.20	5	0	104	80	120	0	0		
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Sample ID	057898-030AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723D
Client ID:	S66-1	Batch ID:	9681	TestNo:	WET DI/ EPA (WET)	Analysis Date:	7/23/2002	SeqNo:	304480		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	5.263	0.20	5	0.2267	101	80	120	0	0		
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Sample ID	057898-059AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723E
Client ID:	S73-2	Batch ID:	9682	TestNo:	WET DI/ EPA (WET)	Analysis Date:	7/23/2002	SeqNo:	304494		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	11.85	0.20	5	7.18	93.4	80	120	0	0		
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 I - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	057898-074AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723E			
Client ID:	S77-1	Batch ID:	9682	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304507			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		22.03		0.40	10	12.08		99.5	80	120	0	0		
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Sample ID	057898-087AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723F			
Client ID:	S80-2	Batch ID:	9683	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304521			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		4.952		0.20	5	0		99	80	120	0	0		
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Sample ID	057892-079ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723C			
Client ID:	ZZZZZ	Batch ID:	9680	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304412			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		0.9542		0.20	0	0		0	0	0	1.107	14.9	30	
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Sample ID	057898-017ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723C			
Client ID:	S63-S	Batch ID:	9680	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304425			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		0.2225		0.20	0	0		0	0	0	0.1251	56.0	30	R
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Sample ID	057898-030ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723D			
Client ID:	S66-1	Batch ID:	9681	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304458			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		0.2287		0.20	0	0		0	0	0	0.2267	0.846	30	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	057898-044ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723D		
Client ID:	S69-3	Batch ID:	9681	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304472		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		0.05262		0.20	0	0	0	0	0	0	0	30	J
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Sample ID	057898-059ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723E		
Client ID:	S73-2	Batch ID:	9682	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304493		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		6.125		0.20	0	0	0	0	0	7.18	15.9	30	
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Sample ID	057898-074ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723E		
Client ID:	S77-1	Batch ID:	9682	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304506		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		14.05		0.20	0	0	0	0	0	12.08	15.1	30	
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Sample ID	057898-087ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723F		
Client ID:	S80-2	Batch ID:	9683	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304520		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		ND		0.20	0	0	0	0	0	0	0	30	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

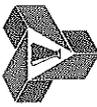
Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and Analyte. Row 1: MB-9917, MBLK, 6010_S, mg/Kg, 7/28/2002, ICP2_020729D, ZZZZZ, 9917, EPA 6010B (EPA 3050A), 7/29/2002, 309112.

Table with 12 columns: Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Rows include Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc.

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and Analyte. Row 1: LCS-9917, LCS, 6010_S, mg/Kg, 7/28/2002, ICP2_020729D, ZZZZZ, 9917, EPA 6010B (EPA 3050A), 7/29/2002, 309098.

Table with 12 columns: Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Rows include Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper.

Qualifiers: ND - Not Detected at the Reporting Limit, S - Spike Recovery outside accepted recovery limits, DO- Surrogate dilute out, J - Analyte detected below quantitation limits, B - Analyte detected in the associated Method Blank, H - Sample exceeded holding time, R - RPD outside accepted recovery limits, Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	LCS-9917	SampType:	LCS	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729D
Client ID:	ZZZZZ	Batch ID:	9917	TestNo:	EPA 6010B (EPA 3050A)	Analysis Date:	7/29/2002	SeqNo:	309098		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	51	0.25	50	0	102	80	120	0	0		
Molybdenum	52	0.25	50	0	104	80	120	0	0		
Nickel	48.5	0.15	50	0	97	80	120	0	0		
Selenium	50	0.25	50	0	100	80	120	0	0		
Silver	52	0.15	50	0	104	80	120	0	0		
Thallium	51.5	0.25	50	0	103	80	120	0	0		
Vanadium	53	0.15	50	0	106	80	120	0	0		
Zinc	50	0.50	50	0	100	80	120	0	0		

Sample ID	057936-019AMS	SampType:	MS	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729D
Client ID:	ZZZZZ	Batch ID:	9917	TestNo:	EPA 6010B (EPA 3050A)	Analysis Date:	7/29/2002	SeqNo:	309110		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	100	0.25	125	2.5	78	32	115	0	0		
Arsenic	126.5	0.25	125	13	90.8	59	111	0	0		
Barium	288	0.15	125	210	62.4	34	151	0	0		
Beryllium	113.5	0.15	125	0	90.8	56	112	0	0		
Cadmium	106.5	0.15	125	0	85.2	52	120	0	0		
Chromium	138.5	0.15	125	28	88.4	56	118	0	0		
Cobalt	115.5	0.15	125	7.5	86.4	58	117	0	0		
Copper	193.5	0.15	125	71.5	97.6	58	134	0	0		
Molybdenum	116	0.25	125	3.5	90	56	115	0	0		
Nickel	129	0.15	125	27.5	81.2	52	120	0	0		
Selenium	113	0.25	125	0	90.4	46	108	0	0		
Silver	119	0.15	125	0.1365	95.1	74	117	0	0		
Thallium	111.5	0.25	125	1	88.4	62	117	0	0		
Vanadium	148.5	0.15	125	29	95.6	55	122	0	0		
Zinc	471.5	0.50	125	594.5	-98.4	43	134	0	0		S

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 I - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	057936-019AMS	SampType:	MS	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729D
Client ID:	ZZZZZ	Batch ID:	9917	TestNo:	EPA 6010B (EPA 3050A)			Analysis Date:	7/29/2002	SeqNo:	309118
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	3055	2.5	125	3800	-596	47	128	0	0		S
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Sample ID	057936-019AMSD	SampType:	MSD	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729D
Client ID:	ZZZZZ	Batch ID:	9917	TestNo:	EPA 6010B (EPA 3050A)			Analysis Date:	7/29/2002	SeqNo:	309111
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Antimony	107	0.25	125	2.5	83.6	32	115	100	6.76	20	
Arsenic	127	0.25	125	13	91.2	59	111	126.5	0.394	20	
Barium	280.5	0.15	125	210	56.4	34	151	288	2.64	20	
Beryllium	116.5	0.15	125	0	93.2	56	112	113.5	2.61	20	
Cadmium	109.5	0.15	125	0	87.6	52	120	106.5	2.78	20	
Chromium	134.5	0.15	125	28	85.2	56	118	138.5	2.93	20	
Cobalt	117	0.15	125	7.5	87.6	58	117	115.5	1.29	20	
Copper	195	0.15	125	71.5	98.8	58	134	193.5	0.772	20	
Molybdenum	119.5	0.25	125	3.5	92.8	56	115	116	2.97	20	
Nickel	128.5	0.15	125	27.5	80.8	52	120	129	0.388	20	
Selenium	115.5	0.25	125	0	92.4	46	108	113	2.19	20	
Silver	120.5	0.15	125	0.1365	96.3	74	117	119	1.25	20	
Thallium	114.5	0.25	125	1	90.8	62	117	111.5	2.65	20	
Vanadium	143.5	0.15	125	29	91.6	55	122	148.5	3.42	20	
Zinc	464	0.50	125	594.5	-104	43	134	471.5	1.60	20	S

Sample ID	057936-019AMSD	SampType:	MSD	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729D
Client ID:	ZZZZZ	Batch ID:	9917	TestNo:	EPA 6010B (EPA 3050A)			Analysis Date:	7/29/2002	SeqNo:	309119
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	3270	2.5	125	3800	-424	47	128	3055	6.80	20	S
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	057936-019ADUP	SampType:	DUP	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729D
Client ID:	ZZZZZ	Batch ID:	9917	TestNo:	EPA 6010B (EPA 3050A)	Analysis Date:	7/29/2002	SeqNo:	309109		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	2.5	0.25	0	0	0	0	0	2.5	0	30	
Arsenic	13	0.25	0	0	0	0	0	13	0	30	
Barium	210	0.15	0	0	0	0	0	210	0	30	
Beryllium	ND	0.15	0	0	0	0	0	0	0	30	
Cadmium	ND	0.15	0	0	0	0	0	0	0	30	
Chromium	28	0.15	0	0	0	0	0	28	0	30	
Cobalt	7.5	0.15	0	0	0	0	0	7.5	0	30	
Copper	71.5	0.15	0	0	0	0	0	71.5	0	30	
Molybdenum	3.5	0.25	0	0	0	0	0	3.5	0	30	
Nickel	27.5	0.15	0	0	0	0	0	27.5	0	30	
Selenium	ND	0.25	0	0	0	0	0	0	0	30	
Silver	0.1365	0.15	0	0	0	0	0	0.1365	0	30	J
Thallium	1	0.25	0	0	0	0	0	1	0	30	
Vanadium	29	0.15	0	0	0	0	0	29	0	30	
Zinc	594.5	0.50	0	0	0	0	0	594.5	0	30	

Sample ID	057936-019ADUP	SampType:	DUP	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729D
Client ID:	ZZZZZ	Batch ID:	9917	TestNo:	EPA 6010B (EPA 3050A)	Analysis Date:	7/29/2002	SeqNo:	309117		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	4210	2.5	0	0	0	0	0	3800	10.2	30	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057898
Project: Rte 5 - Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7471_S

Sample ID	MB-9920	SampType:	mblk	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729B			
Client ID:	ZZZZZ	Batch ID:	9920	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309080			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.03565 0.10

Sample ID	LCS-9920	SampType:	ics	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729B			
Client ID:	ZZZZZ	Batch ID:	9920	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309079			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 2.144 0.10 2.08 0 103 80 120 0 0

Sample ID	057900-074AMS	SampType:	MS	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729B			
Client ID:	ZZZZZ	Batch ID:	9920	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309077			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 1.067 0.10 0.83 0.218 102 62 146 0 0

Sample ID	057900-074AMSD	SampType:	MSD	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729B			
Client ID:	ZZZZZ	Batch ID:	9920	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309078			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 1.144 0.10 0.83 0.218 112 62 146 1.067 7.02 33

Sample ID	057900-074ADUP	SampType:	DUP	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729B			
Client ID:	ZZZZZ	Batch ID:	9920	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309076			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.1995 0.10 0 0 0 0 0 0.218 8.85 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**

REVISIONS
BY _____ DATE _____
BY _____ DATE _____

BY _____ DATE _____
CHECKED BY _____

All samples → total lead (6010)

total lead > 50 mg/kg → WET-Citric

WET-CITRIC > 5 mg/L → WET-DI

Total lead > 1,000 mg/kg → TCLP

10% → soil pH (9045)

Please call when all totals have been run. I will instruct what samples should be run for Title 22 metals.

Thanks - Chris King

Diane

From: Chris King [king@geoconinc.com]

Sent: Monday, July 22, 2002 10:57 AM

To: 'Diane'

Subject: 09100-06-49

Diane - please run the 15 samples with the highest total lead content for Title 22 metals. Please do this for each direction (northbound and southbound), so the total number of tests will be 30. Thank you and please call me if you have any questions.

Christopher S. King
Senior Staff Engineer
Geocon Consultants, Inc.

7/22/2002

July 18, 2002

Chris King
Geocon Environmental
6970 Flanders Drive
San Diego, CA 92121
TEL: (858) 558-6100
FAX: (858) 558-8437

RE: Rte 5-Southbound, 09100-06-49

Attention: Chris King

AUG 05 2002

ELAP No.: 1838

NELAP No.: 02107CA

Workorder No.: 057890

Enclosed are the results for sample(s) received on July 11, 2002 by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,

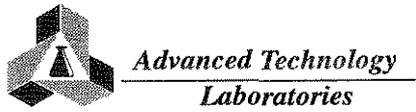


Eddie F. Rodriguez
Laboratory Director

This cover letter is an integral part of this analytical report.



CHAIN OF CUSTODY RECORD



Advanced Technology Laboratories
 3275 Walnut Avenue
 Signal Hill, CA 90807
 (562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____
 Logged By: AM Date: 7/12/02 Time: _____

Method of Transport
 Walk-in
 Courier
 UPS
 FED. EXP.
 ATL

Sample Condition Upon Receipt
 1. CHILLED Y N 4. SEALED Y N
 2. HEADSPACE (VOA) Y N 5. # OF SPLS MATCH COC Y N
 3. CONTAINER INTACT Y N 6. PRESERVED Y N

Client: **GEOCON ENVIRONMENTAL - SAN DIEGO** Address: 6970 Flanders Drive TEL: (858) 558-6100
 Attn: CHRIS KING City San Diego State CA Zip Code 92121 FAX: (858) 558-8437

Project Name: Site 5 - Southbound Project #: 07100-06-49 Sampler: CSK/GCA
 Relinquished by: [Signature] Date: 7-11-02 Time: 4:30p Received by: [Signature] Date: 7-11-02 Time: 4:30p
 Relinquished by: [Signature] Date: 7-11-02 Time: 8:20p Received by: [Signature] Date: 7/12/02 Time: _____

I hereby authorize ATL to perform the work indicated below:
 Project Mgr /Submitter:
CSK 7/11/02
 Print Name Date
 Signature

Send Report To:
 Attn: _____
 Co: Client
 Address _____
 City _____ State _____ Zip _____

Bill To:
 Attn: _____
 Co: Client
 Address _____
 City _____ State _____ Zip _____

Special Instructions/Comments:
See Page 1
see Attached (from Diene)

Unless otherwise requested, all samples will be disposed 45 days after receipt.
 Sample Archive/Disposal:
 Laboratory Standard
 Other _____
 Return To: _____
 * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.

Circle or Add Analysis(es) Requested
 8081 / 8082 (Pesticides/PCB-GC)
 8260 (Metals-GC/MS)
 825 / 8270 (BNA-GC/MS)
 Metals Total (CAC-8010 / 7000)
 8015M TPH/GT/TEX (COMBINATION)
 8015M TPH/D (Diesel-GC)
Total Lead 6.0

CIRCLE APPROPRIATE MATRIX
 SOLID • SOL • SLUDGE
 OIL • SOLVENT • LIQUID
 WATER • WASTEWATER
 DRINKING WATER
 AIR
 WIFE • FILTER
 OTHER

Container(s)
 TAT # Type

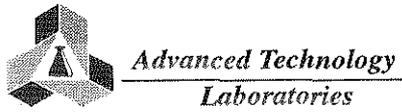
PRESERVATION
 RTNE
 RWQCB
 WIP
 NAVY
 CT
 OTHER _____

REMARKS

ITEM	LAB USE ONLY:		Sample Description			
	Batch #:	Sample I.D.	Date	Time		
	Lab No. <u>534</u>					
		<u>534-5</u>	<u>7/11/02</u>	<u>9:02</u>		
		<u>534-1</u>		<u>9:09</u>		
		<u>534-2</u>		<u>9:14</u>		
		<u>534-3</u>		<u>9:21</u>		
		<u>535-6</u>		<u>9:01</u>		
		<u>535-1</u>		<u>9:13</u>		
		<u>535-2</u>		<u>9:19</u>		
		<u>535-3</u>		<u>9:24</u>		
		<u>536-5</u>		<u>9:34</u>		
		<u>536-1</u>		<u>9:41</u>		

• TAT starts 8 a.m. following day if samples received after 5 p.m.
 TAT: A= Overnight ≤ 24 hr B= Emergency Next workday C= Critical 2 Workdays D= Urgent 3 Workdays E= Routine 7 Workdays
 Preservatives: H=HCl N=HNO₃ S=H₂SO₄ C=4°C Z=Zn(AC)₂ O=NaOH T=Na₂S₂O₃
 Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

CHAIN OF CUSTODY RECORD



3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport: Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt: 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7/17/02</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rte 5 - Southbound</u>	Project #: <u>09100-06-49</u>	Sampler: <u>CGB/CA</u>	(Signature) _____
Relinquished by: <u>[Signature]</u>	Date: <u>7-11-02</u> Time: <u>6:30p</u>	Received by: <u>[Signature]</u>	Date: <u>7-11-02</u> Time: <u>4:30p</u>
Relinquished by: <u>[Signature]</u>	Date: <u>7-11-02</u> Time: <u>9:20p</u>	Received by: <u>[Signature]</u>	Date: <u>7-12-02</u> Time: <u>1:00</u>

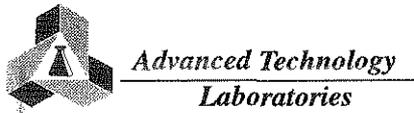
I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>7-11-02</u> Print Name Date	Send Report To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>522 PAGE 1</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested: <u>8031 / 8082 (Pesticides/PCB-OC)</u> <u>8250 (Volatiles-GC/MS)</u> <u>625 / 8270 (BVA-GC/MS)</u> <u>Metals Total (CAC-8010 / 7000)</u> <u>8015M TPH/G/BTEX (COMBINATION)</u> <u>8015M TPH/D (Diesel-GC)</u> <u>TECH ANAL (10/10)</u>
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ITEM	LAB USE ONLY:		Sample Description				CIRCLE APPROPRIATE MATRIX										PRESERVATION	REMARKS								
	Batch #:	Lab No.	Sample I.D.	Date	Time	8031 / 8082 (Pesticides/PCB-OC)	8250 (Volatiles-GC/MS)	625 / 8270 (BVA-GC/MS)	Metals Total (CAC-8010 / 7000)	8015M TPH/G/BTEX (COMBINATION)	8015M TPH/D (Diesel-GC)	TECH ANAL (10/10)	SOLID (SOIL) SLUDGE	OIL • SOLVENT • LIQUID	WATER • WASTEWATER	DRINKING WATER			AIR	WIPE • FILTER	OTHER	TAT	Container(s) #	Type		
		11	S36-2	7-11-02	946																					
		12	S36-3		950																					
		13	S37-5		946																					
		14	S37-1		950																					
		15	S37-2		954																					
		16	S37-3		958																					
		17	S38-5		954																					
		18	S38-1		958																					
		19	S38-2		1002																					
		20	S38-3		1007																					

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= <input type="checkbox"/> Overnight ≤ 24 hr	B= <input type="checkbox"/> Emergency Next workday	C= <input type="checkbox"/> Critical 2 Workdays	D= <input type="checkbox"/> Urgent 3 Workdays	E= <input type="checkbox"/> Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Teclar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



Advanced Technology Laboratories
 3275 Walnut Avenue
 Signal Hill, CA 90807
 (562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7/12</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>CHRIS KING</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>DTE 5-Southbound</u>	Project #: <u>09100-06-49</u>	Sampler: (Printed Name) <u>CSK/6LA</u>	(Signature) <u>[Signature]</u>	
Relinquished by: (Signature and Printed Name) <u>[Signature] C. King</u>	Date: <u>7/11/02</u>	Time: <u>4:30p</u>	Received by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-11-02</u> Time: <u>4:33pm</u>
Relinquished by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-11-02</u>	Time: <u>8:20a</u>	Received by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-12/02</u> Time: _____
Relinquished by: (Signature and Printed Name) _____	Date: _____	Time: _____	Received by: (Signature and Printed Name) _____	Date: _____ Time: _____

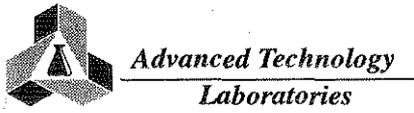
I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>[Signature]</u> Print Name: <u>CSK</u> Date: <u>7/11/02</u>	Send Report To: Attn: _____ Co: <u>Client</u> Address: _____ City: _____ State: _____ Zip: _____	Bill To: Attn: _____ Co: <u>Client</u> Address: _____ City: _____ State: _____ Zip: _____	Special Instructions/Comments: <u>See page 1</u>
---	--	---	---

Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8081 / 8082 (Pesticides/PCB-GC) 8230 (Nitrates-GC/MS) 825 / 8270 (BNA-GC/MS) Metals Total (CAC-8010 / 700) 8015M TPH/G/TEX (COMBINATION) 8015M TPH/D (Diesel-GC) <u>Algal / Lead / Cad</u>
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ITEM	LAB USE ONLY:		Sample Description				CIRCLE APPROPRIATE MATRIX										PRESERVATION	QA/QC				
	Batch #:	Lab No.					Container(s)		REMARKS													
			Sample I.D.	Date	Time	TAT	#	Type	SOLID • SOIL • SLUDGE	OIL • SOLVENT • LIQUID	WATER • WASTEWATER	DRINKING WATER	AIR	WIPE • FILTER	OTHER	RTNE <input type="checkbox"/>	RWOCB <input type="checkbox"/>	WIP <input type="checkbox"/>	NAVY <input type="checkbox"/>	CT <input checked="" type="checkbox"/>	OTHER _____	
			21 539-5	7/11/02	1015																	
			22 539-1		1019																	
			23 539-2		1023																	
			24 539-3		1027																	
			25 540-5		1013																	
			26 540-1		1017																	
			27 540-2		1021																	
			28 540-3		1025																	
			29 540-5		1030																	
			30 541-1		1030																	

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7/12/02</u>	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rte 5 - Southbound</u>	Project #: <u>09100-06-49</u>	Sampler: <u>CCB/GCA</u> (Printed Name) <u>[Signature]</u> (Signature)
Relinquished by: <u>[Signature]</u> Date: <u>7/11/02</u> Time: <u>4:30p</u>	Received by: <u>[Signature]</u> Date: <u>7-11-02</u> Time: <u>4:30p</u>	
Relinquished by: <u>[Signature]</u> Date: <u>7-11-02</u> Time: <u>8:20p</u>	Received by: <u>[Signature]</u> Date: <u>7/12/02</u> Time: _____	

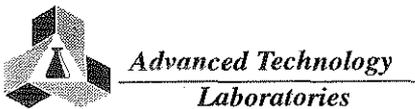
I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>[Signature]</u> <u>7-11-02</u> Print Name: _____ Date: _____ Signature: _____	Send Report To: Attn: <u>Client</u> Co: <u>Client</u> Address: _____ City: _____ State: _____ Zip: _____	Bill To: Attn: <u>Client</u> Co: <u>Client</u> Address: _____ City: _____ State: _____ Zip: _____	Special Instructions/Comments: <u>SEE PAGE 1</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested <u>Tetra (Lead)</u> <u>[Diagonal lines]</u>	CIRCLE APPROPRIATE MATRIX <u>SOLID • SOLUBLE SLUDGE</u> <u>OIL • SOLVENT • LIQUID</u> <u>WATER • WASTEWATER</u> <u>DRINKING WATER</u> <u>AIR</u> <u>WIPE • FILTER</u> <u>OTHER</u>	QA/QC RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>
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ITEM	LAB USE ONLY:		Sample Description				Analysis	Matrix	Container(s)		PRESERVATION	REMARKS
	Batch #:	Lab No.	Sample I.D.	Date	Time	TAT			#	Type		
		31	S41-2 *	7-11-02	1035			E	1	JC	*	
		32	S42-5		1035							
		33	S42-1		1035							
		34	S42-2		1040							
		35	S42-3		1045							
		36	S43-5		1100							
		37	S43-1		1104							
		38	S43-2		1108						*	
		39	S44-5		1102							
		40	S44-1		1106							

• TAT starts 9 a.m. following day if samples received after 5 p.m.	TAT: A= <u>Overnight</u> ≤ 24 hr	B= <u>Emergency</u> Next workday	C= <u>Critical</u> 2 Workdays	D= <u>Urgent</u> 3 Workdays	E= <u>Routine</u> 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₈
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



Advanced Technology Laboratories
 3275 Walnut Avenue
 Signal Hill, CA 90807
 (562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport: Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt: 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7/12</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rt2 5- Southbound</u>	Project #: <u>09100-06-49</u>	Sampler: <u>CGB/GCA</u> (Printed Name)	(Signature)
Relinquished by: <u>[Signature]</u>	Date: <u>7-11-02</u> Time: <u>4:30p</u>	Received by: <u>[Signature]</u>	Date: <u>7-11-02</u> Time: <u>4:30p</u>
Relinquished by: <u>[Signature]</u>	Date: <u>7-11-02</u> Time: <u>8:20p</u>	Received by: <u>[Signature]</u>	Date: <u>7/12/02</u> Time: _____

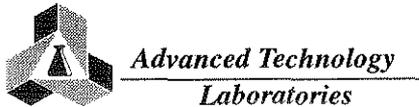
I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>[Signature]</u> <u>7-11-02</u>	Send Report To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>See Page 2 Instructions</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(as) Requested: 8091 / 8092 (Pesticides/PCB-GC) 8200 (Volatiles-GC/MS) 8237 / 8270 (BVA-GC/MS) Metals: Total (CAC-8010 / 7000) 8015M TPH-HBTX (COMBINATION) 8015M TPH-D (Diesel-GC) <u>441 Lead (G/L)</u>
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ITEM	LAB USE ONLY:		Sample Description				CIRCLE APPROPRIATE MATRIX								PRESERVATION	QA/QC									
	Batch #:	Lab No.	Sample I.D.	Date	Time	8091 / 8092 (Pesticides/PCB-GC)	8200 (Volatiles-GC/MS)	8237 / 8270 (BVA-GC/MS)	Metals: Total (CAC-8010 / 7000)	8015M TPH-HBTX (COMBINATION)	8015M TPH-D (Diesel-GC)	441 Lead (G/L)	SOLID (SO ₂) SLUDGE	OIL • SOLVENT • LIQUID			WATER • WASTEWATER	DRINKING WATER	AIR	WIFE • FILTER	OTHER	TAT	#	Type	REMARKS
		41	S44-2	7-11-02	1108																				
		42	S44-3		1110																				
		43	S45-5		1118																				
		44	S45-1		1126																				
		45	S45-2		11:32																				
		46	S45-3		11:38																				
		47	S46-5		11:29																				
		48	S46-1		1136																				
		49	S46-2		1142																				
		50	S46-3		1147																				

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₂ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₈
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Logged By: <u>[Signature]</u> Date: _____ Time: _____		

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Plot 5 South Bunker</u>	Project #: <u>09100-06-49</u>	Sampler: <u>CCB IGAC</u>	(Signature) <u>[Signature]</u>
Relinquished by: <u>[Signature]</u> Date: <u>7-11-02</u> Time: <u>4:30p</u>	Received by: <u>[Signature]</u> Date: <u>7-11-02</u> Time: <u>4:30p</u>		
Relinquished by: <u>[Signature]</u> Date: <u>7-11-02</u> Time: <u>6:20p</u>	Received by: <u>[Signature]</u> Date: <u>7/12/02</u> Time: _____		

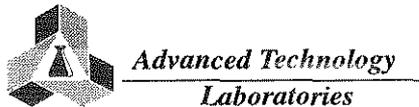
I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>[Signature]</u> <u>7-11-02</u> Print Name Date	Send Report To: Attn: <u>[Signature]</u> Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>SEE PAGE 1</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested <u>8081 / 8082 (Pesticides/PCB-CC)</u> <u>8260 (Volatile-CC/MS)</u> <u>6251 / 8270 (BVA-GC/MS)</u> <u>Metals-Total (CAC-8010 / T000)</u> <u>8015M TPH-G/TEX (Diesel-GC)</u> <u>8015M TPH-D (COMBINATION)</u> <u>Lead</u> <u>Lead</u>	CIRCLE APPROPRIATE MATRIX SOLID (SOIL) SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIFE • FILTER OTHER TAT # Type	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER
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ITEM	LAB USE ONLY:		Sample Description				Analysis	Matrix	TAT	Container(s)		REMARKS
	Batch #:	Lab No.	Sample I.D.	Date	Time	#				Type		
		51	547-5	7-11-02	11:55	X		E	1	JG		
		52	547-1		12:58			X	X	X		
		53	547-2		12:04							
		54	547-3		12:15							
		55	548-5		11:50							
		56	548-1		11:56							
		57	548-2		12:01							
		58	548-3		12:16							
		59	549-5		12:16							
		66	549-1		12:21							

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= <input type="checkbox"/> Overnight ≤ 24 hr	B= <input type="checkbox"/> Emergency Next workday	C= <input type="checkbox"/> Critical 2 Workdays	D= <input type="checkbox"/> Urgent 3 Workdays	E= <input type="checkbox"/> Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Teclar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7/11/02</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

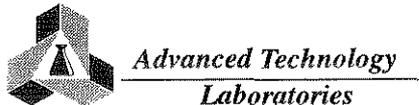
Project Name: <u>435 - South border</u>	Project #: <u>09100-06-49</u>	Sampler: <u>CCBKCA</u> (Printed Name)	(Signature)
Relinquished by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-11-02</u> Time: <u>4:30</u>	Received by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-11-02</u> Time: <u>4:30</u>
Relinquished by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7-11-02</u> Time: <u>8:20</u>	Received by: (Signature and Printed Name) <u>[Signature]</u>	Date: <u>7/12/02</u> Time: _____
Relinquished by: (Signature and Printed Name) _____	Date: _____ Time: _____	Received by: (Signature and Printed Name) _____	Date: _____ Time: _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>7-11-02</u> Signature: <u>[Signature]</u> Date: _____	Send Report To: Attn: <u>Client</u> Co: <u>Client</u> Address: _____ City: _____ State: _____ Zip: _____	Bill To: Attn: <u>Client</u> Co: <u>Client</u> Address: _____ City: _____ State: _____ Zip: _____	Special Instructions/Comments: <u>SEE PAGE 1</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8081 / 8082 (Pesticides/PCB-GC) 8250 (Volatiles-GC/MS) 8251 / 8270 (BVA-GC/MS) Metals: Total (CAC-8010 / 7000) 8015M TPH/GT/EX (COMBINATION) 8015M TPH/D (Diesel-GC) <u>TOTAL LEAD (GAL)</u>	CIRCLE APPROPRIATE MATRIX SOLID SOIL • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	QA/QC			
ITEM	LAB USE ONLY: Batch #: Lab No.	Sample Description Sample I.D.	Date	Time	TAT	#	Type	REMARKS
	61	549-2	7-11-02	1238	E	1	JG	
	62	549-3	↓	1239	X	X	X	
	63	550-5	↓	1217				
	64	550-1	↓	1221				
	65	550-2	↓	1226				
	66	550-3	↓	1231				
	67	551-5	↓	1240				
	68	551-2	↓	1247				
	69	551-2	↓	1251				
	70	551-3	↓	1255				

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= <input type="checkbox"/> Overnight ≤ 24 hr	B= <input type="checkbox"/> Emergency Next workday	C= <input type="checkbox"/> Critical 2 Workdays	D= <input type="checkbox"/> Urgent 3 Workdays	E= <input type="checkbox"/> Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Teclar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



Advanced Technology Laboratories
 3275 Walnut Avenue
 Signal Hill, CA 90807
 (562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport: Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt: 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 5. # OF SPLS MATCH COC <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7/12</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rt55-Southbound</u>	Project #: <u>0900-06-49</u>	Sampler: <u>CGB/GCA</u>	(Signature)
Relinquished by: <u>[Signature]</u>	Date: <u>7-11-02</u> Time: <u>4:30p</u>	Received by: <u>[Signature]</u>	Date: <u>7-11-02</u> Time: <u>4:30p</u>
Relinquished by: <u>[Signature]</u>	Date: <u>7-11-02</u> Time: <u>8:20p</u>	Received by: <u>[Signature]</u>	Date: <u>7/12/02</u> Time: _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>[Signature]</u> <u>7-11-02</u>	Send Report To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>SEE PAGE 1</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested: 8001 / 8082 (Pesticides/PCB-GC) 8200 (Volatile/SC/MS) 823 / 8270 (BVA-GC/MS) Metals Total (CAC-8010 / 7000) 8015M TPH/GSTEX (COMBINATION) 8015M TPH/D (Diesel/GC) <u>TOTAL LAB 6010</u>	CIRCLE APPROPRIATE MATRIX: SOLID SOIL • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIFE • FILTER OTHER	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>							
ITEM	LAB USE ONLY:		Sample Description				Container(s)				REMARKS
	Batch #:	Lab No.	Sample I.D.	Date	Time	TAT	#	Type			
		71	552-5	7-11-02	1238						
		72	552-1		1242						
		73	552-2		1247						
		74	552-3		1251						
		75	553-5		1252						
		76	553-1		1257						
		77	553-2		105						
		78	553-3		106						
		79	554-5		1257						
		80	554-1		101						

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= <input type="checkbox"/> Overnight ≤ 24 hr	B= <input type="checkbox"/> Emergency Next workday	C= <input type="checkbox"/> Critical 2 Workdays	D= <input type="checkbox"/> Urgent 3 Workdays	E= <input type="checkbox"/> Routine 7 Workdays	Preservatives: H=Hcl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₈
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

Advanced Technology Laboratories

Date: 7/18/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057890
Project:	Rte 5-Southbound, 09100-06-49	Date Received:	7/11/2002 8:20:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057890-001A	S34-S	1100	mg/Kg	9540	5	1	7/11/2002	7/15/2002
057890-002A	S34-1	690	mg/Kg	9540	5	1	7/11/2002	7/15/2002
057890-003A	S34-2	310	mg/Kg	9540	5	1	7/11/2002	7/15/2002
057890-004A	S34-3	60	mg/Kg	9540	5	1	7/11/2002	7/15/2002
057890-005A	S35-S	1000	mg/Kg	9540	5	1	7/11/2002	7/15/2002
057890-006A	S35-1	680	mg/Kg	9540	5	1	7/11/2002	7/15/2002
057890-007A	S35-2	100	mg/Kg	9540	5	1	7/11/2002	7/15/2002
057890-008A	S35-3	53	mg/Kg	9540	5	1	7/11/2002	7/15/2002
057890-009A	S36-S	650	mg/Kg	9540	5	1	7/11/2002	7/15/2002
057890-010A	S36-1	14	mg/Kg	9540	5	1	7/11/2002	7/15/2002
057890-011A	S36-2	11	mg/Kg	9540	5	1	7/11/2002	7/15/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/18/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057890
Project:	Rte 5-Southbound, 09100-06-49	Date Received:	7/11/2002 8:20:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057890-012A	S36-3	10	mg/Kg	9540	5	1	7/11/2002	7/15/2002
057890-013A	S37-S	1200	mg/Kg	9540	5	1	7/11/2002	7/15/2002
057890-014A	S37-1	790	mg/Kg	9540	5	1	7/11/2002	7/15/2002
057890-015A	S37-2	140	mg/Kg	9540	5	1	7/11/2002	7/15/2002
057890-016A	S37-3	76	mg/Kg	9540	5	1	7/11/2002	7/15/2002
057890-017A	S38-S	330	mg/Kg	9540	5	1	7/11/2002	7/15/2002
057890-018A	S38-1	320	mg/Kg	9540	5	1	7/11/2002	7/15/2002
057890-019A	S38-2	63	mg/Kg	9540	5	1	7/11/2002	7/15/2002
057890-020A	S38-3	140	mg/Kg	9540	5	1	7/11/2002	7/15/2002
057890-021A	S39-S	910	mg/Kg	9541	5	1	7/11/2002	7/15/2002
057890-022A	S39-1	690	mg/Kg	9541	5	1	7/11/2002	7/15/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
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	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/18/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057890
Project:	Rte 5-Southbound, 09100-06-49	Date Received:	7/11/2002 8:20:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057890-023A	S39-2	110	mg/Kg	9541	5	1	7/11/2002	7/15/2002
057890-024A	S39-3	87	mg/Kg	9541	5	1	7/11/2002	7/15/2002
057890-025A	S40-S	760	mg/Kg	9541	5	1	7/11/2002	7/15/2002
057890-026A	S40-1	240	mg/Kg	9541	5	1	7/11/2002	7/15/2002
057890-027A	S40-2	140	mg/Kg	9541	5	1	7/11/2002	7/15/2002
057890-028A	S40-3	150	mg/Kg	9541	5	1	7/11/2002	7/15/2002
057890-029A	S41-S	860	mg/Kg	9541	5	1	7/11/2002	7/15/2002
057890-030A	S41-1	97	mg/Kg	9541	5	1	7/11/2002	7/15/2002
057890-031A	S41-2	220	mg/Kg	9541	5	1	7/11/2002	7/15/2002
057890-032A	S42-S	1600	mg/Kg	9541	5	1	7/11/2002	7/15/2002
057890-033A	S42-1	770	mg/Kg	9541	5	1	7/11/2002	7/15/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
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	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/18/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057890
Project:	Rte 5-Southbound, 09100-06-49	Date Received:	7/11/2002 8:20:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057890-034A	S42-2	140	mg/Kg	9541	5	1	7/11/2002	7/15/2002
057890-035A	S42-3	250	mg/Kg	9541	5	1	7/11/2002	7/15/2002
057890-036A	S43-S	2800	mg/Kg	9541	5	1	7/11/2002	7/15/2002
057890-037A	S43-1	1300	mg/Kg	9541	5	1	7/11/2002	7/15/2002
057890-038A	S43-2	190	mg/Kg	9541	5	1	7/11/2002	7/15/2002
057890-039A	S44-S	2000	mg/Kg	9541	5	1	7/11/2002	7/15/2002
057890-040A	S44-1	1700	mg/Kg	9541	5	1	7/11/2002	7/15/2002
057890-041A	S44-2	1200	mg/Kg	9542	5	1	7/11/2002	7/15/2002
057890-042A	S44-3	150	mg/Kg	9542	5	1	7/11/2002	7/15/2002
057890-043A	S45-S	1600	mg/Kg	9542	5	1	7/11/2002	7/15/2002
057890-044A	S45-1	560	mg/Kg	9542	5	1	7/11/2002	7/15/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/18/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057890
Project:	Rte 5-Southbound, 09100-06-49	Date Received:	7/11/2002 8:20:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057890-045A	S45-2	550	mg/Kg	9542	5	1	7/11/2002	7/15/2002
057890-046A	S45-3	99	mg/Kg	9542	5	1	7/11/2002	7/15/2002
057890-047A	S46-S	1300	mg/Kg	9542	5	1	7/11/2002	7/15/2002
057890-048A	S46-1	180	mg/Kg	9542	5	1	7/11/2002	7/15/2002
057890-049A	S46-2	350	mg/Kg	9542	5	1	7/11/2002	7/15/2002
057890-050A	S46-3	92	mg/Kg	9542	5	1	7/11/2002	7/15/2002
057890-051A	S47-S	800	mg/Kg	9542	5	1	7/11/2002	7/15/2002
057890-052A	S47-1	640	mg/Kg	9542	5	1	7/11/2002	7/15/2002
057890-053A	S47-2	94	mg/Kg	9542	5	1	7/11/2002	7/15/2002
057890-054A	S47-3	110	mg/Kg	9542	5	1	7/11/2002	7/15/2002
057890-055A	S48-S	1100	mg/Kg	9542	5	1	7/11/2002	7/15/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/18/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057890
Project:	Rte 5-Southbound, 09100-06-49	Date Received:	7/11/2002 8:20:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057890-056A	S48-1	360	mg/Kg	9542	5	1	7/11/2002	7/15/2002
057890-057A	S48-2	99	mg/Kg	9542	5	1	7/11/2002	7/15/2002
057890-058A	S48-3	23	mg/Kg	9542	5	1	7/11/2002	7/15/2002
057890-059A	S49-S	310	mg/Kg	9542	5	1	7/11/2002	7/15/2002
057890-060A	S49-1	18	mg/Kg	9542	5	1	7/11/2002	7/15/2002
057890-061A	S49-2	ND	mg/Kg	9543	5	1	7/11/2002	7/15/2002
057890-062A	S49-3	6.9	mg/Kg	9543	5	1	7/11/2002	7/15/2002
057890-063A	S50-S	960	mg/Kg	9543	5	1	7/11/2002	7/15/2002
057890-064A	S50-1	140	mg/Kg	9543	5	1	7/11/2002	7/15/2002
057890-065A	S50-2	66	mg/Kg	9543	5	1	7/11/2002	7/15/2002
057890-066A	S50-3	120	mg/Kg	9543	5	1	7/11/2002	7/15/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/18/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057890
Project:	Rte 5-Southbound, 09100-06-49	Date Received:	7/11/2002 8:20:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057890-067A	S51-S	470	mg/Kg	9543	5	1	7/11/2002	7/15/2002
057890-068A	S51-1	20	mg/Kg	9543	5	1	7/11/2002	7/15/2002
057890-069A	S51-2	30	mg/Kg	9543	5	1	7/11/2002	7/15/2002
057890-070A	S51-3	8.0	mg/Kg	9543	5	1	7/11/2002	7/15/2002
057890-071A	S52-S	680	mg/Kg	9543	5	1	7/11/2002	7/15/2002
057890-072A	S52-1	110	mg/Kg	9543	5	1	7/11/2002	7/15/2002
057890-073A	S52-2	180	mg/Kg	9543	5	1	7/11/2002	7/15/2002
057890-074A	S52-3	38	mg/Kg	9543	5	1	7/11/2002	7/15/2002
057890-075A	S53-S	510	mg/Kg	9543	5	1	7/11/2002	7/15/2002
057890-076A	S53-1	190	mg/Kg	9543	5	1	7/11/2002	7/15/2002
057890-077A	S53-2	14	mg/Kg	9543	5	1	7/11/2002	7/15/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/18/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057890
Project:	Rte 5-Southbound, 09100-06-49	Date Received:	7/11/2002 8:20:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057890-078A	S53-3	38	mg/Kg	9543	5	1	7/11/2002	7/15/2002
057890-079A	S54-S	1000	mg/Kg	9543	5	1	7/11/2002	7/15/2002
057890-080A	S54-1	41	mg/Kg	9543	5	1	7/11/2002	7/15/2002
057890-081A	S54-2	31	mg/Kg	9544	5	1	7/11/2002	7/16/2002
057890-082A	S54-3	12	mg/Kg	9544	5	1	7/11/2002	7/16/2002
057890-083A	S55-S	83	mg/Kg	9544	5	1	7/11/2002	7/16/2002
057890-084A	S55-1	510	mg/Kg	9544	5	1	7/11/2002	7/16/2002
057890-085A	S55-2	120	mg/Kg	9544	5	1	7/11/2002	7/16/2002
057890-086A	S56-S	2000	mg/Kg	9544	5	1	7/11/2002	7/16/2002
057890-087A	S56-1	610	mg/Kg	9544	5	1	7/11/2002	7/16/2002
057890-088A	S56-2	440	mg/Kg	9544	5	1	7/11/2002	7/16/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/18/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057890
Project:	Rte 5-Southbound, 09100-06-49	Date Received:	7/11/2002 8:20:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057890-089A	S56-3	73	mg/Kg	9544	5	1	7/11/2002	7/16/2002
057890-090A	S57-S	670	mg/Kg	9544	5	1	7/11/2002	7/16/2002
057890-091A	S57-1	570	mg/Kg	9544	5	1	7/11/2002	7/16/2002
057890-092A	S57-2	43	mg/Kg	9544	5	1	7/11/2002	7/16/2002
057890-093A	S57-3	750	mg/Kg	9544	5	1	7/11/2002	7/16/2002
057890-094A	S58-S	1200	mg/Kg	9544	5	1	7/11/2002	7/16/2002
057890-095A	S58-1	960	mg/Kg	9544	5	1	7/11/2002	7/16/2002
057890-096A	S58-2	950	mg/Kg	9544	5	1	7/11/2002	7/16/2002
057890-097A	S58-3	150	mg/Kg	9544	5	1	7/11/2002	7/16/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/18/2002

**ICP METALS
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057890
Project:	Rte 5-Southbound, 09100-06-49	Date Received:	7/11/2002 8:20:0
Project No:		Matrix:	Water
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057890-098A	EB-15	ND	mg/L	9581	0.005	1	7/11/2002	7/16/2002
057890-099A	EB-16	ND	mg/L	9581	0.005	1	7/11/2002	7/16/2002
057890-100A	EB-17	ND	mg/L	9581	0.005	1	7/11/2002	7/16/2002
057890-101A	EB-18	ND	mg/L	9581	0.005	1	7/11/2002	7/16/2002
057890-102A	EB-19	ND	mg/L	9581	0.005	1	7/11/2002	7/16/2002
057890-103A	EB-20	ND	mg/L	9581	0.005	1	7/11/2002	7/16/2002
057890-104A	EB-21	ND	mg/L	9581	0.005	1	7/11/2002	7/16/2002
057890-105A	EB-22	ND	mg/L	9581	0.005	1	7/11/2002	7/16/2002
057890-106A	EB-23	ND	mg/L	9581	0.005	1	7/11/2002	7/16/2002
057890-107A	EB-24	ND	mg/L	9581	0.005	1	7/11/2002	7/16/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/18/2002

**pH
EPA 9045C**

CLIENT:	Geocon Environmental	Lab Order:	057890
Project:	Rte 5-Southbound, 09100-06-49	Date Received:	7/11/2002 8:20:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057890-001A	S34-S	7.51	pH Units	R19480	0.1	1	7/11/2002	7/17/2002
057890-010A	S36-1	8.41	pH Units	R19480	0.1	1	7/11/2002	7/17/2002
057890-020A	S38-3	6.53	pH Units	R19480	0.1	1	7/11/2002	7/17/2002
057890-030A	S41-1	6.88	pH Units	R19480	0.1	1	7/11/2002	7/17/2002
057890-040A	S44-1	6.86	pH Units	R19480	0.1	1	7/11/2002	7/17/2002
057890-050A	S46-3	8.45	pH Units	R19480	0.1	1	7/11/2002	7/17/2002
057890-060A	S49-1	7.88	pH Units	R19480	0.1	1	7/11/2002	7/17/2002
057890-070A	S51-3	8.86	pH Units	R19480	0.1	1	7/11/2002	7/17/2002
057890-080A	S54-1	8.40	pH Units	R19480	0.1	1	7/11/2002	7/17/2002
057890-090A	S57-S	7.46	pH Units	R19480	0.1	1	7/11/2002	7/17/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057890
Project:	Rte 5-Southbound, 09100-06-49	Date Received:	7/11/2002 8:20:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057890-002A	S34-1	45	mg/L	9718	0.8	4	7/11/2002	7/23/2002
057890-003A	S34-2	14	mg/L	9718	0.2	1	7/11/2002	7/23/2002
057890-004A	S34-3	5.3	mg/L	9718	0.2	1	7/11/2002	7/23/2002
057890-006A	S35-1	58	mg/L	9718	0.8	4	7/11/2002	7/23/2002
057890-007A	S35-2	6.3	mg/L	9718	0.2	1	7/11/2002	7/23/2002
057890-008A	S35-3	4.1	mg/L	9718	0.2	1	7/11/2002	7/23/2002
057890-009A	S36-S	17	mg/L	9718	0.4	2	7/11/2002	7/23/2002
057890-014A	S37-1	63	mg/L	9718	1	5	7/11/2002	7/23/2002
057890-015A	S37-2	10	mg/L	9718	0.2	1	7/11/2002	7/23/2002
057890-016A	S37-3	3.1	mg/L	9718	0.2	1	7/11/2002	7/23/2002
057890-017A	S38-S	27	mg/L	9724	0.4	2	7/11/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057890
Project:	Rte 5-Southbound, 09100-06-49	Date Received:	7/11/2002 8:20:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057890-018A	S38-1	21	mg/L	9724	0.4	2	7/11/2002	7/23/2002
057890-019A	S38-2	3.7	mg/L	9724	0.2	1	7/11/2002	7/23/2002
057890-020A	S38-3	6.2	mg/L	9724	0.2	1	7/11/2002	7/23/2002
057890-021A	S39-S	57	mg/L	9724	0.8	4	7/11/2002	7/23/2002
057890-022A	S39-1	47	mg/L	9724	0.8	4	7/11/2002	7/23/2002
057890-023A	S39-2	5.7	mg/L	9724	0.2	1	7/11/2002	7/23/2002
057890-024A	S39-3	6.7	mg/L	9724	0.2	1	7/11/2002	7/23/2002
057890-025A	S40-S	24	mg/L	9724	0.4	2	7/11/2002	7/23/2002
057890-026A	S40-1	5.4	mg/L	9724	0.2	1	7/11/2002	7/23/2002
057890-027A	S40-2	6.1	mg/L	9724	0.2	1	7/11/2002	7/23/2002
057890-028A	S40-3	10	mg/L	9724	0.2	1	7/11/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057890
Project:	Rte 5-Southbound, 09100-06-49	Date Received:	7/11/2002 8:20:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057890-029A	S41-S	54	mg/L	9724	0.8	4	7/11/2002	7/23/2002
057890-030A	S41-1	6.6	mg/L	9724	0.2	1	7/11/2002	7/23/2002
057890-031A	S41-2	13	mg/L	9724	0.2	1	7/11/2002	7/23/2002
057890-033A	S42-1	100	mg/L	9724	2	10	7/11/2002	7/23/2002
057890-034A	S42-2	11	mg/L	9724	0.2	1	7/11/2002	7/23/2002
057890-035A	S42-3	22	mg/L	9724	0.4	2	7/11/2002	7/23/2002
057890-038A	S43-2	15	mg/L	9724	0.2	1	7/11/2002	7/23/2002
057890-042A	S44-3	9.1	mg/L	9724	0.2	1	7/11/2002	7/23/2002
057890-044A	S45-1	48	mg/L	9725	0.8	4	7/11/2002	7/23/2002
057890-045A	S45-2	50	mg/L	9725	0.8	4	7/11/2002	7/23/2002
057890-046A	S45-3	12	mg/L	9725	0.2	1	7/11/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057890
Project:	Rte 5-Southbound, 09100-06-49	Date Received:	7/11/2002 8:20:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057890-048A	S46-1	24	mg/L	9725	0.4	2	7/11/2002	7/23/2002
057890-049A	S46-2	23	mg/L	9725	0.4	2	7/11/2002	7/23/2002
057890-050A	S46-3	7.6	mg/L	9725	0.2	1	7/11/2002	7/23/2002
057890-051A	S47-S	81	mg/L	9725	2	10	7/11/2002	7/23/2002
057890-052A	S47-1	50	mg/L	9725	0.8	4	7/11/2002	7/23/2002
057890-053A	S47-2	7.7	mg/L	9725	0.2	1	7/11/2002	7/23/2002
057890-054A	S47-3	10	mg/L	9725	0.2	1	7/11/2002	7/23/2002
057890-056A	S48-1	18	mg/L	9725	0.4	2	7/11/2002	7/23/2002
057890-057A	S48-2	5.7	mg/L	9725	0.2	1	7/11/2002	7/23/2002
057890-059A	S49-S	26	mg/L	9725	0.4	2	7/11/2002	7/23/2002
057890-063A	S50-S	97	mg/L	9725	2	10	7/11/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057890
Project:	Rte 5-Southbound, 09100-06-49	Date Received:	7/11/2002 8:20:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057890-064A	S50-1	17	mg/L	9725	0.4	2	7/11/2002	7/23/2002
057890-065A	S50-2	7.4	mg/L	9725	0.2	1	7/11/2002	7/23/2002
057890-066A	S50-3	11	mg/L	9725	0.2	1	7/11/2002	7/23/2002
057890-067A	S51-S	48	mg/L	9725	0.8	4	7/11/2002	7/23/2002
057890-071A	S52-S	53	mg/L	9725	0.8	4	7/11/2002	7/23/2002
057890-072A	S52-1	13	mg/L	9725	0.2	1	7/11/2002	7/23/2002
057890-073A	S52-2	6.6	mg/L	9726	0.2	1	7/11/2002	7/23/2002
057890-075A	S53-S	41	mg/L	9726	0.8	4	7/11/2002	7/23/2002
057890-076A	S53-1	12	mg/L	9726	0.2	1	7/11/2002	7/23/2002
057890-083A	S55-S	3.5	mg/L	9726	0.2	1	7/11/2002	7/23/2002
057890-084A	S55-1	27	mg/L	9726	0.4	2	7/11/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057890
Project:	Rte 5-Southbound, 09100-06-49	Date Received:	7/11/2002 8:20:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057890-085A	S55-2	8.9	mg/L	9726	0.2	1	7/11/2002	7/23/2002
057890-087A	S56-1	45	mg/L	9726	0.8	4	7/11/2002	7/23/2002
057890-088A	S56-2	29	mg/L	9726	0.4	2	7/11/2002	7/23/2002
057890-089A	S56-3	5.3	mg/L	9726	0.2	1	7/11/2002	7/23/2002
057890-090A	S57-S	38	mg/L	9726	0.8	4	7/11/2002	7/23/2002
057890-091A	S57-1	11	mg/L	9726	0.2	1	7/11/2002	7/23/2002
057890-093A	S57-3	40	mg/L	9726	0.8	4	7/11/2002	7/23/2002
057890-095A	S58-1	46	mg/L	9726	0.8	4	7/11/2002	7/23/2002
057890-096A	S58-2	86	mg/L	9726	2	10	7/11/2002	7/23/2002
057890-097A	S58-3	9.1	mg/L	9726	0.2	1	7/11/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
EPA 1311/ 7420**

CLIENT:	Geocon Environmental	Lab Order:	057890
Project:	Rte 5-Southbound, 09100-06-49	Date Received:	7/11/2002 8:20:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057890-001A	S34-S	2.7	mg/L	9760	0.2	1	7/11/2002	7/24/2002
057890-005A	S35-S	4.9	mg/L	9760	0.2	1	7/11/2002	7/24/2002
057890-013A	S37-S	4.3	mg/L	9760	0.2	1	7/11/2002	7/24/2002
057890-032A	S42-S	3.7	mg/L	9760	0.2	1	7/11/2002	7/24/2002
057890-036A	S43-S	3.8	mg/L	9760	0.2	1	7/11/2002	7/24/2002
057890-037A	S43-1	5.4	mg/L	9760	0.2	1	7/11/2002	7/24/2002
057890-039A	S44-S	4.2	mg/L	9760	0.2	1	7/11/2002	7/24/2002
057890-040A	S44-1	4.2	mg/L	9760	0.2	1	7/11/2002	7/24/2002
057890-041A	S44-2	4.3	mg/L	9760	0.2	1	7/11/2002	7/24/2002
057890-043A	S45-S	6.3	mg/L	9761	0.2	1	7/11/2002	7/25/2002
057890-047A	S46-S	2.7	mg/L	9761	0.2	1	7/11/2002	7/25/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
EPA 1311/ 7420

CLIENT:	Geocon Environmental	Lab Order:	057890
Project:	Rte 5-Southbound, 09100-06-49	Date Received:	7/11/2002 8:20:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057890-055A	S48-S	1.9	mg/L	9761	0.2	1	7/11/2002	7/25/2002
057890-079A	S54-S	1.2	mg/L	9761	0.2	1	7/11/2002	7/25/2002
057890-086A	S56-S	1.8	mg/L	9761	0.2	1	7/11/2002	7/25/2002
057890-094A	S58-S	4.4	mg/L	9761	0.2	1	7/11/2002	7/25/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
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LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057890
Project:	Rte 5-Southbound, 09100-06-49	Date Received:	7/11/2002 8:20:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057890-002A	S34-1	1.5	mg/L	9674	0.2	1	7/11/2002	7/22/2002
057890-003A	S34-2	0.21	mg/L	9674	0.2	1	7/11/2002	7/22/2002
057890-004A	S34-3	ND	mg/L	9674	0.2	1	7/11/2002	7/22/2002
057890-006A	S35-1	1.9	mg/L	9674	0.2	1	7/11/2002	7/22/2002
057890-007A	S35-2	0.29	mg/L	9675	0.2	1	7/11/2002	7/23/2002
057890-009A	S36-S	ND	mg/L	9675	0.2	1	7/11/2002	7/23/2002
057890-014A	S37-1	1.5	mg/L	9675	0.2	1	7/11/2002	7/23/2002
057890-015A	S37-2	0.49	mg/L	9675	0.2	1	7/11/2002	7/23/2002
057890-017A	S38-S	0.35	mg/L	9675	0.2	1	7/11/2002	7/23/2002
057890-018A	S38-1	0.28	mg/L	9675	0.2	1	7/11/2002	7/23/2002
057890-020A	S38-3	ND	mg/L	9675	0.2	1	7/11/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
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LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057890
Project:	Rte 5-Southbound, 09100-06-49	Date Received:	7/11/2002 8:20:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057890-021A	S39-S	1.6	mg/L	9675	0.2	1	7/11/2002	7/23/2002
057890-022A	S39-1	3.2	mg/L	9675	0.2	1	7/11/2002	7/23/2002
057890-023A	S39-2	ND	mg/L	9675	0.2	1	7/11/2002	7/23/2002
057890-024A	S39-3	ND	mg/L	9675	0.2	1	7/11/2002	7/23/2002
057890-025A	S40-S	1.6	mg/L	9675	0.2	1	7/11/2002	7/23/2002
057890-026A	S40-1	0.78	mg/L	9675	0.2	1	7/11/2002	7/23/2002
057890-027A	S40-2	0.26	mg/L	9675	0.2	1	7/11/2002	7/23/2002
057890-028A	S40-3	0.53	mg/L	9675	0.2	1	7/11/2002	7/23/2002
057890-029A	S41-S	0.62	mg/L	9675	0.2	1	7/11/2002	7/23/2002
057890-030A	S41-1	ND	mg/L	9675	0.2	1	7/11/2002	7/23/2002
057890-031A	S41-2	ND	mg/L	9676	0.2	1	7/11/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057890
Project:	Rte 5-Southbound, 09100-06-49	Date Received:	7/11/2002 8:20:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057890-033A	S42-1	4.9	mg/L	9676	0.2	1	7/11/2002	7/23/2002
057890-034A	S42-2	0.43	mg/L	9676	0.2	1	7/11/2002	7/23/2002
057890-035A	S42-3	0.34	mg/L	9676	0.2	1	7/11/2002	7/23/2002
057890-038A	S43-2	1.0	mg/L	9676	0.2	1	7/11/2002	7/23/2002
057890-042A	S44-3	0.59	mg/L	9676	0.2	1	7/11/2002	7/23/2002
057890-044A	S45-1	4.5	mg/L	9676	0.2	1	7/11/2002	7/23/2002
057890-045A	S45-2	2.6	mg/L	9676	0.2	1	7/11/2002	7/23/2002
057890-046A	S45-3	0.49	mg/L	9676	0.2	1	7/11/2002	7/23/2002
057890-048A	S46-1	0.69	mg/L	9676	0.2	1	7/11/2002	7/23/2002
057890-049A	S46-2	0.95	mg/L	9676	0.2	1	7/11/2002	7/23/2002
057890-050A	S46-3	0.22	mg/L	9676	0.2	1	7/11/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057890
Project:	Rte 5-Southbound, 09100-06-49	Date Received:	7/11/2002 8:20:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057890-051A	S47-S	2.9	mg/L	9676	0.2	1	7/11/2002	7/23/2002
057890-052A	S47-1	3.0	mg/L	9676	0.2	1	7/11/2002	7/23/2002
057890-053A	S47-2	0.64	mg/L	9676	0.2	1	7/11/2002	7/23/2002
057890-054A	S47-3	0.69	mg/L	9676	0.2	1	7/11/2002	7/23/2002
057890-056A	S48-1	1.3	mg/L	9676	0.2	1	7/11/2002	7/23/2002
057890-057A	S48-2	0.35	mg/L	9676	0.2	1	7/11/2002	7/23/2002
057890-059A	S49-S	ND	mg/L	9676	0.2	1	7/11/2002	7/23/2002
057890-063A	S50-S	1.6	mg/L	9676	0.2	1	7/11/2002	7/23/2002
057890-064A	S50-1	0.52	mg/L	9677	0.2	1	7/11/2002	7/23/2002
057890-065A	S50-2	ND	mg/L	9677	0.2	1	7/11/2002	7/23/2002
057890-066A	S50-3	ND	mg/L	9677	0.2	1	7/11/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057890
Project:	Rte 5-Southbound, 09100-06-49	Date Received:	7/11/2002 8:20:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057890-067A	S51-S	1.4	mg/L	9677	0.2	1	7/11/2002	7/23/2002
057890-071A	S52-S	2.2	mg/L	9677	0.2	1	7/11/2002	7/23/2002
057890-072A	S52-1	0.40	mg/L	9677	0.2	1	7/11/2002	7/23/2002
057890-073A	S52-2	0.36	mg/L	9677	0.2	1	7/11/2002	7/23/2002
057890-075A	S53-S	1.6	mg/L	9677	0.2	1	7/11/2002	7/23/2002
057890-076A	S53-1	0.27	mg/L	9677	0.2	1	7/11/2002	7/23/2002
057890-084A	S55-1	2.4	mg/L	9677	0.2	1	7/11/2002	7/23/2002
057890-085A	S55-2	0.83	mg/L	9677	0.2	1	7/11/2002	7/23/2002
057890-087A	S56-1	1.1	mg/L	9677	0.2	1	7/11/2002	7/23/2002
057890-088A	S56-2	0.38	mg/L	9677	0.2	1	7/11/2002	7/23/2002
057890-089A	S56-3	0.25	mg/L	9677	0.2	1	7/11/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057890
Project:	Rte 5-Southbound, 09100-06-49	Date Received:	7/11/2002 8:20:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057890-090A	S57-S	2.7	mg/L	9677	0.2	1	7/11/2002	7/23/2002
057890-091A	S57-1	0.69	mg/L	9677	0.2	1	7/11/2002	7/23/2002
057890-093A	S57-3	2.5	mg/L	9677	0.2	1	7/11/2002	7/23/2002
057890-095A	S58-1	6.6	mg/L	9677	0.2	1	7/11/2002	7/23/2002
057890-096A	S58-2	4.7	mg/L	9677	0.2	1	7/11/2002	7/23/2002
057890-097A	S58-3	0.77	mg/L	9678	0.2	1	7/11/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
Lab Order: 057890
Project: Rte 5-Southbound, 09100-06-49
Lab ID: 057890-032A

Client Sample ID: S42-S
Collection Date: 7/11/2002
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID:	ICP2_020729C	QC Batch:	9916	Analyst: RQ		
Antimony	1.5	0.25	mg/Kg	1	7/29/2002	
Arsenic	9.0	0.25	mg/Kg	1	7/29/2002	
Barium	94	0.15	mg/Kg	1	7/29/2002	
Beryllium	ND	0.15	mg/Kg	1	7/29/2002	
Cadmium	ND	0.15	mg/Kg	1	7/29/2002	
Chromium	19	0.15	mg/Kg	1	7/29/2002	
Cobalt	6.0	0.15	mg/Kg	1	7/29/2002	
Copper	44	0.15	mg/Kg	1	7/29/2002	
Lead	1400	0.25	mg/Kg	1	7/29/2002	
Molybdenum	2.0	0.25	mg/Kg	1	7/29/2002	
Nickel	14	0.15	mg/Kg	1	7/29/2002	
Selenium	ND	0.25	mg/Kg	1	7/29/2002	
Silver	ND	0.15	mg/Kg	1	7/29/2002	
Thallium	0.50	0.25	mg/Kg	1	7/29/2002	
Vanadium	21	0.15	mg/Kg	1	7/29/2002	
Zinc	250	0.50	mg/Kg	1	7/29/2002	

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID:	AA1_020729A	QC Batch:	9919	Analyst: NS		
Mercury	ND	0.10	mg/Kg	1	7/29/2002	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified

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Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental

Client Sample ID: S43-S

Lab Order: 057890

Project: Rte 5-Southbound, 09100-06-49

Collection Date: 7/11/2002

Lab ID: 057890-036A

Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID: ICP2_020729C

QC Batch: 9916

Analyst: RQ

Antimony	2.0	0.25		mg/Kg	1	7/29/2002
Arsenic	10	0.25		mg/Kg	1	7/29/2002
Barium	210	0.15		mg/Kg	1	7/29/2002
Beryllium	ND	0.15		mg/Kg	1	7/29/2002
Cadmium	ND	0.15		mg/Kg	1	7/29/2002
Chromium	36	0.15		mg/Kg	1	7/29/2002
Cobalt	6.5	0.15		mg/Kg	1	7/29/2002
Copper	98	0.15		mg/Kg	1	7/29/2002
Lead	4600	5.0		mg/Kg	20	7/29/2002
Molybdenum	5.5	0.25		mg/Kg	1	7/29/2002
Nickel	23	0.15		mg/Kg	1	7/29/2002
Selenium	ND	0.25		mg/Kg	1	7/29/2002
Silver	0.17	0.15		mg/Kg	1	7/29/2002
Thallium	0.50	0.25		mg/Kg	1	7/29/2002
Vanadium	23	0.15		mg/Kg	1	7/29/2002
Zinc	650	0.50		mg/Kg	1	7/29/2002

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID: AA1_020729A

QC Batch: 9919

Analyst: NS

Mercury	0.12	0.10		mg/Kg	1	7/29/2002
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Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 B - Analyte detected in the associated Method Blank
 DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interfere
 H - Sample exceeded analytical holding time
 E - Value above quantitation range
 Results are wet unless otherwise specified

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Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
Lab Order: 057890
Project: Rte 5-Southbound, 09100-06-49
Lab ID: 057890-039A

Client Sample ID: S44-S
Collection Date: 7/11/2002
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID:	ICP2_020729C	QC Batch:	9916				Analyst:	RQ
Antimony	1.5	0.25	mg/Kg	1	7/29/2002			
Arsenic	9.0	0.25	mg/Kg	1	7/29/2002			
Barium	140	0.15	mg/Kg	1	7/29/2002			
Beryllium	ND	0.15	mg/Kg	1	7/29/2002			
Cadmium	ND	0.15	mg/Kg	1	7/29/2002			
Chromium	25	0.15	mg/Kg	1	7/29/2002			
Cobalt	6.0	0.15	mg/Kg	1	7/29/2002			
Copper	56	0.15	mg/Kg	1	7/29/2002			
Lead	2100	0.25	mg/Kg	1	7/29/2002			
Molybdenum	4.0	0.25	mg/Kg	1	7/29/2002			
Nickel	18	0.15	mg/Kg	1	7/29/2002			
Selenium	ND	0.25	mg/Kg	1	7/29/2002			
Silver	0.15	0.15	mg/Kg	1	7/29/2002			
Thallium	0.50	0.25	mg/Kg	1	7/29/2002			
Vanadium	22	0.15	mg/Kg	1	7/29/2002			
Zinc	340	0.50	mg/Kg	1	7/29/2002			

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID:	AA1_020729A	QC Batch:	9919				Analyst:	NS
Mercury	0.47	0.10	mg/Kg	1	7/29/2002			

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified

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Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental

Client Sample ID: S44-1

Lab Order: 057890

Project: Rte 5-Southbound, 09100-06-49

Collection Date: 7/11/2002

Lab ID: 057890-040A

Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID: ICP2_020729C

QC Batch: 9916

Analyst: RQ

Antimony	1.5	0.25		mg/Kg	1	7/29/2002
Arsenic	7.5	0.25		mg/Kg	1	7/29/2002
Barium	100	0.15		mg/Kg	1	7/29/2002
Beryllium	ND	0.15		mg/Kg	1	7/29/2002
Cadmium	ND	0.15		mg/Kg	1	7/29/2002
Chromium	17	0.15		mg/Kg	1	7/29/2002
Cobalt	5.5	0.15		mg/Kg	1	7/29/2002
Copper	210	0.15		mg/Kg	1	7/29/2002
Lead	1800	0.25		mg/Kg	1	7/29/2002
Molybdenum	1.5	0.25		mg/Kg	1	7/29/2002
Nickel	14	0.15		mg/Kg	1	7/29/2002
Selenium	ND	0.25		mg/Kg	1	7/29/2002
Silver	ND	0.15		mg/Kg	1	7/29/2002
Thallium	0.50	0.25		mg/Kg	1	7/29/2002
Vanadium	21	0.15		mg/Kg	1	7/29/2002
Zinc	270	0.50		mg/Kg	1	7/29/2002

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID: AA1_020729A

QC Batch: 9919

Analyst: NS

Mercury	0.25	0.10		mg/Kg	1	7/29/2002
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike/Surrogate outside of limits due to matrix interfere
 J - Analyte detected below quantitation limits H - Sample exceeded analytical holding time
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 DO - Surrogate Diluted Out Results are wet unless otherwise specified

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Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental

Client Sample ID: S45-S

Lab Order: 057890

Project: Rte 5-Southbound, 09100-06-49

Collection Date: 7/11/2002

Lab ID: 057890-043A

Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID: ICP2_020729C

QC Batch: 9916

Analyst: RQ

Antimony	1.5	0.25		mg/Kg	1	7/29/2002
Arsenic	9.0	0.25		mg/Kg	1	7/29/2002
Barium	130	0.15		mg/Kg	1	7/29/2002
Beryllium	ND	0.15		mg/Kg	1	7/29/2002
Cadmium	ND	0.15		mg/Kg	1	7/29/2002
Chromium	41	0.15		mg/Kg	1	7/29/2002
Cobalt	7.0	0.15		mg/Kg	1	7/29/2002
Copper	100	0.15		mg/Kg	1	7/29/2002
Lead	2100	0.25		mg/Kg	1	7/29/2002
Molybdenum	39	0.25		mg/Kg	1	7/29/2002
Nickel	29	0.15		mg/Kg	1	7/29/2002
Selenium	ND	0.25		mg/Kg	1	7/29/2002
Silver	0.28	0.15		mg/Kg	1	7/29/2002
Thallium	0.50	0.25		mg/Kg	1	7/29/2002
Vanadium	22	0.15		mg/Kg	1	7/29/2002
Zinc	540	0.50		mg/Kg	1	7/29/2002

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID: AA1_020729A

QC Batch: 9919

Analyst: NS

Mercury	ND	0.10		mg/Kg	1	7/29/2002
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Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 B - Analyte detected in the associated Method Blank
 DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interfere
 H - Sample exceeded analytical holding time
 E - Value above quantitation range
 Results are wet unless otherwise specified

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Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental

Client Sample ID: S56-S

Lab Order: 057890

Project: Rte 5-Southbound, 09100-06-49

Collection Date: 7/11/2002

Lab ID: 057890-086A

Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
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ICP METALS

(EPA 3050A)

EPA 6010B

RunID: ICP2_020729C

QC Batch: 9916

Analyst: RQ

Antimony	2.0	0.25		mg/Kg	1	7/29/2002
Arsenic	9.0	0.25		mg/Kg	1	7/29/2002
Barium	250	0.15		mg/Kg	1	7/29/2002
Beryllium	ND	0.15		mg/Kg	1	7/29/2002
Cadmium	ND	0.15		mg/Kg	1	7/29/2002
Chromium	37	0.15		mg/Kg	1	7/29/2002
Cobalt	6.5	0.15		mg/Kg	1	7/29/2002
Copper	110	0.15		mg/Kg	1	7/29/2002
Lead	2200	0.25		mg/Kg	1	7/29/2002
Molybdenum	7.0	0.25		mg/Kg	1	7/29/2002
Nickel	24	0.15		mg/Kg	1	7/29/2002
Selenium	3.0	0.25		mg/Kg	1	7/29/2002
Silver	0.21	0.15		mg/Kg	1	7/29/2002
Thallium	0.50	0.25		mg/Kg	1	7/29/2002
Vanadium	24	0.15		mg/Kg	1	7/29/2002
Zinc	480	0.50		mg/Kg	1	7/29/2002

MERCURY BY COLD VAPOR TECHNIQUE

(EPA 7471)

EPA 7471A

RunID: AA1_020729A

QC Batch: 9919

Analyst: NS

Mercury	0.31	0.10		mg/Kg	1	7/29/2002
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Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 B - Analyte detected in the associated Method Blank
 DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interfere
 H - Sample exceeded analytical holding time
 E - Value above quantitation range
 Results are wet unless otherwise specified

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Advanced Technology Laboratories

Date: 18-Jul-02

CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9540, MBLK, 6010_SPB, mg/Kg, 7/12/2002, ICP5_020715F, ZZZZZ, 9540, EPA 6010B (EPA 3050M), 7/15/2002, 299463, Lead, 0.271, 5.0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9540B, MBLK, 6010_SPB, mg/Kg, 7/12/2002, ICP5_020715F, ZZZZZ, 9540, EPA 6010B (EPA 3050M), 7/15/2002, 299464, Lead, ND, 5.0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9541, MBLK, 6010_SPB, mg/Kg, 7/12/2002, ICP5_020715G, ZZZZZ, 9541, EPA 6010B (EPA 3050M), 7/15/2002, 299491, Lead, 1.975, 5.0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9541B, MBLK, 6010_SPB, mg/Kg, 7/12/2002, ICP5_020715G, ZZZZZ, 9541, EPA 6010B (EPA 3050M), 7/15/2002, 299492, Lead, ND, 5.0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9542, MBLK, 6010_SPB, mg/Kg, 7/12/2002, ICP5_020715H, ZZZZZ, 9542, EPA 6010B (EPA 3050M), 7/15/2002, 299519, Lead, ND, 5.0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	MB-9542B	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715H			
Client ID:	ZZZZZ	Batch ID:	9542	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299520			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.2255 5.0

Sample ID	MB-9543	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715I			
Client ID:	ZZZZZ	Batch ID:	9543	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299547			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID	MB-9543B	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715I			
Client ID:	ZZZZZ	Batch ID:	9543	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299548			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID	MB-9544	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020716C			
Client ID:	ZZZZZ	Batch ID:	9544	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	299825			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.3942 5.0

Sample ID	MB-9544B	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020716C			
Client ID:	ZZZZZ	Batch ID:	9544	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	299826			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.4799 5.0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	LCS-9540	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715F			
Client ID:	ZZZZZ	Batch ID:	9540	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299462			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	219.5	5.0	250	0	87.8	80	120	0	0
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Sample ID	LCS-9541	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715G			
Client ID:	ZZZZZ	Batch ID:	9541	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299490			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	235.4	5.0	250	0	94.2	80	120	0	0
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Sample ID	LCS-9542	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715H			
Client ID:	ZZZZZ	Batch ID:	9542	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299518			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	213.8	5.0	250	0	85.5	80	120	0	0
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Sample ID	LCS-9543	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715I			
Client ID:	ZZZZZ	Batch ID:	9543	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299546			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	213.4	5.0	250	0	85.4	80	120	0	0
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Sample ID	LCS-9544	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020716C			
Client ID:	ZZZZZ	Batch ID:	9544	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	299824			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	237.4	5.0	250	0	95	80	120	0	0
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057890-010AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715F		
Client ID:	S36-1	Batch ID:	9540	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299448		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 165.4 5.0 250 13.74 60.6 47 128 0 0

Sample ID	057890-020AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715F		
Client ID:	S38-3	Batch ID:	9540	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299460		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 280.8 5.0 250 135.2 58.2 47 128 0 0

Sample ID	057890-030AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715G		
Client ID:	S41-1	Batch ID:	9541	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299476		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 284.7 5.0 250 96.98 75.1 47 128 0 0

Sample ID	057890-040AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715G		
Client ID:	S44-1	Batch ID:	9541	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299488		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 1831 5.0 250 1687 57.5 47 128 0 0

Sample ID	057890-050AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715H		
Client ID:	S46-3	Batch ID:	9542	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299504		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 269.2 5.0 250 92.41 70.7 47 128 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057890-060AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715H		
Client ID:	S49-1	Batch ID:	9542	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299516		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	471.3	5.0	250	18.45	181	47	128	0	0	S
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Sample ID	057890-070AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715I		
Client ID:	S51-3	Batch ID:	9543	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299532		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	137.8	5.0	250	8.031	51.9	47	128	0	0	
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Sample ID	057890-080AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715I		
Client ID:	S54-1	Batch ID:	9543	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299544		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	184.4	5.0	250	40.9	57.4	47	128	0	0	
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Sample ID	057890-090AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020716C		
Client ID:	S57-S	Batch ID:	9544	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	299812		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	733.2	5.0	250	668.2	26	47	128	0	0	S
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Sample ID	057890-097AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020716C		
Client ID:	S58-3	Batch ID:	9544	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	299821		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	297.1	5.0	250	150.7	58.6	47	128	0	0	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057890-010ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715F			
Client ID:	S36-1	Batch ID:	9540	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299447			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	10.47	5.0	0	0	0	0	0	0	13.74	27.1	30
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Sample ID	057890-020ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715F			
Client ID:	S38-3	Batch ID:	9540	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299459			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	118.8	5.0	0	0	0	0	0	0	135.2	12.9	30
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Sample ID	057890-030ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715G			
Client ID:	S41-1	Batch ID:	9541	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299475			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	92.98	5.0	0	0	0	0	0	0	96.98	4.21	30
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Sample ID	057890-040ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715G			
Client ID:	S44-1	Batch ID:	9541	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299487			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	1985	5.0	0	0	0	0	0	0	1687	16.2	30
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Sample ID	057890-050ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715H			
Client ID:	S46-3	Batch ID:	9542	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299503			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	75.2	5.0	0	0	0	0	0	0	92.41	20.5	30
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057890-060ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715H		
Client ID:	S49-1	Batch ID:	9542	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299515		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 20.27 5.0 0 0 0 0 0 0 18.45 9.40 30

Sample ID	057890-070ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715I		
Client ID:	S51-3	Batch ID:	9543	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299531		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 6.39 5.0 0 0 0 0 0 0 8.031 22.8 30

Sample ID	057890-080ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715I		
Client ID:	S54-1	Batch ID:	9543	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299543		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 28.74 5.0 0 0 0 0 0 0 40.9 34.9 30 R

Sample ID	057890-090ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020716C		
Client ID:	S57-S	Batch ID:	9544	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	299811		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 592.2 5.0 0 0 0 0 0 0 668.2 12.1 30

Sample ID	057890-097ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020716C		
Client ID:	S58-3	Batch ID:	9544	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/16/2002	SeqNo:	299820		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 186.1 5.0 0 0 0 0 0 0 150.7 21.0 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 I - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPB

Sample ID	MB-9581	SampType:	MBLK	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/15/2002	Run ID:	ICP5_020716J	
Client ID:	ZZZZZ	Batch ID:	9581	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/16/2002	SeqNo:	299919	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.0050

Sample ID	LCS-9581	SampType:	LCS	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/15/2002	Run ID:	ICP5_020716J	
Client ID:	ZZZZZ	Batch ID:	9581	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/16/2002	SeqNo:	299918	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 1.008 0.0050 1 0 101 80 120 0 0

Sample ID	057890-107AMS	SampType:	MS	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/15/2002	Run ID:	ICP5_020716J	
Client ID:	EB-24	Batch ID:	9581	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/16/2002	SeqNo:	299916	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 2.657 0.0050 2.5 0 106 66 118 0 0

Sample ID	057890-107ADUP	SampType:	DUP	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/15/2002	Run ID:	ICP5_020716J	
Client ID:	EB-24	Batch ID:	9581	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/16/2002	SeqNo:	299915	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.0050 0 0 0 0 0 0 0 0 0 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 9045_S

Sample ID	057890-090ADUP	SampType:	DUP	TestCode:	9045_S	Units:	pH Units	Prep Date:	7/17/2002	Run ID:	WETCHEM_020717A		
Client ID:	S57-S	Batch ID:	R19480	TestNo:	EPA 9045C			Analysis Date:	7/17/2002	SeqNo:	300319		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH		7.49		0.10	0	0	0	0	0	7.46	0.401	20	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 24-Jul-02

CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	MB-9718A	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723P			
Client ID:	ZZZZZ	Batch ID:	9718	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304918			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9718B	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723P			
Client ID:	ZZZZZ	Batch ID:	9718	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304931			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9718	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723P			
Client ID:	ZZZZZ	Batch ID:	9718	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304946			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9724	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723Q			
Client ID:	ZZZZZ	Batch ID:	9724	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304948			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.0646 0.20

Sample ID	MB-9724A	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723Q			
Client ID:	ZZZZZ	Batch ID:	9724	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304949			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.05886 0.20

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	MB-9724B	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723Q			
Client ID:	ZZZZZ	Batch ID:	9724	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304962			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9725	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723U			
Client ID:	ZZZZZ	Batch ID:	9725	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305179			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9725A	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723U			
Client ID:	ZZZZZ	Batch ID:	9725	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305180			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9725B	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723U			
Client ID:	ZZZZZ	Batch ID:	9725	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305193			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.05401 0.20

Sample ID	MB-9726	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723V			
Client ID:	ZZZZZ	Batch ID:	9726	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305208			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	MB-9726A	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723V												
Client ID:	ZZZZZ	Batch ID:	9726	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305209												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead ND 0.20

Sample ID	MB-9726B	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723V												
Client ID:	ZZZZZ	Batch ID:	9726	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305222												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 0.04724 0.20

Sample ID	LCS-9718	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723P												
Client ID:	ZZZZZ	Batch ID:	9718	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304945												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 7.342 0.20 7.5 0 97.9 80 120 0 0

Sample ID	LCS-9724	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723Q												
Client ID:	ZZZZZ	Batch ID:	9724	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304974												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 7.244 0.20 7.5 0 96.6 80 120 0 0

Sample ID	LCS-9725	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723U												
Client ID:	ZZZZZ	Batch ID:	9725	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305207												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 7.447 0.20 7.5 0 99.3 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	LCS-9726	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723V			
Client ID:	ZZZZZ	Batch ID:	9726	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305236			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		7.297		0.20	7.5	0		97.3	80	120	0	0		
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Sample ID	057872-084AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723P			
Client ID:	ZZZZZ	Batch ID:	9718	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304930			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		99.77		2.0	50	53.66		92.2	80	120	0	0		
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Sample ID	057890-016AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723P			
Client ID:	S37-3	Batch ID:	9718	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304943			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		7.758		0.20	5	3.127		92.6	80	120	0	0		
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Sample ID	057890-026AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723Q			
Client ID:	S40-1	Batch ID:	9724	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304961			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		9.594		0.20	5	5.407		83.7	80	120	0	0		
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Sample ID	057890-042AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723Q			
Client ID:	S44-3	Batch ID:	9724	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304975			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		18.26		0.40	10	9.14		91.2	80	120	0	0		
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**



CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	057890-054AMS	SampType: MS	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/23/2002	Run ID: AA2_020723U					
Client ID:	S47-3	Batch ID: 9725	TestNo: WET/ EPA 74 (WET)	Analysis Date: 7/23/2002	SeqNo: 305192						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	19.99	0.40	10	10.03	99.5	80	120	0	0		

Sample ID	057890-072AMS	SampType: MS	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/23/2002	Run ID: AA2_020723U					
Client ID:	S52-1	Batch ID: 9725	TestNo: WET/ EPA 74 (WET)	Analysis Date: 7/23/2002	SeqNo: 305205						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	22.86	0.40	10	13.22	96.4	80	120	0	0		

Sample ID	057890-090AMS	SampType: MS	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/23/2002	Run ID: AA2_020723V					
Client ID:	S57-S	Batch ID: 9726	TestNo: WET/ EPA 74 (WET)	Analysis Date: 7/23/2002	SeqNo: 305221						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	65.8	1.0	25	37.81	112	80	120	0	0		

Sample ID	057892-016AMS	SampType: MS	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/23/2002	Run ID: AA2_020723V					
Client ID:	ZZZZZ	Batch ID: 9726	TestNo: WET/ EPA 74 (WET)	Analysis Date: 7/23/2002	SeqNo: 305234						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	82.91	1.6	40	44.46	96.1	80	120	0	0		

Sample ID	057872-084ADUP	SampType: DUP	TestCode: 7420_ST	Units: mg/L	Prep Date: 7/19/2002	Run ID: AA2_020723P					
Client ID:	ZZZZZ	Batch ID: 9718	TestNo: WET/ EPA 74 (WET)	Analysis Date: 7/23/2002	SeqNo: 304929						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	59.62	0.80	0	0	0	0	0	53.66	10.5	30	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO - Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	057890-016ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723P			
Client ID:	S37-3	Batch ID:	9718	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304942			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		4.332		0.20	0	0		0	0	0	3.127	32.3	30	R
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Sample ID	057890-026ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723Q			
Client ID:	S40-1	Batch ID:	9724	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304960			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		5.066		0.20	0	0		0	0	0	5.407	6.52	30	
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Sample ID	057890-042ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723Q			
Client ID:	S44-3	Batch ID:	9724	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304973			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		9.154		0.20	0	0		0	0	0	9.14	0.150	30	
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Sample ID	057890-054ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723U			
Client ID:	S47-3	Batch ID:	9725	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305191			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		9.427		0.20	0	0		0	0	0	10.03	6.24	30	
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Sample ID	057890-072ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723U			
Client ID:	S52-1	Batch ID:	9725	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305204			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		10.04		0.20	0	0		0	0	0	13.22	27.3	30	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

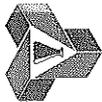
Sample ID	057890-090ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723V		
Client ID:	S57-S	Batch ID:	9726	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305220		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		44.67		0.80	0	0	0	0	0	37.81	16.6	30	
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Sample ID	057892-016ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723V		
Client ID:	ZZZZZ	Batch ID:	9726	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	305233		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		49.07		0.80	0	0	0	0	0	44.46	9.87	30	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**



Advanced Technology Laboratories

Date: 26-Jul-02

CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and a header row for Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual.

Lead ND 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and a header row for Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual.

Lead ND 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and a header row for Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual.

Lead 0.06383 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and a header row for Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual.

Lead 0.06812 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and a header row for Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual.

Lead 0.9348 0.20 1 0 93.5 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID	LCS-9761	SampType:	lcs	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020725F			
Client ID:	ZZZZZ	Batch ID:	9761	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/25/2002	SeqNo:	306077			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		0.9935		0.20	1	0		99.3	80	120	0	0		
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Sample ID	057890-041AMS	SampType:	MS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020724I			
Client ID:	S44-2	Batch ID:	9760	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/24/2002	SeqNo:	305908			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		7.809		0.20	3.125	4.323		112	80	120	0	0		
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Sample ID	057892-006AMS	SampType:	MS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020725F			
Client ID:	ZZZZZ	Batch ID:	9761	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/25/2002	SeqNo:	306075			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		8.458		0.20	2.5	8.788		-13.2	80	120	0	0		S
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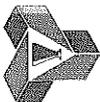
Sample ID	057890-041ADUP	SampType:	DUP	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020724I			
Client ID:	S44-2	Batch ID:	9760	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/24/2002	SeqNo:	305907			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		4.248		0.20	0	0		0	0	0	4.323	1.75	30	
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Sample ID	057892-006ADUP	SampType:	DUP	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020725F			
Client ID:	ZZZZZ	Batch ID:	9761	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/25/2002	SeqNo:	306074			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		8.883		0.20	0	0		0	0	0	8.788	1.08	30	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 24-Jul-02

CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and 4 columns for analyte results (PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual).

Lead ND 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and 4 columns for analyte results (PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual).

Lead ND 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and 4 columns for analyte results (PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual).

Lead ND 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and 4 columns for analyte results (PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual).

Lead ND 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and 4 columns for analyte results (PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual).

Lead ND 0.20

Qualifiers: ND - Not Detected at the Reporting Limit, S - Spike Recovery outside accepted recovery limits, DO- Surrogate dilute out, J - Analyte detected below quantitation limits, B - Analyte detected in the associated Method Blank, H - Sample exceeded holding time, R - RPD outside accepted recovery limits, Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	MB-9678B	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723A			
Client ID:	ZZZZZ	Batch ID:	9678	TestNo:	WET DI/ EPA (WET)	Analysis Date:	7/23/2002	SeqNo:	304356					
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9676	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723G			
Client ID:	ZZZZZ	Batch ID:	9676	TestNo:	WET DI/ EPA (WET)	Analysis Date:	7/23/2002	SeqNo:	304538					
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9676A	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723G			
Client ID:	ZZZZZ	Batch ID:	9676	TestNo:	WET DI/ EPA (WET)	Analysis Date:	7/23/2002	SeqNo:	304539					
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9676B	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723G			
Client ID:	ZZZZZ	Batch ID:	9676	TestNo:	WET DI/ EPA (WET)	Analysis Date:	7/23/2002	SeqNo:	304552					
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9677	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723H			
Client ID:	ZZZZZ	Batch ID:	9677	TestNo:	WET DI/ EPA (WET)	Analysis Date:	7/23/2002	SeqNo:	304567					
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	MB-9677A	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723H			
Client ID:	ZZZZZ	Batch ID:	9677	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304568			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9677B	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723H			
Client ID:	ZZZZZ	Batch ID:	9677	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304581			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.07903 0.20

Sample ID	MB-9675	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723L			
Client ID:	ZZZZZ	Batch ID:	9675	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304712			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9675A	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723L			
Client ID:	ZZZZZ	Batch ID:	9675	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304713			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.06288 0.20 J

Sample ID	MB-9675B	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723L			
Client ID:	ZZZZZ	Batch ID:	9675	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304726			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	LCS-9674	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020722I			
Client ID:	ZZZZZ	Batch ID:	9674	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	304220			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.047 0.20 7.5 0 94 80 120 0 0

Sample ID	LCS-9678	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723A			
Client ID:	ZZZZZ	Batch ID:	9678	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304370			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.737 0.20 7.5 0 103 80 120 0 0

Sample ID	LCS-9676	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723G			
Client ID:	ZZZZZ	Batch ID:	9676	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304566			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.716 0.20 7.5 0 103 80 120 0 0

Sample ID	LCS-9677	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723H			
Client ID:	ZZZZZ	Batch ID:	9677	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304595			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.862 0.20 7.5 0 105 80 120 0 0

Sample ID	LCS-9675	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723L			
Client ID:	ZZZZZ	Batch ID:	9675	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304740			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.816 0.20 7.5 0 104 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	057890-006AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020722I			
Client ID:	S35-1	Batch ID:	9674	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	304218			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 6.668 0.20 5 1.863 96.1 80 120 0 0

Sample ID	057872-078AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020722I			
Client ID:	ZZZZZ	Batch ID:	9674	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	304327			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 6.549 0.20 5 1.567 99.6 80 120 0 0

Sample ID	057892-029AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723A			
Client ID:	ZZZZZ	Batch ID:	9678	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304355			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.69 0.20 5 3.095 91.9 80 120 0 0

Sample ID	057892-041AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723A			
Client ID:	ZZZZZ	Batch ID:	9678	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304368			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 6.538 0.20 5 1.123 108 80 120 0 0

Sample ID	057890-048AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723G			
Client ID:	S46-1	Batch ID:	9676	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304551			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 5.577 0.20 5 0.691 97.7 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	057890-063AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723G			
Client ID:	S50-S	Batch ID:	9676	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304564			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 6.877 0.20 5 1.587 106 80 120 0 0

Sample ID	057890-083AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723H			
Client ID:	S55-S	Batch ID:	9677	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304580			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 5.567 0.20 5 0.4479 102 80 120 0 0

Sample ID	057890-096AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723H			
Client ID:	S58-2	Batch ID:	9677	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304593			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 9.757 0.20 5 4.661 102 80 120 0 0

Sample ID	057890-020AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723L			
Client ID:	S38-3	Batch ID:	9675	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304725			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 5.63 0.20 5 0.08891 111 80 120 0 0

Sample ID	057890-030AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723L			
Client ID:	S41-1	Batch ID:	9675	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304738			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 5.61 0.20 5 0.1158 110 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	057890-006ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020722I			
Client ID:	S35-1	Batch ID:	9674	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	304217			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 1.47 0.20 0 0 0 0 0 0 1.863 23.6 30

Sample ID	057872-078ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020722I			
Client ID:	ZZZZZ	Batch ID:	9674	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	304300			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 1.372 0.20 0 0 0 0 0 0 1.567 13.3 30

Sample ID	057892-029ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723A			
Client ID:	ZZZZZ	Batch ID:	9678	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304354			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 1.957 0.20 0 0 0 0 0 0 3.095 45.0 30 R

Sample ID	057892-041ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723A			
Client ID:	ZZZZZ	Batch ID:	9678	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304367			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.8322 0.20 0 0 0 0 0 0 1.123 29.8 30

Sample ID	057890-048ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723G			
Client ID:	S46-1	Batch ID:	9676	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304550			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.6221 0.20 0 0 0 0 0 0 0.691 10.5 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	057890-063ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723G			
Client ID:	S50-S	Batch ID:	9676	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304563			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 1.395 0.20 0 0 0 0 0 0 1.587 12.8 30

Sample ID	057890-083ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723H			
Client ID:	S55-S	Batch ID:	9677	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304579			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.4024 0.20 0 0 0 0 0 0 0.4479 10.7 30

Sample ID	057890-096ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723H			
Client ID:	S58-2	Batch ID:	9677	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304592			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 4.719 0.20 0 0 0 0 0 0 4.661 1.23 30

Sample ID	057890-020ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723L			
Client ID:	S38-3	Batch ID:	9675	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304724			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.04773 0.20 0 0 0 0 0 0 0.08891 0 30 J

Sample ID	057890-030ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020723L			
Client ID:	S41-1	Batch ID:	9675	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/23/2002	SeqNo:	304737			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.0854 0.20 0 0 0 0 0 0 0.1158 0 30 J

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 30-Jul-02

CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Table with 6 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID. Values include MB-9916, MBLK, 6010_S, mg/Kg, 7/28/2002, ICP2_020729C.

Table with 12 columns: Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Lists various elements like Antimony, Arsenic, Barium, etc.

Table with 6 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID. Values include LCS-9916, LCS, 6010_S, mg/Kg, 7/28/2002, ICP2_020729C.

Table with 12 columns: Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Lists various elements with numerical results.

Qualifiers: ND - Not Detected at the Reporting Limit, S - Spike Recovery outside accepted recovery limits, DO- Surrogate dilute out, J - Analyte detected below quantitation limits, B - Analyte detected in the associated Method Blank, H - Sample exceeded holding time, R - RPD outside accepted recovery limits, Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	LCS-9916	SampType:	LCS	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729C
Client ID:	ZZZZZ	Batch ID:	9916	TestNo:	EPA 6010B (EPA 3050A)	Analysis Date:	7/29/2002	SeqNo:	309034		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	44	0.25	50	0	88	80	120	0	0		
Molybdenum	46	0.25	50	0	92	80	120	0	0		
Nickel	42.5	0.15	50	0	85	80	120	0	0		
Selenium	44	0.25	50	0	88	80	120	0	0		
Silver	45	0.15	50	0	90	80	120	0	0		
Thallium	45	0.25	50	0	90	80	120	0	0		
Vanadium	46.5	0.15	50	0	93	80	120	0	0		
Zinc	45	0.50	50	0	90	80	120	0	0		

Sample ID	057892-024AMS	SampType:	MS	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729C
Client ID:	ZZZZZ	Batch ID:	9916	TestNo:	EPA 6010B (EPA 3050A)	Analysis Date:	7/29/2002	SeqNo:	309048		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	95	0.25	125	2.5	74	32	115	0	0		
Arsenic	127	0.25	125	8.5	94.8	59	111	0	0		
Barium	307	0.15	125	186	96.8	34	151	0	0		
Beryllium	118	0.15	125	0	94.4	56	112	0	0		
Cadmium	111	0.15	125	0	86.8	52	120	0	0		
Chromium	141	0.15	125	24	93.6	56	118	0	0		
Cobalt	118.5	0.15	125	6	90	58	117	0	0		
Copper	201.5	0.15	125	73.5	102	58	134	0	0		
Lead	2036	0.25	125	2315	-223	47	128	0	0		S
Molybdenum	119	0.25	125	5.5	90.8	56	115	0	0		
Nickel	132	0.15	125	18	91.2	52	120	0	0		
Selenium	115	0.25	125	0	92	46	108	0	0		
Silver	121.5	0.15	125	0.1235	97.1	74	117	0	0		
Thallium	115	0.25	125	0.5	91.6	62	117	0	0		
Vanadium	148	0.15	125	23.5	99.6	55	122	0	0		
Zinc	1242	0.50	125	438	644	43	134	0	0		S

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	057892-024AMSD	SampType:	MSD	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729C
Client ID:	ZZZZZ	Batch ID:	9916	TestNo:	EPA 6010B (EPA 3050A)			Analysis Date:	7/29/2002	SeqNo:	309049
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	99	0.25	125	2.5	77.2	32	115	95	4.12	20	
Arsenic	129.5	0.25	125	8.5	96.8	59	111	127	1.95	20	
Barium	340	0.15	125	186	123	34	151	307	10.2	20	
Beryllium	120	0.15	125	0	96	56	112	118	1.68	20	
Cadmium	112.5	0.15	125	0	90	52	120	111	1.34	20	
Chromium	144.5	0.15	125	24	96.4	56	118	141	2.45	20	
Cobalt	121	0.15	125	6	92	58	117	118.5	2.09	20	
Copper	216.5	0.15	125	73.5	114	58	134	201.5	7.18	20	
Lead	2292	0.25	125	2315	-18.8	47	128	2036	11.8	20	S
Molybdenum	122.5	0.25	125	5.5	93.6	56	115	119	2.90	20	
Nickel	136.5	0.15	125	18	94.8	52	120	132	3.35	20	
Selenium	117	0.25	125	0	93.6	46	108	115	1.72	20	
Silver	123	0.15	125	0.1235	98.3	74	117	121.5	1.23	20	
Thallium	117	0.25	125	0.5	93.2	62	117	115	1.72	20	
Vanadium	152	0.15	125	23.5	103	55	122	148	2.67	20	
Zinc	502.5	0.50	125	438	51.6	43	134	1242	84.8	20	R

Sample ID	057892-024ADUP	SampType:	DUP	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	ICP2_020729C
Client ID:	ZZZZZ	Batch ID:	9916	TestNo:	EPA 6010B (EPA 3050A)			Analysis Date:	7/29/2002	SeqNo:	309047
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	2.5	0.25	0	0	0	0	0	0	0	0	
Arsenic	8.5	0.25	0	0	0	0	0	0	0	0	
Barium	186	0.15	0	0	0	0	0	0	0	0	
Beryllium	ND	0.15	0	0	0	0	0	0	0	0	
Cadmium	ND	0.15	0	0	0	0	0	0	0	0	
Chromium	24	0.15	0	0	0	0	0	0	0	0	
Cobalt	6	0.15	0	0	0	0	0	0	0	0	
Copper	73.5	0.15	0	0	0	0	0	0	0	0	
Lead	2315	0.25	0	0	0	0	0	0	0	0	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: 057892-024ADUP	SampType: DUP	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/28/2002	Run ID: ICP2_020729C
Client ID: ZZZZZ	Batch ID: 9916	TestNo: EPA 6010B (EPA 3050A)		Analysis Date: 7/29/2002	SeqNo: 309047

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	5.5	0.25	0	0	0	0	0	0	0	0	
Nickel	18	0.15	0	0	0	0	0	0	0	0	
Selenium	ND	0.25	0	0	0	0	0	0	0	0	
Silver	0.1235	0.15	0	0	0	0	0	0	0	0	J
Thallium	0.5	0.25	0	0	0	0	0	0	0	0	
Vanadium	23.5	0.15	0	0	0	0	0	0	0	0	
Zinc	438	0.50	0	0	0	0	0	0	0	0	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057890
Project: Rte 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7471_S

Sample ID	MB-9919	SampType:	mblk	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729A			
Client ID:	ZZZZZ	Batch ID:	9919	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309061			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury ND 0.10

Sample ID	LCS-9919	SampType:	lcs	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729A			
Client ID:	ZZZZZ	Batch ID:	9919	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309060			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 2.02 0.10 2.08 0 97.1 80 120 0 0

Sample ID	057892-003AMS	SampType:	MS	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729A			
Client ID:	ZZZZZ	Batch ID:	9919	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309064			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.609 1.0 0.83 0 73.4 62 146 0 0 J

Sample ID	057892-003AMSD	SampType:	MSD	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729A			
Client ID:	ZZZZZ	Batch ID:	9919	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309065			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.6339 1.0 0.83 0 76.4 62 146 0.609 0 33 J

Sample ID	057892-003ADUP	SampType:	DUP	TestCode:	7471_S	Units:	mg/Kg	Prep Date:	7/28/2002	Run ID:	AA1_020729A			
Client ID:	ZZZZZ	Batch ID:	9919	TestNo:	EPA 7471A (EPA 7471)			Analysis Date:	7/29/2002	SeqNo:	309063			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury ND 1.0 0 0 0 0 0 0 0 0 0 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values

REVISIONS
BY _____ DATE _____
BY _____ DATE _____

BY _____ DATE _____
CHECKED BY _____

All samples → total lead (6010)
total lead > 50 mg/kg → WET-Citric
WET-CITRIC > 5 mg/L → WET-DI
Total lead > 1,000 mg/kg → TCLP
10% → Soil pH (9045)

Please call when all totals have been run. I will instruct what samples should be run for Title 22 metals.

Thanks - Chris King

Diane

From: Chris King [king@geoconinc.com]

Sent: Monday, July 22, 2002 10:57 AM

To: 'Diane'

Subject: 09100-06-49

Diane - please run the 15 samples with the highest total lead content for Title 22 metals. Please do this for each direction (northbound and southbound), so the total number of tests will be 30. Thank you and please call me if you have any questions.

Christopher S. King
Senior Staff Engineer
Geocon Consultants, Inc.

7/22/2002

July 29, 2002

Chris King
Geocon Environmental
6970 Flanders Drive
San Diego, CA 92121
TEL: (858) 558-6100
FAX: (858) 558-8437

RE: Rt 5 South, 09100-06-49

Attention: Chris King

ELAP No.: 1838

NELAP No.: 02107CA

Workorder No.: 057942

Enclosed are the results for sample(s) received on July 16, 2002 by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,



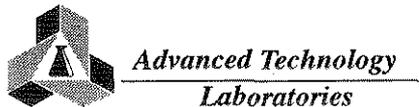
Eddie F. Rodriguez
Laboratory Director

AUG 02 2002

This cover letter is an integral part of this analytical report.



CHAIN OF CUSTODY RECORD



Advanced Technology Laboratories
 3275 Walnut Avenue
 Signal Hill, CA 90807
 (562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport: Walk-in <input checked="" type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input type="checkbox"/>	Sample Condition Upon Receipt: 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7/16/02</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Christina</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>R+5 Soils</u>	Project #: <u>CA100-06-49</u>	Sampler: <u>CCB/CCA</u> (Printed Name)	(Signature)
Relinquished by: <u>[Signature]</u> Date: <u>7-16-02</u> Time: _____	Received by: <u>[Signature]</u> Date: <u>7/16/02</u> Time: <u>11:34 AM</u>		

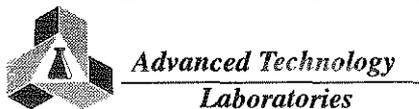
I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>Christina</u> Date: <u>7-16-02</u>	Send Report To: Attn: <u>Client</u> Co: <u>Client</u> Address: _____ City: _____ State: _____ Zip: _____	Bill To: Attn: _____ Co: <u>Client</u> Address: _____ City: _____ State: _____ Zip: _____	Special Instructions/Comments: <u>For Instructions (see Diane)</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested: 8081 / 8082 (Pesticides/PCB-CC) 8280 (Nitrates-GC/MS) 625 / 6270 (BVA-GC/MS) Metals: Total (CAC-8010 / 7000) 801EM TPH/GT/TEX (COMBINATION) 801SM TPH/D (Diesel/GC) <u>10741 / 12 AD 6010</u>
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ITEM	LAB USE ONLY:		Sample Description				CIRCLE APPROPRIATE MATRIX										PRESERVATION	QA/QC	REMARKS
	Batch #:	Lab No.	Sample I.D.	Date	Time											Container(s)			
		<u>07942-001</u>	<u>S109-5</u>	<u>7/16</u>	<u>833</u>	X										<u>E</u>	<u>UJG</u>		
		<u>2</u>	<u>S109 1</u>		<u>837</u>	X										<u>X</u>	<u>X</u>		
		<u>3</u>	<u>S109 2</u>		<u>841</u>	X													
		<u>4</u>	<u>S109 3</u>		<u>845</u>	X													
		<u>5</u>	<u>S110-5</u>		<u>832</u>	X													
		<u>6</u>	<u>S110-1</u>		<u>836</u>	X													
		<u>7</u>	<u>S110-2</u>		<u>840</u>	X													
		<u>8</u>	<u>S110-3</u>		<u>844</u>	X													
		<u>9</u>	<u>S111-5</u>		<u>844</u>	X													
		<u>10</u>	<u>S111-1</u>		<u>848</u>	X													

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= <input type="checkbox"/> Overnight ≤ 24 hr	B= <input type="checkbox"/> Emergency Next workday	C= <input type="checkbox"/> Critical 2 Workdays	D= <input type="checkbox"/> Urgent 3 Workdays	E= <input type="checkbox"/> Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₈
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Teclar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



Advanced Technology Laboratories
 3275 Walnut Avenue
 Signal Hill, CA 90807
 (562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport	Sample Condition Upon Receipt	
Logged By: <u>[Signature]</u> Date: <u>7/16/02</u> Time: _____	Walk-in <input checked="" type="checkbox"/> / Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input type="checkbox"/>	1. CHILLED <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED <input type="checkbox"/> N <input checked="" type="checkbox"/>	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Christina King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Pt 5 Sours</u>	Project #: <u>09100-06-49</u>	Sampler: <u>[Signature]</u> (Printed Name)	(Signature)
Relinquished by: <u>[Signature]</u> (Signature and Printed Name)	Date: <u>7-16-02</u> Time: _____	Received by: <u>[Signature]</u> (Signature and Printed Name)	Date: <u>7/16/02</u> Time: <u>11:30 AM</u>
Relinquished by: _____ (Signature and Printed Name)	Date: _____ Time: _____	Received by: _____ (Signature and Printed Name)	Date: _____ Time: _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>Chris King 7/16/02</u> Print Name Date <u>[Signature]</u> Signature	Send Report To: Attn: <u>Client</u> Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Bill To: Attn: <u>Client</u> Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>SEE PAGE 2</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8061 / 8022 (Pesticides/PCB-GC) 8200 (Volatile/CC/MS) 8251 / 8270 (VIA-GC/MS) Metals: Total (CAC-8010 / 7000) 8015M TPH/GBTEX (COMBINATION) 8015M TPH/D (Diesel/GC) <u>GC/MS</u>	CIRCLE APPROPRIATE MATRIX SOLID (SOIL) SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIFE • FILTER OTHER TAT # Type	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input type="checkbox"/> OTHER _____	QA/QC						
LAB USE ONLY: Batch #:		Sample Description									
I T E M	Lab No.	Sample I.D.	Date	Time							REMARKS
	11	S111-2	7/16	8:52							
	12	S111-3		8:57							
	13	S112-5		8:48							
	14	S112-1		8:52							
	15	S112-2		8:56							
	16	S112-3		9:00							
	17	S113-5		8:54							
	18	S113-1		8:59							
	19	S113-2		9:03							
	20	S113-3		9:07							

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= <input type="checkbox"/> Overnight ≤ 24 hr	B= <input type="checkbox"/> Emergency Next workday	C= <input type="checkbox"/> Critical 2 Workdays	D= <input type="checkbox"/> Urgent 3 Workdays	E= <input type="checkbox"/> Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₈
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



Advanced Technology Laboratories
 3275 Walnut Avenue
 Signal Hill, CA 90807
 (562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input checked="" type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7/16/02</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Christina King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

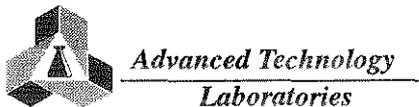
Project Name: <u>R+S South</u>	Project #: <u>09100-06-49</u>	Sampler: <u>[Signature]</u> <u>CGD/SCA</u>	Date: _____
Relinquished by: <u>[Signature]</u> <u>Chris</u>	Date: _____ Time: _____	Received by: <u>[Signature]</u> <u>[Signature]</u>	Date: <u>7/16/02</u> Time: <u>11:34 AM</u>
Relinquished by: _____	Date: _____ Time: _____	Received by: _____	Date: _____ Time: _____
Relinquished by: _____	Date: _____ Time: _____	Received by: _____	Date: _____ Time: _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>Christina King</u> <u>7-16-02</u>	Send Report To: Attn: _____ Co: <u>Client</u> Address: _____ City: _____ State: _____ Zip: _____	Bill To: Attn: _____ Co: <u>Client</u> Address: _____ City: _____ State: _____ Zip: _____	Special Instructions/Comments: <u>see page 1</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8091 / 8092 (Pesticides/PCB-GC) 8200 (Nitrates-GC/MS) 625 / 8270 (DMA-GC/MS) Metals: Total (CAC-8010 / 7000) 8015M TPH/BTEX (COMBINATION) 8015M TPH/D (Diesel/GC) <u>Leach (SPL) (SPL)</u>	CIRCLE APPROPRIATE MATRIX SOLID (SOIL) • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIFE • FILTER OTHER TAT # Type	QA/QC PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input type="checkbox"/> OTHER <input type="checkbox"/>		
I T E M	LAB USE ONLY: Batch #: Lab No.	Sample Description Sample I.D.	Date	Time	Container(s)	REMARKS
	21	S114-5	7-16	9:58	C 1 5 6	
	22	S114-1		9:02	X X X	
	23	S114-2		9:06		
	24	S114-3		9:10		
	25	S115-5		9:15		
	26	S115-1		9:19		
	27	S115-2		9:23		
	28	S115-3		9:27		
	29	S116-5		9:25		
	30	S116-1		9:29		(X) (7)

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₈
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport	Sample Condition Upon Receipt	
Logged By: <u>DM</u>	Walk-in <input checked="" type="checkbox"/>	1. CHILLED <input type="checkbox"/> N <input checked="" type="checkbox"/>	4. SEALED <input type="checkbox"/> N <input checked="" type="checkbox"/>
Date: <u>7/16/02</u>	Courier <input type="checkbox"/>	2. HEADSPACE (VOA) <input type="checkbox"/> N <input type="checkbox"/>	5. # OF SPLS MATCH COC <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>
Time: _____	UPS <input type="checkbox"/>	3. CONTAINER INTACT <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	6. PRESERVED <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>
	FED. EXP. <input type="checkbox"/>		
	ATL <input type="checkbox"/>		

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Christina King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rt 5 South</u>	Project #: <u>0900-0649</u>	Sampler: <u>CA</u> (Printed Name)	(Signature)
Relinquished by: <u>CHAD BEARD</u> (Signature and Printed Name)	Date: <u>7-16-02</u>	Received by: <u>[Signature]</u> (Signature and Printed Name)	Date: <u>7/16/02</u> Time: <u>11:34 AM</u>
Relinquished by: _____ (Signature and Printed Name)	Date: _____	Received by: _____ (Signature and Printed Name)	Date: _____ Time: _____
Relinquished by: _____ (Signature and Printed Name)	Date: _____	Received by: _____ (Signature and Printed Name)	Date: _____ Time: _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>Chris King</u> <u>7-16-02</u> <u>[Signature]</u> (Print Name) (Date)	Send Report To: Attn: <u>Client</u> Co: _____ Address: _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address: _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>SSS PAGE 1</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested <u>8015M TPHGBTEX (COMBINATION)</u> <u>1074H L&AD L&AD</u>	CIRCLE APPROPRIATE MATRIX SOLIDS • SOIL • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER _____	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input type="checkbox"/> OTHER <input type="checkbox"/>	QA/QC						
ITEM	LAB USE ONLY:		Sample Description			Container(s)		TAT	#	Type	REMARKS
	Batch #:	Lab No.	Sample I.D.	Date	Time						
		31	S117-5	7-16	9:28	X	E	1	JC		
		32	S117-1		9:32		X	X	X	X	
		33	S117-2		9:36						⊕
		34	S118-5		9:41						
		35	S118-1		9:45						⊕ ⊕
		36	S119-5		9:40						
		37	S119-1		9:44						
		38	S119-2		9:48						
		39	S119-3		9:52						
		40	S120-5		9:48						

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₈
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



Advanced Technology Laboratories
 3275 Walnut Avenue
 Signal Hill, CA 90807
 (562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input checked="" type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) <input type="checkbox"/> N <input checked="" type="checkbox"/> 5. # OF SPLS MATCH COC <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED <input type="checkbox"/> N <input checked="" type="checkbox"/>
Logged By: <u>SK</u>	Date: <u>7/16/02</u>	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

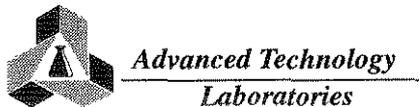
Project Name: <u>R+5 South</u>	Project #: <u>09100-06-419</u>	Sampler: <u>CGB/CA</u>	Date: <u>7/16/02</u>
Relinquished by: <u>Chad Beamer</u>	Date: <u>7/16/02</u>	Received by: <u>Subj/Me</u>	Date: <u>7/16/02</u>
Relinquished by: _____	Date: _____	Received by: _____	Date: _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>Chris King</u>	Send Report To: Attn: <u>Client</u>	Bill To: Attn: <u>Client</u>	Special Instructions/Comments: <u>SEE PAGE 1</u>
Signature: _____ Date: <u>7/16/02</u>	Address: _____	Address: _____	
City: _____ State: _____ Zip: _____	City: _____ State: _____ Zip: _____	City: _____ State: _____ Zip: _____	

Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8091 / 8092 (Pesticides/PCB/OC) 8230 (Volatiles-GC/MS) 8237 / 8270 (BVA-GC/MS) Metals Total (CAC-8010 / T000) 8015M TPH/GT/EX (COMBINATION) 8015M TPH/D (Diesel-GC) <u>TOTAL / ANALYZE</u>	CIRCLE APPROPRIATE MATRIX SOLID • SOIL • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input type="checkbox"/> OTHER <input type="checkbox"/>
I T E M LAB USE ONLY: Batch #: Lab No.	Sample Description Sample I.D. Date Time			Container(s) TAT # Type # Type
41	S180-1	7/16	950	E 1 J L
42	S180-2	7/16	954	X X X X
43	S180-3	7/16	957	X X X X

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= <input type="checkbox"/> Overnight ≤ 24 hr	B= <input type="checkbox"/> Emergency Next workday	C= <input type="checkbox"/> Critical 2 Workdays	D= <input type="checkbox"/> Urgent 3 Workdays	E= <input type="checkbox"/> Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input checked="" type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED <input type="checkbox"/> N <input checked="" type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7/16/02</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Chris King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rt+ South</u>	Project #: <u>09100-0645</u>	Sampler: <u>[Signature]</u> (Printed Name: <u>CG/GCA</u>) (Signature)	
Relinquished by: <u>[Signature]</u> (Signature and Printed Name)	Date: <u>7-16-02</u> Time: _____	Received by: <u>[Signature]</u> (Signature and Printed Name)	Date: <u>7/16/02</u> Time: <u>11:30am</u>
Relinquished by: _____ (Signature and Printed Name)	Date: _____ Time: _____	Received by: _____ (Signature and Printed Name)	Date: _____ Time: _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>[Signature]</u> <u>2-16-02</u> Print Name: _____ Date: _____ Signature: _____	Send Report To: Attn: <u>[Signature]</u> Co: <u>[Signature]</u> Address: _____ City: _____ State: _____ Zip: _____	Bill To: Attn: <u>[Signature]</u> Co: <u>[Signature]</u> Address: _____ City: _____ State: _____ Zip: _____	Special Instructions/Comments: <u>SEE PAGE 1</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8061 / 8062 (Pesticides/PCB/OC) 8230 (Volatiles-GC/MS) 8237 / 8270 (BVA-GC/MS) Metals Total (CAC-8010 / T000) 8015M TPH/HTEX (COMBINATION) 8015M TPH/ID (Diesel-GC) <u>IC/TH/5AD/Le/la</u>	CIRCLE APPROPRIATE MATRIX SOLID • SOIL • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIFE • FILTER OTHER TAT # Type CONTAINER(S)	QA/QC RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input type="checkbox"/> OTHER <input type="checkbox"/>	PRESERVATION	REMARKS					
LAB USE ONLY:		Sample Description									
ITEM	Batch #:	Sample I.D.	Date	Time							
	Lab No.										
	44	EB-45	7/16	8:59							
	45	EB-46		9:09							
	46	EB-47		9:29							
	47	EB-48		9:51							
	48	EB-49		9:58							

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= <input type="checkbox"/> Overnight ≤ 24 hr	B= <input type="checkbox"/> Emergency Next workday	C= <input type="checkbox"/> Critical 2 Workdays	D= <input type="checkbox"/> Urgent 3 Workdays	E= <input type="checkbox"/> Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

Advanced Technology Laboratories

Date: 7/29/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057942
Project:	Rt 5 South, 09100-06-49	Date Received:	7/16/2002 11:34:
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057942-001A	S109-S	560	mg/Kg	9621	5	1	7/16/2002	7/18/2002
057942-002A	S109-1	850	mg/Kg	9621	5	1	7/16/2002	7/18/2002
057942-003A	S109-2	230	mg/Kg	9621	5	1	7/16/2002	7/18/2002
057942-004A	S109-3	110	mg/Kg	9621	5	1	7/16/2002	7/18/2002
057942-005A	S110-S	220	mg/Kg	9621	5	1	7/16/2002	7/18/2002
057942-006A	S110-1	1100	mg/Kg	9621	5	1	7/16/2002	7/18/2002
057942-007A	S110-2	130	mg/Kg	9621	5	1	7/16/2002	7/18/2002
057942-008A	S110-3	190	mg/Kg	9621	5	1	7/16/2002	7/18/2002
057942-009A	S111-S	340	mg/Kg	9622	5	1	7/16/2002	7/18/2002
057942-010A	S111-1	850	mg/Kg	9622	5	1	7/16/2002	7/18/2002
057942-011A	S111-2	43	mg/Kg	9622	5	1	7/16/2002	7/18/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/29/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057942
Project:	Rt 5 South, 09100-06-49	Date Received:	7/16/2002 11:34:
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057942-012A	S111-3	28	mg/Kg	9622	5	1	7/16/2002	7/18/2002
057942-013A	S112-S	510	mg/Kg	9622	5	1	7/16/2002	7/18/2002
057942-014A	S112-1	210	mg/Kg	9622	5	1	7/16/2002	7/18/2002
057942-015A	S112-2	53	mg/Kg	9622	5	1	7/16/2002	7/18/2002
057942-016A	S112-3	130	mg/Kg	9622	5	1	7/16/2002	7/18/2002
057942-017A	S113-S	1000	mg/Kg	9622	5	1	7/16/2002	7/18/2002
057942-018A	S113-1	630	mg/Kg	9622	5	1	7/16/2002	7/18/2002
057942-019A	S113-2	100	mg/Kg	9622	5	1	7/16/2002	7/18/2002
057942-020A	S113-3	48	mg/Kg	9622	5	1	7/16/2002	7/18/2002
057942-021A	S114-S	140	mg/Kg	9622	5	1	7/16/2002	7/18/2002
057942-022A	S114-1	150	mg/Kg	9622	5	1	7/16/2002	7/18/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/29/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057942
Project:	Rt 5 South, 09100-06-49	Date Received:	7/16/2002 11:34:
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057942-023A	S114-2	150	mg/Kg	9622	5	1	7/16/2002	7/18/2002
057942-024A	S114-3	29	mg/Kg	9622	5	1	7/16/2002	7/18/2002
057942-025A	S115-S	280	mg/Kg	9622	5	1	7/16/2002	7/18/2002
057942-026A	S115-1	52	mg/Kg	9622	5	1	7/16/2002	7/18/2002
057942-027A	S115-2	130	mg/Kg	9622	5	1	7/16/2002	7/18/2002
057942-028A	S115-3	22	mg/Kg	9622	5	1	7/16/2002	7/18/2002
057942-029A	S116-S	310	mg/Kg	9625	5	1	7/16/2002	7/18/2002
057942-030A	S116-1	260	mg/Kg	9625	5	1	7/16/2002	7/18/2002
057942-031A	S117-S	190	mg/Kg	9625	5	1	7/16/2002	7/18/2002
057942-032A	S117-1	170	mg/Kg	9625	5	1	7/16/2002	7/18/2002
057942-033A	S117-2	110	mg/Kg	9625	5	1	7/16/2002	7/18/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/29/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057942
Project:	Rt 5 South, 09100-06-49	Date Received:	7/16/2002 11:34:
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057942-034A	S118-S	120	mg/Kg	9625	5	1	7/16/2002	7/18/2002
057942-035A	S118-1	67	mg/Kg	9625	5	1	7/16/2002	7/18/2002
057942-036A	S119-S	260	mg/Kg	9625	5	1	7/16/2002	7/18/2002
057942-037A	S119-1	18	mg/Kg	9625	5	1	7/16/2002	7/18/2002
057942-038A	S119-2	ND	mg/Kg	9625	5	1	7/16/2002	7/18/2002
057942-039A	S119-3	6.2	mg/Kg	9625	5	1	7/16/2002	7/18/2002
057942-040A	S120-S	66	mg/Kg	9625	5	1	7/16/2002	7/18/2002
057942-041A	S120-1	15	mg/Kg	9625	5	1	7/16/2002	7/18/2002
057942-042A	S120-2	11	mg/Kg	9625	5	1	7/16/2002	7/18/2002
057942-043A	S120-3	9.3	mg/Kg	9625	5	1	7/16/2002	7/18/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



ICP METALS
EPA 6010B

CLIENT:	Geocon Environmental	Lab Order:	057942
Project:	Rt 5 South, 09100-06-49	Date Received:	7/16/2002 11:34:
Project No:		Matrix:	Water
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057942-044A	EB-45	0.0052	mg/L	9646	0.005	1	7/16/2002	7/18/2002
057942-045A	EB-46	0.010	mg/L	9646	0.005	1	7/16/2002	7/18/2002
057942-046A	EB-47	0.0057	mg/L	9646	0.005	1	7/16/2002	7/18/2002
057942-047A	EB-48	0.0073	mg/L	9646	0.005	1	7/16/2002	7/18/2002
057942-048A	EB-49	ND	mg/L	9646	0.005	1	7/16/2002	7/18/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/29/2002

**pH
EPA 9045C**

CLIENT:	Geocon Environmental	Lab Order:	057942
Project:	Rt 5 South, 09100-06-49	Date Received:	7/16/2002 11:34:
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057942-001A	S109-S	6.57	pH Units	R19605	0.1	1	7/16/2002	7/21/2002
057942-010A	S111-1	7.11	pH Units	R19605	0.1	1	7/16/2002	7/21/2002
057942-020A	S113-3	7.81	pH Units	R19605	0.1	1	7/16/2002	7/21/2002
057942-030A	S116-1	8.30	pH Units	R19605	0.1	1	7/16/2002	7/21/2002
057942-040A	S120-S	8.29	pH Units	R19605	0.1	1	7/16/2002	7/21/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057942
Project:	Rt 5 South, 09100-06-49	Date Received:	7/16/2002 11:34:
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057942-001A	S109-S	51	mg/L	9790	1.6	8	7/16/2002	7/27/2002
057942-002A	S109-1	110	mg/L	9790	4	20	7/16/2002	7/27/2002
057942-003A	S109-2	21	mg/L	9790	0.8	4	7/16/2002	7/27/2002
057942-004A	S109-3	7.6	mg/L	9790	0.2	1	7/16/2002	7/27/2002
057942-005A	S110-S	20	mg/L	9790	0.8	4	7/16/2002	7/27/2002
057942-007A	S110-2	18	mg/L	9790	0.4	2	7/16/2002	7/27/2002
057942-008A	S110-3	16	mg/L	9790	0.4	2	7/16/2002	7/27/2002
057942-009A	S111-S	36	mg/L	9791	0.8	4	7/16/2002	7/26/2002
057942-010A	S111-1	120	mg/L	9791	4	20	7/16/2002	7/26/2002
057942-013A	S112-S	57	mg/L	9791	2	10	7/16/2002	7/26/2002
057942-014A	S112-1	26	mg/L	9791	0.8	4	7/16/2002	7/26/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057942
Project:	Rt 5 South, 09100-06-49	Date Received:	7/16/2002 11:34:
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057942-015A	S112-2	7.1	mg/L	9791	0.2	1	7/16/2002	7/26/2002
057942-016A	S112-3	8.0	mg/L	9791	0.2	1	7/16/2002	7/26/2002
057942-018A	S113-1	92	mg/L	9791	2	10	7/16/2002	7/26/2002
057942-019A	S113-2	7.4	mg/L	9791	0.2	1	7/16/2002	7/26/2002
057942-021A	S114-S	13	mg/L	9791	0.4	2	7/16/2002	7/26/2002
057942-022A	S114-1	14	mg/L	9791	0.4	2	7/16/2002	7/26/2002
057942-023A	S114-2	13	mg/L	9791	0.4	2	7/16/2002	7/26/2002
057942-025A	S115-S	32	mg/L	9791	0.8	4	7/16/2002	7/26/2002
057942-026A	S115-1	3.0	mg/L	9791	0.2	1	7/16/2002	7/26/2002
057942-027A	S115-2	6.8	mg/L	9791	0.2	1	7/16/2002	7/26/2002
057942-029A	S116-S	17	mg/L	9791	0.8	4	7/16/2002	7/26/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057942
Project:	Rt 5 South, 09100-06-49	Date Received:	7/16/2002 11:34:
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057942-030A	S116-1	16	mg/L	9791	0.4	2	7/16/2002	7/26/2002
057942-031A	S117-S	20	mg/L	9791	0.4	2	7/16/2002	7/26/2002
057942-032A	S117-1	28	mg/L	9791	0.8	4	7/16/2002	7/26/2002
057942-033A	S117-2	12	mg/L	9791	0.4	2	7/16/2002	7/26/2002
057942-034A	S118-S	6.8	mg/L	9791	0.2	1	7/16/2002	7/26/2002
057942-035A	S118-1	5.9	mg/L	9792	0.2	1	7/16/2002	7/26/2002
057942-036A	S119-S	28	mg/L	9792	0.8	4	7/16/2002	7/26/2002
057942-040A	S120-S	6.2	mg/L	9792	0.2	1	7/16/2002	7/26/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
EPA 1311/7420**

CLIENT:	Geocon Environmental	Lab Order:	057942
Project:	Rt 5 South, 09100-06-49	Date Received:	7/16/2002 11:34:
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057942-006A	S110-1	4.9	mg/L	9853	0.2	1	7/16/2002	7/26/2002
057942-017A	S113-S	5.9	mg/L	9853	0.2	1	7/16/2002	7/26/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057942
Project:	Rt 5 South, 09100-06-49	Date Received:	7/16/2002 11:34:
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057942-001A	S109-S	0.55	mg/L	9781	0.2	1	7/16/2002	7/28/2002
057942-002A	S109-1	4.4	mg/L	9781	0.2	1	7/16/2002	7/28/2002
057942-003A	S109-2	1.5	mg/L	9781	0.2	1	7/16/2002	7/28/2002
057942-004A	S109-3	0.51	mg/L	9781	0.2	1	7/16/2002	7/28/2002
057942-005A	S110-S	ND	mg/L	9781	0.2	1	7/16/2002	7/28/2002
057942-007A	S110-2	1.6	mg/L	9781	0.2	1	7/16/2002	7/28/2002
057942-008A	S110-3	1.6	mg/L	9781	0.2	1	7/16/2002	7/28/2002
057942-009A	S111-S	0.59	mg/L	9781	0.2	1	7/16/2002	7/28/2002
057942-010A	S111-1	5.4	mg/L	9781	0.2	1	7/16/2002	7/28/2002
057942-013A	S112-S	0.52	mg/L	9781	0.2	1	7/16/2002	7/28/2002
057942-014A	S112-1	ND	mg/L	9782	0.2	1	7/16/2002	7/28/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057942
Project:	Rt 5 South, 09100-06-49	Date Received:	7/16/2002 11:34:
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057942-015A	S112-2	ND	mg/L	9782	0.2	1	7/16/2002	7/28/2002
057942-016A	S112-3	0.50	mg/L	9782	0.2	1	7/16/2002	7/28/2002
057942-018A	S113-1	4.0	mg/L	9782	0.2	1	7/16/2002	7/28/2002
057942-019A	S113-2	0.28	mg/L	9782	0.2	1	7/16/2002	7/28/2002
057942-021A	S114-S	ND	mg/L	9782	0.2	1	7/16/2002	7/28/2002
057942-022A	S114-1	ND	mg/L	9782	0.2	1	7/16/2002	7/28/2002
057942-023A	S114-2	ND	mg/L	9782	0.2	1	7/16/2002	7/28/2002
057942-025A	S115-S	ND	mg/L	9782	0.2	1	7/16/2002	7/28/2002
057942-027A	S115-2	ND	mg/L	9782	0.2	1	7/16/2002	7/28/2002
057942-029A	S116-S	0.83	mg/L	9782	0.2	1	7/16/2002	7/28/2002
057942-030A	S116-1	0.42	mg/L	9782	0.2	1	7/16/2002	7/28/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057942
Project:	Rt 5 South, 09100-06-49	Date Received:	7/16/2002 11:34:
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057942-031A	S117-S	0.21	mg/L	9782	0.2	1	7/16/2002	7/28/2002
057942-032A	S117-1	0.24	mg/L	9782	0.2	1	7/16/2002	7/28/2002
057942-033A	S117-2	ND	mg/L	9782	0.2	1	7/16/2002	7/28/2002
057942-034A	S118-S	ND	mg/L	9782	0.2	1	7/16/2002	7/28/2002
057942-035A	S118-1	ND	mg/L	9782	0.2	1	7/16/2002	7/28/2002
057942-036A	S119-S	0.26	mg/L	9782	0.2	1	7/16/2002	7/28/2002
057942-040A	S120-S	ND	mg/L	9782	0.2	1	7/16/2002	7/28/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified





Advanced Technology Laboratories

Date: 29-Jul-02

CLIENT: Geocon Environmental
Work Order: 057942
Project: Rt 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, (EPA 3050M), Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Lead ND 5.0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, (EPA 3050M), Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Lead ND 5.0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, (EPA 3050M), Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Lead ND 5.0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, (EPA 3050M), Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Lead ND 5.0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, (EPA 3050M), Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Lead ND 5.0

Qualifiers: ND - Not Detected at the Reporting Limit, S - Spike Recovery outside accepted recovery limits, DO- Surrogate dilute out, J - Analyte detected below quantitation limits, B - Analyte detected in the associated Method Blank, H - Sample exceeded holding time, R - RPD outside accepted recovery limits, Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057942
Project: Rt 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	MB-9625B	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020718J												
Client ID:	ZZZZZ	Batch ID:	9625	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/18/2002	SeqNo:	301472												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead ND 5.0

Sample ID	LCS-9621	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020718H												
Client ID:	ZZZZZ	Batch ID:	9621	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/18/2002	SeqNo:	301409												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 230.4 5.0 250 0 92.2 80 120 0 0

Sample ID	LCS-9622	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020718I												
Client ID:	ZZZZZ	Batch ID:	9622	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/18/2002	SeqNo:	301437												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 231.2 5.0 250 0 92.5 80 120 0 0

Sample ID	LCS-9625	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020718J												
Client ID:	ZZZZZ	Batch ID:	9625	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/18/2002	SeqNo:	301470												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 223.4 5.0 250 0 89.3 80 120 0 0

Sample ID	057941-010AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020718H												
Client ID:	ZZZZZ	Batch ID:	9621	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/18/2002	SeqNo:	301395												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 747 5.0 250 429.8 127 47 128 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**



CLIENT: Geocon Environmental
Work Order: 057942
Project: Rt 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: 057942-008AMS	SampType: MS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/17/2002	Run ID: ICP5_020718H						
Client ID: S110-3	Batch ID: 9621	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/18/2002	SeqNo: 301407						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	295.2	5.0	250	194.8	40.2	47	128	0	0		S
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Sample ID: 057942-018AMS	SampType: MS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/17/2002	Run ID: ICP5_020718I						
Client ID: S113-1	Batch ID: 9622	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/18/2002	SeqNo: 301423						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	877.9	5.0	250	633.6	97.7	47	128	0	0		
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Sample ID: 057942-028AMS	SampType: MS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/17/2002	Run ID: ICP5_020718I						
Client ID: S115-3	Batch ID: 9622	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/18/2002	SeqNo: 301435						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	181.4	5.0	250	21.61	63.9	47	128	0	0		
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Sample ID: 057942-038AMS	SampType: MS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/17/2002	Run ID: ICP5_020718J						
Client ID: S119-2	Batch ID: 9625	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/18/2002	SeqNo: 301455						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	152.1	5.0	250	4.7	59	47	128	0	0		
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Sample ID: 057948-006AMS	SampType: MS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/17/2002	Run ID: ICP5_020718J						
Client ID: ZZZZZ	Batch ID: 9625	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/18/2002	SeqNo: 301468						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	164.4	5.0	250	39.81	49.8	47	128	0	0		
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Qualifiers: ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits	S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank Calculations are based on raw values	DO- Surrogate dilute out H - Sample exceeded holding time
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CLIENT: Geocon Environmental
Work Order: 057942
Project: Rt 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057941-010ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020718H		
Client ID:	ZZZZZ	Batch ID:	9621	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/18/2002	SeqNo:	301394		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	653.3	5.0	0	0	0	0	0	0	0	429.8	41.3	30	R
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Sample ID	057942-008ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020718H		
Client ID:	S110-3	Batch ID:	9621	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/18/2002	SeqNo:	301406		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	172.2	5.0	0	0	0	0	0	0	0	194.8	12.3	30	
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Sample ID	057942-018ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020718I		
Client ID:	S113-1	Batch ID:	9622	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/18/2002	SeqNo:	301422		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	831	5.0	0	0	0	0	0	0	0	633.6	27.0	30	
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Sample ID	057942-028ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020718I		
Client ID:	S115-3	Batch ID:	9622	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/18/2002	SeqNo:	301434		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	32.65	5.0	0	0	0	0	0	0	0	21.61	40.7	30	R
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Sample ID	057942-038ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020718J		
Client ID:	S119-2	Batch ID:	9625	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/18/2002	SeqNo:	301454		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	6.823	5.0	0	0	0	0	0	0	0	4.7	36.8	30	R
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057942
Project: Rt 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057948-006ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/17/2002	Run ID:	ICP5_020718J		
Client ID:	ZZZZZ	Batch ID:	9625	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/18/2002	SeqNo:	301467		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		31.02		5.0	0	0	0	0	0	39.81	24.8	30	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 I - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**



CLIENT: Geocon Environmental
Work Order: 057942
Project: Rt 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPB

Sample ID	MB-9646	SampType:	MBLK	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/17/2002	Run ID:	ICP2_020718C												
Client ID:	ZZZZZ	Batch ID:	9646	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/18/2002	SeqNo:	300952												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead ND 0.0050

Sample ID	LCS-9646	SampType:	LCS	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/17/2002	Run ID:	ICP2_020718C												
Client ID:	ZZZZZ	Batch ID:	9646	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/18/2002	SeqNo:	300953												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 1 0.0050 1 0 100 80 120 0 0

Sample ID	057942-048AMS	SampType:	MS	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/17/2002	Run ID:	ICP2_020718C												
Client ID:	EB-49	Batch ID:	9646	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/18/2002	SeqNo:	300961												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 2.58 0.0050 2.5 0.00471 103 66 118 0 0

Sample ID	057942-048AMSD	SampType:	MSD	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/17/2002	Run ID:	ICP2_020718C												
Client ID:	EB-49	Batch ID:	9646	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/18/2002	SeqNo:	300962												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 2.47 0.0050 2.5 0.00471 98.6 66 118 2.58 4.36 20

Sample ID	057942-048ADUP	SampType:	DUP	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/17/2002	Run ID:	ICP2_020718C												
Client ID:	EB-49	Batch ID:	9646	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/18/2002	SeqNo:	300960												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead ND 0.0050 0 0 0 0 0 0 0.00471 0 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057942
Project: Rt 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 9045_S

Sample ID: 057948-024A-DUP	SampType: DUP	TestCode: 9045_S	Units: pH Units	Prep Date: 7/21/2002	Run ID: WETCHEM_020721A						
Client ID: ZZZZZ	Batch ID: R19605	TestNo: EPA 9045C		Analysis Date: 7/21/2002	SeqNo: 302534						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	8.085	0.10	0	0	0	0	0	8.086	0.0124	20	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 29-Jul-02

CLIENT: Geocon Environmental
Work Order: 057942
Project: Rt 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and 4 columns for analyte results (PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual). Row 1: MB-9792, MBLK, 7420_ST, mg/L, 7/26/2002, AA2_020726F, ZZZZZ, 9792, WET/ EPA 74 (WET), 7/26/2002, 307047, Lead, ND, 0.20.

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and 4 columns for analyte results. Row 1: MB-9792A, MBLK, 7420_ST, mg/L, 7/23/2002, AA2_020726F, ZZZZZ, 9792, WET/ EPA 74 (WET), 7/26/2002, 307050, Lead, ND, 0.20.

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and 4 columns for analyte results. Row 1: MB-9792B, MBLK, 7420_ST, mg/L, 7/23/2002, AA2_020726F, ZZZZZ, 9792, WET/ EPA 74 (WET), 7/26/2002, 307062, Lead, 0.08255, 0.20.

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and 4 columns for analyte results. Row 1: MB-9791, MBLK, 7420_ST, mg/L, 7/26/2002, AA2_020726K, ZZZZZ, 9791, WET/ EPA 74 (WET), 7/26/2002, 307446, Lead, 0.07198, 0.20, J.

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and 4 columns for analyte results. Row 1: MB-9791A, MBLK, 7420_ST, mg/L, 7/23/2002, AA2_020726K, ZZZZZ, 9791, WET/ EPA 74 (WET), 7/26/2002, 307447, Lead, ND, 0.20.

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057942
Project: Rt 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	MB-9791B	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020726K			
Client ID:	ZZZZZ	Batch ID:	9791	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/26/2002	SeqNo:	307460			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.05903 0.20 J

Sample ID	MB-9790	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/27/2002	Run ID:	AA2_020727B			
Client ID:	ZZZZZ	Batch ID:	9790	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/27/2002	SeqNo:	307885			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9790A	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020727B			
Client ID:	ZZZZZ	Batch ID:	9790	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/27/2002	SeqNo:	307886			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9790B	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020727B			
Client ID:	ZZZZZ	Batch ID:	9790	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/27/2002	SeqNo:	307899			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.0481 0.20

Sample ID	LCS-9792	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/26/2002	Run ID:	AA2_020726F			
Client ID:	ZZZZZ	Batch ID:	9792	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/26/2002	SeqNo:	307076			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.472 0.20 7.5 0 99.6 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057942
Project: Rt 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	LCS-9791	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/26/2002	Run ID:	AA2_020726K			
Client ID:	ZZZZZ	Batch ID:	9791	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/26/2002	SeqNo:	307474			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	7.687	0.20	7.5	0	102	80	120	0	0					
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Sample ID	LCS-9790	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/27/2002	Run ID:	AA2_020727B			
Client ID:	ZZZZZ	Batch ID:	9790	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/27/2002	SeqNo:	307913			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	7.422	0.20	7.5	0	99	80	120	0	0					
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Sample ID	057948-012AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/26/2002	Run ID:	AA2_020726F			
Client ID:	ZZZZZ	Batch ID:	9792	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/26/2002	SeqNo:	307061			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	33.04	0.80	20	13.4	98.2	80	120	0	0					
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Sample ID	057948-048AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/26/2002	Run ID:	AA2_020726F			
Client ID:	ZZZZZ	Batch ID:	9792	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/26/2002	SeqNo:	307074			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	74.97	2.0	50	22.91	104	80	120	0	0					
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Sample ID	057942-022AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/26/2002	Run ID:	AA2_020726K			
Client ID:	S114-1	Batch ID:	9791	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/26/2002	SeqNo:	307459			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	33.98	0.80	20	13.82	101	80	120	0	0					
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057942
Project: Rt 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	057942-034AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/26/2002	Run ID:	AA2_020726K			
Client ID:	S118-S	Batch ID:	9791	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/26/2002	SeqNo:	307472			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	16.75	0.40	10	6.833	99.1	80	120	0	0		
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Sample ID	057941-006AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/27/2002	Run ID:	AA2_020727B			
Client ID:	ZZZZZ	Batch ID:	9790	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/27/2002	SeqNo:	307898			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	62.75	1.6	40	26.6	90.4	80	120	0	0		
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Sample ID	057942-008AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/27/2002	Run ID:	AA2_020727B			
Client ID:	S110-3	Batch ID:	9790	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/27/2002	SeqNo:	307911			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	34.06	0.80	20	15.64	92.1	80	120	0	0		
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Sample ID	057948-012ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020726F			
Client ID:	ZZZZZ	Batch ID:	9792	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/26/2002	SeqNo:	307060			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	13.47	0.40	0	0	0	0	0	0	13.4	0.486	30
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Sample ID	057948-048ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020726F			
Client ID:	ZZZZZ	Batch ID:	9792	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/26/2002	SeqNo:	307073			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	22.43	0.80	0	0	0	0	0	0	22.91	2.08	30
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057942
Project: Rt 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	057942-022ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020726K		
Client ID:	S114-1	Batch ID:	9791	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/26/2002	SeqNo:	307458		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	14.58	0.40	0	0	0	0	0	0	13.82	5.38	30
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Sample ID	057942-034ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020726K		
Client ID:	S118-S	Batch ID:	9791	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/26/2002	SeqNo:	307471		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	7.738	0.20	0	0	0	0	0	0	6.833	12.4	30
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Sample ID	057941-006ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020727B		
Client ID:	ZZZZZ	Batch ID:	9790	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/27/2002	SeqNo:	307897		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	26.35	0.80	0	0	0	0	0	0	26.6	0.961	30
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Sample ID	057942-008ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020727B		
Client ID:	S110-3	Batch ID:	9790	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/27/2002	SeqNo:	307910		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	15.58	0.40	0	0	0	0	0	0	15.64	0.443	30
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 29-Jul-02

CLIENT: Geocon Environmental
Work Order: 057942
Project: Rt 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and 4 columns for Analyte (Lead) with Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual.

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and 4 columns for Analyte (Lead) with Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual.

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and 4 columns for Analyte (Lead) with Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual.

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and 4 columns for Analyte (Lead) with Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual.

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and 4 columns for Analyte (Lead) with Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual.

Qualifiers: ND - Not Detected at the Reporting Limit, S - Spike Recovery outside accepted recovery limits, DO- Surrogate dilute out, J - Analyte detected below quantitation limits, B - Analyte detected in the associated Method Blank, H - Sample exceeded holding time, R - RPD outside accepted recovery limits, Calculations are based on raw values



Advanced Technology Laboratories

Date: 29-Jul-02

CLIENT: Geocon Environmental
Work Order: 057942
Project: Rt 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	MB-9781	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728L			
Client ID:	ZZZZZ	Batch ID:	9781	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308554			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		0.08497		0.20										

Sample ID	MB-9781A	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728L			
Client ID:	ZZZZZ	Batch ID:	9781	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308555			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		ND		0.20										

Sample ID	MB-9781B	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728L			
Client ID:	ZZZZZ	Batch ID:	9781	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308568			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		ND		0.20										

Sample ID	MB-9782	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728M			
Client ID:	ZZZZZ	Batch ID:	9782	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308583			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		ND		0.20										

Sample ID	MB-9782A	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728M			
Client ID:	ZZZZZ	Batch ID:	9782	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308584			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		ND		0.20										

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057942
Project: Rt 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID MB-9782B	SampType: MBLK	TestCode: 7420_DI	Units: mg/L	Prep Date: 7/23/2002	Run ID: AA2_020728M						
Client ID: ZZZZZ	Batch ID: 9782	TestNo: WET DI/ EPA (WET)		Analysis Date: 7/28/2002	SeqNo: 308597						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID LCS-9781	SampType: LCS	TestCode: 7420_DI	Units: mg/L	Prep Date: 7/28/2002	Run ID: AA2_020728L						
Client ID: ZZZZZ	Batch ID: 9781	TestNo: WET DI/ EPA (WET)		Analysis Date: 7/28/2002	SeqNo: 308582						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.49 0.20 7.5 0 99.9 80 120 0 0

Sample ID LCS-9782	SampType: LCS	TestCode: 7420_DI	Units: mg/L	Prep Date: 7/28/2002	Run ID: AA2_020728M						
Client ID: ZZZZZ	Batch ID: 9782	TestNo: WET DI/ EPA (WET)		Analysis Date: 7/28/2002	SeqNo: 308611						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.444 0.20 7.5 0 99.3 80 120 0 0

Sample ID 057941-011AMS	SampType: MS	TestCode: 7420_DI	Units: mg/L	Prep Date: 7/28/2002	Run ID: AA2_020728L						
Client ID: ZZZZZ	Batch ID: 9781	TestNo: WET DI/ EPA (WET)		Analysis Date: 7/28/2002	SeqNo: 308567						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 6.296 0.20 5 1.277 100 80 120 0 0

Sample ID 057942-013AMS	SampType: MS	TestCode: 7420_DI	Units: mg/L	Prep Date: 7/28/2002	Run ID: AA2_020728L						
Client ID: S112-S	Batch ID: 9781	TestNo: WET DI/ EPA (WET)		Analysis Date: 7/28/2002	SeqNo: 308580						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 5.719 0.20 5 0.5237 104 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057942
Project: Rt 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	057942-026AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728M			
Client ID:	S115-1	Batch ID:	9782	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308596			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		5.233		0.20	5	0		105	80	120	0	0		
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Sample ID	057942-040AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/28/2002	Run ID:	AA2_020728M			
Client ID:	S120-S	Batch ID:	9782	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308609			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		5.246		0.20	5	0.071		104	80	120	0	0		
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Sample ID	057941-011ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728L			
Client ID:	ZZZZZ	Batch ID:	9781	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308566			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		1.094		0.20	0	0		0	0	0	1.277	15.4	30	
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Sample ID	057942-013ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728L			
Client ID:	S112-S	Batch ID:	9781	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308579			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		0.6276		0.20	0	0		0	0	0	0.5237	18.0	30	
------	--	--------	--	------	---	---	--	---	---	---	--------	------	----	--

Sample ID	057942-026ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728M			
Client ID:	S115-1	Batch ID:	9782	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308595			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		ND		0.20	0	0		0	0	0	0	0	0	30
------	--	----	--	------	---	---	--	---	---	---	---	---	---	----

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057942
Project: Rt 5 South, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	057942-040ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020728M		
Client ID:	S120-S	Batch ID:	9782	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/28/2002	SeqNo:	308608		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		0.1694		0.20	0	0	0	0	0	0.071	0	30	J

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**

All samples → total lead (6010)

total lead > 50 mg/kg → WET-Citric

WET-CITRIC > 5 mg/L → WET-DI

Total lead > 1,000 mg/kg → TCLP

10% → soil pH (9045)

Please call when all totals have been run. I will instruct what samples should be run for Title 22 metals.

Thanks - Chris King

REVISIONS
BY _____ DATE _____
BY _____ DATE _____

BY _____ DATE _____
CHECKED BY _____

Diane

From: Chris King [king@geoconinc.com]
Sent: Monday, July 22, 2002 10:57 AM
To: 'Diane'
Subject: 09100-06-49

Diane - please run the 15 samples with the highest total lead content for Title 22 metals. Please do this for each direction (northbound and southbound), so the total number of tests will be 30. Thank you and please call me if you have any questions.

Christopher S. King
Senior Staff Engineer
Geocon Consultants, Inc.

7/22/2002

July 18, 2002

Chris King
Geocon Environmental
6970 Flanders Drive
San Diego, CA 92121
TEL: (858) 558-6100
FAX: (858) 558-8437

RE: Rte 5-SB, 09100-06-49

Attention: Chris King

ELAP No.: 1838

NELAP No.: 02107CA

Workorder No.: 057872

Enclosed are the results for sample(s) received on July 10, 2002 by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,



Eddie F. Rodriguez
Laboratory Director

AUG 02 2002

This cover letter is an integral part of this analytical report.



CHAIN OF CUSTODY RECORD



**Advanced Technology
Laboratories**

3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____ Logged By: <u>[Signature]</u> Date: <u>7/10/02</u> Time: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
--	--	---

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>CHRIS KING</u>	City San Diego State CA Zip Code 92121	FAX: (858) 558-8437

Project Name: <u>PE5-SB</u>	Project #: <u>09100-06-49</u>	Sampler: <u>[Signature]</u> (Printed Name)	(Signature)
Relinquished by: <u>[Signature]</u> (Signature and Printed Name)	Date: <u>7/10/02</u>	Time: <u>7:00</u>	Received by: <u>[Signature]</u> (Signature and Printed Name)
Relinquished by: <u>[Signature]</u> (Signature and Printed Name)	Date: <u>7-10-02</u>	Time: <u>7:35</u>	Received by: <u>[Signature]</u> (Signature and Printed Name)
Relinquished by: _____ (Signature and Printed Name)	Date: _____	Time: _____	Received by: _____ (Signature and Printed Name)

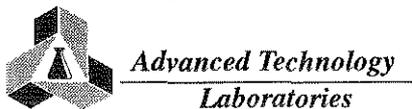
I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>[Signature]</u> <u>7/10/02</u> Print Name Date	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>Attached</u> <u>See [Signature]</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8091 / 8082 (Pesticides/PCB-OC) 8200 (Volatiles-GC/MS) 833 / 8270 (BVA-GC/MS) Metals: Total (CAC-8010 / 7200) 8015M TPH/G/PTX (COMBINATION) 8015M TPH/D (Diesel/GC) <u>Total Lead 6010</u>	CIRCLE APPROPRIATE MATRIX SOLID • SOL • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIFE • FILTER OTHER	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>
---	---	--	--	--

ITEM	LAB USE ONLY:		Sample Description				MATRIX										PRESERVATION	REMARKS									
	Batch #:	Lab No.	Sample I.D.	Date	Time	Container(s)																					
		<u>057892-001</u>	<u>S-13-S</u>	<u>7/10</u>	<u>956</u>	TAT 1000 1004 1008 1018 1020 1022 1024 1026 1040																					
		<u>2</u>	<u>S13-1</u>		<u>1000</u>																						
		<u>3</u>	<u>S13-2</u>		<u>1004</u>																						
		<u>4</u>	<u>S13-3</u>		<u>1008</u>																						
		<u>5</u>	<u>S14-S</u>		<u>1018</u>																						
		<u>6</u>	<u>S14-1</u>		<u>1020</u>																						
		<u>7</u>	<u>S14-2</u>		<u>1022</u>																						
		<u>8</u>	<u>S14-3</u>		<u>1024</u>																						
		<u>9</u>	<u>S15-S</u>		<u>1026</u>																						
		<u>10</u>	<u>S15-1</u>		<u>1040</u>																						

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= <input type="checkbox"/> Overnight ≤ 24 hr B= <input type="checkbox"/> Emergency Next workday C= <input type="checkbox"/> Critical 2 Workdays D= <input type="checkbox"/> Urgent 3 Workdays E= <input type="checkbox"/> Routine 7 Workdays	Preservatives: H=Hcl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal		

CHAIN OF CUSTODY RECORD



3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

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P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7/11/02</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>CHRIS KING</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Site 5 - SB</u>	Project #: <u>09100-06-49</u>	Sampler: <u>CSK/G-BA</u> (Printed Name)	(Signature)
Relinquished by: <u>[Signature]</u> C. King	Date: <u>7/9/02</u> Time: <u>7:00pm</u>	Received by: <u>[Signature]</u>	Date: <u>7-10-02</u> Time: <u>7:30pm</u>
Relinquished by: <u>[Signature]</u>	Date: <u>7-10-02</u> Time: <u>7:35pm</u>	Received by: <u>[Signature]</u>	Date: <u>7/10/02</u> Time: <u>7:35pm</u>

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>[Signature]</u> <u>7/9/02</u> Print Name Date	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>See page 1</u>
---	--	---	---

Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8081 / 8082 (Pesticides/PCB-GC) 8200 (Volatiles-GC/MS) 625 / 8270 (BHA-GC/MS) Metals Total (CAC-8010 / 7000) 8015M TPH/GT/EX (COMBINATION) 8015M TPH/D (Diesel/GC) <u>Lead 6010</u>	CIRCLE APPROPRIATE MATRIX SOLID • POW • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIFE • FILTER OTHER	Container(s) TAT # Type	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER	QA/QC REMARKS
LAB USE ONLY: Batch #: Lab No.	Sample Description Sample I.D.	Date	Time	#	Type	
11	S15-2	7/9	1046	E	1	56
12	S15-3		1052			
13	S16-5		1036			
14	S16-1		1045			
15	S16-2		1051			
16	S16-3		1055			
17	S17-5		1125			
18	S17-1		1131			
19	S17-2		1138			
20	S17-3		1144			

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₈
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



Advanced Technology Laboratories
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P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: <u>[Signature]</u> Date: <u>7/10/02</u>		

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>CHRIS KING</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

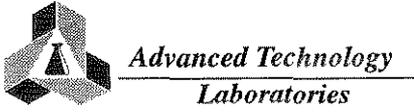
Project Name: <u>265-SB</u>	Project #: <u>09100-06-49</u>	Sampler: <u>CSK/GCA</u>	(Signature) _____
Relinquished by: <u>[Signature]</u> Date: <u>7/10/02</u> Time: <u>7:00P</u>	Received by: <u>[Signature]</u> Date: <u>7/10/02</u> Time: <u>7:00P</u>		
Relinquished by: <u>[Signature]</u> Date: <u>7-10-02</u> Time: <u>7:35P</u>	Received by: <u>[Signature]</u> Date: <u>7/10/02</u> Time: <u>7:35P</u>		
Relinquished by: _____ Date: _____ Time: _____	Received by: _____ Date: _____ Time: _____		

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>[Signature]</u> Date: <u>7/10/02</u>	Send Report To: Attn: _____ Co: <u>Chart</u> Address: _____ City: _____ State: _____ Zip: _____	Bill To: Attn: _____ Co: <u>Chart</u> Address: _____ City: _____ State: _____ Zip: _____	Special Instructions/Comments:
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8061 / 8082 (Pesticides/PCB-CC) 8260 (Volatiles-GC/MS) 6251 / 8270 (BNA-GC/MS) Metals Total (CAC-8010 / 7000) 8015M TPH/BTEX (COMBINATION) 8015M TPH/D (Diesel-GC) <u>TOX 12-1 6/02</u>	CIRCLE APPROPRIATE MATRIX SOLID (SOIL) • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER				
I T E M	LAB USE ONLY: Batch #:	Sample Description			Container(s)			REMARKS
Lab No.	Sample I.D.	Date	Time	TAT	#	Type		
21	S18-5	7/10	1141	X	1	56		
22	S18-1		1144					
23	S18-2		1158					
24	S18-3		1204					
25	S19-35		1149					
26	S19-31		1158					
27	S19-3-2		1200					
28	S19-3		1205					
29	S20-5		1210					
30	S20-1		1215					

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Teclar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



Advanced Technology Laboratories
 3275 Walnut Avenue
 Signal Hill, CA 90807
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FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport: Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt: 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7/10/02</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>CHRIS KING</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>ETS-5B</u>	Project #: <u>09100-06-49</u>	Sampler: <u>CSK/CCA</u> (Printed Name)	(Signature) _____
Relinquished by: <u>[Signature]</u> (Signature and Printed Name)	Date: <u>7/10/02</u> Time: <u>2:08P</u>	Received by: <u>[Signature]</u> (Signature and Printed Name)	Date: <u>7-10-02</u> Time: <u>7:00P</u>
Relinquished by: <u>[Signature]</u> (Signature and Printed Name)	Date: <u>7-10-02</u> Time: <u>7:35P</u>	Received by: <u>[Signature]</u> (Signature and Printed Name)	Date: <u>7/10/02</u> Time: <u>7:35P</u>

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>[Signature]</u> Print Name: _____ Date: <u>7/10/02</u> Signature _____	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>See Page 1</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.

Sample Archive/Disposal:
 Laboratory Standard
 Other _____
 Return To: _____

* \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.

Circle or Add Analysis(es) Requested: 8281 / 8282 (Pesticides/PCB-GC) 8280 (Halogenes-GC/MS) 825 / 8270 (BMA-GC/MS) Metals Total (CAC-GC/MS) 8015M TPH(GC/STEX) (COMBINATION) 8015M TPH(GC/STEX) (Preset GC) <u>TOTAL LEAD 60.0</u>	CIRCLE APPROPRIATE MATRIX: SOLID • SOIL • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER _____ TAT _____	Container(s) # _____ Type _____ PRESERVATION: RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER _____
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ITEM	LAB USE ONLY:		Sample Description	
	Batch #:	Sample I.D.	Date	Time
	41	523-5	7/10/02	1151
	42	523-1		1158
	43	523-2		1200
	44	523-3		1205
	45	524-5		1226
	46	524-1		1232
	47	524-2		1238
	48	524-3		1243
	49	525-5		1251
	50	525-1		1256

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₈
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

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(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7/10/02</u>	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>CHRIS KING</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rte 5 - SB</u>	Project #: <u>09100-06-49</u>	Sampler: <u>CSK</u> (Printed Name)	(Signature)
Relinquished by: <u>[Signature]</u> <u>CSK</u> (Signature and Printed Name)	Date: <u>7/10/02</u>	Time: <u>7:00P</u>	Received by: <u>[Signature]</u> (Signature and Printed Name)
Relinquished by: <u>[Signature]</u> (Signature and Printed Name)	Date: <u>7-10-02</u>	Time: <u>7:35P</u>	Received by: <u>[Signature]</u> (Signature and Printed Name)
Relinquished by: <u>[Signature]</u> (Signature and Printed Name)	Date: _____	Time: _____	Received by: <u>[Signature]</u> (Signature and Printed Name)

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>[Signature]</u> <u>7/10/02</u> Print Name Date	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>See Page 1</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8091 / 8092 (Pesticides/PCB/SC) 8280 (Volatiles-GC/MS) 625 / 8270 (BNA-GC/MS) Metals-Total (CAC-8010 / 7000) 8015M TPH/G/TEX (COMBINATION) 8015M TPH/D (Diesel-GC) 4014 / 4015 / 4016 / 6010	CIRCLE APPROPRIATE MATRIX SOLID (SOIL) • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER	Container(s) # Type	Q A / Q C RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input type="checkbox"/> OTHER <input checked="" type="checkbox"/>					
LAB USE ONLY: Batch #:	Sample Description									
LAB No.	Sample I.D.	Date	Time	TAT	#	Type	PRESERVATION	REMARKS		
51	525-2	7/10/02	12:58	X	1	56	X			
52	525-3		12:58							
53	526-5		12:46							
54	526-1		12:51							
55	526-2		12:55							
56	526-3		1:00							
57	527-5		1:03							
58	527-1		1:08							
59	527-2		1:08							
60	527-3		1:10							

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=Hcl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₈
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



**Advanced Technology
Laboratories**
3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____

Method of Transport: Walk-in Courier UPS FED. EXP. ATL

Sample Condition Upon Receipt:
 1. CHILLED Y N 4. SEALED Y N
 2. HEADSPACE (VOA) Y N 5. # OF SPLS MATCH COC Y N
 3. CONTAINER INTACT Y N 6. PRESERVED Y N

Logged By: [Signature] Date: 7/10/02 Time: _____

Client: **GEOCON ENVIRONMENTAL - SAN DIEGO** Address: **6970 Flanders Drive** TEL: (858) 558-6100
 Attn: CHRIS KING City: **San Diego** State: **CA** Zip Code: **92121** FAX: (858) 558-8437

Project Name: PT-5-SB Project #: 09100-06-49 Sampler: CSK/GCA (Printed Name) _____ (Signature) _____

Relinquished by: [Signature] Date: 7/10/02 Time: 7:00p Received by: [Signature] Date: 7-10-02 Time: 7:00p

Relinquished by: [Signature] Date: 7-10-02 Time: 7:29p Received by: [Signature] Date: 7/10/02 Time: 9:35p

I hereby authorize ATL to perform the work indicated below:
 Project Mgr./Submitter: CSK 7/10/02
 Send Report To: Attn: _____ Co: Client Address: _____ City: _____ State: _____ Zip: _____
 Bill To: Attn: _____ Co: Client Address: _____ City: _____ State: _____ Zip: _____
 Special Instructions/Comments: See Page 1

Unless otherwise requested, all samples will be disposed 45 days after receipt.

Sample Archive/Disposal:
 Laboratory Standard
 Other _____
 Return To: _____

* \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.

Circle or Add Analysis(es) Requested:
 8001 / 8002 (Pesticides/PCB-GC)
 8000 (Nitrates-GC/MS)
 805 / 8270 (BVA-GC/MS)
 Metals Total (CAC-GC/MS)
 8015M TPH-G/ETEX (COMBINATION)
 8015M TPH-D (Diesel-GC)
Total Test 600

CIRCLE APPROPRIATE MATRIX:
 SOLID • POB • SLUDGE
 OIL • SOLVENT • LIQUID
 WATER • WASTEWATER
 DRINKING WATER
 AIR
 WIFE • FILTER
 OTHER

Container(s): TAT # Type

QA/QC: RTNE RWQCB WIP NAVY CT OTHER _____

PRESERVATION

ITEM	LAB USE ONLY:		Sample Description			
	Batch #:	Lab No.	Sample I.D.	Date	Time	
		61	S28-S	7/10	1:10	
		62	S28-1		1:15	
		63	S28-2		1:21	
		64	S28-3		1:26	
		65	S29-3		1:13	
		66	S29-1		1:19	
		67	S29-2		1:24	
		68	S29-3		1:29	
		69	S30-S		1:33	
		70	S30-1		1:37	

• TAT starts 8 a.m. following day if samples received after 5 p.m.

TAT: A= Overnight ≤ 24 hr B= Emergency Next workday C= Critical 2 Workdays D= Urgent 3 Workdays E= Routine 7 Workdays

Preservatives: H=HCl N=HNO₃ S=H₂SO₄ C=4°C Z=Zn(AC)₂ O=NaOH T=Na₂S₂O₃

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Teclar G=Glass P=Plastic M=Metal

CHAIN OF CUSTODY RECORD



**Advanced Technology
Laboratories**

3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport: Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt: 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 3. CONTAINER INTACT Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: <u>MM</u>	Date: <u>7/10/02</u>	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>CHRIS KING</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rte 5 - SB</u>	Project #: <u>09100-0649</u>	Sampler: <u>CSK/GCA</u> (Signature)	Date: <u>7/10/02</u> Time: <u>7:00p</u>
Relinquished by: <u>CSK</u> (Signature and Printed Name)	Date: <u>7-10-02</u>	Received by: <u>MM</u> (Signature and Printed Name)	Date: <u>7-10-02</u> Time: <u>7:00p</u>
Relinquished by: <u>CSK</u> (Signature and Printed Name)	Date: <u>7-10-02</u>	Received by: <u>MM</u> (Signature and Printed Name)	Date: <u>7/10/02</u> Time: <u>7:35p</u>

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>7/10/02</u> Signature Date	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>See Page 1</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested: 8091 / 8092 (Pesticides/FCA-CC) 8280 (Volatiles/GC/MS) 625 / 8270 (BNA-GC/MS) Metals Total (CAC-8010 / 7000) 8015M TPH/GT/TEX (COMBINATION) 8015M TPYD (Diesel-GC) <u>Total / each 5000</u>	CIRCLE APPROPRIATE MATRIX: SOLID (SOB) • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER	QA/QC RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>							
ITEM	LAB USE ONLY:		Sample Description				CONTAINER(S)			PRESERVATION	REMARKS
	Batch #:	Lab No.	Sample I.D.	Date	Time	TAT	#	Type			
		71	S30-2	7/10	138						
		72	S30-3		140						
		73	S31-5		136						
		74	S31-1		140						
		75	S31-2		143						
		76	S31-3		144						
		77	S32-5		146						
		78	S32-1		150						
		79	S32-2		155						
		80	S32-3		2:00						

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= <input type="checkbox"/> Overnight ≤ 24 hr	B= <input type="checkbox"/> Emergency Next workday	C= <input type="checkbox"/> Critical 2 Workdays	D= <input type="checkbox"/> Urgent 3 Workdays	E= <input type="checkbox"/> Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



**Advanced Technology
Laboratories**

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Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7/10/02</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>CHRIS KING</u>	City San Diego State CA Zip Code 92121	FAX: (858) 558-8437

Project Name: <u>Rt 5-SB</u>	Project #: <u>09100-06-49</u>	Sampler: <u>CSK/GCA</u> (Printed Name)	(Signature)
Relinquished by: <u>[Signature]</u> (Signature and Printed Name)	Date: <u>7/10/02</u>	Time: <u>7:00p</u>	Received by: <u>[Signature]</u> (Signature and Printed Name)
Relinquished by: <u>[Signature]</u> (Signature and Printed Name)	Date: <u>7-10-02</u>	Time: <u>7:35p</u>	Received by: <u>[Signature]</u> (Signature and Printed Name)
Relinquished by: <u>[Signature]</u> (Signature and Printed Name)	Date: _____	Time: _____	Received by: <u>[Signature]</u> (Signature and Printed Name)

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>7/10/02</u> Print Name Date <u>[Signature]</u> Signature	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>See Page 1</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested <u>8091 / 8092 (Pesticides/PCA-OC)</u> <u>8200 (Volatiles/GC/MS)</u> <u>825 / 8270 (BVA-GC/MS)</u> <u>Metals Total (CAC-8010 / 7000)</u> <u>8015M TPH/GRTX (COMBINATION)</u> <u>8015M TPH/GRTX (Diesel-GC)</u> <u>7074 / Lead 6010</u>	CIRCLE APPROPRIATE MATRIX <u>SOLID • SOLS</u> OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER
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ITEM	LAB USE ONLY:		Sample Description				CIRCLE APPROPRIATE MATRIX										PRESERVATION	REMARKS
	Batch #:	Lab No.	Sample I.D.	Date	Time	CONTAINER(S)												
		81	S33-5	7/9	154	X												
		82	S33-1		158	X												
		83	S33-2		203	X												
		84	S33-3		205	X												

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= <u>Overnight</u> ≤ 24 hr	B= <u>Emergency</u> Next workday	C= <u>Critical</u> 2 Workdays	D= <u>Urgent</u> 3 Workdays	E= <u>Routine</u> 7 Workdays	Preservatives: H=Hcl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED <input checked="" type="checkbox"/> <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 2. HEADSPACE (VOA) <input type="checkbox"/> <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 3. CONTAINER INTACT <input checked="" type="checkbox"/> <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Logged By: <u>MM</u> Date: <u>7/10/02</u> Time: _____		

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>CHRIS KING</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Rto S-SR</u>	Project #: <u>09100-06-49</u>	Sampler: <u>CSK/GCA</u> (Printed Name)	(Signature)
Relinquished by: <u>[Signature]</u> Date: <u>7/10/02</u> Time: <u>9:00p</u>	Received by: <u>[Signature]</u> Date: <u>7-10-02</u> Time: <u>7:00p</u>		
Relinquished by: <u>[Signature]</u> Date: <u>7-10-02</u> Time: <u>7:30p</u>	Received by: <u>[Signature]</u> Date: <u>7/10/02</u> Time: <u>7:30p</u>		

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>7/10/02</u> Print Name Date <u>[Signature]</u> Signature	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments:
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Unless otherwise requested, all samples will be disposed 45 days after receipt.

Sample Archive/Disposal:
 Laboratory Standard
 Other
 Return To:
 * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.

Circle or Add Analysis(es) Requested 8081 / 8082 (Pesticides/PCB-GC) 8260 (Volatiles-GC/MS) 825 / 8270 (BNA-GC/MS) Metals Total (CAC-GC/MS) 8015M TPH/G/BTEX (COMBINATION) 8015M TPH/D (Diesel-GC) <u>None / red 6010</u>	CIRCLE APPROPRIATE MATRIX SOLID • SOIL • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIFE • FILTER OTHER TAT # Type	Q A / Q C RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> PRESERVATION REMARKS
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ITEM	LAB USE ONLY:		Sample Description			
	Batch #:	Sample I.D.	Date	Time		
		85 EB-6	7/10	10:06		
		86 EB-7	7/10	11:00		
		87 EB-8		12:24		
		88 EB-9		12:33		
		89 EB-10		1:02		
		90 EB-11		1:15		
		91 EB-12		1:31		
		92 EB-13		1:44		
		93 EB-14		2:08		

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= <input type="checkbox"/> Overnight ≤ 24 hr	B= <input type="checkbox"/> Emergency Next workday	C= <input type="checkbox"/> Critical 2 Workdays	D= <input type="checkbox"/> Urgent 3 Workdays	E= <input type="checkbox"/> Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

Advanced Technology Laboratories

Date: 7/18/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057872
Project:	Rte 5-SB, 09100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057872-001A	S-13-S	110	mg/Kg	9523	5	1	7/10/2002	7/15/2002
057872-002A	S13-1	160	mg/Kg	9523	5	1	7/10/2002	7/15/2002
057872-003A	S13-2	300	mg/Kg	9523	5	1	7/10/2002	7/15/2002
057872-004A	S13-3	25	mg/Kg	9523	5	1	7/10/2002	7/15/2002
057872-005A	S14-S	86	mg/Kg	9523	5	1	7/10/2002	7/15/2002
057872-006A	S14-1	61	mg/Kg	9523	5	1	7/10/2002	7/15/2002
057872-007A	S14-2	5.5	mg/Kg	9523	5	1	7/10/2002	7/15/2002
057872-008A	S14-3	21	mg/Kg	9523	5	1	7/10/2002	7/15/2002
057872-009A	S15-S	360	mg/Kg	9523	5	1	7/10/2002	7/15/2002
057872-010A	S15-1	390	mg/Kg	9523	5	1	7/10/2002	7/15/2002
057872-011A	S15-2	260	mg/Kg	9523	5	1	7/10/2002	7/15/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/18/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057872
Project:	Rte 5-SB, 09100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057872-012A	S15-3	99	mg/Kg	9523	5	1	7/10/2002	7/15/2002
057872-013A	S16-S	490	mg/Kg	9523	5	1	7/10/2002	7/15/2002
057872-014A	S16-1	150	mg/Kg	9523	5	1	7/10/2002	7/15/2002
057872-015A	S16-2	130	mg/Kg	9523	5	1	7/10/2002	7/15/2002
057872-016A	S16-3	54	mg/Kg	9523	5	1	7/10/2002	7/15/2002
057872-017A	S17-S	49	mg/Kg	9523	5	1	7/10/2002	7/15/2002
057872-018A	S17-1	45	mg/Kg	9523	5	1	7/10/2002	7/15/2002
057872-019A	S17-2	45	mg/Kg	9523	5	1	7/10/2002	7/15/2002
057872-020A	S17-3	45	mg/Kg	9523	5	1	7/10/2002	7/15/2002
057872-021A	S18-S	73	mg/Kg	9524	5	1	7/10/2002	7/15/2002
057872-022A	S18-1	20	mg/Kg	9524	5	1	7/10/2002	7/15/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/18/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057872
Project:	Rte 5-SB, 09100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057872-023A	S18-2	8.7	mg/Kg	9524	5	1	7/10/2002	7/15/2002
057872-024A	S18-3	12	mg/Kg	9524	5	1	7/10/2002	7/15/2002
057872-025A	S19-S	240	mg/Kg	9524	5	1	7/10/2002	7/15/2002
057872-026A	S19-1	130	mg/Kg	9524	5	1	7/10/2002	7/15/2002
057872-027A	S19-2	30	mg/Kg	9524	5	1	7/10/2002	7/15/2002
057872-028A	S19-3	65	mg/Kg	9524	5	1	7/10/2002	7/15/2002
057872-029A	S20-S	91	mg/Kg	9524	5	1	7/10/2002	7/15/2002
057872-030A	S20-1	160	mg/Kg	9524	5	1	7/10/2002	7/15/2002
057872-031A	S20-2	44	mg/Kg	9524	5	1	7/10/2002	7/15/2002
057872-032A	S20-3	15	mg/Kg	9524	5	1	7/10/2002	7/15/2002
057872-033A	S21-S	470	mg/Kg	9524	5	1	7/10/2002	7/15/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/18/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057872
Project:	Rte 5-SB, 09100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057872-034A	S21-1	210	mg/Kg	9524	5	1	7/10/2002	7/15/2002
057872-035A	S21-2	24	mg/Kg	9524	5	1	7/10/2002	7/15/2002
057872-036A	S21-3	11	mg/Kg	9524	5	1	7/10/2002	7/15/2002
057872-037A	S22-S	93	mg/Kg	9524	5	1	7/10/2002	7/15/2002
057872-038A	S22-1	21	mg/Kg	9524	5	1	7/10/2002	7/15/2002
057872-039A	S22-2	55	mg/Kg	9524	5	1	7/10/2002	7/15/2002
057872-040A	S22-3	350	mg/Kg	9524	5	1	7/10/2002	7/15/2002
057872-041A	S23-S	45	mg/Kg	9537	5	1	7/10/2002	7/15/2002
057872-042A	S23-1	13	mg/Kg	9537	5	1	7/10/2002	7/15/2002
057872-043A	S23-2	220	mg/Kg	9537	5	1	7/10/2002	7/15/2002
057872-044A	S23-3	13	mg/Kg	9537	5	1	7/10/2002	7/15/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/18/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057872
Project:	Rte 5-SB, 09100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057872-045A	S24-S	15	mg/Kg	9537	5	1	7/10/2002	7/15/2002
057872-046A	S24-1	6.4	mg/Kg	9537	5	1	7/10/2002	7/15/2002
057872-047A	S24-2	170	mg/Kg	9537	5	1	7/10/2002	7/15/2002
057872-048A	S24-3	22	mg/Kg	9537	5	1	7/10/2002	7/15/2002
057872-049A	S25-S	55	mg/Kg	9537	5	1	7/10/2002	7/15/2002
057872-050A	S25-1	35	mg/Kg	9537	5	1	7/10/2002	7/15/2002
057872-051A	S25-2	9.1	mg/Kg	9537	5	1	7/10/2002	7/15/2002
057872-052A	S25-3	7.2	mg/Kg	9537	5	1	7/10/2002	7/15/2002
057872-053A	S26-S	28	mg/Kg	9537	5	1	7/10/2002	7/15/2002
057872-054A	S26-1	300	mg/Kg	9537	5	1	7/10/2002	7/15/2002
057872-055A	S26-2	330	mg/Kg	9537	5	1	7/10/2002	7/15/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/18/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057872
Project:	Rte 5-SB, 09100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057872-056A	S26-3	110	mg/Kg	9537	5	1	7/10/2002	7/15/2002
057872-057A	S27-S	110	mg/Kg	9537	5	1	7/10/2002	7/15/2002
057872-058A	S27-1	74	mg/Kg	9537	5	1	7/10/2002	7/15/2002
057872-059A	S27-2	32	mg/Kg	9537	5	1	7/10/2002	7/15/2002
057872-060A	S27-3	34	mg/Kg	9537	5	1	7/10/2002	7/15/2002
057872-061A	S28-S	59	mg/Kg	9538	5	1	7/10/2002	7/15/2002
057872-062A	S28-1	46	mg/Kg	9538	5	1	7/10/2002	7/15/2002
057872-063A	S28-2	12	mg/Kg	9538	5	1	7/10/2002	7/15/2002
057872-064A	S28-3	23	mg/Kg	9538	5	1	7/10/2002	7/15/2002
057872-065A	S29-S	84	mg/Kg	9538	5	1	7/10/2002	7/15/2002
057872-066A	S29-1	270	mg/Kg	9538	5	1	7/10/2002	7/15/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/18/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057872
Project:	Rte 5-SB, 09100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057872-067A	S29-2	42	mg/Kg	9538	5	1	7/10/2002	7/15/2002
057872-068A	S29-3	ND	mg/Kg	9538	5	1	7/10/2002	7/15/2002
057872-069A	S30-S	280	mg/Kg	9538	5	1	7/10/2002	7/15/2002
057872-070A	S30-1	160	mg/Kg	9538	5	1	7/10/2002	7/15/2002
057872-071A	S30-2	99	mg/Kg	9538	5	1	7/10/2002	7/15/2002
057872-072A	S30-3	5.6	mg/Kg	9538	5	1	7/10/2002	7/15/2002
057872-073A	S31-S	1100	mg/Kg	9538	5	1	7/10/2002	7/15/2002
057872-074A	S31-1	590	mg/Kg	9538	5	1	7/10/2002	7/15/2002
057872-075A	S31-2	1000	mg/Kg	9538	5	1	7/10/2002	7/15/2002
057872-076A	S31-3	30	mg/Kg	9538	5	1	7/10/2002	7/15/2002
057872-077A	S32-S	1000	mg/Kg	9538	5	1	7/10/2002	7/15/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/18/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057872
Project:	Rte 5-SB, 09100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057872-078A	S32-1	810	mg/Kg	9538	5	1	7/10/2002	7/15/2002
057872-079A	S32-2	240	mg/Kg	9538	5	1	7/10/2002	7/15/2002
057872-080A	S32-3	210	mg/Kg	9538	5	1	7/10/2002	7/15/2002
057872-081A	S33-S	350	mg/Kg	9539	5	1	7/10/2002	7/15/2002
057872-082A	S33-1	730	mg/Kg	9539	5	1	7/10/2002	7/15/2002
057872-083A	S33-2	370	mg/Kg	9539	5	1	7/10/2002	7/15/2002
057872-084A	S33-3	320	mg/Kg	9539	5	1	7/10/2002	7/15/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



ICP METALS
EPA 6010B

CLIENT:	Geocon Environmental	Lab Order:	057872
Project:	Rte 5-SB, 09100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Water
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057872-085A	EB-6	ND	mg/L	9533	0.005	1	7/10/2002	7/16/2002
057872-086A	EB-7	ND	mg/L	9533	0.005	1	7/10/2002	7/16/2002
057872-087A	EB-8	0.0052	mg/L	9533	0.005	1	7/10/2002	7/16/2002
057872-088A	EB-9	0.0066	mg/L	9533	0.005	1	7/10/2002	7/16/2002
057872-089A	EB-10	ND	mg/L	9533	0.005	1	7/10/2002	7/16/2002
057872-090A	EB-11	ND	mg/L	9533	0.005	1	7/10/2002	7/16/2002
057872-091A	EB-12	ND	mg/L	9533	0.005	1	7/10/2002	7/16/2002
057872-092A	EB-13	ND	mg/L	9533	0.005	1	7/10/2002	7/16/2002
057872-093A	EB-14	0.0058	mg/L	9533	0.005	1	7/10/2002	7/16/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



pH
EPA 9045C

CLIENT:	Geocon Environmental	Lab Order:	057872
Project:	Rte 5-SB, 09100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057872-001A	S-13-S	6.73	pH Units	R19397	0.1	1	7/10/2002	7/12/2002
057872-010A	S15-1	6.65	pH Units	R19311	0.1	1	7/10/2002	7/11/2002
057872-020A	S17-3	8.11	pH Units	R19311	0.1	1	7/10/2002	7/11/2002
057872-030A	S20-1	8.58	pH Units	R19311	0.1	1	7/10/2002	7/11/2002
057872-040A	S22-3	7.14	pH Units	R19311	0.1	1	7/10/2002	7/11/2002
057872-050A	S25-1	7.34	pH Units	R19312	0.1	1	7/10/2002	7/11/2002
057872-060A	S27-3	7.55	pH Units	R19312	0.1	1	7/10/2002	7/11/2002
057872-070A	S30-1	7.06	pH Units	R19312	0.1	1	7/10/2002	7/11/2002
057872-080A	S32-3	7.80	pH Units	R19312	0.1	1	7/10/2002	7/11/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057872
Project:	Rte 5-SB, 09100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057872-001A	S-13-S	5.4	mg/L	9712	0.2	1	7/10/2002	7/23/2002
057872-002A	S13-1	12	mg/L	9712	0.2	1	7/10/2002	7/23/2002
057872-003A	S13-2	23	mg/L	9712	0.4	2	7/10/2002	7/23/2002
057872-005A	S14-S	5.6	mg/L	9712	0.2	1	7/10/2002	7/23/2002
057872-006A	S14-1	3.3	mg/L	9712	0.2	1	7/10/2002	7/23/2002
057872-009A	S15-S	25	mg/L	9712	0.4	2	7/10/2002	7/23/2002
057872-010A	S15-1	29	mg/L	9712	0.4	2	7/10/2002	7/23/2002
057872-011A	S15-2	22	mg/L	9712	0.4	2	7/10/2002	7/23/2002
057872-012A	S15-3	8.3	mg/L	9712	0.2	1	7/10/2002	7/23/2002
057872-013A	S16-S	38	mg/L	9712	0.8	4	7/10/2002	7/23/2002
057872-014A	S16-1	10	mg/L	9712	0.2	1	7/10/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057872
Project:	Rte 5-SB, 09100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057872-015A	S16-2	9.0	mg/L	9712	0.2	1	7/10/2002	7/23/2002
057872-016A	S16-3	3.4	mg/L	9712	0.2	1	7/10/2002	7/23/2002
057872-021A	S18-S	4.1	mg/L	9712	0.2	1	7/10/2002	7/23/2002
057872-025A	S19-S	19	mg/L	9712	0.4	2	7/10/2002	7/23/2002
057872-026A	S19-1	8.3	mg/L	9712	0.2	1	7/10/2002	7/23/2002
057872-028A	S19-3	6.1	mg/L	9717	0.2	1	7/10/2002	7/23/2002
057872-029A	S20-S	7.1	mg/L	9717	0.2	1	7/10/2002	7/23/2002
057872-030A	S20-1	14	mg/L	9717	0.2	1	7/10/2002	7/23/2002
057872-033A	S21-S	19	mg/L	9717	0.4	2	7/10/2002	7/23/2002
057872-034A	S21-1	18	mg/L	9717	0.4	2	7/10/2002	7/23/2002
057872-037A	S22-S	5.3	mg/L	9717	0.2	1	7/10/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057872
Project:	Rte 5-SB, 09100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057872-039A	S22-2	5.9	mg/L	9717	0.2	1	7/10/2002	7/23/2002
057872-040A	S22-3	17	mg/L	9717	0.4	2	7/10/2002	7/23/2002
057872-043A	S23-2	25	mg/L	9717	0.4	2	7/10/2002	7/23/2002
057872-047A	S24-2	15	mg/L	9717	0.2	1	7/10/2002	7/23/2002
057872-049A	S25-S	4.2	mg/L	9717	0.2	1	7/10/2002	7/23/2002
057872-054A	S26-1	23	mg/L	9717	0.4	2	7/10/2002	7/23/2002
057872-055A	S26-2	41	mg/L	9717	0.8	4	7/10/2002	7/23/2002
057872-056A	S26-3	3.3	mg/L	9717	0.2	1	7/10/2002	7/23/2002
057872-057A	S27-S	1.9	mg/L	9717	0.2	1	7/10/2002	7/23/2002
057872-058A	S27-1	7.9	mg/L	9717	0.2	1	7/10/2002	7/23/2002
057872-061A	S28-S	4.0	mg/L	9717	0.2	1	7/10/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057872
Project:	Rte 5-SB, 09100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057872-065A	S29-S	6.8	mg/L	9717	0.2	1	7/10/2002	7/23/2002
057872-066A	S29-1	38	mg/L	9717	0.6	3	7/10/2002	7/23/2002
057872-069A	S30-S	20	mg/L	9717	0.4	2	7/10/2002	7/23/2002
057872-070A	S30-1	14	mg/L	9718	0.2	1	7/10/2002	7/23/2002
057872-071A	S30-2	7.3	mg/L	9718	0.2	1	7/10/2002	7/23/2002
057872-074A	S31-1	50	mg/L	9718	0.8	4	7/10/2002	7/23/2002
057872-078A	S32-1	89	mg/L	9718	2	10	7/10/2002	7/23/2002
057872-079A	S32-2	17	mg/L	9718	0.4	2	7/10/2002	7/23/2002
057872-080A	S32-3	25	mg/L	9718	0.4	2	7/10/2002	7/23/2002
057872-081A	S33-S	90	mg/L	9718	2	10	7/10/2002	7/23/2002
057872-082A	S33-1	94	mg/L	9718	2	10	7/10/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	I - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057872
Project:	Rte 5-SB, 09100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057872-083A	S33-2	85	mg/L	9718	2	10	7/10/2002	7/23/2002
057872-084A	S33-3	54	mg/L	9718	0.8	4	7/10/2002	7/23/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
EPA 1311/ 7420

CLIENT:	Geocon Environmental	Lab Order:	057872
Project:	Rte 5-SB, 09100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	NS

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057872-073A	S31-S	0.89	mg/L	9759	0.2	1	7/10/2002	7/24/2002
057872-075A	S31-2	0.51	mg/L	9759	0.2	1	7/10/2002	7/24/2002
057872-077A	S32-S	1.6	mg/L	9760	0.2	1	7/10/2002	7/24/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057872
Project:	Rte 5-SB, 09100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057872-001A	S-13-S	ND	mg/L	9672	0.2	1	7/10/2002	7/22/2002
057872-002A	S13-1	ND	mg/L	9672	0.2	1	7/10/2002	7/22/2002
057872-003A	S13-2	ND	mg/L	9672	0.2	1	7/10/2002	7/22/2002
057872-005A	S14-S	ND	mg/L	9672	0.2	1	7/10/2002	7/22/2002
057872-009A	S15-S	0.27	mg/L	9672	0.2	1	7/10/2002	7/22/2002
057872-010A	S15-1	1.4	mg/L	9672	0.2	1	7/10/2002	7/22/2002
057872-011A	S15-2	0.58	mg/L	9672	0.2	1	7/10/2002	7/22/2002
057872-012A	S15-3	0.33	mg/L	9672	0.2	1	7/10/2002	7/22/2002
057872-013A	S16-S	0.32	mg/L	9672	0.2	1	7/10/2002	7/22/2002
057872-014A	S16-1	ND	mg/L	9673	0.2	1	7/10/2002	7/22/2002
057872-015A	S16-2	ND	mg/L	9673	0.2	1	7/10/2002	7/22/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057872
Project:	Rte 5-SB, 09100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057872-025A	S19-S	0.27	mg/L	9673	0.2	1	7/10/2002	7/22/2002
057872-026A	S19-1	ND	mg/L	9673	0.2	1	7/10/2002	7/22/2002
057872-028A	S19-3	ND	mg/L	9673	0.2	1	7/10/2002	7/22/2002
057872-029A	S20-S	ND	mg/L	9673	0.2	1	7/10/2002	7/22/2002
057872-030A	S20-1	0.30	mg/L	9673	0.2	1	7/10/2002	7/22/2002
057872-033A	S21-S	0.37	mg/L	9673	0.2	1	7/10/2002	7/22/2002
057872-034A	S21-1	0.37	mg/L	9673	0.2	1	7/10/2002	7/22/2002
057872-037A	S22-S	ND	mg/L	9673	0.2	1	7/10/2002	7/22/2002
057872-039A	S22-2	0.23	mg/L	9673	0.2	1	7/10/2002	7/22/2002
057872-040A	S22-3	0.50	mg/L	9673	0.2	1	7/10/2002	7/22/2002
057872-043A	S23-2	0.31	mg/L	9673	0.2	1	7/10/2002	7/22/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057872
Project:	Rte 5-SB, 09100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057872-047A	S24-2	0.28	mg/L	9673	0.2	1	7/10/2002	7/22/2002
057872-054A	S26-1	0.50	mg/L	9673	0.2	1	7/10/2002	7/22/2002
057872-055A	S26-2	0.38	mg/L	9673	0.2	1	7/10/2002	7/22/2002
057872-058A	S27-1	ND	mg/L	9674	0.2	1	7/10/2002	7/22/2002
057872-065A	S29-S	ND	mg/L	9674	0.2	1	7/10/2002	7/22/2002
057872-066A	S29-1	ND	mg/L	9674	0.2	1	7/10/2002	7/22/2002
057872-069A	S30-S	ND	mg/L	9674	0.2	1	7/10/2002	7/22/2002
057872-070A	S30-1	ND	mg/L	9674	0.2	1	7/10/2002	7/22/2002
057872-071A	S30-2	ND	mg/L	9674	0.2	1	7/10/2002	7/22/2002
057872-074A	S31-1	ND	mg/L	9674	0.2	1	7/10/2002	7/22/2002
057872-078A	S32-1	1.6	mg/L	9674	0.2	1	7/10/2002	7/22/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057872
Project:	Rte 5-SB, 09100-06-49	Date Received:	7/10/2002 7:35:0
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057872-079A	S32-2	0.55	mg/L	9674	0.2	1	7/10/2002	7/22/2002
057872-080A	S32-3	1.0	mg/L	9674	0.2	1	7/10/2002	7/22/2002
057872-081A	S33-S	3.2	mg/L	9674	0.2	1	7/10/2002	7/22/2002
057872-082A	S33-1	2.8	mg/L	9674	0.2	1	7/10/2002	7/22/2002
057872-083A	S33-2	2.9	mg/L	9674	0.2	1	7/10/2002	7/22/2002
057872-084A	S33-3	2.3	mg/L	9674	0.2	1	7/10/2002	7/22/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified





Advanced Technology Laboratories

Date: 18-Jul-02

CLIENT: Geocon Environmental
Work Order: 057872
Project: Rte 5-SB, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, (EPA 3050M), Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9523, MBLK, 6010_SPB, mg/Kg, 7/12/2002, ICP5_020715A, ZZZZZ, 9523, EPA 6010B, (EPA 3050M), 7/15/2002, 299006, Lead, ND, 5.0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, (EPA 3050M), Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9523B, MBLK, 6010_SPB, mg/Kg, 7/12/2002, ICP5_020715A, ZZZZZ, 9523, EPA 6010B, (EPA 3050M), 7/15/2002, 299007, Lead, ND, 5.0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, (EPA 3050M), Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9524, MBLK, 6010_SPB, mg/Kg, 7/12/2002, ICP5_020715B, ZZZZZ, 9524, EPA 6010B, (EPA 3050M), 7/15/2002, 299034, Lead, ND, 5.0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, (EPA 3050M), Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9524B, MBLK, 6010_SPB, mg/Kg, 7/12/2002, ICP5_020715B, ZZZZZ, 9524, EPA 6010B, (EPA 3050M), 7/15/2002, 299035, Lead, ND, 5.0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, (EPA 3050M), Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9538, MBLK, 6010_SPB, mg/Kg, 7/12/2002, ICP5_020715C, ZZZZZ, 9538, EPA 6010B, (EPA 3050M), 7/15/2002, 299106, Lead, ND, 5.0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057872
Project: Rte 5-SB, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	MB-9538B	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715C		
Client ID:	ZZZZZ	Batch ID:	9538	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299107		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.274 5.0

Sample ID	MB-9537	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715D		
Client ID:	ZZZZZ	Batch ID:	9537	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299170		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID	MB-9537B	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715D		
Client ID:	ZZZZZ	Batch ID:	9537	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299171		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID	MB-9539	SampType:	MBLK	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715E		
Client ID:	ZZZZZ	Batch ID:	9539	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299184		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID	LCS-9523	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715A		
Client ID:	ZZZZZ	Batch ID:	9523	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299005		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 221.7 5.0 250 0 88.7 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO - Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057872
Project: Rte 5-SB, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	LCS-9524	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715B			
Client ID:	ZZZZZ	Batch ID:	9524	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299033			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		237.3		5.0	250	0		94.9	80	120	0		0	
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Sample ID	LCS-9538	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715C			
Client ID:	ZZZZZ	Batch ID:	9538	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299105			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		203.8		5.0	250	0		81.5	80	120	0		0	
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Sample ID	LCS-9537	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715D			
Client ID:	ZZZZZ	Batch ID:	9537	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299169			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		211.4		5.0	250	0		84.6	80	120	0		0	
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Sample ID	LCS-9539	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715E			
Client ID:	ZZZZZ	Batch ID:	9539	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299183			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		213.1		5.0	250	0		85.2	80	120	0		0	
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Sample ID	057872-010AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715A			
Client ID:	S15-1	Batch ID:	9523	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	298990			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		535.3		5.0	250	392.9		57	47	128	0		0	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057872
Project: Rte 5-SB, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057872-020AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715A			
Client ID:	S17-3	Batch ID:	9523	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299003			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 210.3 5.0 250 45.42 66 47 128 0 0

Sample ID	057872-030AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715B			
Client ID:	S20-1	Batch ID:	9524	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299019			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 419.7 5.0 250 162.9 103 47 128 0 0

Sample ID	057872-040AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715B			
Client ID:	S22-3	Batch ID:	9524	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299031			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 469.8 5.0 250 350.4 47.8 47 128 0 0

Sample ID	057872-070AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715C			
Client ID:	S30-1	Batch ID:	9538	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299091			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 253.5 5.0 250 164.9 35.4 47 128 0 0 S

Sample ID	057872-080AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715C			
Client ID:	S32-3	Batch ID:	9538	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299103			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 406.4 5.0 250 214 77 47 128 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057872
Project: Rte 5-SB, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057872-050AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715D		
Client ID:	S25-1	Batch ID:	9537	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299155		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		173.6		5.0	250	35.45	55.3	47	128	0	0		

Sample ID	057872-060AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715D		
Client ID:	S27-3	Batch ID:	9537	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299167		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		173.5		5.0	250	34.34	55.7	47	128	0	0		

Sample ID	057872-084AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715E		
Client ID:	S33-3	Batch ID:	9539	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299181		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		626.7		5.0	250	319.8	123	47	128	0	0		

Sample ID	057872-010ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715A		
Client ID:	S15-1	Batch ID:	9523	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	298989		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		388.2		5.0	0	0	0	0	0	392.9	1.19	30	

Sample ID	057872-020ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715A		
Client ID:	S17-3	Batch ID:	9523	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/15/2002	SeqNo:	299002		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		58.09		5.0	0	0	0	0	0	45.42	24.5	30	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO - Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057872
Project: Rte 5-SB, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: 057872-030ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/12/2002	Run ID: ICP5_020715B						
Client ID: S20-1	Batch ID: 9524	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/15/2002	SeqNo: 299018						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 178.9 5.0 0 0 0 0 0 0 162.9 9.37 30

Sample ID: 057872-040ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/12/2002	Run ID: ICP5_020715B						
Client ID: S22-3	Batch ID: 9524	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/15/2002	SeqNo: 299030						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 187.7 5.0 0 0 0 0 0 0 350.4 60.4 30 R

Sample ID: 057872-070ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/12/2002	Run ID: ICP5_020715C						
Client ID: S30-1	Batch ID: 9538	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/15/2002	SeqNo: 299090						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 164.2 5.0 0 0 0 0 0 0 164.9 0.436 30

Sample ID: 057872-080ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/12/2002	Run ID: ICP5_020715C						
Client ID: S32-3	Batch ID: 9538	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/15/2002	SeqNo: 299102						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 216.4 5.0 0 0 0 0 0 0 214 1.09 30

Sample ID: 057872-050ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/12/2002	Run ID: ICP5_020715D						
Client ID: S25-1	Batch ID: 9537	TestNo: EPA 6010B	(EPA 3050M)	Analysis Date: 7/15/2002	SeqNo: 299154						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 45.47 5.0 0 0 0 0 0 0 35.45 24.8 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**



CLIENT: Geocon Environmental
Work Order: 057872
Project: Rte 5-SB, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057872-060ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715D		
Client ID:	S27-3	Batch ID:	9537	TestNo:	EPA 6010B (EPA 3050M)			Analysis Date:	7/15/2002	SeqNo:	299166		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		39.06		5.0	0	0	0	0	0	0	34.34	12.9	30
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Sample ID	057872-084ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/12/2002	Run ID:	ICP5_020715E		
Client ID:	S33-3	Batch ID:	9539	TestNo:	EPA 6010B (EPA 3050M)			Analysis Date:	7/15/2002	SeqNo:	299180		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		549.2		5.0	0	0	0	0	0	0	319.8	52.8	30	R
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057872
Project: Rte 5-SB, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPB

Sample ID	MB-9533	SampType:	MBLK	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/12/2002	Run ID:	ICP5_020716A												
Client ID:	ZZZZZ	Batch ID:	9533	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/16/2002	SeqNo:	299368												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 0.004764 0.0050

Sample ID	LCS-9533	SampType:	LCS	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/12/2002	Run ID:	ICP5_020716A												
Client ID:	ZZZZZ	Batch ID:	9533	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/16/2002	SeqNo:	299367												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 1.102 0.0050 1 0 110 80 120 0 0

Sample ID	057872-093AMS	SampType:	MS	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/12/2002	Run ID:	ICP5_020716A												
Client ID:	EB-14	Batch ID:	9533	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/16/2002	SeqNo:	299364												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 2.578 0.0050 2.5 0.005825 103 66 118 0 0

Sample ID	057872-093ADUP	SampType:	DUP	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/12/2002	Run ID:	ICP5_020716A												
Client ID:	EB-14	Batch ID:	9533	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/16/2002	SeqNo:	299363												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 0.004899 0.0050 0 0 0 0 0 0.005825 0 30 J

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO - Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057872
Project: Rte 5-SB, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 9045_S

Sample ID	057872-040ADUP	SampType:	DUP	TestCode:	9045_S	Units:	pH Units	Prep Date:	7/11/2002	Run ID:	WETCHEM_020711D		
Client ID:	S22-3	Batch ID:	R19311	TestNo:	EPA 9045C			Analysis Date:	7/11/2002	SeqNo:	297628		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

pH		7.02		0.10	0	0	0	0	0	7.14	1.69	20	
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Sample ID	057872-001ADUP	SampType:	DUP	TestCode:	9045_S	Units:	pH Units	Prep Date:	7/12/2002	Run ID:	WETCHEM_020712B		
Client ID:	S-13-S	Batch ID:	R19397	TestNo:	EPA 9045C			Analysis Date:	7/12/2002	SeqNo:	298954		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

pH		6.64		0.10	0	0	0	0	0	6.73	1.35	20	
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**



Advanced Technology Laboratories

Date: 24-Jul-02

CLIENT: Geocon Environmental
Work Order: 057872
Project: Rte 5-SB, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Lead ND 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Lead ND 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Lead 0.08661 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Lead ND 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Lead ND 0.20

Qualifiers: ND - Not Detected at the Reporting Limit, S - Spike Recovery outside accepted recovery limits, DO- Surrogate dilute out, J - Analyte detected below quantitation limits, B - Analyte detected in the associated Method Blank, H - Sample exceeded holding time, R - RPD outside accepted recovery limits, Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057872
Project: Rte 5-SB, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	MB-9717B	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723O			
Client ID:	ZZZZZ	Batch ID:	9717	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304903			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.07281 0.20

Sample ID	MB-9718A	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723P			
Client ID:	ZZZZZ	Batch ID:	9718	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304918			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9718B	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723P			
Client ID:	ZZZZZ	Batch ID:	9718	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304931			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

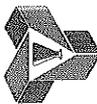
Sample ID	MB-9718	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723P			
Client ID:	ZZZZZ	Batch ID:	9718	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304946			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	LCS-9712	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723K			
Client ID:	ZZZZZ	Batch ID:	9712	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304684			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.072 0.20 7.5 0 94.3 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057872
Project: Rte 5-SB, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	LCS-9717	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723O			
Client ID:	ZZZZZ	Batch ID:	9717	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304917			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.468 0.20 7.5 0 99.6 80 120 0 0

Sample ID	LCS-9718	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723P			
Client ID:	ZZZZZ	Batch ID:	9718	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304945			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.342 0.20 7.5 0 97.9 80 120 0 0

Sample ID	057872-009AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723K			
Client ID:	S15-S	Batch ID:	9712	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304669			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 44.51 0.80 20 24.78 98.7 80 120 0 0

Sample ID	057872-026AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723K			
Client ID:	S19-1	Batch ID:	9712	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304682			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 12.35 0.20 5 8.343 80.2 80 120 0 0

Sample ID	057872-047AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723O			
Client ID:	S24-2	Batch ID:	9717	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304902			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 24.94 0.40 10 14.96 99.8 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057872
Project: Rte 5-SB, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	057872-069AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723O			
Client ID:	S30-S	Batch ID:	9717	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304915			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 33.77 0.60 15 20.16 90.8 80 120 0 0

Sample ID	057872-084AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723P			
Client ID:	S33-3	Batch ID:	9718	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304930			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 99.77 2.0 50 53.66 92.2 80 120 0 0

Sample ID	057890-016AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/23/2002	Run ID:	AA2_020723P			
Client ID:	ZZZZZ	Batch ID:	9718	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304943			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.758 0.20 5 3.127 92.6 80 120 0 0

Sample ID	057872-009ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723K			
Client ID:	S15-S	Batch ID:	9712	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304668			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 23.55 0.40 0 0 0 0 0 0 24.78 5.08 30

Sample ID	057872-026ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723K			
Client ID:	S19-1	Batch ID:	9712	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304681			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 8.295 0.20 0 0 0 0 0 0 8.343 0.576 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO - Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057872
Project: Rte 5-SB, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	057872-047ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723O		
Client ID:	S24-2	Batch ID:	9717	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304901		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		13.84		0.20	0	0	0	0	0	14.96	7.81	30	

Sample ID	057872-069ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723O		
Client ID:	S30-S	Batch ID:	9717	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304914		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		20.21		0.40	0	0	0	0	0	20.16	0.259	30	

Sample ID	057872-084ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723P		
Client ID:	S33-3	Batch ID:	9718	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304929		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		59.62		0.80	0	0	0	0	0	53.66	10.5	30	

Sample ID	057890-016ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/19/2002	Run ID:	AA2_020723P		
Client ID:	ZZZZZ	Batch ID:	9718	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/23/2002	SeqNo:	304942		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		4.332		0.20	0	0	0	0	0	3.127	32.3	30	R

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



Advanced Technology Laboratories

Date: 26-Jul-02

CLIENT: Geocon Environmental
Work Order: 057872
Project: Rte 5-SB, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9759, MBLK, 7420_TC, mg/L, 7/22/2002, AA2_020724G, ZZZZZ, 9759, EPA 1311/ 74 (EPA 3010A), 7/24/2002, 304789, Lead, 0.06796, 0.20, J.

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9700-TCLP, MBLK, 7420_TC, mg/L, 7/22/2002, AA2_020724G, ZZZZZ, 9759, EPA 1311/ 74 (EPA 3010A), 7/24/2002, 304790, Lead, 0.04971, 0.20, J.

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9760, mblk, 7420_TC, mg/L, 7/22/2002, AA2_020724I, ZZZZZ, 9760, EPA 1311/ 74 (EPA 3010A), 7/24/2002, 305895, Lead, ND, 0.20.

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9701-TCLP, mblk, 7420_TC, mg/L, 7/22/2002, AA2_020724I, ZZZZZ, 9760, EPA 1311/ 74 (EPA 3010A), 7/24/2002, 305896, Lead, ND, 0.20.

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: LCS-9759, LCS, 7420_TC, mg/L, 7/22/2002, AA2_020724G, ZZZZZ, 9759, EPA 1311/ 74 (EPA 3010A), 7/24/2002, 304804, Lead, 1.094, 0.20, 1, 0, 109, 80, 120, 0, 0.

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057872
Project: Rte 5-SB, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID	LCS-9760	SampType:	ics	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020724I		
Client ID:	ZZZZZ	Batch ID:	9760	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/24/2002	SeqNo:	305910		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.9348 0.20 1 0 93.5 80 120 0 0

Sample ID	057872-075AMS	SampType:	MS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020724G		
Client ID:	S31-2	Batch ID:	9759	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/24/2002	SeqNo:	304802		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 3.317 0.20 2.5 0.5134 112 80 120 0 0

Sample ID	057890-041AMS	SampType:	MS	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020724I		
Client ID:	ZZZZZ	Batch ID:	9760	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/24/2002	SeqNo:	305908		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.809 0.20 3.125 4.323 112 80 120 0 0

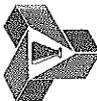
Sample ID	057872-075ADUP	SampType:	DUP	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020724G		
Client ID:	S31-2	Batch ID:	9759	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/24/2002	SeqNo:	304801		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.532 0.20 0 0 0 0 0 0.5134 3.55 30

Sample ID	057890-041ADUP	SampType:	DUP	TestCode:	7420_TC	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020724I		
Client ID:	ZZZZZ	Batch ID:	9760	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	7/24/2002	SeqNo:	305907		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 4.248 0.20 0 0 0 0 0 4.323 1.75 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**



Advanced Technology Laboratories

Date: 24-Jul-02

CLIENT: Geocon Environmental
Work Order: 057872
Project: Rte 5-SB, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9672, MBLK, 7420_DI, mg/L, 7/22/2002, AA2_020722G, ZZZZZ, 9672, WET DI/ EPA (WET), 7/22/2002, 303973, Lead, 0.06228, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9672A, MBLK, 7420_DI, mg/L, 7/18/2002, AA2_020722G, ZZZZZ, 9672, WET DI/ EPA (WET), 7/22/2002, 303974, Lead, 0.06745, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9672B, MBLK, 7420_DI, mg/L, 7/18/2002, AA2_020722G, ZZZZZ, 9672, WET DI/ EPA (WET), 7/22/2002, 303987, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: LCS-9672, MBLK, 7420_DI, mg/L, 7/22/2002, AA2_020722G, ZZZZZ, 9672, WET DI/ EPA (WET), 7/22/2002, 304001, Lead, 7.094, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9673, MBLK, 7420_DI, mg/L, 7/22/2002, AA2_020722H, ZZZZZ, 9673, WET DI/ EPA (WET), 7/22/2002, 304147, Lead, 0.04981, 0.20

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057872
Project: Rte 5-SB, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	MB-9673A	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020722H			
Client ID:	ZZZZZ	Batch ID:	9673	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	304148			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9673B	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020722H			
Client ID:	ZZZZZ	Batch ID:	9673	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	304161			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9674	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020722I			
Client ID:	ZZZZZ	Batch ID:	9674	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	304191			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9674A	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020722I			
Client ID:	ZZZZZ	Batch ID:	9674	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	304192			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	MB-9674B	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020722I			
Client ID:	ZZZZZ	Batch ID:	9674	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	304206			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**



CLIENT: Geocon Environmental
Work Order: 057872
Project: Rte 5-SB, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	LCS-9673	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020722H			
Client ID:	ZZZZZ	Batch ID:	9673	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	304175			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		7.13		0.20	7.5	0		95.1	80	120	0	0		

Sample ID	LCS-9674	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020722I			
Client ID:	ZZZZZ	Batch ID:	9674	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	304220			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		7.047		0.20	7.5	0		94	80	120	0	0		

Sample ID	057871-064AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020722G			
Client ID:	ZZZZZ	Batch ID:	9672	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	303986			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		5.665		0.20	5	0.8686		95.9	80	120	0	0		

Sample ID	057872-013AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020722G			
Client ID:	S16-S	Batch ID:	9672	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	303999			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		4.918		0.20	5	0.3208		91.9	80	120	0	0		

Sample ID	057872-033AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020722H			
Client ID:	S21-S	Batch ID:	9673	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	304160			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		5.276		0.20	5	0.3661		98.2	80	120	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057872
Project: Rte 5-SB, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	057872-056AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020722H			
Client ID:	S26-3	Batch ID:	9673	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	304173			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 4.942 0.20 5 0 98.8 80 120 0 0

Sample ID	057890-006AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020722I			
Client ID:	ZZZZZ	Batch ID:	9674	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	304218			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 6.668 0.20 5 1.863 96.1 80 120 0 0

Sample ID	057872-078AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/22/2002	Run ID:	AA2_020722I			
Client ID:	S32-1	Batch ID:	9674	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	304327			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 6.549 0.20 5 1.567 99.6 80 120 0 0

Sample ID	057871-064ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020722G			
Client ID:	ZZZZZ	Batch ID:	9672	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	303985			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.3454 0.20 0 0 0 0 0 0.8686 86.2 30 R

Sample ID	057872-013ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020722G			
Client ID:	S16-S	Batch ID:	9672	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	303998			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.2826 0.20 0 0 0 0 0 0.3208 12.7 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO - Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057872
Project: Rte 5-SB, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	057872-033ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020722H			
Client ID:	S21-S	Batch ID:	9673	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	304159			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.2719 0.20 0 0 0 0 0 0 0.3661 29.5 30

Sample ID	057872-056ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020722H			
Client ID:	S26-3	Batch ID:	9673	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	304172			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20 0 0 0 0 0 0 0 0 0 30

Sample ID	057890-006ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020722I			
Client ID:	ZZZZZ	Batch ID:	9674	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	304217			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 1.47 0.20 0 0 0 0 0 0 1.863 23.6 30

Sample ID	057872-078ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/18/2002	Run ID:	AA2_020722I			
Client ID:	S32-1	Batch ID:	9674	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/22/2002	SeqNo:	304300			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 1.372 0.20 0 0 0 0 0 0 1.567 13.3 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values

REVISIONS
BY _____ DATE _____
BY _____ DATE _____

BY _____ DATE _____
CHECKED BY _____

All samples → total lead (6010)
total lead > 50 mg/kg → WET-Citric
WET-CITRIC > 5 mg/L → WET-DI
Total lead > 1,000 mg/kg → TCLP
10% → soil pH (9045)

Please call when all totals have been run. I will instruct what samples should be run for Title 22 metals.

Thanks - Chris King

Diane

From: Chris King [king@geoconinc.com]
Sent: Monday, July 22, 2002 10:57 AM
To: 'Diane'
Subject: 09100-06-49

Diane - please run the 15 samples with the highest total lead content for Title 22 metals. Please do this for each direction (northbound and southbound), so the total number of tests will be 30. Thank you and please call me if you have any questions.

Christopher S. King
Senior Staff Engineer
Geocon Consultants, Inc.

July 12, 2002

Chris King
Geocon Environmental
6970 Flanders Drive
San Diego, CA 92121
TEL: (858) 558-6100
FAX: (858) 558-8437

RE: Route 5-Southbound, 09100-06-49

Attention: Chris King

ELAP No.: 1838

NELAP No.: 02107CA

Workorder No.: 057841

Enclosed are the results for sample(s) received on July 09, 2002 by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,



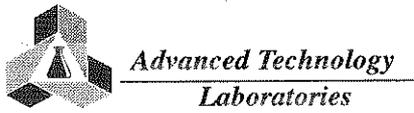
Eddie F. Rodriguez
Laboratory Director

JUL 26 2002

This cover letter is an integral part of this analytical report.



CHAIN OF CUSTODY RECORD



3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Logged By: <u>MM</u>	Date: <u>7/9/02</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>CHRIS KING</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>Route 5 - Southbound</u>	Project #: <u>09100-06-49</u>	Sampler: <u>CSK/GCA</u> (Printed Name)	(Signature)
Relinquished by: <u>C. King</u> (Signature and Printed Name)	Date: <u>7/9/02</u>	Time: <u>4:30</u>	Received by: <u>[Signature]</u> (Signature and Printed Name)
Relinquished by: <u>[Signature]</u>	Date: <u>7-9-02</u>	Time: <u>7:44</u>	Received by: <u>[Signature]</u>
Relinquished by: _____	Date: _____	Time: _____	Received by: _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CSK</u> <u>7/9/02</u> Print Name Date <u>[Signature]</u> Signature	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>See Attached</u>
--	--	---	---

Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8091 / 8082 (Residues/PCB-GC) 8260 (Volatile) GC/MS 825 / 8270 (BNA-GC/MS) Metals Total (CAC-8010 / 7000) 8015M TPH/G/BTEX (COMBINATION) 8015M TPH/D (Diesel) GC <u>Tot / e / 2960</u>	CIRCLE APPROPRIATE MATRIX SOLID • POW • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIFE • FILTER OTHER TAT # Type	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER	QA/QC	
LAB USE ONLY: Batch #:		Sample Description		Container(s)		REMARKS
LAB No.	Sample I.D.	Date	Time	#	Type	
057841-001	S1-S	7/9	1113	X	E	156
2	S1-1		1115			
3	S1-2		1118			
4	S2-3		1123			
5	S2-1		1126			
6	S2-2		1131			
7	S2-3		1135			
8	S3-3		1146			
9	S3-1		1155			
10	S3-2		1200			

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



**Advanced Technology
Laboratories**
3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____

Method of Transport: Walk-in Courier UPS FED. EXP. ATL

Sample Condition Upon Receipt: 1. CHILLED Y N 4. SEALED Y N
2. HEADSPACE (VOA) Y N 5. # OF SPLS MATCH COC Y N
3. CONTAINER INTACT Y N 6. PRESERVED Y N

Logged By: [Signature] Date: 7/9/02 Time: _____

Client: **GEOCON ENVIRONMENTAL - SAN DIEGO** Address: 6970 Flanders Drive City: San Diego State: CA Zip Code: 92121 TEL: (858) 558-6100
Attn: CHRIS KING FAX: (858) 558-8437

Project Name: RS-5-SB Project #: 09100-06-49 Sampler: CSK/GCA (Printed Name) _____ (Signature) _____

Relinquished by: [Signature] Date: 7/9/02 Time: 4:50 Received by: [Signature] Date: 7-9-02 Time: _____

Relinquished by: [Signature] Date: 7-9-02 Time: 18:44 Received by: [Signature] Date: 7/9/02 Time: 18:44

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: [Signature] Date: 7/9/02
Send Report To: Attn: _____ Co: [Signature] Address: _____ City: _____ State: _____ Zip: _____
Bill To: Attn: _____ Co: [Signature] Address: _____ City: _____ State: _____ Zip: _____
Special Instructions/Comments: See Page 1

Unless otherwise requested, all samples will be disposed 45 days after receipt.

Sample Archive/Disposal:
 Laboratory Standard
 Other _____
 Return To: _____

* \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.

Circle or Add Analysis(es) Requested:
8061 / 8082 (Pesticides/POB-OC)
8260 (Nitrates/GC/MS)
625 / 8270 (BNA-GC/MS)
Metals Total (CAC-8010 / 7000)
8015M TPH/G/BTEX (COMBINATION)
8015M TPH/D (Diesel/GC)

CIRCLE APPROPRIATE MATRIX:
SOLID • SOLUBLE SLUDGE
OIL • SOLVENT • LIQUID
WATER • WASTEWATER
DRINKING WATER
AIR
WIFE • FILTER
OTHER

QA/QC: RTNE RWOCB WIP NAVY CT OTHER

PRELIMINARY PRESERVATION: _____

ITEM	LAB USE ONLY:		Sample Description			
	Batch #:	Sample I.D.	Date	Time	Container(s)	Type
		54-5	7/9	1146		
		54-1		1153		
		54-2		1154		
		54-3		1201		
		55-5		1207		
		55-1		1212		
		55-2		1215		
		55-3		1219		
		56-5		1226		
		56-1		1239		

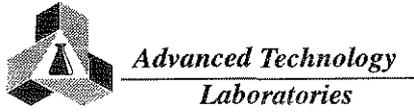
• TAT starts 8 a.m. following day if samples received after 5 p.m.

TAT: A= Overnight ≤ 24 hr B= Emergency Next workday C= Critical 2 Workdays D= Urgent 3 Workdays E= Routine 7 Workdays

Preservatives: H=HCl N=HNO₃ S=H₂SO₄ C=4°C Z=Zn(AC)₂ O=NaOH T=Na₂S₂O₃

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

CHAIN OF CUSTODY RECORD



Advanced Technology Laboratories
 3275 Walnut Avenue
 Signal Hill, CA 90807
 (562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7/9/02</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>CHRIS KING</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

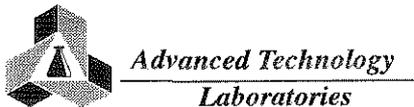
Project Name: <u>PT 5-SB</u>	Project #: <u>09100-06-49</u>	Sampler: <u>CSH/KA</u>	(Signature) _____
Relinquished by: <u>[Signature]</u> C. King	Date: <u>7/9/02</u> Time: <u>4:50</u>	Received by: <u>[Signature]</u>	Date: <u>7-9-02</u> Time: <u>5P</u>
Relinquished by: <u>[Signature]</u>	Date: <u>7-9-02</u> Time: <u>4:44</u>	Received by: <u>[Signature]</u>	Date: <u>7/9/02</u> Time: <u>1844</u>

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>[Signature]</u> <u>7/9/02</u>	Send Report To: Attn: _____ Co: <u>[Signature]</u> Address: _____ City: _____ State: _____ Zip: _____	Bill To: Attn: _____ Co: <u>[Signature]</u> Address: _____ City: _____ State: _____ Zip: _____	Special Instructions/Comments: <u>see page 1</u>
---	---	--	---

Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8061 / 8082 (Pesticides/PCB-GC) 8260 (Nitrates/GC/MS) 637 / 8270 (BVA-GC/MS) Metals Total (CAC-8010 / 7000) 8015M TPHGBTEX (COMBINATION) 8015M TPHVD (Diesel/GC) <u>Total Level 600</u>	CIRCLE APPROPRIATE MATRIX SOLID • SOIL • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER	PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER	QA/QC RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER		
LAB USE ONLY: Batch #:		Sample Description			Container(s)		REMARKS
LAB No.	Sample I.D.	Date	Time	TAT	#	Type	
21	56-2	7/9	1247			E 156	
22	56-3		1250				
23	57-5		1231				
24	57-1		1237				
25	57-2		1248				
26	57-3		1253				
27	58-5		110				
28	58-1		119				
29	59-5		120				
30	59-1		126				

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₈
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Teclar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL <input checked="" type="checkbox"/>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Logged By: <u>MM</u>	Date: <u>7/9/02</u> Time: _____	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>Charles King</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

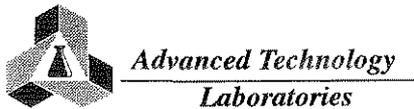
Project Name: <u>RES-SB</u>	Project #: <u>07100-0649</u>	Sampler: _____	(Signature) _____
Relinquished by: <u>C. King</u>	Date: <u>7/9/02</u> Time: <u>4:50</u>	Received by: <u>MM</u>	Date: <u>7-9-02</u> Time: <u>5P</u>
Relinquished by: <u>MM</u>	Date: <u>7-9-02</u> Time: <u>18:44</u>	Received by: <u>MM</u>	Date: <u>7/9/02</u> Time: <u>1844</u>

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>CDK</u> <u>7/9/02</u> Print Name Date <u>MM</u> Signature	Send Report To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: _____ Co: <u>Client</u> Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: <u>See Page 1</u>
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Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.	Circle or Add Analysis(es) Requested 8081 / 8082 (Pesticides/POB-GC) 8260 (Metals-GC/MS) 825 / 8270 (BVA-GC/MS) Metals Total (CAC-8070 / 7000) 8015M TPH/G/TEX (COMBINATION) 8015M TPH/D (Diesel/GC) <u>Total Lead Galo</u>	CIRCLE APPROPRIATE MATRIX SOLID (S) • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIPE • FILTER OTHER TAT	Q A / Q C PRESERVATION RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER			
I T E M	LAB USE ONLY: Batch #: Lab No.	Sample Description Sample I.D.	Date	Time	Container(s) #	Type	REMARKS
	31	S9-2	7/9	130	E	156	
	32	S9-3		138			
	33	S10-5		126			
	34	S10-1		130			
	35	S10-2		36			
	36	S10-3		142			
	37	S11-5		141			
	38	S11-1		145			
	39	S11-2		148			
	40	S11-3		150			

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD



3275 Walnut Avenue
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport	Sample Condition Upon Receipt
Logged By: <u>[Signature]</u>	Walk-in <input type="checkbox"/>	1. CHILLED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Date: <u>7/9/02</u> Time: _____	Courier <input type="checkbox"/>	4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
	UPS <input type="checkbox"/>	2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
	FED. EXP. <input type="checkbox"/>	3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
	ATL <input checked="" type="checkbox"/>	

Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Address: 6970 Flanders Drive	TEL: (858) 558-6100
Attn: <u>CHRIS KING</u>	City: San Diego State: CA Zip Code: 92121	FAX: (858) 558-8437

Project Name: <u>RES SB</u>	Project #: <u>09100-06-49</u>	Sampler: <u>C. King</u> (Printed Name)	(Signature)
Relinquished by: <u>[Signature]</u> C. King	Date: <u>7/9/02</u> Time: <u>4:50</u>	Received by: <u>[Signature]</u>	Date: <u>7-9-02</u> Time: <u>5P</u>
Relinquished by: <u>[Signature]</u>	Date: <u>7-9-02</u> Time: <u>18:44</u>	Received by: <u>[Signature]</u>	Date: <u>7/9/02</u> Time: <u>18:44</u>
Relinquished by: <u>[Signature]</u>	Date: _____ Time: _____	Received by: <u>[Signature]</u>	Date: _____ Time: _____

I hereby authorize ATL to perform the work indicated below: Project Mgr./Submitter: <u>[Signature]</u> <u>7/9/02</u>	Send Report To: Attn: <u>Client</u> Co: <u>Client</u> Address: _____ City: _____ State: _____ Zip: _____	Bill To: Attn: <u>Client</u> Co: <u>Client</u> Address: _____ City: _____ State: _____ Zip: _____	Special Instructions/Comments:
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Unless otherwise requested, all samples will be disposed 45 days after receipt.

Sample Archive/Disposal:
 Laboratory Standard
 Other _____
 Return To: _____

* \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.

Circle or Add Analysis(es) Requested 8081 / 8082 (Pesticides/PCB-GC) 8280 (Nitrates-GC/MS) 825 / 8270 (BNA-GC/MS) Metals Total (CAC-8070 / 7000) 8015M TPHGBTEX (COMBINATION) 8015M TPH/D (Diesel-GC) <u>Total / Rec 6070</u>	CIRCLE APPROPRIATE MATRIX SOLID • SOIL • SLUDGE OIL • SOLVENT • LIQUID WATER • WASTEWATER DRINKING WATER AIR WIFE • FILTER OTHER TAT # Type	Q A / Q C RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input type="checkbox"/> CT <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> PRESERVATION REMARKS
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ITEM	LAB USE ONLY:		Sample Description			
	Batch #:	Lab No.	Sample I.D.	Date	Time	
		45	EB1	7/9	1203	
		46	EB2		1220	
		47	EB3		145	
		48	EB4		155	
		49	EB5		201	

• TAT starts 8 a.m. following day if samples received after 5 p.m.	TAT: A= Overnight ≤ 24 hr	B= Emergency Next workday	C= Critical 2 Workdays	D= Urgent 3 Workdays	E= Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

Advanced Technology Laboratories

Date: 7/12/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057841
Project:	Route 5-Southbound, 09100-06-49	Date Received:	7/9/2002 6:44:00
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057841-001A	S1-S	1400	mg/Kg	9476	5	1	7/9/2002	7/11/2002
057841-002A	S1-1	190	mg/Kg	9476	5	1	7/9/2002	7/11/2002
057841-003A	S1-2	33	mg/Kg	9476	5	1	7/9/2002	7/11/2002
057841-004A	S2-S	240	mg/Kg	9476	5	1	7/9/2002	7/11/2002
057841-005A	S2-1	85	mg/Kg	9476	5	1	7/9/2002	7/11/2002
057841-006A	S2-2	71	mg/Kg	9476	5	1	7/9/2002	7/11/2002
057841-007A	S2-3	76	mg/Kg	9476	5	1	7/9/2002	7/11/2002
057841-008A	S3-S	750	mg/Kg	9476	5	1	7/9/2002	7/11/2002
057841-009A	S3-1	340	mg/Kg	9476	5	1	7/9/2002	7/11/2002
057841-010A	S3-2	170	mg/Kg	9476	5	1	7/9/2002	7/11/2002
057841-011A	S4-S	230	mg/Kg	9476	5	1	7/9/2002	7/11/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/12/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057841
Project:	Route 5-Southbound, 09100-06-49	Date Received:	7/9/2002 6:44:00
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057841-012A	S4-1	110	mg/Kg	9476	5	1	7/9/2002	7/11/2002
057841-013A	S4-2	21	mg/Kg	9476	5	1	7/9/2002	7/11/2002
057841-014A	S4-3	32	mg/Kg	9476	5	1	7/9/2002	7/11/2002
057841-015A	S5-S	340	mg/Kg	9476	5	1	7/9/2002	7/11/2002
057841-016A	S5-1	20	mg/Kg	9476	5	1	7/9/2002	7/11/2002
057841-017A	S5-2	6.6	mg/Kg	9476	5	1	7/9/2002	7/11/2002
057841-018A	S5-3	6.2	mg/Kg	9476	5	1	7/9/2002	7/11/2002
057841-019A	S6-S	210	mg/Kg	9476	5	1	7/9/2002	7/11/2002
057841-020A	S6-1	220	mg/Kg	9476	5	1	7/9/2002	7/11/2002
057841-021A	S6-2	110	mg/Kg	9477	5	1	7/9/2002	7/11/2002
057841-022A	S6-3	110	mg/Kg	9477	5	1	7/9/2002	7/11/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



Advanced Technology Laboratories

Date: 7/12/2002

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057841
Project:	Route 5-Southbound, 09100-06-49	Date Received:	7/9/2002 6:44:00
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057841-023A	S7-S	57	mg/Kg	9477	5	1	7/9/2002	7/11/2002
057841-024A	S7-1	70	mg/Kg	9477	5	1	7/9/2002	7/11/2002
057841-025A	S7-2	13	mg/Kg	9477	5	1	7/9/2002	7/11/2002
057841-026A	S7-3	5.3	mg/Kg	9477	5	1	7/9/2002	7/11/2002
057841-027A	S8-S	310	mg/Kg	9477	5	1	7/9/2002	7/11/2002
057841-028A	S8-1	490	mg/Kg	9477	5	1	7/9/2002	7/11/2002
057841-029A	S9-S	220	mg/Kg	9477	5	1	7/9/2002	7/11/2002
057841-030A	S9-1	91	mg/Kg	9477	5	1	7/9/2002	7/11/2002
057841-031A	S9-2	76	mg/Kg	9477	5	1	7/9/2002	7/11/2002
057841-032A	S9-3	9.0	mg/Kg	9477	5	1	7/9/2002	7/11/2002
057841-033A	S10-S	200	mg/Kg	9477	5	1	7/9/2002	7/11/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Environmental	Lab Order:	057841
Project:	Route 5-Southbound, 09100-06-49	Date Received:	7/9/2002 6:44:00
Project No:		Matrix:	Soil
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057841-034A	S10-1	130	mg/Kg	9477	5	1	7/9/2002	7/11/2002
057841-035A	S10-2	23	mg/Kg	9477	5	1	7/9/2002	7/11/2002
057841-036A	S10-3	5.6	mg/Kg	9477	5	1	7/9/2002	7/11/2002
057841-037A	S11-S	300	mg/Kg	9477	5	1	7/9/2002	7/11/2002
057841-038A	S11-1	75	mg/Kg	9477	5	1	7/9/2002	7/11/2002
057841-039A	S11-2	6.0	mg/Kg	9477	5	1	7/9/2002	7/11/2002
057841-040A	S11-3	6.0	mg/Kg	9477	5	1	7/9/2002	7/11/2002
057841-041A	S12-S	1100	mg/Kg	9479	5	1	7/9/2002	7/11/2002
057841-042A	S12-1	47	mg/Kg	9479	5	1	7/9/2002	7/11/2002
057841-043A	S12-2	40	mg/Kg	9479	5	1	7/9/2002	7/11/2002
057841-044A	S12-3	7.2	mg/Kg	9479	5	1	7/9/2002	7/11/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



ICP METALS
EPA 6010B

CLIENT:	Geocon Environmental	Lab Order:	057841
Project:	Route 5-Southbound, 09100-06-49	Date Received:	7/9/2002 6:44:00
Project No:		Matrix:	Water
PO No:		Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057841-045A	EB1	ND	mg/L	9747	0.005	1	7/9/2002	7/22/2002
057841-045A	EB1	0.10	mg/L	9484	0.005	1	7/9/2002	7/11/2002
057841-046A	EB2	ND	mg/L	9484	0.005	1	7/9/2002	7/11/2002
057841-047A	EB3	ND	mg/L	9484	0.005	1	7/9/2002	7/11/2002
057841-048A	EB4	ND	mg/L	9484	0.005	1	7/9/2002	7/11/2002
057841-049A	EB5	ND	mg/L	9484	0.005	1	7/9/2002	7/11/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



pH
EPA 9045C

CLIENT:	Geocon Environmental	Lab Order:	057841
Project:	Route 5-Southbound, 09100-06-49	Date Received:	7/9/2002 6:44:00
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057841-001A	S1-S	6.44	pH Units	R19309	0.1	1	7/9/2002	7/11/2002
057841-010A	S3-2	7.59	pH Units	R19309	0.1	1	7/9/2002	7/11/2002
057841-020A	S6-1	7.30	pH Units	R19309	0.1	1	7/9/2002	7/11/2002
057841-030A	S9-1	7.95	pH Units	R19309	0.1	1	7/9/2002	7/11/2002
057841-040A	S11-3	8.23	pH Units	R19309	0.1	1	7/9/2002	7/11/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057841
Project:	Route 5-Southbound, 09100-06-49	Date Received:	7/9/2002 6:44:00
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057841-002A	S1-1	13	mg/L	9550	0.2	1	7/9/2002	7/17/2002
057841-004A	S2-S	19	mg/L	9550	0.4	2	7/9/2002	7/17/2002
057841-005A	S2-1	6.6	mg/L	9550	0.2	1	7/9/2002	7/17/2002
057841-006A	S2-2	5.3	mg/L	9550	0.2	1	7/9/2002	7/17/2002
057841-007A	S2-3	4.2	mg/L	9550	0.2	1	7/9/2002	7/17/2002
057841-008A	S3-S	52	mg/L	9550	1	5	7/9/2002	7/17/2002
057841-009A	S3-1	25	mg/L	9550	0.4	2	7/9/2002	7/17/2002
057841-010A	S3-2	14	mg/L	9550	0.2	1	7/9/2002	7/17/2002
057841-011A	S4-S	18	mg/L	9550	0.4	2	7/9/2002	7/17/2002
057841-012A	S4-1	9.1	mg/L	9550	0.2	1	7/9/2002	7/17/2002
057841-015A	S5-S	19	mg/L	9550	0.4	2	7/9/2002	7/17/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420

CLIENT:	Geocon Environmental	Lab Order:	057841
Project:	Route 5-Southbound, 09100-06-49	Date Received:	7/9/2002 6:44:00
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057841-019A	S6-S	14	mg/L	9550	0.2	1	7/9/2002	7/17/2002
057841-020A	S6-1	15	mg/L	9550	0.2	1	7/9/2002	7/17/2002
057841-021A	S6-2	8.1	mg/L	9550	0.2	1	7/9/2002	7/17/2002
057841-022A	S6-3	5.8	mg/L	9550	0.2	1	7/9/2002	7/17/2002
057841-023A	S7-S	5.7	mg/L	9550	0.2	1	7/9/2002	7/17/2002
057841-024A	S7-1	3.7	mg/L	9550	0.2	1	7/9/2002	7/17/2002
057841-027A	S8-S	21	mg/L	9550	0.4	2	7/9/2002	7/17/2002
057841-028A	S8-1	35	mg/L	9550	0.8	4	7/9/2002	7/17/2002
057841-029A	S9-S	18	mg/L	9550	0.4	2	7/9/2002	7/17/2002
057841-030A	S9-1	4.1	mg/L	9551	0.2	1	7/9/2002	7/17/2002
057841-031A	S9-2	5.0	mg/L	9551	0.2	1	7/9/2002	7/17/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057841
Project:	Route 5-Southbound, 09100-06-49	Date Received:	7/9/2002 6:44:00
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057841-033A	S10-S	11	mg/L	9551	0.2	1	7/9/2002	7/17/2002
057841-034A	S10-1	6.3	mg/L	9551	0.2	1	7/9/2002	7/17/2002
057841-037A	S11-S	17	mg/L	9551	0.4	2	7/9/2002	7/17/2002
057841-038A	S11-1	3.1	mg/L	9551	0.2	1	7/9/2002	7/17/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
EPA 1311/ 7420**

CLIENT:	Geocon Environmental	Lab Order:	057841
Project:	Route 5-Southbound, 09100-06-49	Date Received:	7/9/2002 6:44:00
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057841-001A	S1-S	0.85	mg/L	9562	0.2	1	7/9/2002	7/16/2002
057841-041A	S12-S	1.8	mg/L	9562	0.2	1	7/9/2002	7/16/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057841
Project:	Route 5-Southbound, 09100-06-49	Date Received:	7/9/2002 6:44:00
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057841-002A	S1-1	ND	mg/L	9554	0.2	1	7/9/2002	7/16/2002
057841-004A	S2-S	1.5	mg/L	9554	0.2	1	7/9/2002	7/16/2002
057841-005A	S2-1	0.85	mg/L	9554	0.2	1	7/9/2002	7/16/2002
057841-006A	S2-2	0.78	mg/L	9554	0.2	1	7/9/2002	7/16/2002
057841-008A	S3-S	4.4	mg/L	9554	0.2	1	7/9/2002	7/16/2002
057841-009A	S3-1	2.5	mg/L	9554	0.2	1	7/9/2002	7/16/2002
057841-010A	S3-2	1.9	mg/L	9554	0.2	1	7/9/2002	7/16/2002
057841-011A	S4-S	0.43	mg/L	9554	0.2	1	7/9/2002	7/16/2002
057841-012A	S4-1	0.82	mg/L	9554	0.2	1	7/9/2002	7/16/2002
057841-015A	S5-S	ND	mg/L	9554	0.2	1	7/9/2002	7/16/2002
057841-019A	S6-S	0.49	mg/L	9554	0.2	1	7/9/2002	7/16/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified



**LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420**

CLIENT:	Geocon Environmental	Lab Order:	057841
Project:	Route 5-Southbound, 09100-06-49	Date Received:	7/9/2002 6:44:00
Project No:		Matrix:	Soil
PO No:		Analyst:	JT

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
057841-020A	S6-1	0.42	mg/L	9554	0.2	1	7/9/2002	7/16/2002
057841-021A	S6-2	0.56	mg/L	9554	0.2	1	7/9/2002	7/16/2002
057841-022A	S6-3	ND	mg/L	9554	0.2	1	7/9/2002	7/16/2002
057841-023A	S7-S	ND	mg/L	9554	0.2	1	7/9/2002	7/16/2002
057841-027A	S8-S	ND	mg/L	9554	0.2	1	7/9/2002	7/16/2002
057841-028A	S8-1	ND	mg/L	9554	0.2	1	7/9/2002	7/16/2002
057841-029A	S9-S	ND	mg/L	9554	0.2	1	7/9/2002	7/16/2002
057841-031A	S9-2	ND	mg/L	9555	0.2	1	7/9/2002	7/16/2002
057841-033A	S10-S	0.43	mg/L	9555	0.2	1	7/9/2002	7/16/2002
057841-034A	S10-1	0.61	mg/L	9555	0.2	1	7/9/2002	7/16/2002
057841-037A	S11-S	ND	mg/L	9555	0.2	1	7/9/2002	7/16/2002

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	Results are wet unless otherwise specified





Advanced Technology Laboratories

Date: 12-Jul-02

CLIENT: Geocon Environmental
Work Order: 057841
Project: Route 5-Southbound,09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and 4 columns for Analyte (Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual). Row 1: MB-9476, MBLK, 6010_SPB, mg/Kg, 7/10/2002, ICP5_020711B, ZZZZZ, 9476, EPA 6010B (EPA 3050M), 7/11/2002, 297529, Lead, ND, 5.0.

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and 4 columns for Analyte (Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual). Row 1: MB-9476B, MBLK, 6010_SPB, mg/Kg, 7/10/2002, ICP5_020711B, ZZZZZ, 9476, EPA 6010B (EPA 3050M), 7/11/2002, 297530, Lead, ND, 5.0.

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and 4 columns for Analyte (Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual). Row 1: MB-9477, MBLK, 6010_SPB, mg/Kg, 7/10/2002, ICP5_020711C, ZZZZZ, 9477, EPA 6010B (EPA 3050M), 7/11/2002, 297557, Lead, ND, 5.0.

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and 4 columns for Analyte (Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual). Row 1: MB-9477B, MBLK, 6010_SPB, mg/Kg, 7/10/2002, ICP5_020711C, ZZZZZ, 9477, EPA 6010B (EPA 3050M), 7/11/2002, 297558, Lead, ND, 5.0.

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and 4 columns for Analyte (Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual). Row 1: MB-9479, MBLK, 6010_SPB, mg/Kg, 7/10/2002, ICP5_020711D, ZZZZZ, 9479, EPA 6010B (EPA 3050M), 7/11/2002, 297568, Lead, ND, 5.0.

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057841
Project: Route 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	LCS-9476	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/10/2002	Run ID:	ICP5_020711B			
Client ID:	ZZZZZ	Batch ID:	9476	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/11/2002	SeqNo:	297528			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 263.6 5.0 250 0 105 80 120 0 0

Sample ID	LCS-9477	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/10/2002	Run ID:	ICP5_020711C			
Client ID:	ZZZZZ	Batch ID:	9477	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/11/2002	SeqNo:	297556			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 270.4 5.0 250 0 108 80 120 0 0

Sample ID	LCS-9479	SampType:	LCS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/10/2002	Run ID:	ICP5_020711D			
Client ID:	ZZZZZ	Batch ID:	9479	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/11/2002	SeqNo:	297567			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 275.2 5.0 250 0 110 80 120 0 0

Sample ID	057841-010AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/10/2002	Run ID:	ICP5_020711B			
Client ID:	S3-2	Batch ID:	9476	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/11/2002	SeqNo:	297514			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 358 5.0 250 172.6 74.1 47 128 0 0

Sample ID	057841-020AMS	SampType:	MS	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/10/2002	Run ID:	ICP5_020711B			
Client ID:	S6-1	Batch ID:	9476	TestNo:	EPA 6010B	(EPA 3050M)		Analysis Date:	7/11/2002	SeqNo:	297526			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 423.7 5.0 250 224.2 79.8 47 128 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057841
Project: Route 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID 057841-030AMS	SampType: MS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/10/2002	Run ID: ICP5_020711C						
Client ID: S9-1	Batch ID: 9477	TestNo: EPA 6010B (EPA 3050M)		Analysis Date: 7/11/2002	SeqNo: 297542						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	263.6	5.0	250	90.64	69.2	47	128	0	0	
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Sample ID 057841-040AMS	SampType: MS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/10/2002	Run ID: ICP5_020711C						
Client ID: S11-3	Batch ID: 9477	TestNo: EPA 6010B (EPA 3050M)		Analysis Date: 7/11/2002	SeqNo: 297554						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	170.6	5.0	250	6.043	65.8	47	128	0	0	
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Sample ID 057841-044AMS	SampType: MS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/10/2002	Run ID: ICP5_020711D						
Client ID: S12-3	Batch ID: 9479	TestNo: EPA 6010B (EPA 3050M)		Analysis Date: 7/11/2002	SeqNo: 297564						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	181.8	5.0	250	7.234	69.8	47	128	0	0	
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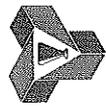
Sample ID 057841-010ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/10/2002	Run ID: ICP5_020711B						
Client ID: S3-2	Batch ID: 9476	TestNo: EPA 6010B (EPA 3050M)		Analysis Date: 7/11/2002	SeqNo: 297513						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	213.1	5.0	0	0	0	0	0	172.6	21.0	30
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Sample ID 057841-020ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 7/10/2002	Run ID: ICP5_020711B						
Client ID: S6-1	Batch ID: 9476	TestNo: EPA 6010B (EPA 3050M)		Analysis Date: 7/11/2002	SeqNo: 297525						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	195.7	5.0	0	0	0	0	0	224.2	13.6	30
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Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	DO- Surrogate dilute out
	J - Analyte detected below quantitation limits	B - Analyte detected in the associated Method Blank	H - Sample exceeded holding time
	R - RPD outside accepted recovery limits	Calculations are based on raw values	



CLIENT: Geocon Environmental
Work Order: 057841
Project: Route 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID	057841-030ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/10/2002	Run ID:	ICP5_020711C			
Client ID:	S9-1	Batch ID:	9477	TestNo:	EPA 6010B (EPA 3050M)			Analysis Date:	7/11/2002	SeqNo:	297541			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 76.51 5.0 0 0 0 0 0 90.64 16.9 30

Sample ID	057841-040ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/10/2002	Run ID:	ICP5_020711C			
Client ID:	S11-3	Batch ID:	9477	TestNo:	EPA 6010B (EPA 3050M)			Analysis Date:	7/11/2002	SeqNo:	297553			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 5.552 5.0 0 0 0 0 0 6.043 8.47 30

Sample ID	057841-044ADUP	SampType:	DUP	TestCode:	6010_SPB	Units:	mg/Kg	Prep Date:	7/10/2002	Run ID:	ICP5_020711D			
Client ID:	S12-3	Batch ID:	9479	TestNo:	EPA 6010B (EPA 3050M)			Analysis Date:	7/11/2002	SeqNo:	297563			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.625 5.0 0 0 0 0 0 7.234 5.25 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057841
Project: Route 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPB

Sample ID	MB-9484	SampType:	MBLK	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/10/2002	Run ID:	ICP2_020711F												
Client ID:	ZZZZZ	Batch ID:	9484	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/11/2002	SeqNo:	297603												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead ND 0.0050

Sample ID	LCS-9484	SampType:	LCS	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/10/2002	Run ID:	ICP2_020711F												
Client ID:	ZZZZZ	Batch ID:	9484	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/11/2002	SeqNo:	297604												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 0.99 0.0050 1 0 99 80 120 0 0

Sample ID	057842-055AMS	SampType:	MS	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/10/2002	Run ID:	ICP2_020711F												
Client ID:	ZZZZZ	Batch ID:	9484	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/11/2002	SeqNo:	297618												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead 2.51 0.0050 2.5 0 100 66 118 0 0

Sample ID	057842-055ADUP	SampType:	DUP	TestCode:	6010_WPB	Units:	mg/L	Prep Date:	7/10/2002	Run ID:	ICP2_020711F												
Client ID:	ZZZZZ	Batch ID:	9484	TestNo:	EPA 6010B (EPA 3010A)			Analysis Date:	7/11/2002	SeqNo:	297616												
Analyte		Result		PQL		SPK value		SPK Ref Val		%REC		LowLimit		HighLimit		RPD Ref Val		%RPD		RPDLimit		Qual	

Lead ND 0.0050 0 0 0 0 0 0 0 0 0 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



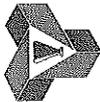
CLIENT: Geocon Environmental
Work Order: 057841
Project: Route 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 9045_S

Sample ID: 057842-050ADUP	SampType: DUP	TestCode: 9045_S	Units: pH Units	Prep Date: 7/11/2002	Run ID: WETCHEM_020711C						
Client ID: ZZZZZ	Batch ID: R19309	TestNo: EPA 9045C		Analysis Date: 7/11/2002	SeqNo: 297600						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	8.03	0.10	0	0	0	0	0	8.01	0.249	20	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**



Advanced Technology Laboratories

Date: 18-Jul-02

CLIENT: Geocon Environmental
Work Order: 057841
Project: Route 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9550, MBLK, 7420_ST, mg/L, 7/17/2002, AA2_020717A, ZZZZZ, 9550, WET/ EPA 74 (WET), 7/17/2002, 300401, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9550A, MBLK, 7420_ST, mg/L, 7/13/2002, AA2_020717A, ZZZZZ, 9550, WET/ EPA 74 (WET), 7/17/2002, 300402, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9550B, MBLK, 7420_ST, mg/L, 7/13/2002, AA2_020717A, ZZZZZ, 9550, WET/ EPA 74 (WET), 7/17/2002, 300415, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9551, MBLK, 7420_ST, mg/L, 7/17/2002, AA2_020717B, ZZZZZ, 9551, WET/ EPA 74 (WET), 7/17/2002, 300430, Lead, ND, 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual. Row 1: MB-9551A, MBLK, 7420_ST, mg/L, 7/13/2002, AA2_020717B, ZZZZZ, 9551, WET/ EPA 74 (WET), 7/17/2002, 300431, Lead, 0.07002, 0.20

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057841
Project: Route 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	MB-9551B	SampType:	MBLK	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/13/2002	Run ID:	AA2_020717B			
Client ID:	ZZZZZ	Batch ID:	9551	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/17/2002	SeqNo:	300444			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		ND		0.20										
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Sample ID	LCS-9550	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/17/2002	Run ID:	AA2_020717A			
Client ID:	ZZZZZ	Batch ID:	9550	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/17/2002	SeqNo:	300429			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		7.491		0.20	7.5	0		99.9	80	120	0	0		
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Sample ID	LCS-9551	SampType:	LCS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/17/2002	Run ID:	AA2_020717B			
Client ID:	ZZZZZ	Batch ID:	9551	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/17/2002	SeqNo:	300458			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		7.471		0.20	7.5	0		99.6	80	120	0	0		
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Sample ID	057841-012AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/17/2002	Run ID:	AA2_020717A			
Client ID:	S4-1	Batch ID:	9550	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/17/2002	SeqNo:	300414			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		14.03		0.20	5	9.102		98.6	80	120	0	0		
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Sample ID	057841-029AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/17/2002	Run ID:	AA2_020717A			
Client ID:	S9-S	Batch ID:	9550	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/17/2002	SeqNo:	300427			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		27.94		0.40	10	18.1		98.4	80	120	0	0		
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057841
Project: Route 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	057842-007AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/17/2002	Run ID:	AA2_020717B			
Client ID:	ZZZZZ	Batch ID:	9551	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/17/2002	SeqNo:	300443			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		8.479		0.20	5	3.853		92.5	80	120	0		0	
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Sample ID	057842-032AMS	SampType:	MS	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/17/2002	Run ID:	AA2_020717B			
Client ID:	ZZZZZ	Batch ID:	9551	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/17/2002	SeqNo:	300456			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		67.84		1.0	25	46.92		83.7	80	120	0		0	
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Sample ID	057841-012ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/13/2002	Run ID:	AA2_020717A			
Client ID:	S4-1	Batch ID:	9550	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/17/2002	SeqNo:	300413			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		8.149		0.20	0	0		0	0	0	9.102		11.0	30
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Sample ID	057841-029ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/13/2002	Run ID:	AA2_020717A			
Client ID:	S9-S	Batch ID:	9550	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/17/2002	SeqNo:	300426			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		14.96		0.40	0	0		0	0	0	18.1		19.0	30
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Sample ID	057842-007ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/13/2002	Run ID:	AA2_020717B			
Client ID:	ZZZZZ	Batch ID:	9551	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/17/2002	SeqNo:	300442			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead		3.95		0.20	0	0		0	0	0	3.853		2.48	30
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057841
Project: Route 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID	057842-032ADUP	SampType:	DUP	TestCode:	7420_ST	Units:	mg/L	Prep Date:	7/13/2002	Run ID:	AA2_020717B		
Client ID:	ZZZZZ	Batch ID:	9551	TestNo:	WET/ EPA 74 (WET)			Analysis Date:	7/17/2002	SeqNo:	300455		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		48.39		0.80	0	0	0	0	0	46.92	3.09	30	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**



Advanced Technology Laboratories

Date: 18-Jul-02

CLIENT: Geocon Environmental
Work Order: 057841
Project: Route 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Table row for Sample ID MB-9562, Analyte Lead, Result ND, PQL 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Table row for Sample ID MB-9559-TCLP, Analyte Lead, Result ND, PQL 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Table row for Sample ID LCS-9562, Analyte Lead, Result 1.053, PQL 0.20, SPK value 1, SPK Ref Val 0, %REC 105, LowLimit 80, HighLimit 120, RPD Ref Val 0, %RPD 0

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual

Table row for Sample ID 057841-041AMS, Analyte Lead, Result 4.023, PQL 0.20, SPK value 2.5, SPK Ref Val 1.796, %REC 89.1, LowLimit 80, HighLimit 120, RPD Ref Val 0, %RPD 0

Qualifiers: ND - Not Detected at the Reporting Limit, S - Spike Recovery outside accepted recovery limits, DO- Surrogate dilute out, J - Analyte detected below quantitation limits, B - Analyte detected in the associated Method Blank, H - Sample exceeded holding time, R - RPD outside accepted recovery limits, Calculations are based on raw values



Advanced Technology Laboratories

Date: 18-Jul-02

CLIENT: Geocon Environmental
Work Order: 057841
Project: Route 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and a header row for Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual.

Lead ND 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and a header row for Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual.

Lead ND 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and a header row for Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual.

Lead ND 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and a header row for Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual.

Lead ND 0.20

Table with 12 columns: Sample ID, SampType, TestCode, Units, Prep Date, Run ID, Client ID, Batch ID, TestNo, Analysis Date, SeqNo, and a header row for Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, RPD Ref Val, %RPD, RPDLimit, Qual.

Lead ND 0.20

Qualifiers: ND - Not Detected at the Reporting Limit, S - Spike Recovery outside accepted recovery limits, DO- Surrogate dilute out, J - Analyte detected below quantitation limits, B - Analyte detected in the associated Method Blank, H - Sample exceeded holding time, R - RPD outside accepted recovery limits, Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057841
Project: Route 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	MB-9555B	SampType:	MBLK	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/13/2002	Run ID:	AA2_020716C			
Client ID:	ZZZZZ	Batch ID:	9555	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/16/2002	SeqNo:	300058			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.20

Sample ID	LCS-9554	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/16/2002	Run ID:	AA2_020716B			
Client ID:	ZZZZZ	Batch ID:	9554	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/16/2002	SeqNo:	300028			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.518 0.20 7.5 0 100 80 120 0 0

Sample ID	LCS-9555	SampType:	LCS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/16/2002	Run ID:	AA2_020716C			
Client ID:	ZZZZZ	Batch ID:	9555	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/16/2002	SeqNo:	300072			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 7.689 0.20 7.5 0 103 80 120 0 0

Sample ID	057841-012AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/16/2002	Run ID:	AA2_020716B			
Client ID:	S4-1	Batch ID:	9554	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/16/2002	SeqNo:	300013			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 5.993 0.20 5 0.822 103 80 120 0 0

Sample ID	057841-029AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/16/2002	Run ID:	AA2_020716B			
Client ID:	S9-S	Batch ID:	9554	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/16/2002	SeqNo:	300026			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 5.466 0.20 5 0.1222 107 80 120 0 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057841
Project: Route 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	057842-007AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/16/2002	Run ID:	AA2_020716C			
Client ID:	ZZZZZ	Batch ID:	9555	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/16/2002	SeqNo:	300057			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	5.464	0.20	5	0	109	80	120	0	0					
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Sample ID	057842-032AMS	SampType:	MS	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/16/2002	Run ID:	AA2_020716C			
Client ID:	ZZZZZ	Batch ID:	9555	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/16/2002	SeqNo:	300070			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	20.55	0.40	10	10.22	103	80	120	0	0					
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Sample ID	057841-012ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/13/2002	Run ID:	AA2_020716B			
Client ID:	S4-1	Batch ID:	9554	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/16/2002	SeqNo:	300012			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	0.6426	0.20	0	0	0	0	0	0.822	24.5	30				
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Sample ID	057841-029ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/13/2002	Run ID:	AA2_020716B			
Client ID:	S9-S	Batch ID:	9554	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/16/2002	SeqNo:	300025			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	0.2461	0.20	0	0	0	0	0	0.1222	67.3	30	R			
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Sample ID	057842-007ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/13/2002	Run ID:	AA2_020716C			
Client ID:	ZZZZZ	Batch ID:	9555	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/16/2002	SeqNo:	300056			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	ND	0.20	0	0	0	0	0	0	0	30				
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Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits Calculations are based on raw values



CLIENT: Geocon Environmental
Work Order: 057841
Project: Route 5-Southbound, 09100-06-49

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID	057842-032ADUP	SampType:	DUP	TestCode:	7420_DI	Units:	mg/L	Prep Date:	7/13/2002	Run ID:	AA2_020716C		
Client ID:	ZZZZZ	Batch ID:	9555	TestNo:	WET DI/ EPA (WET)			Analysis Date:	7/16/2002	SeqNo:	300069		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		10.59		0.20	0	0	0	0	0	10.22	3.58	30	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits DO- Surrogate dilute out
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank H - Sample exceeded holding time
 R - RPD outside accepted recovery limits **Calculations are based on raw values**

REVISIONS
BY _____ DATE _____
BY _____ DATE _____

All samples → total lead (6010)
Total lead \geq 50 mg/kg → WET-Citric
WET-Citric \geq 5 mg/L → WET-DI
Total lead \geq 1000 mg/kg → TCLP
10% → Soil pH (9045)

Please call me when all totals have been run. I will instruct you on which samples should be run for Title 22 metals.

Thank you -
Chris King

BY _____ DATE _____
CHECKED BY _____

Diane

From: Chris King [king@geoconinc.com]
Sent: Friday, July 19, 2002 11:21 AM
To: 'Diane'
Subject: 09100-06-49

Could you please rerun sample EB1 (057841-045A) for total lead. Thank You.

Christopher S. King
Senior Staff Engineer
Geocon Consultants, Inc.

Diane

From: Chris King [king@geoconinc.com]

Sent: Monday, July 22, 2002 10:57 AM

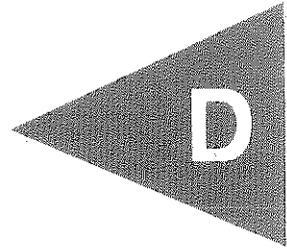
To: 'Diane'

Subject: 09100-06-49

Diane - please run the 15 samples with the highest total lead content for Title 22 metals. Please do this for each direction (northbound and southbound), so the total number of tests will be 30. Thank you and please call me if you have any questions.

Christopher S. King
Senior Staff Engineer
Geocon Consultants, Inc.

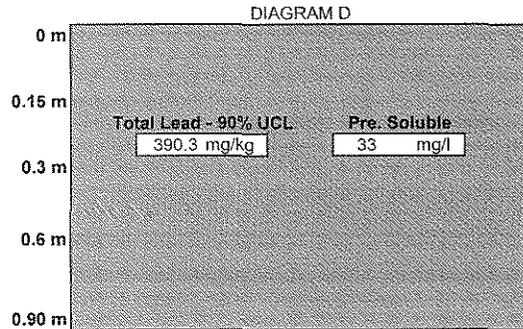
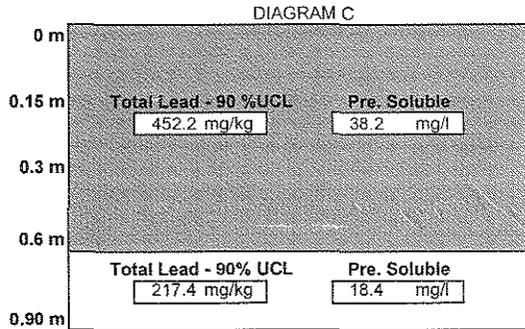
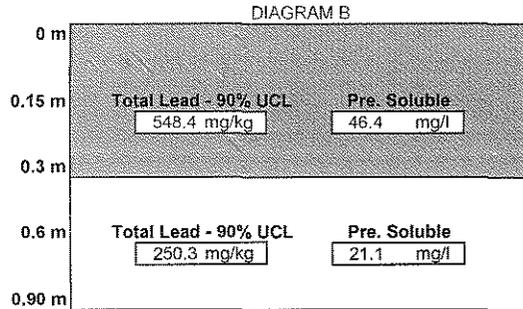
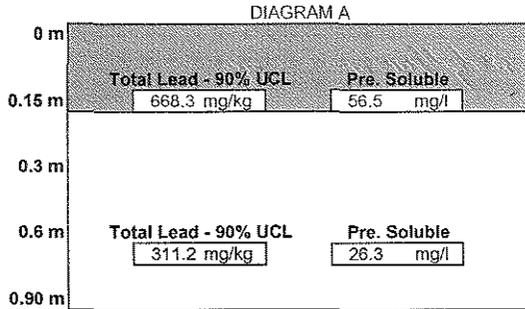
APPENDIX



D

Task Order Number: 07-2159A0-RR
 EA: 2159A0
 Project Name: Route 5 - Southbound
 Project No.: 09100-06-49

Block Diagrams For Potential Caltrans Right-Of-Way Re-Use
 One-Tailed 90% UCLs for Arcsine Transformation

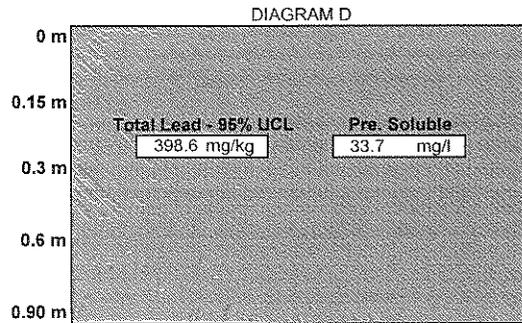
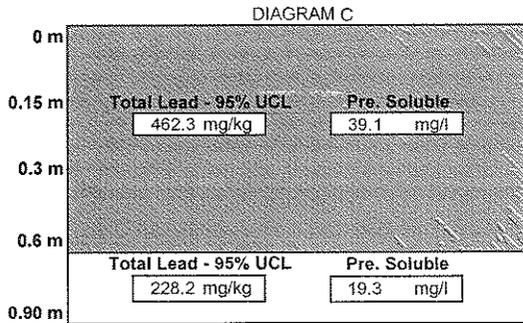
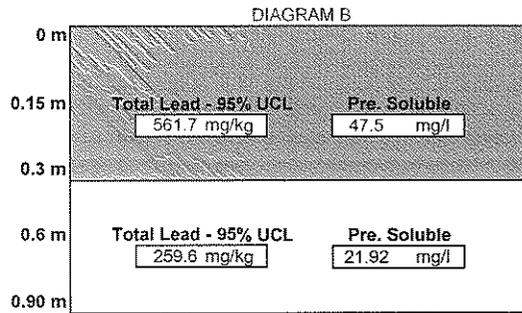
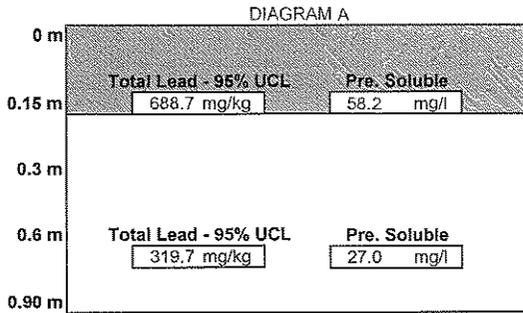


- DIAGRAM A -- Separate the top 0.15 m of soil from the remaining underlying soil
- DIAGRAM B -- Separate the top 0.30 m of soil from the remaining underlying soil
- DIAGRAM C -- Separate the top 0.60 m of soil from the remaining underlying soil
- DIAGRAM D -- Treat the entire section as a single unit

The above diagrams show the total and predicted soluble lead concentrations in each grouping of soil depending on how the various levels of soil are segregated. For instance, Diagram A shows a scenario where the top 0.15 m of soil is excavated and kept separate from the underlying soil. In this case, the top 0.15 m of soil would be expected to exhibit a total lead concentration of 668.3 mg/kg. The underlying soil would be expected to exhibit a total lead concentration of 311.2 mg/kg.

Task Order Number: 07-2159A0-RR
 EA: 2159A0
 Project Name: Route 5 - Southbound
 Project No.: 09100-06-49

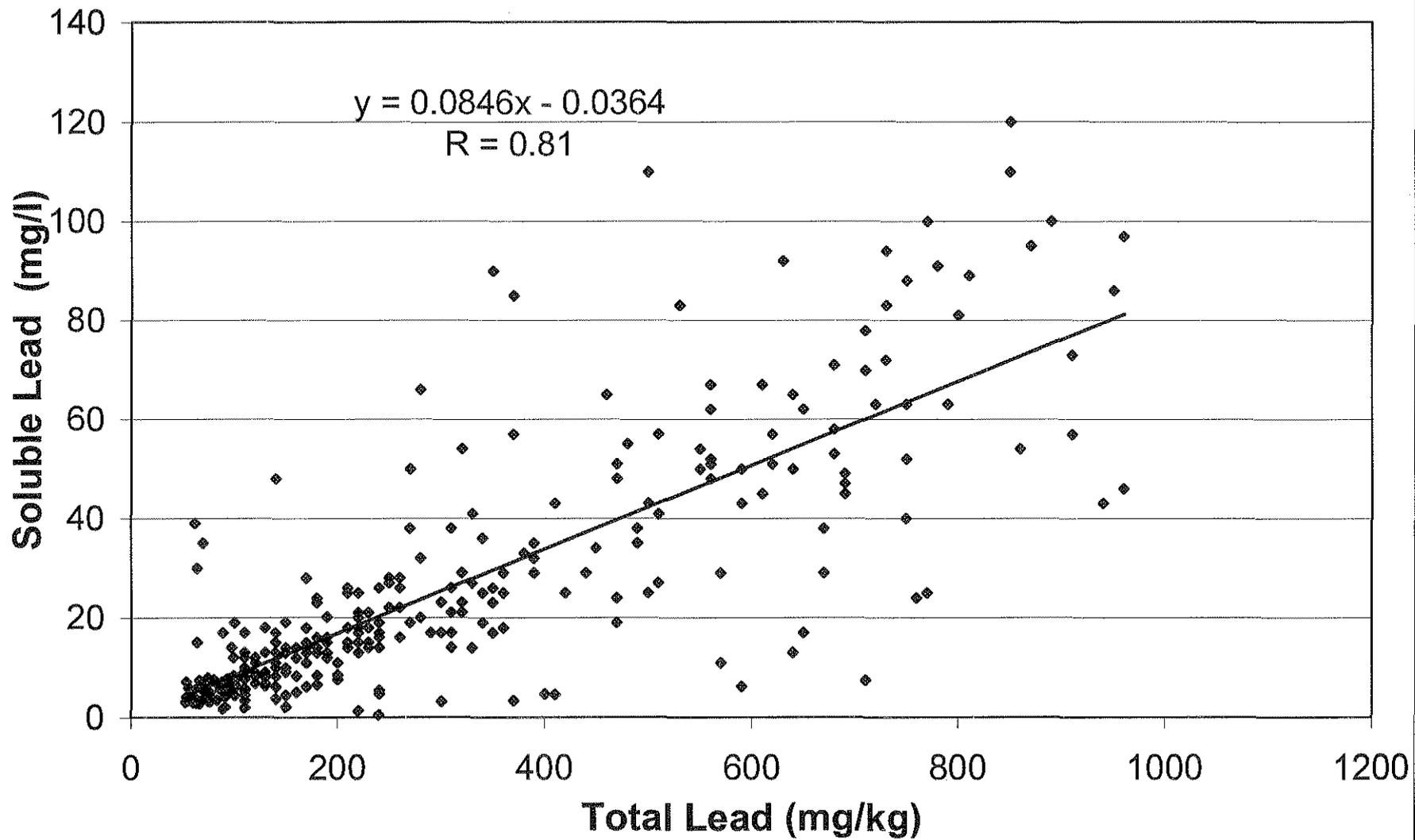
**Block Diagrams For Potential Disposal or Relinquishment to Contractor
 One-Tailed 95% UCLs for Arcsine Transformation**



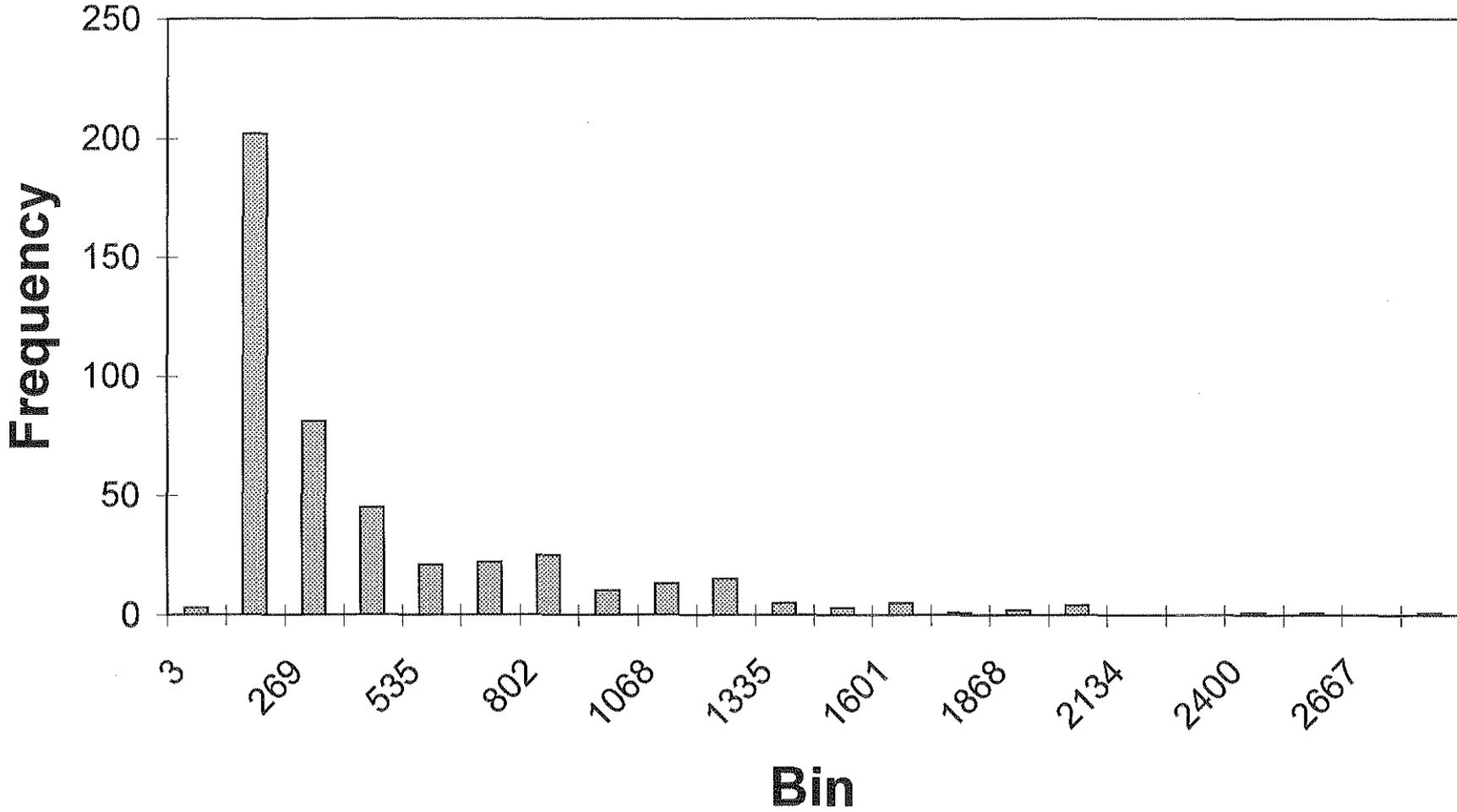
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The above diagrams show the total and predicted soluble lead concentrations in each grouping of soil depending on how the various levels of soil are segregated. For instance, Diagram A shows a scenario where the top 0.15 m of soil is excavated and kept separate from the underlying soil. In this case, the top 0.15 m of soil would be expected to exhibit a total lead concentration of 688.7 mg/kg. The underlying soil would be expected to exhibit a total lead concentration of 319.7 mg/kg.

Regression Analysis Route 5 Southbound

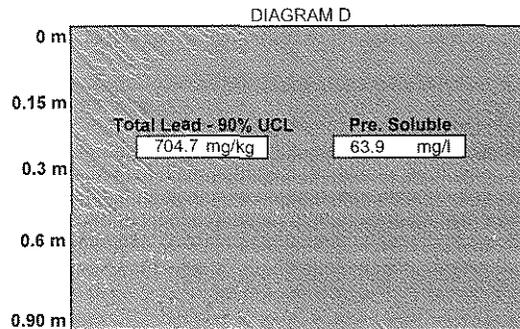
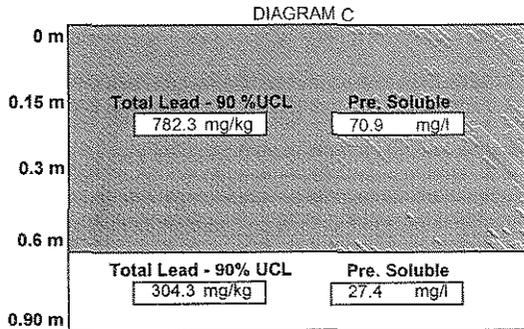
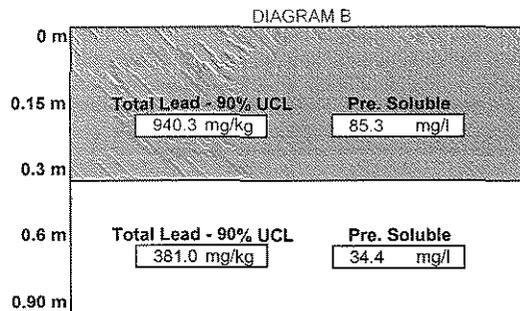
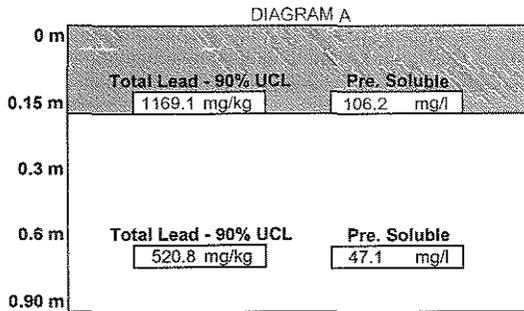


Histogram for Route 5 Southbound



Task Order Number: 07-2159A0-RR
 EA: 2159A0
 Project Name: Route 5 - Northbound
 Project No.: 09100-06-49

**Block Diagrams For Potential Caltrans Right-Of-Way Re-Use
 One-Tailed 90% UCLs for Arcsine Transformation**

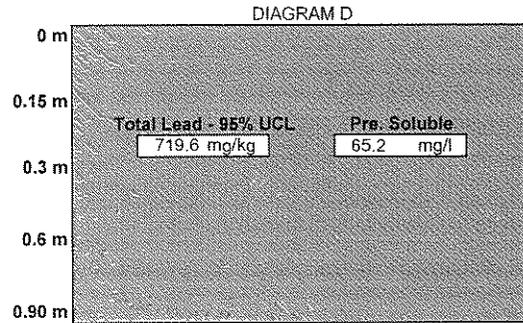
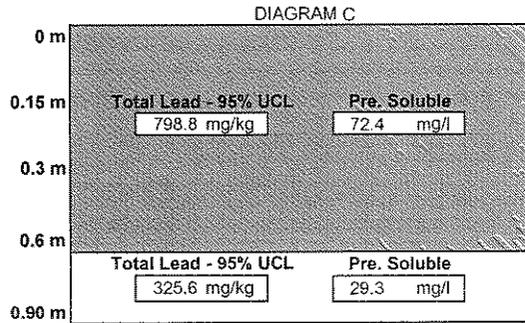
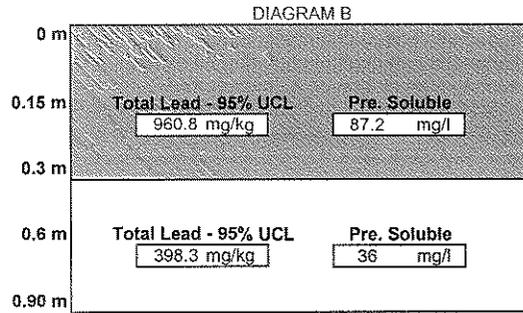
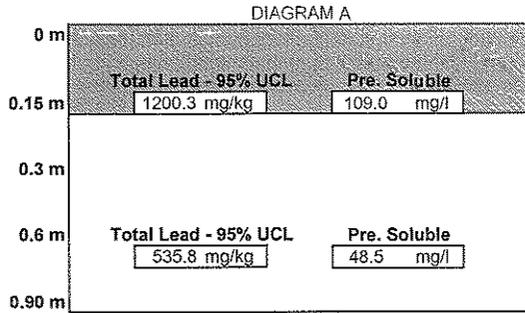


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- DIAGRAM D -- Treat the entire section as a single unit

The above diagrams show the total and predicted soluble lead concentrations in each grouping of soil depending on how the various levels of soil are segregated. For instance, Diagram A shows a scenario where the top 0.15 m of soil is excavated and kept separate from the underlying soil. In this case, the top 0.15 m of soil would be expected to exhibit a total lead concentration of 1169.1 mg/kg. The underlying soil would be expected to exhibit a total lead concentration of 520.8 mg/kg.

Task Order Number: 07-2159A0-RR
 EA: 2159A0
 Project Name: Route 5 - Northbound
 Project No.: 09100-06-49

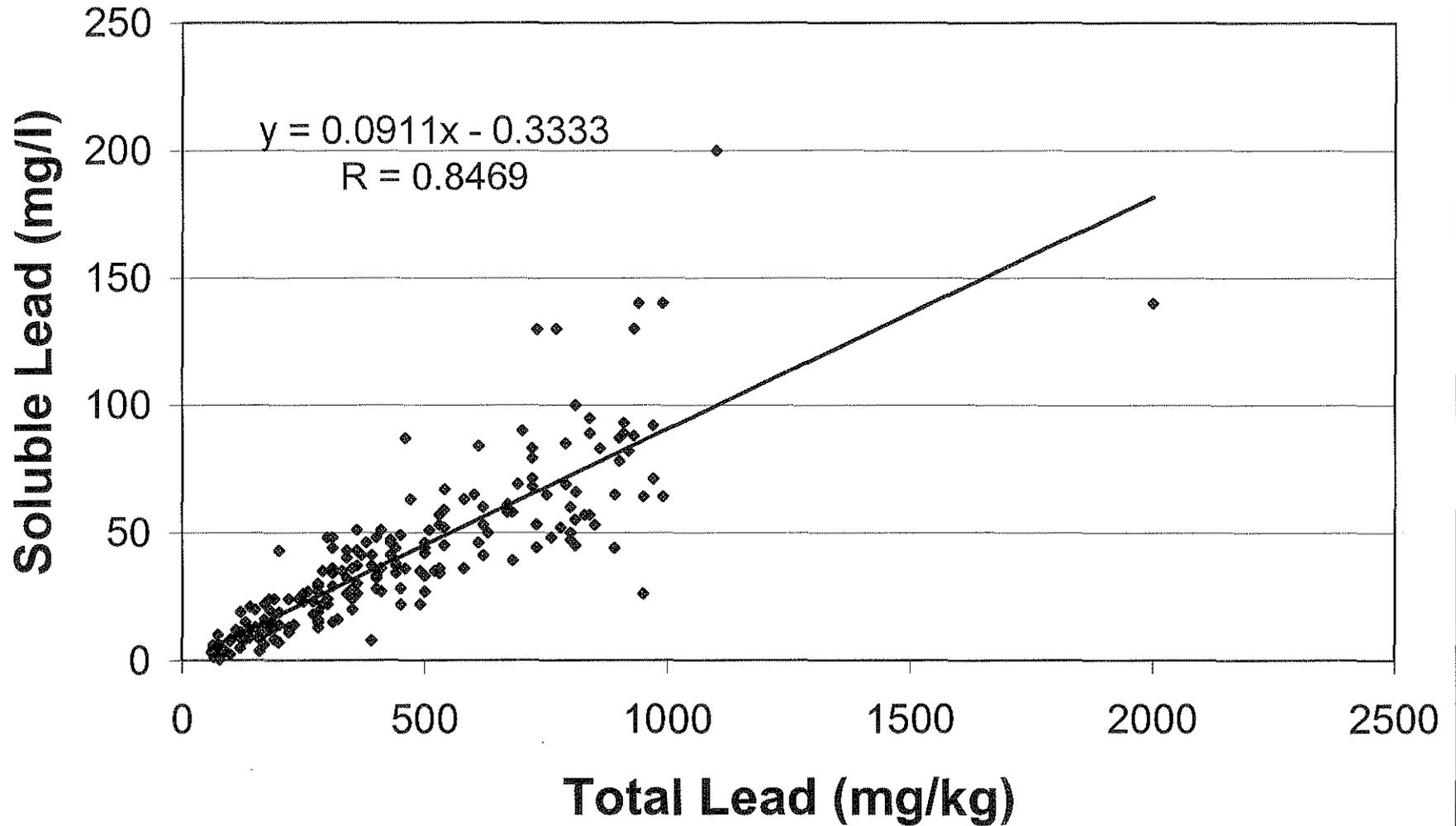
**Block Diagrams For Potential Disposal or Relinquishment to Contractor
 One-Tailed 95% UCLs for Arcsine Transformation**



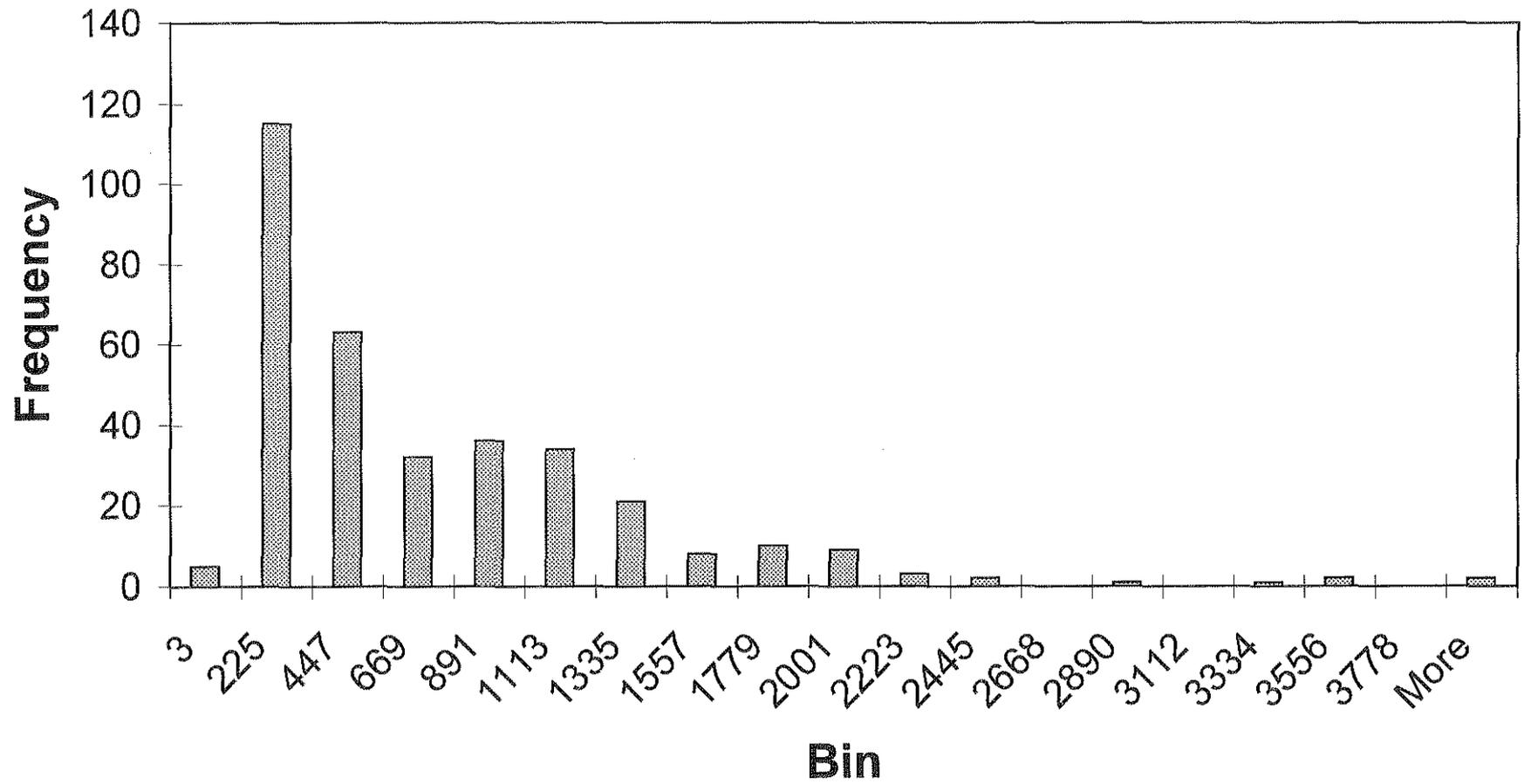
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The above diagrams show the total and predicted soluble lead concentrations in each grouping of soil depending on how the various levels of soil are segregated. For instance, Diagram A shows a scenario where the top 0.15 m of soil is excavated and kept separate from the underlying soil. In this case, the top 0.15 m of soil would be expected to exhibit a total lead concentration of 1200.3 mg/kg. The underlying soil would be expected to exhibit a total lead concentration of 535.8 mg/kg.

Regression Analysis Route 5 Northbound



Histogram for Route 5 Northbound



Right-of-Way Information

NOTES:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

LEGEND:

(NO.) PARCEL NUMBER

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA, Orca	5	0.0/1.5 44.3/44.4		

REGISTERED CIVIL ENGINEER DATE _____

PLANS APPROVAL DATE _____

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Caltrans OFFICE OF DESIGN A

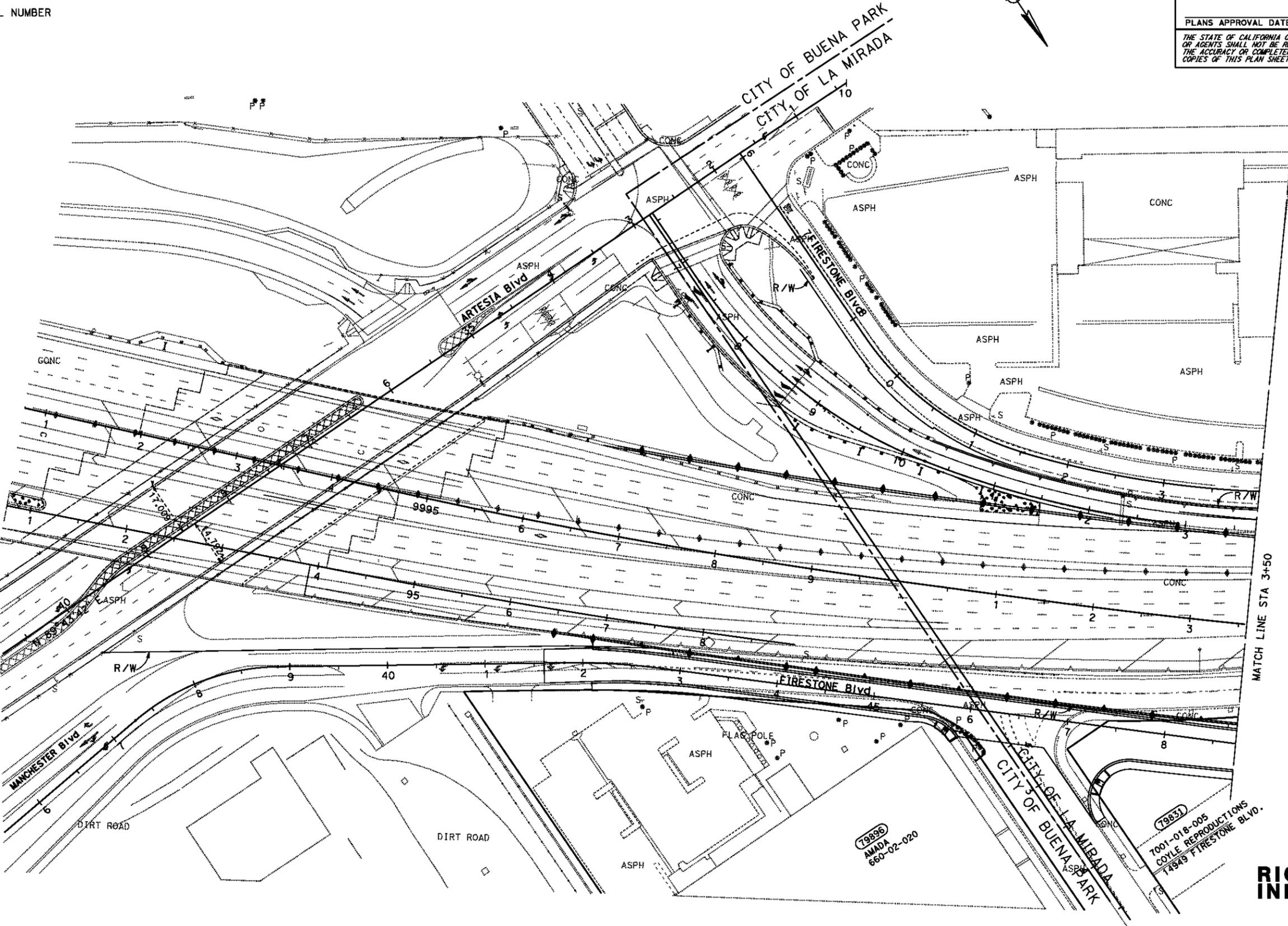
FUNCTIONAL SUPERVISOR _____

CHECKED BY _____

DESIGNED BY _____

REVISOR BY _____

DATE REVISOR _____

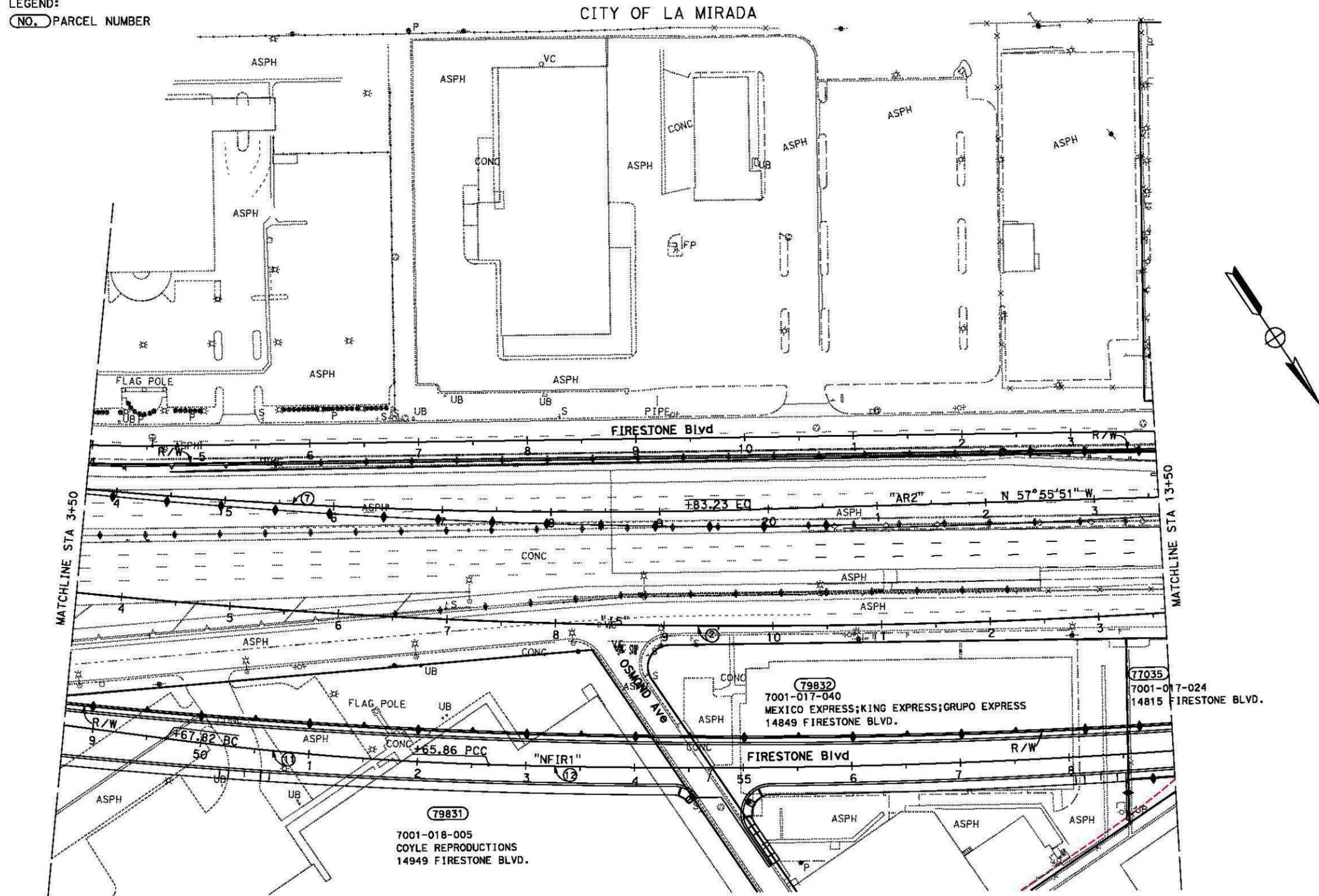


NOTES:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

LEGEND:

(NO.) PARCEL NUMBER



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA, Ord	5	0.0/1.5 44.3/44.4		

REGISTERED CIVIL ENGINEER DATE _____

PLANS APPROVAL DATE _____

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FUNCTIONAL SUPERVISOR

DESIGNED BY

CHECKED BY

REVISOR

DATE

REVISOR

DATE

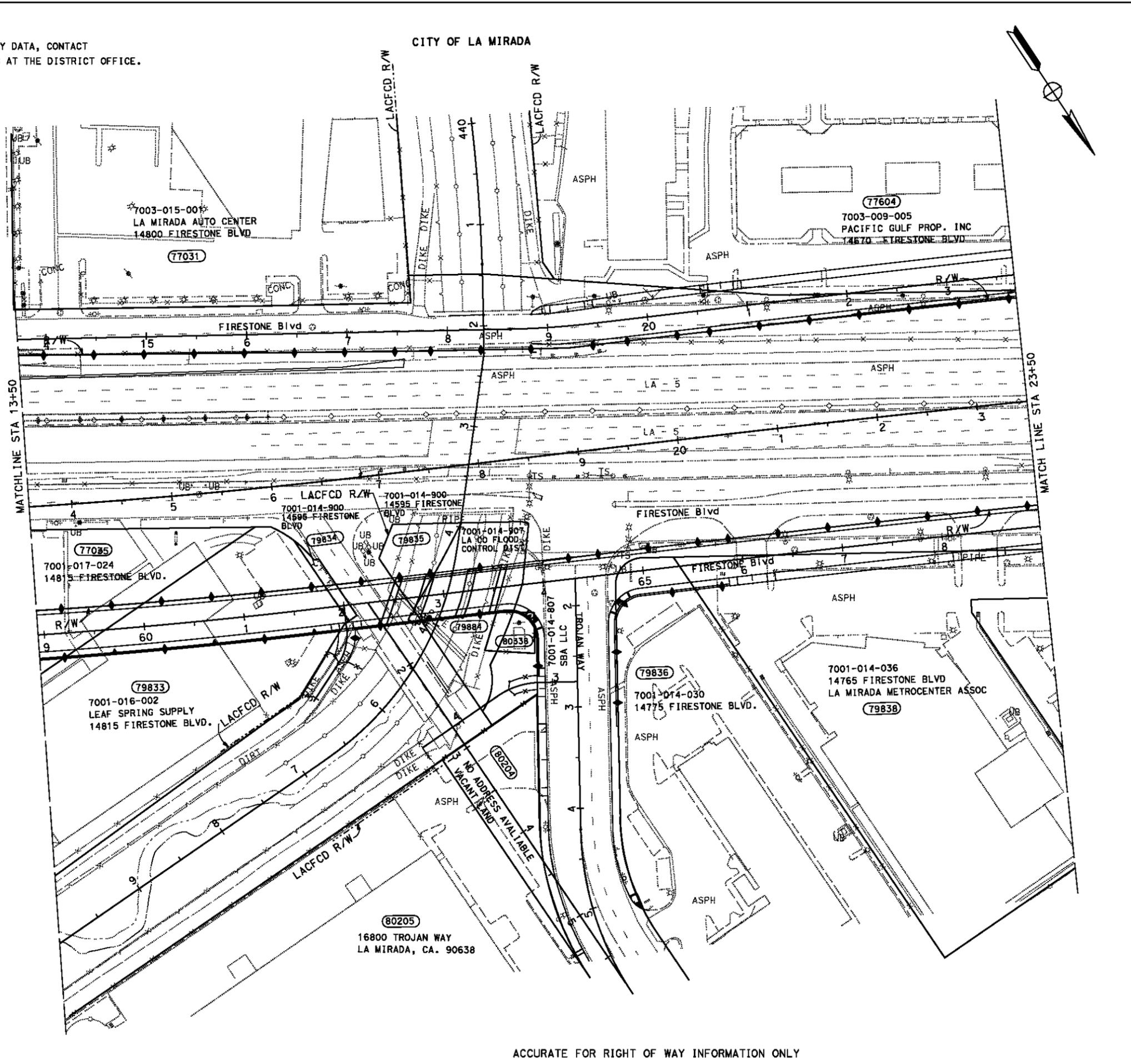
RIGHT-OF-WAY INFORMATION
NO SCALE

RI-2

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Caltrans OFFICE OF DESIGN A

FUNCTIONAL SUPERVISOR
 CALCULATED-DESIGNED BY
 CHECKED BY
 BIJAN PIRZADEH
 REVISED BY
 DATE REVISED



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA, Ora	5	0.0/1.5 44.3/44.4		

REGISTERED CIVIL ENGINEER DATE _____
 PLANS APPROVAL DATE _____

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RIGHT-OF-WAY INFORMATION
 NO SCALE

ACCURATE FOR RIGHT OF WAY INFORMATION ONLY

UNIT 1795 PROJECT NUMBER & PHASE 0700018321

DATE PLOTTED => 05-JUN-2015
 TIME PLOTTED => 14:14

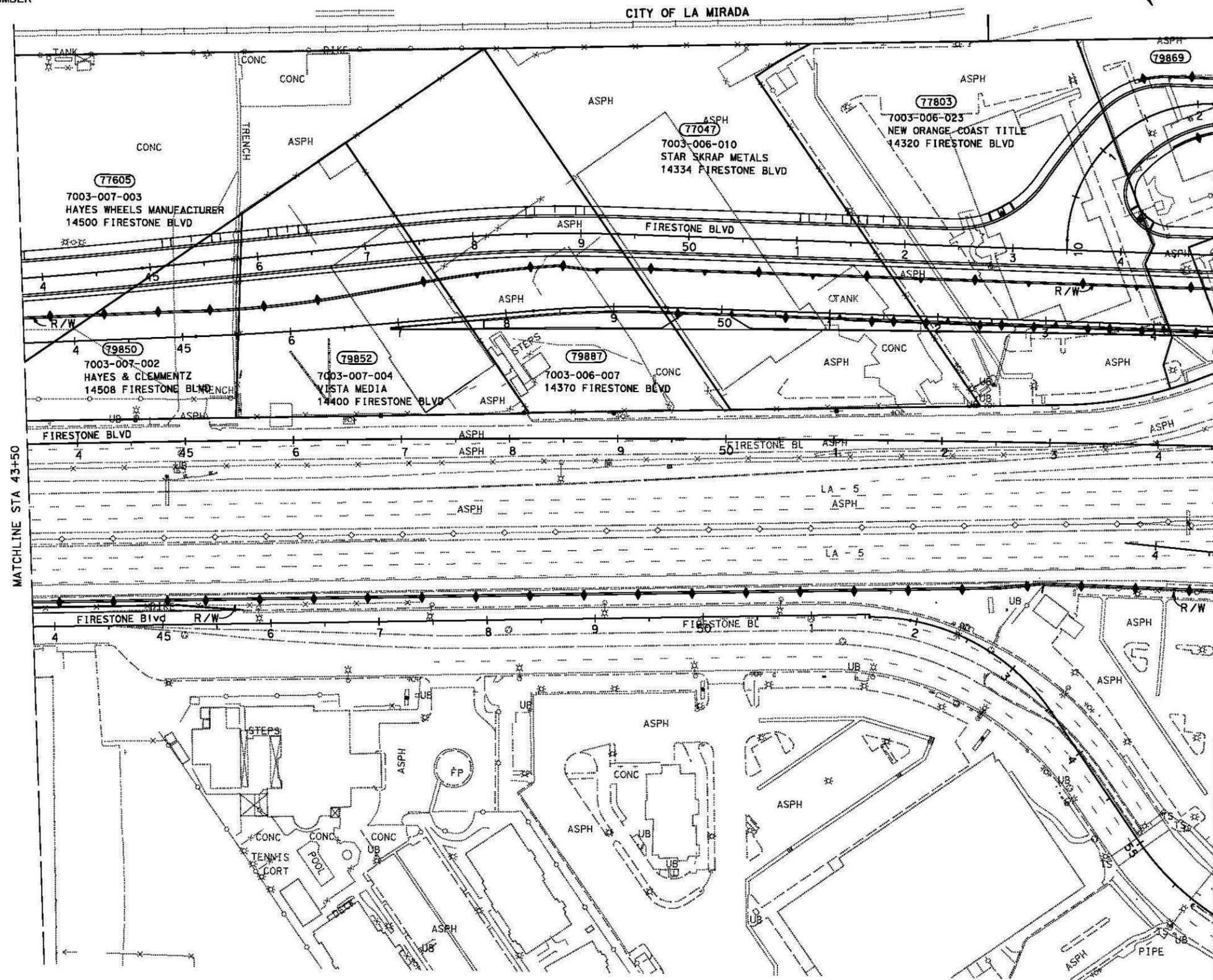
RI-3

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Caltrans OFFICE OF DESIGN A

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 BIJAN PIRZADEH
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NOTES:
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 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

LEGEND:
 (NO.) PARCEL NUMBER



MATCHLINE STA 43+50
 MATCHLINE STA 53+50

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA, Ord	5	0.0/1.5 44.3/44.4		

REGISTERED CIVIL ENGINEER DATE _____
 PLANS APPROVAL DATE _____

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
 No. _____
 Exp. _____
 CIVIL
 STATE OF CALIFORNIA

7003-006-022
 LENS TECHNOLOGY I LLC
 MISC OFFICES
 14256 Firestone Blvd

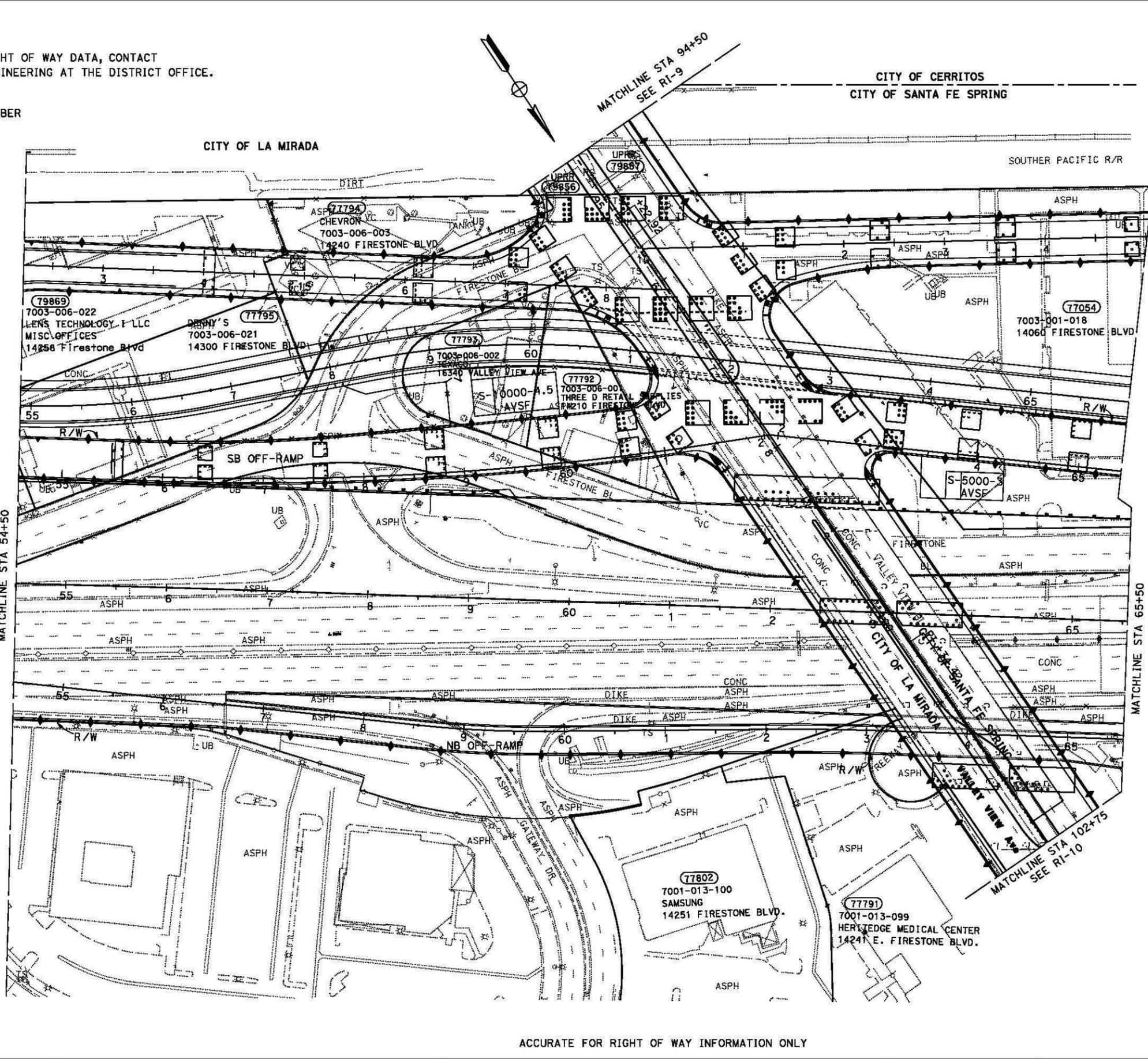
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RIGHT-OF-WAY INFORMATION
 NO SCALE

RI-6

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF DESIGN A

FUNCTIONAL SUPERVISOR
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 CHECKED BY
 BIJAN PIRZADEH
 REVISOR BY
 DATE REVISED



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA, Orca	5	0.0/1.5 44.3/44.4		

REGISTERED CIVIL ENGINEER DATE _____
 PLANS APPROVAL DATE _____
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RIGHT-OF-WAY INFORMATION
 NO SCALE

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RI-7

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF DESIGN A

FUNCTIONAL SUPERVISOR
 CALCULATED/DESIGNED BY
 CHECKED BY
 BIJAN PIRZADEH
 REVISED BY
 DATE REVISED

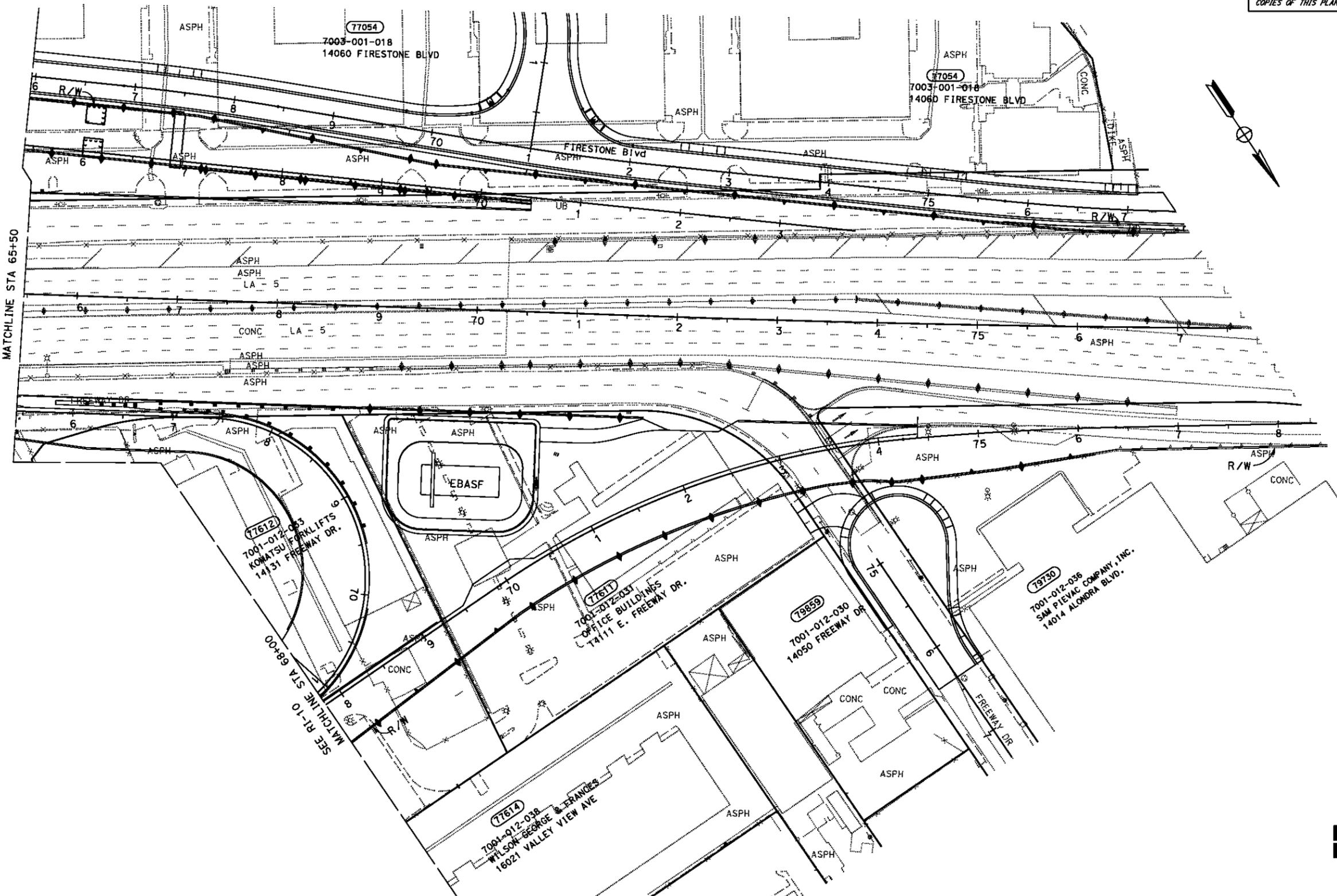
NOTES:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

LEGEND:

(NO.) PARCEL NUMBER

CITY OF SANTA FE SPRINGS



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA, Ora	5	0.0/1.5 44.3/44.4		

REGISTERED CIVIL ENGINEER DATE _____

PLANS APPROVAL DATE _____

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REGISTERED PROFESSIONAL ENGINEER
 No. _____
 Exp. _____
 CIVIL
 STATE OF CALIFORNIA

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RIGHT-OF-WAY INFORMATION
 NO SCALE

RI-8

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF DESIGN A

FUNCTIONAL SUPERVISOR
 BIJAN PIRZADEH
 CALCULATED-DRAWN BY
 CHECKED BY
 REVISED BY
 DATE REVISED

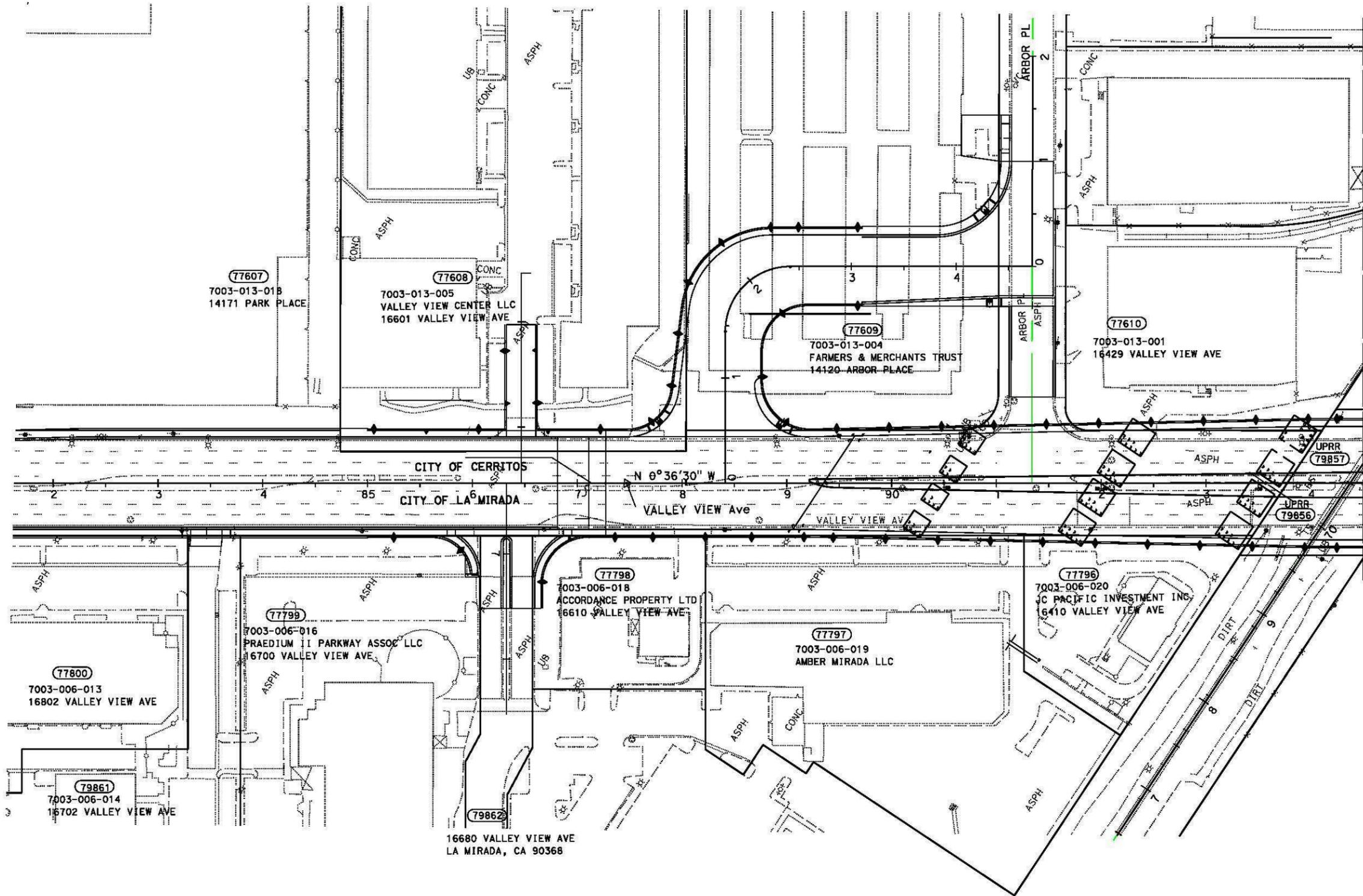
NOTES:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

LEGEND:
 (NO.) PARCEL NUMBER

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA, Orq	5	0.0/1.5 44.3/44.4		

REGISTERED CIVIL ENGINEER DATE _____
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ACCURATE FOR RIGHT OF WAY INFORMATION ONLY

RIGHT-OF-WAY INFORMATION
 NO SCALE

RI-9

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA, Ord	5	0.0/1.5 44.3/44.4		

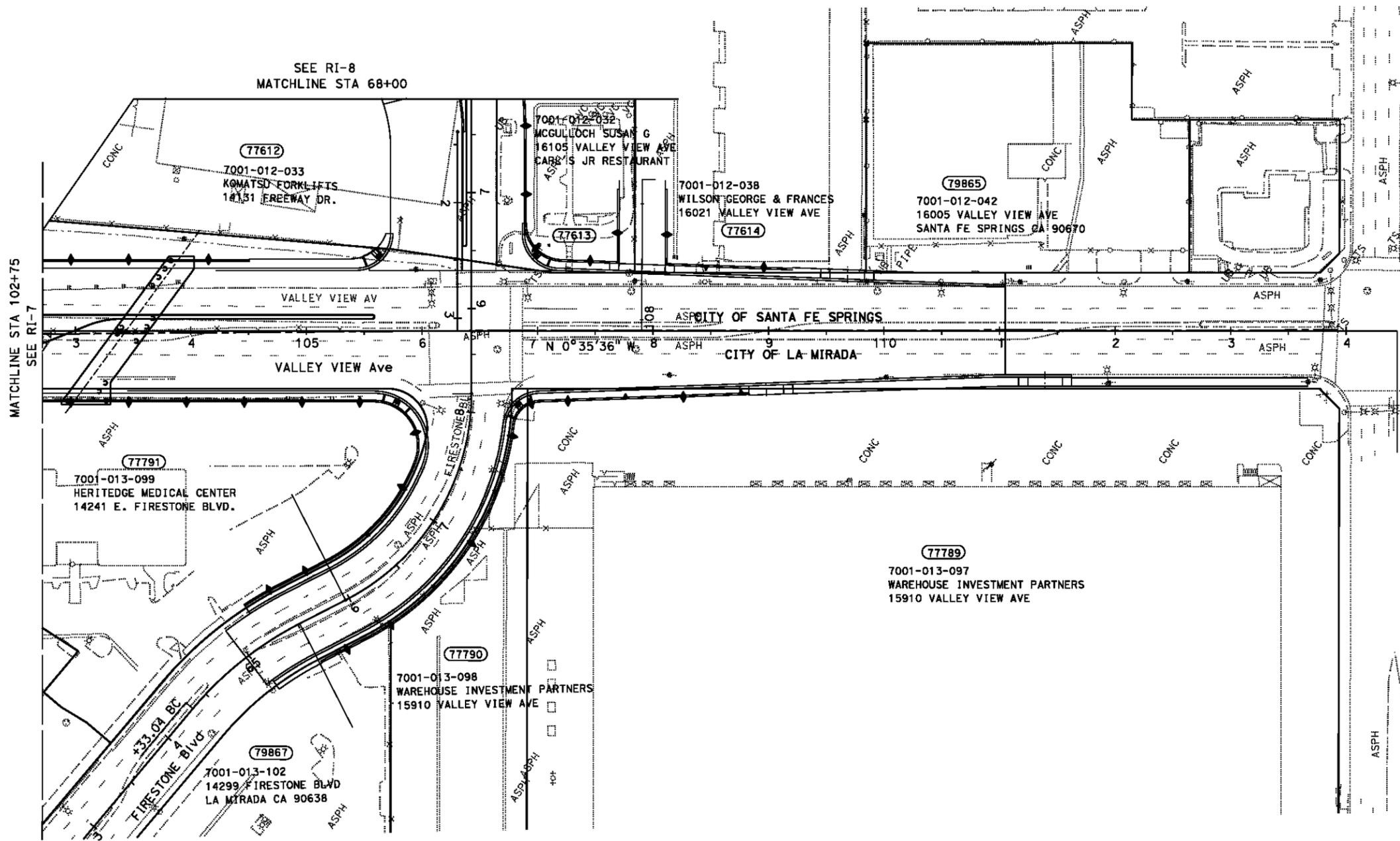
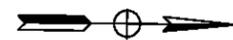
REGISTERED CIVIL ENGINEER	DATE
PLANS APPROVAL DATE	

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FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

LEGEND:
NO. PARCEL NUMBER



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Caltrans OFFICE OF DESIGN A
 FUNCTIONAL SUPERVISOR
 CALCULATED-DESIGNED BY
 CHECKED BY
 BIJAN PIRZADEH
 REVISED BY
 DATE REVISED

ACCURATE FOR RIGHT OF WAY INFORMATION ONLY

RIGHT-OF-WAY INFORMATION
NO SCALE

RI-10

Geotechnical Design Report For Trenchless Culvert

Memorandum

*Serious drought.
Help save water!*

To: MR. RICHARD CHIANG
Senior Transportation Engineer
District 7, Office of Design A

Date: October 13, 2015
File: 07-LA-5- PM 1.21
0700001832 (07-215921)

Attn: Marvin Davis

Trenchless Culvert

From: DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Geotechnical Services
Office of Geotechnical Design – South 1 MS # 18

Subject: **Geotechnical Design Report for Trenchless Culvert**

In an email dated July 7, 2014, Marvin Davis requested our office to provide geotechnical design report for the proposed trenchless culvert under Railroad near I-5/ Valley View Avenue Interchange. The information provided in this report can be used by contractors to design jacking pit and receiving pit needed during installation of the trenchless culvert.

Field Investigation

A site specific field investigation was performed on July 24, 2015 by FUGRO Consultants, Inc. The field investigation started after completion of the building demolition. The geotechnical investigation consisted of two hollow stem auger borings, Boring No. A-15-001, north of the Railroad and Boring No. A-15-002, south of the Railroad. Summary of borings is presented in Table 1.

Table 1 - Summary of Borings

Boring No.	Stationing and Offset Reference Line: "FIRE2" LINE	Approximate Elevation of Top of Boring (ft)	Total Depth (ft)	Date
A-15-001	30.0' Lt. Sta. 11+54.7	59.6	21.5	07/24/15
A-15-002	179.5' Lt. Sta. 10+96.0	59.9	21.5	07/24/15

Boring records prepared using the software, gINT is presented in the Attachment 1 of this report.

Laboratory Testing

Selected representative soil samples were tested by FUGRO laboratory to obtain physical and engineering soil properties. All laboratory tests were performed in accordance with California Test Methods (CTM) or American Society for Testing and Materials (ASTM) Standards. The list of laboratory tests data are shown in Table 2. The results of laboratory tests are provided in the Attachment 2 of this report.

Table 2 - Summary of Laboratory Tests

Testing Type	ASTM/CTM Designation	Testing Purpose
Particle Size Analysis	ASTM C117, C136 or D422, D2216	Soil Classification
Atterberg Limits	ASTM D4318	Soil Classification
Corrosion	CTM 417, 422, 532, 643	Corrosion Potential

Corrosion Evaluation

Two composite soil samples from Boring No. A-15-001 were tested by FUGRO laboratory for corrosion potential. A summary of corrosion test results is presented in Table 3.

Table 3 - Corrosion Test Summary

Boring No.	Depth Interval (ft.)	Minimum Resistivity (Ohm-Cm)	pH	Chloride Content* (ppm)	Sulfate Content* (ppm)
A-15-001	0.0 – 9.0	584	9.20	37	141
	9.0 - 20.0	1609	9.60	43	136

* The Corrosion Technology Section policy states that if the minimum resistivity is greater than 1000 Ohm-Cm the sample is considered to be non-corrosive and testing to determine sulfate and chloride is not performed.

Caltrans currently considers a site to be corrosive to foundation elements if one or more of the following conditions exist: Chloride concentration is greater than or equal to 500 ppm, sulfate concentration is greater than or equal to 2000 ppm, or the pH is 5.5 or less. Based on the results of corrosion tests, the site is considered non-corrosive. Normal construction material and design are advised.

Groundwater

Groundwater was not encountered at the time of drilling on July 24, 2015 in the borings which were advanced to maximum depth 21.5'. Groundwater is not anticipated to affect the proposed construction.

Recommendations

The trenchless culvert consists of 8" diameter sewer line in a 12" diameter steel casing. The proposed bottom elevation of the casing is approximately 52.3'. For the installation of this trenchless culvert, two methods have been considered: (i) Auger Boring; (ii) Pipe Jacking.

Typical diameter for Open Shield Pipe Jacking (OSPJ) is 48"-120" and typical diameter for Auger Boring is 8"-84". Therefore, OSPJ is not recommended for this project.

Potential unfavorable soil conditions for an auger boring include (1) groundwater table elevation close to the bottom of casing level and, (2) soils consisting of loose sand, soft clay, hard clays or gravelly layers.

Based on the filed investigation, the soil above Elevation 49.6' is not suitable for the auger boring. The soil below Elevation 49.6' in boring A-15-001 is Fat CLAY with SAND (CH); stiff; dark gray to brown; moist; some fine SAND and in boring A-15-002 is Lean CLAY with SAND (CL); stiff; grayish brown; moist; little fine SAND.

The field investigation revealed groundwater was not encountered and soil condition below elevation 49.6' of the proposed auger boring is stiff to very stiff clay. Therefore, auger boring is suitable for the installation of this trenchless culvert below Elevation 49.6'.

Up to elevation 53.4', loose sand and soft clay have been encountered in recent borings. Therefore, temporary shoring is recommended during the construction of jacking pit and receiving pit.

Mr. Richard Chiang
October 13, 2015
Page 4

Geotechnical Information Report
Trenchless Culvert
0700001832 (07-215921)

If you have any questions or comments, please call Deepa Wathugala at (213) 620-2134, or Christopher Harris at (213) 620-2147.

Prepared by: Date: 10/13/2015 Supervised by: Date: 10/13/2015

Deepa Wathugala, Ph.D., P.E., G.E.
Transportation Engineer
Office of Geotechnical Design – South 1
Branch C

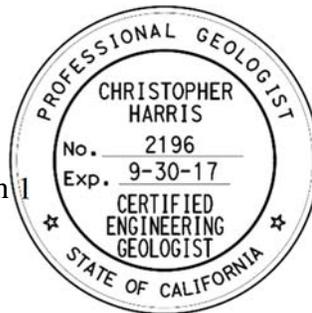


Chi-Tseng Ted Liu, Ph.D., P.E., G.E.
Senior Transportation Engineer
Office of Geotechnical Design – South 1
Branch C



Prepared by: Date: 10/13/2015

Christopher Harris, P.G., C.E.G.
Engineering Geologist
Office of Geotechnical Design – South 1
Branch C



- c: District Design – Marvin.Davis@dot.ca.gov
- District Project Manager – Diaa.Yassin@dot.ca.gov
- District Material Engineer – Kristen.Stahl@dot.ca.gov

ATTACHMENT 1
Boring Records

LOGGED BY M. Marin (Fugro)	BEGIN DATE 7-24-15	COMPLETION DATE 7-24-15	BOREHOLE LOCATION (Lat/Long or North/East and Datum) 33° 52' 59.05" / -118° 1' 46.58"	HOLE ID A-15-001
DRILLING CONTRACTOR Martini Drilling			BOREHOLE LOCATION (Offset, Station, Line) 30.0' Lt Sta 11+54.7 "FIRE2" LINE	SURFACE ELEVATION 59.6 ft
DRILLING METHOD Hollow-Stem Auger			DRILL RIG CME-75	BOREHOLE DIAMETER 6 in
SAMPLER TYPE(S) AND SIZE(S) (ID) SPT (1.4")			SPT HAMMER TYPE Automatic	HAMMER EFFICIENCY, ERI 70.2%
BOREHOLE BACKFILL AND COMPLETION cement-bentonite grout backfill			GROUNDWATER DURING DRILLING AFTER DRILLING (DATE) READINGS not encountered	TOTAL DEPTH OF BORING 21.5 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
0	0		SILT with SAND (ML); loose; brown; moist; little fine SAND; micaceous; non-plastic; FILL.												
57.60	1														CR (0-9')
55.60	2														PA
	3				S1	1	3	78							
	4				2										
	5				1										
53.60	6		Fat CLAY (CH); soft; dark gray; moist; trace fine SAND; micaceous; PP=0.5 tsf; FILL.		S2	0	2	100				Su=0.25			PA, PI
	7		2" of crushed red brick; FILL.		1										
	8		medium stiff; PP=1.0 tsf; No FILL.		S3	1	3	100				Su=0.50			PA, PI
51.60	9				1										
	10		Fat CLAY with SAND (CH); stiff; dark gray to brown; moist; some fine SAND; micaceous; PP=2.0 tsf.		S4	0	4	100				Su=1.00			PA, PI
49.60	11				2										CR (9-21.5')
	12		grayish brown; little fine SAND; micaceous; PP=2.0 tsf.		S5	1	9	100				Su=1.00			PA, PI
47.60	13		SILTY SAND (SM); medium dense; grayish brown; moist; fine SAND; some fines.		3										PA
	14				6										
45.60	15		variegated gray and brown; little fines.		S6	4	17	100							PA
43.60	16				7										
	17				10										
41.60	18		SANDY lean CLAY (CL); stiff; greenish gray; moist; some fine SAND; micaceous.												
39.60	19														
	20				S7	1	7	78							PA
	21				3										
	22		Bottom of borehole at 21.5 ft. Boring terminated at planned depth.		4										
37.60	23		This Boring record was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010).												
	24														

5 BR - STANDARD CALTRANS TO 33_RR JACKING_CALTRANS FORMAT.GPJ CALTRANS LIBRARY TEMPLATE WITH FUGRO INPUTS.GLB 10/1/15



Department of Transportation
 Division of Engineering Services
 Geotechnical Services
 Office of Geotechnical Design - South 1

REPORT TITLE BORING RECORD				HOLE ID A-15-001
DIST. 07	COUNTY LA	ROUTE I-5	POSTMILE 1.2	PROJECT ID 0715000161
PROJECT OR BRIDGE NAME I-5 Segment 2 (Trenchless Culvert at RR)				
BRIDGE NUMBER	PREPARED BY M. Marin (Fugro)	DATE 10-1-15	SHEET 1 of 1	

LOGGED BY M. Marin (Fugro)	BEGIN DATE 7-24-15	COMPLETION DATE 7-24-15	BOREHOLE LOCATION (Lat/Long or North/East and Datum) 33° 52' 57.35" / -118° 1' 46.29"	HOLE ID A-15-002
DRILLING CONTRACTOR Martini Drilling			BOREHOLE LOCATION (Offset, Station, Line) 179.5' Lt Sta 10+96.0 "FIRE2" LINE	SURFACE ELEVATION 59.9 ft
DRILLING METHOD Hollow-Stem Auger			DRILL RIG CME-75	BOREHOLE DIAMETER 6 in
SAMPLER TYPE(S) AND SIZE(S) (ID) SPT (1.4")			SPT HAMMER TYPE Automatic	HAMMER EFFICIENCY, ERI 70.2%
BOREHOLE BACKFILL AND COMPLETION cement-bentonite grout backfill			GROUNDWATER DURING DRILLING AFTER DRILLING (DATE) READINGS not encountered	TOTAL DEPTH OF BORING 21.5 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
0	0		SANDY SILT (ML); loose; reddish brown; moist; some fine SAND; trace fine GRAVEL; non-plastic; FILL.												
57.90	1		grayish brown; no GRAVEL; FILL.												
55.90	2														
	3														
	4				S1	5	10	100							PA, PI
	5					5									
	6					5									
53.90	7		Lean CLAY (CL); soft; greenish-gray; moist; few fine SAND; PP=0.3 tsf; no FILL.		S2	3	6	100				Su=0.15			PA, PI
	8					3									
	9					3									
51.90	10		Fat CLAY (CH); very stiff; very dark gray; moist; trace fine SAND; micaceous; PP= 3.0 tsf.		S3	0	7	100				Su=1.50			PA, PI
	11					2									
	12					2									
49.90	13		Lean CLAY with SAND (CL); very stiff; grayish brown; moist; little fine SAND; micaceous; PP=3.0 tsf.		S4	2	9	100				Su=1.50			PA, PI
	14					3									
	15					6									
47.90	16				S5	2	9	100				Su=1.50			PA, PI
	17					3									
	18					6									
45.90	19		SILTY SAND (SM); medium dense; grayish brown; moist; fine SAND; some fines; micaceous.		S6	3	15	100							PA
	20					7									
	21					8									
43.90	22														
41.90	23		SANDY lean CLAY (CL); stiff; dark greenish gray; moist; some fine SAND; micaceous; PP=1.5 tsf.		S7	0	4	100				Su=0.75			PA, PI
	24					2									
	25					2									
39.90	26														
37.90	27		Bottom of borehole at 21.5 ft. Boring terminated at planned depth.												
	28														
	29														
	30														
	31														
	32														
	33														
	34														
	35														
	36														
	37														
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	39														
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5 BR - STANDARD CALTRANS TO 33_RR JACKING_CALTRANS FORMAT.GPJ CALTRANS LIBRARY TEMPLATE WITH FUGRO INPUTS.GLB 10/1/15



Department of Transportation
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 Office of Geotechnical Design - South 1

REPORT TITLE BORING RECORD				HOLE ID A-15-002
DIST. 07	COUNTY LA	ROUTE I-5	POSTMILE 1.2	PROJECT ID 0715000161
PROJECT OR BRIDGE NAME I-5 Segment 2 (Trenchless Culvert at RR)				
BRIDGE NUMBER		PREPARED BY M. Marin (Fugro)		DATE 10-13-15
				SHEET 1 of 1

GROUP SYMBOLS AND NAMES

Graphic / Symbol	Group Names	Graphic / Symbol	Group Names	
	Well-graded GRAVEL		Lean CLAY	
	Well-graded GRAVEL with SAND		Lean CLAY with SAND	
	Poorly graded GRAVEL		Lean CLAY with GRAVEL	
	Poorly graded GRAVEL with SAND		SANDY lean CLAY	
	Well-graded GRAVEL with SILT		SANDY lean CLAY with GRAVEL	
	Well-graded GRAVEL with SILT and SAND		GRAVELLY lean CLAY	
	Well-graded GRAVEL with CLAY (or SILTY CLAY)		GRAVELLY lean CLAY with SAND	
	Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)			
	Poorly graded GRAVEL with SILT		SILTY CLAY	
	Poorly graded GRAVEL with SILT and SAND		SILTY CLAY with SAND	
	Poorly graded GRAVEL with CLAY (or SILTY CLAY)		SILTY CLAY with GRAVEL	
	Poorly graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		SANDY SILTY CLAY	
	SILTY GRAVEL		SANDY SILTY CLAY with GRAVEL	
	SILTY GRAVEL with SAND		GRAVELLY SILTY CLAY	
	CLAYEY GRAVEL		GRAVELLY SILTY CLAY with SAND	
	CLAYEY GRAVEL with SAND			
	SILTY, CLAYEY GRAVEL		SILT	
	SILTY, CLAYEY GRAVEL with SAND		SILT with SAND	
	Well-graded SAND		SILT with GRAVEL	
	Well-graded SAND with GRAVEL		SANDY SILT	
	Poorly graded SAND		SANDY SILT with GRAVEL	
	Poorly graded SAND with GRAVEL		GRAVELLY SILT	
	Well-graded SAND with SILT		GRAVELLY SILT with SAND	
	Well-graded SAND with SILT and GRAVEL			
	Well-graded SAND with CLAY (or SILTY CLAY)		ORGANIC lean CLAY	
	Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)		ORGANIC lean CLAY with SAND	
	Poorly graded SAND with SILT		ORGANIC lean CLAY with GRAVEL	
	Poorly graded SAND with SILT and GRAVEL		SANDY ORGANIC lean CLAY	
	Poorly graded SAND with CLAY (or SILTY CLAY)		SANDY ORGANIC lean CLAY with GRAVEL	
	Poorly graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)		GRAVELLY ORGANIC lean CLAY	
	SILTY SAND		GRAVELLY ORGANIC lean CLAY with SAND	
	SILTY SAND with GRAVEL			
	CLAYEY SAND		ORGANIC SILT	
	CLAYEY SAND with GRAVEL		ORGANIC SILT with SAND	
	SILTY, CLAYEY SAND		Elastic SILT	
	SILTY, CLAYEY SAND with GRAVEL		Elastic SILT with SAND	
	PEAT			Elastic SILT with GRAVEL
				SANDY elastic SILT
	COBBLES			SANDY elastic SILT with GRAVEL
	COBBLES and BOULDERS	GRAVELLY elastic SILT		
	BOULDERS	GRAVELLY elastic SILT with SAND		
		ORGANIC fat CLAY		
		ORGANIC fat CLAY with SAND		
		ORGANIC fat CLAY with GRAVEL		
		SANDY ORGANIC fat CLAY		
		SANDY ORGANIC fat CLAY with GRAVEL		
		GRAVELLY ORGANIC fat CLAY		
		GRAVELLY ORGANIC fat CLAY with SAND		
		ORGANIC elastic SILT		
		ORGANIC elastic SILT with SAND		
		ORGANIC elastic SILT with GRAVEL		
		SANDY elastic ELASTIC SILT		
		SANDY ORGANIC elastic SILT with GRAVEL		
		GRAVELLY ORGANIC elastic SILT		
		GRAVELLY ORGANIC elastic SILT with SAND		
		ORGANIC SOIL		
		ORGANIC SOIL with SAND		
		ORGANIC SOIL with GRAVEL		
		SANDY ORGANIC SOIL		
		SANDY ORGANIC SOIL with GRAVEL		
		GRAVELLY ORGANIC SOIL		
		GRAVELLY ORGANIC SOIL with SAND		

FIELD AND LABORATORY TESTS

- C** Consolidation (ASTM D 2435-04)
- CL** Collapse Potential (ASTM D 5333-03)
- CP** Compaction Curve (CTM 216 - 06)
- CR** Corrosion, Sulfates, Chlorides (CTM 643 - 99; CTM 417 - 06; CTM 422 - 06)
- CU** Consolidated Undrained Triaxial (ASTM D 4767-02)
- DS** Direct Shear (ASTM D 3080-04)
- EI** Expansion Index (ASTM D 4829-03)
- M** Moisture Content (ASTM D 2216-05)
- OC** Organic Content (ASTM D 2974-07)
- P** Permeability (CTM 220 - 05)
- PA** Particle Size Analysis (ASTM D 422-63 [2002])
- PI** Liquid Limit, Plastic Limit, Plasticity Index (AASHTO T 89-02, AASHTO T 90-00)
- PL** Point Load Index (ASTM D 5731-05)
- PM** Pressure Meter
- PP** Pocket Penetrometer
- R** R-Value (CTM 301 - 00)
- SE** Sand Equivalent (CTM 217 - 99)
- SG** Specific Gravity (AASHTO T 100-06)
- SL** Shrinkage Limit (ASTM D 427-04)
- SW** Swell Potential (ASTM D 4546-03)
- TV** Pocket Torvane
- UC** Unconfined Compression - Soil (ASTM D 2166-06) Unconfined Compression - Rock (ASTM D 2938-95)
- UU** Unconsolidated Undrained Triaxial (ASTM D 2850-03)
- UW** Unit Weight (ASTM D 4767-04)
- VS** Vane Shear (AASHTO T 223-96 [2004])

SAMPLER GRAPHIC SYMBOLS

- Standard Penetration Test (SPT)
- Standard California Sampler
- Modified California Sampler
- Shelby Tube
- Piston Sampler
- NX Rock Core
- HQ Rock Core
- Bulk Sample
- Other (see remarks)

DRILLING METHOD SYMBOLS

- Auger Drilling
- Rotary Drilling
- Dynamic Cone or Hand Driven
- Diamond Core

WATER LEVEL SYMBOLS

- First Water Level Reading (during drilling)
- Static Water Level Reading (short-term)
- Static Water Level Reading (long-term)



Department of Transportation
 Division of Engineering Services
 Geotechnical Services
 Office of Geotechnical Design - South 1

REPORT TITLE

BORING RECORD LEGEND

DIST. 07	COUNTY LA	ROUTE I-5	POSTMILE 1.2	EA 07-0715000161
PROJECT OR BRIDGE NAME I-5 Segment 2 (Trenchless Culvert at RR)				
BRIDGE NUMBER	PREPARED BY M. Marin (Fugro)	DATE 10-1-15	SHEET 1 of 3	

CONSISTENCY OF COHESIVE SOILS

Descriptor	Unconfined Compressive Strength (tsf)	Pocket Penetrometer (tsf)	Torvane (tsf)	Field Approximation
Very Soft	< 0.25	< 0.25	< 0.12	Easily penetrated several inches by fist
Soft	0.25 - 0.50	0.25 - 0.50	0.12 - 0.25	Easily penetrated several inches by thumb
Medium Stiff	0.50 - 1.0	0.50 - 1.0	0.25 - 0.50	Can be penetrated several inches by thumb with moderate effort
Stiff	1.0 - 2.0	1.0 - 2.0	0.50 - 1.0	Readily indented by thumb but penetrated only with great effort
Very Stiff	2.0 - 4.0	2.0 - 4.0	1.0 - 2.0	Readily indented by thumbnail
Hard	> 4.0	> 4.0	> 2.0	Indented by thumbnail with difficulty

APPARENT DENSITY OF COHESIONLESS SOILS

Descriptor	SPT N ₆₀ - Value (blows / foot)
Very Loose	0 - 4
Loose	5 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	> 50

MOISTURE

Descriptor	Criteria
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

PERCENT OR PROPORTION OF SOILS

Descriptor	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

SOIL PARTICLE SIZE

Descriptor	Size	
Boulder	> 12 inches	
Cobble	3 to 12 inches	
Gravel	Coarse	3/4 inch to 3 inches
	Fine	No. 4 Sieve to 3/4 inch
Sand	Coarse	No. 10 Sieve to No. 4 Sieve
	Medium	No. 40 Sieve to No. 10 Sieve
	Fine	No. 200 Sieve to No. 40 Sieve
Silt and Clay	Passing No. 200 Sieve	

PLASTICITY OF FINE-GRAINED SOILS

Descriptor	Criteria
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled, and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll, and not much time is required to reach the plastic limit; it cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.

CEMENTATION

Descriptor	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

NOTE: This legend sheet provides descriptors and associated criteria for required soil description components only. Refer to Caltrans Soil and Rock Logging, Classification, and Presentation Manual (July 2007), Section 2, for tables of additional soil description components and discussion of soil description and identification.



Department of Transportation
Division of Engineering Services
Geotechnical Services
Office of Geotechnical Design - South 1

REPORT TITLE

BORING RECORD LEGEND

DIST. 07	COUNTY LA	ROUTE I-5	POSTMILE 1.2	EA 07-0715000161
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PROJECT OR BRIDGE NAME
I-5 Segment 2 (Trenchless Culvert at RR)

BRIDGE NUMBER	PREPARED BY M. Marin (Fugro)	DATE 10-1-15	SHEET 2 of 3
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ROCK GRAPHIC SYMBOLS	
	IGNEOUS ROCK
	SEDIMENTARY ROCK
	METAMORPHIC ROCK

BEDDING SPACING	
Descriptor	Thickness or Spacing
Massive	> 10 ft
Very thickly bedded	3 to 10 ft
Thickly bedded	1 to 3 ft
Moderately bedded	3-5/8 inches to 1 ft
Thinly bedded	1-1/4 to 3-5/8 inches
Very thinly bedded	3/8 inch to 1-1/4 inches
Laminated	< 3/8 inch

WEATHERING DESCRIPTORS FOR INTACT ROCK						
Descriptor	Diagnostic Features					General Characteristics
	Chemical Weathering-Discoloration-Oxidation	Mechanical Weathering and Grain Boundary Conditions	Texture and Solutioning			
	Body of Rock	Fracture Surfaces	Texture	Solutioning		
Fresh	No discoloration, not oxidized	No discoloration or oxidation	No separation, intact (tight)	No change	No solutioning	Hammer rings when crystalline rocks are struck.
Slightly Weathered	Discoloration or oxidation is limited to surface of, or short distance from, fractures; some feldspar crystals are dull	Minor to complete discoloration or oxidation of most surfaces	No visible separation, intact (tight)	Preserved	Minor leaching of some soluble minerals may be noted	Hammer rings when crystalline rocks are struck. Body of rock not weakened.
Moderately Weathered	Discoloration or oxidation extends from fractures usually throughout; Fe-Mg minerals are "rusty"; feldspar crystals are "cloudy"	All fracture surfaces are discolored or oxidized	Partial separation of boundaries visible	Generally preserved	Soluble minerals may be mostly leached	Hammer does not ring when rock is struck. Body of rock is slightly weakened.
Intensely Weathered	Discoloration or oxidation throughout; all feldspars and Fe-Mg minerals are altered to clay to some extent; or chemical alteration produces in situ disaggregation (refer to grain boundary conditions)	All fracture surfaces are discolored or oxidized; surfaces are friable	Partial separation, rock is friable; in semi-arid conditions, granitics are disaggregated	Altered by chemical disintegration such as via hydration or argillation	Leaching of soluble minerals may be complete	Dull sound when struck with hammer; usually can be broken with moderate to heavy manual pressure or by light hammer blow without reference to planes of weakness such as incipient or hairline fractures or veinlets. Rock is significantly weakened.
Decomposed	Discolored or oxidized throughout, but resistant minerals such as quartz may be unaltered; all feldspars and Fe-Mg minerals are completely altered to clay		Complete separation of grain boundaries (disaggregated)	Resembles a soil; partial or complete remnant rock structure may be preserved; leaching of soluble minerals usually complete		Can be granulated by hand. Resistant minerals such as quartz may be present as "stringers" or "dikes".

Note: Combination descriptors (such as "slightly weathered to fresh") are used where equal distribution of both weathering characteristics is present over significant intervals or where characteristics present are "in between" the diagnostic feature. However, combination descriptors should not be used where significant identifiable zones can be delineated. Only two adjacent descriptors shall be combined. "Very intensely weathered" is the combination descriptor for "decomposed to intensely weathered".

RELATIVE STRENGTH OF INTACT ROCK	
Descriptor	Uniaxial Compressive Strength (psi)
Extremely Strong	> 30,000
Very Strong	14,500 - 30,000
Strong	7,000 - 14,500
Medium Strong	3,500 - 7,000
Weak	700 - 3,500
Very Weak	150 - 700
Extremely Weak	< 150

ROCK HARDNESS	
Descriptor	Criteria
Extremely Hard	Specimen cannot be scratched with pocket knife or sharp pick; can only be chipped with repeated heavy hammer blows
Very hard	Specimen cannot be scratched with pocket knife or sharp pick; breaks with repeated heavy hammer blows
Hard	Specimen can be scratched with pocket knife or sharp pick with heavy pressure; heavy hammer blows required to break specimen
Moderately Hard	Specimen can be scratched with pocket knife or sharp pick with light or moderate pressure; breaks with moderate hammer blows
Moderately Soft	Specimen can be grooved 1/6 in. with pocket knife or sharp pick with moderate or heavy pressure; breaks with light hammer blow or heavy hand pressure
Soft	Specimen can be grooved or gouged with pocket knife or sharp pick with light pressure, breaks with light to moderate hand pressure
Very Soft	Specimen can be readily indented, grooved, or gouged with fingernail, or carved with pocket knife; breaks with light hand pressure

CORE RECOVERY CALCULATION (%)	
Σ Length of the recovered core pieces (in.)	$\times 100$
Total length of core run (in.)	

FRACTURE DENSITY	
Descriptor	Criteria
Unfractured	No fractures
Very Slightly Fractured	Lengths greater 3 ft
Slightly Fractured	Lengths from 1 to 3 ft, few lengths outside that range
Moderately Fractured	Lengths mostly in range of 4 in. to 1 ft, with most lengths about 8 in.
Intensely Fractured	Lengths average from 1 in. to 4 in. with scattered fragmented intervals with lengths less than 4 in.
Very Intensely Fractured	Mostly chips and fragments with few scattered short core lengths

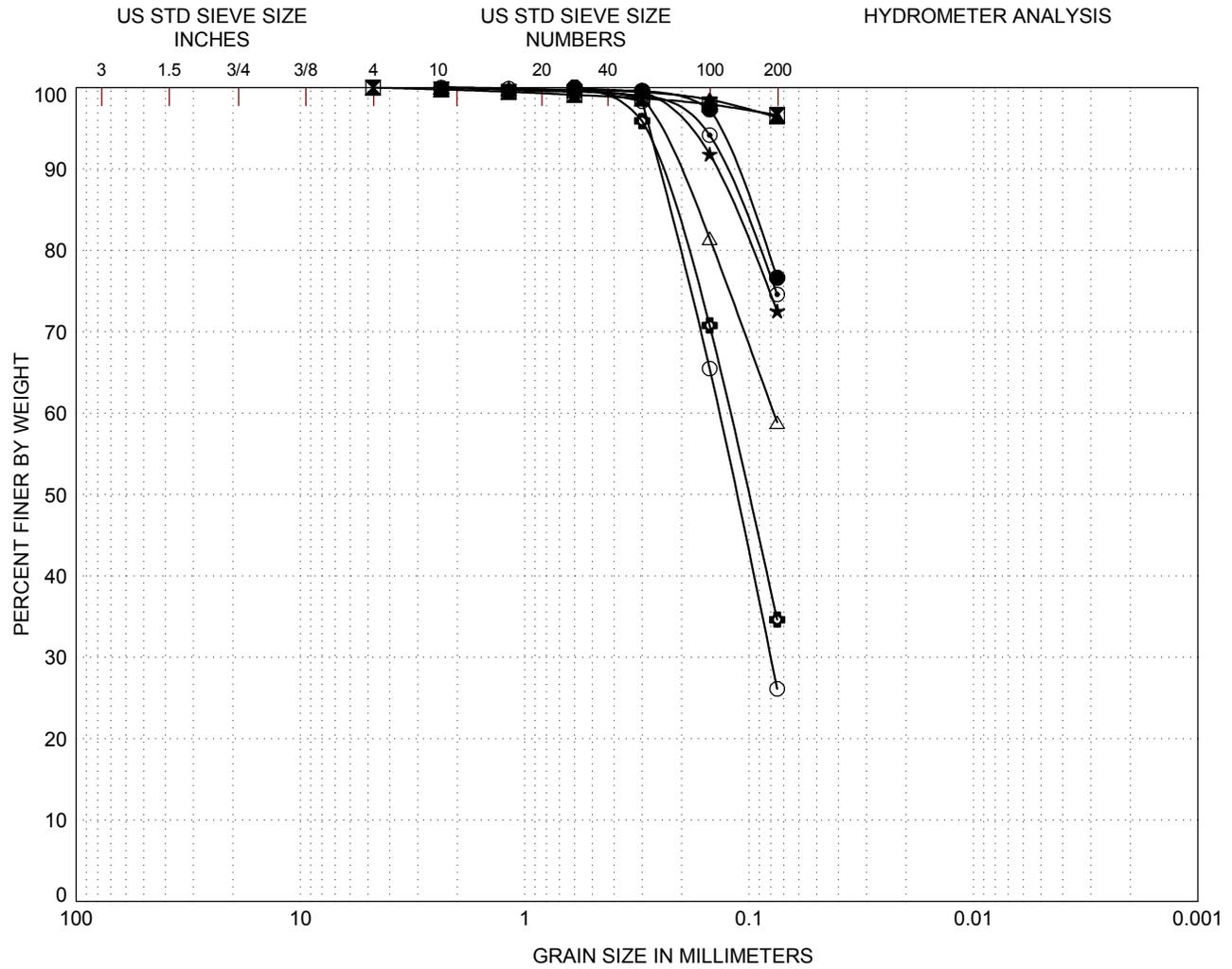
RQD CALCULATION (%)	
Σ Length of intact core pieces > 4 in.	$\times 100$
Total length of core run (in.)	



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REPORT TITLE				
BORING RECORD LEGEND				
DIST. 07	COUNTY LA	ROUTE I-5	POSTMILE 1.2	EA 07-0715000161
PROJECT OR BRIDGE NAME I-5 Segment 2 (Trenchless Culvert at RR)				
BRIDGE NUMBER	PREPARED BY M. Marin (Fugro)	DATE 10-1-15	SHEET 3 of 3	

ATTACHMENT 2
Results of Laboratory Tests



GRAVEL		SAND			SILT or CLAY
Coarse	Fine	Coarse	Medium	Fine	

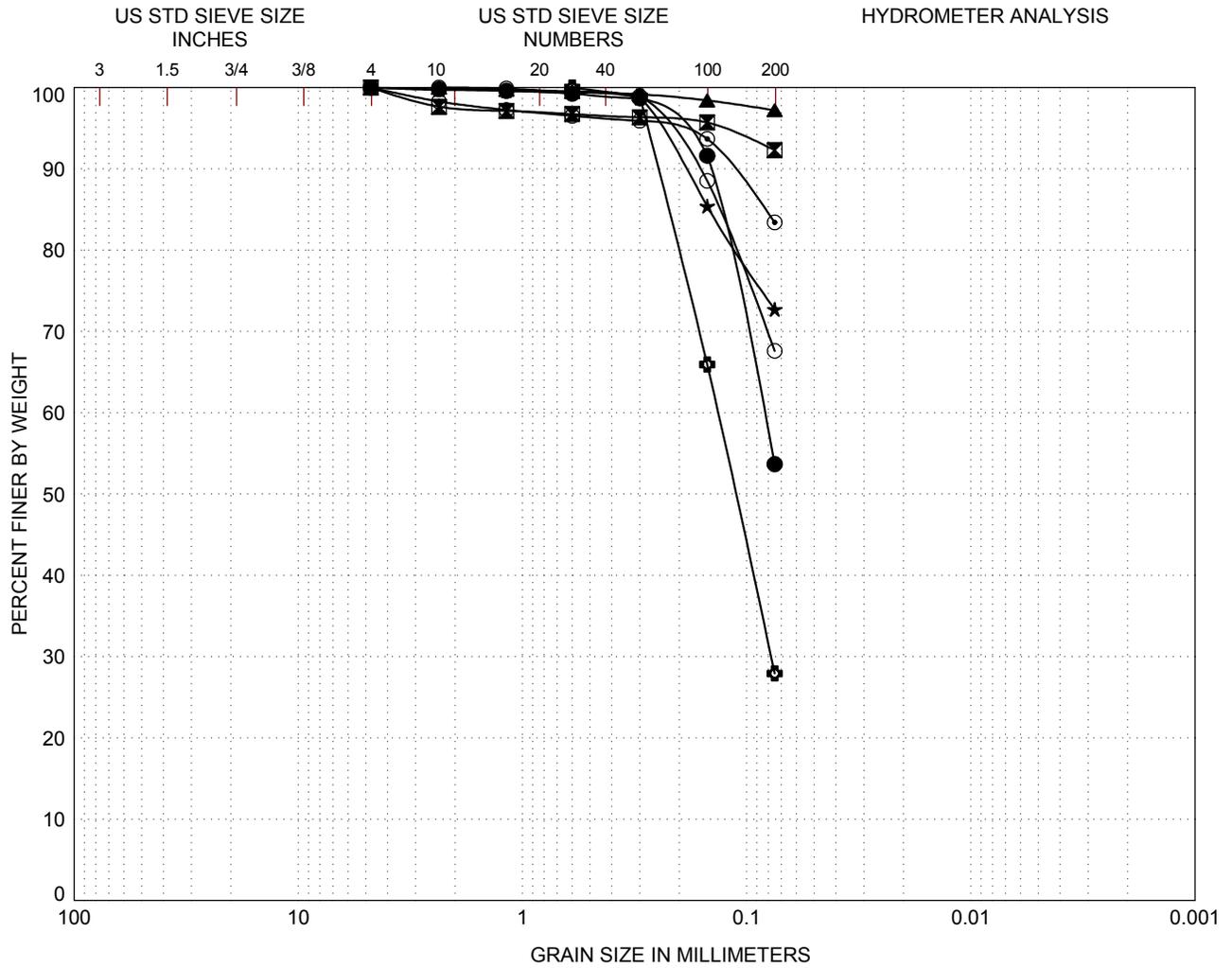
LEGEND	
(location)	(depth,ft)
●	A-15-001 3.0
⊠	A-15-001 5.0
▲	A-15-001 7.0
★	A-15-001 9.0
⊙	A-15-001 11.0
⊕	A-15-001 12.0
○	A-15-001 15.0
△	A-15-001 20.0

CLASSIFICATION

- SILT with SAND (ML)
- Fat CLAY (CH)
- Fat CLAY (CH)
- Fat CLAY with SAND (CH)
- Fat CLAY with SAND (CH)
- SILTY SAND (SM)
- SILTY SAND (SM)
- SANDY lean CLAY (CL)

<u>C_c</u>	<u>C_u</u>	<u>D₁₀</u>	<u>D₃₀</u>	<u>D₆₀</u>
				0.12
			0.08	0.14
				0.08

GRAIN SIZE CURVES
 I-5 Segment 2 (Trenchless Culvert at RR)
 Santa Fe Springs, California



GRAVEL		SAND			SILT or CLAY
Coarse	Fine	Coarse	Medium	Fine	

LEGEND	
(location)	(depth,ft)
●	A-15-002 3.0
⊠	A-15-002 5.0
▲	A-15-002 7.0
★	A-15-002 9.0
⊙	A-15-002 11.0
⊕	A-15-002 15.0
○	A-15-002 20.0

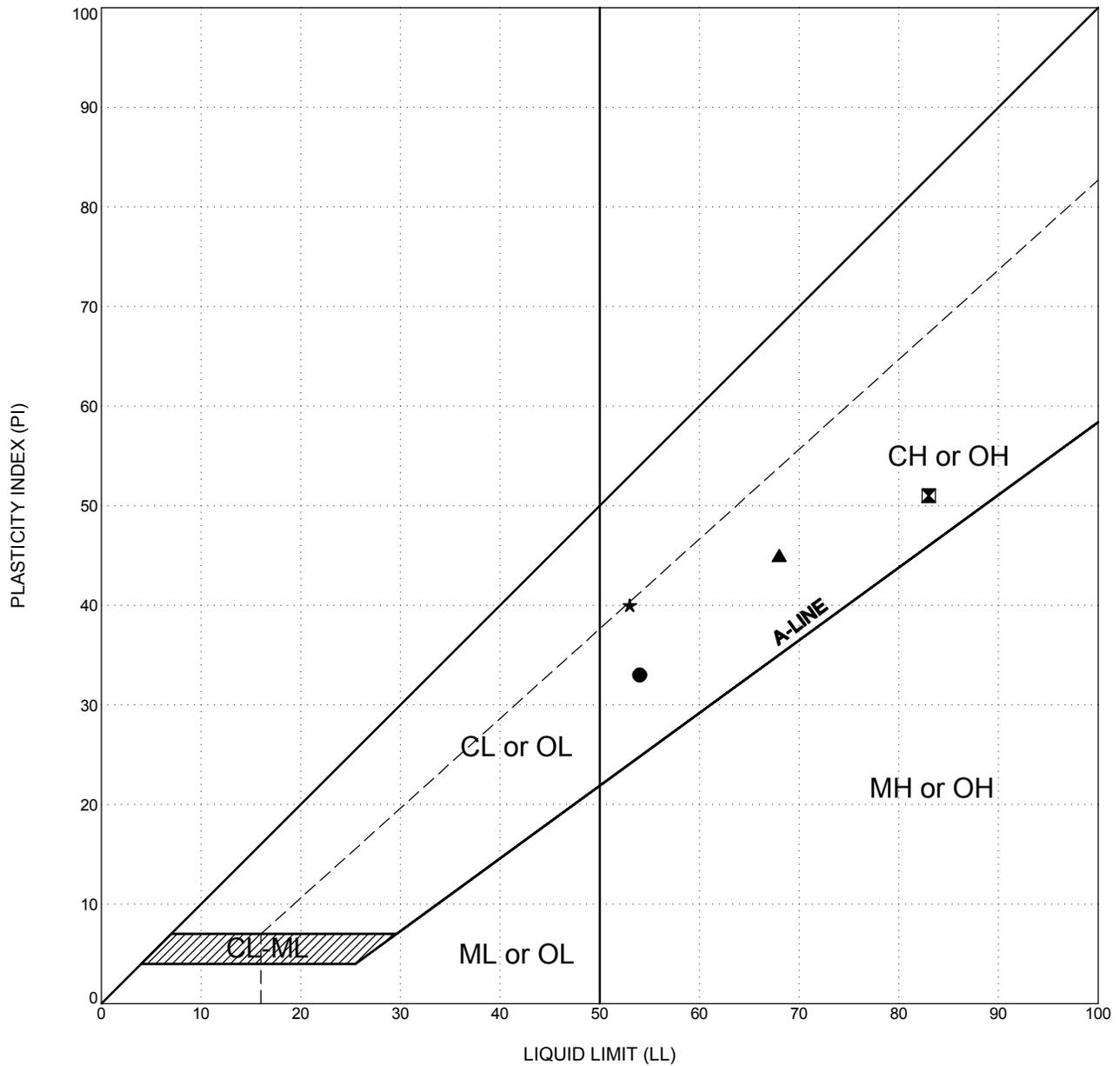
CLASSIFICATION

SANDY SILT (ML)
Lean CLAY (CL)
Fat CLAY (CH)
Lean CLAY with SAND (CL)
Lean CLAY with SAND (CL)
SILTY SAND (SM)
SANDY Lean CLAY (CL)

C_c C_u D₁₀ D₃₀ D₆₀

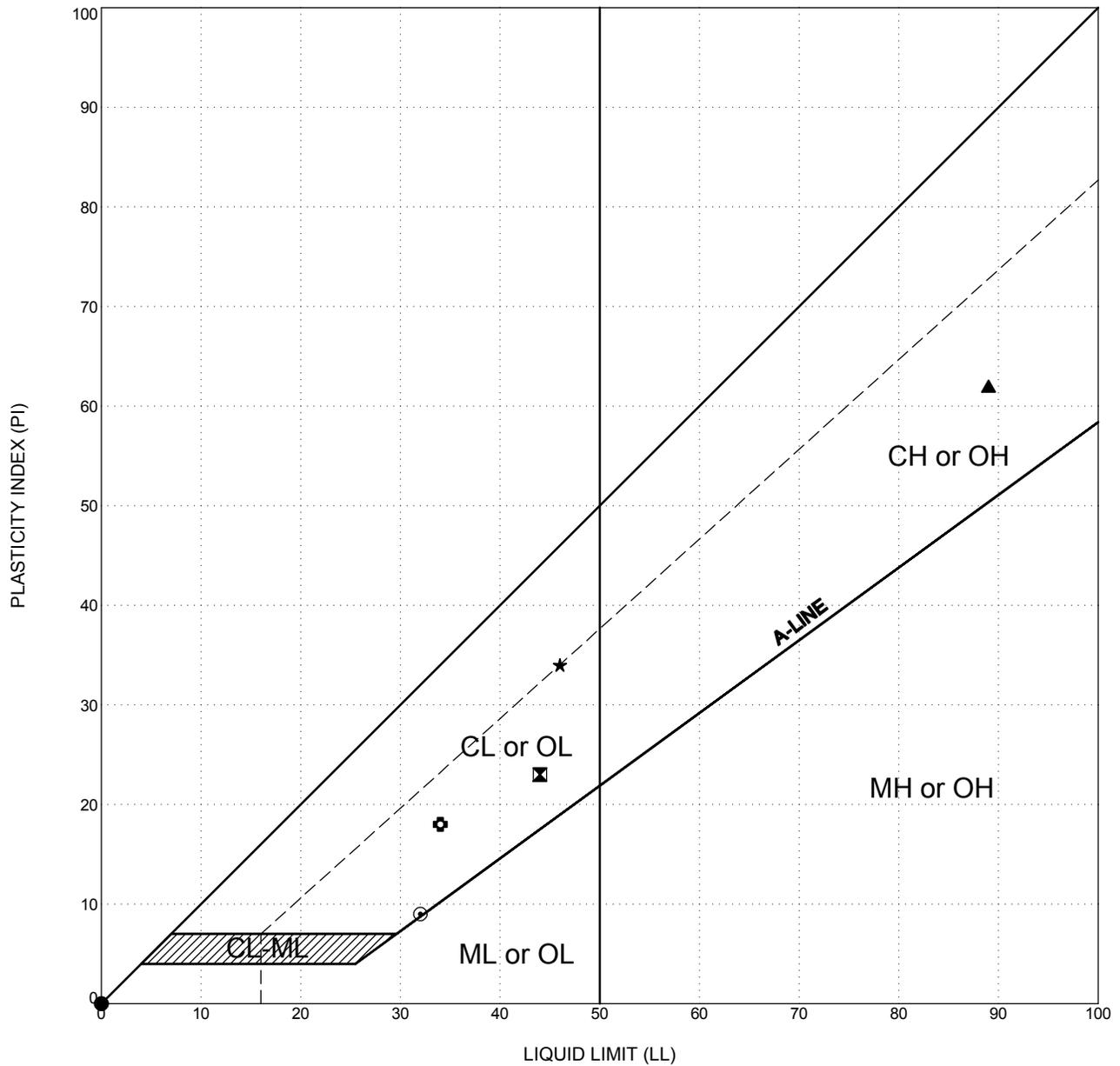
				0.08
0.08	0.13			

GRAIN SIZE CURVES
 I-5 Segment 2 (Trenchless Culvert at RR)
 Santa Fe Springs, California



LEGEND			CLASSIFICATION			ATTERBERG LIMITS TEST RESULTS			
	location	depth, ft		LIQUID LIMIT(LL)	PLASTIC LIMIT(PL)	PLASTICITY INDEX (PI)			
●	A-15-001	5.0	Fat CLAY (CH)	54	21	33			
⊠	A-15-001	7.0	Fat CLAY (CH)	83	32	51			
▲	A-15-001	9.0	Fat CLAY with SAND (CH)	68	23	45			
★	A-15-001	11.0	Fat CLAY with SAND (CH)	53	13	40			

PLASTICITY CHART
 I-5 Segment 2 (Trenchless Culvert at RR)
 Santa Fe Springs, California



LEGEND			CLASSIFICATION			ATTERBERG LIMITS TEST RESULTS		
location	depth, ft					LIQUID LIMIT(LL)	PLASTIC LIMIT(PL)	PLASTICITY INDEX (PI)
●	A-15-002	3.0		SANDY SILT (ML)		NP	NP	NP
⊠	A-15-002	5.0		Lean CLAY (CL)		44	21	23
▲	A-15-002	7.0		Fat CLAY (CH)		89	27	62
★	A-15-002	9.0		Lean CLAY with SAND (CL)		46	12	34
⊙	A-15-002	11.0		Lean CLAY with SAND (CL)		32	23	9
⊕	A-15-002	20.0		SANDY Lean CLAY (CL)		34	16	18

PLASTICITY CHART
 I-5 Segment 2 (Trenchless Culvert at RR)
 Santa Fe Springs, California