FOR CONTRACT NO.04-049074

INFORMATION HANDOUT

PERMITS

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
WATER QUALITY CERTIFICATION

UNITED STATES ARMY CORPS OF ENGINEERS
NON-REPORTING NATIONWIDE 404 PERMIT

SAN FRANCISCO BAY CONSERVATION DEVELOPMENT COMMISSION
BCDC – M87-42
BCDC CORRESPONDENCE LETTER

UNITED STATES COAST GUARD
33CFR SEC 115.40 AND THE CORRESPONDENCE LETTER

MATERIALS INFORMATION

FOUNDATION REPORT FOR CAQUINEZ BRIDGE PIER 3 FENDER SYSTEM

SUMMARY OF PREVIOUS ANALYTICAL RESULTS FOR PIER 3 SAND FILL

ROUTE: 04-CC/SOL –80 PM 13.9/14.2; 0.0/0.5

California Regional Water Quality Control Board
San Francisco Bay Region

Linda S. Adams
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

Date: May 20, 2011
Site No. 02-07-C0988
CIWQS Place No.: 724974

California Department of Transportation
Attn: Mr. Larry Jones
Larry_Jones@dot.ca.gov
111 Grand Avenue
Oakland, CA 94612

Subject: Water Quality Certification for Eastbound I-80 Carquinez Bridge Piers 2 and 3 Fender Replacement Project, Contra Costa and Solano Counties

Department Project No.: EA 04-049074

Dear Mr. Jones:

We have reviewed and hereby issue water quality certification to the California Department of Transportation (Department) to repair the fender systems on piers 2 and 3 of the East Carquinez Bridge (Project). The Department has claimed coverage for the Project under U.S. Army Corps of Engineers (Corps) Non-Reporting Nationwide Permit No. 3, *Maintenance*, 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 proposes to repair and replace deteriorated fender protection systems on piers 2 and 3 of the eastbound Interstate 80/Carquinez Bridge (Bridge) by replacing the existing timber wales and sheathings with reinforced recycled plastic (RRP) lumber. This work is required by the United States Coast Guard and must be done to mitigate damage to the bridge and ships in the event of possible collisions.

Project activities involve demolition and removal of the existing concrete ring beam and two steel cross beams. The existing concrete ring beam shadows approximately 16,700 square feet of the Carquinez Strait water surface, whereas the future ring beam structure will shadow approximately 15,700 square feet. The 378 existing damaged concrete piles that support the ring and cross beams structure will be cut at the surface level of the underwater rock fill and replaced with 25 cast-in-steel shell concrete piles to support the future fender section. Approximately 3.98 acres of pile fill to Carquinez Strait will be replaced with 0.28 acres of pile fill. Installation of the new piles will

require pre-drilling of holes through the existing underwater rock fill under the left portion of the fender. Eight rubber bumpers will be installed at the new left fender section.

Impacts: In-kind replacement of the pier protection structure will result in approximately 0.28 acres of permanent fill as a result of pile installation.

Mitigation: Because the Project will result in approximately 3.70 acres of a net decrease in fill to the Carquinez Strait, because the Project involves in-kind replacement within the footprint of an existing structure, because piles will be vibratory driven and not impact driven, because recycled plastic materials will be used in lieu of treated wood materials, and because construction best management practices (BMPs) will be implemented during construction, no mitigation is required for this Project.

CEQA Compliance: In February 2011, 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. The Department shall adhere to the Standard and Regional conditions imposed by Nationwide Permit No. 3;

2. All appropriate construction BMPs shall be implemented throughout the project site to minimize sediment disturbance and suspension and to prevent the discharge of any material including fresh concrete, cement, silts, clay, sand, or any other materials to the Carquinez Strait. An inventory of BMPs implemented at the Project site shall be submitted to Water Board staff upon request;

3. Within 24 hours, the Department shall notify Water Board staff describing discharge of any Project-related material to the Carquinez Strait. The Department shall give a description of the discharge, an explanation of procedures that resulted in the discharge, and corrective measures implemented to prevent similar future discharges;

4. This certification does not allow for the take, or incidental take of any State or Federal listed threatened or endangered listed species. The Department is required, as prescribed in the State or Federal endangered species acts, to consult with the appropriate agency prior to

commencement of the project. Any unauthorized take of such listed species may result in prosecution;

5. 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;

6. This Certification applies to the Project as proposed in the application materials. Please be advised that failure to implement the Project as proposed is a violation of this water quality certification;

7. Except as expressly allowed in this Certification, the discharge, or creation of the potential for discharge, of any soil materials including fresh concrete, cement, silts, clay, sand and other organic materials to the Carquinez Strait is prohibited;

8. 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);

9. 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,

10. Certification is conditioned upon total payment of the full fee required in State regulations (23 CCR Section 3833). Water Board staff have received full payment of $640.00 on May 17, 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 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 question, please contact Brendan Thompson at (510) 622-2506, or via e-mail to BThompson@waterboards.ca.gov.

Sincerely,

Bruce H. Wolfe
Executive Officer

cc (via e-mail):

Mr. Bill Orme SWRCB-DWQ
Mr. Rafael Montes, BCDC
Ms. Jane Hicks, USACE
Ms. Laurie Monarres, USACE
Mr. Jerry Roe, USFWS
Mr. Cameron Johnson, USACE
Mr. Dale Bowyer, Water Board
Mr. Jason Brush, USEPA
Mr. Hardeep Takhar, Caltrans
Mr. Cyrus Vafai, Caltrans
Ms. Jayshree Chauhan, USACE

San Francisco District
Regulatory Division

Nationwide Permit Information

I. Project Location and Contact Information

District No: 04 Project Title: Carquinez Bridge Fender and Pier Rehabilitation Project

County: Contra Costa/Solano Route: 80 Post Mile: 13.9/14.2 0.0/0.2 Project EA: 049071

Project Manager: Larry Jones/Gordon Jeong Phone No.: 510.286.5080/510.286.5962

Project Biologist: Chuck Morton Phone No.: 510.286.5016

Quad Name: Benicia 38° 03' 39.30"/122° 13' 33.14" Waterway/Watershed: Carquinez Strait to San Pablo Bay to San Francisco Bay to Pacific Ocean

II. Project Description:

Caltrans is proposing to complete the following items on the 1957 Carquinez Bridge (Br # 23-15R) Piers 2 & 3 fenders and the Pier 3 concrete ring beam on CC/Sol 80.

The work at Pier 2 includes replacing the existing wood timber wales and sheathings with Recycled Reinforced Plastic (RRP) members.

The work at Pier 3 includes replacing all the left (west) bridge portion of the fender and the wood timber wales and sheathings with RRP members. Replacement of the left portion of the fender system at Pier 3 includes demolition and removal of the existing concrete ring beam along with two steel cross beams that are part of this structure. The section of the concrete ring that will be removed covers approximately 16,700 square feet (0.38 acres) of shadow area; and the new section will cover around 15,700 square feet (0.36 acres) of shadow area. The 378 damaged 14"x14" concrete piles (total volume of approximately 3470 cubic yards (CY)) that support this fender section will be cut and removed at or below the existing mud-line and will be replaced with 25 28" diameter cast-in-steel shell concrete piles (total volume of 550 CYs) that will support the new fender system. In order to install these new 28" diameter steel shell piles, approximately 13,500 CYs of existing submerged rockfill will be relocated to within and on top of existing undisturbed rockfill adjacent to the existing pier. As part of the new Pier 3 fender system, 8 rubber bumpers with new cast-in-place concrete bumpers seats will also to be installed within the new left fender section.

To comply with the USFWS/ACE/NOAA Programmatic Agreement resulting in a Not Likely to Adversely Affect (NLAA) determination for listed species within the project area, all pile installation will be done with a vibratory hammer. Hydro-acoustic monitoring will be done during the installation of a representative number of new piles.

To meet the criteria of the San Francisco Bay Conservation and Development Commission major maintenance permit (M87-42, expiring December 31, 2013) issued to Caltrans, none of the rockfill that needs to be relocated will be removed from the water.

As described this project meets the US Army Corps of Engineers non-reporting Nationwide Permit #3 criteria for those activities that are jurisdictional under the US ACE regulations. This Nationwide Permit Program expires March 18, 2012.

California Department of Fish and Game has no jurisdiction on this project as the project is totally within tidal waters.

This bridge and its associated structures, e.g. Piers 2 & 3, are listed as Category 5, not eligible as they pertain to the National Register of Historic Places.

UC Davis have fish monitoring devices attached to the fender system on all of the in-water piers. Prior to any work, UC Davis must be advised to remove their monitors. Contact person is Chuck Morton, Caltrans, 510.286.5016 or 510.715.6416.

III. Name of Lead Federal Agency NA

IV. Endangered Species Act Section 7 Consultation Please attach a determination and/or result of informal/formal consultation.

List all federally-listed species potentially occurring within the project area.

To comply with the USFWS/ACE/NOAA Programmatic Agreement resulting in a Not Likely to Adversely Affect (NLAA) determination for listed species within the project area, all pile installation will be done with a vibratory hammer. Hydro-acoustic monitoring will be done during the installation of a representative number of new piles.

Has Section 7 Consultation concluded with USFWS? Yes ☐ No ☒ Date

Has Section 7 Consultation concluded with NMFS? Yes ☐ No ☒ Date

Lead Federal agency (i.e. agency responsible for Section 7 Consultation with USFWS or NMFS)

Determination (List species under the appropriate category below)

No effect

Not likely to adversely affect

May affect

Appended to a programmatic

V. Essential Fish Habitat Consultation (EFH) Please attach a copy of determination and/or NMFS' EFH recommendations.

Select affected EFH Fishery Management Plan: Pacific Ground Fish ☐ Coastal Pelagic ☐ Pacific Salmon ☐

Lead Federal agency EFH (i.e. agency responsible for section 7 consultation)

Has EFH Consultation concluded with NMFS? Yes ☐ No ☒ Date

VI. Permit Being Requested (check one that applies)

☐ Reporting Nationwide Permit ☒ Non-Reporting Nationwide Permit

Indicate which NWP(s) would appropriately authorize the proposed project. 3

VII. Corps' Authority Information

Section 10 (Attach Justification and Maps): Yes ☐ No ☒

Section 404 (Attach Justification and Maps): Yes ☐ No ☒

Has a preliminary jurisdictional determination report been verified by the Corps? Yes ☐ No ☒ Date

VIII. Minimal Impact Criteria

Explain whether or not the proposed project would result in minimum impact to the aquatic environment (attach additional information if necessary):

IX. Permit Compliance Information (Nationwide General Conditions and the San Francisco District's Regional Conditions)

Explain how the project complies with each of the following. Attach additional sheets if necessary.
For more information go to: http://www.usace.army.mil/cw/cecwo/reg/nwp/nwp_2007_final.pdf

1. Navigation — No effect. Mandated by USCG as part of New Carquinez Bridge construction.
2. Aquatic Life Movements — No effect.
3. Spawning Areas — No effect.
4. Migratory Bird Breeding Areas — No effect.
5. Shellfish Beds — No effect.
6. Suitable Material — All material will be suitable and suitable onsite material will be used to the extent possible.
7. Water Supply Intakes — No effect.
8. Adverse Effects — There will be no adverse effects from this project.
9. Management of Water Flows — No water impoundment will occur during this project.
10. Fills within 100-Year Floodplains

    Does the activity comply with applicable FEMA-approved state or local floodplain management requirements? Yes ☐ No ☒
11. Equipment — It is anticipated that all construction equipment will be on barges, pier cap, or bridge deck.
12. Soil Erosion and Sediment Controls — Caltrans Best Management Practices will be implemented during construction.
13. Removal of Temporary Fills — No temporary fills will be used during the construction of this project.
14. Proper Maintenance — This project will be properly maintained by Caltrans personnel.
15. Wild and Scenic Rivers

    Does the activity occur in a component of a National Wild and Scenic River System? Yes ☐ No ☒

    Does the activity occur in a river officially designated by Congress as a study river? Yes ☐ No ☒
16. Tribal Rights — There are no Tribal issues associated with this project.
17. Endangered Species See section IV above.
18. Historic Properties (attach documentation of determination)

    Is it possible that the activity may affect properties listed, or eligible for listing in the National Register of Historic Places? Yes ☐ No ☒

    Lead Federal agency (i.e. agency responsible for Section 106 Compliance) _____
19. Designated Critical Waters (select those that apply):

    ☐ N0AA-designated marine sanctuaries ☐ National Estuarine Research Reserves

    ☐ State natural heritage sites ☐ Corps designated critical resource

    ☐ Outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance.

    Note: NWP 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49 and 50: **NWP authorization prohibited**

    NWP 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38: **PCN required**
20. Mitigation

    Has the activity been designed and constructed to avoid and minimize adverse effects to Waters of the U.S.? Yes ☒ Section 10 No ☐

    Has mitigation been proposed? If yes, please attach detailed mitigation and monitoring plan. Yes ☐ No ☒

    Does mitigation meet required minimum 1:1 ratio? Yes ☐ No ☒

    If streams are affected by the project, are vegetated buffers with native plant spp. near streams maintained / restored? Yes ☐ No ☐
21. Water Quality

    RWQCB 401 Certification Yes ☐ No ☐ Pending ☒ (provide date of application) 4/1/11

    Point of Contact at RWQCB Brendan Thompson

    Date 401 Certification issued _____
22. Coastal Zone Management

    Consistency Determination Yes ☒ No ☐ Pending ☐ (provide date of application) See Below

    Point of Contact at Costal Commission Covered by BCDC M87-42 Maintenance Permit, Bob Batha

    Date of Consistency Determination issued 2/23/2011 letter to BCDC
23. Regional and Case-by-Case Conditions (the following section summarizes the S.F. District's Regional Conditions)

    Does the proposed project occur in Diked Baylands? Yes ☐ No ☒ **If Yes, a PCN is required**

Does the propose project occur within the Santa Rosa Plain? Yes ☐ No ☒ **If Yes, a PCN is required**

Is the project proposed to occur within Eelgrass beds? Yes ☐ No ☒ **If Yes, a PCN is required**

Is the project proposed to occur within EFH? Yes ☐ No ☒ **If Yes, a PCN is required with additional information**

Will mitigation occur before or concurrently with project construction? Yes ☐ No ☒

Are you requesting a waiver of the 300 linear foot threshold? Yes ☐ No ☒ **If Yes, a PCN is required with additional information**

Specific NWP Regional Conditions

NWP 3: Excavation equipment shall work from an upland site; bank stabilization must incorporate structures or modification beneficial to fish and wildlife; and justification for work within special aquatic site is required (please attach).

NWP 11: Are any temporary structures proposed in wetlands or vegetated shallow water areas? Yes ☐ No ☒ **If Yes, a PCN is required**

NWP 12: Excess material removed from the trench shall be disposed of at an upland site; and authorization of substation facilities by this NWP is prohibited.

NWP 13: PCN required for stabilization of more than 300 linear feet; excavation of a toe trench is allowed as long as excess material is disposed of at an upland location; additional fill which extends beyond the original shoreline may not exceed one cubic yard per running foot; bank stabilization must incorporate structures or modification beneficial to fish and wildlife; and PCN should address up and downstream effects of stabilization.

NWP 14: PCN required for projects proposed to fill greater than 300 linear feet of channel; authorization prohibited for taxiways or runways; modifications must incorporate structures or modification beneficial to fish and wildlife; PCN should address up and downstream effects of fill.

NWP 23: PCN Required. Please refer to regional conditions for additional information on PCN requirements.

NWP 33: Access roads shall be designed to be the minimum width necessary; the road shall be properly stabilized; fill shall be placed to minimize encroachment of equipment within Waters of the U.S.; vegetative disturbance shall be minimized; borrow shall be taken from upland source; and stream channelization authorization by this NWP is prohibited.

NWP 35: PCN Required. Please refer to regional conditions for additional information on PCN requirements.

NWP 40: Work shall not impede flows during high volume events.

NWP 41: Mitigation may be required; PCN required if fill material will be re-deposited, re-graded, discharged, or if channel lining is installed; and PCN shall include an explanation of the project's benefit to water quality.

NWP 42: 404(b)(1) guidelines must be met if buildings are proposed in Waters of the U.S.

NWP 44: Revoked in Humboldt and Del Norte Counties.

24. Use of Multiple Nationwide Permits Yes ☐ No ☒

    If yes, list NWP and acreage impact _____

25. Transfer of Nationwide Permit Verifications Not Applicable

26. Compliance Certification A Compliance Certification is not required for this project.

27. Notification

    NWPs 3, 7, 8, 12, 13, 14, 17, 18, 21, 22, 23, 27, 29, 31, 33, 34, 36, 37, 38, 29, 40, 41, 42, 43, 44, 45, 47, 48, 49, and 50; **PCN Required**

    (for thresholds go to: http://www.usace.army.mil/cw/cecwo/reg/nwp/nwp_2007_final.pdf)

    PCN Contents (please attach)

    ☐ Name, address, and telephone number of the applicant
    ☐ Location of proposed project
    ☐ Delineation of special aquatic sites and other Waters of the U.S.
    ☐ Detailed mitigation and monitoring plan
    ☐ Federally-listed species information
    ☐ Historic properties information
    ☐ A project description including purpose, direct and indirect effects, additional Corps' authorizations for the project;

28. Is the activity a single and complete project? Yes ☒ No ☐

X. Multiple Nationwide Permit Requested

If multiple Nationwide Permits are requested, list No. and Title, and explain how each activity complies with the NWP terms. (Attach additional sheets if necessary):

1. Not Applicable
2. _____
3. _____

XII. Project Impact Information [Area Affected (acres) and (cubic yards)]

Wetlands (permanent): 0 — Wetlands (temporary): 0

Waters of the US (permanent): 1,000 sf (0.02acres) net increase Section 10 waters — Waters of the US (temporary): 0

Linear extent of impact within Corps' jurisdiction: 100'

XIII. Project Mitigation Information

Special Conditions (List conditions specified by specialist Division personnel): No special conditions are related to this project.

Best Management Practices (attach additional information if necessary): Caltrans BMPs will be implemented during project construction.

Site Restoration Plan (attach additional information if necessary): No site restoration plan is necessary for this project.

Proposed Mitigation (attach additional information if necessary): NA

Attachments

- Site location map
- Delineation of jurisdictional boundaries (on aerial photo or contour map) prepared in accordance with November 2007 Memo titled, "*San Francisco District's Information Requested for Verification of Corps' Jurisdiction*".
- Completed routine delineation data forms
- Reduced project plans showing all proposed impacts to aquatic resources
- Mitigation information
- Copy of applicable nationwide permit(s) and general conditions

FOR CALTRANS USE ONLY:

IX. Signatures

Based on the information provided above, I hereby certify that this project qualifies for a nationwide permit pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344) and/or Section 10 of the U.S. Rivers and Harbors Act (33 U.S.C. 406).

Prepared by: **Chuck Morton** Date: 2/23/2011

Peer Review: **Gordon Jeong** Date: 2/23/2011

Supervisory Concurrence: **Larry Jones** Date: 2/23/2011

cc: U.S. Army Corps of Engineers Liaison
Environmental Planning Branch Nationwide Permit File
District Office Engineer
District Project Manager
Resident Engineer Pending File

Federal Register

Monday,
March 12, 2007

Part II

Department of Defense

Department of the Army, Corps of Engineers

Reissuance of Nationwide Permits; Notice

DEPARTMENT OF DEFENSE

Department of the Army, Corps of Engineers

[ZRIN 0710–ZA02]

Reissuance of Nationwide Permits

AGENCY: Army Corps of Engineers, DoD.

ACTION: Final notice.

SUMMARY: The U.S. Army Corps of Engineers (Corps) is reissuing all existing nationwide permits (NWPs), general conditions, and definitions, with some modifications. The Corps is also issuing six new NWPs, two new general conditions, and 13 new definitions. The effective date for the new and reissued NWPs will be March 19, 2007. These NWPs will expire on March 18, 2012. The NWPs will protect the aquatic environment and the public interest while effectively authorizing activities that have minimal individual and cumulative adverse effects on the aquatic environment.

DATES: The NWPs and general conditions will become effective on March 19, 2007.

ADDRESSES: U.S. Army Corps of Engineers, Attn: CECW–CO, 441 G Street NW., Washington, DC 20314–1000.

FOR FURTHER INFORMATION CONTACT: Mr. David Olson at 202–761–4922 or by e-mail at *david.b.olson@usace.army.mil* or access the U.S. Army Corps of Engineers Regulatory Home Page at *http://www.usace.army.mil/inet/functions/cw/cecwo/reg/.*

SUPPLEMENTARY INFORMATION:

Background

In the September 26, 2006, issue of the **Federal Register** (71 FR 56258), the U.S. Army Corps of Engineers (Corps) published its proposal to reissue 43 existing nationwide permits (NWPs) and issue six new NWPs. The Corps also proposed to reissue its general conditions and add one new general condition.

The Corps proposal is intended to simplify the NWP program while continuing to provide environmental protection, by ensuring that the NWPs authorize only those activities that have minimal individual and cumulative adverse effects on the aquatic environment and satisfy other public interest factors.

As a result of the comments received in response to the September 26, 2006, proposal, we have made a number of changes to the NWPs, general conditions, and definitions to further clarify the permits, facilitate their administration, and strengthen environmental protection. These changes are discussed in the preamble.

The Corps is reissuing the 43 existing NWPs, issuing six new NWPs, reissuing 26 existing general conditions, and issuing one new general condition. The Corps is also reissuing many of the NWP definitions, and providing 13 new definitions. The effective date for these NWPs, general conditions, and definitions is March 19, 2007. These NWPs, general conditions, and definitions expire on March 18, 2012.

While the Administrative Procedure Act requires a substantive rule to be published in the **Federal Register** at least 30 days before its effective date, exceptions to this requirement can be made for good cause (5 U.S.C. 553(d)(3)). We are utilizing this good cause exception to reduce hardships on the regulated public.

Grandfather Provision for Expiring NWPs

In accordance with 33 CFR 330.6(b), activities authorized by the current NWPs issued on January 15, 2002, that have commenced or are under contract to commence by March 18, 2007, will have until March 18, 2008, to complete the activity under the terms and conditions of the current NWPs.

Clean Water Act Section 401 Water Quality Certifications (WQC) and Coastal Zone Management Act (CZMA) Consistency Determinations

In the September 26, 2006, **Federal Register** notice and concurrent with letters from Corps Districts to the appropriate state agencies, the Corps requested initial 401 certifications and CZM consistency determinations. This began the Clean Water Act section 401 water quality certification (WQC) and Coastal Zone Management Act (CZMA) consistency determination processes.

Today's **Federal Register** notice begins the 60-day period for states, Indian Tribes, and EPA to complete their WQC process for the NWPs. This **Federal Register** notice also provides a 60-day period for coastal states to complete their CZMA consistency determination processes. This 60-day period will end on May 11, 2007.

While the states, Indian Tribes, and EPA complete their WQC processes and the states complete their CZMA consistency determination processes, the use of an NWP to authorize a discharge into waters of the United States is contingent upon obtaining individual water quality certification or a case-specific WQC waiver. Likewise, the use of an NWP to authorize an activity within, or outside, a state's coastal zone that will affect land or water uses or natural resources of that state's coastal zone, is contingent upon obtaining an individual CZMA consistency determination, or a case-specific presumption of CZMA concurrence. We are taking this approach to reduce the hardships on the regulated public that would be caused by a substantial gap in NWP coverage if we were to wait 60 days before these NWPs would become effective.

After the 60-day period, the latest version of any written position take by a state, Indian tribe, or EPA on its WQC for any of the NWPs will be accepted as the state's final position on those NWPs. If the state, Indian tribe, or EPA takes no action by May 11, 2007, WQC will be considered waived for those NWPs.

After the 60-day period, the latest version of any written position take by a state on its CZMA consistency determination for any of the NWPs will be accepted as the state's final position on those NWPs. If the state takes no action by May 11, 2007, CZMA concurrence will be presumed for those NWPs.

Discussion of Public Comments

I. Overview

In response to the September 26, 2006, **Federal Register** notice, we received more than 22,500 comments. We reviewed and fully considered all comments received in response to that notice.

General Comments

Many commenters provided general support for the proposal, and some of them stated that the changes are a step forward in improving consistency in the NWP program. Some commenters said that the proposed NWPs provide a balance between environmental protection and allowing development to occur. One commenter said that the NWP program provides sufficient environmental protection, through its general conditions and the ability for the district engineer to exercise discretionary authority to require individual permits. Several commenters stated that the proposed NWPs are simpler, clearer, and easier to understand. Three commenters said that further streamlining is necessary. One commenter recommended adopting a standard numbering system for paragraphs and subparagraphs within the NWP text. Three commenters said that the Corps should retain appropriate references to general conditions in the text of NWPs, for purpose of clarification.

To the extent that it is feasible, we have adopted a standard format for the

2007 Nationwide Permits, Conditions, Further Information, and Definitions (with corrections)

A. Index of Nationwide Permits, Conditions, Further Information, and Definitions

Nationwide Permits

1. Aids to Navigation
2. Structures in Artificial Canals
3. Maintenance
4. Fish and Wildlife Harvesting, Enhancement, and Attraction Devices and Activities
5. Scientific Measurement Devices
6. Survey Activities
7. Outfall Structures and Associated Intake Structures
8. Oil and Gas Structures on the Outer Continental Shelf
9. Structures in Fleeting and Anchorage Areas
10. Mooring Buoys
11. Temporary Recreational Structures
12. Utility Line Activities
13. Bank Stabilization
14. Linear Transportation Projects
15. U.S. Coast Guard Approved Bridges
16. Return Water From Upland Contained Disposal Areas
17. Hydropower Projects
18. Minor Discharges
19. Minor Dredging
20. Oil Spill Cleanup
21. Surface Coal Mining Operations
22. Removal of Vessels
23. Approved Categorical Exclusions
24. Indian Tribe or State Administered Section 404 Programs
25. Structural Discharges
26. [Reserved]
27. Aquatic Habitat Restoration, Establishment, and Enhancement Activities
28. Modifications of Existing Marinas
29. Residential Developments
30. Moist Soil Management for Wildlife
31. Maintenance of Existing Flood Control Facilities
32. Completed Enforcement Actions
33. Temporary Construction, Access, and Dewatering
34. Cranberry Production Activities

B. Nationwide Permits

1. Aids to Navigation. The placement of aids to navigation and regulatory markers which are approved by and installed in accordance with the requirements of the U.S. Coast Guard (see 33 CFR, chapter I, subchapter C, part 66). (Section 10)

2. Structures in Artificial Canals. Structures constructed in artificial canals within principally residential developments where the connection of the canal to a navigable water of the United States has been previously authorized (see 33 CFR 322.5(g)). (Section 10)

3. Maintenance. (a) The repair, rehabilitation, or replacement of any previously authorized, currently serviceable, structure, or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3, provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, or current construction codes or safety standards that are necessary to make the repair, rehabilitation, or replacement are authorized. This NWP authorizes the repair, rehabilitation, or replacement of those structures or fills destroyed or damaged by storms, floods, fire or other discrete events, provided the repair, rehabilitation, or replacement is commenced, or is under contract to commence, within two years of the date of their destruction or damage. In cases of catastrophic events, such as hurricanes or tornadoes, this two-year limit may be waived by the district engineer, provided the permittee can demonstrate funding, contract, or other similar delays.

(b) This NWP also authorizes the removal of accumulated sediments and debris in the vicinity of and within existing structures (e.g., bridges, culverted road crossings, water intake structures, etc.) and the placement of new or additional riprap to protect the structure. The removal of sediment is limited to the minimum necessary to restore the waterway in the immediate vicinity of the structure to the approximate dimensions that existed when the structure was built, but cannot extend further than 200 feet in any direction from the structure. This 200 foot limit does not apply to maintenance dredging to remove accumulated sediments blocking or restricting outfall and intake structures or to maintenance dredging to remove accumulated sediments from canals associated with outfall and intake structures. All dredged or excavated materials must be deposited and retained in an upland area unless otherwise specifically approved by the district engineer under separate authorization. The placement of riprap must be the minimum necessary to protect the structure or to ensure the safety of the structure. Any bank stabilization measures not directly associated with the structure will require a separate authorization from the district engineer.

(c) This NWP also authorizes temporary structures, fills, and work necessary to conduct the maintenance activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

(d) This NWP does not authorize maintenance dredging for the primary purpose of navigation or beach restoration. This NWP does not authorize new stream channelization or stream relocation projects.

Notification: For activities authorized by paragraph (b) of this NWP, the permittee must submit a pre-construction notification to the district engineer prior to commencing the activity (see general condition 27). Where maintenance dredging is proposed, the pre-construction notification must include information regarding the original design capacities and configurations of the outfalls, intakes, small impoundments, and canals. (Sections 10 and 404)

Note: This NWP authorizes the repair, rehabilitation, or replacement of any previously authorized structure or fill that does not qualify for the Clean Water Act Section 404(f) exemption for maintenance.

4. Fish and Wildlife Harvesting, Enhancement, and Attraction Devices and Activities. Fish and wildlife harvesting devices and activities such as pound nets, crab traps, crab dredging, eel pots, lobster traps, duck blinds, and clam and oyster digging, and small fish attraction devices such as open water fish concentrators (sea kites, etc.). This NWP does not authorize artificial reefs or impoundments and semi-impoundments of waters of the United States for the culture or holding of motile species such as lobster, or the use of covered oyster trays or clam racks. (Sections 10 and 404)

5. Scientific Measurement Devices. Devices, whose purpose is to measure and record scientific data, such as staff gages, tide gages, water recording devices, water quality testing and improvement devices, and similar structures. Small weirs and flumes constructed primarily to record water quantity and velocity are also authorized provided the discharge is limited to 25 cubic yards. (Sections 10 and 404)

6. Survey Activities. Survey activities, such as core sampling, seismic exploratory operations, plugging of seismic shot holes and other exploratory-type bore holes, exploratory trenching, soil surveys, sampling, and historic resources surveys. For the purposes of this NWP, the term "exploratory trenching" means mechanical land clearing of the upper soil profile to expose bedrock or substrate, for the purpose of mapping or sampling the exposed material. The area in which the exploratory trench is dug must be restored to its pre-construction elevation upon completion of the work. In wetlands, the top 6 to 12 inches of the trench should normally be backfilled with topsoil from the trench. This NWP authorizes the construction of temporary pads, provided the discharge does not exceed 25 cubic yards. Discharges and structures associated with the recovery of historic resources are not authorized by this NWP. Drilling and the discharge of excavated material from test wells for oil and gas exploration are not authorized by this NWP; the plugging of such wells is authorized. Fill placed for roads and other similar activities is not authorized by this NWP. The NWP does not authorize any permanent structures. The discharge of drilling mud and cuttings may require a permit under Section 402 of the Clean Water Act. (Sections 10 and 404)

7. Outfall Structures and Associated Intake Structures. Activities related to the construction or modification of outfall structures and associated intake structures, where the effluent from the outfall is authorized, conditionally authorized, or specifically exempted by, or that are otherwise in compliance with regulations issued under the National Pollutant Discharge

of the United States. For linear transportation projects in tidal waters, the discharge cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

This NWP also authorizes temporary structures, fills, and work necessary to construct the linear transportation project. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10 acre; or (2) there is a discharge in a special aquatic site, including wetlands. (See general condition 27.) (Sections 10 and 404)

Note: Some discharges for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under Section 404(f) of the Clean Water Act (see 33 CFR 323.4).

15. U.S. Coast Guard Approved Bridges. Discharges of dredged or fill material incidental to the construction of bridges across navigable waters of the United States, including cofferdams, abutments, foundation seals, piers, and temporary construction and access fills, provided such discharges have been authorized by the U.S. Coast Guard as part of the bridge permit. Causeways and approach fills are not included in this NWP and will require a separate section 404 permit. (Section 404)

16. Return Water From Upland Contained Disposal Areas. Return water from an upland contained dredged material disposal area. The return water from a contained disposal area is administratively defined as a discharge of dredged material by 33 CFR 323.2(d), even though the disposal itself occurs on the upland and does not require a section 404 permit. This NWP satisfies the technical requirement for a section 404 permit for the return water where the quality of the return water is controlled by the state through the section 401 certification procedures. The dredging activity may require a section 404 permit (33 CFR 323.2(d)), and will require a section 10 permit if located in navigable waters of the United States. (Section 404)

17. Hydropower Projects. Discharges of dredged or fill material associated with hydropower projects having: (a) Less than 5000 kW of total generating capacity at existing reservoirs, where the project, including the fill, is licensed by the Federal Energy Regulatory Commission (FERC) under the Federal Power Act of 1920, as amended; or (b) a licensing exemption granted by the FERC pursuant to Section 408 of the Energy Security Act of 1980 (16 U.S.C. 2705 and 2708) and Section 30 of the Federal Power Act, as amended.

Making San Francisco Bay Better

April 6, 2011

Mr. Chuck Morton
Senior Environmental Planner
Office of Environmental Maintenance
111 Grand Avenue
Oakland, California 94623

SUBJECT: Review of Carquinez Bridge Piers 2 and 3 Fender System Rehabilitation Project; BCDC Permit No. M87-42

Dear Morton:

I am writing with regard to your letter (via email) to Bob Batha, dated February 23, 2011 entitled "Carquinez Bridge Piers 2 and 3 Fender System Rehabilitation Project." The letter summarizes the details of a project, which consists of replacing the fender system designed to protect the 1957 Carquinez Bridge piers from navigational allisons. BCDC Permit No. M87-42 covers the repair and replacement of fenders at the Carquinez Bridge. After reviewing the project details, I have determined that it is consistent with the terms and conditions of BCDC Permit No. M87-42 and is, therefore, **APPROVED**.

If you have any questions, please don't hesitate to call me at (415) 352-3670. I can also be reached by email at rafaelm@bcdc.ca.gov

Respectfully,

RAFAEL MONTES, P.E.
Senior Engineer

RM/ra

Making San Francisco Bay Better

PERMIT NO. M87-42
(Issued on August 12, 1987, As
Amended Through July 29, 2004)
AMENDMENT NO. THREE

California Department of Transportation
P.O. Box 23660
Oakland, California 94623-0660

ATTENTION: Ms. Susan Chang

Ladies and Gentlemen:

I. Authorization

A. Subject to the conditions stated below, the permittee, the California Department of Transportation, is hereby authorized to do the following:

Location: Within the Commission's "Bay", shoreline band and "certain waterway" jurisdictions, within state highway right-of-ways, in the nine Bay Area Counties at various tunnels, docks, tidal waterways, and at all existing, state-maintained highway bridges including, but not limited to, the San Francisco-Oakland Bay, Benicia-Martinez, Carquinez, Dumbarton, Richmond-San Rafael, Bay Farm Island, San Mateo-Hayward, Highway 37-Petaluma River, Highway 37-Sonoma Creek and Highway 37-Napa River Bridges.

Description: A ten-year maintenance permit to:

(1) repair and replace bridge fenders on a one-for-one basis;

(2) replace riprap on an in-kind basis with no overall increase in the amount of Bay coverage, a maximum Bay coverage of 10,000 square feet at any given repair or new riprap site, and no substantial increase in revetment thickness, at the base of bridge supports to protect the integrity of the supports and for shoreline protection along existing banks;

(~~4~~3) dredge up to 100,000 cubic yards of material from the Bay within any 12-month period for the purpose of maintaining tunnels under the Bay, ~~docks, and tidal creeks~~ and dispose of the material at an approved in-Bay disposal site, an approved ocean disposal site, or at an upland location outside of the Commission's jurisdiction;

(4) remove silt and debris from existing drainage facilities such as box culverts, drains, ditches, pipes, dikes and outfalls and dispose of excavated material at an upland location outside of the Commission's jurisdiction;

(5) repair and maintain existing levees and dikes by importing material or by dredging from areas inland of the levee or dike and placing the material in a manner that does not involve new fill in the Bay;

(6) repair and replace existing drainage culverts, tide control structures, tide gates and retaining walls on an in-kind basis at their existing locations with no overall increase in Bay fill;

(7) conduct routine maintenance, repairs, reconstruction and replacement activities to structural and related elements including trusses, stringers, floor beams, strands, suspension cable systems, surfaces, expansion joints, girders, bearing systems, piles and boat docks;

~~(3)~~ (8) resurface, repair and replace pavement surfaces on existing roads, bridge decks, multi-use paths, bicycle lanes, sidewalks and other public service facilities (e.g., vista points and roadside rest areas) so long as the areas of the paved surfaces are not increased;

(9) repair and replace existing traffic control and traffic safety devices such as fences, gates, railings, barriers, traffic stripes, pavement markings, pavement markers, flashing beacons, signals, lighting and electrical systems, retaining walls, curbs, public service facilities, (such as vista points and roadside rests) and power, lighting, and irrigation facilities;

(10) install, repair, and replace various regulatory, warning and roadway informational signs;

(11) install bridge security devices limited to cameras, surveillance equipment, sensors, software and hardware updating requirements;

(12) maintain, in-kind, existing bridge security devices such as fencing, electronic gates, electrified fencing and signs;

(13) maintain and repair existing operational and maintenance facilities such as buildings, toll booths, vehicle wash racks, fueling facilities, parking lots, service roads, maintenance catwalks, traveler scaffolding, utility lines and related facilities with no overall increase in size or intensity of use;

(14) maintain and repair existing electrical facilities, substations, Supervisory Control and Data Acquisition (SCADA) systems, and traffic management devices, e.g., cameras sensors, metering, call boxes, electronic message signs, installation of FastTrak (electronic toll collection system) with no overall increase in size of intensity of use; and

(15) maintain and replace existing erosion control and highway plantings including irrigation facilities with like plantings, erosion control devices and irrigation.

B. This authority is generally pursuant to and limited by your original application received May 21, 1987, your letter requesting Amendment No. One dated September 15, 1998, your letter requesting Amendment No. Two dated May 4, 1998, and your letters dated January 3, 2003, and August 21, 2003, requesting Amendment No. Three and ~~its~~ any accompanying and subsequently submitted exhibits, and all conditions of this amended permit.

C. Work authorized in the original permit was to ~~herein may~~ be carried out until August 1, 1997 at which time the permit ~~shall~~ was to expire unless an extension of time was granted by further amendment of the original authorization. Amendment No. One authorized an extension of time to conduct the activities authorized herein until September 19, 1999. Amendment No. Two authorized an extension of time to conduct the activities authorized herein until August 1, 2007. Amendment No. Three authorizes an extension of time to conduct the activities authorized herein until December 31, 2013 and incorporates two other Caltrans maintenance permits (M76-37 and M87-41) into this permit. This amended permit may be renewed for successive ~~ten~~ five year periods at the discretion and by or on behalf of the Commission.

II. Special Conditions

The authorization made herein shall be subject to the following special conditions, in addition to the standard conditions in Part IV:

A. Riprap

1. **Riprap Material.** Riprap material shall be either quarry rock or specially cast or carefully selected concrete pieces free of reinforcing steel and other extraneous material and conforming to quality requirements for specific gravity, absorption, and durability specified by the California Department of Transportation or the U. S. Army Corps of Engineers. The material shall be generally spheroid-shaped. The overall thickness of the slope protection shall be no more than three feet measured perpendicular to the slope. Use of dirt, small concrete rubble, concrete pieces with exposed rebar, large and odd shaped pieces of concrete, and asphalt concrete as riprap is prohibited.

2. **Riprap Placement.** Riprap material shall be placed so that a permanent shoreline with a minimum amount of fill is established by means of an engineered slope. The slope shall be created by the placement of a filter layer protected by riprap material of sufficient size to withstand wind and wave generated forces at the site.

3. **Design.** Professionals knowledgeable of the Commission's concerns, such as civil engineers experienced in coastal processes, should participate in the design of the shoreline protection improvements authorized herein.

4. **Maximum Covered Area.** At any given revetment repair or new installation site, repairs and new work shall cover less than 10,000 square feet of the horizontal projection of the work below the shoreline.

5. **Annual Rip Rap Report.** The permittee shall submit a report to the Commission by March 1 of each year that this permit is in effect, summarizing the amounts, in cubic yards, and locations of rip rap placed within the Commission's jurisdiction during the previous calendar year. The report shall include a drawing or map showing the locations of rip rap placed and the locations where the riprap was placed. A drawing or map showing the locations shall be included in the report. The report shall also describe the rip rap work proposed for the current calendar year. Within 30 days of the date BCDC receives the annual report, BCDC shall notify the permittee of any proposed work that does not conform to the intent or terms and conditions of this permit. Such notification shall constitute denial of the proposed work. A separate BCDC application may be made for any such denied work.

6. **Maintenance.** The shoreline protection improvements authorized herein shall be regularly maintained by, and at the expense of the permittee. Maintenance shall include, but not be limited to, collecting any riprap materials that become dislodged and repositioning them in appropriate locations within the riprap covered areas, replacing in-kind riprap material that is lost, repairing the required filter fabric as needed, and removing debris that collects on top of the riprap. Within 30 days after notification by the staff of the Commission, the permittee shall correct any maintenance deficiency noted by the staff.

~~D.~~ B. **Dredging.** ~~Dredge material shall be disposed of at a Corps of Engineers approved site in the Bay or at an upland location outside of the Commission's jurisdiction.~~ For the following dredging activities located within the Commission's Bay (including tidal marshes up to 5 feet above mean seal level) and certain waterway jurisdiction(s) including but not limited to activities involving removal of silt and debris from existing drainage facilities such as box culverts, drains and outfalls, the permittee shall comply with the following:

1. For dredging activities that involve the removal of less than twenty cubic yards of material:

   a. **Removal Activities and Disposal.** All dredging, excavation and/or removal activities shall be conducted in a manner that minimizes the resuspension of sediments and release of material into adjacent Bay waters and/or tidal marshes. All material removed from the Commission's jurisdiction shall be tested and disposed of at an appropriate facility located outside of the Commission's jurisdiction.

2. For dredging activities that involve the removal of over twenty cubic yards of material:

   a. **Water Quality Approvals.** At least 45 days prior to the commencement of any dredging episode authorized herein, the permittee shall submit to the Executive Director water quality certification, waste discharge requirement, or any other required approvals from the California Regional Water Quality Control Board, San Francisco Bay Region, for that episode. Failure to obtain such certification prior to the commencement of the dredging episode shall terminate the Commission's authorization for that dredging episode. The Executive Director may, upon review of the Regional Board approval, either: (1) approve the dredging episode(s) consistent with this authorization, or (2) amend the Commission approval to modify existing or include additional conditions related to water quality. If the Executive Director amends the permit to change or add permit conditions, this permit shall become null and void unless the permittee agrees to amend this authorization in a manner specified by or on behalf of the Commission.

   b. **Dredging Report**

      (1) **Prior Notice of Episode.** The permittee shall notify the staff by telephone or in writing at least seven (7) days prior to undertaking any dredging episode. The permittee shall permit the Commission staff or representatives of other state or federal agencies to come aboard the dredge or barge associated with the dredging or disposal that work has occurred beyond that authorized by the permit, such violation may result in the initiation of enforcement action by or on behalf of the Commission. episode and observe the operation to ensure that the dredging or disposal activity is consistent with the dredging report required herein and the other terms and conditions of this permit.

      (2) **Dredging Report.** Within thirty (30) days of completion of each dredging episode of the dredging authorized by this permit, the permittee shall submit to the Commission a report which contains: (1) a bathymetric map showing (a) the location of all areas authorized to be dredged and the authorized depth based on Mean Lower Low Water (MLLW); and (b) the actual areas, and the depth dredged based on MLLW, and any dredging that occurred outside the area authorized to be dredged or below the authorized depths; (2) a vicinity map showing the disposal site; and (3) the actual volume of the material dredged and disposed. The Commission reserves the right to have such report inspected by a reliable third party familiar with bathymetric mapping in order to verify the contents of the report. If a third party selected by or on behalf of the Commission indicates that the report is inaccurate, the Commission reserves the right to require the permittee to submit a revised report that meets the requirements of this condition. If the Commission determines that the contents of the dredging report indicate

   c. **Seasonal Limitations.** Except as provided below, all dredging and in-bay disposal activities shall be confined to the work windows provided below to minimize disturbance to the following endangered and special status species:

Location	Species of Concern	Work Window Period	Consulting Agency
SF Bay Bridge to Sherman Island	Steelhead trout Chinook salmon juveniles	June 1 through November 30 June 1 through November 30	NOAA & CDFG NOAA
Carquinez Bridge to Collinsville	Sacramento splittail Delta smelt	Consultation required at all times Consultation required at all times	FWS & CDFG FWS & CDFG
Pinole Shoal. Suisun Bay Channel and New York Slough	Chinook salmon (adults)	June 1 through November 30	NOAA
North San Pablo Bay, Napa & Petaluma Rivers	Delta Smelt	January 1 through January 31 and August 1 through November 30	FWS & CDFG
Napa & Petaluma Rivers & Sonoma Creek	Steelhead trout	July 1 through November 30	NOAA & CDFG
San Pablo Bay & South SF Bay	Western snowy plover	Consultation required at all times	FWS & CDFG
North SF Bay & San Pablo Bay shallow berthing areas	Dungeness crab	January 1 through April 30 & July 1 through December 31	CDFG
Richardson Bay, North & South Bay	Pacific herring	March 1 through November 30	CDFG
Waters of Marin County from Golden Gate Bridge to Richmond-San Rafael Bridge	Coho salmon	June 1 through October 15	NOAA
Central SF Bay	Steelhead trout Pacific herring	June 1 through November 30 March 1 through November 30	NOAA & CDFG CDFG
Berkeley Marina to San Lorenzo Creek within 1 mile of the shoreline	California least term	January 1 through March 15 and August 1 through December 31	FWS & CDFG
South of Highway 92 Bridge (San Mateo-Hayward)	California least tern	January 1 through May 31 and September 1 through December 31	FWS & CDFG
In areas with eelgrass beds	California least tern	Consultation required at all times	FWS & CDFG
Baywide in areas of salt marsh habitat	California clapper rail	Consultation required at all times	FWS & CDFG

Location	Species of Concern	Work Window Period	Consulting Agency
Baywide within 250 feet of salt marsh habitat	California clapper rail	January 1 through January 31 and September 1 through December 31	FWS & CDFG
In and adjacent to salt marsh habitat	Salt marsh harvest mouse	Consultation required at all times	FWS & CDFG
Within 300' of known roost site	California brown pelican	January 1 through May 31 and October 1 through December 31	FWS

CDFG-California Department of Fish and Game; NOAA-NOAA Fisheries, FWS—U.S. Fish and Wildlife Service

These work windows are consistent with Tables F-1 and F-2 of Appendix F, "In-Bay Disposal and Dredging" and Figures 3.2 and 3.3 of the Long-Term Management Strategy (LTMS) Management Plan 2001. No work inconsistent with the time and location limits contained in these tables may be conducted without the approval of the Executive Director, provided that such approval may only be issued after (1) consultation between the US Army Corps of Engineers and the US. Fish and Wildlife Service and/or NOAA Fisheries has occurred; and (2) the Executive Director has determined that dredging and in-bay disposal outside of the work window will be consistent with the Commission's laws and policies.

d. **Herring.** To protect important fisheries or migrating anadromous fish species, no dredging shall occur pursuant to this permit between December 1 and March 1 of any year during the duration of this permit unless written approval of dredging during this period is provided by or on behalf of the Commission prior to the commencement of the dredging during the closure period. Approval of any dredging activities between December 1 and March 1 of any year shall be made by or on behalf of the Commission only upon the finding that: (1) a dredging or disposal operation which was begun prior to December 1 of any year could not be completed by the December 1 deadline due to unforeseen delays; (2) a professional biologist, or other individual sufficiently competent to identify herring spawning activity, is at the project site during all dredging operations; and (3) if herring spawning is detected at or within 200 meters of the dredging operations by the permittee's on-site biologist or qualified staff person, Department of Fish and Game personnel, or the Commission staff, all dredging will cease for a minimum of 14 days or until it can be determined that the herring hatch has been completed and larval herring concentrations have left the site. To facilitate rapid and efficient communication under these circumstances, the permittee shall provide the Commission staff and Department of Fish and Game personnel with all necessary telephone, FAX, and pager numbers. Dredging may be resumed thereafter at the sole discretion of the permittee and the Commission staff, but shall be terminated no later than December 31 of that year, or if further spawning takes place at the site.

e. **Barge Overflow Sampling and Testing.** Results of any effluent water quality or other testing required by the San Francisco Bay Regional Water Quality Control Board shall be submitted in writing to the Commission's office at the same time that such testing is submitted to the Regional Board.

f. **Monitoring and Enforcement.** The permittee shall allow the Commission staff or representatives of other state or federal agencies to come aboard the dredge or barge associated with any dredging or disposal episode and observe the operation(s) to ensure that these activities are consistent with pre-dredging reports required herein and other terms and conditions of this permit. Further, the Commission reserves the right to have post-dredging reports inspected by a reliable third party familiar with bathymetric mapping in order to verify the contents of these reports. If a third party selected by or on behalf of the Commission indicates that a post-dredging report is inaccurate, the Commission reserves the right to require the permittee to submit a revised report that meets the conditions of this permit. If the Commission determines that the post-dredging report indicates that work has occurred beyond that authorized by this permit such violation may result in the initiation of enforcement action by or on behalf of the Commission.

g. **Long-Term Management Strategy Program.** If, at any time during the effective life of this permit, the Commission's laws, Bay Plan policies, or regulations are changed and are in effect regarding dredging, dredged material disposal, and beneficial reuse consistent with the multi-agency Long-Term Management Strategy Program (LTMS), this permit shall become null and void unless the permittee agrees to amend this authorization to meet the new laws, policies, or regulations in a manner specified by or on behalf of the Commission.

C. **Marsh Protection**

1. **Best Management Practices.** All construction operations shall be performed to prevent construction materials from falling, washing, or blowing into the Bay. In the event that such material escapes or is placed in an area subject to tidal action of the Bay, the permittee shall immediately retrieve and remove such material at its expense. The permittee shall also employ best management practices, such as compaction, soil fences, jute matting, etc. to assure that material placed in the Bay will not simply erode away shortly after placement.

2. **Marsh and Upland Plant Protection During Construction.** The work authorized by this permit shall be performed in a manner that will prevent, avoid, or minimize to the extent possible any significant adverse impact on any tidal marsh, other sensitive wetland resources, and existing native upland vegetation. If any unforeseen adverse impacts occur to any such areas as a result of the activities authorized herein, the permittee shall restore the area to its previous condition, including returning the disturbed area to its original elevation and soil composition and, if the area does not revegetate to its former condition within one year, the permittee shall seed all disturbed areas with appropriate vegetation consistent with plans approved by or on behalf of the Commission. The permittee shall employ mitigation measures to minimize impacts to wetland areas, such as: (1) minimizing all traffic in marsh/mudflat areas; and (2) carefully removing, storing, and replacing wetland vegetation that has been removed or "peeled back" from construction areas as soon as possible following construction.

D. **Fences.** This permit authorizes the in-kind maintenance of existing fences only and does not authorize increases in the heights of existing fences nor the installation of new fences.

E. **Creosote Treated Wood.** No pilings or other wood structures that have been pressure treated with creosote shall be used in any area subject to tidal action in the Bay or any certain waterway, in any salt pond, or in any managed wetland within the Commission's jurisdiction as part of the project authorized herein.

~~B.~~ F. **Debris Removal.** ~~Any debris that results from construction authorized herein shall be removed to an upland location outside of the jurisdiction of the Commission. Sandblasting activities shall be excluded from this condition.~~ All construction debris and any debris uncovered as a result of excavation or grading, such as concrete, asphalt, wood, plastics, etc., shall be removed from the project site for proper disposal outside of the Commission's jurisdiction. Excavated debris may be temporarily stored within the Commission's jurisdiction, provided measures are employed to assure that material does not wash or erode into the surrounding marsh or waterways. In the event that any such material is placed in any area within the Commission's jurisdiction for an extended period (i.e. more than 60 days), the permittee, their assigns, or successors in interest, or the owner of the improvements, shall remove such material, at their expense, within ten days after they have been notified by the Executive Director of such placement.

G. **Construction Operations.** All construction activity shall be performed in such ~~a manner~~ as to minimize turbidity of the water. All construction operations shall be performed to prevent construction materials from falling into the Bay. In the event that such material escapes or is placed in an area subject to tidal action of the Bay, the permittee shall immediately retrieve and remove such material at its expense.

H. **In-kind Repairs and Maintenance.** Any in-kind repairs and maintenance of Bay structures shall only utilize construction materials that are approved for use in the San Francisco Bay. Construction shall only occur during current approved months during the year to avoid potential impacts to fish and wildlife. BCDC staff should be contacted to confirm current restrictions.

I. **Notice to Contractor.** The permittee shall provide a copy of this permit to any contractor or person working in concert with the permittee to carry out the activities authorized herein and shall point out the special conditions contained herein.

~~A.~~ J. **Abandonment.** If, at any time, the Commission determines that the improvements in the Bay authorized herein, have been abandoned for a period of two years or more, or have deteriorated to the point that public health, safety or welfare is adversely affected, the Commission may require that the improvements be removed, by the permittees, their assigns or successors in interest, or by the owner of the improvements within sixty days or such other reasonable time as the Commission may direct.

III. Findings and Declarations

On behalf of the Commission, I find and declare that:

A. The project authorized by this amended permit involves the following: (1) routine repairs, reconstruction, replacement, removal and maintenance of structures in the Bay that does not involve any substantial enlargement or change in use as defined in Regulation Section 10601(a)(6); (2) placing of riprap and repairs to protective works that would over less than 10,000 square feet of Bay surface area as defined in Regulation Section ~~10122(a)(5)~~ 10601(a)(2); (3) routine maintenance dredging as defined in Regulation Section ~~10122(a)(1)~~ 10602(a); and ~~repair and replacement of~~

~~bridge pavement surface,~~ the placing of inert inorganic fill in, extraction of materials from, or making any substantial change of use of any such area within the 100-foot shoreline band in such a way as to have no adverse effect upon present or possible future maximum feasible public access to the Bay consistent with the project, or upon present or possible future use for a priority water-related use of any area designated for such use, which is defined in Regulation Section ~~10122(b)(1)~~ 10601(b)(1), and thus is a "minor repair or improvement" for which the Executive Director may issue (1) a permit, pursuant to Government Code Section 66632(f) and Regulation Section ~~10530(a)~~ 10622(a), and (2) an amendment to a permit pursuant to Regulation Section 10810.

B. The project authorized by this amended permit is consistent with the McAteer-Petris Act and with the San Francisco Bay Plan in that it will not adversely affect the Bay nor public access to and enjoyment of the Bay.

C. Amendment No. Three. Amendment No. Three to the permit involves combining three previously issued permits (BCDC Permit Nos. M76-37, M87-41 and M87-42) for routine maintenance activities into one permit. The permit conditions contained in this amended permit have been revised to reflect the Commission's current policies. Additionally, this amended permit may be extended for five-year increments, pursuant to the Commission's current regulations regarding maintenance dredging. Conditions contained in the amended authorization will ensure that maintenance activities are conducted in a manner that minimizes impacts on the Bay and its resources. These include Special Condition s II-C and II-E that require the permittee to immediately remove any construction debris that inadvertently enters the Bay and prohibits the use of creosote treated wood in areas subject to tidal action to protect Bay water quality and resource values.

~~C.~~ D.The Commission further finds, declares, and certifies that the activity or activities authorized herein are consistent with the Commission's Amended Management Program for San Francisco Bay, as approved by the Department of Commerce under the Federal Coastal Zone Management Act of 1972, as amended.

~~D.~~ E. Pursuant to Regulation Section ~~10910~~ 11501, the project authorized by this amended permit is categorically exempt from the requirement to prepare an environmental impact report.

~~E.~~ .F Pursuant to Regulation Section ~~10542~~ 10620, this project was originally listed with the Commission on July 16, 1987.

IV. Standard Conditions

A. All required permissions from governmental bodies must be obtained before the commencement of work; these bodies include, but are not limited to, the U. S. Army Corps of Engineers, the State Lands Commission, the Regional Water Quality Control Board, and the city and/or county in which the work is to be performed, whenever any of these may be required. This amended permit does not relieve the permittee of any obligations imposed by State or Federal law, either statutory or otherwise.

B. The attached Notice of Completion and Declaration of Compliance form shall be returned to the Commission within 30 days following completion of the work.

C. Work must be performed in the precise manner and at the precise locations indicated in your application, and amendment request, as such may have been modified by the terms of the amended permit and any plans approved in writing by or on behalf of the Commission.

D. Work must be performed in a manner so as to minimize muddying of waters, and if diking is involved, dikes shall be waterproof. If any seepage returns to the Bay, the permittee will be subject to the regulations of the Regional Water Quality Control Board in that region.

~~E. The rights derived from this permit are assignable as provided herein. An assignment shall not be effective until the assignee shall have executed and the Commission shall have received an acknowledgment that the assignee has read and understood the applications for this permit and the permit itself and agrees to be bound by the terms and conditions of the permit, and the assignee is accepted by the Executive Director as being reasonably capable of complying with the terms of the permit.~~

E. The rights, duties, and obligations contained in this amended permit are assignable. When the permittee transfers any interest in any property either on which the authorized activity will occur or which is necessary to the full compliance of one or more conditions to this amended permit, the permittee/transferor and the transferee shall execute and submit to the Commission a permit assignment form acceptable to the Executive Director. An assignment shall not be effective until the assignee executes and the Executive Director receives an acknowledgment that the assignee has read and understands the amended permit and agrees to be bound by the terms and conditions of the amended permit, and the assignee is accepted by the Executive Director as being reasonably capable of complying with the terms and conditions of the amended permit.

F. Unless otherwise provided in this amended permit, all the terms and conditions of this amended permit shall remain effective for so long as the amended permit remains in effect or for so long as any use or construction authorized by this amended permit exists, whichever is longer.

G. Unless otherwise provided in this amended permit, the terms and conditions of this amended permit shall bind all future owners and future possessors of any legal interest in the land and shall run with the land.

H. Unless otherwise provided in this amended permit, any work authorized herein shall be completed within the time limits specified in this amended permit, or, if no time limits are specified in the amended permit, within three years. If the work is not completed by the date specified in the amended permit, or, if no date is specified, within three years from the date of the amended permit, the amended permit shall become null and void. If this amended permit becomes null and void for a failure to comply with these time limitations, any fill placed in reliance on this amended permit shall be removed by the permittee or its assignee upon receiving written notification by or on behalf of the Commission to remove the fill.

I. Except as otherwise noted, violation of any of the terms of this amended permit shall be grounds for revocation. The Commission may revoke any amended permit for such violation after a public hearing held on reasonable notice to the permittee or its assignee if the amended permit has been effectively assigned. If the amended permit is revoked, the Commission may determine, if it deems appropriate, that all or part of any fill or structure placed pursuant to this amended permit shall be removed by the permittee or its assignee if the amended permit has been assigned.

J. This amended permit shall not take effect unless the permittee executes the original of this amended permit and returns it to the Commission within ten days after the date of the issuance of the amended permit. No work shall be done until the acknowledgment is duly executed and returned to the Commission.

K. Any area subject to the jurisdiction of the San Francisco Bay Conservation and Development Commission under either the McAteer-Petris Act or the Suisun Marsh Preservation Act at the time the amended permit is granted or thereafter shall remain subject to that jurisdiction notwithstanding the placement of any fill or the implementation of any substantial change in use authorized by this amended permit.

L. Any area not subject to the jurisdiction of the San Francisco Bay Conservation and Development Commission that becomes, as a result of any work or project authorized in this amended permit, subject to tidal action shall become subject to the Commission's "bay" jurisdiction ~~up to the line of highest tidal action~~.

M. Unless the Commission directs otherwise, this amended permit shall become null and void if any term, standard condition, or special condition of this amended permit shall be found illegal or unenforceable through the application of statute, administrative ruling, or court determination. If this amended permit becomes null and void, any fill or structures placed in reliance on this amended permit shall be subject to removal by the permittee or its assignee if the amended permit has been assigned to the extent that the Commission determines that such removal is appropriate. Any uses authorized shall be terminated to the extent that the Commission determines that such uses should be terminated.

Executed at San Francisco, California, on behalf of the San Francisco Bay Conservation and Development Commission on the date first above written.

WILL TRAVIS
Executive Director
San Francisco Bay Conservation and
Development Commission

WT/MBL/ra
cc: U. S. Army Corps of Engineers, Attn.: Regulatory Functions Branch
San Francisco Bay Regional Water Quality Control Board,
Attn.: Certification Section
Environmental Protection Agency, Attn: Mike Monroe, WTR-8
Stefan Galvez, Caltrans
Jeff Jensen, Caltrans

* *

Receipt acknowledged, contents understood and agreed to:

Executed at _____ _____
Applicant

On _____ By: _____

_____
Title

U.S. Department of Homeland Security
United States Coast Guard

Commander
Eleventh District

U.S. Coast Guard Island,
Building 50-2
Alameda, CA 94501-5100
Staff Symbol: (dpw)
Phone: (510) 437-3514
Fax: (510) 437-5836

16590
Carquinez Strait (0.2)
May 5, 2011

California Department of Transportation
Attn: Lawrence Jones
P. O. Box 23660
Oakland, CA 94613-0660

Dear Mr. Jones:

We have received your letter, dated April 22, 2011, proposing replacement in kind of portions of the existing fender system on the I-80 Highway Bridge, mile 0.2, Carquinez Strait.

The Coast Guard has determined this project, as proposed, meets the requirements of 33 CFR 115.40 as it will not appreciably change the appearance of the bridge, nor the existing permitted vertical and horizontal navigational clearances. Therefore, a Coast Guard Bridge Permit will not be required.

You are required to submit a proposed work plan, in writing, at least 30 days prior to the planned start date to allow for coordination of any temporary obstructions with waterway users. Enclosed is a list of typical conditions the Coast Guard may impose for the work.

We appreciate the opportunity for early coordination in this important transportation project. You may contact Mr. Carl Hausner, Project Manager at (510) 437-3515 to discuss this project.

Sincerely,

DAVID H. SULOUFF
Chief, Bridge Section
Eleventh Coast Guard District
By direction of the District Commander

Enclosure

[Code of Federal Regulations]
[Title 33, Volume 1]
[Revised as of July 1, 2007]
From the U.S. Government Printing Office via GPO Access
[CITE: 33CFR115.40]

[Page 540]

TITLE 33--NAVIGATION AND NAVIGABLE WATERS

CHAPTER I--COAST GUARD, DEPARTMENT OF HOMELAND SECURITY

PART 115_BRIDGE LOCATIONS AND CLEARANCES; ADMINISTRATIVE PROCEDURES--Table of Contents

Sec. 115.40 Bridge repairs.

Repairs to a bridge which do not alter the clearances, type of structure, or any integral part of the substructure or superstructure or navigation conditions, but which consist only in the replacement of worn or obsolete parts, may, if the bridge is a legally approved structure, be made as routine maintenance without approval of the U.S. Coast Guard.

[[Page 541]]

115.50 Applications for bridge permits.
115.60 Procedures for handling applications for bridge construction permits.
115.70 Advance approval of bridges.

AUTHORITY: c. 425, sec. 9, 30 Stat. 1151 (33 U.S.C. 401); c. 1130, sec 1, 34 Stat. 84 (33 U.S.C. 491); sec. 5, 28 Stat. 362, as amended (33 U.S.C. 499); sec. 11, 54 Stat. 501, as amended (33 U.S.C. 521); c. 753, Title V, sec. 502, 60 Stat. 847, as amended (33 U.S.C. 525); 86 Stat. 732 (33 U.S.C. 535); 14 U.S.C. 633; sec. g(6), 80 Stat. 941 (49 U.S.C. 1655(g)); 49 CFR 1.46(c).

SOURCE: CGFR 67–46, 32 FR 17771, Dec. 12, 1967, unless otherwise noted.

§ 115.01 Purpose.

This part states the requirements for applying for a permit for construction of or modification to bridges crossing the navigable waters of the United States. It also sets forth the procedures by which the application is processed by the Coast Guard.

[CGD 82–006, 47 FR 36641, Aug. 23, 1982]

§ 115.05 Necessary primary authority.

For bridges constructed by State or municipal agencies, the primary authority will be presumed without proof. If the law of the State requires a license for or approval of the bridge from a constituted State agency, a copy of such license or approval will be required and may be accepted as evidence of the primary authority. If there be no State regulation of bridges in navigable waters, the necessary primary authority may be that granted in the charter of a corporation, or the authority inherent in the ownership of the land on which the structure is placed. The applicant will in such cases be required to furnish an extract from the charter, or a statement of ownership. Especial care will be taken that Federal approval is not granted when there is doubt of the right of the builder to construct and utilize the bridge.

§ 115.10 Limiting date in permits.

(a) Specific time limitations are inserted in all permits for the commencement of construction and completion thereof. Normally three years for start of construction and two additional years for completion may be allowed.

(b) Specific time limitations are inserted in all permits for the removal of bridges being replaced in whole or in part by the newly permitted bridges where removal thereof is required as a condition of the permit. Normally 90 days for removal after completion of the new bridge or opening to land transportation, whichever occurs first, may be allowed.

[CGD 75–046, 40 FR 24898, June 11, 1975, as amended by CGD 80–099, 46 FR 38354, July 27, 1981]

§ 115.15 Permit bonds.

When compensatory works or the removal of temporary structures should be required of the permittee, or in other unusual cases when there is reason to anticipate that the permittee may fail to carry out parts of the work that are against his interest, an additional condition will be included in the permit requiring the permittee to furnish a bond insuring compliance with the permit requirements.

§ 115.20 Transfer of permits.

Permits express merely the assent of the Federal Government so far as concerns the public rights of navigation. Although issued to a specific party, the assent is not limited to execution of the work by that party and may be availed of by the assignees or purchasers of the property affected, provided the terms of the instrument are strictly complied with.

§ 115.30 Sufficiency of State authority for bridges.

An opinion of the attorney general of the State as to the sufficiency of State authority for the construction of a bridge is acceptable to the Coast Guard in doubtful cases.

§ 115.40 Bridge repairs.

Repairs to a bridge which do not alter the clearances, type of structure, or any integral part of the substructure or superstructure or navigation conditions, but which consist only in the replacement of worn or obsolete parts, may, if the bridge is a legally approved structure, be made as routine maintenance without approval of the U.S. Coast Guard.

State of California
DEPARTMENT OF TRANSPORTATION

Business, Transportation and Housing Agency

Memorandum

Flex your power!
Be energy efficient!

To: MR. KENNETH BROWN
Office Chief
Structure Maintenance & Investigations
Office of Toll Bridge Investigations

Date: June 2, 2011

Attention: Michael Bahrami

File: 04-CC-80 PM 13.9/14.2
04-049071
Carquinez Bridge Pier 3 Fender

From: SUNNY YANG
Transportation Engineer
Office of Geotechnical Design – West
Geotechnical Services
Division of Engineering Services

For HOOSHMAND NIKOUI
Chief, Branch A
Office of Geotechnical Design – West
Geotechnical Services
Division of Engineering Services

Subject : Foundation Report for Carquinez Bridge Pier 3 Fender System

This Foundation Report is prepared in response to your request dated May 27, 2010 for the new fender system at Pier 3 of Carquinez Bridge. The fender system is designed to absorb impact energy in the event of vessel collision.

1. SCOPE OF WORK

The following tasks were performed for the preparation of this Foundation Report:

- Review of the proposed Structure Plans and existing Log of Test Borings (LOTBs);
- Foundation design analysis; and
- Preparation of this Foundation Report.

2. PROJECT DESCRIPTION

According to Structure Plans, the new fender system is a concrete pier cap supported by 25 closed-end CISS piles. The piles will have to be installed by vibration method to minimize impact on marine life. The thickness of the steel shell is ½ inch. Your Office initially suggested 24-inch pile diameter. Our calculations indicate the diameter needs to be increased to 28 inches (See Section 9 below).

3. EXCEPTION TO POLICY

There is no known exception to Department policy relating to the investigation or design of the proposed pier foundations.

4. PREVIOUS FIELD INVESTIGATION

The existing LOTBs include borings drilled in 1952 at locations of Pier 2, 3, 4, and 5. These boring logs form the basis of the current foundation analysis. No new field investigation and laboratory testing were performed.

5. SITE GEOLOGY AND SUBSURFACE CONDITIONS

5.1. Regional Geology

The project area is within the Coast Range Geomorphic province, a region along the coast of California containing faulted and folded marine sedimentary rocks as well as units of the Franciscan Complex. In Contra Costa County, the East Bay Hills and Diablo Range comprise Coast Range rocks. Situated between the Hayward fault and the Calaveras fault, the East Bay Hills trend roughly northwest from San Pablo Bay south to Fremont. Rock types include Jurassic gabbroic rocks along the Hayward fault, Tertiary marine rocks, and Miocene volcanics in the Berkeley Hills. Compressional forces, both regional and local, have created gently rolling hills and narrow stream valleys that roughly parallel the northwest regional trend. Surficial sediments consist of colluvium and alluvium in stream valleys as well as fan deposits and tidal sediments near the San Francisco Bay.

5.2. Site Geology

The project site lies in the Carquinez Strait, a topographic notch that funnels waters of the Sacramento and San Juaquin deltas into San Francisco Bay and the Pacific Ocean beyond. Water depth to the mud line is approximately 85 feet at Pier 3 location. Below the mud line is approximately 40 feet of soil sediments, overlying Cretaceous-age Great Valley Sequence sedimentary rocks. According to Graymer *et al.* (USGS Open File Report 99-162), these rocks consist of interbedded wacke sandstone and greenish gray mudstone and shale as well as fine-grained laminated sandstone, carbonaceous siltstone, and dark shale. Mapping by Graymer, *et al.* indicate that bedding is moderately dipping (30-60 degrees) to the west.

5.3 Subsurface Conditions

The existing LOTBs show that, at the location of Pier 3, the mud line is at Elevation -87 to -90 feet approximately. A layer of approximately 30-feet-thick soft clayey silt is underlain by a 10-feet-thick layer of very dense sand (uncorrected SPT blow count = 85). The shale bedrock is encountered at Elevation –128 feet approximately. No Standard Penetration Test (SPT) or strength test was performed in the shale material at this location. However, uncorrected SPT blow counts recorded in the same shale layer at Pier 5 (approximately 1700 ft south of Pier 3) are mostly greater than 50, with localized zones of lower values ranging from 22 to 33.

6. SCOUR EVALUATION

Based on scour data from your Office, there is no scour issue at the Pier 3 location.

7. CORROSION EVALUATION

There is no current information available regarding corrositivity of the water and soil at this location. According to the Structure Designer (Mr. Michael Bahrami), thermal spray coating (TSC) will be applied to the surface of the steel pipe piles to prevent corrosion.

8. SEISMIC RECOMMENDATIONS

Please refer to the Memo from Hossain Salimi of our office to your Branch, dated June 29, 2010 for the seismic design recommendations. For clarification or additional information on seismic design aspects of the project, please consult Hossain Salimi at (916) 227-7147.

9. FOUNDATION RECOMMENDATIONS

Your Office has provided structure loads and scour information as shown in Tables 1 through 4. It is noted that the compression loads in Tables 1 and 4 are for the pier cap only, and do not include the weight of the piles. For our pile analysis, the net buoyant weight (i.e., buoyant weight in excess of in-situ soil) of the piles is also added, as shown in Tables 5 and 6 below. The calculated net buoyant weight of each pile is 65.5 kips.

Table 1. Preliminary Foundation Design Data Sheet

Support No.	Foundation Type(s) Considered	Estimate of Maximum Factored Compression Loads (kips) *
Pier 3	CISS Pile	3125

* Pile weight is not included.

Table 2. Scour Data

Support No.	Long Term (Degradation and Contraction) Scour Elevation (ft)	Short Term (Local) Scour Depth (ft)
Pier 3	-85	-85

Table 3. Foundation Design Data Sheet

Support No.	Design Method	Pile Type	Finished Grade Elevation (ft)	Cut-off Elevation (ft)	Pile Cap Size (ft)		Permissible Settlement under Service Load (in)	Number of Piles per Support
					B	L		
Pier 3	LRFD	CISS	7.17	5	6	8	1	25

Table 4. Foundation Design Loads

Support No.	Service Limit State (kips)			Strength Limit State (Controlling Group, kips)				Extreme Event Limit State (Controlling Group, kips)			
	Total Load *		Permanent Loads	Compression *		Tension		Compression		Tension	
	Per Support	Max. Per Pile	Per Support	Per Support	Max. Per Pile	Per Support	Max. Per Pile	Per Support	Max. Per Pile	Per Support	Max. Per Pile
Pier 3	3125	125	N/A	3125	125	N/A	N/A	N/A	N/A	N/A	N/A

* Pile weight is not included.

The foundation design analysis was performed in general using the methods outlined in AASHTO LRFD Bridge Design Specifications (2007); however, reduction factors for geotechnical strength parameters were based on Caltrans/DES/Geotechnical Services criteria. Idealized subsurface soil profile and soil engineering parameters were defined based on the existing boring logs (Section 5), relevant literature, and engineering judgment.

It is assumed that the piles will be installed into shale bedrock with a minimum embedment length of 2 feet (i.e., tip elevation is at –130 feet). Because the piles will be installed by vibration method, only end bearing capacity was considered in pile resistance calculations. As mentioned in Section 5, no SPT or strength data is available for the shale material at this location. Hence, the shale was conservatively assigned an undrained shear strength of 50 psi and an effective friction angle of 35 degrees. The calculations indicate that 28-inch-diameter CISS piles with closed end can provide required nominal bearing capacity. Furthermore, as long as the pile tip reaches the dense sand layer or shale bedrock, the settlement under service load shall be less than one inch. Table 5 provides a summary of foundation design recommendations. Table 6 is the pile data table.

Table 5. Foundations Design Recommendations

Support Location	Pile Type	Cut-off Elevation (ft)	Service-I Limit State Load per Support (kips)	Total Permissible Support Settlement (in)	Required Factored Nominal Resistance (kips)				Design Tip Elevation (ft)	Specified Tip Elevation (ft)
					Strength Limit		Extreme Event			
					Comp. (φ=0.7)	Tension (φ=0.7)	Comp. (φ=1)	Tension (φ=1)		
Pier 3	28" CISS	5	4750	1	272	N/A	N/A	N/A	-130 (a) -123 (c)	-130

Notes: 1) Assuming the surface of dense sand layer is Elevation –118 feet, and the surface of shale bedrock is Elevation –128 feet.
2) Design tip elevations are controlled by: (a) Compression (Strength Limit) and (c) Settlement, respectively.
3) The specified tip elevation shall not be raised above the design tip elevation for Settlement.

Table 6. Pile Data Table

Location	Pile Type	Nominal Resistance (kips)		Design Tip Elevations (ft)	Specified Tip Elevation (ft)
		Compression	Tension		
Pier 3	28" CISS	272	N/A	-130 (a) -123 (c)	-130

Notes: 1) Assuming the surface of dense sand layer is Elevation –118 feet, and the surface of shale bedrock is Elevation –128 feet.
2) Design tip elevations are controlled by: (a) Compression (Strength Limit) and (c) Settlement, respectively.
3) The specified tip elevation shall not be raised above the design tip elevation for Settlement.

Note that this group of piles may experience significant lateral deformation when subjected to impact load from a colliding vessel, as indicated in our previous Memo addressed to your Office (dated February 4, 2010). However, according to the Structure Designer (Mr. Michael Bahrami), these piles and the pier cap only serve as a sacrificial device; after 6 inches of deflection, the second line of defense (large-diameter caissons) will be engaged to absorb the impact load.

10. CONSTRUCTION CONSIDERATIONS

10.1. Predrilling

There is a 25-foot-thick layer of existing rock fill above the mudline at the project site. Driving piles directly through this layer is not feasible. Therefore, predrilling through the rock fill is required. It is also recommended to use temporary casing to keep the predrilled holes open during pile driving. The casing may be removed when pile driving is completed.

10.2 Pile Installation

- Piles should be made using ASTM A 252 Grade 3 steel per section 49-5.01 of Caltrans Standard Specifications.

- The contractor shall provide a pile installation system submittal including drivability analysis for approval prior to installing the piles.

- The contractor shall provide construction control method(s) suitable for vibratory installation to ensure the actual pile capacity meets the design criteria.

- Prior to placing concrete, the interior surfaces of the steel shell shall be cleaned of all foreign material. Brushing, pressure jetting or equivalent methods shall be used.

- Our office should be notified in case pile driving encounters refusal before reaching the specified tip elevation.

11. DISCLAIMER AND CONTACT INFORMATION

The recommendations contained in this report are based on specific project information regarding structure type, location, and design loads that have been provided by the Office of District Office of Toll Bridge Investigations. If any conceptual changes are made during final project design, the Office of Geotechnical Design West, Design Branch A should review those changes to determine if these foundation recommendations are still applicable. Any questions regarding the above recommendations should be directed to the attention of Hooshmand Nikoui at (510) 286-4811.

c: TPokrywka, HNikoui, MBahrami, EFranciliso, Daily File, Route File, J Stayton (DES Office Engineer)

SYang/mm

REGISTERED PROFESSIONAL ENGINEER
ZHAOHUI YANG
No. 71801
Exp. 12/31/2011
CIVIL
STATE OF CALIFORNIA

Materials Information

Contract 04-049074
04-CC-80-13.9/14.2

Summary of Previous Analytical Results for Pier 3 Sand Fill

February 14, 2005

Title 22 Inorganic Results - EPA Method 6010B (mg/kg)

Sample ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
A1	3.1	15	52	ND	1.4	120	8.7	180	5700	0.33	4.9	130	ND	ND	ND	15	310
B1	11	38	52	ND	9.2	36	7.0	160	10000	1.3	3.0	36	ND	4.6	ND	15	700
B2	ND	ND	37	ND	ND	31	7.9	21	210	ND	1.2	25	ND	ND	ND	24	38
C1	2.4	8.8	39	ND	ND	35	7.8	25	270	0.23	1.2	31	ND	ND	ND	25	46
C2	ND	3.3	39	ND	ND	32	7.6	18	86	0.18	1.2	28	ND	ND	ND	23	160
D1	5.3	2.5	39	ND	3.9	310	17	100	5400	0.22	2.9	750	ND	ND	ND	14	2800
D2	ND	ND	36	ND	ND	33	8.4	10	49	ND	ND	30	ND	ND	ND	27	24
E1	3.5	7.7	21	ND	2.2	140	5.2	66	4900	0.21	1.8	140	ND	ND	ND	8.0	360

Soluble Lead Results (mg/L)

Sample ID	TCLP	WET
A1	35	-
B1	56	-
B2	2.4	20
C1	1.2	22
C2	0.4	17
D1	11	-
D2	ND	-
E1	63	-

Total Petroleum Hydrocarbons - EPA Method 8015B (mg/kg)

Sample ID	Gasoline	Diesel	Motor Oil
A1	-	16	34
B1	-	60	130
B2	ND	1.5	2.6
C1	-	5.8	11
C2	ND	ND	1.6
D1	-	22	52
D2	ND	ND	ND
E1	-	14	31

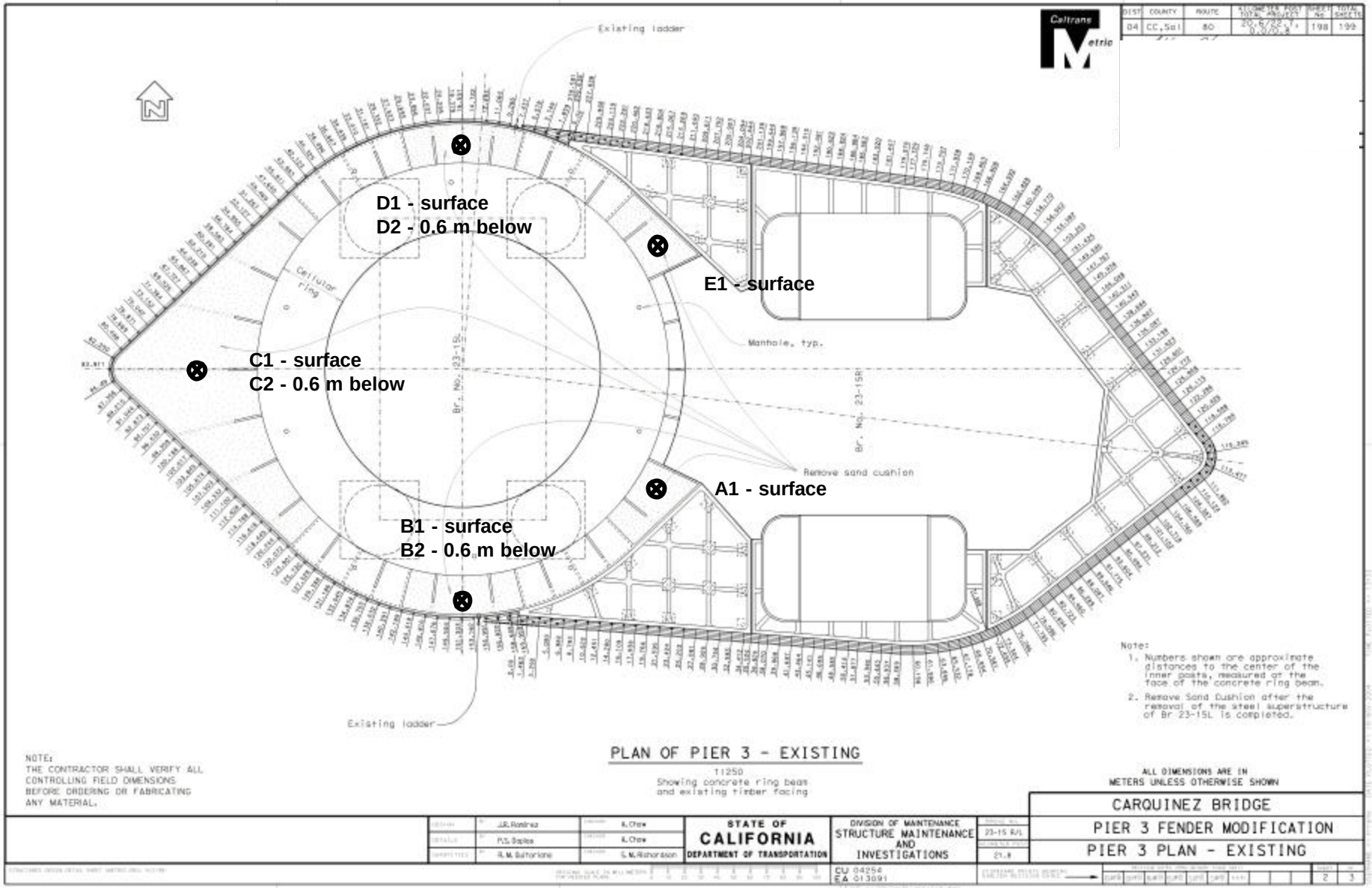
Semivolatile Organic Compound Results - EPA Method 8270C (µg/kg)

Sample ID	A1	B1	B2	C1	C2	D1	D2	E1
Analyte								
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND
2-Cloronaphthalene	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloroaniline	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND
Benzidine (M)	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	780	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND
Benzoic acid	ND	ND	ND	ND	ND	ND	ND	ND
Benzyl alcohol	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-chloroethoxyl)methane	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl)phthalate	ND	1500	ND	ND	ND	360	ND	370
Butylbenzylphthalate	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	ND	760	ND	ND	ND	ND	ND	ND
Di-n-butylphthalate	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-octylphthalate	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	ND	ND	ND
Dimethylphthalate	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	ND	1400	ND	ND	ND	350	ND	ND

Semivolatile Organic Compound Results - EPA Method 8270C (µg/kg)

Sample ID	A1	B1	B2	C1	C2	D1	D2	E1
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodi-n-propylamine	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	ND	1100	ND	ND	ND	ND	ND	ND
Phenol	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	ND	880	ND	ND	ND	ND	ND	ND

ND = Not detected at the reporting limit
- = Not analyzed
TCLP = Toxicity Characteristic Leaching Procedure
WET = Waste Extraction Test



Sand Cushion Sampling Locations

Advanced Technology Laboratories **Date:** *14-Feb-05*

CLIENT: Geocon Environmental
Project: Sand Bunker, E8220-06-05
Lab Order: 074210

CASE NARRATIVE

Analytical Comments for Method 8015 (Diesel/Motor Oil)

Samples 074210-001A, 074210-002A, 074210-003A, 074210-004A, 074210-006A and 074210-008A contain hydrocarbons within the diesel/motor oil range that do not match the diesel/motor oil pattern. Quantitation was based on diesel/motor oil standards.

Sample 074210-005A contains hydrocarbons within the motor oil range that do not match the motor oil pattern. Quantitation was based on motor oil standard.

Advanced Technology Laboratories

Date: *14-Feb-05*

CLIENT:	Geocon Environmental	**Client Sample ID:**	A1
Lab Order:	074210		
Project:	Sand Bunker, E8220-06-05	**Collection Date:**	2/8/2005 10:20:00 AM
Lab ID:	074210-001A	**Matrix:**	SOIL

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS						
(EPA 3050B)				**EPA 6010B**		
RunID: ICP5_050210C	QC Batch: 21230			PrepDate	2/9/2005	Analyst: **RQ**
Antimony	3.1	1.0		mg/Kg	1	2/10/2005
Arsenic	15	1.0		mg/Kg	1	2/10/2005
Barium	52	1.0		mg/Kg	1	2/10/2005
Beryllium	ND	1.0		mg/Kg	1	2/10/2005
Cadmium	1.4	1.0		mg/Kg	1	2/10/2005
Chromium	120	1.0		mg/Kg	1	2/10/2005
Cobalt	8.7	1.0		mg/Kg	1	2/10/2005
Copper	180	1.0		mg/Kg	1	2/10/2005
Lead	5700	100		mg/Kg	100	2/14/2005
Molybdenum	4.9	1.0		mg/Kg	1	2/10/2005
Nickel	130	1.0		mg/Kg	1	2/10/2005
Selenium	ND	1.0		mg/Kg	1	2/10/2005
Silver	ND	1.0		mg/Kg	1	2/10/2005
Thallium	ND	1.0		mg/Kg	1	2/10/2005
Vanadium	15	1.0		mg/Kg	1	2/10/2005
Zinc	310	1.0		mg/Kg	1	2/10/2005
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
(EPA 3550B)				**EPA 8015B(M)**		
RunID: GC7_BACK_050210A	QC Batch: 21242			PrepDate	2/10/2005	Analyst: **CGM**
Diesel	16	1.0		mg/Kg	1	2/10/2005
Motor Oil	34	1.0		mg/Kg	1	2/10/2005
LEAD BY ATOMIC ABSORPTION BY TCLP						
(EPA 3010A)				**EPA 1311/ 7420**		
RunID: AA2_050211A	QC Batch: 21235			PrepDate	2/10/2005	Analyst: **MJM**
Lead	35	1.2		mg/L	5	2/11/2005
MERCURY BY COLD VAPOR TECHNIQUE						
(EPA 7471)				**EPA 7471A**		
RunID: AA1_050210A	QC Batch: 21233			PrepDate	2/10/2005	Analyst: **JT**
Mercury	0.33	0.10		mg/Kg	1	2/10/2005

Qualifiers:

ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
B - Analyte detected in the associated Method Blank	E - Value above quantitation range
DO - Surrogate Diluted Out	R - RPD outside acceptable recovery limits

Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *14-Feb-05*

CLIENT:	Geocon Environmental	**Client Sample ID:**	A1
Lab Order:	074210		
Project:	Sand Bunker, E8220-06-05	**Collection Date:**	2/8/2005 10:20:00 AM
Lab ID:	074210-001A	**Matrix:**	SOIL

SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS
(EPA 3550B) **EPA 8270C**

RunID: MS6_050210A QC Batch: 21241 PrepDate 2/10/2005 Analyst: **JWS**

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
1,2,4-Trichlorobenzene	ND	330		µg/Kg	1	2/10/2005
1,2-Dichlorobenzene	ND	330		µg/Kg	1	2/10/2005
1,3-Dichlorobenzene	ND	330		µg/Kg	1	2/10/2005
1,4-Dichlorobenzene	ND	330		µg/Kg	1	2/10/2005
2,4,5-Trichlorophenol	ND	330		µg/Kg	1	2/10/2005
2,4,6-Trichlorophenol	ND	330		µg/Kg	1	2/10/2005
2,4-Dichlorophenol	ND	1600		µg/Kg	1	2/10/2005
2,4-Dimethylphenol	ND	330		µg/Kg	1	2/10/2005
2,4-Dinitrophenol	ND	1600		µg/Kg	1	2/10/2005
2,4-Dinitrotoluene	ND	330		µg/Kg	1	2/10/2005
2,6-Dinitrotoluene	ND	330		µg/Kg	1	2/10/2005
2-Chloronaphthalene	ND	330		µg/Kg	1	2/10/2005
2-Chlorophenol	ND	330		µg/Kg	1	2/10/2005
2-Methylnaphthalene	ND	330		µg/Kg	1	2/10/2005
2-Methylphenol	ND	330		µg/Kg	1	2/10/2005
2-Nitroaniline	ND	1600		µg/Kg	1	2/10/2005
2-Nitrophenol	ND	330		µg/Kg	1	2/10/2005
3,3´-Dichlorobenzidine	ND	660		µg/Kg	1	2/10/2005
3-Nitroaniline	ND	1600		µg/Kg	1	2/10/2005
4,6-Dinitro-2-methylphenol	ND	1600		µg/Kg	1	2/10/2005
4-Bromophenyl-phenylether	ND	330		µg/Kg	1	2/10/2005
4-Chloro-3-methylphenol	ND	660		µg/Kg	1	2/10/2005
4-Chloroaniline	ND	660		µg/Kg	1	2/10/2005
4-Chlorophenyl-phenylether	ND	330		µg/Kg	1	2/10/2005
4-Methylphenol	ND	330		µg/Kg	1	2/10/2005
4-Nitroaniline	ND	1600		µg/Kg	1	2/10/2005
4-Nitrophenol	ND	1600		µg/Kg	1	2/10/2005
Acenaphthene	ND	330		µg/Kg	1	2/10/2005
Acenaphthylene	ND	330		µg/Kg	1	2/10/2005
Anthracene	ND	330		µg/Kg	1	2/10/2005
Benzidine (M)	ND	1600		µg/Kg	1	2/10/2005
Benzo(a)anthracene	ND	330		µg/Kg	1	2/10/2005
Benzo(a)pyrene	ND	330		µg/Kg	1	2/10/2005
Benzo(b)fluoranthene	ND	330		µg/Kg	1	2/10/2005
Benzo(g,h,i)perylene	ND	330		µg/Kg	1	2/10/2005
Benzo(k)fluoranthene	ND	330		µg/Kg	1	2/10/2005

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interfere
H - Sample exceeded analytical holding time
E - Value above quantitation range
R - RPD outside acceptable recovery limits

Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *14-Feb-05*

CLIENT:	Geocon Environmental	**Client Sample ID:**	A1
Lab Order:	074210		
Project:	Sand Bunker, E8220-06-05	**Collection Date:**	2/8/2005 10:20:00 AM
Lab ID:	074210-001A	**Matrix:**	SOIL

SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS
(EPA 3550B) **EPA 8270C**

RunID: MS6_050210A QC Batch: 21241 PrepDate 2/10/2005 Analyst: **JWS**

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
Benzoic acid	ND	1600		µg/Kg	1	2/10/2005
Benzyl alcohol	ND	660		µg/Kg	1	2/10/2005
Bis(2-chloroethoxy)methane	ND	330		µg/Kg	1	2/10/2005
Bis(2-chloroethyl)ether	ND	330		µg/Kg	1	2/10/2005
Bis(2-chloroisopropyl)ether	ND	330		µg/Kg	1	2/10/2005
Bis(2-ethylhexyl)phthalate	ND	330		µg/Kg	1	2/10/2005
Butylbenzylphthalate	ND	330		µg/Kg	1	2/10/2005
Chrysene	ND	330		µg/Kg	1	2/10/2005
Di-n-butylphthalate	ND	330		µg/Kg	1	2/10/2005
Di-n-octylphthalate	ND	330		µg/Kg	1	2/10/2005
Dibenz(a,h)anthracene	ND	330		µg/Kg	1	2/10/2005
Dibenzofuran	ND	330		µg/Kg	1	2/10/2005
Diethylphthalate	ND	330		µg/Kg	1	2/10/2005
Dimethylphthalate	ND	330		µg/Kg	1	2/10/2005
Fluoranthene	ND	330		µg/Kg	1	2/10/2005
Fluorene	ND	330		µg/Kg	1	2/10/2005
Hexachlorobenzene	ND	330		µg/Kg	1	2/10/2005
Hexachlorobutadiene	ND	660		µg/Kg	1	2/10/2005
Hexachlorocyclopentadiene	ND	660		µg/Kg	1	2/10/2005
Hexachloroethane	ND	330		µg/Kg	1	2/10/2005
Indeno(1,2,3-cd)pyrene	ND	330		µg/Kg	1	2/10/2005
Isophorone	ND	330		µg/Kg	1	2/10/2005
N-Nitrosodi-n-propylamine	ND	330		µg/Kg	1	2/10/2005
N-Nitrosodiphenylamine	ND	330		µg/Kg	1	2/10/2005
Naphthalene	ND	330		µg/Kg	1	2/10/2005
Nitrobenzene	ND	330		µg/Kg	1	2/10/2005
Pentachlorophenol	ND	1600		µg/Kg	1	2/10/2005
Phenanthrene	ND	330		µg/Kg	1	2/10/2005
Phenol	ND	330		µg/Kg	1	2/10/2005
Pyrene	ND	330		µg/Kg	1	2/10/2005

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interfere
H - Sample exceeded analytical holding time
E - Value above quantitation range
R - RPD outside acceptable recovery limits

Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *14-Feb-05*

CLIENT:	Geocon Environmental	**Client Sample ID:**	B1
Lab Order:	074210		
Project:	Sand Bunker, E8220-06-05	**Collection Date:**	2/8/2005 10:35:00 AM
Lab ID:	074210-002A	**Matrix:**	SOIL

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS						
	(EPA 3050B)			**EPA 6010B**		
RunID: ICP5_050210C	QC Batch: 21230			PrepDate	2/9/2005	Analyst: **RQ**
Antimony	11	1.0		mg/Kg	1	2/10/2005
Arsenic	38	1.0		mg/Kg	1	2/10/2005
Barium	52	1.0		mg/Kg	1	2/10/2005
Beryllium	ND	1.0		mg/Kg	1	2/10/2005
Cadmium	9.2	1.0		mg/Kg	1	2/10/2005
Chromium	36	1.0		mg/Kg	1	2/10/2005
Cobalt	7.0	1.0		mg/Kg	1	2/10/2005
Copper	160	1.0		mg/Kg	1	2/10/2005
Lead	10000	100		mg/Kg	100	2/14/2005
Molybdenum	3.0	1.0		mg/Kg	1	2/10/2005
Nickel	36	1.0		mg/Kg	1	2/10/2005
Selenium	ND	1.0		mg/Kg	1	2/10/2005
Silver	4.6	1.0		mg/Kg	1	2/10/2005
Thallium	ND	1.0		mg/Kg	1	2/10/2005
Vanadium	15	1.0		mg/Kg	1	2/10/2005
Zinc	700	1.0		mg/Kg	1	2/10/2005
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
	(EPA 3550B)			**EPA 8015B(M)**		
RunID: GC7_BACK_050210A	QC Batch: 21242			PrepDate	2/10/2005	Analyst: **CGM**
Diesel	60	5.0		mg/Kg	5	2/10/2005
Motor Oil	130	5.0		mg/Kg	5	2/10/2005
LEAD BY ATOMIC ABSORPTION BY TCLP						
	(EPA 3010A)			**EPA 1311/ 7420**		
RunID: AA2_050211A	QC Batch: 21235			PrepDate	2/10/2005	Analyst: **MJM**
Lead	56	2.5		mg/L	10	2/11/2005
MERCURY BY COLD VAPOR TECHNIQUE						
	(EPA 7471)			**EPA 7471A**		
RunID: AA1_050210A	QC Batch: 21233			PrepDate	2/10/2005	Analyst: **JT**
Mercury	1.3	0.10		mg/Kg	1	2/10/2005

Qualifiers:

ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
B - Analyte detected in the associated Method Blank	E - Value above quantitation range
DO - Surrogate Diluted Out	R - RPD outside acceptable recovery limits

Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *14-Feb-05*

CLIENT:	Geocon Environmental	**Client Sample ID:**	B1
Lab Order:	074210		
Project:	Sand Bunker, E8220-06-05	**Collection Date:**	2/8/2005 10:35:00 AM
Lab ID:	074210-002A	**Matrix:**	SOIL

SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS
(EPA 3550B) **EPA 8270C**

RunID: MS6_050210A QC Batch: 21241 PrepDate 2/10/2005 Analyst: **JWS**

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
1,2,4-Trichlorobenzene	ND	330		µg/Kg	1	2/10/2005
1,2-Dichlorobenzene	ND	330		µg/Kg	1	2/10/2005
1,3-Dichlorobenzene	ND	330		µg/Kg	1	2/10/2005
1,4-Dichlorobenzene	ND	330		µg/Kg	1	2/10/2005
2,4,5-Trichlorophenol	ND	330		µg/Kg	1	2/10/2005
2,4,6-Trichlorophenol	ND	330		µg/Kg	1	2/10/2005
2,4-Dichlorophenol	ND	1600		µg/Kg	1	2/10/2005
2,4-Dimethylphenol	ND	330		µg/Kg	1	2/10/2005
2,4-Dinitrophenol	ND	1600		µg/Kg	1	2/10/2005
2,4-Dinitrotoluene	ND	330		µg/Kg	1	2/10/2005
2,6-Dinitrotoluene	ND	330		µg/Kg	1	2/10/2005
2-Chloronaphthalene	ND	330		µg/Kg	1	2/10/2005
2-Chlorophenol	ND	330		µg/Kg	1	2/10/2005
2-Methylnaphthalene	ND	330		µg/Kg	1	2/10/2005
2-Methylphenol	ND	330		µg/Kg	1	2/10/2005
2-Nitroaniline	ND	1600		µg/Kg	1	2/10/2005
2-Nitrophenol	ND	330		µg/Kg	1	2/10/2005
3,3´-Dichlorobenzidine	ND	660		µg/Kg	1	2/10/2005
3-Nitroaniline	ND	1600		µg/Kg	1	2/10/2005
4,6-Dinitro-2-methylphenol	ND	1600		µg/Kg	1	2/10/2005
4-Bromophenyl-phenylether	ND	330		µg/Kg	1	2/10/2005
4-Chloro-3-methylphenol	ND	660		µg/Kg	1	2/10/2005
4-Chloroaniline	ND	660		µg/Kg	1	2/10/2005
4-Chlorophenyl-phenylether	ND	330		µg/Kg	1	2/10/2005
4-Methylphenol	ND	330		µg/Kg	1	2/10/2005
4-Nitroaniline	ND	1600		µg/Kg	1	2/10/2005
4-Nitrophenol	ND	1600		µg/Kg	1	2/10/2005
Acenaphthene	ND	330		µg/Kg	1	2/10/2005
Acenaphthylene	ND	330		µg/Kg	1	2/10/2005
Anthracene	ND	330		µg/Kg	1	2/10/2005
Benzidine (M)	ND	1600		µg/Kg	1	2/10/2005
Benzo(a)anthracene	ND	330		µg/Kg	1	2/10/2005
Benzo(a)pyrene	ND	330		µg/Kg	1	2/10/2005
Benzo(b)fluoranthene	780	330		µg/Kg	1	2/10/2005
Benzo(g,h,i)perylene	ND	330		µg/Kg	1	2/10/2005
Benzo(k)fluoranthene	ND	330		µg/Kg	1	2/10/2005

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interfere
H - Sample exceeded analytical holding time
E - Value above quantitation range
R - RPD outside acceptable recovery limits

Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *14-Feb-05*

CLIENT:	Geocon Environmental	**Client Sample ID:**	B1
Lab Order:	074210		
Project:	Sand Bunker, E8220-06-05	**Collection Date:**	2/8/2005 10:35:00 AM
Lab ID:	074210-002A	**Matrix:**	SOIL

SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS
(EPA 3550B) **EPA 8270C**

RunID: MS6_050210A QC Batch: 21241 PrepDate 2/10/2005 Analyst: **JWS**

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
Benzoic acid	ND	1600		µg/Kg	1	2/10/2005
Benzyl alcohol	ND	660		µg/Kg	1	2/10/2005
Bis(2-chloroethoxy)methane	ND	330		µg/Kg	1	2/10/2005
Bis(2-chloroethyl)ether	ND	330		µg/Kg	1	2/10/2005
Bis(2-chloroisopropyl)ether	ND	330		µg/Kg	1	2/10/2005
Bis(2-ethylhexyl)phthalate	1500	330		µg/Kg	1	2/10/2005
Butylbenzylphthalate	ND	330		µg/Kg	1	2/10/2005
Chrysene	760	330		µg/Kg	1	2/10/2005
Di-n-butylphthalate	ND	330		µg/Kg	1	2/10/2005
Di-n-octylphthalate	ND	330		µg/Kg	1	2/10/2005
Dibenz(a,h)anthracene	ND	330		µg/Kg	1	2/10/2005
Dibenzofuran	ND	330		µg/Kg	1	2/10/2005
Diethylphthalate	ND	330		µg/Kg	1	2/10/2005
Dimethylphthalate	ND	330		µg/Kg	1	2/10/2005
Fluoranthene	1400	330		µg/Kg	1	2/10/2005
Fluorene	ND	330		µg/Kg	1	2/10/2005
Hexachlorobenzene	ND	330		µg/Kg	1	2/10/2005
Hexachlorobutadiene	ND	660		µg/Kg	1	2/10/2005
Hexachlorocyclopentadiene	ND	660		µg/Kg	1	2/10/2005
Hexachloroethane	ND	330		µg/Kg	1	2/10/2005
Indeno(1,2,3-cd)pyrene	ND	330		µg/Kg	1	2/10/2005
Isophorone	ND	330		µg/Kg	1	2/10/2005
N-Nitrosodi-n-propylamine	ND	330		µg/Kg	1	2/10/2005
N-Nitrosodiphenylamine	ND	330		µg/Kg	1	2/10/2005
Naphthalene	ND	330		µg/Kg	1	2/10/2005
Nitrobenzene	ND	330		µg/Kg	1	2/10/2005
Pentachlorophenol	ND	1600		µg/Kg	1	2/10/2005
Phenanthrene	1100	330		µg/Kg	1	2/10/2005
Phenol	ND	330		µg/Kg	1	2/10/2005
Pyrene	880	330		µg/Kg	1	2/10/2005

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interfere
H - Sample exceeded analytical holding time
E - Value above quantitation range
R - RPD outside acceptable recovery limits

Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *14-Feb-05*

CLIENT:	Geocon Environmental	**Client Sample ID:**	B2
Lab Order:	074210		
Project:	Sand Bunker, E8220-06-05	**Collection Date:**	2/8/2005 10:45:00 AM
Lab ID:	074210-003A	**Matrix:**	SOIL

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS						
(EPA 3050B)				**EPA 6010B**		
RunID: ICP5_050210C	QC Batch: 21230			PrepDate	2/9/2005	Analyst: **RQ**
Antimony	ND	1.0		mg/Kg	1	2/10/2005
Arsenic	ND	1.0		mg/Kg	1	2/10/2005
Barium	37	1.0		mg/Kg	1	2/10/2005
Beryllium	ND	1.0		mg/Kg	1	2/10/2005
Cadmium	ND	1.0		mg/Kg	1	2/10/2005
Chromium	31	1.0		mg/Kg	1	2/10/2005
Cobalt	7.9	1.0		mg/Kg	1	2/10/2005
Copper	21	1.0		mg/Kg	1	2/10/2005
Lead	210	1.0		mg/Kg	1	2/10/2005
Molybdenum	1.2	1.0		mg/Kg	1	2/10/2005
Nickel	25	1.0		mg/Kg	1	2/10/2005
Selenium	ND	1.0		mg/Kg	1	2/10/2005
Silver	ND	1.0		mg/Kg	1	2/10/2005
Thallium	ND	1.0		mg/Kg	1	2/10/2005
Vanadium	24	1.0		mg/Kg	1	2/10/2005
Zinc	38	1.0		mg/Kg	1	2/10/2005
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
(EPA 3550B)				**EPA 8015B(M)**		
RunID: GC7_BACK_050210A	QC Batch: 21242			PrepDate	2/10/2005	Analyst: **CGM**
Diesel	1.5	1.0		mg/Kg	1	2/10/2005
Motor Oil	2.6	1.0		mg/Kg	1	2/10/2005
LEAD BY ATOMIC ABSORPTION BY TCLP						
(EPA 3010A)				**EPA 1311/ 7420**		
RunID: AA2_050211A	QC Batch: 21235			PrepDate	2/10/2005	Analyst: **MJM**
Lead	2.4	0.25		mg/L	1	2/11/2005
MERCURY BY COLD VAPOR TECHNIQUE						
(EPA 7471)				**EPA 7471A**		
RunID: AA1_050210A	QC Batch: 21233			PrepDate	2/10/2005	Analyst: **JT**
Mercury	ND	0.10		mg/Kg	1	2/10/2005

Qualifiers:

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DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interfere
H - Sample exceeded analytical holding time
E - Value above quantitation range
R - RPD outside acceptable recovery limits

Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *14-Feb-05*

CLIENT:	Geocon Environmental	**Client Sample ID:**	B2
Lab Order:	074210		
Project:	Sand Bunker, E8220-06-05	**Collection Date:**	2/8/2005 10:45:00 AM
Lab ID:	074210-003A	**Matrix:**	SOIL

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
			WET/ EPA 6010B			
RunID: ICP6_050214A	QC Batch: R46401			PrepDate		Analyst: **RQ**
Lead	20	1.0		mg/L	20	2/14/2005
GASOLINE RANGE ORGANICS BY GC/FID						
			EPA 8015B(M)			
RunID: GC2_050209B	QC Batch: E05VS035			PrepDate		Analyst: **JV**
GRO	ND	1.0		mg/Kg	1	2/9/2005

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	R - RPD outside acceptable recovery limits

Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *14-Feb-05*

CLIENT:	Geocon Environmental	**Client Sample ID:**	B2
Lab Order:	074210		
Project:	Sand Bunker, E8220-06-05	**Collection Date:**	2/8/2005 10:45:00 AM
Lab ID:	074210-003A	**Matrix:**	SOIL

SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS
(EPA 3550B) **EPA 8270C**

RunID: MS6_050210A QC Batch: 21241 PrepDate 2/10/2005 Analyst: **JWS**

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
1,2,4-Trichlorobenzene	ND	330		µg/Kg	1	2/11/2005
1,2-Dichlorobenzene	ND	330		µg/Kg	1	2/11/2005
1,3-Dichlorobenzene	ND	330		µg/Kg	1	2/11/2005
1,4-Dichlorobenzene	ND	330		µg/Kg	1	2/11/2005
2,4,5-Trichlorophenol	ND	330		µg/Kg	1	2/11/2005
2,4,6-Trichlorophenol	ND	330		µg/Kg	1	2/11/2005
2,4-Dichlorophenol	ND	1600		µg/Kg	1	2/11/2005
2,4-Dimethylphenol	ND	330		µg/Kg	1	2/11/2005
2,4-Dinitrophenol	ND	1600		µg/Kg	1	2/11/2005
2,4-Dinitrotoluene	ND	330		µg/Kg	1	2/11/2005
2,6-Dinitrotoluene	ND	330		µg/Kg	1	2/11/2005
2-Chloronaphthalene	ND	330		µg/Kg	1	2/11/2005
2-Chlorophenol	ND	330		µg/Kg	1	2/11/2005
2-Methylnaphthalene	ND	330		µg/Kg	1	2/11/2005
2-Methylphenol	ND	330		µg/Kg	1	2/11/2005
2-Nitroaniline	ND	1600		µg/Kg	1	2/11/2005
2-Nitrophenol	ND	330		µg/Kg	1	2/11/2005
3,3´-Dichlorobenzidine	ND	660		µg/Kg	1	2/11/2005
3-Nitroaniline	ND	1600		µg/Kg	1	2/11/2005
4,6-Dinitro-2-methylphenol	ND	1600		µg/Kg	1	2/11/2005
4-Bromophenyl-phenylether	ND	330		µg/Kg	1	2/11/2005
4-Chloro-3-methylphenol	ND	660		µg/Kg	1	2/11/2005
4-Chloroaniline	ND	660		µg/Kg	1	2/11/2005
4-Chlorophenyl-phenylether	ND	330		µg/Kg	1	2/11/2005
4-Methylphenol	ND	330		µg/Kg	1	2/11/2005
4-Nitroaniline	ND	1600		µg/Kg	1	2/11/2005
4-Nitrophenol	ND	1600		µg/Kg	1	2/11/2005
Acenaphthene	ND	330		µg/Kg	1	2/11/2005
Acenaphthylene	ND	330		µg/Kg	1	2/11/2005
Anthracene	ND	330		µg/Kg	1	2/11/2005
Benzidine (M)	ND	1600		µg/Kg	1	2/11/2005
Benzo(a)anthracene	ND	330		µg/Kg	1	2/11/2005
Benzo(a)pyrene	ND	330		µg/Kg	1	2/11/2005
Benzo(b)fluoranthene	ND	330		µg/Kg	1	2/11/2005
Benzo(g,h,i)perylene	ND	330		µg/Kg	1	2/11/2005
Benzo(k)fluoranthene	ND	330		µg/Kg	1	2/11/2005

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interfere
H - Sample exceeded analytical holding time
E - Value above quantitation range
R - RPD outside acceptable recovery limits

Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *14-Feb-05*

CLIENT:	Geocon Environmental	**Client Sample ID:**	B2
Lab Order:	074210		
Project:	Sand Bunker, E8220-06-05	**Collection Date:**	2/8/2005 10:45:00 AM
Lab ID:	074210-003A	**Matrix:**	SOIL

SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS
(EPA 3550B) **EPA 8270C**

RunID: MS6_050210A QC Batch: 21241 PrepDate 2/10/2005 Analyst: **JWS**

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
Benzoic acid	ND	1600		µg/Kg	1	2/11/2005
Benzyl alcohol	ND	660		µg/Kg	1	2/11/2005
Bis(2-chloroethoxy)methane	ND	330		µg/Kg	1	2/11/2005
Bis(2-chloroethyl)ether	ND	330		µg/Kg	1	2/11/2005
Bis(2-chloroisopropyl)ether	ND	330		µg/Kg	1	2/11/2005
Bis(2-ethylhexyl)phthalate	ND	330		µg/Kg	1	2/11/2005
Butylbenzylphthalate	ND	330		µg/Kg	1	2/11/2005
Chrysene	ND	330		µg/Kg	1	2/11/2005
Di-n-butylphthalate	ND	330		µg/Kg	1	2/11/2005
Di-n-octylphthalate	ND	330		µg/Kg	1	2/11/2005
Dibenz(a,h)anthracene	ND	330		µg/Kg	1	2/11/2005
Dibenzofuran	ND	330		µg/Kg	1	2/11/2005
Diethylphthalate	ND	330		µg/Kg	1	2/11/2005
Dimethylphthalate	ND	330		µg/Kg	1	2/11/2005
Fluoranthene	ND	330		µg/Kg	1	2/11/2005
Fluorene	ND	330		µg/Kg	1	2/11/2005
Hexachlorobenzene	ND	330		µg/Kg	1	2/11/2005
Hexachlorobutadiene	ND	660		µg/Kg	1	2/11/2005
Hexachlorocyclopentadiene	ND	660		µg/Kg	1	2/11/2005
Hexachloroethane	ND	330		µg/Kg	1	2/11/2005
Indeno(1,2,3-cd)pyrene	ND	330		µg/Kg	1	2/11/2005
Isophorone	ND	330		µg/Kg	1	2/11/2005
N-Nitrosodi-n-propylamine	ND	330		µg/Kg	1	2/11/2005
N-Nitrosodiphenylamine	ND	330		µg/Kg	1	2/11/2005
Naphthalene	ND	330		µg/Kg	1	2/11/2005
Nitrobenzene	ND	330		µg/Kg	1	2/11/2005
Pentachlorophenol	ND	1600		µg/Kg	1	2/11/2005
Phenanthrene	ND	330		µg/Kg	1	2/11/2005
Phenol	ND	330		µg/Kg	1	2/11/2005
Pyrene	ND	330		µg/Kg	1	2/11/2005

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interfere
H - Sample exceeded analytical holding time
E - Value above quantitation range
R - RPD outside acceptable recovery limits

Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *14-Feb-05*

CLIENT:	Geocon Environmental	**Client Sample ID:**	C1
Lab Order:	074210		
Project:	Sand Bunker, E8220-06-05	**Collection Date:**	2/8/2005 10:55:00 AM
Lab ID:	074210-004A	**Matrix:**	SOIL

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS						
	(EPA 3050B)			**EPA 6010B**		
RunID: ICP5_050210C	QC Batch: 21230			PrepDate	2/9/2005	Analyst: **RQ**
Antimony	2.4	1.0		mg/Kg	1	2/10/2005
Arsenic	8.8	1.0		mg/Kg	1	2/10/2005
Barium	39	1.0		mg/Kg	1	2/10/2005
Beryllium	ND	1.0		mg/Kg	1	2/10/2005
Cadmium	ND	1.0		mg/Kg	1	2/10/2005
Chromium	35	1.0		mg/Kg	1	2/10/2005
Cobalt	7.8	1.0		mg/Kg	1	2/10/2005
Copper	25	1.0		mg/Kg	1	2/10/2005
Lead	270	1.0		mg/Kg	1	2/10/2005
Molybdenum	1.2	1.0		mg/Kg	1	2/10/2005
Nickel	31	1.0		mg/Kg	1	2/10/2005
Selenium	ND	1.0		mg/Kg	1	2/10/2005
Silver	ND	1.0		mg/Kg	1	2/10/2005
Thallium	ND	1.0		mg/Kg	1	2/10/2005
Vanadium	25	1.0		mg/Kg	1	2/10/2005
Zinc	46	1.0		mg/Kg	1	2/10/2005
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
	(EPA 3550B)			**EPA 8015B(M)**		
RunID: GC7_BACK_050210A	QC Batch: 21242			PrepDate	2/10/2005	Analyst: **CGM**
Diesel	5.8	1.0		mg/Kg	1	2/10/2005
Motor Oil	11	1.0		mg/Kg	1	2/10/2005
LEAD BY ATOMIC ABSORPTION BY TCLP						
	(EPA 3010A)			**EPA 1311/ 7420**		
RunID: AA2_050211A	QC Batch: 21235			PrepDate	2/10/2005	Analyst: **MJM**
Lead	1.2	0.25		mg/L	1	2/11/2005
MERCURY BY COLD VAPOR TECHNIQUE						
	(EPA 7471)			**EPA 7471A**		
RunID: AA1_050210A	QC Batch: 21233			PrepDate	2/10/2005	Analyst: **JT**
Mercury	0.23	0.10		mg/Kg	1	2/10/2005

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
	J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	R - RPD outside acceptable recovery limits

Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *14-Feb-05*

CLIENT:	Geocon Environmental	**Client Sample ID:**	C1
Lab Order:	074210		
Project:	Sand Bunker, E8220-06-05	**Collection Date:**	2/8/2005 10:55:00 AM
Lab ID:	074210-004A	**Matrix:**	SOIL

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
			WET/ EPA 6010B			
RunID: ICP6_050214A	QC Batch: R46401			PrepDate		Analyst: **RQ**
Lead	22	1.0		mg/L	20	2/14/2005

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interfere
H - Sample exceeded analytical holding time
E - Value above quantitation range
R - RPD outside acceptable recovery limits

Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *14-Feb-05*

CLIENT:	Geocon Environmental	**Client Sample ID:**	C1
Lab Order:	074210		
Project:	Sand Bunker, E8220-06-05	**Collection Date:**	2/8/2005 10:55:00 AM
Lab ID:	074210-004A	**Matrix:**	SOIL

SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS
(EPA 3550B) **EPA 8270C**

RunID: MS6_050210A QC Batch: 21241 PrepDate 2/10/2005 Analyst: **JWS**

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
1,2,4-Trichlorobenzene	ND	330		µg/Kg	1	2/11/2005
1,2-Dichlorobenzene	ND	330		µg/Kg	1	2/11/2005
1,3-Dichlorobenzene	ND	330		µg/Kg	1	2/11/2005
1,4-Dichlorobenzene	ND	330		µg/Kg	1	2/11/2005
2,4,5-Trichlorophenol	ND	330		µg/Kg	1	2/11/2005
2,4,6-Trichlorophenol	ND	330		µg/Kg	1	2/11/2005
2,4-Dichlorophenol	ND	1600		µg/Kg	1	2/11/2005
2,4-Dimethylphenol	ND	330		µg/Kg	1	2/11/2005
2,4-Dinitrophenol	ND	1600		µg/Kg	1	2/11/2005
2,4-Dinitrotoluene	ND	330		µg/Kg	1	2/11/2005
2,6-Dinitrotoluene	ND	330		µg/Kg	1	2/11/2005
2-Chloronaphthalene	ND	330		µg/Kg	1	2/11/2005
2-Chlorophenol	ND	330		µg/Kg	1	2/11/2005
2-Methylnaphthalene	ND	330		µg/Kg	1	2/11/2005
2-Methylphenol	ND	330		µg/Kg	1	2/11/2005
2-Nitroaniline	ND	1600		µg/Kg	1	2/11/2005
2-Nitrophenol	ND	330		µg/Kg	1	2/11/2005
3,3´-Dichlorobenzidine	ND	660		µg/Kg	1	2/11/2005
3-Nitroaniline	ND	1600		µg/Kg	1	2/11/2005
4,6-Dinitro-2-methylphenol	ND	1600		µg/Kg	1	2/11/2005
4-Bromophenyl-phenylether	ND	330		µg/Kg	1	2/11/2005
4-Chloro-3-methylphenol	ND	660		µg/Kg	1	2/11/2005
4-Chloroaniline	ND	660		µg/Kg	1	2/11/2005
4-Chlorophenyl-phenylether	ND	330		µg/Kg	1	2/11/2005
4-Methylphenol	ND	330		µg/Kg	1	2/11/2005
4-Nitroaniline	ND	1600		µg/Kg	1	2/11/2005
4-Nitrophenol	ND	1600		µg/Kg	1	2/11/2005
Acenaphthene	ND	330		µg/Kg	1	2/11/2005
Acenaphthylene	ND	330		µg/Kg	1	2/11/2005
Anthracene	ND	330		µg/Kg	1	2/11/2005
Benzidine (M)	ND	1600		µg/Kg	1	2/11/2005
Benzo(a)anthracene	ND	330		µg/Kg	1	2/11/2005
Benzo(a)pyrene	ND	330		µg/Kg	1	2/11/2005
Benzo(b)fluoranthene	ND	330		µg/Kg	1	2/11/2005
Benzo(g,h,i)perylene	ND	330		µg/Kg	1	2/11/2005
Benzo(k)fluoranthene	ND	330		µg/Kg	1	2/11/2005

Qualifiers:

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J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interfere
H - Sample exceeded analytical holding time
E - Value above quantitation range
R - RPD outside acceptable recovery limits

Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *14-Feb-05*

CLIENT:	Geocon Environmental	**Client Sample ID:**	C1
Lab Order:	074210		
Project:	Sand Bunker, E8220-06-05	**Collection Date:**	2/8/2005 10:55:00 AM
Lab ID:	074210-004A	**Matrix:**	SOIL

SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS
(EPA 3550B) **EPA 8270C**

RunID: MS6_050210A QC Batch: 21241 PrepDate 2/10/2005 Analyst: **JWS**

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
Benzoic acid	ND	1600		µg/Kg	1	2/11/2005
Benzyl alcohol	ND	660		µg/Kg	1	2/11/2005
Bis(2-chloroethoxy)methane	ND	330		µg/Kg	1	2/11/2005
Bis(2-chloroethyl)ether	ND	330		µg/Kg	1	2/11/2005
Bis(2-chloroisopropyl)ether	ND	330		µg/Kg	1	2/11/2005
Bis(2-ethylhexyl)phthalate	ND	330		µg/Kg	1	2/11/2005
Butylbenzylphthalate	ND	330		µg/Kg	1	2/11/2005
Chrysene	ND	330		µg/Kg	1	2/11/2005
Di-n-butylphthalate	ND	330		µg/Kg	1	2/11/2005
Di-n-octylphthalate	ND	330		µg/Kg	1	2/11/2005
Dibenz(a,h)anthracene	ND	330		µg/Kg	1	2/11/2005
Dibenzofuran	ND	330		µg/Kg	1	2/11/2005
Diethylphthalate	ND	330		µg/Kg	1	2/11/2005
Dimethylphthalate	ND	330		µg/Kg	1	2/11/2005
Fluoranthene	ND	330		µg/Kg	1	2/11/2005
Fluorene	ND	330		µg/Kg	1	2/11/2005
Hexachlorobenzene	ND	330		µg/Kg	1	2/11/2005
Hexachlorobutadiene	ND	660		µg/Kg	1	2/11/2005
Hexachlorocyclopentadiene	ND	660		µg/Kg	1	2/11/2005
Hexachloroethane	ND	330		µg/Kg	1	2/11/2005
Indeno(1,2,3-cd)pyrene	ND	330		µg/Kg	1	2/11/2005
Isophorone	ND	330		µg/Kg	1	2/11/2005
N-Nitrosodi-n-propylamine	ND	330		µg/Kg	1	2/11/2005
N-Nitrosodiphenylamine	ND	330		µg/Kg	1	2/11/2005
Naphthalene	ND	330		µg/Kg	1	2/11/2005
Nitrobenzene	ND	330		µg/Kg	1	2/11/2005
Pentachlorophenol	ND	1600		µg/Kg	1	2/11/2005
Phenanthrene	ND	330		µg/Kg	1	2/11/2005
Phenol	ND	330		µg/Kg	1	2/11/2005
Pyrene	ND	330		µg/Kg	1	2/11/2005

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interfere
H - Sample exceeded analytical holding time
E - Value above quantitation range
R - RPD outside acceptable recovery limits

Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *14-Feb-05*

CLIENT:	Geocon Environmental	**Client Sample ID:**	C2
Lab Order:	074210		
Project:	Sand Bunker, E8220-06-05	**Collection Date:**	2/8/2005 11:00:00 AM
Lab ID:	074210-005A	**Matrix:**	SOIL

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS						
	(EPA 3050B)			**EPA 6010B**		
RunID: ICP5_050210C	QC Batch: 21230			PrepDate	2/9/2005	Analyst: **RQ**
Antimony	ND	1.0		mg/Kg	1	2/10/2005
Arsenic	3.3	1.0		mg/Kg	1	2/10/2005
Barium	39	1.0		mg/Kg	1	2/10/2005
Beryllium	ND	1.0		mg/Kg	1	2/10/2005
Cadmium	ND	1.0		mg/Kg	1	2/10/2005
Chromium	32	1.0		mg/Kg	1	2/10/2005
Cobalt	7.6	1.0		mg/Kg	1	2/10/2005
Copper	18	1.0		mg/Kg	1	2/10/2005
Lead	86	1.0		mg/Kg	1	2/10/2005
Molybdenum	1.2	1.0		mg/Kg	1	2/10/2005
Nickel	28	1.0		mg/Kg	1	2/10/2005
Selenium	ND	1.0		mg/Kg	1	2/10/2005
Silver	ND	1.0		mg/Kg	1	2/10/2005
Thallium	ND	1.0		mg/Kg	1	2/10/2005
Vanadium	23	1.0		mg/Kg	1	2/10/2005
Zinc	160	1.0		mg/Kg	1	2/10/2005
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
	(EPA 3550B)			**EPA 8015B(M)**		
RunID: GC7_BACK_050210A	QC Batch: 21242			PrepDate	2/10/2005	Analyst: **CGM**
Diesel	ND	1.0		mg/Kg	1	2/10/2005
Motor Oil	1.6	1.0		mg/Kg	1	2/10/2005
LEAD BY ATOMIC ABSORPTION BY TCLP						
	(EPA 3010A)			**EPA 1311/ 7420**		
RunID: AA2_050211A	QC Batch: 21235			PrepDate	2/10/2005	Analyst: **MJM**
Lead	0.40	0.25		mg/L	1	2/11/2005
MERCURY BY COLD VAPOR TECHNIQUE						
	(EPA 7471)			**EPA 7471A**		
RunID: AA1_050210A	QC Batch: 21233			PrepDate	2/10/2005	Analyst: **JT**
Mercury	0.18	0.10		mg/Kg	1	2/10/2005

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interfere
H - Sample exceeded analytical holding time
E - Value above quantitation range
R - RPD outside acceptable recovery limits

Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *14-Feb-05*

CLIENT:	Geocon Environmental	**Client Sample ID:**	C2
Lab Order:	074210		
Project:	Sand Bunker, E8220-06-05	**Collection Date:**	2/8/2005 11:00:00 AM
Lab ID:	074210-005A	**Matrix:**	SOIL

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
WET/ EPA 6010B						
RunID: ICP6_050214A	QC Batch: R46401			PrepDate		Analyst: **RQ**
Lead	17	1.0		mg/L	20	2/14/2005
GASOLINE RANGE ORGANICS BY GC/FID						
EPA 8015B(M)						
RunID: GC2_050209B	QC Batch: E05VS035			PrepDate		Analyst: **JV**
GRO	ND	1.0		mg/Kg	1	2/10/2005

Qualifiers:

ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
B - Analyte detected in the associated Method Blank	E - Value above quantitation range
DO - Surrogate Diluted Out	R - RPD outside acceptable recovery limits

Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *14-Feb-05*

CLIENT:	Geocon Environmental	**Client Sample ID:**	C2
Lab Order:	074210		
Project:	Sand Bunker, E8220-06-05	**Collection Date:**	2/8/2005 11:00:00 AM
Lab ID:	074210-005A	**Matrix:**	SOIL

SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS
(EPA 3550B) **EPA 8270C**

RunID: MS6_050210A QC Batch: 21241 PrepDate 2/10/2005 Analyst: **JWS**

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
1,2,4-Trichlorobenzene	ND	330		µg/Kg	1	2/11/2005
1,2-Dichlorobenzene	ND	330		µg/Kg	1	2/11/2005
1,3-Dichlorobenzene	ND	330		µg/Kg	1	2/11/2005
1,4-Dichlorobenzene	ND	330		µg/Kg	1	2/11/2005
2,4,5-Trichlorophenol	ND	330		µg/Kg	1	2/11/2005
2,4,6-Trichlorophenol	ND	330		µg/Kg	1	2/11/2005
2,4-Dichlorophenol	ND	1600		µg/Kg	1	2/11/2005
2,4-Dimethylphenol	ND	330		µg/Kg	1	2/11/2005
2,4-Dinitrophenol	ND	1600		µg/Kg	1	2/11/2005
2,4-Dinitrotoluene	ND	330		µg/Kg	1	2/11/2005
2,6-Dinitrotoluene	ND	330		µg/Kg	1	2/11/2005
2-Chloronaphthalene	ND	330		µg/Kg	1	2/11/2005
2-Chlorophenol	ND	330		µg/Kg	1	2/11/2005
2-Methylnaphthalene	ND	330		µg/Kg	1	2/11/2005
2-Methylphenol	ND	330		µg/Kg	1	2/11/2005
2-Nitroaniline	ND	1600		µg/Kg	1	2/11/2005
2-Nitrophenol	ND	330		µg/Kg	1	2/11/2005
3,3´-Dichlorobenzidine	ND	660		µg/Kg	1	2/11/2005
3-Nitroaniline	ND	1600		µg/Kg	1	2/11/2005
4,6-Dinitro-2-methylphenol	ND	1600		µg/Kg	1	2/11/2005
4-Bromophenyl-phenylether	ND	330		µg/Kg	1	2/11/2005
4-Chloro-3-methylphenol	ND	660		µg/Kg	1	2/11/2005
4-Chloroaniline	ND	660		µg/Kg	1	2/11/2005
4-Chlorophenyl-phenylether	ND	330		µg/Kg	1	2/11/2005
4-Methylphenol	ND	330		µg/Kg	1	2/11/2005
4-Nitroaniline	ND	1600		µg/Kg	1	2/11/2005
4-Nitrophenol	ND	1600		µg/Kg	1	2/11/2005
Acenaphthene	ND	330		µg/Kg	1	2/11/2005
Acenaphthylene	ND	330		µg/Kg	1	2/11/2005
Anthracene	ND	330		µg/Kg	1	2/11/2005
Benzidine (M)	ND	1600		µg/Kg	1	2/11/2005
Benzo(a)anthracene	ND	330		µg/Kg	1	2/11/2005
Benzo(a)pyrene	ND	330		µg/Kg	1	2/11/2005
Benzo(b)fluoranthene	ND	330		µg/Kg	1	2/11/2005
Benzo(g,h,i)perylene	ND	330		µg/Kg	1	2/11/2005
Benzo(k)fluoranthene	ND	330		µg/Kg	1	2/11/2005

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interfere
H - Sample exceeded analytical holding time
E - Value above quantitation range
R - RPD outside acceptable recovery limits

Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *14-Feb-05*

CLIENT:	Geocon Environmental	**Client Sample ID:**	C2
Lab Order:	074210		
Project:	Sand Bunker, E8220-06-05	**Collection Date:**	2/8/2005 11:00:00 AM
Lab ID:	074210-005A	**Matrix:**	SOIL

SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS
(EPA 3550B) **EPA 8270C**

RunID: MS6_050210A QC Batch: 21241 PrepDate 2/10/2005 Analyst: **JWS**

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
Benzoic acid	ND	1600		µg/Kg	1	2/11/2005
Benzyl alcohol	ND	660		µg/Kg	1	2/11/2005
Bis(2-chloroethoxy)methane	ND	330		µg/Kg	1	2/11/2005
Bis(2-chloroethyl)ether	ND	330		µg/Kg	1	2/11/2005
Bis(2-chloroisopropyl)ether	ND	330		µg/Kg	1	2/11/2005
Bis(2-ethylhexyl)phthalate	ND	330		µg/Kg	1	2/11/2005
Butylbenzylphthalate	ND	330		µg/Kg	1	2/11/2005
Chrysene	ND	330		µg/Kg	1	2/11/2005
Di-n-butylphthalate	ND	330		µg/Kg	1	2/11/2005
Di-n-octylphthalate	ND	330		µg/Kg	1	2/11/2005
Dibenz(a,h)anthracene	ND	330		µg/Kg	1	2/11/2005
Dibenzofuran	ND	330		µg/Kg	1	2/11/2005
Diethylphthalate	ND	330		µg/Kg	1	2/11/2005
Dimethylphthalate	ND	330		µg/Kg	1	2/11/2005
Fluoranthene	ND	330		µg/Kg	1	2/11/2005
Fluorene	ND	330		µg/Kg	1	2/11/2005
Hexachlorobenzene	ND	330		µg/Kg	1	2/11/2005
Hexachlorobutadiene	ND	660		µg/Kg	1	2/11/2005
Hexachlorocyclopentadiene	ND	660		µg/Kg	1	2/11/2005
Hexachloroethane	ND	330		µg/Kg	1	2/11/2005
Indeno(1,2,3-cd)pyrene	ND	330		µg/Kg	1	2/11/2005
Isophorone	ND	330		µg/Kg	1	2/11/2005
N-Nitrosodi-n-propylamine	ND	330		µg/Kg	1	2/11/2005
N-Nitrosodiphenylamine	ND	330		µg/Kg	1	2/11/2005
Naphthalene	ND	330		µg/Kg	1	2/11/2005
Nitrobenzene	ND	330		µg/Kg	1	2/11/2005
Pentachlorophenol	ND	1600		µg/Kg	1	2/11/2005
Phenanthrene	ND	330		µg/Kg	1	2/11/2005
Phenol	ND	330		µg/Kg	1	2/11/2005
Pyrene	ND	330		µg/Kg	1	2/11/2005

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interfere
H - Sample exceeded analytical holding time
E - Value above quantitation range
R - RPD outside acceptable recovery limits

Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *14-Feb-05*

CLIENT:	Geocon Environmental	**Client Sample ID:**	D1
Lab Order:	074210		
Project:	Sand Bunker, E8220-06-05	**Collection Date:**	2/8/2005 11:10:00 AM
Lab ID:	074210-006A	**Matrix:**	SOIL

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS						
	(EPA 3050B)			**EPA 6010B**		
RunID: ICP5_050210C	QC Batch: 21230			PrepDate	2/9/2005	Analyst: **RQ**
Antimony	5.3	1.0		mg/Kg	1	2/10/2005
Arsenic	2.5	1.0		mg/Kg	1	2/10/2005
Barium	39	1.0		mg/Kg	1	2/10/2005
Beryllium	ND	1.0		mg/Kg	1	2/10/2005
Cadmium	3.9	1.0		mg/Kg	1	2/10/2005
Chromium	310	1.0		mg/Kg	1	2/10/2005
Cobalt	17	1.0		mg/Kg	1	2/10/2005
Copper	100	1.0		mg/Kg	1	2/10/2005
Lead	5400	100		mg/Kg	100	2/14/2005
Molybdenum	2.9	1.0		mg/Kg	1	2/10/2005
Nickel	750	1.0		mg/Kg	1	2/10/2005
Selenium	ND	1.0		mg/Kg	1	2/10/2005
Silver	ND	1.0		mg/Kg	1	2/10/2005
Thallium	ND	1.0		mg/Kg	1	2/10/2005
Vanadium	14	1.0		mg/Kg	1	2/10/2005
Zinc	2800	100		mg/Kg	100	2/14/2005
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
	(EPA 3550B)			**EPA 8015B(M)**		
RunID: GC7_BACK_050210A	QC Batch: 21242			PrepDate	2/10/2005	Analyst: **CGM**
Diesel	22	1.0		mg/Kg	1	2/10/2005
Motor Oil	52	1.0		mg/Kg	1	2/10/2005
LEAD BY ATOMIC ABSORPTION BY TCLP						
	(EPA 3010A)			**EPA 1311/ 7420**		
RunID: AA2_050211A	QC Batch: 21235			PrepDate	2/10/2005	Analyst: **MJM**
Lead	11	0.50		mg/L	2	2/11/2005
MERCURY BY COLD VAPOR TECHNIQUE						
	(EPA 7471)			**EPA 7471A**		
RunID: AA1_050210A	QC Batch: 21233			PrepDate	2/10/2005	Analyst: **JT**
Mercury	0.22	0.10		mg/Kg	1	2/10/2005

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interfere
H - Sample exceeded analytical holding time
E - Value above quantitation range
R - RPD outside acceptable recovery limits

Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *14-Feb-05*

CLIENT:	Geocon Environmental	**Client Sample ID:**	D1
Lab Order:	074210		
Project:	Sand Bunker, E8220-06-05	**Collection Date:**	2/8/2005 11:10:00 AM
Lab ID:	074210-006A	**Matrix:**	SOIL

SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS
(EPA 3550B) **EPA 8270C**

RunID: MS6_050210A QC Batch: 21241 PrepDate 2/10/2005 Analyst: **JWS**

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
1,2,4-Trichlorobenzene	ND	330		µg/Kg	1	2/11/2005
1,2-Dichlorobenzene	ND	330		µg/Kg	1	2/11/2005
1,3-Dichlorobenzene	ND	330		µg/Kg	1	2/11/2005
1,4-Dichlorobenzene	ND	330		µg/Kg	1	2/11/2005
2,4,5-Trichlorophenol	ND	330		µg/Kg	1	2/11/2005
2,4,6-Trichlorophenol	ND	330		µg/Kg	1	2/11/2005
2,4-Dichlorophenol	ND	1600		µg/Kg	1	2/11/2005
2,4-Dimethylphenol	ND	330		µg/Kg	1	2/11/2005
2,4-Dinitrophenol	ND	1600		µg/Kg	1	2/11/2005
2,4-Dinitrotoluene	ND	330		µg/Kg	1	2/11/2005
2,6-Dinitrotoluene	ND	330		µg/Kg	1	2/11/2005
2-Chloronaphthalene	ND	330		µg/Kg	1	2/11/2005
2-Chlorophenol	ND	330		µg/Kg	1	2/11/2005
2-Methylnaphthalene	ND	330		µg/Kg	1	2/11/2005
2-Methylphenol	ND	330		µg/Kg	1	2/11/2005
2-Nitroaniline	ND	1600		µg/Kg	1	2/11/2005
2-Nitrophenol	ND	330		µg/Kg	1	2/11/2005
3,3´-Dichlorobenzidine	ND	660		µg/Kg	1	2/11/2005
3-Nitroaniline	ND	1600		µg/Kg	1	2/11/2005
4,6-Dinitro-2-methylphenol	ND	1600		µg/Kg	1	2/11/2005
4-Bromophenyl-phenylether	ND	330		µg/Kg	1	2/11/2005
4-Chloro-3-methylphenol	ND	660		µg/Kg	1	2/11/2005
4-Chloroaniline	ND	660		µg/Kg	1	2/11/2005
4-Chlorophenyl-phenylether	ND	330		µg/Kg	1	2/11/2005
4-Methylphenol	ND	330		µg/Kg	1	2/11/2005
4-Nitroaniline	ND	1600		µg/Kg	1	2/11/2005
4-Nitrophenol	ND	1600		µg/Kg	1	2/11/2005
Acenaphthene	ND	330		µg/Kg	1	2/11/2005
Acenaphthylene	ND	330		µg/Kg	1	2/11/2005
Anthracene	ND	330		µg/Kg	1	2/11/2005
Benzidine (M)	ND	1600		µg/Kg	1	2/11/2005
Benzo(a)anthracene	ND	330		µg/Kg	1	2/11/2005
Benzo(a)pyrene	ND	330		µg/Kg	1	2/11/2005
Benzo(b)fluoranthene	ND	330		µg/Kg	1	2/11/2005
Benzo(g,h,i)perylene	ND	330		µg/Kg	1	2/11/2005
Benzo(k)fluoranthene	ND	330		µg/Kg	1	2/11/2005

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interfere
H - Sample exceeded analytical holding time
E - Value above quantitation range
R - RPD outside acceptable recovery limits

Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *14-Feb-05*

CLIENT:	Geocon Environmental	**Client Sample ID:**	D1
Lab Order:	074210		
Project:	Sand Bunker, E8220-06-05	**Collection Date:**	2/8/2005 11:10:00 AM
Lab ID:	074210-006A	**Matrix:**	SOIL

SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS
(EPA 3550B) **EPA 8270C**

RunID: MS6_050210A QC Batch: 21241 PrepDate 2/10/2005 Analyst: **JWS**

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
Benzoic acid	ND	1600		µg/Kg	1	2/11/2005
Benzyl alcohol	ND	660		µg/Kg	1	2/11/2005
Bis(2-chloroethoxy)methane	ND	330		µg/Kg	1	2/11/2005
Bis(2-chloroethyl)ether	ND	330		µg/Kg	1	2/11/2005
Bis(2-chloroisopropyl)ether	ND	330		µg/Kg	1	2/11/2005
Bis(2-ethylhexyl)phthalate	360	330		µg/Kg	1	2/11/2005
Butylbenzylphthalate	ND	330		µg/Kg	1	2/11/2005
Chrysene	ND	330		µg/Kg	1	2/11/2005
Di-n-butylphthalate	ND	330		µg/Kg	1	2/11/2005
Di-n-octylphthalate	ND	330		µg/Kg	1	2/11/2005
Dibenz(a,h)anthracene	ND	330		µg/Kg	1	2/11/2005
Dibenzofuran	ND	330		µg/Kg	1	2/11/2005
Diethylphthalate	ND	330		µg/Kg	1	2/11/2005
Dimethylphthalate	ND	330		µg/Kg	1	2/11/2005
Fluoranthene	350	330		µg/Kg	1	2/11/2005
Fluorene	ND	330		µg/Kg	1	2/11/2005
Hexachlorobenzene	ND	330		µg/Kg	1	2/11/2005
Hexachlorobutadiene	ND	660		µg/Kg	1	2/11/2005
Hexachlorocyclopentadiene	ND	660		µg/Kg	1	2/11/2005
Hexachloroethane	ND	330		µg/Kg	1	2/11/2005
Indeno(1,2,3-cd)pyrene	ND	330		µg/Kg	1	2/11/2005
Isophorone	ND	330		µg/Kg	1	2/11/2005
N-Nitrosodi-n-propylamine	ND	330		µg/Kg	1	2/11/2005
N-Nitrosodiphenylamine	ND	330		µg/Kg	1	2/11/2005
Naphthalene	ND	330		µg/Kg	1	2/11/2005
Nitrobenzene	ND	330		µg/Kg	1	2/11/2005
Pentachlorophenol	ND	1600		µg/Kg	1	2/11/2005
Phenanthrene	ND	330		µg/Kg	1	2/11/2005
Phenol	ND	330		µg/Kg	1	2/11/2005
Pyrene	ND	330		µg/Kg	1	2/11/2005

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interfere
H - Sample exceeded analytical holding time
E - Value above quantitation range
R - RPD outside acceptable recovery limits

Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *14-Feb-05*

CLIENT:	Geocon Environmental	**Client Sample ID:**	D2
Lab Order:	074210		
Project:	Sand Bunker, E8220-06-05	**Collection Date:**	2/8/2005 11:15:00 AM
Lab ID:	074210-007A	**Matrix:**	SOIL

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS						
(EPA 3050B)				**EPA 6010B**		
RunID: ICP5_050210C	QC Batch: 21230			PrepDate	2/9/2005	Analyst: **RQ**
Antimony	ND	1.0		mg/Kg	1	2/10/2005
Arsenic	ND	1.0		mg/Kg	1	2/10/2005
Barium	36	1.0		mg/Kg	1	2/10/2005
Beryllium	ND	1.0		mg/Kg	1	2/10/2005
Cadmium	ND	1.0		mg/Kg	1	2/10/2005
Chromium	33	1.0		mg/Kg	1	2/10/2005
Cobalt	8.4	1.0		mg/Kg	1	2/10/2005
Copper	10	1.0		mg/Kg	1	2/10/2005
Lead	49	1.0		mg/Kg	1	2/10/2005
Molybdenum	ND	1.0		mg/Kg	1	2/10/2005
Nickel	30	1.0		mg/Kg	1	2/10/2005
Selenium	ND	1.0		mg/Kg	1	2/10/2005
Silver	ND	1.0		mg/Kg	1	2/10/2005
Thallium	ND	1.0		mg/Kg	1	2/10/2005
Vanadium	27	1.0		mg/Kg	1	2/10/2005
Zinc	24	1.0		mg/Kg	1	2/10/2005
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
(EPA 3550B)				**EPA 8015B(M)**		
RunID: GC7_BACK_050210A	QC Batch: 21242			PrepDate	2/10/2005	Analyst: **CGM**
Diesel	ND	1.0		mg/Kg	1	2/10/2005
Motor Oil	ND	1.0		mg/Kg	1	2/10/2005
LEAD BY ATOMIC ABSORPTION BY TCLP						
(EPA 3010A)				**EPA 1311/ 7420**		
RunID: AA2_050211A	QC Batch: 21235			PrepDate	2/10/2005	Analyst: **MJM**
Lead	ND	0.25		mg/L	1	2/11/2005
MERCURY BY COLD VAPOR TECHNIQUE						
(EPA 7471)				**EPA 7471A**		
RunID: AA1_050210A	QC Batch: 21233			PrepDate	2/10/2005	Analyst: **JT**
Mercury	ND	0.10		mg/Kg	1	2/10/2005

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interfere
H - Sample exceeded analytical holding time
E - Value above quantitation range
R - RPD outside acceptable recovery limits

Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *14-Feb-05*

CLIENT:	Geocon Environmental	**Client Sample ID:**	D2
Lab Order:	074210		
Project:	Sand Bunker, E8220-06-05	**Collection Date:**	2/8/2005 11:15:00 AM
Lab ID:	074210-007A	**Matrix:**	SOIL

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS BY GC/FID						
			EPA 8015B(M)			
RunID: GC2_050209B	QC Batch: E05VS035			PrepDate		Analyst: **JV**
GRO	ND	1.0		mg/Kg	1	2/10/2005

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interfere
H - Sample exceeded analytical holding time
E - Value above quantitation range
R - RPD outside acceptable recovery limits

Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *14-Feb-05*

CLIENT:	Geocon Environmental	**Client Sample ID:**	D2
Lab Order:	074210		
Project:	Sand Bunker, E8220-06-05	**Collection Date:**	2/8/2005 11:15:00 AM
Lab ID:	074210-007A	**Matrix:**	SOIL

SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS
(EPA 3550B) **EPA 8270C**

RunID: MS6_050210A QC Batch: 21241 PrepDate 2/10/2005 Analyst: **JWS**

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
1,2,4-Trichlorobenzene	ND	330		µg/Kg	1	2/11/2005
1,2-Dichlorobenzene	ND	330		µg/Kg	1	2/11/2005
1,3-Dichlorobenzene	ND	330		µg/Kg	1	2/11/2005
1,4-Dichlorobenzene	ND	330		µg/Kg	1	2/11/2005
2,4,5-Trichlorophenol	ND	330		µg/Kg	1	2/11/2005
2,4,6-Trichlorophenol	ND	330		µg/Kg	1	2/11/2005
2,4-Dichlorophenol	ND	1600		µg/Kg	1	2/11/2005
2,4-Dimethylphenol	ND	330		µg/Kg	1	2/11/2005
2,4-Dinitrophenol	ND	1600		µg/Kg	1	2/11/2005
2,4-Dinitrotoluene	ND	330		µg/Kg	1	2/11/2005
2,6-Dinitrotoluene	ND	330		µg/Kg	1	2/11/2005
2-Chloronaphthalene	ND	330		µg/Kg	1	2/11/2005
2-Chlorophenol	ND	330		µg/Kg	1	2/11/2005
2-Methylnaphthalene	ND	330		µg/Kg	1	2/11/2005
2-Methylphenol	ND	330		µg/Kg	1	2/11/2005
2-Nitroaniline	ND	1600		µg/Kg	1	2/11/2005
2-Nitrophenol	ND	330		µg/Kg	1	2/11/2005
3,3´-Dichlorobenzidine	ND	660		µg/Kg	1	2/11/2005
3-Nitroaniline	ND	1600		µg/Kg	1	2/11/2005
4,6-Dinitro-2-methylphenol	ND	1600		µg/Kg	1	2/11/2005
4-Bromophenyl-phenylether	ND	330		µg/Kg	1	2/11/2005
4-Chloro-3-methylphenol	ND	660		µg/Kg	1	2/11/2005
4-Chloroaniline	ND	660		µg/Kg	1	2/11/2005
4-Chlorophenyl-phenylether	ND	330		µg/Kg	1	2/11/2005
4-Methylphenol	ND	330		µg/Kg	1	2/11/2005
4-Nitroaniline	ND	1600		µg/Kg	1	2/11/2005
4-Nitrophenol	ND	1600		µg/Kg	1	2/11/2005
Acenaphthene	ND	330		µg/Kg	1	2/11/2005
Acenaphthylene	ND	330		µg/Kg	1	2/11/2005
Anthracene	ND	330		µg/Kg	1	2/11/2005
Benzidine (M)	ND	1600		µg/Kg	1	2/11/2005
Benzo(a)anthracene	ND	330		µg/Kg	1	2/11/2005
Benzo(a)pyrene	ND	330		µg/Kg	1	2/11/2005
Benzo(b)fluoranthene	ND	330		µg/Kg	1	2/11/2005
Benzo(g,h,i)perylene	ND	330		µg/Kg	1	2/11/2005
Benzo(k)fluoranthene	ND	330		µg/Kg	1	2/11/2005

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interfere
H - Sample exceeded analytical holding time
E - Value above quantitation range
R - RPD outside acceptable recovery limits

Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *14-Feb-05*

CLIENT:	Geocon Environmental	**Client Sample ID:**	D2
Lab Order:	074210		
Project:	Sand Bunker, E8220-06-05	**Collection Date:**	2/8/2005 11:15:00 AM
Lab ID:	074210-007A	**Matrix:**	SOIL

SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS
(EPA 3550B) **EPA 8270C**

RunID: MS6_050210A QC Batch: 21241 PrepDate 2/10/2005 Analyst: **JWS**

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
Benzoic acid	ND	1600		µg/Kg	1	2/11/2005
Benzyl alcohol	ND	660		µg/Kg	1	2/11/2005
Bis(2-chloroethoxy)methane	ND	330		µg/Kg	1	2/11/2005
Bis(2-chloroethyl)ether	ND	330		µg/Kg	1	2/11/2005
Bis(2-chloroisopropyl)ether	ND	330		µg/Kg	1	2/11/2005
Bis(2-ethylhexyl)phthalate	ND	330		µg/Kg	1	2/11/2005
Butylbenzylphthalate	ND	330		µg/Kg	1	2/11/2005
Chrysene	ND	330		µg/Kg	1	2/11/2005
Di-n-butylphthalate	ND	330		µg/Kg	1	2/11/2005
Di-n-octylphthalate	ND	330		µg/Kg	1	2/11/2005
Dibenz(a,h)anthracene	ND	330		µg/Kg	1	2/11/2005
Dibenzofuran	ND	330		µg/Kg	1	2/11/2005
Diethylphthalate	ND	330		µg/Kg	1	2/11/2005
Dimethylphthalate	ND	330		µg/Kg	1	2/11/2005
Fluoranthene	ND	330		µg/Kg	1	2/11/2005
Fluorene	ND	330		µg/Kg	1	2/11/2005
Hexachlorobenzene	ND	330		µg/Kg	1	2/11/2005
Hexachlorobutadiene	ND	660		µg/Kg	1	2/11/2005
Hexachlorocyclopentadiene	ND	660		µg/Kg	1	2/11/2005
Hexachloroethane	ND	330		µg/Kg	1	2/11/2005
Indeno(1,2,3-cd)pyrene	ND	330		µg/Kg	1	2/11/2005
Isophorone	ND	330		µg/Kg	1	2/11/2005
N-Nitrosodi-n-propylamine	ND	330		µg/Kg	1	2/11/2005
N-Nitrosodiphenylamine	ND	330		µg/Kg	1	2/11/2005
Naphthalene	ND	330		µg/Kg	1	2/11/2005
Nitrobenzene	ND	330		µg/Kg	1	2/11/2005
Pentachlorophenol	ND	1600		µg/Kg	1	2/11/2005
Phenanthrene	ND	330		µg/Kg	1	2/11/2005
Phenol	ND	330		µg/Kg	1	2/11/2005
Pyrene	ND	330		µg/Kg	1	2/11/2005

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interfere
H - Sample exceeded analytical holding time
E - Value above quantitation range
R - RPD outside acceptable recovery limits

Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *14-Feb-05*

CLIENT:	Geocon Environmental	**Client Sample ID:**	E1
Lab Order:	074210		
Project:	Sand Bunker, E8220-06-05	**Collection Date:**	2/8/2005 11:30:00 AM
Lab ID:	074210-008A	**Matrix:**	SOIL

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS						
(EPA 3050B)				**EPA 6010B**		
RunID: ICP5_050210C	QC Batch: 21230			PrepDate	2/9/2005	Analyst: **RQ**
Antimony	3.5	1.0		mg/Kg	1	2/10/2005
Arsenic	7.7	1.0		mg/Kg	1	2/10/2005
Barium	21	1.0		mg/Kg	1	2/10/2005
Beryllium	ND	1.0		mg/Kg	1	2/10/2005
Cadmium	2.2	1.0		mg/Kg	1	2/10/2005
Chromium	140	1.0		mg/Kg	1	2/10/2005
Cobalt	5.2	1.0		mg/Kg	1	2/10/2005
Copper	66	1.0		mg/Kg	1	2/10/2005
Lead	4900	100		mg/Kg	100	2/14/2005
Molybdenum	1.8	1.0		mg/Kg	1	2/10/2005
Nickel	140	1.0		mg/Kg	1	2/10/2005
Selenium	ND	1.0		mg/Kg	1	2/10/2005
Silver	ND	1.0		mg/Kg	1	2/10/2005
Thallium	ND	1.0		mg/Kg	1	2/10/2005
Vanadium	8.0	1.0		mg/Kg	1	2/10/2005
Zinc	360	1.0		mg/Kg	1	2/10/2005
DIESEL & MOTOR OIL RANGE ORGANICS BY GC/FID						
(EPA 3550B)				**EPA 8015B(M)**		
RunID: GC7_BACK_050210A	QC Batch: 21242			PrepDate	2/10/2005	Analyst: **CGM**
Diesel	14	1.0		mg/Kg	1	2/10/2005
Motor Oil	31	1.0		mg/Kg	1	2/10/2005
LEAD BY ATOMIC ABSORPTION BY TCLP						
(EPA 3010A)				**EPA 1311/ 7420**		
RunID: AA2_050211A	QC Batch: 21235			PrepDate	2/10/2005	Analyst: **MJM**
Lead	63	2.5		mg/L	10	2/11/2005
MERCURY BY COLD VAPOR TECHNIQUE						
(EPA 7471)				**EPA 7471A**		
RunID: AA1_050210A	QC Batch: 21233			PrepDate	2/10/2005	Analyst: **JT**
Mercury	0.21	0.10		mg/Kg	1	2/10/2005

Qualifiers:

ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interfere
J - Analyte detected below quantitation limits	H - Sample exceeded analytical holding time
B - Analyte detected in the associated Method Blank	E - Value above quantitation range
DO - Surrogate Diluted Out	R - RPD outside acceptable recovery limits

Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *14-Feb-05*

CLIENT:	Geocon Environmental	**Client Sample ID:**	E1
Lab Order:	074210		
Project:	Sand Bunker, E8220-06-05	**Collection Date:**	2/8/2005 11:30:00 AM
Lab ID:	074210-008A	**Matrix:**	SOIL

SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS
(EPA 3550B) **EPA 8270C**

RunID: MS6_050210A QC Batch: 21241 PrepDate 2/10/2005 Analyst: **JWS**

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
1,2,4-Trichlorobenzene	ND	330		µg/Kg	1	2/10/2005
1,2-Dichlorobenzene	ND	330		µg/Kg	1	2/10/2005
1,3-Dichlorobenzene	ND	330		µg/Kg	1	2/10/2005
1,4-Dichlorobenzene	ND	330		µg/Kg	1	2/10/2005
2,4,5-Trichlorophenol	ND	330		µg/Kg	1	2/10/2005
2,4,6-Trichlorophenol	ND	330		µg/Kg	1	2/10/2005
2,4-Dichlorophenol	ND	1600		µg/Kg	1	2/10/2005
2,4-Dimethylphenol	ND	330		µg/Kg	1	2/10/2005
2,4-Dinitrophenol	ND	1600		µg/Kg	1	2/10/2005
2,4-Dinitrotoluene	ND	330		µg/Kg	1	2/10/2005
2,6-Dinitrotoluene	ND	330		µg/Kg	1	2/10/2005
2-Chloronaphthalene	ND	330		µg/Kg	1	2/10/2005
2-Chlorophenol	ND	330		µg/Kg	1	2/10/2005
2-Methylnaphthalene	ND	330		µg/Kg	1	2/10/2005
2-Methylphenol	ND	330		µg/Kg	1	2/10/2005
2-Nitroaniline	ND	1600		µg/Kg	1	2/10/2005
2-Nitrophenol	ND	330		µg/Kg	1	2/10/2005
3,3´-Dichlorobenzidine	ND	660		µg/Kg	1	2/10/2005
3-Nitroaniline	ND	1600		µg/Kg	1	2/10/2005
4,6-Dinitro-2-methylphenol	ND	1600		µg/Kg	1	2/10/2005
4-Bromophenyl-phenylether	ND	330		µg/Kg	1	2/10/2005
4-Chloro-3-methylphenol	ND	660		µg/Kg	1	2/10/2005
4-Chloroaniline	ND	660		µg/Kg	1	2/10/2005
4-Chlorophenyl-phenylether	ND	330		µg/Kg	1	2/10/2005
4-Methylphenol	ND	330		µg/Kg	1	2/10/2005
4-Nitroaniline	ND	1600		µg/Kg	1	2/10/2005
4-Nitrophenol	ND	1600		µg/Kg	1	2/10/2005
Acenaphthene	ND	330		µg/Kg	1	2/10/2005
Acenaphthylene	ND	330		µg/Kg	1	2/10/2005
Anthracene	ND	330		µg/Kg	1	2/10/2005
Benzidine (M)	ND	1600		µg/Kg	1	2/10/2005
Benzo(a)anthracene	ND	330		µg/Kg	1	2/10/2005
Benzo(a)pyrene	ND	330		µg/Kg	1	2/10/2005
Benzo(b)fluoranthene	ND	330		µg/Kg	1	2/10/2005
Benzo(g,h,i)perylene	ND	330		µg/Kg	1	2/10/2005
Benzo(k)fluoranthene	ND	330		µg/Kg	1	2/10/2005

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interfere
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R - RPD outside acceptable recovery limits

Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *14-Feb-05*

CLIENT:	Geocon Environmental	**Client Sample ID:**	E1
Lab Order:	074210		
Project:	Sand Bunker, E8220-06-05	**Collection Date:**	2/8/2005 11:30:00 AM
Lab ID:	074210-008A	**Matrix:**	SOIL

SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS
(EPA 3550B) **EPA 8270C**

RunID: MS6_050210A QC Batch: 21241 PrepDate 2/10/2005 Analyst: **JWS**

Analyte	Result	PQL	Qual	Units	DF	Date Analyzed
Benzoic acid	ND	1600		µg/Kg	1	2/10/2005
Benzyl alcohol	ND	660		µg/Kg	1	2/10/2005
Bis(2-chloroethoxy)methane	ND	330		µg/Kg	1	2/10/2005
Bis(2-chloroethyl)ether	ND	330		µg/Kg	1	2/10/2005
Bis(2-chloroisopropyl)ether	ND	330		µg/Kg	1	2/10/2005
Bis(2-ethylhexyl)phthalate	370	330		µg/Kg	1	2/10/2005
Butylbenzylphthalate	ND	330		µg/Kg	1	2/10/2005
Chrysene	ND	330		µg/Kg	1	2/10/2005
Di-n-butylphthalate	ND	330		µg/Kg	1	2/10/2005
Di-n-octylphthalate	ND	330		µg/Kg	1	2/10/2005
Dibenz(a,h)anthracene	ND	330		µg/Kg	1	2/10/2005
Dibenzofuran	ND	330		µg/Kg	1	2/10/2005
Diethylphthalate	ND	330		µg/Kg	1	2/10/2005
Dimethylphthalate	ND	330		µg/Kg	1	2/10/2005
Fluoranthene	ND	330		µg/Kg	1	2/10/2005
Fluorene	ND	330		µg/Kg	1	2/10/2005
Hexachlorobenzene	ND	330		µg/Kg	1	2/10/2005
Hexachlorobutadiene	ND	660		µg/Kg	1	2/10/2005
Hexachlorocyclopentadiene	ND	660		µg/Kg	1	2/10/2005
Hexachloroethane	ND	330		µg/Kg	1	2/10/2005
Indeno(1,2,3-cd)pyrene	ND	330		µg/Kg	1	2/10/2005
Isophorone	ND	330		µg/Kg	1	2/10/2005
N-Nitrosodi-n-propylamine	ND	330		µg/Kg	1	2/10/2005
N-Nitrosodiphenylamine	ND	330		µg/Kg	1	2/10/2005
Naphthalene	ND	330		µg/Kg	1	2/10/2005
Nitrobenzene	ND	330		µg/Kg	1	2/10/2005
Pentachlorophenol	ND	1600		µg/Kg	1	2/10/2005
Phenanthrene	ND	330		µg/Kg	1	2/10/2005
Phenol	ND	330		µg/Kg	1	2/10/2005
Pyrene	ND	330		µg/Kg	1	2/10/2005

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interfere
H - Sample exceeded analytical holding time
E - Value above quantitation range
R - RPD outside acceptable recovery limits

Results are wet unless otherwise specified

CLIENT: Geocon Environmental
Work Order: 074210
Project: Sand Bunker, E8220-06-05

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID **MB-21230A** SampType: **MBLK** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **2/9/2005** Run ID: **ICP5_050210C**
Client ID: **ZZZZZ** Batch ID: **21230** TestNo: **EPA 6010B** **(EPA 3050B)** Analysis Date: **2/10/2005** SeqNo: **677787**

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 **MB-21230** SampType: **MBLK** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **2/9/2005** Run ID: **ICP5_050214B**
Client ID: **ZZZZZ** Batch ID: **21230** TestNo: **EPA 6010B** **(EPA 3050B)** Analysis Date: **2/14/2005** SeqNo: **678644**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	1.0									
Zinc	ND	1.0									

Sample ID **LCS-21230** SampType: **LCS** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **2/9/2005** Run ID: **ICP5_050210C**
Client ID: **ZZZZZ** Batch ID: **21230** TestNo: **EPA 6010B** **(EPA 3050B)** Analysis Date: **2/10/2005** SeqNo: **677788**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank
Calculations are based on raw values
DO - Surrogate dilute out
H - Sample exceeded holding time

CLIENT: Geocon Environmental
Work Order: 074210
Project: Sand Bunker, E8220-06-05

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID	LCS-21230	SampType:	LCS	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	2/9/2005	Run ID:	ICP5_050210C
Client ID:	ZZZZZ	Batch ID:	21230	TestNo:	EPA 6010B	(EPA 3050B)		Analysis Date:	2/10/2005	SeqNo:	677788

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	45.76	2.0	50	0	91.5	80	120	0	0		
Arsenic	46.06	1.0	50	0	92.1	80	120	0	0		
Barium	48.39	1.0	50	0	96.8	80	120	0	0		
Beryllium	45.93	1.0	50	0	91.9	80	120	0	0		
Cadmium	46.49	1.0	50	0	93	80	120	0	0		
Chromium	47.73	1.0	50	0	95.5	80	120	0	0		
Cobalt	46.84	1.0	50	0	93.7	80	120	0	0		
Copper	46.36	2.0	50	0	92.7	80	120	0	0		
Lead	46.16	1.0	50	0	92.3	80	120	0	0		
Molybdenum	49.3	1.0	50	0	98.6	80	120	0	0		
Nickel	46.51	1.0	50	0	93	80	120	0	0		
Selenium	43.45	1.0	50	0	86.9	80	120	0	0		
Silver	53.36	1.0	50	0	107	80	120	0	0		
Thallium	45.74	1.0	50	0	91.5	80	120	0	0		
Vanadium	48.49	1.0	50	0	97	80	120	0	0		
Zinc	44.72	1.0	50	0	89.4	80	120	0	0		

Sample ID	LCS-21230	SampType:	LCS	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	2/9/2005	Run ID:	ICP5_050214B
Client ID:	ZZZZZ	Batch ID:	21230	TestNo:	EPA 6010B	(EPA 3050B)		Analysis Date:	2/14/2005	SeqNo:	678645

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	51.35	1.0	50	0	103	80	120	0	0		
Zinc	51.19	1.0	50	0	102	80	120	0	0		

Sample ID	074210-001AMS	SampType:	MS	TestCode:	6010_S	Units:	mg/Kg	Prep Date:	2/9/2005	Run ID:	ICP5_050210C
Client ID:	A1	Batch ID:	21230	TestNo:	EPA 6010B	(EPA 3050B)		Analysis Date:	2/10/2005	SeqNo:	677936

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	94.24	1.0	125	3.143	72.9	23	118	0	0		
Arsenic	126.9	1.0	125	14.54	89.9	64	111	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank
Calculations are based on raw values
DO - Surrogate dilute out
H - Sample exceeded holding time

CLIENT: Geocon Environmental
Work Order: 074210
Project: Sand Bunker, E8220-06-05

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID **074210-001AMS** SampType: **MS** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **2/9/2005** Run ID: **ICP5_050210C**
Client ID: **A1** Batch ID: **21230** TestNo: **EPA 6010B (EPA 3050B)** Analysis Date: **2/10/2005** SeqNo: **677936**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	157.3	1.0	125	51.84	84.4	36	146	0	0		
Beryllium	108.1	1.0	125	0	86.5	50	120	0	0		
Cadmium	104.9	1.0	125	1.419	82.8	62	107	0	0		
Chromium	187.2	1.0	125	122.7	51.5	63	119	0	0		S
Cobalt	112.4	1.0	125	8.71	83	63	111	0	0		
Copper	301.1	1.0	125	182.6	94.8	58	136	0	0		
Lead	4256	1.0	125	5037	-625	47	125	0	0		S
Molybdenum	114.6	1.0	125	4.852	87.8	63	116	0	0		
Nickel	141.3	1.0	125	131.5	7.89	57	116	0	0		S
Selenium	105.6	1.0	125	0	84.5	47	118	0	0		
Silver	112.7	1.0	125	0.7985	89.5	48	125	0	0		
Thallium	96.93	1.0	125	0	77.5	49	116	0	0		
Vanadium	126.4	1.0	125	15.06	89.1	65	122	0	0		
Zinc	621.7	1.0	125	306.5	252	36	140	0	0		S

Sample ID **074210-001AMS** SampType: **MS** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **2/9/2005** Run ID: **ICP5_050214B**
Client ID: **A1** Batch ID: **21230** TestNo: **EPA 6010B (EPA 3050B)** Analysis Date: **2/14/2005** SeqNo: **678651**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	5149	100	125	5704	-444	47	125	0	0		S
Zinc	737.2	100	125	342.8	315	36	140	0	0		S

Sample ID **074210-001AMSD** SampType: **MSD** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **2/9/2005** Run ID: **ICP5_050210C**
Client ID: **A1** Batch ID: **21230** TestNo: **EPA 6010B (EPA 3050B)** Analysis Date: **2/10/2005** SeqNo: **677937**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	91.75	1.0	125	3.143	70.9	23	118	94.24	2.67	20	
Arsenic	132.3	1.0	125	14.54	94.2	64	111	126.9	4.15	20	
Barium	151.1	1.0	125	51.84	79.4	36	146	157.3	3.99	20	
Beryllium	102.2	1.0	125	0	81.8	50	120	108.1	5.56	20	

Qualifiers:
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S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank
Calculations are based on raw values
DO - Surrogate dilute out
H - Sample exceeded holding time

CLIENT: Geocon Environmental
Work Order: 074210
Project: Sand Bunker, E8220-06-05

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID **074210-001AMSD** SampType: **MSD** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **2/9/2005** Run ID: **ICP5_050210C**
Client ID: **A1** Batch ID: **21230** TestNo: **EPA 6010B** **(EPA 3050B)** Analysis Date: **2/10/2005** SeqNo: **677937**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	99.54	1.0	125	1.419	78.5	62	107	104.9	5.28	20	
Chromium	223.7	1.0	125	122.7	80.8	63	119	187.2	17.8	20	
Cobalt	108.4	1.0	125	8.71	79.7	63	111	112.4	3.68	20	
Copper	285	1.0	125	182.6	81.9	58	136	301.1	5.49	20	
Lead	5294	1.0	125	5037	205	47	125	4256	21.7	20	SR
Molybdenum	109.9	1.0	125	4.852	84.1	63	116	114.6	4.18	20	
Nickel	242.8	1.0	125	131.5	89.1	57	116	141.3	52.8	20	R
Selenium	99.36	1.0	125	0	79.5	47	118	105.6	6.06	20	
Silver	108.5	1.0	125	0.7985	86.2	48	125	112.7	3.77	20	
Thallium	93.01	1.0	125	0	74.4	49	116	96.93	4.12	20	
Vanadium	119.9	1.0	125	15.06	83.9	65	122	126.4	5.30	20	
Zinc	410.5	1.0	125	306.5	83.2	36	140	621.7	40.9	20	R

Sample ID **074210-001AMSD** SampType: **MSD** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **2/9/2005** Run ID: **ICP5_050214B**
Client ID: **A1** Batch ID: **21230** TestNo: **EPA 6010B** **(EPA 3050B)** Analysis Date: **2/14/2005** SeqNo: **678652**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	6206	100	125	5704	401	47	125	5149	18.6	20	S
Zinc	467.6	100	125	342.8	99.8	36	140	737.2	44.8	20	R

Sample ID **074210-001ADUP** SampType: **DUP** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **2/9/2005** Run ID: **ICP5_050210C**
Client ID: **A1** Batch ID: **21230** TestNo: **EPA 6010B** **(EPA 3050B)** Analysis Date: **2/10/2005** SeqNo: **677935**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	3.52	1.0	0	0	0	0	0	3.143	11.3	20	
Arsenic	21.85	1.0	0	0	0	0	0	14.54	40.2	20	R
Barium	47.77	1.0	0	0	0	0	0	51.84	8.18	20	
Beryllium	ND	1.0	0	0	0	0	0	0	0	20	
Cadmium	1.463	1.0	0	0	0	0	0	1.419	3.06	20	
Chromium	91.09	1.0	0	0	0	0	0	122.7	29.6	20	R

Qualifiers:
ND - Not Detected at the Reporting Limit
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S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank
Calculations are based on raw values
DO - Surrogate dilute out
H - Sample exceeded holding time

CLIENT: Geocon Environmental
Work Order: 074210
Project: Sand Bunker, E8220-06-05

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID **074210-001ADUP** SampType: **DUP** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **2/9/2005** Run ID: **ICP5_050210C**
Client ID: **A1** Batch ID: **21230** TestNo: **EPA 6010B (EPA 3050B)** Analysis Date: **2/10/2005** SeqNo: **677935**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	7.285	1.0	0	0	0	0	0	8.71	17.8	20	
Copper	157.6	1.0	0	0	0	0	0	182.6	14.7	20	
Molybdenum	4.045	1.0	0	0	0	0	0	4.852	18.2	20	
Nickel	93.23	1.0	0	0	0	0	0	131.5	34.0	20	R
Selenium	ND	1.0	0	0	0	0	0	0	0	20	
Silver	1.217	1.0	0	0	0	0	0	0.7985	41.5	20	R
Thallium	ND	1.0	0	0	0	0	0	0	0	20	
Vanadium	13.18	1.0	0	0	0	0	0	15.06	13.3	20	
Zinc	325.7	1.0	0	0	0	0	0	306.5	6.06	20	

Sample ID **074210-001ADUP** SampType: **DUP** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **2/9/2005** Run ID: **ICP5_050214B**
Client ID: **A1** Batch ID: **21230** TestNo: **EPA 6010B (EPA 3050B)** Analysis Date: **2/14/2005** SeqNo: **678650**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	6773	100	0	0	0	0	0	5704	17.1	20	
Zinc	358.5	100	0	0	0	0	0	342.8	4.47	20	

Qualifiers:
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B - Analyte detected in the associated Method Blank
Calculations are based on raw values
DO - Surrogate dilute out
H - Sample exceeded holding time

CLIENT: Geocon Environmental
Work Order: 074210
Project: Sand Bunker, E8220-06-05

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_ST

Sample ID **MB-21227A** SampType: **MBLK** TestCode: **6010_ST** Units: **mg/L** Prep Date: Run ID: **ICP6_050214A**
Client ID: **ZZZZZ** Batch ID: **R46401** TestNo: **WET/ EPA 60** Analysis Date: **2/14/2005** SeqNo: **678504**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.050									

Sample ID **LCS-21227** SampType: **LCS** TestCode: **6010_ST** Units: **mg/L** Prep Date: Run ID: **ICP6_050214A**
Client ID: **ZZZZZ** Batch ID: **R46401** TestNo: **WET/ EPA 60** Analysis Date: **2/14/2005** SeqNo: **678505**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	1.038	0.050	1	0	104	85	115	0	0		

Sample ID **074210-008AMS** SampType: **MS** TestCode: **6010_ST** Units: **mg/L** Prep Date: Run ID: **ICP6_050214A**
Client ID: **E1** Batch ID: **R46401** TestNo: **WET/ EPA 60** Analysis Date: **2/14/2005** SeqNo: **678518**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	382.7	1.0	2.5	425.2	-1700	67	120	0	0		S

Sample ID **074210-008AMSD** SampType: **MSD** TestCode: **6010_ST** Units: **mg/L** Prep Date: Run ID: **ICP6_050214A**
Client ID: **E1** Batch ID: **R46401** TestNo: **WET/ EPA 60** Analysis Date: **2/14/2005** SeqNo: **678519**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	392.8	1.0	2.5	425.2	-1300	67	120	382.7	2.61	20	S

Sample ID **074210-008ADUP** SampType: **DUP** TestCode: **6010_ST** Units: **mg/L** Prep Date: Run ID: **ICP6_050214A**
Client ID: **E1** Batch ID: **R46401** TestNo: **WET/ EPA 60** Analysis Date: **2/14/2005** SeqNo: **678516**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	482.2	1.0	0	0	0	0	0	425.2	12.6	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
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Calculations are based on raw values
DO - Surrogate dilute out
H - Sample exceeded holding time

CLIENT: Geocon Environmental
Work Order: 074210
Project: Sand Bunker, E8220-06-05

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID **MB-21235A** SampType: **MBLK** TestCode: **7420_TC** Units: **mg/L** Prep Date: **2/10/2005** Run ID: **AA2_050211A**
Client ID: **ZZZZZ** Batch ID: **21235** TestNo: **EPA 1311/ 74 (EPA 3010A)** Analysis Date: **2/11/2005** SeqNo: **678021**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25									

Sample ID **MB-21228ATCLP** SampType: **MBLK** TestCode: **7420_TC** Units: **mg/L** Prep Date: **2/10/2005** Run ID: **AA2_050211A**
Client ID: **ZZZZZ** Batch ID: **21235** TestNo: **EPA 1311/ 74 (EPA 3010A)** Analysis Date: **2/11/2005** SeqNo: **678022**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25									

Sample ID **LCS-21235** SampType: **LCS** TestCode: **7420_TC** Units: **mg/L** Prep Date: **2/10/2005** Run ID: **AA2_050211A**
Client ID: **ZZZZZ** Batch ID: **21235** TestNo: **EPA 1311/ 74 (EPA 3010A)** Analysis Date: **2/11/2005** SeqNo: **678023**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	1.142	0.25	1	0	114	80	120	0	0		

Sample ID **074186-001AMS** SampType: **MS** TestCode: **7420_TC** Units: **mg/L** Prep Date: **2/10/2005** Run ID: **AA2_050211A**
Client ID: **ZZZZZ** Batch ID: **21235** TestNo: **EPA 1311/ 74 (EPA 3010A)** Analysis Date: **2/11/2005** SeqNo: **678034**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.749	0.25	2.5	0.1135	105	70	130	0	0		

Sample ID **074186-001AMSD** SampType: **MSD** TestCode: **7420_TC** Units: **mg/L** Prep Date: **2/10/2005** Run ID: **AA2_050211A**
Client ID: **ZZZZZ** Batch ID: **21235** TestNo: **EPA 1311/ 74 (EPA 3010A)** Analysis Date: **2/11/2005** SeqNo: **678035**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.741	0.25	2.5	0.1135	105	70	130	2.749	0.290	20	

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Calculations are based on raw values
DO - Surrogate dilute out
H - Sample exceeded holding time

CLIENT: Geocon Environmental
Work Order: 074210
Project: Sand Bunker, E8220-06-05

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID	074210-008ADUP	SampType:	DUP	TestCode:	7420_TC	Units:	mg/L	Prep Date:	2/10/2005	Run ID:	AA2_050211A
Client ID:	E1	Batch ID:	21235	TestNo:	EPA 1311/ 74 (EPA 3010A)			Analysis Date:	2/11/2005	SeqNo:	678032

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	62.48	2.5	0	0	0	0	0	63.11	1.00	20	

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CLIENT: Geocon Environmental
Work Order: 074210
Project: Sand Bunker, E8220-06-05

ANALYTICAL QC SUMMARY REPORT

TestCode: 7471_S

Sample ID **MB-21233** SampType: **MBLK** TestCode: **7471_S** Units: **mg/Kg** Prep Date: **2/10/2005** Run ID: **AA1_050210A**
Client ID: **ZZZZZ** Batch ID: **21233** TestNo: **EPA 7471A** **(EPA 7471)** Analysis Date: **2/10/2005** SeqNo: **677608**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.10									

Sample ID **LCS-21233** SampType: **LCS** TestCode: **7471_S** Units: **mg/Kg** Prep Date: **2/10/2005** Run ID: **AA1_050210A**
Client ID: **ZZZZZ** Batch ID: **21233** TestNo: **EPA 7471A** **(EPA 7471)** Analysis Date: **2/10/2005** SeqNo: **677607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.376	0.10	2.08	0	114	80	120	0	0		

Sample ID **074210-008AMS** SampType: **MS** TestCode: **7471_S** Units: **mg/Kg** Prep Date: **2/10/2005** Run ID: **AA1_050210A**
Client ID: **E1** Batch ID: **21233** TestNo: **EPA 7471A** **(EPA 7471)** Analysis Date: **2/10/2005** SeqNo: **677605**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.16	0.10	0.83	0.2122	114	62	146	0	0		

Sample ID **074210-008AMSD** SampType: **MSD** TestCode: **7471_S** Units: **mg/Kg** Prep Date: **2/10/2005** Run ID: **AA1_050210A**
Client ID: **E1** Batch ID: **21233** TestNo: **EPA 7471A** **(EPA 7471)** Analysis Date: **2/10/2005** SeqNo: **677606**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.331	0.10	0.83	0.2122	135	62	146	1.16	13.7	30	

Sample ID **074210-008ADUP** SampType: **DUP** TestCode: **7471_S** Units: **mg/Kg** Prep Date: **2/10/2005** Run ID: **AA1_050210A**
Client ID: **E1** Batch ID: **21233** TestNo: **EPA 7471A** **(EPA 7471)** Analysis Date: **2/10/2005** SeqNo: **677604**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.1567	0.10	0	0	0	0	0	0.2122	30.1	30	R

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CLIENT: Geocon Environmental
Work Order: 074210
Project: Sand Bunker, E8220-06-05

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015_S_DMLL

Sample ID **MB-21242** SampType: **MBLK** TestCode: **8015_S_DM** Units: **mg/Kg** Prep Date: **2/10/2005** Run ID: **GC7_BACK_050210A**
Client ID: **ZZZZZ** Batch ID: **21242** TestNo: **EPA 8015B(M (EPA 3550B)** Analysis Date: **2/10/2005** SeqNo: **678037**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	1.0									
Motor Oil	ND	1.0									

Sample ID **LCS-21242** SampType: **LCS** TestCode: **8015_S_DM** Units: **mg/Kg** Prep Date: **2/10/2005** Run ID: **GC7_BACK_050210A**
Client ID: **ZZZZZ** Batch ID: **21242** TestNo: **EPA 8015B(M (EPA 3550B)** Analysis Date: **2/10/2005** SeqNo: **678038**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	22.57	1.0	33	0	68.4	44	123	0	0		

Sample ID **074210-006AMS** SampType: **MS** TestCode: **8015_S_DM** Units: **mg/Kg** Prep Date: **2/10/2005** Run ID: **GC7_BACK_050210A**
Client ID: **D1** Batch ID: **21242** TestNo: **EPA 8015B(M (EPA 3550B)** Analysis Date: **2/10/2005** SeqNo: **678043**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	42.36	1.0	33	21.59	62.9	26	106	0	0		

Sample ID **074210-006AMSD** SampType: **MSD** TestCode: **8015_S_DM** Units: **mg/Kg** Prep Date: **2/10/2005** Run ID: **GC7_BACK_050210A**
Client ID: **D1** Batch ID: **21242** TestNo: **EPA 8015B(M (EPA 3550B)** Analysis Date: **2/10/2005** SeqNo: **678044**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	35.68	1.0	33	21.59	42.7	26	106	42.36	17.1	0	

Sample ID **074210-006ADUP** SampType: **DUP** TestCode: **8015_S_DM** Units: **mg/Kg** Prep Date: **2/10/2005** Run ID: **GC7_BACK_050210A**
Client ID: **D1** Batch ID: **21242** TestNo: **EPA 8015B(M (EPA 3550B)** Analysis Date: **2/10/2005** SeqNo: **678046**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	26.99	1.0	0	0	0	0	0	21.59	22.2	30	
Motor Oil	62.95	1.0	0	0	0	0	0	52.05	19.0	30	

Qualifiers:
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Calculations are based on raw values
DO - Surrogate dilute out
H - Sample exceeded holding time

CLIENT: Geocon Environmental
Work Order: 074210
Project: Sand Bunker, E8220-06-05

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015_S_GAS

Sample ID **E020905MB2** SampType: **MBLK** TestCode: **8015_S_GAS** Units: **mg/Kg** Prep Date: Run ID: **GC2_050209B**
Client ID: **ZZZZZ** Batch ID: **E05VS035** TestNo: **EPA 8015B(M** Analysis Date: **2/9/2005** SeqNo: **677684**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	ND	1.0									

Sample ID **E020905LC2** SampType: **LCS** TestCode: **8015_S_GAS** Units: **mg/Kg** Prep Date: Run ID: **GC2_050209B**
Client ID: **ZZZZZ** Batch ID: **E05VS035** TestNo: **EPA 8015B(M** Analysis Date: **2/10/2005** SeqNo: **677698**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	4.456	1.0	5	0	89.1	75	120	0	0		

Sample ID **074198-021AMS** SampType: **MS** TestCode: **8015_S_GAS** Units: **mg/Kg** Prep Date: Run ID: **GC2_050209B**
Client ID: **ZZZZZ** Batch ID: **E05VS035** TestNo: **EPA 8015B(M** Analysis Date: **2/10/2005** SeqNo: **677696**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	3.478	1.0	5	0	69.6	33	139	0	0		

Sample ID **074198-021AMSD** SampType: **MSD** TestCode: **8015_S_GAS** Units: **mg/Kg** Prep Date: Run ID: **GC2_050209B**
Client ID: **ZZZZZ** Batch ID: **E05VS035** TestNo: **EPA 8015B(M** Analysis Date: **2/10/2005** SeqNo: **677697**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	2.276	1.0	5	0	45.5	33	139	3.478	41.8	30	R

Sample ID **074210-003ADUP** SampType: **DUP** TestCode: **8015_S_GAS** Units: **mg/Kg** Prep Date: Run ID: **GC2_050210A**
Client ID: **B2** Batch ID: **E05VS035** TestNo: **EPA 8015B(M** Analysis Date: **2/10/2005** SeqNo: **677700**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	ND	1.0	0	0	0	0	0	0	0	30	

Qualifiers:
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DO - Surrogate dilute out
H - Sample exceeded holding time

CLIENT: Geocon Environmental
Work Order: 074210
Project: Sand Bunker, E8220-06-05

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_S_FULL

Sample ID **MB-21241**	SampType: **MBLK**	TestCode: **8270_S_FUL**	Units: **µg/Kg**	Prep Date: **2/10/2005**	Run ID: **MS6_050210A**
Client ID: **ZZZZZ**	Batch ID: **21241**	TestNo: **EPA 8270C**	**(EPA 3550B)**	Analysis Date: **2/10/2005**	SeqNo: **677710**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	330									
1,2-Dichlorobenzene	ND	330									
1,3-Dichlorobenzene	ND	330									
1,4-Dichlorobenzene	ND	330									
2,4,5-Trichlorophenol	ND	330									
2,4,6-Trichlorophenol	ND	330									
2,4-Dichlorophenol	ND	1600									
2,4-Dimethylphenol	ND	330									
2,4-Dinitrophenol	ND	1600									
2,4-Dinitrotoluene	ND	330									
2,6-Dinitrotoluene	ND	330									
2-Chloronaphthalene	ND	330									
2-Chlorophenol	ND	330									
2-Methylnaphthalene	ND	330									
2-Methylphenol	ND	330									
2-Nitroaniline	ND	1600									
2-Nitrophenol	ND	330									
3,3´-Dichlorobenzidine	ND	660									
3-Nitroaniline	ND	1600									
4,6-Dinitro-2-methylphenol	ND	1600									
4-Bromophenyl-phenylether	ND	330									
4-Chloro-3-methylphenol	ND	660									
4-Chloroaniline	ND	660									
4-Chlorophenyl-phenylether	ND	330									
4-Methylphenol	ND	330									
4-Nitroaniline	ND	1600									
4-Nitrophenol	ND	1600									
Acenaphthene	ND	330									
Acenaphthylene	ND	330									
Anthracene	ND	330									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank
Calculations are based on raw values
DO - Surrogate dilute out
H - Sample exceeded holding time

CLIENT: Geocon Environmental
Work Order: 074210
Project: Sand Bunker, E8220-06-05

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_S_FULL

Sample ID	**MB-21241**	SampType:	**MBLK**	TestCode:	**8270_S_FUL**	Units:	**µg/Kg**	Prep Date:	**2/10/2005**	Run ID:	**MS6_050210A**				
Client ID:	**ZZZZZ**	Batch ID:	**21241**	TestNo:	**EPA 8270C**	**(EPA 3550B)**		Analysis Date:	**2/10/2005**	SeqNo:	**677710**				

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzidine (M)	ND	1600									
Benzo(a)anthracene	ND	330									
Benzo(a)pyrene	ND	330									
Benzo(b)fluoranthene	ND	330									
Benzo(g,h,i)perylene	ND	330									
Benzo(k)fluoranthene	ND	330									
Benzoic acid	ND	1600									
Benzyl alcohol	ND	660									
Bis(2-chloroethoxy)methane	ND	330									
Bis(2-chloroethyl)ether	ND	330									
Bis(2-chloroisopropyl)ether	ND	330									
Bis(2-ethylhexyl)phthalate	ND	330									
Butylbenzylphthalate	ND	330									
Chrysene	ND	330									
Di-n-butylphthalate	ND	330									
Di-n-octylphthalate	ND	330									
Dibenz(a,h)anthracene	ND	330									
Dibenzofuran	ND	330									
Diethylphthalate	ND	330									
Dimethylphthalate	ND	330									
Fluoranthene	ND	330									
Fluorene	ND	330									
Hexachlorobenzene	ND	330									
Hexachlorobutadiene	ND	660									
Hexachlorocyclopentadiene	ND	660									
Hexachloroethane	ND	330									
Indeno(1,2,3-cd)pyrene	ND	330									
Isophorone	ND	330									
N-Nitrosodi-n-propylamine	ND	330									
N-Nitrosodiphenylamine	ND	330									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank
Calculations are based on raw values
DO - Surrogate dilute out
H - Sample exceeded holding time

CLIENT: Geocon Environmental
Work Order: 074210
Project: Sand Bunker, E8220-06-05

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_S_FULL

Sample ID	MB-21241	SampType:	MBLK	TestCode:	8270_S_FUL	Units:	µg/Kg	Prep Date:	2/10/2005	Run ID:	MS6_050210A
Client ID:	ZZZZZ	Batch ID:	21241	TestNo:	EPA 8270C	(EPA 3550B)		Analysis Date:	2/10/2005	SeqNo:	677710

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	330									
Nitrobenzene	ND	330									
Pentachlorophenol	ND	1600									
Phenanthrene	ND	330									
Phenol	ND	330									
Pyrene	ND	330									

Sample ID	MB-21241	SampType:	MBLK	TestCode:	8270_S_FUL	Units:	µg/Kg	Prep Date:	2/10/2005	Run ID:	MS6_050210A
Client ID:	ZZZZZ	Batch ID:	21241	TestNo:	EPA 8270C	(EPA 3550B)		Analysis Date:	2/11/2005	SeqNo:	678188

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	330									
1,2-Dichlorobenzene	ND	330									
1,3-Dichlorobenzene	ND	330									
1,4-Dichlorobenzene	ND	330									
2,4,5-Trichlorophenol	ND	330									
2,4,6-Trichlorophenol	ND	330									
2,4-Dichlorophenol	ND	1600									
2,4-Dimethylphenol	ND	330									
2,4-Dinitrophenol	ND	1600									
2,4-Dinitrotoluene	ND	330									
2,6-Dinitrotoluene	ND	330									
2-Chloronaphthalene	ND	330									
2-Chlorophenol	ND	330									
2-Methylnaphthalene	ND	330									
2-Methylphenol	ND	330									
2-Nitroaniline	ND	1600									
2-Nitrophenol	ND	330									
3,3´-Dichlorobenzidine	ND	660									
3-Nitroaniline	ND	1600									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank
Calculations are based on raw values
DO - Surrogate dilute out
H - Sample exceeded holding time

CLIENT: Geocon Environmental
Work Order: 074210
Project: Sand Bunker, E8220-06-05

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_S_FULL

Sample ID	**MB-21241**	SampType:	**MBLK**	TestCode:	**8270_S_FUL**	Units:	**µg/Kg**		Prep Date:	**2/10/2005**			Run ID:	**MS6_050210A**			
Client ID:	**ZZZZZ**	Batch ID:	**21241**	TestNo:	**EPA 8270C**		**(EPA 3550B)**		Analysis Date:	**2/11/2005**			SeqNo:	**678188**			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val		%RPD	RPDLimit		Qual	
4,6-Dinitro-2-methylphenol		ND		1600													
4-Bromophenyl-phenylether		ND		330													
4-Chloro-3-methylphenol		ND		660													
4-Chloroaniline		ND		660													
4-Chlorophenyl-phenylether		ND		330													
4-Methylphenol		ND		330													
4-Nitroaniline		ND		1600													
4-Nitrophenol		ND		1600													
Acenaphthene		ND		330													
Acenaphthylene		ND		330													
Anthracene		ND		330													
Benzidine (M)		ND		1600													
Benzo(a)anthracene		ND		330													
Benzo(a)pyrene		ND		330													
Benzo(b)fluoranthene		ND		330													
Benzo(g,h,i)perylene		ND		330													
Benzo(k)fluoranthene		ND		330													
Benzoic acid		ND		1600													
Benzyl alcohol		ND		660													
Bis(2-chloroethoxy)methane		ND		330													
Bis(2-chloroethyl)ether		ND		330													
Bis(2-chloroisopropyl)ether		ND		330													
Bis(2-ethylhexyl)phthalate		ND		330													
Butylbenzylphthalate		ND		330													
Chrysene		ND		330													
Di-n-butylphthalate		ND		330													
Di-n-octylphthalate		ND		330													
Dibenz(a,h)anthracene		ND		330													
Dibenzofuran		ND		330													
Diethylphthalate		ND		330													

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank
Calculations are based on raw values
DO - Surrogate dilute out
H - Sample exceeded holding time

CLIENT: Geocon Environmental
Work Order: 074210
Project: Sand Bunker, E8220-06-05

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_S_FULL

Sample ID	MB-21241	SampType:	MBLK	TestCode:	8270_S_FUL	Units:	µg/Kg	Prep Date:	2/10/2005	Run ID:	MS6_050210A
Client ID:	ZZZZZ	Batch ID:	21241	TestNo:	EPA 8270C	(EPA 3550B)		Analysis Date:	2/11/2005	SeqNo:	678188

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dimethylphthalate	ND	330									
Fluoranthene	ND	330									
Fluorene	ND	330									
Hexachlorobenzene	ND	330									
Hexachlorobutadiene	ND	660									
Hexachlorocyclopentadiene	ND	660									
Hexachloroethane	ND	330									
Indeno(1,2,3-cd)pyrene	ND	330									
Isophorone	ND	330									
N-Nitrosodi-n-propylamine	ND	330									
N-Nitrosodiphenylamine	ND	330									
Naphthalene	ND	330									
Nitrobenzene	ND	330									
Pentachlorophenol	ND	1600									
Phenanthrene	ND	330									
Phenol	ND	330									
Pyrene	ND	330									

Sample ID	LCS-21241	SampType:	LCS	TestCode:	8270_S_FUL	Units:	µg/Kg	Prep Date:	2/10/2005	Run ID:	MS6_050210A
Client ID:	ZZZZZ	Batch ID:	21241	TestNo:	EPA 8270C	(EPA 3550B)		Analysis Date:	2/10/2005	SeqNo:	677711

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	3210	330	3330	0	96.4	61	99	0	0		
1,4-Dichlorobenzene	2924	330	3330	0	87.8	57	89	0	0		
2,4-Dinitrotoluene	3429	330	3330	0	103	65	129	0	0		
2-Chlorophenol	3248	330	3330	0	97.5	62	106	0	0		
4-Chloro-3-methylphenol	3587	660	3330	0	108	73	121	0	0		
4-Nitrophenol	3302	1600	3330	0	99.2	69	142	0	0		
Acenaphthene	3337	330	3330	0	100	60	108	0	0		
N-Nitrosodi-n-propylamine	3040	330	3330	0	91.3	64	106	0	0		

Qualifiers:
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R - RPD outside accepted recovery limits
S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank
Calculations are based on raw values
DO - Surrogate dilute out
H - Sample exceeded holding time

CLIENT: Geocon Environmental
Work Order: 074210
Project: Sand Bunker, E8220-06-05

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_S_FULL

Sample ID **LCS-21241** SampType: **LCS** TestCode: **8270_S_FUL** Units: **µg/Kg** Prep Date: **2/10/2005** Run ID: **MS6_050210A**
Client ID: **ZZZZZ** Batch ID: **21241** TestNo: **EPA 8270C (EPA 3550B)** Analysis Date: **2/10/2005** SeqNo: **677711**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pentachlorophenol	2860	1600	3330	0	85.9	70	136	0	0		
Phenol	3549	330	3330	0	107	67	114	0	0		
Pyrene	3133	330	3330	0	94.1	64	109	0	0		

Sample ID **LCS-21241** SampType: **LCS** TestCode: **8270_S_FUL** Units: **µg/Kg** Prep Date: **2/10/2005** Run ID: **MS6_050210A**
Client ID: **ZZZZZ** Batch ID: **21241** TestNo: **EPA 8270C (EPA 3550B)** Analysis Date: **2/11/2005** SeqNo: **678189**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	3090	330	3330	0	92.8	61	99	0	0		
1,4-Dichlorobenzene	2741	330	3330	0	82.3	57	89	0	0		
2,4-Dinitrotoluene	3346	330	3330	0	100	65	129	0	0		
2-Chlorophenol	3108	330	3330	0	93.3	62	106	0	0		
4-Chloro-3-methylphenol	3510	660	3330	0	105	73	121	0	0		
4-Nitrophenol	3477	1600	3330	0	104	69	142	0	0		
Acenaphthene	3230	330	3330	0	97	60	108	0	0		
N-Nitrosodi-n-propylamine	2940	330	3330	0	88.3	64	106	0	0		
Pentachlorophenol	3734	1600	3330	0	112	70	136	0	0		
Phenol	3396	330	3330	0	102	67	114	0	0		
Pyrene	3130	330	3330	0	94	64	109	0	0		

Sample ID **074198-036AMS** SampType: **MS** TestCode: **8270_S_FUL** Units: **µg/Kg** Prep Date: **2/10/2005** Run ID: **MS6_050210A**
Client ID: **ZZZZZ** Batch ID: **21241** TestNo: **EPA 8270C (EPA 3550B)** Analysis Date: **2/10/2005** SeqNo: **677728**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	2361	330	3330	0	70.9	54	99	0	0		
1,4-Dichlorobenzene	2084	330	3330	0	62.6	50	90	0	0		
2,4-Dinitrotoluene	2564	330	3330	0	77	55	130	0	0		
2-Chlorophenol	2434	330	3330	0	73.1	56	106	0	0		
4-Chloro-3-methylphenol	2691	660	3330	0	80.8	64	125	0	0		
4-Nitrophenol	2476	1600	3330	0	74.4	64	140	0	0		

Qualifiers:
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S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank
Calculations are based on raw values
DO - Surrogate dilute out
H - Sample exceeded holding time

CLIENT: Geocon Environmental
Work Order: 074210
Project: Sand Bunker, E8220-06-05

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_S_FULL

Sample ID **074198-036AMS** SampType: **MS** TestCode: **8270_S_FUL** Units: **µg/Kg** Prep Date: **2/10/2005** Run ID: **MS6_050210A**
Client ID: **ZZZZZ** Batch ID: **21241** TestNo: **EPA 8270C (EPA 3550B)** Analysis Date: **2/10/2005** SeqNo: **677728**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	2493	330	3330	0	74.9	54	109	0	0		
N-Nitrosodi-n-propylamine	2265	330	3330	0	68	46	111	0	0		
Pentachlorophenol	2248	1600	3330	0	67.5	64	139	0	0		
Phenol	2654	330	3330	0	79.7	46	116	0	0		
Pyrene	2386	330	3330	0	71.6	48	115	0	0		

Sample ID **074198-036AMSD** SampType: **MSD** TestCode: **8270_S_FUL** Units: **µg/Kg** Prep Date: **2/10/2005** Run ID: **MS6_050210A**
Client ID: **ZZZZZ** Batch ID: **21241** TestNo: **EPA 8270C (EPA 3550B)** Analysis Date: **2/10/2005** SeqNo: **678065**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	2566	330	3330	0	77.1	54	99	2361	8.32	30	
1,4-Dichlorobenzene	2303	330	3330	0	69.1	50	90	2084	9.97	30	
2,4-Dinitrotoluene	2745	330	3330	0	82.4	55	130	2564	6.84	30	
2-Chlorophenol	2637	330	3330	0	79.2	56	106	2434	8.02	30	
4-Chloro-3-methylphenol	2889	660	3330	0	86.8	64	125	2691	7.12	30	
4-Nitrophenol	2676	1600	3330	0	80.4	64	140	2476	7.75	30	
Acenaphthene	2652	330	3330	0	79.6	54	109	2493	6.18	30	
N-Nitrosodi-n-propylamine	2440	330	3330	0	73.3	46	111	2265	7.44	30	
Pentachlorophenol	2561	1600	3330	0	76.9	64	139	2248	13.0	30	
Phenol	2871	330	3330	0	86.2	46	116	2654	7.83	30	
Pyrene	2536	330	3330	0	76.1	48	115	2386	6.10	30	

Sample ID **074210-004ADUP** SampType: **DUP** TestCode: **8270_S_FUL** Units: **µg/Kg** Prep Date: **2/10/2005** Run ID: **MS6_050210A**
Client ID: **C1** Batch ID: **21241** TestNo: **EPA 8270C (EPA 3550B)** Analysis Date: **2/11/2005** SeqNo: **678252**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	330	0	0	0	0	0	0	0	30	
1,2-Dichlorobenzene	ND	330	0	0	0	0	0	0	0	30	
1,3-Dichlorobenzene	ND	330	0	0	0	0	0	0	0	30	
1,4-Dichlorobenzene	ND	330	0	0	0	0	0	0	0	30	

Qualifiers:
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R - RPD outside accepted recovery limits
S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank
Calculations are based on raw values
DO - Surrogate dilute out
H - Sample exceeded holding time

CLIENT: Geocon Environmental
Work Order: 074210
Project: Sand Bunker, E8220-06-05

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_S_FULL

Sample ID	074210-004ADUP	SampType:	DUP	TestCode:	8270_S_FUL	Units:	µg/Kg	Prep Date:	2/10/2005	Run ID:	MS6_050210A
Client ID:	C1	Batch ID:	21241	TestNo:	EPA 8270C	(EPA 3550B)		Analysis Date:	2/11/2005	SeqNo:	678252

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4,5-Trichlorophenol	ND	330	0	0	0	0	0	0	0	30	
2,4,6-Trichlorophenol	ND	330	0	0	0	0	0	0	0	30	
2,4-Dichlorophenol	ND	1600	0	0	0	0	0	0	0	30	
2,4-Dimethylphenol	ND	330	0	0	0	0	0	0	0	30	
2,4-Dinitrophenol	ND	1600	0	0	0	0	0	0	0	30	
2,4-Dinitrotoluene	ND	330	0	0	0	0	0	0	0	30	
2,6-Dinitrotoluene	ND	330	0	0	0	0	0	0	0	30	
2-Chloronaphthalene	ND	330	0	0	0	0	0	0	0	30	
2-Chlorophenol	ND	330	0	0	0	0	0	0	0	30	
2-Methylnaphthalene	ND	330	0	0	0	0	0	0	0	30	
2-Methylphenol	ND	330	0	0	0	0	0	0	0	30	
2-Nitroaniline	ND	1600	0	0	0	0	0	0	0	30	
2-Nitrophenol	ND	330	0	0	0	0	0	0	0	30	
3,3´-Dichlorobenzidine	ND	660	0	0	0	0	0	0	0	30	
3-Nitroaniline	ND	1600	0	0	0	0	0	0	0	30	
4,6-Dinitro-2-methylphenol	ND	1600	0	0	0	0	0	0	0	30	
4-Bromophenyl-phenylether	ND	330	0	0	0	0	0	0	0	30	
4-Chloro-3-methylphenol	ND	660	0	0	0	0	0	0	0	30	
4-Chloroaniline	ND	660	0	0	0	0	0	0	0	30	
4-Chlorophenyl-phenylether	ND	330	0	0	0	0	0	0	0	30	
4-Methylphenol	ND	330	0	0	0	0	0	0	0	30	
4-Nitroaniline	ND	1600	0	0	0	0	0	0	0	30	
4-Nitrophenol	ND	1600	0	0	0	0	0	0	0	30	
Acenaphthene	ND	330	0	0	0	0	0	0	0	30	
Acenaphthylene	ND	330	0	0	0	0	0	0	0	30	
Anthracene	ND	330	0	0	0	0	0	0	0	30	
Benzidine (M)	ND	1600	0	0	0	0	0	0	0	30	
Benzo(a)anthracene	ND	330	0	0	0	0	0	0	0	30	
Benzo(a)pyrene	ND	330	0	0	0	0	0	0	0	30	
Benzo(b)fluoranthene	ND	330	0	0	0	0	0	0	0	30	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank
Calculations are based on raw values
DO - Surrogate dilute out
H - Sample exceeded holding time

CLIENT: Geocon Environmental
Work Order: 074210
Project: Sand Bunker, E8220-06-05

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_S_FULL

Sample ID	**074210-004ADUP**	SampType:	**DUP**	TestCode:	**8270_S_FUL**	Units:	**µg/Kg**	Prep Date:	**2/10/2005**	Run ID:	**MS6_050210A**		
Client ID:	**C1**	Batch ID:	**21241**	TestNo:	**EPA 8270C**	**(EPA 3550B)**		Analysis Date:	**2/11/2005**	SeqNo:	**678252**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(g,h,i)perylene	ND	330	0	0	0	0	0	0	0	30	
Benzo(k)fluoranthene	ND	330	0	0	0	0	0	0	0	30	
Benzoic acid	ND	1600	0	0	0	0	0	0	0	30	
Benzyl alcohol	ND	660	0	0	0	0	0	0	0	30	
Bis(2-chloroethoxy)methane	ND	330	0	0	0	0	0	0	0	30	
Bis(2-chloroethyl)ether	ND	330	0	0	0	0	0	0	0	30	
Bis(2-chloroisopropyl)ether	ND	330	0	0	0	0	0	0	0	30	
Bis(2-ethylhexyl)phthalate	ND	330	0	0	0	0	0	0	0	30	
Butylbenzylphthalate	ND	330	0	0	0	0	0	0	0	30	
Chrysene	ND	330	0	0	0	0	0	0	0	30	
Di-n-butylphthalate	ND	330	0	0	0	0	0	0	0	30	
Di-n-octylphthalate	ND	330	0	0	0	0	0	0	0	30	
Dibenz(a,h)anthracene	ND	330	0	0	0	0	0	0	0	30	
Dibenzofuran	ND	330	0	0	0	0	0	0	0	30	
Diethylphthalate	ND	330	0	0	0	0	0	0	0	30	
Dimethylphthalate	ND	330	0	0	0	0	0	0	0	30	
Fluoranthene	ND	330	0	0	0	0	0	38.67	0	30	
Fluorene	ND	330	0	0	0	0	0	0	0	30	
Hexachlorobenzene	ND	330	0	0	0	0	0	0	0	30	
Hexachlorobutadiene	ND	660	0	0	0	0	0	0	0	30	
Hexachlorocyclopentadiene	ND	660	0	0	0	0	0	0	0	30	
Hexachloroethane	ND	330	0	0	0	0	0	0	0	30	
Indeno(1,2,3-cd)pyrene	ND	330	0	0	0	0	0	0	0	30	
Isophorone	ND	330	0	0	0	0	0	0	0	30	
N-Nitrosodi-n-propylamine	ND	330	0	0	0	0	0	0	0	30	
N-Nitrosodiphenylamine	ND	330	0	0	0	0	0	0	0	30	
Naphthalene	ND	330	0	0	0	0	0	0	0	30	
Nitrobenzene	ND	330	0	0	0	0	0	0	0	30	
Pentachlorophenol	ND	1600	0	0	0	0	0	0	0	30	
Phenanthrene	ND	330	0	0	0	0	0	32.67	0	30	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank
Calculations are based on raw values
DO - Surrogate dilute out
H - Sample exceeded holding time

CLIENT: Geocon Environmental
Work Order: 074210
Project: Sand Bunker, E8220-06-05

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_S_FULL

Sample ID	074210-004ADUP	SampType:	DUP	TestCode:	8270_S_FUL	Units:	µg/Kg	Prep Date:	2/10/2005	Run ID:	MS6_050210A
Client ID:	C1	Batch ID:	21241	TestNo:	EPA 8270C	(EPA 3550B)		Analysis Date:	2/11/2005	SeqNo:	678252

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	ND	330	0	0	0	0	0	0	0	30	
Pyrene	ND	330	0	0	0	0	0	0	0	30	

Qualifiers:
ND - Not Detected at the Reporting Limit
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Calculations are based on raw values
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CHAIN OF CUSTODY RECORD

Pg 1 of 1

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: W Date: 2/9

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FEDEX ☐ Other: GW

Sample Condition Upon Receipt: 1. CHILLED 6-4 Y☐ N☐ 2. HEADSPACE (VOA) Y☐ N☐ 3. CONTAINER INTACT Y☐ N☐ 4. SEALED Y☐ N☐ 5. # OF SPLS MATCH COC Y☐ N☐ 6. PRESERVED Y☐ N☐

Client: GeoCon
Attn: Matt Hunko
Address:
City Livermore State Zip Code
TEL: ( )
FAX: ( )

Project Name: Sand Bunker Project #: E822006-05 Sampler: (Printed Name) Charles D. Smith (Signature)

Relinquished by: (Signature and Printed Name) Charles Smith Date: 2-8-05 Time: 1400 Received by: (Signature and Printed Name) Matt Hunko Date: 2-8-05 Time: 1400

Relinquished by: (Signature and Printed Name) Date: 2-8-05 Time: 1750 Received by: (Signature and Printed Name) GSO Date: 2-8-05 Time: 1750

Relinquished by: (Signature and Printed Name) Date: Time: Received by: (Signature and Printed Name) Date: 2/9/05 Time: 9:15

I hereby authorize ATL to perform the work indicated below:
Project Mgr/Submitter: Matt Hunko
Print Name Date
Signature

Send Report To:
Attn:
Co:
Address
City State Zip

Bill To:
Attn:
Co:
Address
City State Zip

Special Instructions/Comments:
Cal Trans QMQC
QA/QC
RTNE
CT
SWRCB ☐
Logcode
OTHER

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)

Circle or Add Analysis(es) Requested

ITEM	LAB USE ONLY: Batch #: Lab No.	Sample Description: Sample I.D. / Location	Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (BNA)	6010B (Total Metal)	8015B (GRO)	8015B (DRO)	TCLP Lead	WET Extract	TTLC	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	074206 - W1	A1	2-8	1020			X	X		X	X	X	X		X				C	1	TM		
	- W2	B1		1035																			
	- W3	B2		1045					X														
	- W4	C1		1055																			
	- W5	C2		1100					X														
	- W6	D1		1110																			
	- W7	D2		1115					X														
	- W8	E1		1130																			

• 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=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

DISTRIBUTION: **White** with report, **Yellow** to folder, **Pink** to submitter.

Galvan, Diane

From: Matt Hanko [hanko@geoconinc.com]
Sent: Friday, February 11, 2005 2:35 PM
To: Galvan, Diane
Subject: Re: Partial/Preliminary Results - Sand Bunker (074210)

Diane:

Please run the WET extracts for lead on samples B2, C1 and C2.

Thanks,

Matt Hanko