

# **INFORMATION HANDOUT**

**For Contract No. 04-3S8304**

**At 04-SCI-17-PM 3.1/4.4**

**Identified by**

**Project ID 0400001036**

## **PERMITS**

United States Army Corps of Engineers

Non-Reporting Nationwide 404

## **WATER QUALITY**

California Regional Water Quality Control Board

San Francisco Bay Region 401 Permit

## **MATERIALS INFORMATION**

Preliminary Site Investigation Report

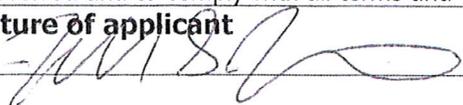
State Route 17, Storm Damage Repairs Project, Santa Clara County, California

# U.S. Army Corps of Engineers South Pacific Division

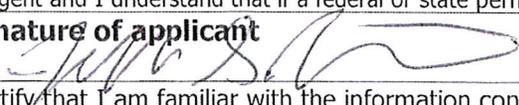
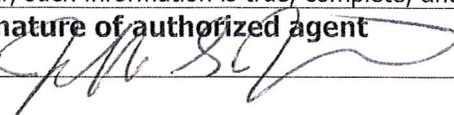


## Nationwide Permit Pre-Construction Notification (PCN) Form

This form integrates requirements of the U.S. Army Corps of Engineers Nationwide Permit Program within the South Pacific Division (SPD), including General and Regional Conditions. You MUST fill out all boxes related to the work being done. Fillable boxes in this form expand if additional space is needed.

<b>Box 1 Project Name</b> SR-17 Drainage Improvement Project			
<b>Applicant Name</b> Jeffrey G. Jensen		<b>Applicant Title</b> Office Chief, Biological Sciences and Permits	
<b>Applicant Company, Agency, etc.</b> Caltrans		Applicant's internal tracking number (if any) EA 3S8304	
Mailing Address 111 Grand Avenue, Oakland, CA 94623			
Work Phone with area code (510) 622-8729	Mobile Phone with area code N/A	Home Phone with area code N/A	Fax # with area code (510) 286-5600
E-mail Address jeffrey_jensen@ca.dot.gov	Relationship of applicant to property: <input type="checkbox"/> Owner <input type="checkbox"/> Purchaser <input type="checkbox"/> Lessee <input checked="" type="checkbox"/> Other: Applicant		
Application is hereby made for verification that subject regulated activities associated with subject project qualify for authorization under a U.S. Army Corps of Engineers Nationwide Permit or Permits as described herein. I certify that I am familiar with the information contained in this application and, that to the best of my knowledge and belief, such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities. I hereby grant to the agency to which this application is made the right to enter the above-described location to inspect the proposed, in-progress or completed work. I agree to start work <u>only</u> after all necessary permits have been received and to comply with all terms and conditions of the authorization.			
Signature of applicant 			Date (mm/dd/yyyy) 5/10/2013

If anyone other than the person named as the Applicant will be in contact with the U.S. Army Corps of Engineers representing the Applicant regarding this project during the permit process, Box 2 MUST be filled out.

<b>Box 2 Authorized Agent/Operator Name</b> Carrie Montero		<b>Agent/Operator Title</b> Senior Environmental Planner	
<b>Agent/Operator Company, Agency, etc.</b> Caltrans		E-mail Address carrie_montero@dot.ca.gov	
Mailing Address 111 GRAND AVENUE, OAKLAND, CA, 94623			
Work Phone with area code (510) 286-5636	Mobile Phone with area code N/A	Home Phone with area code N/A	Fax # with area code (510) 286-5600
I hereby authorize the above named authorized agent to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application. I understand that I am bound by the actions of my agent and I understand that if a federal or state permit is issued, I, or my agent, must sign the permit.			
Signature of applicant 			Date (mm/dd/yyyy) 5/10/2013
I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief, such information is true, complete, and accurate.			
Signature of authorized agent  for Carrie Montero			Date (mm/dd/yyyy) 5/10/2013

<b>Box 3 Name of Property Owner(s), if other than Applicant:</b> N/A		
<b>Owner Title</b>	<b>Owner Company, Agency, etc.</b>	
Mailing Address		
Work Phone with area code	Mobile Phone with area code	Home Phone with area code

<b>Box 4 Name of Contractor(s) (if known):</b> TO BE DETERMINED		
<b>Contractor Title</b>	<b>Contractor Company, Agency, etc.</b>	
Mailing Address		
Work Phone with area code	Mobile Phone with area code	Home Phone with area code

<b>Box 5 Site Number <u>1</u> of <u>1</u>. Project location(s), including street address, city, county, state, zip code where proposed activity will occur:</b> Santa Clara County, CA	
<b>Waterbody</b> (if known, otherwise enter "an unnamed tributary to"): an unnamed tributary	
Tributary to what known, downstream waterbody: Lexington Reservoir	
Latitude & Longitude (D/M/S, DD, or UTM with Zone): NAD 1983 UTM ZONE 10N	Section, Township, Range: 05,09S,01W
County Assessor Parcel Number (Include County name): N/A	USGS Quadrangle map name: Los Gatos
Watershed (HUC and watershed name <sup>1</sup> ): <sup>1</sup> <a href="http://water.usgs.gov/GIS/regions.html">http://water.usgs.gov/GIS/regions.html</a> Guadalupe River	Size of permit area or project boundary: 0.06 acres                      290 linear feet
Directions to the project location and other location descriptions, if known: The proposed project is located in Santa Clara County along State Route (SR) 17 at post mile (PM) 3.7 within the shoulder of the southbound lanes and is just south of Los Gatos. Directions to the site from San Jose, take SR-87 to I-280 to SR-17, then travel just past Los Gatos. From Santa Cruz take SR-17 for approximately 20 miles to just short of Los Gatos. Project location is adjacent to Lexington Reservoir.	

**Nature of Activity** (Description of the project, include all features):

The Department proposes to install a concrete apron around a drainage inlet with debris rack. An existing 18-inch culvert that conveys flows from the shoulder of SR-17 to the inlet will be replaced in-kind. Four earthen tributaries to the drainage inlet will be scraped with machinery at selected locations to accommodate proper drainage. Minor grading will not require the removal of trees or permanent impacts to riparian habitat.

**Project Purpose** (Description of the reason or purpose of the project):

The riser and culvert no longer function properly and need to be replaced.

**Box 6 Reason(s) for discharge into Waters of the United States** (Description of why dredged and/or fill material needs to be placed in Waters of the United States):

The discharge is a result of the placement of the 12' by 12' by 6" concrete apron in the ephemeral stream channel.

**Proposed discharge of dredge and/or fill material.** Indicate total surface area in **acres** and **linear feet** (where appropriate) of the proposed impacts to Waters of the United States, indicate water body type (tidal wetland, non-tidal wetland, riparian wetland, ephemeral stream/river, intermittent stream/river, perennial stream/river, pond/lake, vegetated shallows, bay/harbor, lagoon, ocean, etc.), and identify the impact(s) as permanent and/or temporary for each requested Nationwide Permit<sup>1</sup>:

<sup>1</sup> Enter the intended permit number(s). See Nationwide Permit regulations for permit numbers and qualification information: <http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/NationwidePermits.aspx>

Water Body Type	Requested NWP Number: 14				Requested NWP Number:				Requested NWP Number:			
	Permanent		Temporary		Permanent		Temporary		Permanent		Temporary	
	Area	Length	Area	Length	Area	Length	Area	Length	Area	Length	Area	Length
ephemeral stream	.003	12	.004	170								
Total:	.003	12	.004	170								

Total volume (in cubic yards) and type(s) of material proposed to be dredged from or discharged into Waters of the United States:

Material Type	Total Volume Dredged	Total Volume Discharged
Rock Slope Protection (RSP)		
Clean spawning gravel		
River rock		
Soil/Dirt/Silt/Sand/Mud		
Concrete	N/A	2.6
Structure		
Stumps/Root wads		
Other:		
Total:	N/A	2.6

Activity requires a written waiver to exceed specified limits of the Nationwide Permit?  Yes  No  
 If yes, provide Nationwide Permit number and name, limit to be exceeded, and rationale for each requested waiver:

Activity will result in the loss of greater than 1/2-acre of Waters of the United States?  Yes  No  
 If yes, provide an electronic copy (compact disc) or multiple hard copies (7) of the complete PCN for appropriate Federal and State Pre-discharge Notification (See General Condition #31, Pre-construction Notification, Agency Coordination, Section 2 and 4):

Describe direct and indirect effects caused by the activity and how the activity has been designed (or modified) to have minimal adverse effects on the aquatic environment (See General Condition #31, Pre-construction Notification, District Engineer's Decision, Section 1): **The project is a minimal impact.**

Potential cumulative impacts of proposed activity (if any): N/A

Required drawings and figures (see each U.S. Army Corps of Engineers District's Minimum Standards Guidance):

Vicinity map:  Attached (or mail copy separately if applying electronically)

To-scale Plan view drawing(s):  Attached (or mail copy separately if applying electronically)

To-scale elevation and/or Cross Section drawing(s):  Attached (or mail copy separately if applying electronically)

Numbered and dated pre-project color photographs:  Attached (or mail copy separately if applying electronically)

Sketch drawing(s) or map(s):  Attached (or mail copy separately if applying electronically)

Has a wetlands/waters of the U.S. delineation been completed?

Yes, Attached<sup>2</sup> (or mail copy separately if applying electronically)  No

If a delineation has been completed, has it been verified in writing by the Corps?

Yes, Date of preliminary or approved jurisdictional determination (mm/dd/yyyy):

Corps file number:

No

<sup>2</sup>If available, provide ESRI shapefiles (NAD83) for delineated waters

For proposed discharges of dredged material resulting from navigation dredging into inland or near-shore waters of the U.S. (including beach nourishment), please attach<sup>3</sup> a proposed Sampling and Analysis Plan (SAP) prepared according to Inland Testing Manual (ITM) guidelines (including Tier I information, if available), or if disposed offshore, a proposed SAP prepared according to the Ocean Disposal Manual.

<sup>3</sup>Or mail copy separately if applying electronically

Is any portion of the work already complete?  YES  NO

If yes, describe the work:

**Box 7 Authority:**

Is Section 10 of the Rivers and Harbors Act applicable?:  YES  NO

Is Section 404 of the Clean Water Act applicable?:  YES  NO

Is the project located on U.S. Army Corps of Engineers property or easement?:  YES  NO

If yes, has Section 408 process been initiated?:  YES  NO

Would the project affect a U.S. Army Corps of Engineers structure?:  YES  NO

If yes, has Section 408 process been initiated?:  YES  NO

Is the project located on other Federal Lands (USFS, BLM, etc.)?:  YES  NO

Is the project located on Tribal Lands?:  YES  NO

**Box 8** Is the discharge of fill or dredged material for which Section 10/404 authorization is sought part of a larger plan of development?:  YES  NO

If discharge of fill or dredged material is part of development, name and proposed schedule for that larger development (start-up, duration, and completion dates):

N/A

Location of larger development (if discharge of fill or dredged material is part of a plan of development, a map of suitable quality and detail of the entire project site should be included):

N/A

**Box 9 Measures taken to avoid and minimize impacts to waters of the United States:**

Construction of the proposed project will only occur when no water is present and no storm events are forecasted. The project will require the preparation of a Water Pollution Control Program (WPCP). The WPCP is developed by the contractor and submitted to the Caltrans resident engineer for approval prior to the start of construction. The WPCP incorporates the applicable temporary Construction site BMPs for the project intended to reduce or eliminate pollutants in construction site stormwater runoff throughout the year. In addition to those requirements, erosion control will be addressed by incorporating hydroseeding, hydraulic mulch, compost blankets and fiber rolls. Drainage inlet protection will be installed and street sweeping conducted throughout construction.

**Box 10 Proposed Compensatory Mitigation** related to fill/excavation and dredge activities. Indicate in **acres** and **linear feet** (where appropriate) the total quantity of Waters of the United States proposed to be created, restored, enhanced and/or preserved for purposes of providing compensatory mitigation. Indicate water body type (tidal wetland, non-tidal wetland, riparian wetland, ephemeral stream/river, intermittent stream/river, perennial stream/river, pond/lake, vegetated shallows, bay/harbor, lagoon, ocean, etc.) or non-jurisdictional (uplands<sup>1</sup>). Indicate mitigation type (permittee-responsible on-site/off-site, mitigation bank, or in-lieu fee program). If the mitigation is purchase of credits from a mitigation bank, indicate the bank to be used, if known:

<sup>1</sup> For uplands, please indicate if designed as an upland buffer.

Site Number	Water Body Type	Created		Restored		Enhanced		Preserved		Mitigation Type
		Area	Length	Area	Length	Area	Length	Area	Length	
Total:										

If no mitigation is proposed, provide detailed explanation of why no mitigation would be necessary: Because the fill is de minimis permanent fill to 0.0047 acres of roadside drainage ditches, trees will not be removed, and riparian habitat will not be permanently impacted, no additional mitigation is required for the Project.

If permittee-responsible mitigation is proposed, provide justification for not utilizing a Corps-approved mitigation bank or in-lieu fee program:  
N/A

Has a draft/conceptual mitigation plan been prepared in accordance with the April 10, 2008, Final Mitigation Rule<sup>2</sup> and District Guidelines?

<sup>2</sup>[http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/mitig\\_info.aspx](http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/mitig_info.aspx)

<sup>3</sup>**Sacramento and San Francisco Districts**-[http://www.spk.usace.army.mil/organizations/cespk-co/regulatory/pdf/Mitigation\\_Monitoring\\_Guidelines.pdf](http://www.spk.usace.army.mil/organizations/cespk-co/regulatory/pdf/Mitigation_Monitoring_Guidelines.pdf)

<sup>4</sup>**Los Angeles District**-[http://www.spl.usace.army.mil/regulatory/mmg\\_2004.pdf](http://www.spl.usace.army.mil/regulatory/mmg_2004.pdf)

<sup>5</sup>**Albuquerque District**-[http://www.spa.usace.army.mil/reg/mitigation/SPA%20Final%20Mitigation%20Guidelines\\_OLD.pdf](http://www.spa.usace.army.mil/reg/mitigation/SPA%20Final%20Mitigation%20Guidelines_OLD.pdf)

Yes, Attached (or mail copy separately if applying electronically)  No

If no, a mitigation plan must be prepared and submitted, if applicable.

Mitigation site(s) Latitude & Longitude (D/M/S, DD, or UTM with Zone):	USGS Quadrangle map name(s):
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Assessor Parcel Number(s):	Section(s), Township(s), Range(s):
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Other location descriptions, if known:

Directions to the mitigation location(s):

**Box 11 Threatened or Endangered Species**

Please list any federally-listed (or proposed) threatened or endangered species or critical habitat (or proposed critical habitat) within the project area (include scientific names (e.g., Genus species), if known):

- a.
- b.
- c.
- d.
- e.
- f.

Have surveys, using U.S. Fish and Wildlife Service/NOAA Fisheries protocols, been conducted?

Yes, Report attached (or mail copy separately if applying electronically)  No

If a federally-listed species would be impacted, please provide a description of the impact and a biological evaluation, if available.

Yes, Report attached (or mail copy separately if applying electronically)  Not attached

Has Section 7 consultation been initiated by another federal agency?

Yes, Initiation letter attached (or mail copy separately if applying electronically)  No

Has Section 10 consultation been initiated for the proposed project?

Yes, Initiation letter attached (or mail copy separately if applying electronically)  No

Has the USFWS/NOAA Fisheries issued a Biological Opinion?

Yes, Attached (or mail copy separately if applying electronically)  No

If yes, list date Opinion was issued (m/d/yyyy):

**Box 12 Historic properties and cultural resources:**

Are any cultural resources of any type known to exist on-site?  Yes  No

Please list any known historic properties listed, or eligible for listing, on the National Register of Historic Places:

- a.
- b.
- c.
- d.
- e.
- f.

Has a cultural resource records search been conducted?

Yes, Report attached (or mail copy separately if applying electronically)  No

Has a cultural resource pedestrian survey been conducted for the site?

Yes, Report attached (or mail copy separately if applying electronically)  No

Has another federal agency been designated the lead federal agency for Section 106 consultation?

Yes, Designation letter/email attached (or mail copy separately if applying electronically)  No

Has Section 106 consultation been initiated by another federal agency?

Yes, Initiation letter attached (or mail copy separately if applying electronically)  No

Has a Section 106 MOA or PA been signed by another federal agency and the SHPO?

Yes, Attached (or mail copy separately if applying electronically)  No

If yes, list date MOA or PA was signed (m/d/yyyy):

**Box 13 Section 401 Water Quality Certification:**

Applying for certification?  Yes, Attached (or mail copy separately if applying electronically)  No

Certification issued?  Yes, Attached (or mail copy separately if applying electronically)  No

Certification waived?  Yes, Attached (or mail copy separately if applying electronically)  No

Certification denied?  Yes, Attached (or mail copy separately if applying electronically)  No

Exempted activity?  Yes  No

Agency concurrence?  Yes, Attached  No

If exempt, state why:

**Box 14 Coastal Zone Management Act:**

Is the project located within the Coastal Zone?  Yes  No

If yes, applying for a coastal commission-approved Coastal Development Permit?

Yes, Attached (or mail copy separately if applying electronically)  No

If no, applying for separate CZMA-consistency certification?

Yes, Attached (or mail copy separately if applying electronically)  No

Permit/Consistency issued?  Yes, Attached (or mail copy separately if applying electronically)  No

Exempt?  Yes  No

Agency concurrence?  Yes, Attached  No

If exempt, state why:

**Box 15** List of other certifications or approvals/denials received from other federal, state, or local agencies for work described in this application:

Agency	Type of Approval <sup>4</sup>	Identification Number	Date Applied	Date Approved	Date Denied
RWQCB	401 Certification	772637	10/21/2011	11/22/2011	N/A
CDFG	LSAA	1600-2011-0376-3	10/20/2011	1/31/2012	N/A

<sup>4</sup> Would include but is not restricted to zoning, building, and flood plain permits

## Nationwide Permit General Conditions (GC) checklist:

(<http://www.gpo.gov/fdsys/pkg/FR-2012-02-21/pdf/2012-3687.pdf>)

Check	General Condition	Rationale for compliance with General Condition
<input checked="" type="checkbox"/>	1. Navigation	The waters are non-navigable and the project will not cause more than a minimal adverse effect on navigation.
<input checked="" type="checkbox"/>	2. Aquatic Life Movements	Aquatic life movements will not be impeded by this project.
<input checked="" type="checkbox"/>	3. Spawning Areas	There are no spawning areas in the waters within the project site.
<input checked="" type="checkbox"/>	4. Migratory Bird Breeding Areas	This is not a migratory bird breeding area.
<input checked="" type="checkbox"/>	5. Shellfish Beds	No shellfish beds are in the waters within the project site.
<input checked="" type="checkbox"/>	6. Suitable Material	All material used in the construction of this project will be suitable for the natural environment and non-toxic.
<input checked="" type="checkbox"/>	7. Water Supply Intakes	No construction activities occur within the proximity of a public water supply.
<input checked="" type="checkbox"/>	8. Adverse Effects from Impoundments	The project will not create an impoundment of water.
<input checked="" type="checkbox"/>	9. Management of Water Flows	Work will be conducted when it is dry between June 1 and October 15. There will be no stream diversions.
<input checked="" type="checkbox"/>	10. Fills Within 100-Year Floodplains	The project complies with applicable FEMA approved state or local floodplain management requirements.
<input checked="" type="checkbox"/>	11. Equipment	Equipment is prohibited in the ditch. Equipment refueling will not occur in the channels. Disturbances to soils will be minimized.
<input checked="" type="checkbox"/>	12. Soil Erosion and Sediment Controls	Caltrans standard BMPs will be used. Work within waters of the United States during periods of low-flow or no-flow (June 1 to October 15).
<input checked="" type="checkbox"/>	13. Removal of Temporary Fills	Temporary fills will be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas will be revegetated, as appropriate.
<input checked="" type="checkbox"/>	14. Proper Maintenance	This project improves the drainage facility and any structure or fill shall be properly maintained Caltrans Maintenance.
<input checked="" type="checkbox"/>	15. Single and Complete Project	This is a single and complete project.
<input checked="" type="checkbox"/>	16. Wild and Scenic Rivers	There are no Wild and Scenic Rivers in the project.
<input checked="" type="checkbox"/>	17. Tribal Rights	No Tribal Rights will be affected.
<input checked="" type="checkbox"/>	18. Endangered Species	See Box 11 above.
<input checked="" type="checkbox"/>	19. Migratory Bird and Bald and Golden Eagle Permits	Pre-construction bird surveys will be conducted between February 15 and September 1.
<input checked="" type="checkbox"/>	20. Historic Properties	See Box 12 above.
<input checked="" type="checkbox"/>	21. Discovery of Previously Unknown Remains and Artifacts	If any previously unknown historic, cultural or archeological remains and artifacts are discovered while accomplishing the activity authorized by this permit, the district engineer will be immediately notified of what was found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed.
<input checked="" type="checkbox"/>	22. Designated Critical Resource Waters	This is not a NOAA managed marine sanctuary, marine monument, or a National Estuarine Research Reserve.
<input checked="" type="checkbox"/>	23. Mitigation	See Box 10 above.
<input checked="" type="checkbox"/>	24. Safety of Impoundment Structures	This is not an Impoundment Structure.
<input checked="" type="checkbox"/>	25. Water Quality	See Box 13 above.
<input checked="" type="checkbox"/>	26. Coastal Zone Management	See Box 14 above.
<input checked="" type="checkbox"/>	27. Regional and Case-by-Case Conditions	Regional conditions do not apply to this project.
<input checked="" type="checkbox"/>	28. Use of Multiple Nationwide Permits	Does not apply.
<input checked="" type="checkbox"/>	29. Transfer of Nationwide Permit Verifications	N/A, Caltrans has no plans to sell or transfer this property.

<input checked="" type="checkbox"/>	30. Compliance Certification	This is a non-reporting NWP 14, no certification will be sent to USACE.
<input checked="" type="checkbox"/>	31. Pre-Construction Notification	This is a non-reporting NWP 14, no PCN will be sent to USACE.



# California Regional Water Quality Control Board

## San Francisco Bay Region



**Matthew Rodriquez**  
Secretary for Environmental  
Protection

1515 Clay Street, Suite 1400, Oakland, California 94612  
(510) 622-2300 • Fax (510) 622-2460  
<http://www.waterboards.ca.gov/sanfranciscobay>

**Edmund G. Brown, Jr.**  
Governor

November 22, 2011  
CIWQS Place No. 772637  
401 Database No.: 02-43-C0661

*Sent via electronic mail; no hard-copy to follow*

California Department of Transportation  
Attn: Ms. Dina El-Tawansy  
Dina\_El-Tawansy@dot.ca.gov  
111 Grand Avenue  
Oakland, CA 94612

**Subject: Clean Water Act Section 401 Water Quality Certification for the Santa Clara State Route 17 Drainage Improvement Project, Town of Los Gatos, Santa Clara County**

**Department Project No.: EA 04-3S830**

Dear Ms. El-Tawansy:

We have reviewed and hereby issue water quality certification to the California Department of Transportation (Department) for the Santa Clara State Route 17 (SR 17) Drainage Improvement Project (Project). The Department has claimed non-reporting coverage under U.S. Army Corps of Engineers (Corps) Nationwide Permit No. 14, *Linear Transportation Projects*, pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344). As such, the Department has applied to the Water Board for a Clean Water Act Section 401 water quality certification that the Project will not violate State water quality standards.

**Project:** The Department is proposing to repair two drainage systems adjacent southbound SR 17 at Post Mile (PM) 3.4 and PM 3.7. The two drainage systems are tributaries to Lexington Reservoir and convey stormwater runoff from SR 17 and the surrounding vegetated landscape.

At PM 3.4, the Department proposes in-kind replacement of an existing drainage inlet and 18-inch metal pipe culvert that conveys flows beneath Alma College Road. The Department also proposes to modify the outlet to include a flared-end section and rip-rap energy dissipation.

At PM 3.7, the Department proposes to install a concrete apron around a drainage inlet with trash rack. An existing 18-inch culvert that conveys flows from the shoulder of SR 17 to the inlet will be replaced in-kind. Four earthen tributaries to the drainage inlet will be scraped with machinery at

selected locations to accommodate proper drainage. Minor grading will not require the removal of trees or permanent impacts to riparian habitat.

**Jurisdictional Wetlands and Waters Impacts:** Project implementation would result in approximately 22 linear feet (0.0047 acres) of permanent impacts and 170 linear feet of temporary impacts to ephemeral drainage ditches.

At PM 3.4, approximately 2.6 cubic yards of rip-rap and a flared-end section will permanently fill approximately 9.5 linear feet (0.0017 acres) of a roadside drainage ditch. At PM 3.7, a 12-foot square concrete drainage inlet apron will fill approximately 12 linear feet (0.003 acres) of a drainage ditch. Also, minor grading in the four earthen tributaries at PM 3.7 will temporarily impact approximately 170 linear feet of ephemeral drainage ditches.

**Jurisdictional Wetlands and Waters Mitigation:** Because the fill is de minimis permanent fill to 0.0047 acres of roadside drainage ditches, trees will not be removed, and riparian habitat will not be permanently impacted, no additional mitigation is required for the Project.

**CEQA Compliance:** In March 2010, the Department found that the project was categorically exempt from CEQA pursuant to 14 CCR § 15301, existing facilities.

**Certification:** 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. The following conditions are associated with this certification:

1. Project implementation shall not result in tree removal or destruction of riparian habitat;
2. Work shall occur only within dry drainage ditches;
3. The Department shall not alter the alignment or substrate of the existing drainage ditches;
4. The Department shall adhere to Standard and Regional conditions imposed by Nationwide Permit No. 14, issued to the Department by the Corps, and the Streambed and Alteration Agreement, signed by the California Department of Fish and Game;
5. The Project shall be constructed in conformance with the Project Description described in this certification and certification application materials. Any change in the Project may require modification to the certification and shall be reported to the Water Board;

6. Erosion control measures shall be utilized throughout all phases of construction where sediment runoff from disturbed areas threatens to enter waters of the State, regardless of date. At no time shall silt-laden runoff be allowed to enter waters of the State;
7. Except as expressly allowed in this certification, no equipment shall be operated in areas of flowing or standing water; no fueling, cleaning or maintenance of vehicles or equipment shall take place within jurisdictional waters or within any areas where an accidental discharge to waters of the State may occur;
8. Except as expressly allowed in this Certification, the discharge, or creation of the potential for discharge, to waters of the State of any construction wastes and/or soil materials including cement, fresh concrete, or washings thereof, silts, clay, sand, oil or petroleum products and other organic materials to waters of the State is prohibited;
9. This certification does not allow for the take, or incidental take, of any special status species. The Department shall use the appropriate protocols, as approved by the California Department of Fish and Game and the U.S. Fish and Wildlife Service, to ensure that Project activities do not impact the Beneficial Use of the Preservation of Rare and Endangered Species;
10. The Department shall maintain a copy of this water quality certification at the Project site so as to be available at all times to site operating personnel. It is the responsibility of the Department to assure that all personnel (employees, contractors, and subcontractors) are adequately informed and trained regarding the conditions of this certification;
11. This certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to Section 13330 of the California Water Code (CWC) and Section 3867 of Title 23 of the California Code of Regulations(23 CCR);
12. This certification action does not apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license, unless the pertinent certification application was filed pursuant to California Code of Regulations (CCR) Title 23, Subsection 3855(b) and that application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought; and,
13. Certification is conditioned upon total payment of the full fee required in State regulations (23 CCR Section 3833). Water Board staff received full payment of \$970.00 on October 21, 2011.

We anticipate your cooperation in implementing these conditions. However, please be advised that any violation of water quality certification conditions is a violation of State law and subject to administrative civil liability pursuant to California Water Code (CWC) section 13350. Failure to

# PRELIMINARY SITE INVESTIGATION REPORT

STATE ROUTE 17  
STORM DAMAGE REPAIRS PROJECT  
SANTA CLARA COUNTY, CALIFORNIA

04.11.2011

PREPARED FOR:

CALIFORNIA DEPARTMENT OF TRANSPORTATION  
DISTRICT 4  
OFFICE OF ENVIRONMENTAL ENGINEERING  
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GEOCON PROJECT NO. E8560-06-17  
CALTRANS EA 04-3S8301

MAY 2011

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## REPORT LIMITATIONS

This report has been prepared exclusively for the State of California Department of Transportation (Caltrans) District 4. The information contained herein is only valid as of the date of the report and will require an update to reflect additional information obtained.

This report is not a comprehensive site characterization and should not be construed as such. The findings as presented in this report are predicated on the results of the limited sampling and laboratory testing 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 be deemed conclusive with respect to only the information obtained. We make no warranty, express or implied, with respect to the content of this report or any subsequent reports, correspondence or consultation. 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.

The contents of this report reflect the views of the author who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the State of California or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.

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# PRELIMINARY SITE INVESTIGATION REPORT

## 1.0 INTRODUCTION

This Preliminary Site Investigation Report for the State Route 17 (SR-17) Storm Damage Repairs project was prepared by Geocon Consultants, Inc. under California Department of Transportation (Caltrans) Contract No. 04A3578 and Task Order No. 17 (TO-17), EA 04-3S8301.

### 1.1 Project Description and Proposed Improvements

The project location consists of Caltrans right-of-way (ROW) along portions of the slopes adjacent to the northbound and southbound shoulders of SR-17 between Post Miles (PM) SCL-17-PM 1.05/5.75 in Santa Clara County, California. The project location extends from 0.1 mile south of the Madrone Drive undercrossing to 0.5 mile south of Santa Cruz Avenue and includes eight separate areas identified as Locations 1 to 8. The project location is depicted on the Vicinity Map, Figure 1.

The investigation was conducted prior to repairing storm damaged locations by installing erosion control, rock slope protection, fabric, and anchor wire mesh. Construction activities will also include improving drainage, replacing corrugated metal pipe, and constructing a V-ditch. Subsequent to the field investigation, Caltrans informed Geocon that Locations 1 and 2 are no longer included in the proposed improvements.

### 1.2 General Objectives

The purpose of the site investigation was to evaluate concentrations of California Assessment Manual (CAM) 17 metals, including aurally deposited lead (ADL), total petroleum hydrocarbons (TPH), and naturally occurring asbestos (NOA) in soil at the project location. Groundwater was not encountered during site investigation.

ADL may be present at the project location primarily due to historic leaded fuel emissions from automobile exhausts. Lead poses risks related to inhalation, ingestion, and dermal contact with the material. NOA may be in soil within the project limits. If not managed, disturbance of NOA during construction activities may potentially pose an inhalation risk to the health of construction personnel.

The information obtained from this investigation will be used by Caltrans to evaluate soil disposal costs and identify health and safety concerns.

## 2.0 BACKGROUND

### 2.1 Hazardous Waste Determination 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), Section 261.

For waste containing metals, the waste is classified as California hazardous when: 1) the total metal content exceeds the respective Total Threshold Limit Concentration (TTLC); or 2) the soluble metal content exceeds the respective Soluble Threshold Limit Concentration (STLC) based on the standard Waste Extraction Test (WET). A waste has the potential of exceeding the STLC when the waste's total metal content is greater than or equal to ten times the respective STLC value since the WET uses a 1:10 dilution ratio. Hence, when a total metal is detected at a concentration greater than or equal to ten times the respective STLC, and assuming that 100 percent of the total metals are soluble, soluble metal analysis is required. A material is classified as RCRA hazardous, or Federal hazardous, when the soluble metal content exceeds the Federal regulatory level based on the Toxicity Characteristic Leaching Procedure (TCLP).

The above regulatory criteria are based on chemical concentrations. Wastes may also be classified as hazardous based on other criteria such as ignitability and corrosivity; however, for the purposes of this investigation, toxicity (i.e., lead concentrations) is the primary factor considered for waste classification since waste generated during the construction activities would not likely warrant testing for ignitability or other criteria. Waste that is classified as either California hazardous or RCRA hazardous requires management as a hazardous waste.

### 2.2 DTSC Variance

The DTSC issued a statewide Variance effective July 1, 2009, regarding the management of ADL-impacted soils within Caltrans right-of-way. Under the Variance, soil that is classified as a non-RCRA hazardous waste, based primarily on ADL content, may be suitable for reuse within Caltrans right-of-way. ADL soil that is classified as a RCRA hazardous waste is not eligible for reuse under the Variance and must be disposed of as a RCRA hazardous waste (Caltrans Type Z-3).

ADL soil reused under the Variance must always be at least five feet above the highest groundwater elevation and, depending on lead concentrations, must be covered with at least one foot of non-hazardous soil or a pavement structure. The ADL soil may not be placed in areas where it might contact groundwater or surface water (such as streams and rivers), and must be buried in locations that are protected from erosion that may result from storm water run-on and run-off.

Review of the statewide Variance indicates the following conditions regarding the reuse and management of ADL-impacted soil as fill material for construction and maintenance operations. If ADL soil meets the Variance criteria but is not intended to be reused within Caltrans right-of-way, then the excavated soil must be disposed of as a California hazardous waste (Caltrans Type Z-2). A copy of the Variance is presented as Appendix A.

**Caltrans Type Y-1:** ADL soil exhibiting a total lead concentration less than or equal to 1,411 milligrams per kilogram (mg/kg), a DI-WET (WET using deionized water as extractant) lead concentration less than or equal to 1.5 milligrams per liter (mg/l), and a pH value greater than or equal to 5.5 may be reused within the same Caltrans corridor and must be covered with at least one foot of non-hazardous soil.

**Caltrans Type Y-2:** ADL soil exhibiting a total lead concentration less than or equal to 1,411 mg/kg, a DI-WET lead concentration less than or equal to 1.5 mg/l, and a pH value greater than 5 and less than 5.5 may be reused within the same Caltrans corridor and must be covered and protected from infiltration by a pavement structure.

ADL soil exhibiting a total lead concentration less than or equal to 1,411 mg/kg, a DI-WET lead concentration greater than 1.5 mg/l and less than or equal to 150 mg/l, and a pH value greater than 5 may be reused within the same Caltrans corridor and must be covered and protected from infiltration by a pavement structure.

ADL soil exhibiting a total lead concentration greater than 1,411 mg/kg and less than or equal to 3,397 mg/kg, a DI-WET lead concentration less than or equal to 150 mg/l, and a pH value greater than 5 may be reused within the same Caltrans corridor and must be covered and protected from infiltration by a pavement structure.

**Caltrans Type Z-2:** ADL soil exhibiting a total lead concentration greater than 3,397 mg/kg, a DI-WET lead concentration greater than 150 mg/l, or a pH value less than or equal to 5 is not eligible for reuse under the Variance and must be disposed of as a California hazardous waste.

**Caltrans Type Z-3:** ADL soil exhibiting a TCLP lead concentration greater than or equal to 5 mg/l is not eligible for reuse under the Variance and must be disposed of as a RCRA hazardous waste.

## 2.3 Environmental Screening Levels

The San Francisco Bay Regional Water Quality Control Board (SFRWQCB) has prepared a technical report entitled *Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater, Interim Final* (May 2008), which presents Environmental Screening Levels (ESLs) for soil, groundwater, soil gas, and surface water, to assist in evaluating sites impacted by releases of hazardous chemicals. The ESLs are conservative values for more than 100 commonly detected contaminants, which may be used to compare with environmental data collected at a site. ESLs are strictly risk assessment tools and “not regulatory clean up standards.” The presence of a chemical at concentrations in excess of an ESL does not necessarily indicate that adverse impacts to human health or the environment are occurring; this simply indicates that a potential for adverse risk may exist and that additional evaluation is or “may be” warranted (SFRWQCB, 2008).

The most conservative ESL table was used for this characterization: Table A – Shallow Soil ( $\leq 3$  meters below ground surface; bgs) – Groundwater is a Current or Potential Source of Drinking Water. The respective ESLs are listed at the end of Tables 3 and 4 for comparative purposes.

## 2.4 Naturally Occurring Asbestos

As defined in current California Air Resources Board (CARB) rules, serpentine material refers to any material that contains at least 10% serpentine, and asbestos-containing serpentine refers to serpentine materials with an asbestos content greater than 5% as determined by CARB Test Method 435 (CARB 435). The use of serpentine material for road surfacing is prohibited in California by Title 17 of the California Code of Regulations (CCR) Section 93106, Asbestos Airborne Toxic Control Measure (ATCM) for Surfacing Application (ATCM 93106), unless the material has been tested and determined to have an asbestos content of less than 0.25%. Materials found to contain asbestos of 0.25% or more are considered to be designated waste if transported offsite, requiring disposal at a landfill facility designated to accept asbestos waste. Alternatively, asbestos-containing materials may be reused onsite if buried beneath a minimum 6 inches of soil.

## 3.0 SCOPE OF SERVICES

The scope of services requested by Caltrans under TO-17, EA 04-3S8301 included the following:

### 3.1 Pre-field Activities

- Prepared a site-specific *Health and Safety Plan* to provide guidelines on the use of personal protective equipment and the health and safety procedures implemented during the field activities
- Conducted pre-work site visit and task order meeting with the Caltrans Task Order Manager on April 11, 2011

- Provided a minimum of 48-hours notice to the local public utilities via Underground Service Alert prior to job site mobilization
- Retained the services of Advanced Technology Laboratories (ATL), a Caltrans-approved and California-certified analytical laboratory, to perform the chemical analyses of soil samples
- Retained the services of EMSL Analytical Inc. (EMSL), a Caltrans-approved and California-certified analytical laboratory, to perform the asbestos analysis of soil samples

### **3.2 Field Activities**

The field investigation was performed on April 13 and 14, 2011, by Geocon staff. The following field activities were performed during the sampling efforts:

- Advanced 18 soil borings on the slope along the northbound (NB) and southbound (SB) shoulders of SR-17 using hand-auger techniques. The borings were advanced to a maximum depth of 5.0 feet.
- Collected 60 soil samples for selected analysis of CAM 17 metals, total lead, TPH, NOA, and pH.
- Transported samples to California-certified environmental laboratories for analysis under standard chain-of-custody (COC) documentation.

## **4.0 INVESTIGATIVE METHODS**

### **4.1 Sampling Procedures**

Soil samples were collected from 18 boring locations identified by the Caltrans TO Manager. Boring coordinates are presented on Table 1 and boring locations are shown on the Site Plan, Figure 2.

The soil samples for analysis of CAM 17 metals and TPH were collected in new stainless steel tubes sealed with Teflon tape and plastic end-caps. Soil samples for total lead and NOA analyses were collected into new resealable plastic bags. Sample containers were labeled and transported to Caltrans-approved, certified environmental laboratories using standard COC documentation. Soil borings were backfilled to surface with soil cuttings.

Geocon provided QA/QC procedures during the field activities. These procedures included washing the sampling equipment with a Liqui-Nox® solution followed by a double rinse with deionized water. Decontamination water was disposed of to the ground surface within Caltrans right-of-way in a manner not to create runoff, away from drain inlets or potential water bodies.

## 4.2 Laboratory Analyses

Laboratory analyses were performed under an expedited 48-hour turnaround-time (TAT). Samples submitted for CAM17 metals, total lead, TPH, and pH were analyzed by ATL; samples submitted for NOA were analyzed by EMSL. The laboratory reports and COC documentation are included on a CD in Appendix B.

The soil samples were analyzed as follows:

- 42 samples for total lead using Environmental Protection Agency (EPA) Test Method 6010 ICAP
- 11 samples with total lead concentrations greater than 50 mg/kg (i.e., ten times the lead STLC of 5.0 mg/l) were further analyzed for WET lead.
- 9 samples with total and WET lead concentrations greater than 100 mg/kg and 5.0 mg/l, respectively, were further analyzed for DI-WET and TCLP lead
- 18 samples for CAM 17 metals according to Title 22 CCR, EPA Test Methods 6010 ICAP and 7471A
- 3 samples with total chromium concentrations greater than 50 mg/kg (i.e., ten times the STLC of 5.0 mg/l for hexavalent chromium) were further analyzed for WET chromium
- 18 samples for TPH as gasoline (TPHg) using EPA Method 8015B
- 18 samples for TPH as diesel (TPHd) using EPA Method 8015B
- 18 samples for NOA using the CARB Test Method 435
- 18 samples for pH using EPA Method 9045

## 4.3 Laboratory QA/QC

QA/QC procedures were performed for each method of analysis with specificity for each analyte listed in the test method's QA/QC. The laboratory QA/QC procedures included the following:

- One method blank for every ten samples, batch of samples or type of matrix, whichever was more frequent
- One sample analyzed in duplicate for every ten samples, batch of samples or type of matrix, whichever was more frequent
- One spiked sample for every ten samples, batch of samples or type of matrix; whichever was more frequent, with spike made at ten times the detection limit or at the analyte level

Prior to submitting the samples to the laboratory, the COC documentation was reviewed for accuracy and completeness.

## 5.0 INVESTIGATIVE RESULTS

### 5.1 Subsurface Conditions

Observations during field activities indicated that surface soil at the project location generally consists of brown, loamy gravelly sand and silt. Groundwater was not encountered during the advancement of the soil borings.

### 5.2 Laboratory Analytical Results

The analytical results are summarized in Tables 2 through 5 and are summarized below.

- The following metals were not detected above their respective laboratory reporting limits in the samples: beryllium, mercury, selenium, silver, and thallium.
- Total lead was reported at concentrations ranging from less than the laboratory reporting limit of 5.0 to 410 mg/kg.
- WET lead was reported at concentrations ranging from <1.0 to 26 mg/l.
- TCLP lead was reported at concentrations ranging from less than the laboratory reporting limit of 0.25 to 0.82 mg/l.
- DI-WET lead was not detected above the laboratory reporting limit of 0.25 mg/l.
- Total chromium was reported at concentrations ranging from 3.0 to 250 mg/kg.
- WET chromium was not detected above the laboratory reporting limit of 1.0 mg/l.
- Remaining CAM 17 metals were reported in the samples at concentrations below ten times their respective STLCS.
- TPHg was not detected above the laboratory reporting limit of 1.0 mg/kg.
- TPHd was detected above the laboratory reporting limit of 1.0 mg/kg at concentrations ranging from 2.2 to 320 mg/kg.
- NOA was detected above the 0.25% target analytical sensitivity level in two samples (11-17-3.0 and 11-18-3.0, Location 8 SB) at 2.00 and 2.50%.
- pH values ranged from 5.7 to 9.1.

### 5.3 Laboratory Quality Assurance/Quality Control

We reviewed the QA/QC results provided with the laboratory analytical reports. The data indicate non-detect results for the method blanks.

Matrix spike and/or matrix spike duplicates (MS/MSDs) were outside recovery criteria for several of the analyses. The relative percent differences (RPDs) of the duplicate samples for a number of the analyses were outside criteria. Surrogate recovery was diluted out of one sample. However, the case narratives in the laboratory reports state that the analytical batch was validated by the laboratory control sample (LCS). The data showed acceptable recoveries and RPDs for the remainder of the duplicates and matrix spikes. Dilution was necessary for one analysis due to sample matrix.

Based on this limited data review, no additional qualifications of the soil data are necessary, and the data are of sufficient quality for the purposes of this report.

#### **5.4 Statistical Evaluation for Lead Detected in Soil Samples**

Statistical methods were applied to the total lead data to evaluate: 1) the upper confidence limits (UCLs) of the arithmetic means of the total lead concentrations for each sampling depth; and 2) if an acceptable correlation between total and WET lead concentrations exists that would allow the prediction of WET lead concentrations based on calculated UCLs. The lead data for the Site were treated as eight sample populations for statistical evaluation, which consisted of the following groupings:

- 1) Location 1 SB – borings 11-01 and 11-02 (dropped from proposed project)
- 2) Location 2 NB – borings 11-03 and 11-04 (dropped from proposed project)
- 3) Location 3 SB – borings 11-05 and 11-06
- 4) Location 4 SB – borings 11-07 and 11-08
- 5) Location 5 SB – borings 11-09 and 11-10
- 6) Location 6 NB – borings 11-11 and 11-12
- 7) Location 7 NB – borings 11-13 to 11-15
- 8) Location 8 NB – borings 11-16 to 11-18

##### **5.4.1 Calculating the UCLs for the Arithmetic Mean**

Per information from Caltrans, soil will be excavated and removed from the project site at Locations 3 through 8. Therefore, the data for all of the depth intervals at each of these three areas were used to calculate a single UCL value that represents the whole soil profile from the surface to the maximum sample depth. The lead statistics are presented in Appendix B.

The upper one-sided 90% and 95% UCLs of the arithmetic 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. Statistical confidence limits are the classical tool for addressing uncertainties of a distribution mean. The UCLs of the arithmetic mean concentration are used as the mean concentrations because it is not possible to know the true mean due to the essentially infinite

number of soil samples that could be collected from a site. The UCLs therefore account for uncertainties due to limited sampling data. As data become less limited at a site, uncertainties decrease, and the UCLs move closer to the true mean.

Non-parametric bootstrap techniques were used to calculate the UCLs. For those samples in which total lead was not detected at concentrations exceeding the laboratory reporting limit, a value equal to one-half of the reporting limit was used in the UCL calculation. The bootstrap test results are included in Appendix B. The following table presents the calculated UCLs and statistics for each location.

SAMPLE LOCATION AND INTERVAL (feet)	90% TOTAL LEAD UCL (mg/kg)	95% TOTAL LEAD UCL (mg/kg)	TOTAL LEAD MEAN (mg/kg)	MINIMUM VALUE (mg/kg)	MAXIMUM VALUE (mg/kg)
Location 1 SB, 0 to 5	139.0	152.4	78.5	5.6	410
Location 2 NB, 0 to 3	101.8	116.8	51.3	5.1	270
Location 3 SB, 0 to 3	124.3	141.2	69.7	2.5	300
Location 4 SB, 0 to 3	182.8	199.8	115.7	5.4	390
Location 5 SB, 0 to 3	76.4	83.3	45.9	5.5	160
Location 6 NB, 0 to 3	6.6	6.9	5.7	2.5	8.1
Location 7 NB, 0 to 3	26.8	28.7	20.7	8.8	48
Location 8 SB, 0 to 3	31.8	35.0	21.0	2.5	93

#### **5.4.2 Correlation of Total and WET Lead**

Total and corresponding WET lead concentrations are bivariate data with a linear structure. This linear structure should allow for the prediction of WET lead concentrations based on the maximum total lead concentrations presented in the tables above.

To estimate the degree of interrelation between total and corresponding WET lead values ( $x$  and  $y$ , respectively), the *correlation coefficient* [ $r$ ] is used. The correlation coefficient is a ratio that ranges from +1 to -1. A *correlation coefficient* of +1 indicates a perfect direct relationship between two variables; a *correlation coefficient* of -1 indicates that one variable changes inversely with relation to the other. Between the two extremes is a spectrum of less-than-perfect relationships, including zero, which indicates the lack of any sort of linear relationship at all. The *correlation coefficient* was calculated for the 11 ( $x$ ,  $y$ ) data points (i.e., soil samples analyzed for both total lead [ $x$ ] and WET lead [ $y$ ]). The resulting *coefficient of determination* ( $r^2$ ) equaled 0.6537, which yields a corresponding *correlation coefficient* ( $r$ ) of 0.8085.

For the *correlation coefficient* that indicates a linear relationship between total and WET lead concentrations, it is possible to compute the line of dependence or a best-fit line between the two variables. A least squares method was used to find the equation of a best-fit line (regression line) by forcing the y-intercept equal to zero since that is a known point. The equation of the regression line was determined to be  $y = 0.0507(x)$ , where  $x$  represents total lead concentrations and  $y$  represents predicted WET lead concentrations.

This equation was used to estimate the expected WET lead concentrations for the maximum total lead concentrations of samples collected from the project location (see Section 5.4.1). Regression analysis results and a scatter plot depicting the  $(x, y)$  data points along with the regression line are included in Appendix C. The predicted WET lead concentrations are summarized in Tables 6a to 6h.

## 6.0 CONCLUSIONS

Waste classifications are evaluated based on the 90% UCL of the lead content for the relevant excavation depths; this has historically been considered sufficient to satisfy a good faith effort by the EPA as discussed in SW-846. Risk assessment characterization is based on the 95% UCL of the lead content in the waste for the relevant depths; this is in accordance with the Risk Assessment Guidance for Superfund (RAGS) Volume 1 Documentation for Exposure Assessment. Per Caltrans, the 90% UCLs are to be used to evaluate onsite reuse and the 95% UCLs are to be used to evaluate offsite disposal.

### 6.1 Lead

#### 6.1.1 Location 1 SB

The following table summarizes the predicted waste classification for excavated soil from the surface to a depth of 5 feet based on the calculated total lead UCLs and predicted WET lead concentration for data collected within this portion of the project site. The total and WET lead calculations are summarized below and in Table 6a.

<b>Excavation Depth</b>	<b>90% UCL Total Lead (mg/kg)</b>	<b>90% UCL Predicted WET Lead (mg/l)</b>	<b>95% UCL Total Lead (mg/kg)</b>	<b>Waste Classification</b>
0 to 5 ft	139	7.0	152	Hazardous

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal

Based on the data in the above table, excavated soil from the surface to a depth of 5 feet would be classified as California hazardous waste since the predicted WET lead concentration is greater than the lead STLC of 5.0 mg/l.

Based on the TCLP lead results, excavated soil would not be classified as a RCRA hazardous waste. Based on the DI-WET lead results, excavated soil may be reused on site according to the DTSC Variance by placing soil beneath one foot of clean soil or a pavement structure.

#### 6.1.2 Location 2 NB

The following table summarizes the predicted waste classification for excavated soil from the surface to a depth of 3 feet based on the calculated total lead UCLs and predicted WET lead concentration for data collected within this portion of the project site. The total and WET lead calculations are summarized below and in Table 6b.

<b>Excavation Depth</b>	<b>90% UCL Total Lead (mg/kg)</b>	<b>90% UCL Predicted WET Lead (mg/l)</b>	<b>95% UCL Total Lead (mg/kg)</b>	<b>Waste Classification</b>
0 to 3 ft	102	5.2	117	<b>Hazardous</b>

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal

Based on the data in the above table, excavated soil from the surface to a depth of 3 feet would be classified as California hazardous waste since the predicted WET lead concentration is greater than the lead STLC of 5.0 mg/l.

Based on the TCLP lead results, excavated soil would not be classified as a RCRA hazardous waste. Based on the DI-WET lead results, excavated soil may be reused on site according to the DTSC Variance by placing soil beneath one foot of clean soil or a pavement structure.

### **6.1.3 Location 3 SB**

The following table summarizes the predicted waste classification for excavated soil from the surface to a depth of 3 feet based on the calculated total lead UCLs and predicted WET lead concentration for data collected within this portion of the project site. The total and WET lead calculations are summarized below and in Table 6c.

<b>Excavation Depth</b>	<b>90% UCL Total Lead (mg/kg)</b>	<b>90% UCL Predicted WET Lead (mg/l)</b>	<b>95% UCL Total Lead (mg/kg)</b>	<b>Waste Classification</b>
0 to 3 ft	124	6.3	141	<b>Hazardous</b>

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal

Based on the data presented in the above table, soil excavated from the surface to a depth of 3 feet within this portion of the project site would be classified as California hazardous waste since the predicted WET lead concentration exceeds the STLC of 5.0 mg/l.

Based on the TCLP lead results, excavated soil would not be classified as a RCRA hazardous waste. Based on the DI-WET lead results, excavated soil may be reused on site according to the DTSC Variance by placing soil beneath one foot of clean soil or a pavement structure.

**6.1.4 Location 4 SB**

The following table summarizes the predicted waste classification for excavated soil from the surface to a depth of 5 feet based on the calculated total lead UCLs and predicted WET lead concentration for data collected within this portion of the project site. The total and WET lead calculations are summarized below and in Table 6d.

<b>Excavation Depth</b>	<b>90% UCL Total Lead (mg/kg)</b>	<b>90% UCL Predicted WET Lead (mg/l)</b>	<b>95% UCL Total Lead (mg/kg)</b>	<b>Waste Classification</b>
0 to 3 ft	182.8	9.3	199.8	Hazardous

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal

Based on the data presented in the above table, soil excavated from the surface to a depth of 5 feet within this portion of the project site would be classified as California hazardous waste since the predicted WET lead concentration exceeds the STLC of 5.0 mg/l.

Based on the TCLP lead results, excavated soil would not be classified as a RCRA hazardous waste. Based on the DI-WET lead results, excavated soil may be reused on site according to the DTSC Variance by placing soil beneath one foot of clean soil or a pavement structure.

**6.1.5 Location 5 SB**

The following table summarizes the predicted waste classification for excavated soil from the surface to a depth of 4 feet based on the calculated total lead UCLs and predicted WET lead concentration for data collected within this portion of the project site. The total and WET lead calculations are summarized below and in Table 6e.

<b>Excavation Depth</b>	<b>90% UCL Total Lead (mg/kg)</b>	<b>90% UCL Predicted WET Lead (mg/l)</b>	<b>95% UCL Total Lead (mg/kg)</b>	<b>Waste Classification</b>
0 to 4 ft	76	3.9	83	Non-Hazardous

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal

Based on the data in the above table, excavated soil from the surface to a depth of 4 feet would be classified as non-hazardous since the predicted WET lead concentration is less than the lead STLC of 5.0 mg/l.

### **6.1.6 Location 6 NB**

The following table summarizes the predicted waste classification for excavated soil from the surface to a depth of 3 feet based on the calculated total lead UCLs and predicted WET lead concentration for data collected within this portion of the project site. The total and WET lead calculations are summarized below and in Table 6f.

<b>Excavation Depth</b>	<b>90% UCL Total Lead (mg/kg)</b>	<b>90% UCL Predicted WET Lead (mg/l)</b>	<b>95% UCL Total Lead (mg/kg)</b>	<b>Waste Classification</b>
0 to 3 ft	6.6	0.3	6.9	Non-Hazardous

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal

Based on the data in the above table, excavated soil from the surface to a depth of 3 feet would be classified as non-hazardous since the predicted WET lead concentration is less than the lead STLC of 5.0 mg/l.

### **6.1.7 Location 7 NB**

The following table summarizes the predicted waste classification for excavated soil from the surface to a depth of 3 feet based on the calculated total lead UCLs and predicted WET lead concentration for data collected within this portion of the project site. The total and WET lead calculations are summarized below and in Table 6g.

<b>Excavation Depth</b>	<b>90% UCL Total Lead (mg/kg)</b>	<b>90% UCL Predicted WET Lead (mg/l)</b>	<b>95% UCL Total Lead (mg/kg)</b>	<b>Waste Classification</b>
0 to 3 ft	27	1.4	29	Non-Hazardous

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal

Based on the data presented in the above table, soil excavated to a depth of 3 feet from this portion of the project site would be classified as non-hazardous since the predicted WET lead concentrations are less than the lead STLC of 5.0 mg/l.

### **6.1.8 Location 8 SB**

The following table summarizes the predicted waste classification for excavated soil from the surface to a depth of 3 feet based on the calculated total lead UCLs and predicted WET lead concentration for data collected within this portion of the project site. The total and WET lead calculations are summarized below and in Table 6h.

<b>Excavation Depth</b>	<b>90% UCL Total Lead (mg/kg)</b>	<b>90% UCL Predicted WET Lead (mg/l)</b>	<b>95% UCL Total Lead (mg/kg)</b>	<b>Waste Classification</b>
0 to 3 ft	32	1.6	35	Non-Hazardous

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal

Based on the data presented in the above table, soil excavated to a depth of 3 feet from this portion of the project site would be classified as non-hazardous waste since the predicted WET lead concentrations are less than the lead STLC of 5.0 mg/l.

## 6.2 CAM 17 Metals

Based on the CAM 17 metals and WET chromium results, soil at Locations 5 through 8 would be classified as non-hazardous. Soil at locations 1 through 4 would be classified as hazardous based on predicted WET lead concentrations as discussed above in Section 6.1.

The CAM 17 metals concentrations in site soil were compared to ESLs (Table A, SFRWQCB, May 2008). Arsenic, lead, nickel, and vanadium were reported at concentrations greater than their respective ESL values in the soil samples collected at the site. Arsenic was detected in the samples at concentrations ranging from less than the laboratory reporting limit of 1.0 to mg/kg to 9.5 mg/kg, exceeding the residential land use ESL of 0.39 mg/kg and the commercial/industrial land use ESL of 1.6 mg/kg for shallow soil ( $\leq 3$  meters; SFRWQCB, Table A). Lead was reported at concentrations ranging from 5.1 to 410 mg/kg, exceeding the residential ESL of 200 mg/kg. Nickel was reported at concentrations ranging from 2.6 to 480 mg/kg, with two samples collected within Location 8 exceeding the residential and commercial/industrial land use and construction worker direct-exposure ESLs of 150 mg/kg and 260 mg/kg, respectively. Vanadium was reported in the soil samples at concentrations between 5.7 mg/kg and 60 mg/kg, exceeding the residential land use ESL of 16 mg/kg for shallow soil.

Upper one-sided 95% UCLs were calculated for the full set of arsenic, nickel, and vanadium concentrations. Non-parametric bootstrap techniques were used to calculate the UCLs. For those samples in which arsenic was not detected, a value equal to one-half of the detection limit was used in the UCL calculation. The UCLs were compared with the residential and commercial/industrial land use ESLs and with published background levels typically present in California soils as presented in *Background Concentrations of Trace and Major Elements in California Soils* (Kearney Foundation of Soil Science, Division of Agriculture and Natural Resources, University of California, March 1996). The bootstrap results are included in Appendix B. The calculated standard bootstrap UCLs, ESLs and published background concentrations are summarized in the table below:

Metal	95% UCL	RESIDENTIAL ESL	COMMERCIAL/ INDUSTRIAL ESL	PUBLISHED BACKGROUND MEAN <sup>1</sup>	PUBLISHED BACKGROUND RANGE <sup>1</sup>
Arsenic	1.8	0.39	1.6	3.5	0.6 to 11.0
Lead	199.8*	200	750	23.9	12.4 to 97.1
Nickel	108	150	150	57	36 to 509
Vanadium	42.8	16	200	112	39 to 288

Concentrations reported in milligrams per kilogram (mg/kg)

<sup>1</sup> Kearney Foundation of Soil Science, March 1996

\* Maximum 95% UCL calculated for individual location

The 95% UCL value for arsenic in the soil samples collected at the Site is greater than the residential and commercial/industrial land use ESLs and within the published background range. The SFRWQCB *November 2007 Update to Environmental Screening Levels (ESLs) Technical Document* states that ambient background concentrations of arsenic typically exceed risk-based screening levels. In such instances, it may be more appropriate to compare site data to regionally specific established background levels.

The 95% UCLs for lead presented in Section 5.4.1 and 6.1 do not exceed the ESLs; however, the total lead 95% UCLs calculated for Locations 1 through 4 exceed the published background range.

The 95% UCL for nickel is less than the ESLs and is within the published background range. The 95% UCL value for vanadium in the soil samples collected at the site is greater than the residential land use ESL. However, the 95% UCL for vanadium is less than the commercial/industrial land use ESL and within the published background range.

Based on the reported arsenic and vanadium results, there may be restrictions on reuse and/or disposal options for excavated soil.

### 6.3 Total Petroleum Hydrocarbons

TPHd was reported at concentrations above the residential and commercial/industrial land use ESLs of 83 mg/kg in two samples (Location 3 SB, 11-05-3.0 and Location 7 NB, 11-15-3.0); therefore, there may be reuse or disposal restrictions for excavated soil from Locations 3 SB and 7 NB based on TPHd content.

#### **6.4 Naturally Occurring Asbestos**

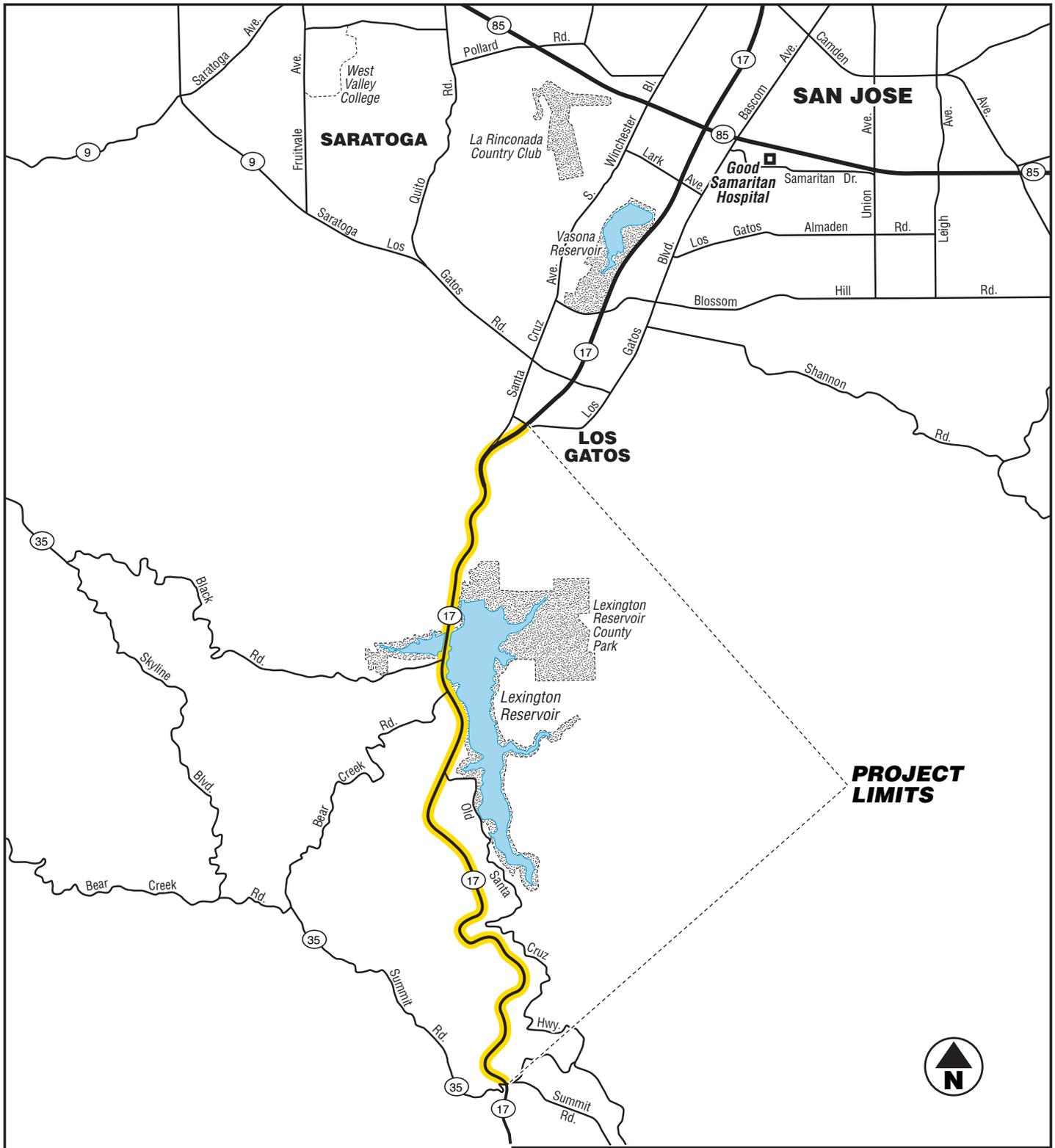
The mapped geology of the general area of the project is indicative of a metamorphic regime where NOA minerals are likely to occur. NOA was detected above the target analytical sensitivity of 0.25% in two samples collected from Location 8 SB; NOA is a State of California regulated substance.

Though asbestos was reported to be present, the asbestos content does not render these materials unsuitable for reuse within the Caltrans project boundaries. However, construction/maintenance activities involving these asbestos-containing materials may fall under regulatory jurisdiction of Cal-OSHA under CCR Title 8 Section 5208. Mitigation measures during construction/maintenance activities should be utilized to minimize releases of NOA to air (dust control) and surface waters (stormwater discharge). If reused within the Caltrans right-of-way, the material from areas where asbestos was reported to be present at or above regulated levels, or where ultramafic rock is present, cannot be used in such a way as to fall under the definition of surfacing material as defined in CARB's Title 17, Section 93106. NOA-containing material may be reused onsite, but must be covered by at least 0.25 foot of pavement, soil, or other material that contains less than 0.25% NOA.

If excess soil is generated in Location 8 SB during the construction project, excavated NOA-impacted soil must be disposed of at a licensed facility that is permitted to accept NOA-impacted soil.

#### **6.5 Worker Protection**

The contractor(s) should prepare a project-specific health and safety plan to prevent or minimize worker exposure to metals and asbestos in soil. The plan should include protocols for environmental and personnel monitoring, requirements for personal protective equipment, and other health and safety protocols and procedures for the handling of metals and asbestos in soil.



 <b>GEOCON</b> CONSULTANTS, INC. <small>6671 BRISA STREET - LIVERMORE, CA 94550          PHONE 925.371.5900 - FAX 925.371.5915</small>	
<b>State Route 17 Post Mile 1.05 to 5.75</b>	
Santa Clara County, California	
<b>VICINITY MAP</b>	
GEOCON Proj. No. E8560-06-17	
Task Order No. 17, EA 04-3S8301	May 2011
Figure 1	



Aerial Photo: Google Earth, Oct. 1, 2009

LEGEND:

11-01 ⊗ Approximate Boring Location



0 700  
Scale in Feet

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State Route 17 Post Mile 1.05 to 5.75

Santa Clara County,  
California

**SITE PLAN**

GEOCON Proj. No. E8560-06-17

Task Order No. 17, EA 04-3S8301

May 2011

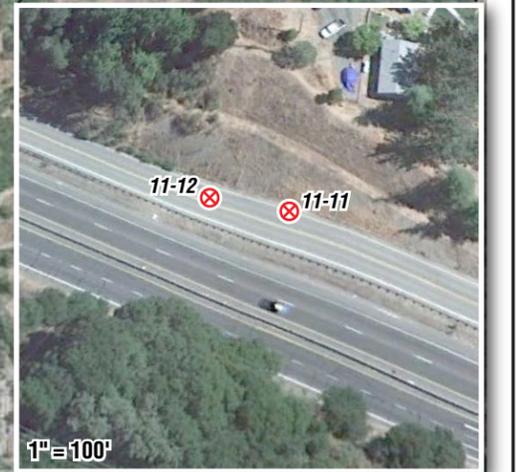
Figure 2-1



Aerial Photo: Google Earth, Oct. 1, 2009

LEGEND:

11-01 ⊗ Approximate Boring Location



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State Route 17 Post Mile 1.05 to 5.75	
Santa Clara County, California	<b>SITE PLAN</b>
GEOCON Proj. No. E8560-06-17	May 2011
Task Order No. 17, EA 04-3S8301	Figure 2-2

**TABLE 1**  
**Boring Coordinates**  
**State Route 17 Storm Damage Repairs Project**  
**Santa Clara County, California**

<b>Boring</b>	<b>Latitude</b>	<b>Longitude</b>
11-01	37.156424	-121.982620
11-02	37.156506	-121.982610
11-03	37.162345	-121.990948
11-04	37.162529	-121.991012
11-05	37.175600	-121.996052
11-06	37.175621	-121.996085
11-07	37.179759	-121.994748
11-08	37.179698	-121.994723
11-09	37.184999	-121.991763
11-10	37.184941	-121.991788
11-11	37.183848	-121.991900
11-12	37.184004	-121.991837
11-13	37.192653	-121.993896
11-14	37.192807	-121.993934
11-15	37.192962	-121.993926
11-16	37.212647	-121.988290
11-17	37.212452	-121.988413
11-18	37.212273	-121.988624

**TABLE 2**  
**Summary of Lead and pH Results**  
**State Route 17 Storm Damage Repairs Project**  
**Santa Clara County, California**

<b>Sample ID</b>	<b>Boring Location</b>	<b>Sample Depth (feet)</b>	<b>Total Lead (mg/kg)</b>	<b>WET Lead (mg/l)</b>	<b>TCLP Lead (mg/l)</b>	<b>DI-WET Lead (mg/l)</b>	<b>pH</b>
11-01-0.5	Location 1 SB	0.5	410	26	0.52	<0.25	---
11-01-1.5	Location 1 SB	1.5	18	---	---	---	---
11-01-3.0	Location 1 SB	3	6.9	---	---	---	6.3
11-01-5.0	Location 1 SB	5	5.6	---	---	---	---
11-02-0.5	Location 1 SB	0.5	120	6.6	0.25	<0.25	---
11-02-1.5	Location 1 SB	1.5	49	---	---	---	---
11-02-3.0	Location 1 SB	3	11	---	---	---	6.4
11-02-5.0	Location 1 SB	5	7.1	---	---	---	---
11-03-0.5	Location 2 NB	0.5	270	11	0.50	<0.25	---
11-03-1.5	Location 2 NB	1.5	5.9	---	---	---	---
11-03-3.0	Location 2 NB	3	5.1	---	---	---	6.5
11-04-0.5	Location 2 NB	0.5	8.5	---	---	---	---
11-04-1.5	Location 2 NB	1.5	13	---	---	---	---
11-04-3.0	Location 2 NB	3	5.1	---	---	---	5.9
11-05-0.5	Location 3 SB	0.5	23	---	---	---	---
11-05-1.5	Location 3 SB	1.5	300	11	0.82	<0.25	---
11-05-3.0	Location 3 SB	3	19	---	---	---	5.7
11-06-0.5	Location 3 SB	0.5	66	<1.0	---	---	---
11-06-1.5	Location 3 SB	1.5	7.5	---	---	---	---
11-06-3.0	Location 3 SB	3	<5.0	---	---	---	6.2
11-07-0.5	Location 4 SB	0.5	390	18	<0.25	<0.25	---
11-07-1.5	Location 4 SB	1.5	210	<1.0	<0.25	<0.25	---
11-07-3.0	Location 4 SB	2	5.4	---	---	---	7.1
11-07-5.0	Location 4 SB	5	7.4	---	---	---	---
11-08-0.5	Location 4 SB	0.5	290	26	0.62	<0.25	---
11-08-1.5	Location 4 SB	1.5	8.3	---	---	---	---
11-08-3.0	Location 4 SB	3	7.1	---	---	---	6.9
11-08-5.0	Location 4 SB	5	7.2	---	---	---	---
11-09-0.5	Location 5 SB	0.5	84	3.6	<0.25	<0.25	---
11-09-1.5	Location 5 SB	1.5	11	---	---	---	---
11-09-4.0	Location 5 SB	4	6.0	---	---	---	6.0
11-10-0.5	Location 5 SB	0.5	160	6.0	<0.25	<0.25	---
11-10-1.5	Location 5 SB	1.5	8.9	---	---	---	---
11-10-4.0	Location 5 SB	4	5.5	---	---	---	5.9

**TABLE 2**  
**Summary of Lead and pH Results**  
**State Route 17 Storm Damage Repairs Project**  
**Santa Clara County, California**

<b>Sample ID</b>	<b>Boring Location</b>	<b>Sample Depth (feet)</b>	<b>Total Lead (mg/kg)</b>	<b>WET Lead (mg/l)</b>	<b>TCLP Lead (mg/l)</b>	<b>DI-WET Lead (mg/l)</b>	<b>pH</b>
11-11-0.5	Location 6 NB	0.5	5.9	---	---	---	---
11-11-1.5	Location 6 NB	1.5	<5.0	---	---	---	---
11-11-3.0	Location 6 NB	3	5.5	---	---	---	6.5
11-11-5.0	Location 6 NB	5	<5.0	---	---	---	---
11-12-0.5	Location 6 NB	0.5	7.7	---	---	---	---
11-12-1.5	Location 6 NB	1.5	8.1	---	---	---	---
11-12-3.0	Location 6 NB	3	6.7	---	---	---	6.6
11-12-5.0	Location 6 NB	5	6.7	---	---	---	---
11-13-0.5	Location 7 NB	0.5	19	---	---	---	---
11-13-1.5	Location 7 NB	1.5	10	---	---	---	---
11-13-3.0	Location 7 NB	3	8.9	---	---	---	7.4
11-14-0.5	Location 7 NB	0.5	23	---	---	---	---
11-14-1.5	Location 7 NB	1.5	8.8	---	---	---	---
11-14-3.0	Location 7 NB	3	9.5	---	---	---	7.2
11-15-0.5	Location 7 NB	0.5	38	---	---	---	---
11-15-1.5	Location 7 NB	1.5	48	---	---	---	---
11-15-3.0	Location 7 NB	3	40	---	---	---	7.5
11-16-0.5	Location 8 SB	0.5	8.3	---	---	---	---
11-16-1.5	Location 8 SB	1.5	93	3.6	---	---	---
11-16-3.0	Location 8 SB	3	22	---	---	---	6.8
11-17-0.5	Location 8 SB	0.5	6.6	---	---	---	---
11-17-1.5	Location 8 SB	1.5	<5.0	---	---	---	---
11-17-3.0	Location 8 SB	3	5.3	---	---	---	9.1
11-18-0.5	Location 8 SB	0.5	21	---	---	---	---
11-18-1.5	Location 8 SB	1.5	8.3	---	---	---	---
11-18-3.0	Location 8 SB	3	<5.0	---	---	---	8.2

**Notes:**

mg/kg = milligrams per kilogram

< = Analyte was not detected above the laboratory reporting limit

WET = Waste Extraction Test using citric acid as the extraction fluid

DI-WET = WET using deionized water as the extraction fluid

TCLP = Toxicity Characteristic Leaching Procedure

mg/l = milligrams per liter

--- = Not analyzed

**TABLE 3**  
**Summary of CAM 17 Metals Results**  
**State Route 17 Storm Damage Repairs Project**  
**Santa Clara County, California**

Sample ID	Sample Depth (ft)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	
11-01-0.5	0.5	<2.0	1.9	95	<1.0	<1.0	11	3.5	34	410	<0.10	<1.0	15	<1.0	<1.0	<1.0	19	96	
11-02-0.5	0.5	<2.0	1.7	100	<1.0	<1.0	17	3.9	34	120	<0.10	1.6	22	<1.0	<1.0	<1.0	22	230	
11-03-0.5	0.5	<2.0	6.1	71	<1.0	<1.0	15	3.5	21	270	<0.10	<1.0	15	<1.0	<1.0	<1.0	17	270	
11-04-0.5	0.5	<2.0	<1.0	22	<1.0	<1.0	3.0	<1.0	3.9	8.5	<0.10	<1.0	2.6	<1.0	<1.0	<1.0	5.7	45	
11-05-0.5	0.5	<2.0	3.1	92	<1.0	<1.0	17	4.0	25	23	<0.10	2.0	22	<1.0	<1.0	<1.0	13	180	
11-06-0.5	0.5	<2.0	5.1	110	<1.0	1.2	18	5.1	28	66	<0.10	2.0	31	<1.0	<1.0	<1.0	16	160	
11-07-0.5	0.5	<2.0	4.1	78	<1.0	<1.0	37	7.2	19	390	<0.10	<1.0	27	<1.0	<1.0	<1.0	36	130	
11-08-0.5	0.5	<2.0	9.5	93	<1.0	<1.0	37	9.5	13	290	<0.10	1.2	27	<1.0	<1.0	<1.0	40	110	
11-09-0.5	0.5	<2.0	3.8	87	<1.0	<1.0	14	4.4	16	84	<0.10	1.2	18	<1.0	<1.0	<1.0	18	74	
11-10-0.5	0.5	<2.0	4.7	100	<1.0	1.5	14	4.5	23	160	<0.10	2.7	28	<1.0	<1.0	<1.0	18	120	
11-11-0.5	0.5	<2.0	5.4	76	<1.0	<1.0	17	1.9	15	5.9	<0.10	2.5	12	<1.0	<1.0	<1.0	14	41	
11-12-0.5	0.5	<2.0	8.6	90	<1.0	1.1	14	3.9	18	7.7	<0.10	4.2	20	<1.0	<1.0	<1.0	14	65	
11-13-0.5	0.5	<2.0	4.6	210	<1.0	1.2	20	11	35	19	<0.10	<1.0	53	<1.0	<1.0	<1.0	21	140	
11-14-0.5	0.5	<2.0	3.9	180	<1.0	<1.0	20	7.8	28	23	<0.10	<1.0	44	<1.0	<1.0	<1.0	19	87	
11-15-0.5	0.5	<2.0	2.9	190	<1.0	1.3	24	9	57	38	<0.10	1.2	47	<1.0	<1.0	<1.0	25	260	
11-16-0.5	0.5	<2.0	<1.0	83	<1.0	<1.0	79	18	19	8.3	<0.10	<1.0	110	<1.0	<1.0	<1.0	49	56	
11-17-0.5	0.5	4.6	<1.0	98	<1.0	<1.0	250 <1.0	33	24	6.6	<0.10	<1.0	480	<1.0	<1.0	<1.0	54	46	
11-18-0.5	0.5	2.4	<1.0	68	<1.0	<1.0	130 <1.0	22	33	21	<0.10	<1.0	190	<1.0	<1.0	<1.0	60	91	
<u>ESLs</u>																			
Residential Land Use		6.3	0.39	750	4.0	1.7	750	40	230	200	1.3	40	150	10	20	1.3	16	600	
Comm/Ind Land Use		40	1.6	1500	8.0	7.4	750	80	230	750	10	40	150	10	40	16	200	600	
Construction Exposure		310	15	2,600	98	39	#####	94	310,000	750	58	3,900	260	3,900	3,900	62	770	230,000	

Notes:

Results are shown in milligrams per kilogram (mg/kg).

< = Analyte was not detected above the laboratory reporting limit.

Values listed for chromium are for Chromium III, as there is no standard for total chromium.

<1.0 = Result for WET chromium shown in milligrams per liter.

ESLs = Environmental Screening Levels, Tables A and K-3, SFRWQCB, May 2008.

**TABLE 4**  
**Summary of Total Petroleum Hydrocarbons Results**  
**State Route 17 Storm Damage Repairs Project**  
**Santa Clara County, California**

<b>Sample ID</b>	<b>Boring Location</b>	<b>Sample Depth (ft)</b>	<b>TPHg (mg/kg)</b>	<b>TPHd (mg/kg)</b>
11-01-1.5	Location 1 SB	1.5	<1.0	---
11-01-5.0	Location 1 SB	5	---	<1.0
11-02-1.5	Location 1 SB	1.5	<1.0	---
11-02-5.0	Location 1 SB	5	---	<1.0
11-03-1.5	Location 2 NB	1.5	<1.0	---
11-03-3.0	Location 2 NB	3	---	7.9
11-04-1.5	Location 2 NB	1.5	<1.0	---
11-04-3.0	Location 2 NB	3	---	<1.0
11-05-1.5	Location 3 SB	1.5	<1.0	---
11-05-3.0	Location 3 SB	3	---	320
11-06-1.5	Location 3 SB	1.5	<1.0	---
11-06-3.0	Location 3 SB	3	---	<1.0
11-07-1.5	Location 4 SB	1.5	<1.0	---
11-07-5.0	Location 4 SB	5	---	<1.0
11-08-1.5	Location 4 SB	1.5	<1.0	---
11-08-5.0	Location 4 SB	5	---	<1.0
11-09-1.5	Location 5 SB	1.5	<1.0	---
11-09-4.0	Location 5 SB	4	---	2.2
11-10-1.5	Location 5 SB	1.5	<1.0	---
11-10-4.0	Location 5 SB	4	---	3.6
11-11-1.5	Location 6 NB	1.5	<1.0	---
11-11-5.0	Location 6 NB	5	---	19
11-12-1.5	Location 6 NB	1.5	<1.0	---
11-12-5.0	Location 6 NB	5	---	15

**TABLE 4**  
**Summary of Total Petroleum Hydrocarbons Results**  
**State Route 17 Storm Damage Repairs Project**  
**Santa Clara County, California**

Sample ID	Boring Location	Sample Depth (ft)	TPHg (mg/kg)	TPHd (mg/kg)
11-13-1.5	Location 7 NB	1.5	<1.0	---
11-13-3.0	Location 7 NB	3	---	<1.0
11-14-1.5	Location 7 NB	1.5	<1.0	---
11-14-3.0	Location 7 NB	3	---	<1.0
11-15-1.5	Location 7 NB	1.5	<1.0	---
11-15-3.0	Location 7 NB	3	---	93
11-16-1.5	Location 8 SB	1.5	<1.0	---
11-16-3.0	Location 8 SB	3	---	<1.0
11-17-1.5	Location 8 SB	1.5	<1.0	---
11-17-3.0	Location 8 SB	3	---	<1.0
11-18-1.5	Location 8 SB	1.5	<1.0	---
11-18-3.0	Location 8 SB	3	---	<1.0
<b>ESLs</b>				
		Residential	83	83
		Commercial/Industrial	83	83
		Construction Exposure	4,200	4,200

Notes:

mg/kg = milligrams per kilogram

TPHg = Total petroleum hydrocarbons as gasoline

TPHd = Total petroleum hydrocarbons as diesel

--- = Not Analyzed

< = Not detected above the stated laboratory reporting limit

ESLs = Environmental Screening Levels, Tables A and K-3,

SFRWQCB, May 2008.

**TABLE 5**  
**Summary of NOA Results**  
**State Route 17 Storm Damage Repairs Project**  
**Santa Clara County, California**

<b>Sample ID</b>	<b>Boring Location</b>	<b>Sample Depth (feet)</b>	<b>Asbestos Content (% dry weight)</b>
11-01-3.0	Location 1 SB	3	ND
11-02-3.0	Location 1 SB	3	ND
11-03-3.0	Location 2 NB	3	ND
11-04-3.0	Location 2 NB	3	ND
11-05-1.5	Location 3 SB	1.5	ND
11-06-1.5	Location 3 SB	1.5	ND
11-07-1.5	Location 4 SB	1.5	ND
11-08-1.5	Location 4 SB	1.5	ND
11-09-1.5	Location 5 SB	1.5	ND
11-10-1.5	Location 5 SB	1.5	ND
11-11-1.5	Location 6 NB	1.5	ND
11-12-1.5	Location 6 NB	1.5	ND
11-13-3.0	Location 7 NB	3	ND
11-14-3.0	Location 7 NB	3	ND
11-15-3.0	Location 7 NB	3	ND
11-16-3.0	Location 8 SB	3	<0.25
11-17-3.0	Location 8 SB	3	2.00
11-18-3.0	Location 8 SB	3	2.50

ND = None detected at 0.25% target analytical sensitivity.

**TABLE 6a**  
**Summary of Lead Statistical Analysis**  
**State Route 17 Storm Damage Repairs Project**  
**Santa Clara County, California**

**Location 1 SB**

**TOTAL LEAD**

	UCLs (mg/kg)	
	90% UCL	95% UCL
0 to 5 ft	139.0	152.4

**EXCAVATION SCENARIOS**

Excavation Depth	Weighted Averages		95% UCL Total Lead (mg/kg)
	Total Lead (mg/kg)	WET Lead* (mg/l)	
0 to 5 ft	139	7.0	152

**Notes:**

UCL = Upper Confidence Limit (90% UCL is applicable for waste classification; 95% UCL applicable for risk assessment)

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

Weighted average values are based upon calculated UCLs for each depth interval.

\* = WET lead concentrations are predicted using slope of regression line,  
 where  $y$  = predicted WET lead and  $x$  = total lead.

Regression Line Slope:  $y = 0.0507 x$

**TABLE 6b**  
**Summary of Lead Statistical Analysis**  
**State Route 17 Storm Damage Repairs Project**  
**Santa Clara County, California**

**Location 2 NB**

**TOTAL LEAD**

	UCLs (mg/kg)	
	90% UCL	95% UCL
0 to 3 ft	101.8	116.8

**EXCAVATION SCENARIOS**

Excavation Depth	Weighted Averages		95% UCL Total Lead (mg/kg)
	Total Lead (mg/kg)	WET Lead* (mg/l)	
0 to 3 ft	102	5.2	117

**Notes:**

UCL = Upper Confidence Limit (90% UCL is applicable for waste classification; 95% UCL applicable for risk assessment)

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

Weighted average values are based upon calculated UCLs for each depth interval.

\* = WET lead concentrations are predicted using slope of regression line,  
 where  $y$  = predicted WET lead and  $x$  = total lead.

Regression Line Slope:  $y = 0.0507 x$

**TABLE 6c**  
**Summary of Lead Statistical Analysis**  
**State Route 17 Storm Damage Repairs Project**  
**Santa Clara County, California**

**Location 3 SB**

**TOTAL LEAD**

	UCLs (mg/kg)	
	90% UCL	95% UCL
0 to 3 ft	124.3	141.2

**EXCAVATION SCENARIOS**

Excavation Depth	Weighted Averages		95% UCL Total Lead (mg/kg)
	Total Lead (mg/kg)	WET Lead* (mg/l)	
0 to 3 ft	124	6.3	141

**Notes:**

UCL = Upper Confidence Limit (90% UCL is applicable for waste classification; 95% UCL applicable for risk assessment)

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

Weighted average values are based upon calculated UCLs for each depth interval.

\* = WET lead concentrations are predicted using slope of regression line,  
 where  $y$  = predicted WET lead and  $x$  = total lead.

Regression Line Slope:  $y = 0.0507 x$

**TABLE 6d**  
**Summary of Lead Statistical Analysis**  
**State Route 17 Storm Damage Repairs Project**  
**Santa Clara County, California**

**Location 4 SB**

**TOTAL LEAD**

	UCLs (mg/kg)	
	90% UCL	95% UCL
0 to 5 ft	182.8	199.8

**EXCAVATION SCENARIOS**

Excavation Depth	Weighted Averages		95% UCL Total Lead (mg/kg)
	Total Lead (mg/kg)	WET Lead* (mg/l)	
0 to 5 ft	183	9.3	200

**Notes:**

UCL = Upper Confidence Limit (90% UCL is applicable for waste classification; 95% UCL applicable for risk assessment)

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

Weighted average values are based upon calculated UCLs for each depth interval.

\* = WET lead concentrations are predicted using slope of regression line,  
 where  $y$  = predicted WET lead and  $x$  = total lead.

Regression Line Slope:  $y = 0.0507 x$

**TABLE 6e**  
**Summary of Lead Statistical Analysis**  
**State Route 17 Storm Damage Repairs Project**  
**Santa Clara County, California**

**Location 5 SB**

**TOTAL LEAD**

	UCLs (mg/kg)	
	90% UCL	95% UCL
0 to 4 ft	76.4	83.3

**EXCAVATION SCENARIOS**

Excavation Depth	Weighted Averages		95% UCL Total Lead (mg/kg)
	Total Lead (mg/kg)	WET Lead* (mg/l)	
0 to 4 ft	76	3.9	83

**Notes:**

UCL = Upper Confidence Limit (90% UCL is applicable for waste classification; 95% UCL applicable for risk assessment)

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

Weighted average values are based upon calculated UCLs for each depth interval.

\* = WET lead concentrations are predicted using slope of regression line,  
 where  $y$  = predicted WET lead and  $x$  = total lead.

Regression Line Slope:  $y = 0.0507 x$

**TABLE 6f**  
**Summary of Lead Statistical Analysis**  
**State Route 17 Storm Damage Repairs Project**  
**Santa Clara County, California**

**Location 6 NB**

**TOTAL LEAD**

	UCLs (mg/kg)	
	90% UCL	95% UCL
0 to 3 ft	6.6	6.9

**EXCAVATION SCENARIOS**

Excavation Depth	Weighted Averages		95% UCL Total Lead (mg/kg)
	Total Lead (mg/kg)	WET Lead* (mg/l)	
0 to 3 ft	6.6	0.3	6.9

**Notes:**

UCL = Upper Confidence Limit (90% UCL is applicable for waste classification; 95% UCL applicable for risk assessment)

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

Weighted average values are based upon calculated UCLs for each depth interval.

\* = WET lead concentrations are predicted using slope of regression line,  
 where  $y$  = predicted WET lead and  $x$  = total lead.

Regression Line Slope:  $y = 0.0507 x$

**TABLE 6g**  
**Summary of Lead Statistical Analysis**  
**State Route 17 Storm Damage Repairs Project**  
**Santa Clara County, California**

**Location 7 NB**

**TOTAL LEAD**

	UCLs (mg/kg)	
	90% UCL	95% UCL
0 to 3 ft	26.8	28.7

**EXCAVATION SCENARIOS**

Excavation Depth	Weighted Averages		95% UCL Total Lead (mg/kg)
	Total Lead (mg/kg)	WET Lead* (mg/l)	
0 to 3 ft	27	1.4	29

**Notes:**

UCL = Upper Confidence Limit (90% UCL is applicable for waste classification; 95% UCL applicable for risk assessment)

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

Weighted average values are based upon calculated UCLs for each depth interval.

\* = WET lead concentrations are predicted using slope of regression line,  
 where  $y$  = predicted WET lead and  $x$  = total lead.

Regression Line Slope:  $y = 0.0507 x$

**TABLE 6h**  
**Summary of Lead Statistical Analysis**  
**State Route 17 Storm Damage Repairs Project**  
**Santa Clara County, California**

**Location 8 SB**

**TOTAL LEAD**

	UCLs (mg/kg)	
	90% UCL	95% UCL
0 to 3 ft	31.8	35.0

**EXCAVATION SCENARIOS**

Excavation Depth	Weighted Averages		95% UCL Total Lead (mg/kg)
	Total Lead (mg/kg)	WET Lead* (mg/l)	
0 to 3 ft	32	1.6	35

**Notes:**

UCL = Upper Confidence Limit (90% UCL is applicable for waste classification; 95% UCL applicable for risk assessment)

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

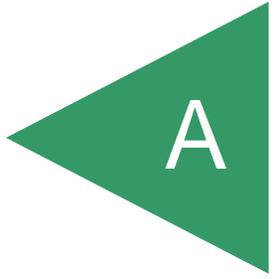
Weighted average values are based upon calculated UCLs for each depth interval.

\* = WET lead concentrations are predicted using slope of regression line,  
 where  $y$  = predicted WET lead and  $x$  = total lead.

Regression Line Slope:  $y = 0.0507 x$

APPENDIX

A





*California Environmental Protection Agency  
Department of Toxic Substances Control*

**VARIANCE**

Applicant Names:

Variance No. V09HQSCD006

State of California  
Department of Transportation  
(Caltrans)  
1120 N Street  
Sacramento, California 95814

Effective Date: July 1, 2009

Expiration Date: July 1, 2014

Modification History:

Pursuant to California Health and Safety Code, Section 25143, the Department of Toxic Substances Control hereby issues the attached Variance consisting of 9 pages to the Department of Transportation.

A handwritten signature in cursive script that reads "Beverly Rikala".

Beverly Rikala  
Team Leader, Operating Facilities Team  
Department of Toxic Substances Control

Date: 6/30/09

**VARIANCE**

1. INTRODUCTION.

a) Pursuant to Health and Safety Code, section 25143, the California Department of Toxic Substances Control (DTSC) grants this variance to the applicant below for waste considered to be hazardous solely because of its lead concentrations and as further specified herein.

b) DTSC hereby grants this variance only from the requirements specified herein and only in accordance with all terms and conditions specified herein.

2. IDENTIFYING INFORMATION.

APPLICANT/OWNER/OPERATOR

State of California  
Department of Transportation, (Caltrans)  
All Districts

3. TYPE OF VARIANCE.

Generation, Manifest, Transportation, Storage and Disposal.

4. ISSUANCE AND EXPIRATION DATES.

DATE ISSUED: July 1, 2009      EXPIRATION DATE: July 1, 2014

5. APPLICABLE STATUTES AND REGULATIONS. The hazardous waste that is the subject of this variance is fully regulated under Health and Safety Code, section 25100, et seq. and California Code of Regulations, title 22, division 4.5 except as specifically identified in Section 8 of this variance.

6. DEFINITION. For purposes of this variance, "lead-contaminated soil(s)" shall mean soil that meets the criteria for hazardous waste but contains less than 3397 mg/kg total lead and is hazardous primarily because of aeriially-deposited lead contamination associated with exhaust emissions from the operation of motor vehicles.

7. FINDINGS/DETERMINATIONS. DTSC has determined that the variance applicant meets the requirements set forth in Health and Safety Code, section 25143 for a variance from specific regulatory requirements as outlined in Section 8 of this variance. The specific determinations and findings made by DTSC are as follows:

a) Caltrans intends to excavate, stockpile, transport, bury and cover large volumes of soil associated with highway construction projects. In the more urbanized highway corridors around the State this soil is contaminated with lead, primarily due to historic emissions from automobile exhausts. In situ sampling and laboratory testing has shown that some of the soil contains concentrations of lead in excess of State regulatory thresholds, and thus any generated waste from disturbance of the soil

would be regulated as hazardous waste. Such soil contains a Total Threshold Limit Concentration (TTLC) of 1000 milligrams per kilogram (mg/kg) or more lead and/or it meets or exceeds the Soluble Threshold Limit Concentration (STLC) for lead of 5 milligrams per liter (mg/l). A Human Health Risk Assessment prepared for this variance concludes that soil contaminated with elevated concentrations of lead can be managed in a way that presents no significant risk to human health.

b) The lead-contaminated soil will be placed only in Caltrans' right-of-way. Depending on concentration levels, the wastes will be covered with a minimum thickness of one (1) foot of non-hazardous soil or asphalt/concrete cover and will always be at least five (5) feet above the highest groundwater elevation. Caltrans will assure that proper health and safety procedures will be followed for workers, including any persons engaged in maintenance work in areas where the waste has been buried and covered.

c) DTSC finds and requires that the lead-contaminated soil excavated, stockpiled, transported, buried and covered pursuant to this variance is a non-RCRA hazardous waste, and that the waste management activity is insignificant as a potential hazard to human health and safety and the environment, when managed in accordance with the conditions, limitations and other requirements specified in this variance.

8. PROVISIONS WAIVED.

Provided Caltrans meets the terms and conditions of this variance, DTSC waives the hazardous waste management requirements of Health and Safety Code, Chapter 6.5 and California Code of Regulations, title 22 for the lead-contaminated soil that Caltrans reuses in projects that would require Caltrans to obtain a permit for a disposal facility and any other generator requirements that concern the transportation, manifesting, storage and land disposal of hazardous waste.

9. SPECIFIC CONDITIONS, LIMITATIONS AND OTHER REQUIREMENTS.

In order for the provisions discussed in section 8 to be waived, lead-contaminated soil must not exceed the contaminant concentrations discussed below and Caltrans management practices must meet all the following conditions:

a) Caltrans implementation of this variance shall comply with all applicable state laws and regulations for water quality control, water quality control plans, waste discharge requirements (including storm water permits), and others issued by the State Water Resources Control Board (SWRCB) and/or a California Regional Water Quality Control Board (RWQCB). Caltrans shall provide written notification to the appropriate RWQCB at least 30 days prior to advertisement for bids of projects that involve invocation of this variance, or as otherwise negotiated with the SWRCB or appropriate RWQCB.

b) The waivers in this variance shall only be applied to lead-contaminated soil that is not a RCRA hazardous waste and is hazardous primarily because of aerially-

deposited lead contamination associated with exhaust emissions from the operation of motor vehicles. The variance is not applicable to any other hazardous waste.

c) Soil containing 1.5 mg/l extractable lead or less (based on a modified waste extraction test using deionized water as the extractant) and 1411 mg/kg or less total lead may be used as fill provided that the lead-contaminated soil is placed a minimum of five (5) feet above the maximum historic water table elevation and covered with at least one (1) foot of nonhazardous soil that will be maintained by Caltrans to prevent future erosion.

d) Soil containing 150 mg/L extractable lead or less (based on a modified waste extraction test using deionized water as the extractant) and 3397 mg/kg or less total lead may be used as fill provided that the lead-contaminated soils are placed a minimum of five (5) feet above the maximum historic water table elevation and protected from infiltration by a pavement structure which will be maintained by Caltrans.

e) Lead-contaminated soil with a pH less than 5.5 but greater than 5.0 shall only be used as fill material under the paved portion of the roadway. Lead-contaminated soil with a pH at or less than 5.0 shall be managed as a hazardous waste.

f) For each project that has the potential to generate waste by disturbing lead-contaminated soil (as defined in 6), Caltrans shall conduct sampling and analysis to adequately characterize the soils containing aerially deposited lead in the areas of planned excavation along the project route. Such sampling and analysis shall include the Toxicity Characteristic Leaching Procedure (TCLP) as prescribed by the United States Environmental Protection Agency to determine whether concentrations of contaminants in soil exceed federal criteria for classification as a hazardous waste.

g) Lead-contaminated soil managed pursuant to this variance shall not be moved outside the designated corridor boundaries (see paragraph t) below. All lead-contaminated soil not buried and covered within the same Caltrans corridor where it originated is not eligible for management under this variance and shall be managed as a hazardous waste.

h) Lead-contaminated soil managed pursuant to this variance shall not be placed in areas where it would become in contact with groundwater or surface water (such as streams and rivers).

i) Lead-contaminated soil managed pursuant to this variance shall be buried and covered only in locations that are protected from erosion that may result from storm water run-on and run-off.

j) The lead-contaminated soil shall be buried and covered in a manner that will prevent accidental or deliberate breach of the asphalt, concrete, and/or cover soil.

k) The presence of lead-contaminated soil shall be incorporated into the projects' as-built drawings. The as-built drawings shall be annotated with the location, representative analytical data, and volume of lead-contaminated soil. The as-built drawings shall also state the depth of the cover. These as-built drawings shall be retained by Caltrans.

l) Caltrans shall ensure that no other hazardous wastes, other than the lead-contaminated hazardous waste soil, are placed in the burial areas.

m) Lead-contaminated soil shall not be buried within ten (10) feet of culverts or locations subject to frequent worker exposure.

n) Excavated lead-contaminated soil not placed into the designated area (fill area, roadbed area) by the end of the working day shall be stockpiled and covered with sheets of polyethylene or at least one foot of non-hazardous soil. The lead-contaminated soil, while stockpiled or under transport, shall be protected from contacting surface water and from being dislodged or transported by wind or storm water. The stockpile covers shall be inspected at least once a week and within 24 hours after rainstorms. If the lead-contaminated soil is stockpiled for more than 4 days from the time of excavation, Caltrans shall restrict public access to the stockpile by using barriers that meet the safety requirements of the construction zone. The lead-contaminated soil shall be stockpiled for no more than 90 days from the time the soil is first excavated. If the contaminated soil is stockpiled beyond the 90 day limit Caltrans shall:

1. notify DTSC in writing of the 90 day exceedance and expected date of removal;
2. perform weekly inspections of the stockpiled material to ensure that there is adequate protection from run-on, runoff, public access, and wind dispersion; and
3. notify DTSC on weekly basis of the stockpile status until the stockpile is removed.

The lead-contaminated soil shall be stockpiled for no more than 180 days from the time the soil is first excavated.

o) Caltrans shall ensure that all stockpiling of lead-contaminated soil remains within the project area of the specified corridor. Stockpiling of lead-contaminated soil within the specified corridor, but outside the project area, is prohibited.

p) Caltrans shall conduct confirmatory sampling of any stockpile area in areas not known or expected to contain lead-contaminated soil after removal of the lead-contaminated soil to ensure that contamination has not been left behind or has not migrated from the stockpiled material to the surrounding soils.

q) Caltrans shall stockpile lead-contaminated soil only on high ground (i.e. no sump areas or low points) so that stockpiled soil will not come in contact with surface

water run-on or run-off.

r) Caltrans shall not stockpile lead-contaminated soil in environmentally and ecologically sensitive areas.

s) Caltrans shall ensure that storm/rain run-off that has come into contact with stockpiled lead-contaminated soil will not flow to storm drains, inlets, or waters of the State.

t) Caltrans may dispose of the lead-contaminated soil only within the operating right-of-way of an existing highway, as defined in Streets and Highways Code, section 23. Caltrans may move lead-contaminated soil from one Caltrans project to another Caltrans project only if the lead-contaminated soil remains within the same designated corridor.

Caltrans shall record any movement of lead-contaminated soil by using a bill of lading. The bill of lading must contain: 1) the US DOT description including shipping name, hazard class and ID number; 2) handling codes; 3) quantity of material; 4) volume of material; 5) date of shipment; 6) origin and destination of shipment; and 7) any specific handling instructions. The bill of lading shall be referenced in and kept on file with the project's as-built drawings. The lead-contaminated soil must be kept covered during transportation.

u) For each specific corridor where this variance is to be implemented, all of the following information shall be submitted in writing to DTSC at least five (5) days before construction of any project begins:

1. plan drawing designating the boundaries of the corridor where lead-contaminated soils will be excavated, stockpiled, buried and covered;
2. a list of the Caltrans projects that the corridor encompasses;
3. a list of Caltrans contractors that will be conducting any phase of work on any project affected by this variance;
4. duration of corridor construction;
5. location where sampling and analytical data used to make lead concentration level determinations are kept (e.g. a particular Caltrans project file);
6. name and phone number (including area code) of project resident engineer and project manager;
7. location where Caltrans and contractor health and safety plan and records are kept;

8. location of project special provisions (including page or section number) for soil excavation, transportation, stockpile, burial and placement of cover material;

9. location of project drawings (including drawing page number) for soil excavation, burial and placement of cover in plan and cross section (for example, "The project plans are located at the resident engineer's office located at 5th and Main Streets, City of Fresno, See pages xxxxx of contract xxxx");

10. updated information if a Caltrans project within the corridor is added, changed or deleted; and

11. type of environmental document prepared for each project, date of adoption, document title, Clearing House number and where the document is available for review. A copy of the Caltrans Categorical Exemption, Categorical Exclusion Form, or if filed, the Notice of Exemption for any project shall be submitted to the DTSC Headquarters Project Manager.

v) Changes in location of lead-contaminated soil placement, quantities or protection measures (field changes) shall be noted in the resident engineer's project log within five (5) days of the field change.

w) Caltrans shall ensure that field changes are in compliance with the requirements of this variance.

x) Operational procedures described in the California Environmental Quality Act (CEQA) Special Initial Study shall be followed by Caltrans for activities conducted under this variance.

y) Caltrans shall implement appropriate health and safety procedures to protect its employees and the public, and to prevent or minimize exposure to potentially hazardous wastes. A project-specific health and safety plan must be prepared and implemented. The monitoring and exposure standards shall be based on construction standards for exposure to lead in California Code of Regulations, title 8, section 1532.1.

z) Caltrans shall provide a district Coordinator for this variance. This Coordinator will be the primary point of contact for information flowing to, or received from, DTSC regarding any matter or submission under this variance. Caltrans shall promptly notify DTSC of the name of Coordinator and any change in the Coordinator.

aa) Caltrans shall conduct regular inspections, consistent with Caltrans' Maintenance Division's current Pavement Inspection and Slope Inspection programs, of the locations where lead-contaminated soil has been buried and/or covered pursuant to this variance. If site inspection reveals deterioration of cover so that conditions in the variance are not met, Caltrans shall repair or replace the cover.

bb) Caltrans shall develop and implement a record keeping mechanisms to record and retain permanent records of all locations where lead-contaminated soil has been buried per this variance. The records shall be made available to DTSC.

cc) If areas subject to the terms of this variance are sold, relinquished or abandoned (including roadways), all future property owners shall be notified in writing in advance by Caltrans of the requirements of this variance, and Caltrans shall provide the owner with a copy of the variance. A copy of such a notice shall be sent to DTSC and contain the corridor location and project. Caltrans shall also disclose to DTSC and the new owner the location of areas where lead-contaminated soil has been buried. Future property owners shall be subject to the same requirements as Caltrans.

dd) For the purposes of informing the public about instances where the variance is implemented, Caltrans shall:

1. maintain current fact sheets at all Caltrans resident engineer offices and the Caltrans District office. Caltrans shall make the fact sheets available to anyone expressing an interest in variance-related work.
2. maintain a binder(s) containing copies of all reports submitted to DTSC at the District office. Caltrans shall ensure that the binders are readily accessible to the public.
3. carry out the following actions when it identifies additional projects:
  - (A) notify the public via a display advertisement in a newspaper of general circulation in that area.
  - (B) update and distribute the fact sheet to the mailing list and repository locations.

ee) Lead-contaminated soil may be buried only in areas where access is limited or where lead-contaminated soil is covered and contained by a pavement structure.

ff) Dust containing lead-contaminated soil must be controlled. Water or dust palliative may be applied to control dust. If visible dust migration occurs, all excavation, stockpiling and truck loading and burying must be stopped. The granting of this variance confers no relief on Caltrans from compliance with the laws, regulations and requirements enforced by any local air district or the California Air Resources Board.

gg) Sampling and analysis is required to show the lead-contaminated soil meets the variance criteria. All sampling and analysis must be conducted in accordance with the appropriate methods specified in U.S. EPA SW-846.

hh) DTSC retains the right to require Caltrans or any future owner to remove, and properly dispose of, lead-contaminated soil in the event DTSC determines it is necessary for protection of public health, safety or the environment.

ii) DTSC finds that some projects involving lead-contaminated soil are joint projects between Caltrans and other government entities. In these joint projects, Caltrans may not be the lead agency implementing the project although Caltrans is still involved if the project occurs on its right-of-way.

Caltrans may invoke this variance for joint projects where Caltrans and local government entity are involved provided that 1) the project is within the Caltrans Right-of-Way; 2) Caltrans reviews/ oversees all phases of the project including design, contracting, environmental assessment, construction, operation, and maintenance; and 3) Caltrans oversees the project to verify all variance conditions are complied with. Caltrans will be fully responsible for the variance notification and implementation in these joint projects.

jj) All correspondence shall be directed to the following office:

Hazardous Waste Permitting  
Department of Toxic Substances Control  
8800 Cal Center Drive  
Sacramento, CA 95826

Attn: Caltrans Lead Variance Notification Unit

10. DISCLAIMER.

a) The issuance of this variance does not relieve Caltrans of the responsibility for compliance with Health and Safety Code, chapter 6.5, or the regulations adopted thereunder, and any other laws and regulations other than those specifically identified in Section 8 of this variance. Caltrans is subject to all terms and conditions herein. The granting of this variance confers no relief from compliance with any federal, State or local requirements other than those specifically provided herein.

b) The issuance of this variance does not release Caltrans from any liability associated with the handling of hazardous waste, except as specifically provided herein and subject to all terms and conditions of this variance.

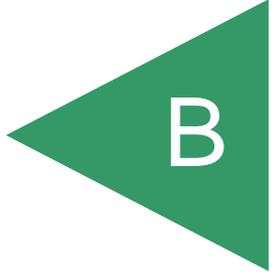
11. VARIANCE MODIFICATION OR REVOCATION. This variance is subject to review at the discretion of DTSC and may be modified or revoked by DTSC upon change of ownership and at any other time pursuant to Health and Safety Code, section 25143.
12. CEQA DETERMINATION. DTSC adopted a Negative Declaration on June 30, 2009.

Approved:

6/30/09  
Date

Beverly Rikala  
Beverly Rikala  
Operating Facilities Team  
Department of Toxic Substances Control

APPENDIX



April 19, 2011



Lauren Vigliotti  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
TEL: (925) 768-9874  
FAX: (925) 371-5915

ELAP No.: 1838  
NELAP No.: 02107CA  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
Workorder No.: 117382

RE: SCL 17 Storm Damage, E8560-06-17

Attention: Lauren Vigliotti

Enclosed are the results for sample(s) received on April 15, 2011 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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,

A handwritten signature in black ink, appearing to read "Eddie F. Rodriguez".

Eddie F. Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories.



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**CLIENT:** Geocon Consultants, Inc.  
**Project:** SCL 17 Storm Damage, E8560-06-17  
**Lab Order:** 117382

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**CASE NARRATIVE**

Analytical Comments for Method 6010

Matrix Spike (MS) and /or Matrix Spike Duplicate (MSD) are/is outside recovery criteria for samples 117382-025AMS, 117382-058AMS and 117382-058AMSD; however, the analytical batch was validated by the Laboratory Control Sample (LCS).

RPD for Duplicate (DUP) is outside criteria for samples 117382-025ADUP, 117382-042ADUP and 117382-058ADUP; however, the Laboratory Control Sample (LCS) validated the analytical batch.

Analytical Comments for Method 8015 (DRO)

Dilution was necessary for sample 117382-017A, due to sample matrix.

Surrogate recovery was diluted out for sample 117382-017A.

RPD for Duplicate (DUP) is outside criteria for sample 117382-034ADUP; however, the Laboratory Control Sample (LCS) validated the analytical batch.



**LEAD BY ICP  
EPA 6010B**

**ANALYTICAL RESULTS**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	117382
<b>Project:</b>	SCL 17 Storm Damage, E8560-06-17	<b>Date Received</b>	4/15/2011 8:37:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	IL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
117382-002A	11-01-1.5	18	mg/Kg	72333	5.0	1	4/13/2011	4/19/2011
117382-003A	11-01-3.0	6.9	mg/Kg	72333	5.0	1	4/13/2011	4/19/2011
117382-004A	11-01-5.0	5.6	mg/Kg	72333	5.0	1	4/13/2011	4/19/2011
117382-006A	11-02-1.5	49	mg/Kg	72333	5.0	1	4/13/2011	4/19/2011
117382-007A	11-02-3.0	11	mg/Kg	72333	5.0	1	4/13/2011	4/19/2011
117382-008A	11-02-5.0	7.1	mg/Kg	72333	5.0	1	4/13/2011	4/19/2011
117382-010A	11-03-1.5	5.9	mg/Kg	72333	5.0	1	4/13/2011	4/19/2011
117382-011A	11-03-3.0	5.1	mg/Kg	72333	5.0	1	4/13/2011	4/19/2011
117382-013A	11-04-1.5	13	mg/Kg	72333	5.0	1	4/13/2011	4/19/2011
117382-014A	11-04-3.0	5.1	mg/Kg	72333	5.0	1	4/13/2011	4/19/2011
117382-016A	11-05-1.5	300	mg/Kg	72333	5.0	1	4/14/2011	4/19/2011
117382-017A	11-05-3.0	19	mg/Kg	72333	5.0	1	4/14/2011	4/19/2011
117382-019A	11-06-1.5	7.5	mg/Kg	72333	5.0	1	4/14/2011	4/19/2011
117382-020A	11-06-3.0	ND	mg/Kg	72333	5.0	1	4/14/2011	4/19/2011
117382-022A	11-07-1.5	210	mg/Kg	72333	5.0	1	4/14/2011	4/19/2011
117382-023A	11-07-3.0	5.4	mg/Kg	72333	5.0	1	4/14/2011	4/19/2011
117382-024A	11-07-5.0	7.4	mg/Kg	72333	5.0	1	4/14/2011	4/19/2011
117382-026A	11-08-1.5	8.3	mg/Kg	72333	5.0	1	4/14/2011	4/19/2011

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	



**LEAD BY ICP  
EPA 6010B**

**ANALYTICAL RESULTS**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	117382
<b>Project:</b>	SCL 17 Storm Damage, E8560-06-17	<b>Date Received</b>	4/15/2011 8:37:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	IL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
117382-027A	11-08-3.0	7.1	mg/Kg	72333	5.0	1	4/14/2011	4/19/2011
117382-028A	11-08-5.0	7.2	mg/Kg	72333	5.0	1	4/14/2011	4/19/2011
117382-030A	11-09-1.5	11	mg/Kg	72334	5.0	1	4/14/2011	4/19/2011
117382-031A	11-09-4.0	6.0	mg/Kg	72334	5.0	1	4/14/2011	4/19/2011
117382-033A	11-10-1.5	8.9	mg/Kg	72334	5.0	1	4/14/2011	4/19/2011
117382-034A	11-10-4.0	5.5	mg/Kg	72334	5.0	1	4/14/2011	4/19/2011
117382-036A	11-11-1.5	ND	mg/Kg	72334	5.0	1	4/13/2011	4/19/2011
117382-037A	11-11-3.0	5.5	mg/Kg	72334	5.0	1	4/13/2011	4/19/2011
117382-038A	11-11-5.0	ND	mg/Kg	72334	5.0	1	4/13/2011	4/19/2011
117382-040A	11-12-1.5	8.1	mg/Kg	72334	5.0	1	4/13/2011	4/19/2011
117382-041A	11-12-3.0	6.7	mg/Kg	72334	5.0	1	4/13/2011	4/19/2011
117382-042A	11-12-5.0	6.7	mg/Kg	72334	5.0	1	4/13/2011	4/19/2011
117382-044A	11-13-1.5	10	mg/Kg	72334	5.0	1	4/13/2011	4/19/2011
117382-045A	11-13-3.0	8.9	mg/Kg	72334	5.0	1	4/13/2011	4/19/2011
117382-047A	11-14-1.5	8.8	mg/Kg	72334	5.0	1	4/13/2011	4/19/2011
117382-048A	11-14-3.0	9.5	mg/Kg	72334	5.0	1	4/13/2011	4/19/2011
117382-050A	11-15-1.5	48	mg/Kg	72334	5.0	1	4/13/2011	4/19/2011
117382-051A	11-15-3.0	40	mg/Kg	72334	5.0	1	4/13/2011	4/19/2011

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	



**ANALYTICAL RESULTS**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	117382
<b>Project:</b>	SCL 17 Storm Damage, E8560-06-17	<b>Date Received</b>	4/15/2011 8:37:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	IL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
117382-053A	11-16-1.5	93	mg/Kg	72334	5.0	1	4/14/2011	4/19/2011
117382-054A	11-16-3.0	22	mg/Kg	72334	5.0	1	4/14/2011	4/19/2011
117382-056A	11-17-1.5	ND	mg/Kg	72334	5.0	1	4/14/2011	4/19/2011
117382-057A	11-17-3.0	5.3	mg/Kg	72334	5.0	1	4/14/2011	4/19/2011
117382-059A	11-18-1.5	8.3	mg/Kg	72335	5.0	1	4/14/2011	4/19/2011
117382-060A	11-18-3.0	ND	mg/Kg	72335	5.0	1	4/14/2011	4/19/2011

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	



**LEAD BY ICP  
EPA 6010B**

**ANALYTICAL RESULTS**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	117382
<b>Project:</b>	SCL 17 Storm Damage, E8560-06-17	<b>Date Received</b>	4/15/2011 8:37:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Rinseate
<b>Analyte:</b>	Lead	<b>Analyst:</b>	IL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
117382-061A	RINSE BLANK	ND	mg/L	72341	0.25	1	4/14/2011	4/19/2011

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



**ANALYTICAL RESULTS**

**pH  
EPA 9045C**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	117382
<b>Project:</b>	SCL 17 Storm Damage, E8560-06-17	<b>Date Received</b>	4/15/2011 8:37:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	pH	<b>Analyst:</b>	CBB

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
117382-003A	11-01-3.0	6.3	pH Units	R132137	0.10	1	4/13/2011	4/18/2011
117382-007A	11-02-3.0	6.4	pH Units	R132137	0.10	1	4/13/2011	4/18/2011
117382-011A	11-03-3.0	6.5	pH Units	R132137	0.10	1	4/13/2011	4/18/2011
117382-014A	11-04-3.0	5.9	pH Units	R132137	0.10	1	4/13/2011	4/18/2011
117382-017A	11-05-3.0	5.7	pH Units	R132137	0.10	1	4/14/2011	4/18/2011
117382-020A	11-06-3.0	6.2	pH Units	R132138	0.10	1	4/14/2011	4/18/2011
117382-023A	11-07-3.0	7.1	pH Units	R132138	0.10	1	4/14/2011	4/18/2011
117382-027A	11-08-3.0	6.9	pH Units	R132138	0.10	1	4/14/2011	4/18/2011
117382-031A	11-09-4.0	6.0	pH Units	R132138	0.10	1	4/14/2011	4/18/2011
117382-034A	11-10-4.0	5.9	pH Units	R132138	0.10	1	4/14/2011	4/18/2011
117382-037A	11-11-3.0	6.5	pH Units	R132137	0.10	1	4/13/2011	4/18/2011
117382-041A	11-12-3.0	6.6	pH Units	R132137	0.10	1	4/13/2011	4/18/2011
117382-045A	11-13-3.0	7.4	pH Units	R132137	0.10	1	4/13/2011	4/18/2011
117382-048A	11-14-3.0	7.2	pH Units	R132137	0.10	1	4/13/2011	4/18/2011
117382-051A	11-15-3.0	7.5	pH Units	R132137	0.10	1	4/13/2011	4/18/2011
117382-054A	11-16-3.0	6.8	pH Units	R132138	0.10	1	4/14/2011	4/18/2011
117382-057A	11-17-3.0	9.1	pH Units	R132138	0.10	1	4/14/2011	4/18/2011
117382-060A	11-18-3.0	8.2	pH Units	R132138	0.10	1	4/14/2011	4/18/2011

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	



# Advanced Technology Laboratories

# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.  
**Lab Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17  
**Lab ID:** 117382-001A

**Client Sample ID:** 11-01-0.5  
**Collection Date:** 4/13/2011 10:10:00 AM  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## ICP METALS

### EPA 3050B

### EPA 6010B

RunID:	ICP8_110419A	QC Batch:	72301	PrepDate:	4/18/2011	Analyst:	IL
Antimony	ND	2.0	mg/Kg	1	4/19/2011 10:07 AM		
Arsenic	1.9	1.0	mg/Kg	1	4/19/2011 10:07 AM		
Barium	95	1.0	mg/Kg	1	4/19/2011 10:07 AM		
Beryllium	ND	1.0	mg/Kg	1	4/19/2011 10:07 AM		
Cadmium	ND	1.0	mg/Kg	1	4/19/2011 10:07 AM		
Chromium	11	1.0	mg/Kg	1	4/19/2011 10:07 AM		
Cobalt	3.5	1.0	mg/Kg	1	4/19/2011 10:07 AM		
Copper	34	2.0	mg/Kg	1	4/19/2011 10:07 AM		
Lead	410	1.0	mg/Kg	1	4/19/2011 10:07 AM		
Molybdenum	ND	1.0	mg/Kg	1	4/19/2011 10:07 AM		
Nickel	15	1.0	mg/Kg	1	4/19/2011 10:07 AM		
Selenium	ND	1.0	mg/Kg	1	4/19/2011 10:07 AM		
Silver	ND	1.0	mg/Kg	1	4/19/2011 10:07 AM		
Thallium	ND	1.0	mg/Kg	1	4/19/2011 10:07 AM		
Vanadium	19	1.0	mg/Kg	1	4/19/2011 10:07 AM		
Zinc	96	1.0	mg/Kg	1	4/19/2011 10:07 AM		

## MERCURY BY COLD VAPOR TECHNIQUE

### EPA 7471A

RunID:	AA1_110418B	QC Batch:	72323	PrepDate:	4/18/2011	Analyst:	VV
Mercury	ND	0.10	mg/Kg	1	4/18/2011 04:47 PM		

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range  
H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
S Spike/Surrogate outside of limits due to matrix interference Results are wet unless otherwise specified  
DO Surrogate Diluted Out



Advanced Technology  
Laboratories

3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562.989.4045 Fax: 562.989.4040

# Advanced Technology Laboratories

# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.

**Client Sample ID:** 11-01-1.5

**Lab Order:** 117382

**Collection Date:** 4/13/2011 10:12:00 AM

**Project:** SCL 17 Storm Damage, E8560-06-17

**Matrix:** SOIL

**Lab ID:** 117382-002A

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**GASOLINE RANGE ORGANICS BY GC/FID**

**EPA 8015B(M)**

RunID: GC2_110418A	QC Batch: E11VS158	PrepDate:	Analyst: TP		
GRO	ND	1.0	mg/Kg	1	4/18/2011 01:43 PM
Surr: Bromofluorobenzene (FID)	101	62-153	%REC	1	4/18/2011 01:43 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# Advanced Technology Laboratories

# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.

**Client Sample ID:** 11-01-5.0

**Lab Order:** 117382

**Collection Date:** 4/13/2011 10:16:00 AM

**Project:** SCL 17 Storm Damage, E8560-06-17

**Matrix:** SOIL

**Lab ID:** 117382-004A

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**DIESEL RANGE ORGANICS BY GC/FID**

**EPA 3550B**

**EPA 8015B(M)**

RunID: GC16_110418B	QC Batch: 72332				PrepDate: 4/18/2011	Analyst: CBR
DRO	ND	1.0		mg/Kg	1	4/18/2011 10:47 PM
Surr: p-Terphenyl	71.4	30-128		%REC	1	4/18/2011 10:47 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# Advanced Technology Laboratories

# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.  
**Lab Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17  
**Lab ID:** 117382-005A

**Client Sample ID:** 11-02-0.5  
**Collection Date:** 4/13/2011 10:26:00 AM  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## ICP METALS

### EPA 3050B

### EPA 6010B

RunID:	ICP8_110419A	QC Batch:	72301	PrepDate:	4/18/2011	Analyst:	IL
Antimony	ND	2.0	mg/Kg	1	4/19/2011 10:10 AM		
Arsenic	1.7	1.0	mg/Kg	1	4/19/2011 10:10 AM		
Barium	100	1.0	mg/Kg	1	4/19/2011 10:10 AM		
Beryllium	ND	1.0	mg/Kg	1	4/19/2011 10:10 AM		
Cadmium	ND	1.0	mg/Kg	1	4/19/2011 10:10 AM		
Chromium	17	1.0	mg/Kg	1	4/19/2011 10:10 AM		
Cobalt	3.9	1.0	mg/Kg	1	4/19/2011 10:10 AM		
Copper	34	2.0	mg/Kg	1	4/19/2011 10:10 AM		
Lead	120	1.0	mg/Kg	1	4/19/2011 10:10 AM		
Molybdenum	1.6	1.0	mg/Kg	1	4/19/2011 10:10 AM		
Nickel	22	1.0	mg/Kg	1	4/19/2011 10:10 AM		
Selenium	ND	1.0	mg/Kg	1	4/19/2011 10:10 AM		
Silver	ND	1.0	mg/Kg	1	4/19/2011 10:10 AM		
Thallium	ND	1.0	mg/Kg	1	4/19/2011 10:10 AM		
Vanadium	22	1.0	mg/Kg	1	4/19/2011 10:10 AM		
Zinc	230	1.0	mg/Kg	1	4/19/2011 10:10 AM		

## MERCURY BY COLD VAPOR TECHNIQUE

### EPA 7471A

RunID:	AA1_110418B	QC Batch:	72323	PrepDate:	4/18/2011	Analyst:	VV
Mercury	ND	0.10	mg/Kg	1	4/18/2011 04:49 PM		

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out  
E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified



Advanced Technology  
Laboratories

3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562.989.4045 Fax: 562.989.4040

# Advanced Technology Laboratories

# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.

**Client Sample ID:** 11-02-1.5

**Lab Order:** 117382

**Collection Date:** 4/13/2011 10:29:00 AM

**Project:** SCL 17 Storm Damage, E8560-06-17

**Matrix:** SOIL

**Lab ID:** 117382-006A

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**GASOLINE RANGE ORGANICS BY GC/FID**

**EPA 8015B(M)**

RunID: GC2_110418A	QC Batch: E11VS158	PrepDate:	Analyst: TP		
GRO	ND	1.0	mg/Kg	1	4/18/2011 01:58 PM
Surr: Bromofluorobenzene (FID)	103	62-153	%REC	1	4/18/2011 01:58 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



Advanced Technology  
Laboratories

3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562.989.4045 Fax: 562.989.4040

# Advanced Technology Laboratories

# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.

**Client Sample ID:** 11-02-5.0

**Lab Order:** 117382

**Collection Date:** 4/13/2011 10:40:00 AM

**Project:** SCL 17 Storm Damage, E8560-06-17

**Matrix:** SOIL

**Lab ID:** 117382-008A

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**DIESEL RANGE ORGANICS BY GC/FID**

**EPA 3550B**

**EPA 8015B(M)**

RunID: GC16_110418B	QC Batch: 72332				PrepDate: 4/18/2011	Analyst: CBR
DRO	ND	1.0		mg/Kg	1	4/18/2011 11:55 PM
Surr: p-Terphenyl	66.4	30-128		%REC	1	4/18/2011 11:55 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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**ANALYTICAL RESULTS**  
 Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.  
**Lab Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17  
**Lab ID:** 117382-009A

**Client Sample ID:** 11-03-0.5  
**Collection Date:** 4/13/2011 2:12:00 PM  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**ICP METALS**

**EPA 3050B**

**EPA 6010B**

RunID:	ICP8_110419A	QC Batch:	72301	PrepDate:	4/18/2011	Analyst:	IL
Antimony	ND	2.0	mg/Kg	1	4/19/2011 10:14 AM		
Arsenic	6.1	1.0	mg/Kg	1	4/19/2011 10:14 AM		
Barium	71	1.0	mg/Kg	1	4/19/2011 10:14 AM		
Beryllium	ND	1.0	mg/Kg	1	4/19/2011 10:14 AM		
Cadmium	ND	1.0	mg/Kg	1	4/19/2011 10:14 AM		
Chromium	15	1.0	mg/Kg	1	4/19/2011 10:14 AM		
Cobalt	3.5	1.0	mg/Kg	1	4/19/2011 10:14 AM		
Copper	21	2.0	mg/Kg	1	4/19/2011 10:14 AM		
Lead	270	1.0	mg/Kg	1	4/19/2011 10:14 AM		
Molybdenum	ND	1.0	mg/Kg	1	4/19/2011 10:14 AM		
Nickel	15	1.0	mg/Kg	1	4/19/2011 10:14 AM		
Selenium	ND	1.0	mg/Kg	1	4/19/2011 10:14 AM		
Silver	ND	1.0	mg/Kg	1	4/19/2011 10:14 AM		
Thallium	ND	1.0	mg/Kg	1	4/19/2011 10:14 AM		
Vanadium	17	1.0	mg/Kg	1	4/19/2011 10:14 AM		
Zinc	270	1.0	mg/Kg	1	4/19/2011 10:14 AM		

**MERCURY BY COLD VAPOR TECHNIQUE**

**EPA 7471A**

RunID:	AA1_110418B	QC Batch:	72323	PrepDate:	4/18/2011	Analyst:	VV
Mercury	ND	0.10	mg/Kg	1	4/18/2011 04:52 PM		

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out  
 E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.

**Client Sample ID:** 11-03-1.5

**Lab Order:** 117382

**Collection Date:** 4/13/2011 2:15:00 PM

**Project:** SCL 17 Storm Damage, E8560-06-17

**Matrix:** SOIL

**Lab ID:** 117382-010A

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**GASOLINE RANGE ORGANICS BY GC/FID**

**EPA 8015B(M)**

RunID: GC2_110418A	QC Batch: E11VS158	PrepDate:	Analyst: TP		
GRO	ND	1.0	mg/Kg	1	4/18/2011 02:14 PM
Surr: Bromofluorobenzene (FID)	105	62-153	%REC	1	4/18/2011 02:14 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.

**Client Sample ID:** 11-03-3.0

**Lab Order:** 117382

**Collection Date:** 4/13/2011 2:17:00 PM

**Project:** SCL 17 Storm Damage, E8560-06-17

**Matrix:** SOIL

**Lab ID:** 117382-011A

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## DIESEL RANGE ORGANICS BY GC/FID

### EPA 3550B

### EPA 8015B(M)

RunID: GC16_110418B	QC Batch: 72332				PrepDate: 4/18/2011	Analyst: CBR
DRO	7.9	1.0		mg/Kg	1	4/19/2011 12:04 AM
Surr: p-Terphenyl	57.0	30-128		%REC	1	4/19/2011 12:04 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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**ANALYTICAL RESULTS**  
 Print Date: 19-Apr-11

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Client Sample ID:</b>	11-04-0.5
<b>Lab Order:</b>	117382	<b>Collection Date:</b>	4/13/2011 2:22:00 PM
<b>Project:</b>	SCL 17 Storm Damage, E8560-06-17	<b>Matrix:</b>	SOIL
<b>Lab ID:</b>	117382-012A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**ICP METALS**

		EPA 3050B		EPA 6010B		
RunID:	ICP8_110419A	QC Batch:	72301	PrepDate:	4/18/2011	Analyst: IL
Antimony	ND	2.0	mg/Kg	1	4/19/2011 10:17 AM	
Arsenic	ND	1.0	mg/Kg	1	4/19/2011 10:17 AM	
Barium	22	1.0	mg/Kg	1	4/19/2011 10:17 AM	
Beryllium	ND	1.0	mg/Kg	1	4/19/2011 10:17 AM	
Cadmium	ND	1.0	mg/Kg	1	4/19/2011 10:17 AM	
Chromium	3.0	1.0	mg/Kg	1	4/19/2011 10:17 AM	
Cobalt	ND	1.0	mg/Kg	1	4/19/2011 10:17 AM	
Copper	3.9	2.0	mg/Kg	1	4/19/2011 10:17 AM	
Lead	8.5	1.0	mg/Kg	1	4/19/2011 10:17 AM	
Molybdenum	ND	1.0	mg/Kg	1	4/19/2011 10:17 AM	
Nickel	2.6	1.0	mg/Kg	1	4/19/2011 10:17 AM	
Selenium	ND	1.0	mg/Kg	1	4/19/2011 10:17 AM	
Silver	ND	1.0	mg/Kg	1	4/19/2011 10:17 AM	
Thallium	ND	1.0	mg/Kg	1	4/19/2011 10:17 AM	
Vanadium	5.7	1.0	mg/Kg	1	4/19/2011 10:17 AM	
Zinc	45	1.0	mg/Kg	1	4/19/2011 10:17 AM	

**MERCURY BY COLD VAPOR TECHNIQUE**

		EPA 7471A				
RunID:	AA1_110418B	QC Batch:	72323	PrepDate:	4/18/2011	Analyst: VV
Mercury	ND	0.10	mg/Kg	1	4/18/2011 04:54 PM	

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Client Sample ID:</b>	11-04-1.5
<b>Lab Order:</b>	117382	<b>Collection Date:</b>	4/13/2011 2:30:00 PM
<b>Project:</b>	SCL 17 Storm Damage, E8560-06-17	<b>Matrix:</b>	SOIL
<b>Lab ID:</b>	117382-013A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## GASOLINE RANGE ORGANICS BY GC/FID

### EPA 8015B(M)

RunID: GC2_110418A	QC Batch: E11VS158	PrepDate:	Analyst: TP		
GRO	ND	1.0	mg/Kg	1	4/18/2011 02:30 PM
Surr: Bromofluorobenzene (FID)	107	62-153	%REC	1	4/18/2011 02:30 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.

**Client Sample ID:** 11-04-3.0

**Lab Order:** 117382

**Collection Date:** 4/13/2011 2:32:00 PM

**Project:** SCL 17 Storm Damage, E8560-06-17

**Matrix:** SOIL

**Lab ID:** 117382-014A

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**DIESEL RANGE ORGANICS BY GC/FID**

**EPA 3550B**

**EPA 8015B(M)**

RunID: GC16_110418B	QC Batch: 72332				PrepDate: 4/18/2011	Analyst: CBR
DRO	ND	1.0		mg/Kg	1	4/18/2011 10:57 PM
Surr: p-Terphenyl	65.6	30-128		%REC	1	4/18/2011 10:57 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.  
**Lab Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17  
**Lab ID:** 117382-015A

**Client Sample ID:** 11-05-0.5  
**Collection Date:** 4/14/2011 11:12:00 AM  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## ICP METALS

### EPA 3050B

### EPA 6010B

RunID:	ICP8_110419A	QC Batch:	72301	PrepDate:	4/18/2011	Analyst:	IL
Antimony	ND	2.0	mg/Kg	1	4/19/2011 10:20 AM		
Arsenic	3.1	1.0	mg/Kg	1	4/19/2011 10:20 AM		
Barium	92	1.0	mg/Kg	1	4/19/2011 10:20 AM		
Beryllium	ND	1.0	mg/Kg	1	4/19/2011 10:20 AM		
Cadmium	ND	1.0	mg/Kg	1	4/19/2011 10:20 AM		
Chromium	17	1.0	mg/Kg	1	4/19/2011 10:20 AM		
Cobalt	4.0	1.0	mg/Kg	1	4/19/2011 10:20 AM		
Copper	25	2.0	mg/Kg	1	4/19/2011 10:20 AM		
Lead	23	1.0	mg/Kg	1	4/19/2011 10:20 AM		
Molybdenum	2.0	1.0	mg/Kg	1	4/19/2011 10:20 AM		
Nickel	22	1.0	mg/Kg	1	4/19/2011 10:20 AM		
Selenium	ND	1.0	mg/Kg	1	4/19/2011 10:20 AM		
Silver	ND	1.0	mg/Kg	1	4/19/2011 10:20 AM		
Thallium	ND	1.0	mg/Kg	1	4/19/2011 10:20 AM		
Vanadium	13	1.0	mg/Kg	1	4/19/2011 10:20 AM		
Zinc	180	1.0	mg/Kg	1	4/19/2011 10:20 AM		

## MERCURY BY COLD VAPOR TECHNIQUE

### EPA 7471A

RunID:	AA1_110418B	QC Batch:	72323	PrepDate:	4/18/2011	Analyst:	VV
Mercury	ND	0.10	mg/Kg	1	4/18/2011 05:00 PM		

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out  
E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.

**Client Sample ID:** 11-05-1.5

**Lab Order:** 117382

**Collection Date:** 4/14/2011 11:18:00 AM

**Project:** SCL 17 Storm Damage, E8560-06-17

**Matrix:** SOIL

**Lab ID:** 117382-016A

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**GASOLINE RANGE ORGANICS BY GC/FID**

**EPA 8015B(M)**

RunID: GC2_110418A	QC Batch: E11VS158	PrepDate:	Analyst: TP		
GRO	ND	1.0	mg/Kg	1	4/18/2011 02:45 PM
Surr: Bromofluorobenzene (FID)	108	62-153	%REC	1	4/18/2011 02:45 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.

**Client Sample ID:** 11-05-3.0

**Lab Order:** 117382

**Collection Date:** 4/14/2011 11:24:00 AM

**Project:** SCL 17 Storm Damage, E8560-06-17

**Matrix:** SOIL

**Lab ID:** 117382-017A

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**DIESEL RANGE ORGANICS BY GC/FID**

**EPA 3550B**

**EPA 8015B(M)**

RunID: GC16_110419A	QC Batch: 72338				PrepDate: 4/18/2011	Analyst: <b>CBR</b>
DRO	320	30		mg/Kg	5	4/19/2011 12:09 PM
Surr: p-Terphenyl	0	30-128	SDO	%REC	5	4/19/2011 12:09 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.  
**Lab Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17  
**Lab ID:** 117382-018A

**Client Sample ID:** 11-06-0.5  
**Collection Date:** 4/14/2011 11:28:00 AM  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## ICP METALS

### EPA 3050B

### EPA 6010B

RunID:	ICP8_110419A	QC Batch:	72301	PrepDate:	4/18/2011	Analyst:	IL
Antimony	ND	2.0	mg/Kg	1	4/19/2011 10:23 AM		
Arsenic	5.1	1.0	mg/Kg	1	4/19/2011 10:23 AM		
Barium	110	1.0	mg/Kg	1	4/19/2011 10:23 AM		
Beryllium	ND	1.0	mg/Kg	1	4/19/2011 10:23 AM		
Cadmium	1.2	1.0	mg/Kg	1	4/19/2011 10:23 AM		
Chromium	18	1.0	mg/Kg	1	4/19/2011 10:23 AM		
Cobalt	5.1	1.0	mg/Kg	1	4/19/2011 10:23 AM		
Copper	28	2.0	mg/Kg	1	4/19/2011 10:23 AM		
Lead	66	1.0	mg/Kg	1	4/19/2011 10:23 AM		
Molybdenum	2.0	1.0	mg/Kg	1	4/19/2011 10:23 AM		
Nickel	31	1.0	mg/Kg	1	4/19/2011 10:23 AM		
Selenium	ND	1.0	mg/Kg	1	4/19/2011 10:23 AM		
Silver	ND	1.0	mg/Kg	1	4/19/2011 10:23 AM		
Thallium	ND	1.0	mg/Kg	1	4/19/2011 10:23 AM		
Vanadium	16	1.0	mg/Kg	1	4/19/2011 10:23 AM		
Zinc	160	1.0	mg/Kg	1	4/19/2011 10:23 AM		

## MERCURY BY COLD VAPOR TECHNIQUE

### EPA 7471A

RunID:	AA1_110418B	QC Batch:	72323	PrepDate:	4/18/2011	Analyst:	VV
Mercury	ND	0.10	mg/Kg	1	4/18/2011 05:02 PM		

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range  
H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
S Spike/Surrogate outside of limits due to matrix interference Results are wet unless otherwise specified  
DO Surrogate Diluted Out



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.

**Client Sample ID:** 11-06-1.5

**Lab Order:** 117382

**Collection Date:** 4/14/2011 11:30:00 AM

**Project:** SCL 17 Storm Damage, E8560-06-17

**Matrix:** SOIL

**Lab ID:** 117382-019A

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**GASOLINE RANGE ORGANICS BY GC/FID**

**EPA 8015B(M)**

RunID: GC2_110418A	QC Batch: E11VS158	PrepDate:	Analyst: TP		
GRO	ND	1.0	mg/Kg	1	4/18/2011 03:01 PM
Surr: Bromofluorobenzene (FID)	104	62-153	%REC	1	4/18/2011 03:01 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.

**Client Sample ID:** 11-06-3.0

**Lab Order:** 117382

**Collection Date:** 4/14/2011 11:33:00 AM

**Project:** SCL 17 Storm Damage, E8560-06-17

**Matrix:** SOIL

**Lab ID:** 117382-020A

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**DIESEL RANGE ORGANICS BY GC/FID**

**EPA 3550B**

**EPA 8015B(M)**

RunID: GC16_110419A	QC Batch: 72338				PrepDate: 4/18/2011	Analyst: CBR
DRO	ND	1.0		mg/Kg	1	4/19/2011 11:22 AM
Surr: p-Terphenyl	57.1	30-128		%REC	1	4/19/2011 11:22 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.  
**Lab Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17  
**Lab ID:** 117382-021A

**Client Sample ID:** 11-07-0.5  
**Collection Date:** 4/14/2011 10:12:00 AM  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## ICP METALS

### EPA 3050B

### EPA 6010B

RunID:	ICP8_110419A	QC Batch:	72301	PrepDate:	4/18/2011	Analyst:	IL
Antimony	ND	2.0	mg/Kg	1	4/19/2011 10:27 AM		
Arsenic	4.1	1.0	mg/Kg	1	4/19/2011 10:27 AM		
Barium	78	1.0	mg/Kg	1	4/19/2011 10:27 AM		
Beryllium	ND	1.0	mg/Kg	1	4/19/2011 10:27 AM		
Cadmium	ND	1.0	mg/Kg	1	4/19/2011 10:27 AM		
Chromium	37	1.0	mg/Kg	1	4/19/2011 10:27 AM		
Cobalt	7.2	1.0	mg/Kg	1	4/19/2011 10:27 AM		
Copper	19	2.0	mg/Kg	1	4/19/2011 10:27 AM		
Lead	390	1.0	mg/Kg	1	4/19/2011 10:27 AM		
Molybdenum	ND	1.0	mg/Kg	1	4/19/2011 10:27 AM		
Nickel	27	1.0	mg/Kg	1	4/19/2011 10:27 AM		
Selenium	ND	1.0	mg/Kg	1	4/19/2011 10:27 AM		
Silver	ND	1.0	mg/Kg	1	4/19/2011 10:27 AM		
Thallium	ND	1.0	mg/Kg	1	4/19/2011 10:27 AM		
Vanadium	36	1.0	mg/Kg	1	4/19/2011 10:27 AM		
Zinc	130	1.0	mg/Kg	1	4/19/2011 10:27 AM		

## MERCURY BY COLD VAPOR TECHNIQUE

### EPA 7471A

RunID:	AA1_110418B	QC Batch:	72323	PrepDate:	4/18/2011	Analyst:	VV
Mercury	ND	0.10	mg/Kg	1	4/18/2011 05:04 PM		

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out  
E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified



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# Advanced Technology Laboratories

# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.

**Client Sample ID:** 11-07-1.5

**Lab Order:** 117382

**Collection Date:** 4/14/2011 10:15:00 AM

**Project:** SCL 17 Storm Damage, E8560-06-17

**Matrix:** SOIL

**Lab ID:** 117382-022A

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## GASOLINE RANGE ORGANICS BY GC/FID

### EPA 8015B(M)

RunID: GC2_110418A	QC Batch: E11VS158	PrepDate:	Analyst: TP		
GRO	ND	1.0	mg/Kg	1	4/18/2011 03:16 PM
Surr: Bromofluorobenzene (FID)	110	62-153	%REC	1	4/18/2011 03:16 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.

**Client Sample ID:** 11-07-5.0

**Lab Order:** 117382

**Collection Date:** 4/14/2011 10:30:00 AM

**Project:** SCL 17 Storm Damage, E8560-06-17

**Matrix:** SOIL

**Lab ID:** 117382-024A

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**DIESEL RANGE ORGANICS BY GC/FID**

**EPA 3550B**

**EPA 8015B(M)**

RunID: GC16_110419A	QC Batch: 72338				PrepDate: 4/18/2011	Analyst: CBR
DRO	ND	1.0		mg/Kg	1	4/19/2011 11:41 AM
Surr: p-Terphenyl	54.3	30-128		%REC	1	4/19/2011 11:41 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.  
**Lab Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17  
**Lab ID:** 117382-025A

**Client Sample ID:** 11-08-0.5  
**Collection Date:** 4/14/2011 10:35:00 AM  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## ICP METALS

### EPA 3050B

### EPA 6010B

RunID:	ICP8_110419A	QC Batch:	72301	PrepDate:	4/18/2011	Analyst:	IL
Antimony	ND	2.0	mg/Kg	1	4/19/2011 10:36 AM		
Arsenic	9.5	1.0	mg/Kg	1	4/19/2011 10:36 AM		
Barium	93	1.0	mg/Kg	1	4/19/2011 10:36 AM		
Beryllium	ND	1.0	mg/Kg	1	4/19/2011 10:36 AM		
Cadmium	ND	1.0	mg/Kg	1	4/19/2011 10:36 AM		
Chromium	37	1.0	mg/Kg	1	4/19/2011 10:36 AM		
Cobalt	9.5	1.0	mg/Kg	1	4/19/2011 10:36 AM		
Copper	13	2.0	mg/Kg	1	4/19/2011 10:36 AM		
Lead	290	1.0	mg/Kg	1	4/19/2011 10:36 AM		
Molybdenum	1.2	1.0	mg/Kg	1	4/19/2011 10:36 AM		
Nickel	27	1.0	mg/Kg	1	4/19/2011 10:36 AM		
Selenium	ND	1.0	mg/Kg	1	4/19/2011 10:36 AM		
Silver	ND	1.0	mg/Kg	1	4/19/2011 10:36 AM		
Thallium	ND	1.0	mg/Kg	1	4/19/2011 10:36 AM		
Vanadium	40	1.0	mg/Kg	1	4/19/2011 10:36 AM		
Zinc	110	1.0	mg/Kg	1	4/19/2011 10:36 AM		

## MERCURY BY COLD VAPOR TECHNIQUE

### EPA 7471A

RunID:	AA1_110418B	QC Batch:	72323	PrepDate:	4/18/2011	Analyst:	VV
Mercury	ND	0.10	mg/Kg	1	4/18/2011 05:06 PM		

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out  
 E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified



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**ANALYTICAL RESULTS**

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.

**Client Sample ID:** 11-08-1.5

**Lab Order:** 117382

**Collection Date:** 4/14/2011 10:49:00 AM

**Project:** SCL 17 Storm Damage, E8560-06-17

**Matrix:** SOIL

**Lab ID:** 117382-026A

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**GASOLINE RANGE ORGANICS BY GC/FID**

**EPA 8015B(M)**

RunID: GC2_110418A	QC Batch: E11VS158	PrepDate:	Analyst: TP		
GRO	ND	1.0	mg/Kg	1	4/18/2011 03:32 PM
Surr: Bromofluorobenzene (FID)	107	62-153	%REC	1	4/18/2011 03:32 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.

**Client Sample ID:** 11-08-5.0

**Lab Order:** 117382

**Collection Date:** 4/14/2011 10:55:00 AM

**Project:** SCL 17 Storm Damage, E8560-06-17

**Matrix:** SOIL

**Lab ID:** 117382-028A

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**DIESEL RANGE ORGANICS BY GC/FID**

**EPA 3550B**

**EPA 8015B(M)**

RunID: GC16_110419A	QC Batch: 72338				PrepDate: 4/18/2011	Analyst: CBR
DRO	ND	1.0		mg/Kg	1	4/19/2011 11:03 AM
Surr: p-Terphenyl	62.1	30-128		%REC	1	4/19/2011 11:03 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.  
**Lab Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17  
**Lab ID:** 117382-029A

**Client Sample ID:** 11-09-0.5  
**Collection Date:** 4/14/2011 8:48:00 AM  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## ICP METALS

### EPA 3050B

### EPA 6010B

RunID:	ICP8_110419C	QC Batch:	72302	PrepDate:	4/18/2011	Analyst:	IL
Antimony	ND	2.0	mg/Kg	1	4/19/2011 11:00 AM		
Arsenic	3.8	1.0	mg/Kg	1	4/19/2011 11:00 AM		
Barium	87	1.0	mg/Kg	1	4/19/2011 11:00 AM		
Beryllium	ND	1.0	mg/Kg	1	4/19/2011 11:00 AM		
Cadmium	ND	1.0	mg/Kg	1	4/19/2011 11:00 AM		
Chromium	14	1.0	mg/Kg	1	4/19/2011 11:00 AM		
Cobalt	4.4	1.0	mg/Kg	1	4/19/2011 11:00 AM		
Copper	16	2.0	mg/Kg	1	4/19/2011 11:00 AM		
Lead	84	1.0	mg/Kg	1	4/19/2011 11:00 AM		
Molybdenum	1.2	1.0	mg/Kg	1	4/19/2011 11:00 AM		
Nickel	18	1.0	mg/Kg	1	4/19/2011 11:00 AM		
Selenium	ND	1.0	mg/Kg	1	4/19/2011 11:00 AM		
Silver	ND	1.0	mg/Kg	1	4/19/2011 11:00 AM		
Thallium	ND	1.0	mg/Kg	1	4/19/2011 11:00 AM		
Vanadium	18	1.0	mg/Kg	1	4/19/2011 11:00 AM		
Zinc	74	1.0	mg/Kg	1	4/19/2011 11:00 AM		

## MERCURY BY COLD VAPOR TECHNIQUE

### EPA 7471A

RunID:	AA1_110418B	QC Batch:	72323	PrepDate:	4/18/2011	Analyst:	VV
Mercury	ND	0.10	mg/Kg	1	4/18/2011 05:08 PM		

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out  
E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.

**Client Sample ID:** 11-09-1.5

**Lab Order:** 117382

**Collection Date:** 4/14/2011 8:59:00 AM

**Project:** SCL 17 Storm Damage, E8560-06-17

**Matrix:** SOIL

**Lab ID:** 117382-030A

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## GASOLINE RANGE ORGANICS BY GC/FID

### EPA 8015B(M)

RunID: GC2_110418A	QC Batch: E11VS158	PrepDate:	Analyst: TP		
GRO	ND	1.0	mg/Kg	1	4/18/2011 03:48 PM
Surr: Bromofluorobenzene (FID)	104	62-153	%REC	1	4/18/2011 03:48 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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**ANALYTICAL RESULTS**  
 Print Date: 19-Apr-11

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Client Sample ID:</b>	11-09-4.0
<b>Lab Order:</b>	117382	<b>Collection Date:</b>	4/14/2011 9:19:00 AM
<b>Project:</b>	SCL 17 Storm Damage, E8560-06-17	<b>Matrix:</b>	SOIL
<b>Lab ID:</b>	117382-031A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC/FID</b>						
	<b>EPA 3550B</b>		<b>EPA 8015B(M)</b>			
RunID: GC16_110419A	QC Batch: 72338			PrepDate: 4/18/2011		Analyst: CBR
DRO	2.2	1.0		mg/Kg	1	4/19/2011 10:53 AM
Surr: p-Terphenyl	82.5	30-128		%REC	1	4/19/2011 10:53 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.  
**Lab Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17  
**Lab ID:** 117382-032A

**Client Sample ID:** 11-10-0.5  
**Collection Date:** 4/14/2011 9:25:00 AM  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## ICP METALS

### EPA 3050B

### EPA 6010B

RunID:	ICP8_110419C	QC Batch:	72302	PrepDate:	4/18/2011	Analyst:	IL
Antimony	ND	2.0	mg/Kg	1	4/19/2011 11:03 AM		
Arsenic	4.7	1.0	mg/Kg	1	4/19/2011 11:03 AM		
Barium	100	1.0	mg/Kg	1	4/19/2011 11:03 AM		
Beryllium	ND	1.0	mg/Kg	1	4/19/2011 11:03 AM		
Cadmium	1.5	1.0	mg/Kg	1	4/19/2011 11:03 AM		
Chromium	14	1.0	mg/Kg	1	4/19/2011 11:03 AM		
Cobalt	4.5	1.0	mg/Kg	1	4/19/2011 11:03 AM		
Copper	23	2.0	mg/Kg	1	4/19/2011 11:03 AM		
Lead	160	1.0	mg/Kg	1	4/19/2011 11:03 AM		
Molybdenum	2.7	1.0	mg/Kg	1	4/19/2011 11:03 AM		
Nickel	28	1.0	mg/Kg	1	4/19/2011 11:03 AM		
Selenium	ND	1.0	mg/Kg	1	4/19/2011 11:03 AM		
Silver	ND	1.0	mg/Kg	1	4/19/2011 11:03 AM		
Thallium	ND	1.0	mg/Kg	1	4/19/2011 11:03 AM		
Vanadium	18	1.0	mg/Kg	1	4/19/2011 11:03 AM		
Zinc	120	1.0	mg/Kg	1	4/19/2011 11:03 AM		

## MERCURY BY COLD VAPOR TECHNIQUE

### EPA 7471A

RunID:	AA1_110418B	QC Batch:	72323	PrepDate:	4/18/2011	Analyst:	VV
Mercury	ND	0.10	mg/Kg	1	4/18/2011 04:43 PM		

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out  
E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Client Sample ID:</b>	11-10-1.5
<b>Lab Order:</b>	117382	<b>Collection Date:</b>	4/14/2011 9:35:00 AM
<b>Project:</b>	SCL 17 Storm Damage, E8560-06-17	<b>Matrix:</b>	SOIL
<b>Lab ID:</b>	117382-033A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## GASOLINE RANGE ORGANICS BY GC/FID

### EPA 8015B(M)

RunID: GC2_110418C	QC Batch: E11VS160	PrepDate:	Analyst: TP		
GRO	ND	1.0	mg/Kg	1	4/19/2011 02:08 AM
Surr: Bromofluorobenzene (FID)	104	62-153	%REC	1	4/19/2011 02:08 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Client Sample ID:</b>	11-10-4.0
<b>Lab Order:</b>	117382	<b>Collection Date:</b>	4/14/2011 9:40:00 AM
<b>Project:</b>	SCL 17 Storm Damage, E8560-06-17	<b>Matrix:</b>	SOIL
<b>Lab ID:</b>	117382-034A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC/FID</b>						
	<b>EPA 3550B</b>		<b>EPA 8015B(M)</b>			
RunID: GC16_110419A	QC Batch: 72338			PrepDate: 4/18/2011		Analyst: CBR
DRO	3.6	1.0		mg/Kg	1	4/19/2011 11:12 AM
Surr: p-Terphenyl	88.4	30-128		%REC	1	4/19/2011 11:12 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.

**Client Sample ID:** 11-11-0.5

**Lab Order:** 117382

**Collection Date:** 4/13/2011 11:23:00 AM

**Project:** SCL 17 Storm Damage, E8560-06-17

**Matrix:** SOIL

**Lab ID:** 117382-035A

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## ICP METALS

### EPA 3050B

### EPA 6010B

RunID:	ICP8_110419C	QC Batch:	72302	PrepDate:	4/18/2011	Analyst:	IL
Antimony	ND	2.0	mg/Kg	1	4/19/2011 11:06 AM		
Arsenic	5.4	1.0	mg/Kg	1	4/19/2011 11:06 AM		
Barium	76	1.0	mg/Kg	1	4/19/2011 11:06 AM		
Beryllium	ND	1.0	mg/Kg	1	4/19/2011 11:06 AM		
Cadmium	ND	1.0	mg/Kg	1	4/19/2011 11:06 AM		
Chromium	17	1.0	mg/Kg	1	4/19/2011 11:06 AM		
Cobalt	1.9	1.0	mg/Kg	1	4/19/2011 11:06 AM		
Copper	15	2.0	mg/Kg	1	4/19/2011 11:06 AM		
Lead	5.9	1.0	mg/Kg	1	4/19/2011 11:06 AM		
Molybdenum	2.5	1.0	mg/Kg	1	4/19/2011 11:06 AM		
Nickel	12	1.0	mg/Kg	1	4/19/2011 11:06 AM		
Selenium	ND	1.0	mg/Kg	1	4/19/2011 11:06 AM		
Silver	ND	1.0	mg/Kg	1	4/19/2011 11:06 AM		
Thallium	ND	1.0	mg/Kg	1	4/19/2011 11:06 AM		
Vanadium	14	1.0	mg/Kg	1	4/19/2011 11:06 AM		
Zinc	41	1.0	mg/Kg	1	4/19/2011 11:06 AM		

## MERCURY BY COLD VAPOR TECHNIQUE

### EPA 7471A

RunID:	AA5_110418B	QC Batch:	72324	PrepDate:	4/18/2011	Analyst:	VV
Mercury	ND	0.10	mg/Kg	1	4/18/2011 04:46 PM		

**Qualifiers:**

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.

**Client Sample ID:** 11-11-1.5

**Lab Order:** 117382

**Collection Date:** 4/13/2011 11:34:00 AM

**Project:** SCL 17 Storm Damage, E8560-06-17

**Matrix:** SOIL

**Lab ID:** 117382-036A

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**GASOLINE RANGE ORGANICS BY GC/FID**

**EPA 8015B(M)**

RunID: GC2_110418C	QC Batch: E11VS160	PrepDate:	Analyst: TP		
GRO	ND	1.0	mg/Kg	1	4/19/2011 02:24 AM
Surr: Bromofluorobenzene (FID)	101	62-153	%REC	1	4/19/2011 02:24 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.

**Client Sample ID:** 11-11-5.0

**Lab Order:** 117382

**Collection Date:** 4/13/2011 11:49:00 AM

**Project:** SCL 17 Storm Damage, E8560-06-17

**Matrix:** SOIL

**Lab ID:** 117382-038A

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## DIESEL RANGE ORGANICS BY GC/FID

### EPA 3550B

### EPA 8015B(M)

RunID: GC16_110418B	QC Batch: 72332				PrepDate: 4/18/2011	Analyst: CBR
DRO	19	1.0		mg/Kg	1	4/19/2011 12:24 AM
Surr: p-Terphenyl	62.8	30-128		%REC	1	4/19/2011 12:24 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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**ANALYTICAL RESULTS**  
 Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.  
**Lab Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17  
**Lab ID:** 117382-039A

**Client Sample ID:** 11-12-0.5  
**Collection Date:** 4/13/2011 12:02:00 PM  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**ICP METALS**

**EPA 3050B**

**EPA 6010B**

RunID:	ICP8_110419C	QC Batch:	72302	PrepDate:	4/18/2011	Analyst:	IL
Antimony	ND	2.0	mg/Kg	1	4/19/2011 11:16 AM		
Arsenic	8.6	1.0	mg/Kg	1	4/19/2011 11:16 AM		
Barium	90	1.0	mg/Kg	1	4/19/2011 11:16 AM		
Beryllium	ND	1.0	mg/Kg	1	4/19/2011 11:16 AM		
Cadmium	1.1	1.0	mg/Kg	1	4/19/2011 11:16 AM		
Chromium	14	1.0	mg/Kg	1	4/19/2011 11:16 AM		
Cobalt	3.9	1.0	mg/Kg	1	4/19/2011 11:16 AM		
Copper	18	2.0	mg/Kg	1	4/19/2011 11:16 AM		
Lead	7.7	1.0	mg/Kg	1	4/19/2011 11:16 AM		
Molybdenum	4.2	1.0	mg/Kg	1	4/19/2011 11:16 AM		
Nickel	20	1.0	mg/Kg	1	4/19/2011 11:16 AM		
Selenium	ND	1.0	mg/Kg	1	4/19/2011 11:16 AM		
Silver	ND	1.0	mg/Kg	1	4/19/2011 11:16 AM		
Thallium	ND	1.0	mg/Kg	1	4/19/2011 11:16 AM		
Vanadium	14	1.0	mg/Kg	1	4/19/2011 11:16 AM		
Zinc	65	1.0	mg/Kg	1	4/19/2011 11:16 AM		

**MERCURY BY COLD VAPOR TECHNIQUE**

**EPA 7471A**

RunID:	AA5_110418B	QC Batch:	72324	PrepDate:	4/18/2011	Analyst:	VV
Mercury	ND	0.10	mg/Kg	1	4/18/2011 04:48 PM		

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range  
 H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
 S Spike/Surrogate outside of limits due to matrix interference Results are wet unless otherwise specified  
 DO Surrogate Diluted Out



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

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<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Client Sample ID:</b>	11-12-1.5
<b>Lab Order:</b>	117382	<b>Collection Date:</b>	4/13/2011 12:05:00 PM
<b>Project:</b>	SCL 17 Storm Damage, E8560-06-17	<b>Matrix:</b>	SOIL
<b>Lab ID:</b>	117382-040A		

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Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## GASOLINE RANGE ORGANICS BY GC/FID

### EPA 8015B(M)

RunID: GC2_110418C	QC Batch: E11VS160	PrepDate:	Analyst: TP		
GRO	ND	1.0	mg/Kg	1	4/19/2011 02:40 AM
Surr: Bromofluorobenzene (FID)	101	62-153	%REC	1	4/19/2011 02:40 AM

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<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.

**Client Sample ID:** 11-12-5.0

**Lab Order:** 117382

**Collection Date:** 4/13/2011 12:17:00 PM

**Project:** SCL 17 Storm Damage, E8560-06-17

**Matrix:** SOIL

**Lab ID:** 117382-042A

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**DIESEL RANGE ORGANICS BY GC/FID**

**EPA 3550B**

**EPA 8015B(M)**

RunID: GC16_110418B	QC Batch: 72332				PrepDate: 4/18/2011	Analyst: CBR
DRO	15	1.0		mg/Kg	1	4/19/2011 12:14 AM
Surr: p-Terphenyl	67.3	30-128		%REC	1	4/19/2011 12:14 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.  
**Lab Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17  
**Lab ID:** 117382-043A

**Client Sample ID:** 11-13-0.5  
**Collection Date:** 4/13/2011 12:55:00 PM  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## ICP METALS

### EPA 3050B

### EPA 6010B

RunID:	ICP8_110419C	QC Batch:	72302	PrepDate:	4/18/2011	Analyst:	IL
Antimony	ND	2.0	mg/Kg	1	4/19/2011 11:19 AM		
Arsenic	4.6	1.0	mg/Kg	1	4/19/2011 11:19 AM		
Barium	210	1.0	mg/Kg	1	4/19/2011 11:19 AM		
Beryllium	ND	1.0	mg/Kg	1	4/19/2011 11:19 AM		
Cadmium	1.2	1.0	mg/Kg	1	4/19/2011 11:19 AM		
Chromium	20	1.0	mg/Kg	1	4/19/2011 11:19 AM		
Cobalt	11	1.0	mg/Kg	1	4/19/2011 11:19 AM		
Copper	35	2.0	mg/Kg	1	4/19/2011 11:19 AM		
Lead	19	1.0	mg/Kg	1	4/19/2011 11:19 AM		
Molybdenum	ND	1.0	mg/Kg	1	4/19/2011 11:19 AM		
Nickel	53	1.0	mg/Kg	1	4/19/2011 11:19 AM		
Selenium	ND	1.0	mg/Kg	1	4/19/2011 11:19 AM		
Silver	ND	1.0	mg/Kg	1	4/19/2011 11:19 AM		
Thallium	ND	1.0	mg/Kg	1	4/19/2011 11:19 AM		
Vanadium	21	1.0	mg/Kg	1	4/19/2011 11:19 AM		
Zinc	140	1.0	mg/Kg	1	4/19/2011 11:19 AM		

## MERCURY BY COLD VAPOR TECHNIQUE

### EPA 7471A

RunID:	AA5_110418B	QC Batch:	72324	PrepDate:	4/18/2011	Analyst:	VV
Mercury	ND	0.10	mg/Kg	1	4/18/2011 04:50 PM		

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out  
E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.

**Client Sample ID:** 11-13-1.5

**Lab Order:** 117382

**Collection Date:** 4/13/2011 12:59:00 PM

**Project:** SCL 17 Storm Damage, E8560-06-17

**Matrix:** SOIL

**Lab ID:** 117382-044A

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**GASOLINE RANGE ORGANICS BY GC/FID**

**EPA 8015B(M)**

RunID: GC2_110418A	QC Batch: E11VS158	PrepDate:	Analyst: TP		
GRO	ND	1.0	mg/Kg	1	4/18/2011 04:03 PM
Surr: Bromofluorobenzene (FID)	106	62-153	%REC	1	4/18/2011 04:03 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Client Sample ID:</b>	11-13-3.0
<b>Lab Order:</b>	117382	<b>Collection Date:</b>	4/13/2011 1:05:00 PM
<b>Project:</b>	SCL 17 Storm Damage, E8560-06-17	<b>Matrix:</b>	SOIL
<b>Lab ID:</b>	117382-045A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC/FID</b>						
	<b>EPA 3550B</b>		<b>EPA 8015B(M)</b>			
RunID: GC16_110418B	QC Batch: 72332			PrepDate: 4/18/2011		Analyst: CBR
DRO	ND	1.0		mg/Kg	1	4/18/2011 11:45 PM
Surr: p-Terphenyl	63.1	30-128		%REC	1	4/18/2011 11:45 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.  
**Lab Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17  
**Lab ID:** 117382-046A

**Client Sample ID:** 11-14-0.5  
**Collection Date:** 4/13/2011 1:10:00 PM  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## ICP METALS

### EPA 3050B

### EPA 6010B

RunID:	ICP8_110419C	QC Batch:	72302	PrepDate:	4/18/2011	Analyst:	IL
Antimony	ND	2.0	mg/Kg	1	4/19/2011 11:22 AM		
Arsenic	3.9	1.0	mg/Kg	1	4/19/2011 11:22 AM		
Barium	180	1.0	mg/Kg	1	4/19/2011 11:22 AM		
Beryllium	ND	1.0	mg/Kg	1	4/19/2011 11:22 AM		
Cadmium	ND	1.0	mg/Kg	1	4/19/2011 11:22 AM		
Chromium	20	1.0	mg/Kg	1	4/19/2011 11:22 AM		
Cobalt	7.8	1.0	mg/Kg	1	4/19/2011 11:22 AM		
Copper	28	2.0	mg/Kg	1	4/19/2011 11:22 AM		
Lead	23	1.0	mg/Kg	1	4/19/2011 11:22 AM		
Molybdenum	ND	1.0	mg/Kg	1	4/19/2011 11:22 AM		
Nickel	44	1.0	mg/Kg	1	4/19/2011 11:22 AM		
Selenium	ND	1.0	mg/Kg	1	4/19/2011 11:22 AM		
Silver	ND	1.0	mg/Kg	1	4/19/2011 11:22 AM		
Thallium	ND	1.0	mg/Kg	1	4/19/2011 11:22 AM		
Vanadium	19	1.0	mg/Kg	1	4/19/2011 11:22 AM		
Zinc	87	1.0	mg/Kg	1	4/19/2011 11:22 AM		

## MERCURY BY COLD VAPOR TECHNIQUE

### EPA 7471A

RunID:	AA5_110418B	QC Batch:	72324	PrepDate:	4/18/2011	Analyst:	VV
Mercury	ND	0.10	mg/Kg	1	4/18/2011 04:52 PM		

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range  
H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
S Spike/Surrogate outside of limits due to matrix interference Results are wet unless otherwise specified  
DO Surrogate Diluted Out



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**ANALYTICAL RESULTS**  
Print Date: 19-Apr-11

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<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Client Sample ID:</b>	11-14-1.5
<b>Lab Order:</b>	117382	<b>Collection Date:</b>	4/13/2011 1:14:00 PM
<b>Project:</b>	SCL 17 Storm Damage, E8560-06-17	<b>Matrix:</b>	SOIL
<b>Lab ID:</b>	117382-047A		

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<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
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**GASOLINE RANGE ORGANICS BY GC/FID**

**EPA 8015B(M)**

RunID: GC2_110418C	QC Batch: E11VS160	PrepDate:	Analyst: TP		
GRO	ND	1.0	mg/Kg	1	4/19/2011 02:56 AM
Surr: Bromofluorobenzene (FID)	107	62-153	%REC	1	4/19/2011 02:56 AM

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<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.

**Client Sample ID:** 11-14-3.0

**Lab Order:** 117382

**Collection Date:** 4/13/2011 1:16:00 PM

**Project:** SCL 17 Storm Damage, E8560-06-17

**Matrix:** SOIL

**Lab ID:** 117382-048A

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**DIESEL RANGE ORGANICS BY GC/FID**

**EPA 3550B**

**EPA 8015B(M)**

RunID: GC16_110418B	QC Batch: 72332	PrepDate: 4/18/2011	Analyst: CBR
DRO	ND	1.0	mg/Kg
Surr: p-Terphenyl	55.1	30-128	%REC

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.  
**Lab Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17  
**Lab ID:** 117382-049A

**Client Sample ID:** 11-15-0.5  
**Collection Date:** 4/13/2011 1:25:00 PM  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## ICP METALS

### EPA 3050B

### EPA 6010B

RunID:	ICP8_110419C	QC Batch:	72302	PrepDate:	4/18/2011	Analyst:	IL
Antimony	ND	2.0	mg/Kg	1	4/19/2011 11:25 AM		
Arsenic	2.9	1.0	mg/Kg	1	4/19/2011 11:25 AM		
Barium	190	1.0	mg/Kg	1	4/19/2011 11:25 AM		
Beryllium	ND	1.0	mg/Kg	1	4/19/2011 11:25 AM		
Cadmium	1.3	1.0	mg/Kg	1	4/19/2011 11:25 AM		
Chromium	24	1.0	mg/Kg	1	4/19/2011 11:25 AM		
Cobalt	9.0	1.0	mg/Kg	1	4/19/2011 11:25 AM		
Copper	57	2.0	mg/Kg	1	4/19/2011 11:25 AM		
Lead	38	1.0	mg/Kg	1	4/19/2011 11:25 AM		
Molybdenum	1.2	1.0	mg/Kg	1	4/19/2011 11:25 AM		
Nickel	47	1.0	mg/Kg	1	4/19/2011 11:25 AM		
Selenium	ND	1.0	mg/Kg	1	4/19/2011 11:25 AM		
Silver	ND	1.0	mg/Kg	1	4/19/2011 11:25 AM		
Thallium	ND	1.0	mg/Kg	1	4/19/2011 11:25 AM		
Vanadium	25	1.0	mg/Kg	1	4/19/2011 11:25 AM		
Zinc	260	1.0	mg/Kg	1	4/19/2011 11:25 AM		

## MERCURY BY COLD VAPOR TECHNIQUE

### EPA 7471A

RunID:	AA5_110418B	QC Batch:	72324	PrepDate:	4/18/2011	Analyst:	VV
Mercury	ND	0.10	mg/Kg	1	4/18/2011 04:58 PM		

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out  
E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified



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**ANALYTICAL RESULTS**

Print Date: 19-Apr-11

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Client Sample ID:</b>	11-15-1.5
<b>Lab Order:</b>	117382	<b>Collection Date:</b>	4/13/2011 1:30:00 PM
<b>Project:</b>	SCL 17 Storm Damage, E8560-06-17	<b>Matrix:</b>	SOIL
<b>Lab ID:</b>	117382-050A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**GASOLINE RANGE ORGANICS BY GC/FID**

**EPA 8015B(M)**

RunID: GC2_110418C	QC Batch: E11VS160	PrepDate:	Analyst: TP		
GRO	ND	1.0	mg/Kg	1	4/19/2011 03:11 AM
Surr: Bromofluorobenzene (FID)	105	62-153	%REC	1	4/19/2011 03:11 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.

**Client Sample ID:** 11-15-3.0

**Lab Order:** 117382

**Collection Date:** 4/13/2011 1:33:00 PM

**Project:** SCL 17 Storm Damage, E8560-06-17

**Matrix:** SOIL

**Lab ID:** 117382-051A

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**DIESEL RANGE ORGANICS BY GC/FID**

**EPA 3550B**

**EPA 8015B(M)**

RunID: GC16_110418B	QC Batch: 72332				PrepDate: 4/18/2011	Analyst: CBR
DRO	93	6.0		mg/Kg	1	4/19/2011 12:00 PM
Surr: p-Terphenyl	40.4	30-128		%REC	1	4/19/2011 12:00 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.  
**Lab Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17  
**Lab ID:** 117382-052A

**Client Sample ID:** 11-16-0.5  
**Collection Date:** 4/14/2011 12:52:00 PM  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## ICP METALS

### EPA 3050B

### EPA 6010B

RunID:	ICP8_110419C	QC Batch:	72302	PrepDate:	4/18/2011	Analyst:	IL
Antimony	ND	2.0	mg/Kg	1	4/19/2011 11:29 AM		
Arsenic	ND	1.0	mg/Kg	1	4/19/2011 11:29 AM		
Barium	83	1.0	mg/Kg	1	4/19/2011 11:29 AM		
Beryllium	ND	1.0	mg/Kg	1	4/19/2011 11:29 AM		
Cadmium	ND	1.0	mg/Kg	1	4/19/2011 11:29 AM		
Chromium	79	1.0	mg/Kg	1	4/19/2011 11:29 AM		
Cobalt	18	1.0	mg/Kg	1	4/19/2011 11:29 AM		
Copper	19	2.0	mg/Kg	1	4/19/2011 11:29 AM		
Lead	8.3	1.0	mg/Kg	1	4/19/2011 11:29 AM		
Molybdenum	ND	1.0	mg/Kg	1	4/19/2011 11:29 AM		
Nickel	110	1.0	mg/Kg	1	4/19/2011 11:29 AM		
Selenium	ND	1.0	mg/Kg	1	4/19/2011 11:29 AM		
Silver	ND	1.0	mg/Kg	1	4/19/2011 11:29 AM		
Thallium	ND	1.0	mg/Kg	1	4/19/2011 11:29 AM		
Vanadium	49	1.0	mg/Kg	1	4/19/2011 11:29 AM		
Zinc	56	1.0	mg/Kg	1	4/19/2011 11:29 AM		

## MERCURY BY COLD VAPOR TECHNIQUE

### EPA 7471A

RunID:	AA5_110418B	QC Batch:	72324	PrepDate:	4/18/2011	Analyst:	VV
Mercury	ND	0.10	mg/Kg	1	4/18/2011 04:59 PM		

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out  
E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.

**Client Sample ID:** 11-16-1.5

**Lab Order:** 117382

**Collection Date:** 4/14/2011 12:59:00 PM

**Project:** SCL 17 Storm Damage, E8560-06-17

**Matrix:** SOIL

**Lab ID:** 117382-053A

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## GASOLINE RANGE ORGANICS BY GC/FID

### EPA 8015B(M)

RunID: GC2_110418C	QC Batch: E11VS160	PrepDate:	Analyst: TP		
GRO	ND	1.0	mg/Kg	1	4/19/2011 03:43 AM
Surr: Bromofluorobenzene (FID)	106	62-153	%REC	1	4/19/2011 03:43 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.

**Client Sample ID:** 11-16-3.0

**Lab Order:** 117382

**Collection Date:** 4/14/2011 1:01:00 PM

**Project:** SCL 17 Storm Damage, E8560-06-17

**Matrix:** SOIL

**Lab ID:** 117382-054A

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**DIESEL RANGE ORGANICS BY GC/FID**

**EPA 3550B**

**EPA 8015B(M)**

RunID: GC16_110419A	QC Batch: 72338				PrepDate: 4/18/2011	Analyst: <b>CBR</b>
DRO	ND	1.0		mg/Kg	1	4/19/2011 11:50 AM
Surr: p-Terphenyl	53.9	30-128		%REC	1	4/19/2011 11:50 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.  
**Lab Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17  
**Lab ID:** 117382-055A

**Client Sample ID:** 11-17-0.5  
**Collection Date:** 4/14/2011 1:05:00 PM  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## ICP METALS

### EPA 3050B

### EPA 6010B

RunID:	ICP8_110419C	QC Batch:	72302	PrepDate:	4/18/2011	Analyst:	IL
Antimony	4.6	2.0	mg/Kg	1	4/19/2011 11:32 AM		
Arsenic	ND	1.0	mg/Kg	1	4/19/2011 11:32 AM		
Barium	98	1.0	mg/Kg	1	4/19/2011 11:32 AM		
Beryllium	ND	1.0	mg/Kg	1	4/19/2011 11:32 AM		
Cadmium	ND	1.0	mg/Kg	1	4/19/2011 11:32 AM		
Chromium	250	1.0	mg/Kg	1	4/19/2011 11:32 AM		
Cobalt	33	1.0	mg/Kg	1	4/19/2011 11:32 AM		
Copper	24	2.0	mg/Kg	1	4/19/2011 11:32 AM		
Lead	6.6	1.0	mg/Kg	1	4/19/2011 11:32 AM		
Molybdenum	ND	1.0	mg/Kg	1	4/19/2011 11:32 AM		
Nickel	480	1.0	mg/Kg	1	4/19/2011 11:32 AM		
Selenium	ND	1.0	mg/Kg	1	4/19/2011 11:32 AM		
Silver	ND	1.0	mg/Kg	1	4/19/2011 11:32 AM		
Thallium	ND	1.0	mg/Kg	1	4/19/2011 11:32 AM		
Vanadium	54	1.0	mg/Kg	1	4/19/2011 11:32 AM		
Zinc	46	1.0	mg/Kg	1	4/19/2011 11:32 AM		

## MERCURY BY COLD VAPOR TECHNIQUE

### EPA 7471A

RunID:	AA5_110418B	QC Batch:	72324	PrepDate:	4/18/2011	Analyst:	VV
Mercury	ND	0.10	mg/Kg	1	4/18/2011 05:01 PM		

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out  
E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified



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**ANALYTICAL RESULTS**

Print Date: 19-Apr-11

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Client Sample ID:</b>	11-17-1.5
<b>Lab Order:</b>	117382	<b>Collection Date:</b>	4/14/2011 1:07:00 PM
<b>Project:</b>	SCL 17 Storm Damage, E8560-06-17	<b>Matrix:</b>	SOIL
<b>Lab ID:</b>	117382-056A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**GASOLINE RANGE ORGANICS BY GC/FID**

**EPA 8015B(M)**

RunID: GC2_110418C	QC Batch: E11VS160	PrepDate:	Analyst: TP		
GRO	ND	1.0	mg/Kg	1	4/19/2011 03:59 AM
Surr: Bromofluorobenzene (FID)	107	62-153	%REC	1	4/19/2011 03:59 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.  
**Lab Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17  
**Lab ID:** 117382-057A

**Client Sample ID:** 11-17-3.0  
**Collection Date:** 4/14/2011 1:13:00 PM  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC/FID</b>						
	<b>EPA 3550B</b>		<b>EPA 8015B(M)</b>			
RunID: GC16_110419A	QC Batch: 72338			PrepDate: 4/18/2011		Analyst: CBR
DRO	ND	1.0		mg/Kg	1	4/19/2011 11:31 AM
Surr: p-Terphenyl	83.6	30-128		%REC	1	4/19/2011 11:31 AM

**Qualifiers:**

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

**CLIENT:** Geocon Consultants, Inc.  
**Lab Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17  
**Lab ID:** 117382-058A

**Client Sample ID:** 11-18-0.5  
**Collection Date:** 4/14/2011 1:20:00 PM  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## ICP METALS

### EPA 3050B

### EPA 6010B

RunID:	ICP8_110419C	QC Batch:	72302	PrepDate:	4/18/2011	Analyst:	IL
Antimony	2.4	2.0	mg/Kg	1	4/19/2011 11:37 AM		
Arsenic	ND	1.0	mg/Kg	1	4/19/2011 11:37 AM		
Barium	68	1.0	mg/Kg	1	4/19/2011 11:37 AM		
Beryllium	ND	1.0	mg/Kg	1	4/19/2011 11:37 AM		
Cadmium	ND	1.0	mg/Kg	1	4/19/2011 11:37 AM		
Chromium	130	1.0	mg/Kg	1	4/19/2011 11:37 AM		
Cobalt	22	1.0	mg/Kg	1	4/19/2011 11:37 AM		
Copper	33	2.0	mg/Kg	1	4/19/2011 11:37 AM		
Lead	21	1.0	mg/Kg	1	4/19/2011 11:37 AM		
Molybdenum	ND	1.0	mg/Kg	1	4/19/2011 11:37 AM		
Nickel	190	1.0	mg/Kg	1	4/19/2011 11:37 AM		
Selenium	ND	1.0	mg/Kg	1	4/19/2011 11:37 AM		
Silver	ND	1.0	mg/Kg	1	4/19/2011 11:37 AM		
Thallium	ND	1.0	mg/Kg	1	4/19/2011 11:37 AM		
Vanadium	60	1.0	mg/Kg	1	4/19/2011 11:37 AM		
Zinc	91	1.0	mg/Kg	1	4/19/2011 11:37 AM		

## MERCURY BY COLD VAPOR TECHNIQUE

### EPA 7471A

RunID:	AA5_110418B	QC Batch:	72324	PrepDate:	4/18/2011	Analyst:	VV
Mercury	ND	0.10	mg/Kg	1	4/18/2011 05:03 PM		

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out  
E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Client Sample ID:</b>	11-18-1.5
<b>Lab Order:</b>	117382	<b>Collection Date:</b>	4/14/2011 1:25:00 PM
<b>Project:</b>	SCL 17 Storm Damage, E8560-06-17	<b>Matrix:</b>	SOIL
<b>Lab ID:</b>	117382-059A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## GASOLINE RANGE ORGANICS BY GC/FID

### EPA 8015B(M)

RunID: GC2_110418C	QC Batch: E11VS160	PrepDate:	Analyst: TP		
GRO	ND	1.0	mg/Kg	1	4/19/2011 04:15 AM
Surr: Bromofluorobenzene (FID)	92.1	62-153	%REC	1	4/19/2011 04:15 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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# ANALYTICAL RESULTS

Print Date: 19-Apr-11

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Client Sample ID:</b>	11-18-3.0
<b>Lab Order:</b>	117382	<b>Collection Date:</b>	4/14/2011 1:30:00 PM
<b>Project:</b>	SCL 17 Storm Damage, E8560-06-17	<b>Matrix:</b>	SOIL
<b>Lab ID:</b>	117382-060A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC/FID</b>						
	<b>EPA 3550B</b>		<b>EPA 8015B(M)</b>			
RunID: GC16_110419A	QC Batch: 72338			PrepDate: 4/18/2011		Analyst: CBR
DRO	ND	1.0		mg/Kg	1	4/19/2011 10:44 AM
Surr: p-Terphenyl	80.8	30-128		%REC	1	4/19/2011 10:44 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

**ANALYTICAL QC SUMMARY REPORT**

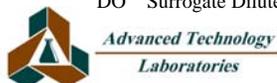
**TestCode: 6010\_S**

Sample ID: <b>MB-72301</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132153</b>						
Client ID: <b>PBS</b>	Batch ID: <b>72301</b>	TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2152891</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	2.0									
Arsenic	ND	1.0									
Barium	ND	1.0									
Beryllium	ND	1.0									
Cadmium	ND	1.0									
Chromium	ND	1.0									
Cobalt	ND	1.0									
Copper	ND	2.0									
Lead	ND	1.0									
Molybdenum	ND	1.0									
Nickel	ND	1.0									
Selenium	ND	1.0									
Silver	ND	1.0									
Thallium	ND	1.0									
Vanadium	ND	1.0									
Zinc	ND	1.0									

Sample ID: <b>LCS-72301</b>	SampType: <b>LCS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132153</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>72301</b>	TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2152892</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	50.412	2.0	50.00	0	101	80	120				
Arsenic	51.141	1.0	50.00	0	102	80	120				
Barium	50.777	1.0	50.00	0	102	80	120				
Beryllium	50.992	1.0	50.00	0	102	80	120				
Cadmium	51.376	1.0	50.00	0	103	80	120				
Chromium	50.575	1.0	50.00	0	101	80	120				
Cobalt	50.798	1.0	50.00	0	102	80	120				

**Qualifiers:**

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

## ANALYTICAL QC SUMMARY REPORT

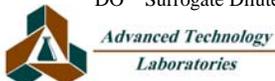
**TestCode: 6010\_S**

Sample ID: <b>LCS-72301</b>	SampType: <b>LCS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132153</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>72301</b>	TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2152892</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	50.330	2.0	50.00	0	101	80	120				
Lead	51.103	1.0	50.00	0	102	80	120				
Molybdenum	50.716	1.0	50.00	0	101	80	120				
Nickel	50.764	1.0	50.00	0	102	80	120				
Selenium	51.367	1.0	50.00	0	103	80	120				
Silver	50.635	1.0	50.00	0	101	80	120				
Thallium	50.892	1.0	50.00	0	102	80	120				
Vanadium	50.836	1.0	50.00	0	102	80	120				
Zinc	51.550	1.0	50.00	0	103	80	120				

Sample ID: <b>117382-025A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132153</b>						
Client ID: <b>11-08-0.5</b>	Batch ID: <b>72301</b>	TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2152902</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	1.017	2.0						1.055	0	20	
Arsenic	6.442	1.0						9.506	38.4	20	R
Barium	82.884	1.0						93.23	11.7	20	
Beryllium	0.443	1.0						0.4468	0	20	
Cadmium	0.846	1.0						0.9352	0	20	
Chromium	40.852	1.0						37.26	9.20	20	
Cobalt	7.434	1.0						9.529	24.7	20	R
Copper	11.652	2.0						13.42	14.1	20	
Lead	269.965	1.0						294.2	8.58	20	
Molybdenum	0.840	1.0						1.185	0	20	
Nickel	26.546	1.0						26.77	0.847	20	
Selenium	ND	1.0						0	0	20	
Silver	ND	1.0						0	0	20	
Thallium	ND	1.0						0	0	20	
Vanadium	40.923	1.0						39.78	2.82	20	
Zinc	98.166	1.0						112.5	13.6	20	

**Qualifiers:**

- |   |  |  |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range       | H Holding times for preparation or analysis exceeded           |
| ND Not Detected at the Reporting Limit            | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out                          | Calculations are based on raw values   |  |



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

## ANALYTICAL QC SUMMARY REPORT

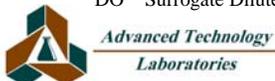
**TestCode: 6010\_S**

Sample ID: <b>117382-025A-MS</b>		SampType: <b>MS</b>		TestCode: <b>6010_S</b>		Units: <b>mg/Kg</b>		Prep Date: <b>4/18/2011</b>		RunNo: <b>132153</b>	
Client ID: <b>11-08-0.5</b>		Batch ID: <b>72301</b>		TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>4/19/2011</b>		SeqNo: <b>2152903</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	75.522	2.0	125.0	1.055	59.6	32	105				
Arsenic	96.996	1.0	125.0	9.506	70.0	49	106				
Barium	187.581	1.0	125.0	93.23	75.5	31	133				
Beryllium	96.204	1.0	125.0	0.4468	76.6	56	106				
Cadmium	91.745	1.0	125.0	0.9352	72.6	51	103				
Chromium	142.047	1.0	125.0	37.26	83.8	45	114				
Cobalt	101.165	1.0	125.0	9.529	73.3	52	106				
Copper	112.618	2.0	125.0	13.42	79.4	54	125				
Lead	304.292	1.0	125.0	294.2	8.09	34	126				S
Molybdenum	93.543	1.0	125.0	1.185	73.9	54	106				
Nickel	120.562	1.0	125.0	26.77	75.0	45	111				
Selenium	85.593	1.0	125.0	0	68.5	47	104				
Silver	94.613	1.0	125.0	0	75.7	56	112				
Thallium	87.984	1.0	125.0	0	70.4	46	101				
Vanadium	147.255	1.0	125.0	39.78	86.0	54	114				
Zinc	190.018	1.0	125.0	112.5	62.0	28	125				

Sample ID: <b>117382-025A-MSD</b>		SampType: <b>MSD</b>		TestCode: <b>6010_S</b>		Units: <b>mg/Kg</b>		Prep Date: <b>4/18/2011</b>		RunNo: <b>132153</b>	
Client ID: <b>11-08-0.5</b>		Batch ID: <b>72301</b>		TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>4/19/2011</b>		SeqNo: <b>2152904</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	82.710	2.0	125.0	1.055	65.3	32	105	75.52	9.09	20	
Arsenic	104.261	1.0	125.0	9.506	75.8	49	106	97.00	7.22	20	
Barium	185.514	1.0	125.0	93.23	73.8	31	133	187.6	1.11	20	
Beryllium	101.940	1.0	125.0	0.4468	81.2	56	106	96.20	5.79	20	
Cadmium	97.041	1.0	125.0	0.9352	76.9	51	103	91.74	5.61	20	
Chromium	138.495	1.0	125.0	37.26	81.0	45	114	142.0	2.53	20	
Cobalt	105.756	1.0	125.0	9.529	77.0	52	106	101.2	4.44	20	
Copper	118.891	2.0	125.0	13.42	84.4	54	125	112.6	5.42	20	
Lead	346.983	1.0	125.0	294.2	42.2	34	126	304.3	13.1	20	

**Qualifiers:**

- |   |  |  |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range       | H Holding times for preparation or analysis exceeded           |
| ND Not Detected at the Reporting Limit            | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out                          | Calculations are based on raw values   |  |



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**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

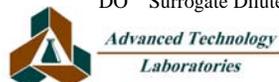
## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010\_S**

Sample ID: <b>117382-025A-MSD</b>		SampType: <b>MSD</b>		TestCode: <b>6010_S</b>		Units: <b>mg/Kg</b>		Prep Date: <b>4/18/2011</b>		RunNo: <b>132153</b>	
Client ID: <b>11-08-0.5</b>		Batch ID: <b>72301</b>		TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>4/19/2011</b>		SeqNo: <b>2152904</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	99.390	1.0	125.0	1.185	78.6	54	106	93.54	6.06	20	
Nickel	120.661	1.0	125.0	26.77	75.1	45	111	120.6	0.0820	20	
Selenium	90.384	1.0	125.0	0	72.3	47	104	85.59	5.45	20	
Silver	100.309	1.0	125.0	0	80.2	56	112	94.61	5.85	20	
Thallium	94.020	1.0	125.0	0	75.2	46	101	87.98	6.63	20	
Vanadium	148.072	1.0	125.0	39.78	86.6	54	114	147.3	0.553	20	
Zinc	198.796	1.0	125.0	112.5	69.1	28	125	190.0	4.52	20	

**Qualifiers:**

- |   |  |  |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range       | H Holding times for preparation or analysis exceeded           |
| ND Not Detected at the Reporting Limit            | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out                          | Calculations are based on raw values   |  |



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**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

## ANALYTICAL QC SUMMARY REPORT

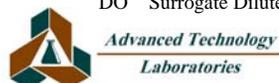
**TestCode: 6010\_S**

Sample ID: <b>MB-72302</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132161</b>						
Client ID: <b>PBS</b>	Batch ID: <b>72302</b>	TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2153071</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	2.0									
Arsenic	ND	1.0									
Barium	ND	1.0									
Beryllium	ND	1.0									
Cadmium	ND	1.0									
Chromium	ND	1.0									
Cobalt	ND	1.0									
Copper	ND	2.0									
Lead	ND	1.0									
Molybdenum	ND	1.0									
Nickel	ND	1.0									
Selenium	ND	1.0									
Silver	ND	1.0									
Thallium	ND	1.0									
Vanadium	ND	1.0									
Zinc	ND	1.0									

Sample ID: <b>LCS-72302</b>	SampType: <b>LCS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132161</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>72302</b>	TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2153072</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	47.572	2.0	50.00	0	95.1	80	120				
Arsenic	46.311	1.0	50.00	0	92.6	80	120				
Barium	49.155	1.0	50.00	0	98.3	80	120				
Beryllium	49.362	1.0	50.00	0	98.7	80	120				
Cadmium	48.266	1.0	50.00	0	96.5	80	120				
Chromium	44.660	1.0	50.00	0	89.3	80	120				
Cobalt	47.849	1.0	50.00	0	95.7	80	120				
Copper	47.971	2.0	50.00	0	95.9	80	120				
Lead	47.734	1.0	50.00	0	95.5	80	120				

**Qualifiers:**

- |   |  |  |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range       | H Holding times for preparation or analysis exceeded           |
| ND Not Detected at the Reporting Limit            | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out                          | Calculations are based on raw values   |  |



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

## ANALYTICAL QC SUMMARY REPORT

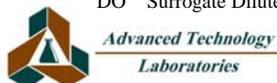
**TestCode: 6010\_S**

Sample ID: <b>LCS-72302</b>	SampType: <b>LCS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132161</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>72302</b>	TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2153072</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	48.900	1.0	50.00	0	97.8	80	120				
Nickel	48.532	1.0	50.00	0	97.1	80	120				
Selenium	43.808	1.0	50.00	0	87.6	80	120				
Silver	42.652	1.0	50.00	0	85.3	80	120				
Thallium	45.894	1.0	50.00	0	91.8	80	120				
Vanadium	48.568	1.0	50.00	0	97.1	80	120				
Zinc	48.049	1.0	50.00	0	96.1	80	120				

Sample ID: <b>117382-058A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132161</b>						
Client ID: <b>11-18-0.5</b>	Batch ID: <b>72302</b>	TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2153083</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	1.706	2.0						2.387	0	20	
Arsenic	ND	1.0						0	0	20	
Barium	83.954	1.0						67.85	21.2	20	R
Beryllium	ND	1.0						0	0	20	
Cadmium	0.932	1.0						0.8513	0	20	
Chromium	90.973	1.0						133.4	37.8	20	R
Cobalt	19.738	1.0						22.10	11.3	20	
Copper	36.054	2.0						32.74	9.63	20	
Lead	31.285	1.0						21.11	38.8	20	R
Molybdenum	ND	1.0						0	0	20	
Nickel	114.130	1.0						190.5	50.1	20	R
Selenium	ND	1.0						0	0	20	
Silver	ND	1.0						0	0	20	
Thallium	ND	1.0						0	0	20	
Vanadium	59.989	1.0						59.62	0.612	20	
Zinc	115.977	1.0						91.48	23.6	20	R

**Qualifiers:**

- |   |  |  |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range       | H Holding times for preparation or analysis exceeded           |
| ND Not Detected at the Reporting Limit            | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out                          | Calculations are based on raw values   |  |



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

## ANALYTICAL QC SUMMARY REPORT

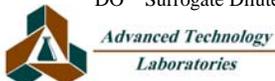
**TestCode: 6010\_S**

Sample ID: <b>117382-058A-MS</b>		SampType: <b>MS</b>		TestCode: <b>6010_S</b>		Units: <b>mg/Kg</b>		Prep Date: <b>4/18/2011</b>		RunNo: <b>132161</b>	
Client ID: <b>11-18-0.5</b>		Batch ID: <b>72302</b>		TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>4/19/2011</b>		SeqNo: <b>2153084</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	88.042	2.0	125.0	2.387	68.5	32	105				
Arsenic	91.967	1.0	125.0	0	73.6	49	106				
Barium	204.183	1.0	125.0	67.85	109	31	133				
Beryllium	99.821	1.0	125.0	0	79.9	56	106				
Cadmium	95.160	1.0	125.0	0.8513	75.4	51	103				
Chromium	213.712	1.0	125.0	133.4	64.2	45	114				
Cobalt	119.421	1.0	125.0	22.10	77.9	52	106				
Copper	152.351	2.0	125.0	32.74	95.7	54	125				
Lead	124.414	1.0	125.0	21.11	82.6	34	126				
Molybdenum	98.058	1.0	125.0	0	78.4	54	106				
Nickel	243.003	1.0	125.0	190.5	42.0	45	111				S
Selenium	92.187	1.0	125.0	0	73.7	47	104				
Silver	105.507	1.0	125.0	0	84.4	56	112				
Thallium	72.908	1.0	125.0	0	58.3	46	101				
Vanadium	176.029	1.0	125.0	59.62	93.1	54	114				
Zinc	218.147	1.0	125.0	91.48	101	28	125				

Sample ID: <b>117382-058A-MSD</b>		SampType: <b>MSD</b>		TestCode: <b>6010_S</b>		Units: <b>mg/Kg</b>		Prep Date: <b>4/18/2011</b>		RunNo: <b>132161</b>	
Client ID: <b>11-18-0.5</b>		Batch ID: <b>72302</b>		TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>4/19/2011</b>		SeqNo: <b>2153085</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	90.444	2.0	125.0	2.387	70.4	32	105	88.04	2.69	20	
Arsenic	95.550	1.0	125.0	0	76.4	49	106	91.97	3.82	20	
Barium	172.811	1.0	125.0	67.85	84.0	31	133	204.2	16.6	20	
Beryllium	102.837	1.0	125.0	0	82.3	56	106	99.82	2.98	20	
Cadmium	98.094	1.0	125.0	0.8513	77.8	51	103	95.16	3.04	20	
Chromium	211.424	1.0	125.0	133.4	62.4	45	114	213.7	1.08	20	
Cobalt	120.918	1.0	125.0	22.10	79.1	52	106	119.4	1.25	20	
Copper	159.027	2.0	125.0	32.74	101	54	125	152.4	4.29	20	
Lead	119.538	1.0	125.0	21.11	78.7	34	126	124.4	4.00	20	

**Qualifiers:**

- |   |  |  |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range       | H Holding times for preparation or analysis exceeded           |
| ND Not Detected at the Reporting Limit            | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out                          | Calculations are based on raw values   |  |



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

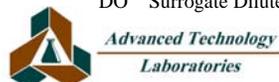
## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010\_S**

Sample ID: <b>117382-058A-MSD</b>		SampType: <b>MSD</b>		TestCode: <b>6010_S</b>		Units: <b>mg/Kg</b>		Prep Date: <b>4/18/2011</b>		RunNo: <b>132161</b>	
Client ID: <b>11-18-0.5</b>		Batch ID: <b>72302</b>		TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>4/19/2011</b>		SeqNo: <b>2153085</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	101.776	1.0	125.0	0	81.4	54	106	98.06	3.72	20	
Nickel	236.521	1.0	125.0	190.5	36.9	45	111	243.0	2.70	20	S
Selenium	96.582	1.0	125.0	0	77.3	47	104	92.19	4.66	20	
Silver	108.428	1.0	125.0	0	86.7	56	112	105.5	2.73	20	
Thallium	78.151	1.0	125.0	0	62.5	46	101	72.91	6.94	20	
Vanadium	170.840	1.0	125.0	59.62	89.0	54	114	176.0	2.99	20	
Zinc	197.842	1.0	125.0	91.48	85.1	28	125	218.1	9.76	20	

**Qualifiers:**

- |   |  |  |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range       | H Holding times for preparation or analysis exceeded           |
| ND Not Detected at the Reporting Limit            | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out                          | Calculations are based on raw values   |  |



3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562.989.4045 Fax: 562.989.4040



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010\_SPB**

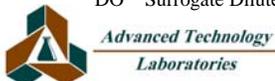
Sample ID: <b>117382-028A-DUP</b>		SampType: <b>DUP</b>		TestCode: <b>6010_SPB</b>		Units: <b>mg/Kg</b>		Prep Date: <b>4/18/2011</b>		RunNo: <b>132165</b>	
Client ID: <b>11-08-5.0</b>		Batch ID: <b>72333</b>		TestNo: <b>EPA 6010B EPA 3050M</b>				Analysis Date: <b>4/19/2011</b>		SeqNo: <b>2153156</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	5.959	5.0						7.217	19.1	20	

Sample ID: <b>117382-028A-MS</b>		SampType: <b>MS</b>		TestCode: <b>6010_SPB</b>		Units: <b>mg/Kg</b>		Prep Date: <b>4/18/2011</b>		RunNo: <b>132165</b>	
Client ID: <b>11-08-5.0</b>		Batch ID: <b>72333</b>		TestNo: <b>EPA 6010B EPA 3050M</b>				Analysis Date: <b>4/19/2011</b>		SeqNo: <b>2153157</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	220.390	5.0	250.0	7.217	85.3	34	126				

Sample ID: <b>117382-028A-MSD</b>		SampType: <b>MSD</b>		TestCode: <b>6010_SPB</b>		Units: <b>mg/Kg</b>		Prep Date: <b>4/18/2011</b>		RunNo: <b>132165</b>	
Client ID: <b>11-08-5.0</b>		Batch ID: <b>72333</b>		TestNo: <b>EPA 6010B EPA 3050M</b>				Analysis Date: <b>4/19/2011</b>		SeqNo: <b>2153158</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	216.688	5.0	250.0	7.217	83.8	34	126	220.4	1.69	20	

**Qualifiers:**

- |   |  |  |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range       | H Holding times for preparation or analysis exceeded           |
| ND Not Detected at the Reporting Limit            | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out                          | Calculations are based on raw values   |  |





**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010\_SPB**

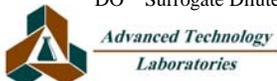
Sample ID: <b>117382-057A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132166</b>						
Client ID: <b>11-17-3.0</b>	Batch ID: <b>72334</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2153184</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	5.488	5.0						5.313	3.25	20	

Sample ID: <b>117382-057A-MS</b>	SampType: <b>MS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132166</b>						
Client ID: <b>11-17-3.0</b>	Batch ID: <b>72334</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2153185</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	183.627	5.0	250.0	5.313	71.3	34	126				

Sample ID: <b>117382-057A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132166</b>						
Client ID: <b>11-17-3.0</b>	Batch ID: <b>72334</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2153186</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	180.066	5.0	250.0	5.313	69.9	34	126	183.6	1.96	20	

**Qualifiers:**

- |   |  |  |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range       | H Holding times for preparation or analysis exceeded           |
| ND Not Detected at the Reporting Limit            | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out                          | Calculations are based on raw values   |  |





**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010\_WPB**

Sample ID: <b>MB-72341</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_WPB</b>	Units: <b>mg/L</b>	Prep Date: <b>4/19/2011</b>	RunNo: <b>132169</b>						
Client ID: <b>PBW</b>	Batch ID: <b>72341</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2153206</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25									

Sample ID: <b>LCS-72341</b>	SampType: <b>LCS</b>	TestCode: <b>6010_WPB</b>	Units: <b>mg/L</b>	Prep Date: <b>4/19/2011</b>	RunNo: <b>132169</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>72341</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2153207</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.958	0.25	1.000	0	95.8	85	115				

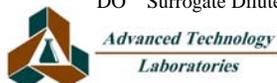
Sample ID: <b>117382-061A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_WPB</b>	Units: <b>mg/L</b>	Prep Date: <b>4/19/2011</b>	RunNo: <b>132169</b>						
Client ID: <b>RINSE BLANK</b>	Batch ID: <b>72341</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2153209</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25						0	0	20	

Sample ID: <b>117382-061A-MS</b>	SampType: <b>MS</b>	TestCode: <b>6010_WPB</b>	Units: <b>mg/L</b>	Prep Date: <b>4/19/2011</b>	RunNo: <b>132169</b>						
Client ID: <b>RINSE BLANK</b>	Batch ID: <b>72341</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2153210</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.348	0.25	2.500	0	93.9	80	118				

Sample ID: <b>117382-061A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_WPB</b>	Units: <b>mg/L</b>	Prep Date: <b>4/19/2011</b>	RunNo: <b>132169</b>						
Client ID: <b>RINSE BLANK</b>	Batch ID: <b>72341</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2153211</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.321	0.25	2.500	0	92.8	80	118	2.348	1.18	20	

**Qualifiers:**

- |   |  |  |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range       | H Holding times for preparation or analysis exceeded           |
| ND Not Detected at the Reporting Limit            | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out                          | Calculations are based on raw values   |  |



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 7471\_S**

Sample ID: <b>MB-72323</b>	SampType: <b>MBLK</b>	TestCode: <b>7471_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132147</b>						
Client ID: <b>PBS</b>	Batch ID: <b>72323</b>	TestNo: <b>EPA 7471A</b>		Analysis Date: <b>4/18/2011</b>	SeqNo: <b>2152722</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.10									

Sample ID: <b>LCS-72323</b>	SampType: <b>LCS</b>	TestCode: <b>7471_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132147</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>72323</b>	TestNo: <b>EPA 7471A</b>		Analysis Date: <b>4/18/2011</b>	SeqNo: <b>2152723</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.761	0.10	0.8300	0	91.6	80	120				

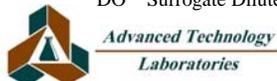
Sample ID: <b>117382-032A-MS</b>	SampType: <b>MS</b>	TestCode: <b>7471_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132147</b>						
Client ID: <b>11-10-0.5</b>	Batch ID: <b>72323</b>	TestNo: <b>EPA 7471A</b>		Analysis Date: <b>4/18/2011</b>	SeqNo: <b>2152724</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.798	0.10	0.8300	0.07829	86.7	70	130				

Sample ID: <b>117382-032A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>7471_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132147</b>						
Client ID: <b>11-10-0.5</b>	Batch ID: <b>72323</b>	TestNo: <b>EPA 7471A</b>		Analysis Date: <b>4/18/2011</b>	SeqNo: <b>2152725</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.801	0.10	0.8300	0.07829	87.1	70	130	0.7981	0.418	20	

Sample ID: <b>117382-032A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>7471_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132147</b>						
Client ID: <b>11-10-0.5</b>	Batch ID: <b>72323</b>	TestNo: <b>EPA 7471A</b>		Analysis Date: <b>4/18/2011</b>	SeqNo: <b>2152727</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.078	0.10						0.07829	0	20	

**Qualifiers:**

- |   |  |  |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range       | H Holding times for preparation or analysis exceeded           |
| ND Not Detected at the Reporting Limit            | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out                          | Calculations are based on raw values   |  |



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 7471\_S**

Sample ID: <b>MB-72324</b>	SampType: <b>MBLK</b>	TestCode: <b>7471_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132148</b>						
Client ID: <b>PBS</b>	Batch ID: <b>72324</b>	TestNo: <b>EPA 7471A</b>		Analysis Date: <b>4/18/2011</b>	SeqNo: <b>2152738</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.10									

Sample ID: <b>LCS-72324</b>	SampType: <b>LCS</b>	TestCode: <b>7471_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132148</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>72324</b>	TestNo: <b>EPA 7471A</b>		Analysis Date: <b>4/18/2011</b>	SeqNo: <b>2152739</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.725	0.10	0.8300	0	87.4	80	120				

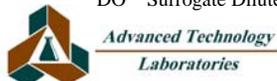
Sample ID: <b>117415-005A-MS</b>	SampType: <b>MS</b>	TestCode: <b>7471_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132148</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>72324</b>	TestNo: <b>EPA 7471A</b>		Analysis Date: <b>4/18/2011</b>	SeqNo: <b>2152740</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.791	0.10	0.8300	0.07547	86.2	70	130				

Sample ID: <b>117415-005A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>7471_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132148</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>72324</b>	TestNo: <b>EPA 7471A</b>		Analysis Date: <b>4/18/2011</b>	SeqNo: <b>2152741</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.794	0.10	0.8300	0.07547	86.6	70	130	0.7912	0.338	20	

Sample ID: <b>117415-005A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>7471_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132148</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>72324</b>	TestNo: <b>EPA 7471A</b>		Analysis Date: <b>4/18/2011</b>	SeqNo: <b>2152743</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.074	0.10						0.07547	0	20	

**Qualifiers:**

- |   |  |  |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range       | H Holding times for preparation or analysis exceeded           |
| ND Not Detected at the Reporting Limit            | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out                          | Calculations are based on raw values   |  |



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8015\_S\_DSL LL**

Sample ID: <b>MB-72332</b>	SampType: <b>MBLK</b>	TestCode: <b>8015_S_DSL</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132158</b>						
Client ID: <b>PBS</b>	Batch ID: <b>72332</b>	TestNo: <b>EPA 8015B(M EPA 3550B)</b>		Analysis Date: <b>4/18/2011</b>	SeqNo: <b>2153016</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	ND	1.0									
Surr: p-Terphenyl	2.026		2.670		75.9	30	128				

Sample ID: <b>LCS-72332</b>	SampType: <b>LCS</b>	TestCode: <b>8015_S_DSL</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132158</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>72332</b>	TestNo: <b>EPA 8015B(M EPA 3550B)</b>		Analysis Date: <b>4/18/2011</b>	SeqNo: <b>2153017</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	21.927	1.0	33.00	0	66.4	35	118				
Surr: p-Terphenyl	2.176		2.670		81.5	30	128				

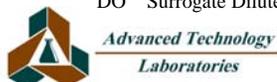
Sample ID: <b>117382-048ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>8015_S_DSL</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132158</b>						
Client ID: <b>11-14-3.0</b>	Batch ID: <b>72332</b>	TestNo: <b>EPA 8015B(M EPA 3550B)</b>		Analysis Date: <b>4/18/2011</b>	SeqNo: <b>2153020</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	ND	1.0						0	0	20	
Surr: p-Terphenyl	1.683		2.670		63.0	30	128		0	0	

Sample ID: <b>117382-048AMS</b>	SampType: <b>MS</b>	TestCode: <b>8015_S_DSL</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132158</b>						
Client ID: <b>11-14-3.0</b>	Batch ID: <b>72332</b>	TestNo: <b>EPA 8015B(M EPA 3550B)</b>		Analysis Date: <b>4/18/2011</b>	SeqNo: <b>2153022</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	18.015	1.0	33.00	0	54.6	25	129				
Surr: p-Terphenyl	1.658		2.670		62.1	30	128				

Sample ID: <b>117382-048AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8015_S_DSL</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132158</b>						
Client ID: <b>11-14-3.0</b>	Batch ID: <b>72332</b>	TestNo: <b>EPA 8015B(M EPA 3550B)</b>		Analysis Date: <b>4/18/2011</b>	SeqNo: <b>2153023</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	18.575	1.0	33.00	0	56.3	25	129	18.02	3.06	20	

**Qualifiers:**

- |   |  |  |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range       | H Holding times for preparation or analysis exceeded           |
| ND Not Detected at the Reporting Limit            | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out                          | Calculations are based on raw values   |  |



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 8015\_S\_DSL LL

Sample ID: 117382-048AMSD	SampType: MSD	TestCode: 8015_S_DSL	Units: mg/Kg	Prep Date: 4/18/2011	RunNo: 132158						
Client ID: 11-14-3.0	Batch ID: 72332	TestNo: EPA 8015B(M EPA 3550B		Analysis Date: 4/18/2011	SeqNo: 2153023						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: p-Terphenyl	1.817		2.670		68.1	30	128		0	0	

**Qualifiers:**

- |   |  |  |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range       | H Holding times for preparation or analysis exceeded           |
| ND Not Detected at the Reporting Limit            | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out                          | Calculations are based on raw values   |  |



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**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8015\_S\_DSL LL**

Sample ID: <b>MB-72338</b>	SampType: <b>MBLK</b>	TestCode: <b>8015_S_DSL</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132171</b>						
Client ID: <b>PBS</b>	Batch ID: <b>72338</b>	TestNo: <b>EPA 8015B(M EPA 3550B)</b>		Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2153227</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	ND	1.0									
Surr: p-Terphenyl	2.037		2.670		76.3	30	128				

Sample ID: <b>LCS-72338</b>	SampType: <b>LCS</b>	TestCode: <b>8015_S_DSL</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132171</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>72338</b>	TestNo: <b>EPA 8015B(M EPA 3550B)</b>		Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2153228</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	23.505	1.0	33.00	0	71.2	35	118				
Surr: p-Terphenyl	1.894		2.670		70.9	30	128				

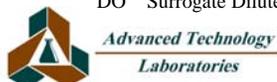
Sample ID: <b>117382-031AMS</b>	SampType: <b>MS</b>	TestCode: <b>8015_S_DSL</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132171</b>						
Client ID: <b>11-09-4.0</b>	Batch ID: <b>72338</b>	TestNo: <b>EPA 8015B(M EPA 3550B)</b>		Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2153229</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	22.154	1.0	33.00	2.210	60.4	25	129				
Surr: p-Terphenyl	1.782		2.670		66.7	30	128				

Sample ID: <b>117382-031AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8015_S_DSL</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132171</b>						
Client ID: <b>11-09-4.0</b>	Batch ID: <b>72338</b>	TestNo: <b>EPA 8015B(M EPA 3550B)</b>		Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2153230</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	20.478	1.0	33.00	2.210	55.4	25	129	22.15	7.86	20	
Surr: p-Terphenyl	1.679		2.670		62.9	30	128		0	0	

Sample ID: <b>117382-034ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>8015_S_DSL</b>	Units: <b>mg/Kg</b>	Prep Date: <b>4/18/2011</b>	RunNo: <b>132171</b>						
Client ID: <b>11-10-4.0</b>	Batch ID: <b>72338</b>	TestNo: <b>EPA 8015B(M EPA 3550B)</b>		Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2153231</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	2.591	1.0						3.572	31.8	20	R

**Qualifiers:**

- |   |  |  |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range       | H Holding times for preparation or analysis exceeded           |
| ND Not Detected at the Reporting Limit            | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out                          | Calculations are based on raw values   |  |



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 8015\_S\_DSL LL

Sample ID: 117382-034ADUP	SampType: DUP	TestCode: 8015_S_DSL	Units: mg/Kg	Prep Date: 4/18/2011	RunNo: 132171						
Client ID: 11-10-4.0	Batch ID: 72338	TestNo: EPA 8015B(M EPA 3550B		Analysis Date: 4/19/2011	SeqNo: 2153231						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: p-Terphenyl	1.770		2.670		66.3	30	128		0	0	

**Qualifiers:**

- |    |   |   |                                      |   |  |
|----|---|---|--------------------------------------|---|--|
| B  | Analyte detected in the associated Method Blank | E | Value above quantitation range       | H | Holding times for preparation or analysis exceeded           |
| ND | Not Detected at the Reporting Limit             | R | RPD outside accepted recovery limits | S | Spike/Surrogate outside of limits due to matrix interference |
| DO | Surrogate Diluted Out                           |   | Calculations are based on raw values |   |  |



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**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8015\_S\_GAS**

Sample ID: <b>E110418LC1</b>	SampType: <b>LCS</b>	TestCode: <b>8015_S_GAS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>132118</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>E11VS158</b>	TestNo: <b>EPA 8015B(M)</b>	Analysis Date: <b>4/18/2011</b>	SeqNo: <b>2152796</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	4.993	1.0	5.000	0	99.9	70	130				
Surr: Bromofluorobenzene (FID)	116.182		100.0		116	62	153				

Sample ID: <b>E110418MB1MS</b>	SampType: <b>MS</b>	TestCode: <b>8015_S_GAS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>132118</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E11VS158</b>	TestNo: <b>EPA 8015B(M)</b>	Analysis Date: <b>4/18/2011</b>	SeqNo: <b>2152797</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	4.871	1.0	5.000	0	97.4	49	131				
Surr: Bromofluorobenzene (FID)	108.491		100.0		108	62	153				

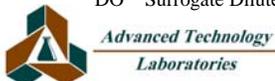
Sample ID: <b>E110418MB1MSD</b>	SampType: <b>MSD</b>	TestCode: <b>8015_S_GAS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>132118</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E11VS158</b>	TestNo: <b>EPA 8015B(M)</b>	Analysis Date: <b>4/18/2011</b>	SeqNo: <b>2152798</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	4.875	1.0	5.000	0	97.5	49	131	4.871	0.0821	20	
Surr: Bromofluorobenzene (FID)	107.600		100.0		108	62	153		0	0	

Sample ID: <b>E110418MB1</b>	SampType: <b>MBLK</b>	TestCode: <b>8015_S_GAS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>132118</b>						
Client ID: <b>PBS</b>	Batch ID: <b>E11VS158</b>	TestNo: <b>EPA 8015B(M)</b>	Analysis Date: <b>4/18/2011</b>	SeqNo: <b>2152799</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	ND	1.0									
Surr: Bromofluorobenzene (FID)	85.063		100.0		85.1	62	153				

Sample ID: <b>117382-044ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>8015_S_GAS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>132118</b>						
Client ID: <b>11-13-1.5</b>	Batch ID: <b>E11VS158</b>	TestNo: <b>EPA 8015B(M)</b>	Analysis Date: <b>4/18/2011</b>	SeqNo: <b>2152810</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	ND	1.0						0	0	20	

**Qualifiers:**

- |   |  |  |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range       | H Holding times for preparation or analysis exceeded           |
| ND Not Detected at the Reporting Limit            | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out                          | Calculations are based on raw values   |  |



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8015\_S\_GAS**

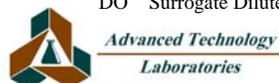
Sample ID: <b>117382-044ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>8015_S_GAS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>132118</b>						
Client ID: <b>11-13-1.5</b>	Batch ID: <b>E11VS158</b>	TestNo: <b>EPA 8015B(M)</b>	Analysis Date: <b>4/18/2011</b>	SeqNo: <b>2152810</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Bromofluorobenzene (FID)	106.395		100.0		106	62	153		0	0	

Sample ID: <b>117382-044AMS</b>	SampType: <b>MS</b>	TestCode: <b>8015_S_GAS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>132118</b>						
Client ID: <b>11-13-1.5</b>	Batch ID: <b>E11VS158</b>	TestNo: <b>EPA 8015B(M)</b>	Analysis Date: <b>4/18/2011</b>	SeqNo: <b>2152813</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	3.786	1.0	5.000	0	75.7	49	131				
Surr: Bromofluorobenzene (FID)	120.776		100.0		121	62	153				

Sample ID: <b>117382-044AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8015_S_GAS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>132118</b>						
Client ID: <b>11-13-1.5</b>	Batch ID: <b>E11VS158</b>	TestNo: <b>EPA 8015B(M)</b>	Analysis Date: <b>4/18/2011</b>	SeqNo: <b>2152814</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	4.419	1.0	5.000	0	88.4	49	131	3.786	15.4	20	
Surr: Bromofluorobenzene (FID)	121.957		100.0		122	62	153		0	0	

**Qualifiers:**

- |   |  |  |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range       | H Holding times for preparation or analysis exceeded           |
| ND Not Detected at the Reporting Limit            | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out                          | Calculations are based on raw values   |  |



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8015\_S\_GAS**

Sample ID: <b>E110418LC5</b>	SampType: <b>LCS</b>	TestCode: <b>8015_S_GAS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>132155</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>E11VS160</b>	TestNo: <b>EPA 8015B(M)</b>	Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2152935</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	4.978	1.0	5.000	0	99.6	70	130				
Surr: Bromofluorobenzene (FID)	115.604		100.0		116	62	153				

Sample ID: <b>E110418MB3MS</b>	SampType: <b>MS</b>	TestCode: <b>8015_S_GAS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>132155</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E11VS160</b>	TestNo: <b>EPA 8015B(M)</b>	Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2152938</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	5.016	1.0	5.000	0	100	49	131				
Surr: Bromofluorobenzene (FID)	110.099		100.0		110	62	153				

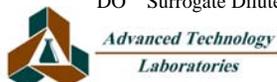
Sample ID: <b>E110418MB3MSD</b>	SampType: <b>MSD</b>	TestCode: <b>8015_S_GAS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>132155</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>E11VS160</b>	TestNo: <b>EPA 8015B(M)</b>	Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2152939</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	4.757	1.0	5.000	0	95.1	49	131	5.016	5.30	20	
Surr: Bromofluorobenzene (FID)	105.330		100.0		105	62	153		0	0	

Sample ID: <b>E110418MB3</b>	SampType: <b>MBLK</b>	TestCode: <b>8015_S_GAS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>132155</b>						
Client ID: <b>PBS</b>	Batch ID: <b>E11VS160</b>	TestNo: <b>EPA 8015B(M)</b>	Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2152940</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	ND	1.0									
Surr: Bromofluorobenzene (FID)	87.619		100.0		87.6	62	153				

Sample ID: <b>117382-050ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>8015_S_GAS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>132155</b>						
Client ID: <b>11-15-1.5</b>	Batch ID: <b>E11VS160</b>	TestNo: <b>EPA 8015B(M)</b>	Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2152946</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	ND	1.0						0	0	20	

**Qualifiers:**

- |   |  |  |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range       | H Holding times for preparation or analysis exceeded           |
| ND Not Detected at the Reporting Limit            | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out                          | Calculations are based on raw values   |  |



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 8015\_S\_GAS**

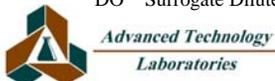
Sample ID: <b>117382-050ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>8015_S_GAS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>132155</b>						
Client ID: <b>11-15-1.5</b>	Batch ID: <b>E11VS160</b>	TestNo: <b>EPA 8015B(M)</b>	Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2152946</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Bromofluorobenzene (FID)	105.465		100.0		105	62	153		0	0	

Sample ID: <b>117382-050AMS</b>	SampType: <b>MS</b>	TestCode: <b>8015_S_GAS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>132155</b>						
Client ID: <b>11-15-1.5</b>	Batch ID: <b>E11VS160</b>	TestNo: <b>EPA 8015B(M)</b>	Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2152959</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	3.939	1.0	5.000	0	78.8	49	131				
Surr: Bromofluorobenzene (FID)	124.879		100.0		125	62	153				

Sample ID: <b>117382-050AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8015_S_GAS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>132155</b>						
Client ID: <b>11-15-1.5</b>	Batch ID: <b>E11VS160</b>	TestNo: <b>EPA 8015B(M)</b>	Analysis Date: <b>4/19/2011</b>	SeqNo: <b>2152960</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	4.096	1.0	5.000	0	81.9	49	131	3.939	3.91	20	
Surr: Bromofluorobenzene (FID)	128.912		100.0		129	62	153		0	0	

**Qualifiers:**

- |   |  |  |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range       | H Holding times for preparation or analysis exceeded           |
| ND Not Detected at the Reporting Limit            | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out                          | Calculations are based on raw values   |  |



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 9045\_S

Sample ID: <b>117382-014ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>9045_S</b>	Units: <b>pH Units</b>	Prep Date:	RunNo: <b>132137</b>						
Client ID: <b>11-04-3.0</b>	Batch ID: <b>R132137</b>	TestNo: <b>EPA 9045C</b>		Analysis Date: <b>4/18/2011</b>	SeqNo: <b>2152554</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	5.590	0.10						5.940	6.07	20	

**Qualifiers:**

- |   |  |  |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range       | H Holding times for preparation or analysis exceeded           |
| ND Not Detected at the Reporting Limit            | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out                          | Calculations are based on raw values   |  |



*Advanced Technology  
Laboratories*

3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562.989.4045 Fax: 562.989.4040

**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 9045\_S

Sample ID: <b>117382-027ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>9045_S</b>	Units: <b>pH Units</b>	Prep Date:	RunNo: <b>132138</b>						
Client ID: <b>11-08-3.0</b>	Batch ID: <b>R132138</b>	TestNo: <b>EPA 9045C</b>		Analysis Date: <b>4/18/2011</b>	SeqNo: <b>2152564</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	6.980	0.10						6.930	0.719	20	

**Qualifiers:**

- |   |  |  |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range       | H Holding times for preparation or analysis exceeded           |
| ND Not Detected at the Reporting Limit            | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out                          | Calculations are based on raw values   |  |



*Advanced Technology  
Laboratories*

3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562.989.4045 Fax: 562.989.4040

# CHAIN OF CUSTODY RECORD

FOR LABORATORY USE ONLY:



**Advanced Technology  
Laboratories**

3275 Walnut Avenue  
Signal Hill, CA 90755  
(562) 989-4045 • Fax (562) 989-4040

P.O.#: \_\_\_\_\_

Logged By: \_\_\_\_\_ Date: 4/15/11

Method of Transport

Client   
ATL   
CA OverN   
FEDEX   
Other: G50

Sample Condition Upon Receipt

1. CHILLED  N  4. SEALED  N   
2. HEADSPACE (VOA)  N  5. # OF SPLS MATCH COC  N   
3. CONTAINER INTACT  N  6. PRESERVED  N

Client: GEOCON CONSULTANTS, INC.

Address: 6671 Brisa Street

TEL: (925) 371-5900

Attn: L. VIOLOTTI

City Livemore

State CA

Zip Code 94550

FAX: (925) 371-5915

Project Name: SCL 17 STORM DAMAGE

Project #: E8560-06-17

Sampler: M. O'Brien

(Signature)

Relinquished by: \_\_\_\_\_

Date: 4/14/11

Time: 1030

Received by: \_\_\_\_\_

Date: 4/15/11

Time: 837

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:

D. Wang 13 APR 2011

Print Name Date  
W. H. H.  
Signature

Send Report To:

Attn: \_\_\_\_\_  
Co: SAME AS ABOVE

Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Bill To:

Attn: \_\_\_\_\_  
Co: SAME AS ABOVE

Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Special Instructions/Comments:

homogenize according to Caltrans Contract 04A-35-8 requirements.

**Sample/Records - Archival & Disposal**

Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):

- Sample : \$2.00 / sample / mo (after 45 days)
- Records : \$1.00 / ATL workorder / mo (after 1 year)

ITEM	LAB USE ONLY:		Sample Description		
	Batch #:	Lab No.	Sample I.D. / Location	Date	Time
	<u>117382-051</u>		<u>11-01-0.5</u>	<u>4/13/11</u>	<u>1010</u>
		<u>2</u>	<u>- 1.5</u>		<u>1012</u>
		<u>3</u>	<u>- 3.0</u>		<u>1014</u>
		<u>4</u>	<u>- 5.0</u>		<u>1016</u>
		<u>5</u>	<u>02-0.5</u>		<u>1026</u>
		<u>6</u>	<u>- 1.5</u>		<u>1029</u>
		<u>7</u>	<u>- 3.0</u>		<u>1039</u>
		<u>8</u>	<u>- 5.0</u>		<u>1040</u>

Circle or Add Analysis(es) Requested

8091A (Pesticides)	8092 (PCB)	8260B (Volatiles)	8270C (BNA)	8010B (Total Metal)	8015B (GRO) / BTEX	8015B (DRO)	8021 (BTEX)	TITLE 22 / CAM 17 (6010 / 7000)	SPECIFY APPROPRIATE MATRIX				TAT	#	Type	PRESERVATION	REMARKS
									SOIL	WATER	GROUND WATER	WASTEWATER					

QA/QC  
RTNE   
CT   
SWRCB   
Logcode \_\_\_\_\_  
OTHER \_\_\_\_\_

• TAT starts 8 a.m. following day if samples received after 3 p.m.

TAT: A= Overnight ≤ 24 hr    B= Emergency Next workday    C= Critical 2 Workdays    D= Urgent 3 Workdays    E= Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pin J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives:  
H=HCl N=HNO<sub>3</sub> S=H<sub>2</sub>SO<sub>4</sub> C=4°C  
Z=Zn(AC)<sub>2</sub> O=NaOH T=Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>

# CHAIN OF CUSTODY RECORD



**Advanced Technology  
Laboratories**

3275 Walnut Avenue  
Signal Hill, CA 90755  
(562) 989-4045 • Fax (562) 989-4040

## FOR LABORATORY USE ONLY:

P.O.#: \_\_\_\_\_  
Logged By: \_\_\_\_\_ Date: \_\_\_\_\_

Method of Transport  
Client   
ATL   
CA OverN   
FEDEX   
Other: \_\_\_\_\_

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 CONSULTANTS, INC.

Address: 6671 Brisa Street

TEL: (925) 371-5900

Attn: L. VIOLOTTI

City Livemore State CA Zip Code 94550

FAX: (925) 371-5915

Project Name: SCL 17 Storm Damage

Project #: E8560-06-17

Sampler: (Printed Name) M. O'Brien

(Signature) [Signature]

Relinquished by: (Signature and Printed Name) [Signature]

Date: 4/14/11

Time: \_\_\_\_\_

Received by: (Signature and Printed Name) [Signature]

Date: 4/15/11

Time: 8:37

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:

D. WATB 13 APR 2011  
Print Name Date

[Signature]  
Signature

Send Report To:

Attn: \_\_\_\_\_

Co: SAME AS ABOVE

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Bill To:

Attn: \_\_\_\_\_

Co: SAME AS ABOVE

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Special Instructions/Comments:

See page 1

### Sample/Records - Archival & Disposal

Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

#### Storage Fees (applies when storage is requested):

- Sample : \$2.00 / sample / mo (after 45 days)
- Records : \$1.00 / ATL workorder / mo (after 1 year)

ITEM	LAB USE ONLY:		Sample Description			
	Batch #:	Lab No.	Sample I.D. / Location	Date	Time	
	117382-	9	11-03-0.5	4/13/11	1412	
		10	↓ - 1.5	↓	1415	
		11	↓ - 3.0	↓	1417	
		12	04-0.5	↓	1422	
		13	↓ - 1.5	↓	1430	
		14	↓ - 3.0	↓	1432	
		15	05-0.5	4/14/11	1112	
		16	↓ - 1.5	↓	1118	
		17	↓ - 3.0	↓	1124	

Circle or Add Analysis(es) Requested	SPECIFY APPROPRIATE MATRIX										PRESERVATION	QA/QC				
													Container(s)	REMARKS		
	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	#	Type	RTNE <input type="checkbox"/>	CT <input checked="" type="checkbox"/>	SWRCB <input type="checkbox"/>					Logcode _____	OTHER _____
8081A (Pesticides)																
8082 (PCB)																
8250B (Volatiles)																
8270C (BNA)																
80108 (Total Metal) - Pb																
80158 (GRO) / BTEX																
80158 (DRO)																
8021 (BTEX)																
TITLE 22 / CAM 17 (6010 / 7000)																
<u>PH-9045</u>																
<u>SR0-8015M</u>																

• TAT starts 8 a.m. following day if samples received after 3 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<sub>3</sub> S=H<sub>2</sub>SO<sub>4</sub> C=4°C  
Z=Zn(AC)<sub>2</sub> O=NaOH T=Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>

Container Types: T=Tube V=VOA L=Liter P=Pin J=Jar B=Tedlar G=Glass P=Plastic M=Metal







# CHAIN OF CUSTODY RECORD



**Advanced Technology  
Laboratories**

3275 Walnut Avenue  
Signal Hill, CA 90755  
(562) 989-4045 • Fax (562) 989-4040

**FOR LABORATORY USE ONLY:**

P.O.#: \_\_\_\_\_  
Logged By: \_\_\_\_\_ Date: \_\_\_\_\_

Method of Transport  
Client   
ATL   
CA OverN   
FEDEX   
Other: \_\_\_\_\_

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 CONSULTANTS, INC.  
Attn: L. VIGLIOTTI

Address: 6671 Brisa Street  
City Livemore State CA Zip Code 94550  
TEL: (925) 371-5900  
FAX: (925) 371-5915

Project Name: SCL 17 Storm Damage Project #: E8560-06-17 Sampler: M. O'Brien (Signature) \_\_\_\_\_  
Relinquished by: \_\_\_\_\_ Date: 4/14/11 Time: \_\_\_\_\_ Received by: \_\_\_\_\_ Date: 4/15/11 Time: 837  
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:  
D. WITTS 13 APR 2011  
Print Name Date  
WITTS  
Signature

Send Report To:  
Attn: \_\_\_\_\_  
Co: SAME AS ABOVE  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Bill To:  
Attn: \_\_\_\_\_  
Co: SAME AS ABOVE  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Special Instructions/Comments:  
See page 1

**Sample/Records - Archival & Disposal**  
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.  
**Storage Fees (applies when storage is requested):**  
• Sample : \$2.00 / sample / mo (after 45 days)  
• Records : \$1.00 / ATL workorder / mo (after 1 year)

I T E M	LAB USE ONLY:		Sample Description				Circle or Add Analysis(es) Requested	SPECIFY APPROPRIATE MATRIX						Container(s) # Type	PRESERVATION	REMARKS											
	Batch #:	Lab No.						TAT									MATRIX										
			8091A (Pesticides)	8092 (PCB)	8280B (Volatiles)	8270C (BVA)		8010B (Total Metal) - Pb	8015B (GRO) / BTEX	8015B (DRO)	8021 (BTEX)	TITLE 22 / CAM 17 (6010 / 7000)	PH - 9045				GRO - 8015M	SOIL	WATER	GROUND WATER	WASTEWATER	RTNE <input type="checkbox"/>	CT <input checked="" type="checkbox"/>	SWRCB <input type="checkbox"/>	Logcode _____	OTHER _____	
	117382-	39																									
		40																									
		41																									
		42																									
		43																									
		44																									
		45																									
		46																									
		47																									
		48																									

• TAT starts 8 a.m. following day if samples received after 3 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<sub>3</sub> S=H<sub>2</sub>SO<sub>4</sub> C=4°C  
Z=Zn(AC)<sub>2</sub> O=NaOH T=Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal





April 26, 2011



Lauren Vigliotti  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
TEL: (925) 768-9874  
FAX: (925) 371-5915

ELAP No.: 1838  
NELAP No.: 02107CA  
CSDLAC No.: 10196  
ORELAP No.: CA300003

Workorder No.: 117382

RE: SCL 17 Storm Damage, E8560-06-17

Attention: Lauren Vigliotti

Enclosed are the results for sample(s) received on April 15, 2011 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an addendum report. Please incorporate with documentation previously submitted.

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,

A handwritten signature in black ink, appearing to read "Eddie F. Rodriguez".

Eddie F. Rodriguez  
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories.



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**CLIENT:** Geocon Consultants, Inc.  
**Project:** SCL 17 Storm Damage, E8560-06-17  
**Lab Order:** 117382

---

**CASE NARRATIVE**

Analytical Comments for Method 6010

Dilution was necessary for samples 117382-001A, 117382-005A, 117382-009A, 117382-016A, 117382-018A, 117382-021A, 117382-022A, 117382-025A, 117382-029A, 117382-032A, 117382-052A, 117382-053A, 117382-055A and 117382-058A, due to sample matrix.



# Advanced Technology Laboratories

# ANALYTICAL RESULTS

Print Date: 26-Apr-11

**CLIENT:** Geocon Consultants, Inc.  
**Project:** SCL 17 Storm Damage, E8560-06-17

**Lab Order:** 117382

**Lab ID:** 117382-001 **Collection Date:** 4/13/2011 10:10:00 AM  
**Client Sample ID:** 11-01-0.5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**ICP METALS BY STLC**

**WET/ EPA 6010B**

RunID: ICP8_110422A	QC Batch: R132282	PrepDate:	Analyst: IL
Lead	26	1.0	mg/L
		20	4/22/2011 12:20 PM

**Lab ID:** 117382-005 **Collection Date:** 4/13/2011 10:26:00 AM  
**Client Sample ID:** 11-02-0.5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**ICP METALS BY STLC**

**WET/ EPA 6010B**

RunID: ICP8_110422A	QC Batch: R132282	PrepDate:	Analyst: IL
Lead	6.6	1.0	mg/L
		20	4/22/2011 12:24 PM

**Lab ID:** 117382-009 **Collection Date:** 4/13/2011 2:12:00 PM  
**Client Sample ID:** 11-03-0.5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**ICP METALS BY STLC**

**WET/ EPA 6010B**

RunID: ICP8_110422A	QC Batch: R132282	PrepDate:	Analyst: IL
Lead	11	1.0	mg/L
		20	4/22/2011 12:27 PM

**Lab ID:** 117382-016 **Collection Date:** 4/14/2011 11:18:00 AM  
**Client Sample ID:** 11-05-1.5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**ICP METALS BY STLC**

**WET/ EPA 6010B**

RunID: ICP8_110422A	QC Batch: R132282	PrepDate:	Analyst: IL
Lead	11	1.0	mg/L
		20	4/22/2011 12:30 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out  
E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified



Advanced Technology  
Laboratories

3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562.989.4045 Fax: 562.989.4040

# Advanced Technology Laboratories

# ANALYTICAL RESULTS

Print Date: 26-Apr-11

**CLIENT:** Geocon Consultants, Inc.  
**Project:** SCL 17 Storm Damage, E8560-06-17

**Lab Order:** 117382

**Lab ID:** 117382-018 **Collection Date:** 4/14/2011 11:28:00 AM  
**Client Sample ID:** 11-06-0.5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**ICP METALS BY STLC**

**WET/ EPA 6010B**

RunID: ICP8_110422A	QC Batch: R132282	PrepDate:	Analyst: IL
Lead	ND	1.0 mg/L	20
			4/22/2011 12:34 PM

**Lab ID:** 117382-021 **Collection Date:** 4/14/2011 10:12:00 AM  
**Client Sample ID:** 11-07-0.5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**ICP METALS BY STLC**

**WET/ EPA 6010B**

RunID: ICP8_110422A	QC Batch: R132282	PrepDate:	Analyst: IL
Lead	18	1.0 mg/L	20
			4/22/2011 12:37 PM

**Lab ID:** 117382-022 **Collection Date:** 4/14/2011 10:15:00 AM  
**Client Sample ID:** 11-07-1.5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**ICP METALS BY STLC**

**WET/ EPA 6010B**

RunID: ICP8_110422A	QC Batch: R132282	PrepDate:	Analyst: IL
Lead	ND	1.0 mg/L	20
			4/22/2011 12:40 PM

**Lab ID:** 117382-025 **Collection Date:** 4/14/2011 10:35:00 AM  
**Client Sample ID:** 11-08-0.5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**ICP METALS BY STLC**

**WET/ EPA 6010B**

RunID: ICP8_110422A	QC Batch: R132282	PrepDate:	Analyst: IL
Lead	26	1.0 mg/L	20
			4/22/2011 12:50 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out  
E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified



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Laboratories

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**Advanced Technology Laboratories**

**ANALYTICAL RESULTS**

Print Date: 26-Apr-11

**CLIENT:** Geocon Consultants, Inc.  
**Project:** SCL 17 Storm Damage, E8560-06-17

**Lab Order:** 117382

**Lab ID:** 117382-029 **Collection Date:** 4/14/2011 8:48:00 AM  
**Client Sample ID:** 11-09-0.5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**ICP METALS BY STLC**

**WET/ EPA 6010B**

RunID: ICP8_110422A	QC Batch: R132282	PrepDate:	Analyst: IL
Lead	3.6	1.0	mg/L 20 4/22/2011 01:06 PM

**Lab ID:** 117382-032 **Collection Date:** 4/14/2011 9:25:00 AM  
**Client Sample ID:** 11-10-0.5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**ICP METALS BY STLC**

**WET/ EPA 6010B**

RunID: ICP8_110422A	QC Batch: R132282	PrepDate:	Analyst: IL
Lead	6.0	1.0	mg/L 20 4/22/2011 01:09 PM

**Lab ID:** 117382-052 **Collection Date:** 4/14/2011 12:52:00 PM  
**Client Sample ID:** 11-16-0.5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**ICP METALS BY STLC**

**WET/ EPA 6010B**

RunID: ICP8_110422A	QC Batch: R132282	PrepDate:	Analyst: IL
Chromium	ND	1.0	mg/L 20 4/22/2011 01:13 PM

**Lab ID:** 117382-053 **Collection Date:** 4/14/2011 12:59:00 PM  
**Client Sample ID:** 11-16-1.5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**ICP METALS BY STLC**

**WET/ EPA 6010B**

RunID: ICP8_110422A	QC Batch: R132282	PrepDate:	Analyst: IL
Lead	3.6	1.0	mg/L 20 4/22/2011 01:16 PM

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range  
H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
S Spike/Surrogate outside of limits due to matrix interference Results are wet unless otherwise specified  
DO Surrogate Diluted Out



*Advanced Technology  
Laboratories*

3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562.989.4045 Fax: 562.989.4040

# Advanced Technology Laboratories

# ANALYTICAL RESULTS

Print Date: 26-Apr-11

**CLIENT:** Geocon Consultants, Inc.  
**Project:** SCL 17 Storm Damage, E8560-06-17

**Lab Order:** 117382

**Lab ID:** 117382-055

**Collection Date:** 4/14/2011 1:05:00 PM

**Client Sample ID:** 11-17-0.5

**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## ICP METALS BY STLC

### WET/ EPA 6010B

RunID: ICP8_110422A	QC Batch: R132282	PrepDate:	Analyst: IL	
Chromium	ND	1.0 mg/L	20	4/22/2011 01:19 PM

**Lab ID:** 117382-058

**Collection Date:** 4/14/2011 1:20:00 PM

**Client Sample ID:** 11-18-0.5

**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## ICP METALS BY STLC

### WET/ EPA 6010B

RunID: ICP8_110422A	QC Batch: R132282	PrepDate:	Analyst: IL	
Chromium	ND	1.0 mg/L	20	4/22/2011 01:32 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out  
E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified



Advanced Technology  
Laboratories

3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562.989.4045 Fax: 562.989.4040

**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 6010\_ST**

Sample ID: <b>MB-72385A</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_ST</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>132282</b>						
Client ID: <b>PBS</b>	Batch ID: <b>R132282</b>	TestNo: <b>WET/ EPA 60</b>		Analysis Date: <b>4/22/2011</b>	SeqNo: <b>2155062</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	0.050									
Lead	ND	0.050									

Sample ID: <b>MB-72385A STLC</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_ST</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>132282</b>						
Client ID: <b>PBS</b>	Batch ID: <b>R132282</b>	TestNo: <b>WET/ EPA 60</b>		Analysis Date: <b>4/22/2011</b>	SeqNo: <b>2155063</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									
Lead	ND	1.0									

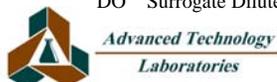
Sample ID: <b>LCS-72385</b>	SampType: <b>LCS</b>	TestCode: <b>6010_ST</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>132282</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>R132282</b>	TestNo: <b>WET/ EPA 60</b>		Analysis Date: <b>4/22/2011</b>	SeqNo: <b>2155064</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.992	0.050	1.000	0	99.2	85	115				
Lead	1.103	0.050	1.000	0	110	85	115				

Sample ID: <b>117382-025A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_ST</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>132282</b>						
Client ID: <b>11-08-0.5</b>	Batch ID: <b>R132282</b>	TestNo: <b>WET/ EPA 60</b>		Analysis Date: <b>4/22/2011</b>	SeqNo: <b>2155073</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.079	1.0						0.07513	0	20	
Lead	27.304	1.0						26.35	3.57	20	

Sample ID: <b>117382-025A-MS</b>	SampType: <b>MS</b>	TestCode: <b>6010_ST</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>132282</b>						
Client ID: <b>11-08-0.5</b>	Batch ID: <b>R132282</b>	TestNo: <b>WET/ EPA 60</b>		Analysis Date: <b>4/22/2011</b>	SeqNo: <b>2155074</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:**

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010\_ST**

Sample ID: <b>117382-025A-MS</b>	SampType: <b>MS</b>	TestCode: <b>6010_ST</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>132282</b>						
Client ID: <b>11-08-0.5</b>	Batch ID: <b>R132282</b>	TestNo: <b>WET/ EPA 60</b>	Analysis Date: <b>4/22/2011</b>	SeqNo: <b>2155074</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	2.344	1.0	2.500	0.07513	90.8	78	115				
Lead	28.755	1.0	2.500	26.35	96.3	80	118				

Sample ID: <b>MB-72385B</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_ST</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>132282</b>						
Client ID: <b>PBS</b>	Batch ID: <b>R132282</b>	TestNo: <b>WET/ EPA 60</b>	Analysis Date: <b>4/22/2011</b>	SeqNo: <b>2155075</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	0.050									
Lead	ND	0.050									

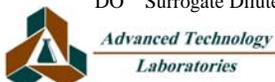
Sample ID: <b>MB-72385B STLC</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_ST</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>132282</b>						
Client ID: <b>PBS</b>	Batch ID: <b>R132282</b>	TestNo: <b>WET/ EPA 60</b>	Analysis Date: <b>4/22/2011</b>	SeqNo: <b>2155076</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									
Lead	ND	1.0									

Sample ID: <b>117436-001A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_ST</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>132282</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>R132282</b>	TestNo: <b>WET/ EPA 60</b>	Analysis Date: <b>4/22/2011</b>	SeqNo: <b>2155084</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.124	1.0						0.1187	0	20	
Lead	0.035	1.0						0.06313	0	20	

Sample ID: <b>117436-001A-MS</b>	SampType: <b>MS</b>	TestCode: <b>6010_ST</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>132282</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>R132282</b>	TestNo: <b>WET/ EPA 60</b>	Analysis Date: <b>4/22/2011</b>	SeqNo: <b>2155085</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	2.396	1.0	2.500	0.1187	91.1	78	115				

**Qualifiers:**

- |   |  |  |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range       | H Holding times for preparation or analysis exceeded           |
| ND Not Detected at the Reporting Limit            | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out                          | Calculations are based on raw values   |  |



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

## ANALYTICAL QC SUMMARY REPORT

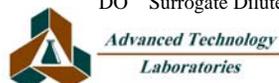
**TestCode: 6010\_ST**

Sample ID: <b>117436-001A-MS</b>	SampType: <b>MS</b>	TestCode: <b>6010_ST</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>132282</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>R132282</b>	TestNo: <b>WET/ EPA 60</b>	Analysis Date: <b>4/22/2011</b>	SeqNo: <b>2155085</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.543	1.0	2.500	0.06313	99.2	80	118				

Sample ID: <b>117436-001A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_ST</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>132282</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>R132282</b>	TestNo: <b>WET/ EPA 60</b>	Analysis Date: <b>4/22/2011</b>	SeqNo: <b>2155086</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	2.388	1.0	2.500	0.1187	90.8	78	115	2.396	0.316	20	
Lead	2.517	1.0	2.500	0.06313	98.2	80	118	2.543	1.02	20	

**Qualifiers:**

- |   |  |  |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range       | H Holding times for preparation or analysis exceeded           |
| ND Not Detected at the Reporting Limit            | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out                          | Calculations are based on raw values   |  |



3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562.989.4045 Fax: 562.989.4040

## Diane Galvan

---

**From:** Lauren Vigliotti [vigliotti@geoconinc.com]  
**Sent:** Tuesday, April 19, 2011 4:52 PM  
**To:** Diane Galvan  
**Subject:** RE: Results/EDD - SCL 17 Storm Damage (117382)

Hi Diane:

Please analyze the following samples for WET as indicated, standard TAT, thanks!

**Lead**

11-06-0.5  
11-09-0.5  
11-16-1.5  
11-02-0.5  
11-10-0.5  
11-07-1.5  
11-03-0.5  
11-08-0.5  
11-05-1.5  
11-07-0.5  
11-01-0.5

**Chromium**

11-16-0.5  
11-18-0.5  
11-17-0.5



**Lauren Vigliotti, PG** | *Project Geologist*  
**Geocon Consultants, Inc.**  
6671 Brisa Street, Livermore, California 94550  
Tel 925.371.5900 Fax 925.371.5915  
[www.geoconinc.com](http://www.geoconinc.com)

May 03, 2011



Lauren Vigliotti  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
TEL: (925) 768-9874  
FAX: (925) 371-5915

ELAP No.: 1838  
NELAP No.: 02107CA  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
  
Workorder No.: 117382

RE: SCL 17 Storm Damage, E8560-06-17

Attention: Lauren Vigliotti

Enclosed are the results for sample(s) received on April 15, 2011 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an addendum report. Please incorporate with documentation previously submitted.

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,

A handwritten signature in black ink, appearing to read "Eddie F. Rodriguez".

Eddie F. Rodriguez  
Laboratory Director

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**ANALYTICAL RESULTS**

**LEAD BY ATOMIC ABSORPTION  
WET DI/ EPA 7420**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	117382
<b>Project:</b>	SCL 17 Storm Damage, E8560-06-17	<b>Date Received</b>	4/15/2011 8:37:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	VV

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
117382-001A	11-01-0.5	ND	mg/L	72568	0.25	1	4/13/2011	5/3/2011
117382-005A	11-02-0.5	ND	mg/L	72568	0.25	1	4/13/2011	5/3/2011
117382-009A	11-03-0.5	ND	mg/L	72568	0.25	1	4/13/2011	5/3/2011
117382-016A	11-05-1.5	ND	mg/L	72568	0.25	1	4/14/2011	5/3/2011
117382-021A	11-07-0.5	ND	mg/L	72568	0.25	1	4/14/2011	5/3/2011
117382-022A	11-07-1.5	ND	mg/L	72568	0.25	1	4/14/2011	5/3/2011
117382-025A	11-08-0.5	ND	mg/L	72568	0.25	1	4/14/2011	5/3/2011
117382-029A	11-09-0.5	ND	mg/L	72568	0.25	1	4/14/2011	5/3/2011
117382-032A	11-10-0.5	ND	mg/L	72568	0.25	1	4/14/2011	5/3/2011

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	



LEAD BY ATOMIC ABSORPTION (TCLP)  
EPA 1311/ 7420

ANALYTICAL RESULTS

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	117382
<b>Project:</b>	SCL 17 Storm Damage, E8560-06-17	<b>Date Received</b>	4/15/2011 8:37:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	VV

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
117382-001A	11-01-0.5	0.52	mg/L	72609	0.25	1	4/13/2011	5/3/2011
117382-005A	11-02-0.5	0.25	mg/L	72609	0.25	1	4/13/2011	5/3/2011
117382-009A	11-03-0.5	0.50	mg/L	72609	0.25	1	4/13/2011	5/3/2011
117382-016A	11-05-1.5	0.82	mg/L	72609	0.25	1	4/14/2011	5/3/2011
117382-021A	11-07-0.5	ND	mg/L	72609	0.25	1	4/14/2011	5/3/2011
117382-022A	11-07-1.5	ND	mg/L	72609	0.25	1	4/14/2011	5/3/2011
117382-025A	11-08-0.5	0.62	mg/L	72609	0.25	1	4/14/2011	5/3/2011
117382-029A	11-09-0.5	ND	mg/L	72609	0.25	1	4/14/2011	5/3/2011
117382-032A	11-10-0.5	ND	mg/L	72609	0.25	1	4/14/2011	5/3/2011

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 7420\_DI\_GEOCON**

Sample ID: <b>MB-72568A</b>	SampType: <b>MBLK</b>	TestCode: <b>7420_DI_GEO</b>	Units: <b>mg/L</b>	Prep Date: <b>5/1/2011</b>	RunNo: <b>132566</b>						
Client ID: <b>PBS</b>	Batch ID: <b>72568</b>	TestNo: <b>WET DI/ EPA WET</b>	Analysis Date: <b>5/3/2011</b>	SeqNo: <b>2159918</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.25

Sample ID: <b>LCS-72568</b>	SampType: <b>LCS</b>	TestCode: <b>7420_DI_GEO</b>	Units: <b>mg/L</b>	Prep Date: <b>5/1/2011</b>	RunNo: <b>132566</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>72568</b>	TestNo: <b>WET DI/ EPA WET</b>	Analysis Date: <b>5/3/2011</b>	SeqNo: <b>2159919</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 5.013 0.25 5.000 0 100 80 120

Sample ID: <b>117382-032A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>7420_DI_GEO</b>	Units: <b>mg/L</b>	Prep Date: <b>5/1/2011</b>	RunNo: <b>132566</b>						
Client ID: <b>11-10-0.5</b>	Batch ID: <b>72568</b>	TestNo: <b>WET DI/ EPA WET</b>	Analysis Date: <b>5/3/2011</b>	SeqNo: <b>2159929</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.25 0 0 20

Sample ID: <b>117382-032A-MS</b>	SampType: <b>MS</b>	TestCode: <b>7420_DI_GEO</b>	Units: <b>mg/L</b>	Prep Date: <b>5/1/2011</b>	RunNo: <b>132566</b>						
Client ID: <b>11-10-0.5</b>	Batch ID: <b>72568</b>	TestNo: <b>WET DI/ EPA WET</b>	Analysis Date: <b>5/3/2011</b>	SeqNo: <b>2159930</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

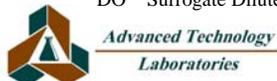
Lead 5.019 0.25 5.000 0 100 70 130

Sample ID: <b>117382-032A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>7420_DI_GEO</b>	Units: <b>mg/L</b>	Prep Date: <b>5/1/2011</b>	RunNo: <b>132566</b>						
Client ID: <b>11-10-0.5</b>	Batch ID: <b>72568</b>	TestNo: <b>WET DI/ EPA WET</b>	Analysis Date: <b>5/3/2011</b>	SeqNo: <b>2159931</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 5.158 0.25 5.000 0 103 70 130 5.019 2.73 20

**Qualifiers:**

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 7420\_TC**

Sample ID: <b>MB-72609</b>	SampType: <b>MBLK</b>	TestCode: <b>7420_TC</b>	Units: <b>mg/L</b>	Prep Date: <b>5/3/2011</b>	RunNo: <b>132567</b>						
Client ID: <b>PBS</b>	Batch ID: <b>72609</b>	TestNo: <b>EPA 1311/ 74 EPA3010A</b>		Analysis Date: <b>5/3/2011</b>	SeqNo: <b>2159932</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25									

Sample ID: <b>MB-72590A TCLP</b>	SampType: <b>MBLK</b>	TestCode: <b>7420_TC</b>	Units: <b>mg/L</b>	Prep Date: <b>5/3/2011</b>	RunNo: <b>132567</b>						
Client ID: <b>PBS</b>	Batch ID: <b>72609</b>	TestNo: <b>EPA 1311/ 74 EPA3010A</b>		Analysis Date: <b>5/3/2011</b>	SeqNo: <b>2159932</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25									

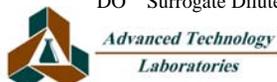
Sample ID: <b>LCS-72609</b>	SampType: <b>LCS</b>	TestCode: <b>7420_TC</b>	Units: <b>mg/L</b>	Prep Date: <b>5/3/2011</b>	RunNo: <b>132567</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>72609</b>	TestNo: <b>EPA 1311/ 74 EPA3010A</b>		Analysis Date: <b>5/3/2011</b>	SeqNo: <b>2159934</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	1.183	0.25	1.000	0	118	80	120				

Sample ID: <b>117382-032A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>7420_TC</b>	Units: <b>mg/L</b>	Prep Date: <b>5/3/2011</b>	RunNo: <b>132567</b>						
Client ID: <b>11-10-0.5</b>	Batch ID: <b>72609</b>	TestNo: <b>EPA 1311/ 74 EPA3010A</b>		Analysis Date: <b>5/3/2011</b>	SeqNo: <b>2159944</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25						0	0	20	

Sample ID: <b>117382-032A-MS</b>	SampType: <b>MS</b>	TestCode: <b>7420_TC</b>	Units: <b>mg/L</b>	Prep Date: <b>5/3/2011</b>	RunNo: <b>132567</b>						
Client ID: <b>11-10-0.5</b>	Batch ID: <b>72609</b>	TestNo: <b>EPA 1311/ 74 EPA3010A</b>		Analysis Date: <b>5/3/2011</b>	SeqNo: <b>2159945</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.722	0.25	2.500	0	109	70	130				

**Qualifiers:**

- |   |  |  |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range       | H Holding times for preparation or analysis exceeded           |
| ND Not Detected at the Reporting Limit            | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out                          | Calculations are based on raw values   |  |



3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562.989.4045 Fax: 562.989.4040

**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 117382  
**Project:** SCL 17 Storm Damage, E8560-06-17

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 7420\_TC

Sample ID: <b>117382-032A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>7420_TC</b>	Units: <b>mg/L</b>	Prep Date: <b>5/3/2011</b>	RunNo: <b>132567</b>						
Client ID: <b>11-10-0.5</b>	Batch ID: <b>72609</b>	TestNo: <b>EPA 1311/ 74 EPA3010A</b>	Analysis Date: <b>5/3/2011</b>	SeqNo: <b>2159946</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.702	0.25	2.500	0	108	70	130	2.722	0.748	20	

**Qualifiers:**

B Analyte detected in the associated Method Blank	E Value above quantitation range	H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit	R RPD outside accepted recovery limits	S Spike/Surrogate outside of limits due to matrix interference
DO Surrogate Diluted Out	Calculations are based on raw values	



*Advanced Technology  
Laboratories*

3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562.989.4045 Fax: 562.989.4040

## Diane Galvan

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**From:** Lauren Vigliotti [vigliotti@geoconinc.com]  
**Sent:** Wednesday, April 27, 2011 10:06 AM  
**To:** Diane Galvan  
**Subject:** RE: Additional Results/EDD - SCL 17 Storm Damage (117382)

Diane, please analyze the following samples for DI-WET and TCLP lead, expedited TAT. Thanks!

11-01-0.5    11-02-0.5    11-03-0.5    11-05-1.5    11-07-0.5  
11-07-1.5    11-08-0.5    11-09-0.5    11-10-0.5

Lauren Vigliotti, PG | Project Geologist Geocon Consultants, Inc.  
6671 Brisa Street, Livermore, California 94550  
Tel 925.371.5900    Fax 925.371.5915  
[www.geoconinc.com](http://www.geoconinc.com) <<http://www.geoconinc.com/>>



EMSL ANALYTICAL, INC.  
LABORATORY PRODUCTS TRAINING

### Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

091103567

EMSL ANALYTICAL, INC.  
2235 POLVOROSA DR., STE. 230  
SAN LEANDRO, CA 94577  
PHONE: (510) 895-3675  
FAX: (510) 895-3680

Company: <u>GECON</u>		EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different <small>If Bill to is Different note instructions in Comments**</small>	
Street: <u>6671 BRISA ST.</u>		<i>Third Party Billing requires written authorization from third party</i>	
City: <u>LIVERMORE</u>	State/Province: <u>CA</u>	Zip/Postal Code: <u>94550</u>	Country: <u>USA</u>
Report To (Name): <u>D. WATTS</u>		Fax #: <u>925-371-5915</u>	
Telephone #: <u>925-371-5900</u>		Email Address: <u>WATTS@GECONINC.COM</u>	
Project Name/Number: <u>EB560-06-17 / JCL 17 Storm Damage</u>			
Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email <input type="checkbox"/> Purchase Order:		U.S. State Samples Taken:	

**Turnaround Time (TAT) Options\* - Please Check**

3 Hour   
  6 Hour   
  24 Hour   
  48 Hour   
  72 Hour   
  96 Hour   
  1 Week   
  2 Week

\*For TEM Air 3 hours/6 hours, please call ahead to schedule. There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.

<b>PCM - Air</b> <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> w/ OSHA 8hr. TWA <b>PLM - Bulk (reporting limit)</b> <input type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) <input type="checkbox"/> NYS 198.1 (friable in NY) <input type="checkbox"/> NYS 198.6 NOB (non-friable-NY) <input type="checkbox"/> NIOSH 9002 (<1%)	<b>TEM - Air</b> <input type="checkbox"/> 4-4.5hr TAT (AHERA only) <input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input type="checkbox"/> ISO 10312 <b>TEM - Bulk</b> <input type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (non-friable-NY) <input type="checkbox"/> Chatfield SOP <input type="checkbox"/> TEM Mass Analysis-EPA 600 sec. 2.5 <b>TEM - Water:</b> EPA 100.2 Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking	<b>TEM - Dust</b> <input type="checkbox"/> Microvac - ASTM D 5755 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Carpet Sonication (EPA 600/J-93/167) <b>Soil/Rock/Vermiculite</b> <input checked="" type="checkbox"/> PLM CARB 435 - A (0.25% sensitivity) <input type="checkbox"/> PLM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - C (0.01% sensitivity) <input type="checkbox"/> EPA Protocol (Semi-Quantitative) <input type="checkbox"/> EPA Protocol (Quantitative) <b>Other:</b> <input type="checkbox"/>
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Check For Positive Stop - Clearly Identify Homogenous Group

Samplers Name: Mike O'Brien      Samplers Signature: [Signature]

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
11-01-3.0	Location 1 (SB)	NA	4/13/11 / 1014
1-02-3.0	1 ↓	}	4/13/11 / 1034
-03-3.0	2 (NB)		4/13/11 / 1417
-04-3.0	2 ↓		4/13/11 / 1432
-05-1.5	3 (SB)		4/14/11 / 1118
-06-1.5	3 ↓		4/14/11 / 1130
-07-1.5	4 ↓		4/14/11 / 1015
↓ -08-1.5	4 ↓		4/14/11 / 1049

Client Sample # (s): 18      Total # of Samples: 18

Relinquished (Client): [Signature]      Date: 4/14/11      Time: \_\_\_\_\_

Received (Lab): [Signature]      Date: 4-15-11      Time: 8:45 AM

Comments/Special Instructions: \_\_\_\_\_

091103567





**EMSL Analytical, Inc**

2235 Polvorosa Ave , Suite 230, San Leandro, CA 94577

Phone: (510) 895-3675 Fax: (510) 895-3680 Email: [sanleandrolab@emsl.com](mailto:sanleandrolab@emsl.com)

Attn: **Dave Watts**  
**Geocon Consultants, Inc.**  
**6671 Brisa Street**  
  
**Livermore, CA 94550**

Customer ID: GECN21  
Customer PO: E8560-06-17  
Received: 04/15/11 8:45 AM  
EMSL Order: 091103567

Fax: (925) 371-5915 Phone: (925) 371-5900  
Project: **E8560-06-17 / SCL 17 Storm Damage**

EMSL Proj: E8560-06-\*\*  
Analysis Date: 4/17/2011

**Test Report: PLM Analysis of Bulk Samples for Asbestos via EPA 600/R-93/116 Method with CARB 435 Prep (Milling) Level A for 0.25% Target Analytical Sensitivity**

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
11-01-3.0 <i>091103567-0001</i>	Location 1 SB	Brown Non-Fibrous Homogeneous		100.00% Non-fibrous (other)	<b>None Detected</b>
11-02-3.0 <i>091103567-0002</i>	Location 1 SB	Brown Non-Fibrous Homogeneous		100.00% Non-fibrous (other)	<b>None Detected</b>
11-03-3.0 <i>091103567-0003</i>	Location 2 NB	Brown Non-Fibrous Homogeneous		100.00% Non-fibrous (other)	<b>None Detected</b>
11-04-3.0 <i>091103567-0004</i>	Location 2 NB	Brown Non-Fibrous Homogeneous		100.00% Non-fibrous (other)	<b>None Detected</b>
11-05-1.5 <i>091103567-0005</i>	Location 3 SB	Brown Non-Fibrous Homogeneous		100.00% Non-fibrous (other)	<b>None Detected</b>
11-06-1.5 <i>091103567-0006</i>	Location 3 SB	Brown Non-Fibrous Homogeneous		100.00% Non-fibrous (other)	<b>None Detected</b>
11-07-1.5 <i>091103567-0007</i>	Location 4 SB	Brown Non-Fibrous Homogeneous		100.00% Non-fibrous (other)	<b>None Detected</b>
11-08-1.5 <i>091103567-0008</i>	Location 4 SB	Brown Non-Fibrous Homogeneous		100.00% Non-fibrous (other)	<b>None Detected</b>
11-09-1.5 <i>091103567-0009</i>	Location 5 SB	Brown Non-Fibrous Homogeneous		100.00% Non-fibrous (other)	<b>None Detected</b>

Initial report from

Analyst(s)  

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*Rui Cindy Geng (18)*

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Baojia Ke, Laboratory Manager  
or other approved signatory

This report relates only to the samples listed above and may not be reproduced except in full, without EMSL's written approval. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. EMSL is not responsible for sample collection activities or method limitations. Some samples may contain asbestos fibers below the resolution limit of PLM. EMSL recommends that samples reported as none detected or less than the limit of detection undergo additional analysis via TEM. Samples received in good condition unless otherwise noted.  
Samples analyzed by EMSL Analytical, Inc San Leandro, CA



**EMSL Analytical, Inc**

2235 Polvorosa Ave , Suite 230, San Leandro, CA 94577

Phone: (510) 895-3675 Fax: (510) 895-3680 Email: [sanleandrolab@emsl.com](mailto:sanleandrolab@emsl.com)

Attn: **Dave Watts**  
**Geocon Consultants, Inc.**  
**6671 Brisa Street**  
**Livermore, CA 94550**

Customer ID: GECN21  
Customer PO: E8560-06-17  
Received: 04/15/11 8:45 AM  
EMSL Order: 091103567

Fax: (925) 371-5915 Phone: (925) 371-5900  
Project: **E8560-06-17 / SCL 17 Storm Damage**

EMSL Proj: E8560-06-\*\*  
Analysis Date: 4/17/2011

**Test Report: PLM Analysis of Bulk Samples for Asbestos via EPA 600/R-93/116 Method with CARB 435 Prep (Milling) Level A for 0.25% Target Analytical Sensitivity**

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
11-10-1.5 <i>091103567-0010</i>	Location 5 SB	Brown Non-Fibrous Homogeneous		100.00% Non-fibrous (other)	<b>None Detected</b>
11-11-1.5 <i>091103567-0011</i>	Location 6 NB	Brown Non-Fibrous Homogeneous		100.00% Non-fibrous (other)	<b>None Detected</b>
11-12-1.5 <i>091103567-0012</i>	Location 6 NB	Brown Non-Fibrous Homogeneous		100.00% Non-fibrous (other)	<b>None Detected</b>
11-13-3.0 <i>091103567-0013</i>	Location 7 NB	Brown Non-Fibrous Homogeneous		100.00% Non-fibrous (other)	<b>None Detected</b>
11-14-3.0 <i>091103567-0014</i>	Location 7 NB	Brown Non-Fibrous Homogeneous		100.00% Non-fibrous (other)	<b>None Detected</b>
11-15-3.0 <i>091103567-0015</i>	Location 7 NB	Brown Non-Fibrous Homogeneous		100.00% Non-fibrous (other)	<b>None Detected</b>
11-16-3.0 <i>091103567-0016</i>	Location 8 SB	Brown Non-Fibrous Homogeneous		100.00% Non-fibrous (other)	<b>&lt;0.25% Chrysotile</b>
11-17-3.0 <i>091103567-0017</i>	Location 8 SB	Brown Non-Fibrous Homogeneous		98.00% Non-fibrous (other)	<b>2.00% Chrysotile</b>
11-18-3.0 <i>091103567-0018</i>	Location 8 SB	Brown Non-Fibrous Homogeneous		97.50% Non-fibrous (other)	<b>2.50% Chrysotile</b>

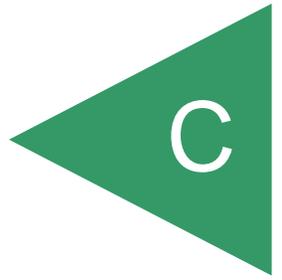
Initial report from

Analyst(s)  
Rui Cindy Geng (18)

  
Baojia Ke, Laboratory Manager  
or other approved signatory

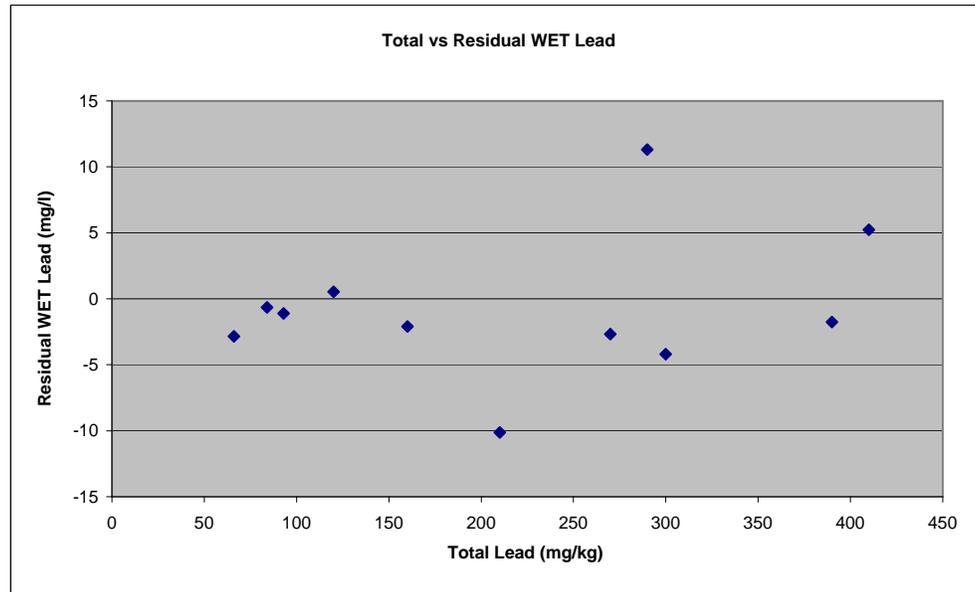
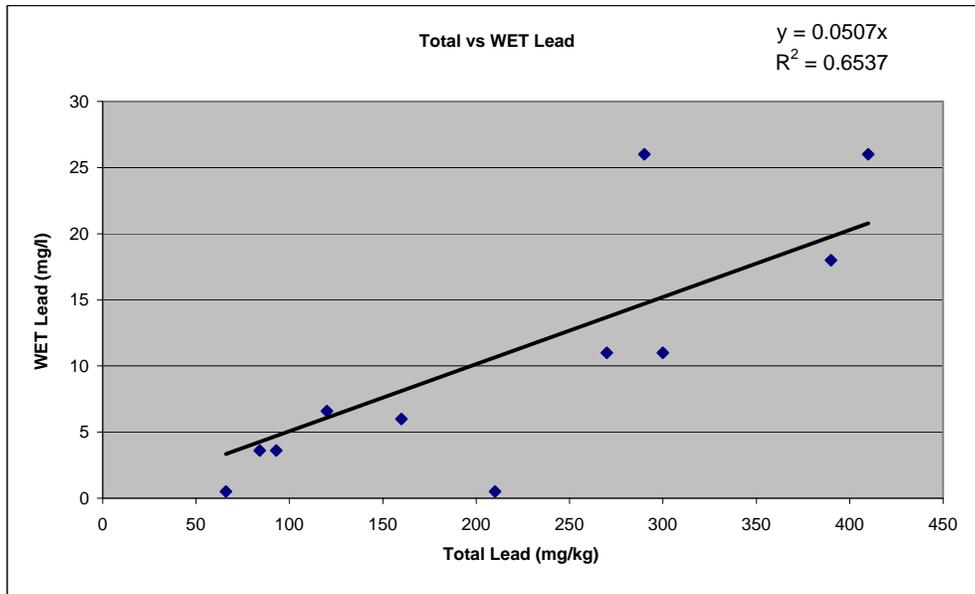
This report relates only to the samples listed above and may not be reproduced except in full, without EMSL's written approval. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. EMSL is not responsible for sample collection activities or method limitations. Some samples may contain asbestos fibers below the resolution limit of PLM. EMSL recommends that samples reported as none detected or less than the limit of detection undergo additional analysis via TEM. Samples received in good condition unless otherwise noted.  
Samples analyzed by EMSL Analytical, Inc San Leandro, CA

APPENDIX



APPENDIX C - Lead Regression

Sample ID	Sample Depth (feet)	Total Lead (mg/kg)	WET Lead (mg/l)	Residual WET Lead (mg/l)	Squared Residual WET Lead (mg/l)
11-01-0.5	0.5	410	26.0	5.23	27.308
11-02-0.5	0.5	120	6.6	0.52	0.270
11-03-0.5	0.5	270	11.0	-2.68	7.186
11-05-1.5	1.5	300	11.0	-4.20	17.646
11-06-0.5	0.5	66	0.5	-2.84	8.09
11-07-0.5	0.5	390	18.0	-1.76	3.10
11-07-1.5	1.5	210	0.5	-10.14	102.83
11-08-0.5	0.5	290	26.0	11.31	127.83
11-09-0.5	0.5	84	3.6	-0.66	0.43
11-10-0.5	0.5	160	6.0	-2.11	4.44
11-16-1.5	1.5	93	3.6	-1.11	1.24



APPENDIX C - METALS and TPH STATISTICS

loc1		loc 7	
Number of Valid Observations	8	Number of Valid Observations	8
Number of Distinct Observations	8	Number of Distinct Observations	8
Minimum	5.6	Minimum	8.8
Maximum	410	Maximum	48
Mean	78.45	Mean	20.65
Median	14.5	Median	14.5
SD	139.5	SD	14.99
Variance	19463	Variance	224.8
Coefficient of Variation	1.778	Coefficient of Variation	0.726
Skewness	2.445	Skewness	1.12
Mean of log data	3.2	Mean of log data	2.813
SD of log data	1.558	SD of log data	0.686
90% Standard Bootstrap UCL	139	90% Standard Bootstrap UCL	26.84
95% Standard Bootstrap UCL	152.4	95% Standard Bootstrap UCL	28.68
loc 2		loc 8	
Number of Valid Observations	6	Number of Valid Observations	10
Number of Distinct Observations	5	Number of Distinct Observations	8
Minimum	5.1	Minimum	2.5
Maximum	270	Maximum	93
Mean	51.27	Mean	20.95
Median	7.2	Median	8.3
SD	107.2	SD	27.9
Variance	11492	Variance	778.5
Coefficient of Variation	2.091	Coefficient of Variation	1.332
Skewness	2.445	Skewness	2.286
Mean of log data	2.556	Mean of log data	2.398
SD of log data	1.533	SD of log data	1.177
90% Standard Bootstrap UCL	101.8	90% Standard Bootstrap UCL	31.76
95% Standard Bootstrap UCL	116.8	95% Standard Bootstrap UCL	35.01
loc 3		As	
Number of Valid Observations	6	Number of Valid Observations	18
Number of Distinct Observations	6	Number of Distinct Observations	15
Minimum	2.5	Minimum	0.5
Maximum	300	Maximum	9.5
Mean	69.67	Mean	3.744
Median	21	Median	3.85
SD	115.1	SD	2.651
Variance	13238	Variance	7.026
Coefficient of Variation	1.652	Coefficient of Variation	0.708
Skewness	2.254	Skewness	0.62
Mean of log data	3.151	Mean of log data	0.961
SD of log data	1.669	SD of log data	1.006
90% Standard Bootstrap UCL	124.3	95% Standard Bootstrap UCL	4.755
95% Standard Bootstrap UCL	141.2		

APPENDIX C - METALS and TPH STATISTICS

loc 4		Ni	
Number of Valid Observations	8	Number of Valid Observations	18
Number of Distinct Observations	8	Number of Distinct Observations	15
Minimum	5.4	Minimum	2.6
Maximum	390	Maximum	480
Mean	115.7	Mean	64.64
Median	7.85	Median	27
SD	157.4	SD	112.7
Variance	24787	Variance	12696
Coefficient of Variation	1.361	Coefficient of Variation	1.743
Skewness	0.995	Skewness	3.356
Mean of log data	3.34	Mean of log data	3.445
SD of log data	1.933	SD of log data	1.134
90% Standard Bootstrap UCL	182.8	95% Standard Bootstrap UCL	107.5
95% Standard Bootstrap UCL	199.8		
loc 5		V	
Number of Valid Observations	6	Number of Valid Observations	18
Number of Distinct Observations	6	Number of Distinct Observations	15
Minimum	5.5	Minimum	5.7
Maximum	160	Maximum	60
Mean	45.9	Mean	25.59
Median	9.95	Median	19
SD	63.69	SD	15.49
Variance	4056	Variance	240
Coefficient of Variation	1.388	Coefficient of Variation	0.605
Skewness	1.531	Skewness	1.148
Mean of log data	2.931	Mean of log data	3.081
SD of log data	1.448	SD of log data	0.588
90% Standard Bootstrap UCL	76.37	95% Standard Bootstrap UCL	31.49
95% Standard Bootstrap UCL	83.29		
loc 6		TPHd	
Number of Valid Observations	8	Number of Valid Observations	18
Number of Distinct Observations	6	Number of Distinct Observations	8
Minimum	2.5	Minimum	0.5
Maximum	8.1	Maximum	320
Mean	5.7	Mean	25.9
Median	6.3	Median	0.5
SD	2.149	SD	76.56
Variance	4.617	Variance	5861
Coefficient of Variation	0.377	Coefficient of Variation	2.956
Skewness	-0.801	Skewness	3.765
Mean of log data	1.656	Mean of log data	0.693
SD of log data	0.474	SD of log data	2.072
90% Standard Bootstrap UCL	6.599	95% Standard Bootstrap UCL	55.15
95% Standard Bootstrap UCL	6.869		

respond, inadequate response, late response, or failure to meet any condition of this certification may subject you to civil liability imposed by the Water Board to a maximum of \$5,000 per day per violation or \$10 for each gallon of waste discharged in violation of this certification.

We anticipate no further action on this request. Should new information come to our attention that indicates a water quality problem with this project, the Water Board may issue Waste Discharge Requirements pursuant to 23 CCR Section 3857.

If you have any questions, please contact Brendan Thompson of my staff at (510) 622-2506, or via e-mail to [BThompson@waterboards.ca.gov](mailto:BThompson@waterboards.ca.gov).

Sincerely,

Shin-Roei Lee

 acting for

2011.11.22

Bruce H. Wolfe  
Executive Officer

16:19:04 -08'00'

cc (via e-mail): Mr. Bill Orme SWRCB-DWQ  
Ms. Paula Gill, USACE  
Ms. Jane Hicks, Regulatory Branch, USACE  
Mr. Frank Meraz, Caltrans  
Mr. Cameron Johnson, USACE  
Mr. Dave Johnston, CDFG

Mr. Dale Bowyer, Water Board  
Mr. Cyrus Vafai, Caltrans  
Mr. Hardeep Takhar, Caltrans  
Mr. Jason Brush, USEPA  
Ms. Jayshree Chauhan, Caltrans