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September 13, 2009

Mr. Jerry Wickham
Senior Hazardous Materials Specialist
Alameda County Health Care Services Agency
Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Re: Terradev Jefferson, LLC Property
645 Fourth Street, Oakland

Dear Mr. Wickham:

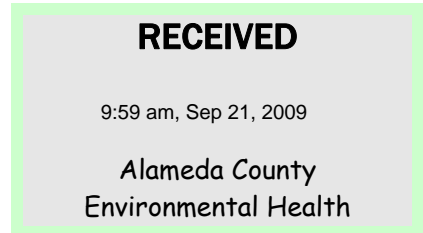
This letter transmits the results of the baseline conditions evaluation conducted in July and, based on the results of this assessment, recommends a scope of work for residual mass-reducing corrective action.

Background

As described in earlier reports, an underground fuel storage tank (UST) was discovered beneath the sidewalk at the referenced property in 2006. As documented in the Golden Gate September 21, 2006 Tank Closure Report the tank was determined to have a capacity of 1,000 gallons, with a bottom invert measured at between 7.5 and 8 feet below ground surface (bgs). According to Golden Gate, after consultation with the City of Oakland it was determined that building structural considerations prohibited physical tank removal and that in-place abandonment was the appropriate means to close the subject UST. The tank was cleaned and filled with concrete slurry on September 5, 2006.

Results of analysis of sediments collected beneath the UST at the time of abandonment indicated the presence of residual fuel hydrocarbons in concentrations exceeding applicable guidance (Regional Water Quality Control Board Environmental Screening Levels) for commercial settings (all beneficial groundwater use scenarios).

The UST is located at the upgradient edge of a developed city block. The presence of buildings prohibits the examination of the subsurface proximally downgradient of the abandoned UST. Given site constraints and the manner in which the Golden Gate samples were collected (grabbed from immediately beneath the tank), prudence directed the collection of samples of groundwater in the vicinity of the UST so as to correlate present-day groundwater conditions with the observations recorded previously.



Preliminary Investigation

Terradev retained Ninyo & Moore Geotechnical and Environmental Sciences Consultants (Ninyo and Moore) to conduct this preliminary groundwater quality evaluation. Their report describing investigative methods and findings is presented as an attachment to this letter.

As described in the attached "Limited Phase II Environmental Site Assessment" report the results of analysis of groundwater samples collected from immediately adjacent to the abandoned UST documented the presence of elevated concentrations of residual petroleum hydrocarbons. The concentrations of residual hydrocarbons measured are in excess of regulatory guidance.

Conceptual Site Model

The subject site is located in a commercial/industrial neighborhood in typical San Francisco Bay-Margin environmental terrane. Sediments in the shallow subsurface are typically interbedded units of fine-grained silt and clay, with a lesser fraction of sand and gravel, reflecting a shore/near-shore shallow water depositional environment. Groundwater occurs under unconfined conditions, typically first encountered at between five and 10 feet below ground surface. Groundwater flows generally to the west/southwest, towards the estuary.

Results of site characterization have documented the presence of gasoline-range hydrocarbons in soil and groundwater in the vicinity of the abandoned UST. Interestingly, the contaminant signature includes MtBE, a gasoline additive not used abundantly in California until the early/mid 1990s (MtBE became a mandated addition to California gasoline following passage of the Clean Air Act Amendments in 1990). While the date the subject tank was removed from use is not known, it is expected that it was not in service during MtBE's lifespan as a gasoline additive. Irrespective the MtBE project attribute, the concentration of benzene and aggregate gasoline-range hydrocarbons (TPHg) are well above the concentration of MtBE, making these other hydrocarbon constituents the target analytes for this response action.

As described previously and as shown on Figure 1 (attached), the abandoned UST is located beneath the sidewalk along Fourth Street, at the upgradient edge of a city block. Only preliminary evaluative work has been completed at the Terradev site and a comprehensive depiction of site conditions has not yet been generated. However, other UST sites exist in the vicinity and studies associated with their corrective action can be used to predict aspects of the case at the subject location. The Allen property located across Martin Luther King Boulevard (formerly Grove Street) is one such case.

Figure 1 shows the groundwater flow direction as measured at the adjacent Allen property, as well as the location of the Allen UST and extent of migration of contamination emanating from this tank. According to Allen property reports (excerpt from First Quarter 2009 Sampling Report attached for convenience), the 10,000 gallon Allen tank was used prior to its in-place abandonment for fueling fleet vehicles. Available reports do not describe the installation date, throughput or contents of the tank, though from the analytes detected in proximal groundwater it appears as if the tank may have held gasoline.

The location of densely packed, low ceiling (occupied) buildings makes the conduct of a traditional environmental investigation impossible. The nearest location for the construction of downgradient monitoring wells is the street or sidewalk along Third Street, on the other

side of the city block. Review of the results of UST studies at nearby sites (the Allen property; the Markus Hardware Second Street site) suggest that a Third Street location for the construction of monitoring wells would be impractical – the wells would simply be too far from the expected downgradient edge of the impaired groundwater to serve any practical purpose.

The results of evaluation of the Allen property, however, may be reasonably used as a guide for approximating the migratory extent of compounds historically released from the UST at the subject site. It must first be noted - as with the Allen tank, the date of installation and throughput of the subject tank are not known. The cause of the release is also unknown. These facts documented, it is instructive to note that the subject tank is much smaller than the Allen tank (according to Golden Gate the Terradev UST had a capacity of 1,000 gallons) and not obviously associated with a business employing a fleet of delivery trucks (implying a possibly lower throughput). Consequently, a conservative approximation of Terradev migratory extent may be the extent of migration of the Allen release. This approximation, clearly far from the Third Street edge of the developed block, is shown on Figure 1.

Groundwater beneath this area of Oakland is not presently used for beneficial purposes (consumption or irrigation). Additionally, it is reasonable to assume that the shallowest water-bearing zone in the vicinity of the subject site will plausibly not be exploited for beneficial consumptive use for the indeterminate future, if ever (in terms of City habitation). The residual hydrocarbons in groundwater do not, therefore, pose a threat to groundwater quality in a human health context. Residual hydrocarbons in soil and groundwater do, however, likely represent an exposure risk to construction or utility workers, and serve as a source of hydrocarbon vapor in the vadose (water-unsaturated) zone beneath local buildings.

Evaluation of Investigative/Remedial Options

With the abandonment of the Terradev UST the “release” of gasoline from the tank system to the environment was with certainty stopped as required by California law. Statute, regulation and regulatory guidance, however, require also that the associated environmental impairment be mitigated to the extent practicable, so as to ensure the ultimate (if longer term) attainment of Regional Water Resources Control Board (RWQCB) Water Quality Objectives (as established in the RWQCB Basin Plan) and to assure maximum protection of human and ecologic health.

That the concentrations of residual hydrocarbons remain relatively high (“high” is used qualitatively here, in the context of similar cases in similar environmental terranes) so many years after the UST was removed from service suggests that the natural degradation of residual hydrocarbons to RWQCB-established objectives will be a lengthy process.

Equally clear is the constraints on common remedial approaches posed by the neighboring buildings. The UST was abandoned in place due to the structural compromise that would have resulted from its excavation. Removal of the residual contaminant mass by excavation is, correspondingly, not possible. Removal of hydrocarbon-bearing groundwater and soil vapor by conventional extraction and treatment methods is made equally difficult by the buildings – such extractive approaches most commonly employ recovery wells installed within the impaired area, an area here covered and made inaccessible by buildings. Further, traditional extraction and treatment approaches employ constructed equipment

compounds, areas build to house pumps and treatment equipment. There is no plausible location at the subject site for such an equipment compound.

While excavation and conventional extraction/treatment are the most frequently utilized remedial techniques for the removal of shallow contamination, they are not the exclusive remedies. Aggressive portable extractive applications have been developed, techniques designed to recover substantial volumes of contaminant-bearing groundwater and soil vapor in short periods using truck-contained equipment. Such applications are not appropriate for all cases, though the Terradev UST site seems well suited for such an application, particularly given the difficulties associated with other remedies.

Proposed Remedial Methodology

It is recommended that an aggressive remedial approach such as that described above be utilized to remove the residual contaminant mass from the subsurface in the vicinity of the abandoned Terradev UST. It is anticipated that the services of CalClean, Inc. or a similar suitable vendor would be commissioned for this undertaking. Technical specifications and supporting information for the CalClean process may be obtained using the uniform resource locator (url) provided below:

www.calclean.com

With the concurrence of the ACEH, extractive methods, evaluative metrics, and a plan for completeness determination would be presented in the form of a Removal Action Workplan. The workplan would be comprehensive and detailed, and include:

- 1) A description (with supporting calculations as possible) of the network of extraction points. The network is presently contemplated to include directionally-drilled sub-slab components (both shallow media-targeted and deeper zone), and vertical extraction points immediately adjacent to the abandoned tank.
- 2) Injected process augmentation will be considered, with possible injection media including surfactants, low-concentration oxidant, or steam. Benefits and challenges associated with such augmentation would be examined during plan preparation.
- 3) Process monitoring will be described. It is expected that a minimum of two separate aggressive recovery events will be required. A monitoring point will be constructed within the target area for the purposes of access to groundwater for periodic sampling (before and after extractive events).
- 4) Case closure criteria will be described. The intention of this undertaking is the removal of all residual mass that can be practically recovered using available techniques. Metrics for process monitoring and completeness determination will describe to ACEH satisfaction measures to be employed to ensure the attainment of project objectives. It is recognized that lower concentration residual hydrocarbons will remain following the aggressive removal action, as molecular obliteration of residual impact is in this setting practically impossible. Documentation pertaining to the absence of threat posed by these lower residual concentrations will be provided in the report produced at the close of the final extractive event.

Note – the quality of sub-slab soil vapor quality will be evaluated immediately following the aggressive remedial action (prior to the destruction of extraction points). The manner in which this evaluation will be conducted has not yet been determined; irrespective the

nature of the selected approach, all methods and evaluative techniques will be conducted in accordance with applicable guidance (DTSC; ITRC).

A work plan for the soil vapor study will be prepared following the completion and approval of the plan for aggressive remedial action.

Schedule

Vendor evaluation shall commence immediately following receipt of ACEH concurrence with this conceptual plan. It is anticipated that the detailed process workplan would be published within eight weeks of vendor selection. Remedial activity would likely take place in the winter months, with a target date for overall completion presently estimated as April 2010.

As always, thank you for your assistance with this important project. Terradev would like to do all possible to bring this matter to an appropriate and expedient close. If a strategy meeting would aid your evaluation of the conceptual plan described here, please call – we can schedule at your convenience.

Most sincerely,

A circular professional geologist seal for Markus B. Niebanck, No. 5607, State of California. The seal is stamped in black ink and features a handwritten signature in black ink over it. The signature is written in a cursive style and extends across the seal and into the surrounding white space.

Markus B. Niebanck, PG
Principal

Attachments

- A – Figure
- B – Ninyo & Moore Limited Phase II Environmental Site Assessment
- C – Excerpt from AEI Allen Property First Quarter 2009 Groundwater Monitoring Report

Cc Ms. Sara May, Metrovation, 580 Second Street, Oakland, CA 94607

ATTACHMENTS



Figure 1: Site and Vicinity

Terradev Jefferson Property
645 Fourth Street, Oakland, CA

September 13, 2009

**LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT
645 4TH STREET
OAKLAND, CALIFORNIA**

PREPARED FOR:

Ms. Sara May
Terradev Jefferson, LLC
580 Second Street, Suite 260
Oakland, California 94607

PREPARED BY:

Ninyo & Moore
Geotechnical and Environmental Sciences Consultants
1956 Webster Street, Suite 400
Oakland, California 94612

July 24, 2009
Project No. 401556001

July 24, 2009
Project No. 401556001

Ms. Sara May
Terradev Jefferson, LLC
580 Second Street, Suite 260
Oakland, California 94607

Subject: Limited Phase II Environmental Site Assessment
645 4th Street
Oakland, California

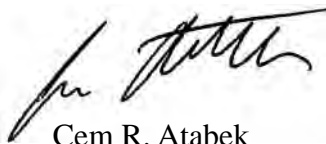
Dear Ms. May:

Enclosed please find our Limited Phase II Environmental Site Assessment (ESA) Report for the subject property.

The attached report has been completed to document the methods and results of the recently completed Limited Phase II ESA, and to present our conclusions and recommendations for advancement toward the end goal of site closure.

We appreciate the opportunity to be of service to you on this project.

Sincerely,
NINYO & MOORE

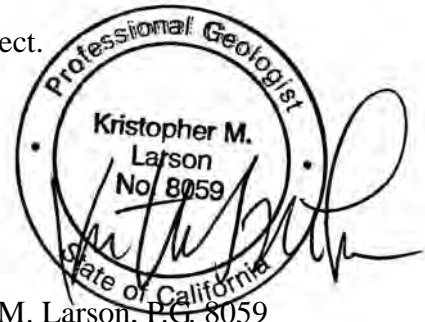


Cem R. Atabek
Senior Staff Environmental Engineer

CRA/KML/csj

Distribution: (2) Addressee

(1) Mr. Markus Niebanck , Amicus Strategic Environmental Consulting
580 Second Street, Suite 260
Oakland, California 94607



Kris M. Larson, P.G. 8059
Senior Environmental Geologist

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Appendix A – Permits

Appendix B – Soil Boring Logs

Appendix C – Groundwater Sampling Field Data Sheets

Appendix D – Laboratory Analytical Report

1. INTRODUCTION

On behalf of the owner of the property, Terradev Jefferson, LLC, Ninyo & Moore has performed a Limited Phase II Environmental Site Assessment (ESA) for the property located at 645 4th Street, in Oakland, California. The Limited Phase II ESA was performed in general accordance with the proposed methodology presented in a letter, dated March 4, 2009, which was prepared by Amicus and submitted to the Oakland Fire Department (OFD) and Alameda County Environmental Health Department (ACEH) (Amicus, 2009).

The purposes of this report is to document the field methods that were used to collect subsurface analytical data, document the results of the field activities and analytical testing, and present our conclusions and recommendations.

1.1. Background

The subject site is located at 645 4th Street, Oakland, California (Figure 1). The site is located in a mixed commercial/light industrial area.

According to the March, 2009, letter to the OFD, the presence of the UST adjacent to the site was unknown until building renovations were conducted in 2006. In September 2006, the UST was closed in place because the proximity of the UST to the building could have created structural concerns if it had been removed. Soil samples were collected from beneath the east and west ends of the UST which revealed elevated concentrations of total petroleum hydrocarbons as gasoline (TPHg) and benzene, ethylbenzene, toluene and xylenes (BTEX) which are components of gasoline. Higher concentrations were detected in the sample collected near the western end of the UST with TPHg detected at 10,000 milligrams per kilogram (mg/kg) and benzene detected at 130 mg/kg.

1.2. Regional Geology and Hydrogeology

The area of the site is relatively flat, with a gradual downward slope toward the southwest. The Oakland area is situated on a broad, alluvial plain that slopes gently west and southwest from the Oakland hills to the San Francisco Bay. The alluvial plain is comprised of alluvial

sediments derived from erosion of the hills to the east and northeast. The site region is located in the southwestern margin of the alluvial plain and is underlain by fine-grained alluvial and tidal-bay sediments of geologically recent age. The most shallow soil is comprised of fill material. Regionally, groundwater within the East Bay Plain Groundwater Basin flows generally toward the west and the San Francisco Bay.

1.3. Local Geology and Hydrogeology

Soil beneath the sidewalk adjacent to the site consists of silty and clayey sand with layers of sandy clay and sand to the total depth explored of 20 feet below ground surface (bgs). During the recent investigation, groundwater was first encountered between 9 feet bgs and 10 feet bgs. Depth to groundwater in both borings was measured at approximately 9.6 feet bgs on the morning after the borings were advanced.

2. INVESTIGATION ACTIVITIES

Ninyo & Moore performed pre-field preparations and investigative field activities. Descriptions of our recent activities are presented below.

2.1. Pre-field Preparations

2.1.1. Permits

Ninyo & Moore obtained a permit from the Alameda County Public Works Agency for soil borings. Additionally, Ninyo & Moore obtained an Excavation Permit from the City of Oakland. Copies of the permits are included in Appendix A.

2.1.2. Underground Services Alert

Ninyo & Moore marked proposed monitoring well locations with white paint and notified Underground Services Alert (USA) to mark the locations of subsurface utilities within the vicinity of the proposed boring locations.

2.1.3. Utility Survey

In order to minimize the chance of damaging a subsurface utility, Ninyo & Moore procured the services of Precision Locating, LLC (Precision) of Brentwood, California. On July 9, 2009, Precision performed a utility location site visit to verify utility markings made by USA and identify the locations of additional utilities that may not have been observed by USA.

2.2. Field Staff and Subcontractors

Ninyo & Moore's Senior Staff Environmental Engineer, Cem Atabek, supervised the advancement of soil borings and collection of groundwater samples on July 9th and 10th, 2009. Field activities were overseen by Ninyo & Moore's Senior Geologist, Kris Larson, a California Professional Geologist.

Vapor Tech Services (VTS) of Berkeley, California, performed drilling of soil borings and replacement of sidewalk flags on May 9th and 10th, 2009. VTS is a licensed California well drilling contractor (C-57# 916085).

2.3. Field Activities

Field activities included the advancement of soil borings and installation, development and sampling of temporary groundwater wells. A description of field activity methodologies follows.

2.3.1. Soil Boring Methodology

Ninyo & Moore oversaw the advancement of two soil borings (B-1 and B-2) on the northwest and southeast sides of the former UST located under the sidewalk adjacent to the northeast of the site (Figure 2). Pilot soil borings were advanced in both boring locations to a depth of approximately 6 feet bgs using a hand auger. The pilot boring for boring B-1 was advanced from 6 to 20 feet bgs using the direct push method to obtain continuous soil cores from the boring. Continuous soil cores were not collected from boring B-2 below 6 feet bgs due to its close proximity to boring B-1. All soil cuttings

were observed for lithologic characteristics and field screened using a photoionization detector (PID) meter. Boring logs describing the lithologic and physical characteristics observed are presented in Appendix B.

After the pilot borings had been advanced, both borings were re-advanced to a depth of 20 feet bgs using 3.25-inch diameter direct push drill rods with expendable tips for temporary groundwater monitoring well installation. The wells were installed through the larger diameter drill rods as described in the section below.

2.3.2. Temporary Well Installation, Development and Sampling Methodology

The temporary groundwater wells were constructed by inserting factory assembled pre-packed well screens through the larger diameter drill rods. The pre-packed well screens were comprised of 1-inch diameter 0.01-inch slotted schedule 40 PVC casing wrapped in a fine steel mesh. The annulus between the steel mesh and PVC casing was filled with 20/40 mesh sand, bringing the outer diameter of the pre-packed well screen to 2.5 inches. The temporary wells were constructed of solid 1-inch diameter PVC casing from the ground surface to 5 feet bgs and pre-packed well screens from 5 to 20 feet bgs.

Approximately two hours after installation of the temporary wells the depth to groundwater was measured at 11.3 feet bgs in boring B-1 and at 12.05 feet bgs in boring B-2. The temporary wells were developed by using a surge block composed of a check valve with a 1-inch diameter rubber gasket attached to a length of polyethylene tubing. Fine sediments were removed from the temporary well during the purging of groundwater. After the temporary wells were surged and purged dry using the check valve method, additional purging was performed using a peristaltic pump. Ground water parameters including temperature, pH and electrical conductivity were measured and physical characteristics of the groundwater were observed during the purging activities and recorded on Groundwater Sampling Field Data Sheets which are presented in Appendix C. The temporary groundwater wells were observed to produce only approximately 0.5 gallons before becoming dry and requiring time to re-charge. A total of approximately 1.3 gal-

lons of groundwater were purged from the temporary well in boring B-1 and approximately 1.6 gallons of groundwater were purged from the temporary well in boring B-2. The temporary wells were completed with 3-inch diameter plastic temporary well boxes sealed to the sidewalk surface with hydrated bentonite granules to protect the temporary wells overnight.

On the morning of July 10, 2009, the depth to groundwater was measured at approximately 9.6 feet bgs in both of the temporary wells. Groundwater samples were collected from each of the temporary wells subsequent to purging approximately 0.1 gallons of groundwater. Purging and sampling was performed using a peristaltic pump operating at slow speed to minimize agitation of groundwater which could result in the volatilization of constituents of concern. Groundwater samples were collected in the appropriate laboratory supplied containers, labeled, placed in protective sleeves and stored in a cooler with ice under proper chain-of-custody (COC) documentation for transport to the analytical laboratory.

Subsequent to sampling, the borings were abandoned by removing the PVC casing and pre-packed screens while tremie grouting through the PVC casing. The sidewalk flags which contained the borings were then removed and replaced.

2.3.3. Disposal of Investigation Derived Waste

Drill cuttings, decontamination water, and purged groundwater generated during the field activities were contained in 55-gallon drums which were labeled and stored securely inside a building located on 3rd Street, on the opposite side of the block from the site. A composite soil sample, labeled Drum Soil, was collected in an 8-ounce glass jar from the drum of soil cuttings generated during the drilling activities for the purpose of waste profiling. The soil sample was labeled and placed in a cooler with ice for transport to the analytical laboratory under COC documentation.

The soil and groundwater data obtained during the investigation was used to create a waste profile. The drummed waste will be removed from the site for disposal at an appropriate landfill facility by Filter recycling, of Colton, California.

2.3.4. Analytical Laboratories and Methods

Soil and groundwater samples were submitted to Advanced Technologies Laboratories Incorporated (ATL), of Signal Hill, California. Groundwater samples were analyzed for TPHg and TPHd by EPA Method 8015B and BTEX and methyl-tert-butyl-ether (MTBE) by EPA Method 8021B. The soil sample was analyzed for volatile organic compounds (VOCs) using EPA Method 8260B and Title 22 Metals using EPA Method 6010B.

3. LIMITED PHASE II ESA FINDINGS

Results of the field activities are presented below.

3.1. Site Sedimentology

The sidewalk concrete slab was observed to be approximately 4 inches thick in the locations of borings B-1 and B-2. The concrete slab was underlain by approximately 6 feet of fill material consisting of silty sand and fine to medium sand in these borings. Subsurface lithology below 6 feet bgs was only observed in boring B-1 as boring B-2 was not continuously cored. In boring B-1, alluvial material consisting of clayey sand was encountered at approximately 6.5 feet bgs which was underlain by a layer of dense sandy clay encountered from approximately 7 to 8 feet bgs. Saturated clayey sand was encountered from 8 to 13.5 feet bgs and sand with little fines was encountered from 13.5 to 16 feet bgs. A thin layer of dark staining was observed at approximately 14.5 feet bgs and a change in color from brown to grey soil was observed at approximately 15.5 feet bgs. Silty clayey sand was encountered from 16 to 20 feet bgs.

Petroleum odors were detected in Boring B-1 from the soil surface to the final boring depth of 20 feet bgs. Elevated PID readings were observed at the soil surface and were observed to

increase with depth to the highest reading detected of 1,422 parts per million (ppm) at approximately 9 feet bgs. PID readings were observed to attenuate with depth below 9 feet bgs and were observed to attenuate rapidly in the layer of clayey sand encountered from 16 to 20 feet bgs. No petroleum odors were detected or PID readings observed in the top 6 feet of soil in boring B-2.

3.2. Analytical Results

A summary of soil and groundwater analytical results are described below. A copy of the laboratory analytical report including COC documentation is presented in Appendix D.

3.2.1. Soil Sample Analytical Results

Metals occur in soil naturally and as a function of historic site uses. Various metals were detected in the soil sample collected from the drum of soil cuttings. The concentrations of metals detected are consistent with naturally occurring background metals concentrations. Concentrations of several VOCs including BTEX compounds, naphthalene and several benzene derivatives were detected in the composite soil sample collected from the drum of soil cuttings.

3.2.2. Groundwater Analytical Results

Groundwater samples were collected from borings B-1 and B-2 during this investigation. Groundwater analytical results are summarized in Table 1.

Elevated concentrations of TPHg were detected in both groundwater samples. TPHg was detected at 78,000 micrograms per liter ($\mu\text{g/L}$) in sample B-1-GW and 60,000 $\mu\text{g/L}$ in sample B-2-GW. Elevated concentrations of TPHd were detected at in both groundwater samples. TPHd was detected at 5,300 $\mu\text{g/L}$ in sample B-1-GW and 2,300 $\mu\text{g/L}$ in sample B-2-GW. Elevated concentrations of BTEX compounds and lower yet still slightly elevated concentrations of MTBE were also detected in both of the groundwater samples. Benzene was the BTEX compound detected at the highest concentration in both samples. Benzene was detected at 15,000 $\mu\text{g/L}$ in sample B-1-GW and

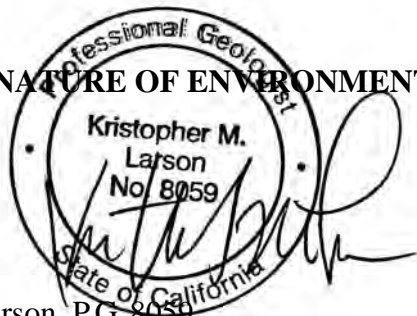
13,000 µg/L in sample B-2-GW. MTBE was detected at 570 µg/L in sample B-1-GW and 120 µg/L in sample B-2-GW.

4. CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of previous site investigations and this recent Limited Phase II ESA, Ninyo & Moore presents the following conclusions and recommendations:

- Soil and groundwater in the immediate vicinity of the former UST is impacted with elevated concentrations of TPHg, TPHd, BTEX compounds and MTBE.
- Additional investigation should be performed to evaluate the lateral extent of impacts to soil and groundwater in the vicinity of the former UST.

5. SIGNATURE OF ENVIRONMENTAL PROFESSIONAL



Kris M. Larson, P.G. 8059
Senior Environmental Geologist

6. QUALIFICATION OF ENVIRONMENTAL PROFESSIONAL

Mr. Larson states that the Limited Phase II ESA was conducted under his direct supervision, that he has reviewed and approved the Limited Phase II ESA Report, and that the methods and procedures employed in the development of the Limited Phase II ESA Report conform to the minimum industry standards. Mr. Larson certifies that Ninyo & Moore project personnel and subcontractors are properly licensed and/or certified to conduct the work described herein.

7. REFERENCES

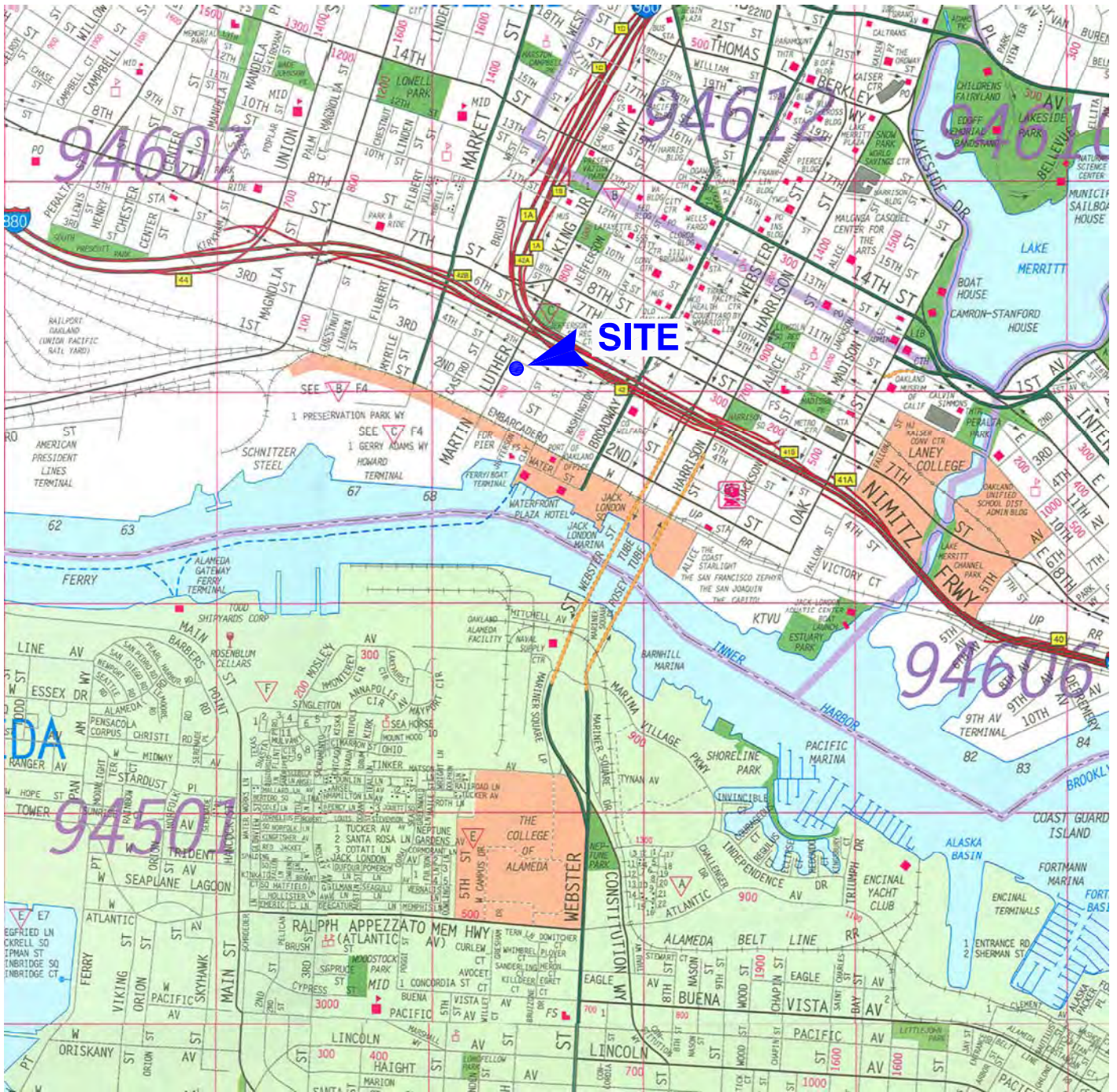
Amicus, 2009, Terradev Jefferson, LLC Property, 645 4th Street, Oakland, dated March 4th.

TABLE 1. GROUNDWATER ANALYTICAL DATA - 645 4th Street, Oakland, CA

Sample I.D.	Sample Date	Depth to Groundwater (ft bgs)	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	m,p-Xylenes	o-Xylenes	MTBE
			Analytical Results (µg/L)							
B-1-GW	7/10/2009	9.6	5,300	78,000	15,000	13,000	1,700	7,100	3,400	570
B-2-GW	7/10/2009	9.6	2,300	60,000	13,000	13,000	890	3,200	1,600	120

Notes and Abbreviations:

TPHd = total petroleum hydrocarbons as diesel analyzed by EPA Method 8015B
 TPHg = total petroleum hydrocarbons as gasoline analyzed by EPA Method 8015B
 Benzene, toluene, ethylbenzene and xylenes analyzed by EPA Method 8021B
 MTBE = methyl tert butyl ether analyzed by EPA Method 8021B
 µg/L = micrograms per liter
 ft bgs = feet below ground surface



REFERENCE: METRO AREAS OF ALAMEDA, CONTRA COSTA, MARIN, SAN FRANCISCO, SAN MATEO, AND SANTA CLARA COUNTIES, THOMAS GUIDE, 2008.

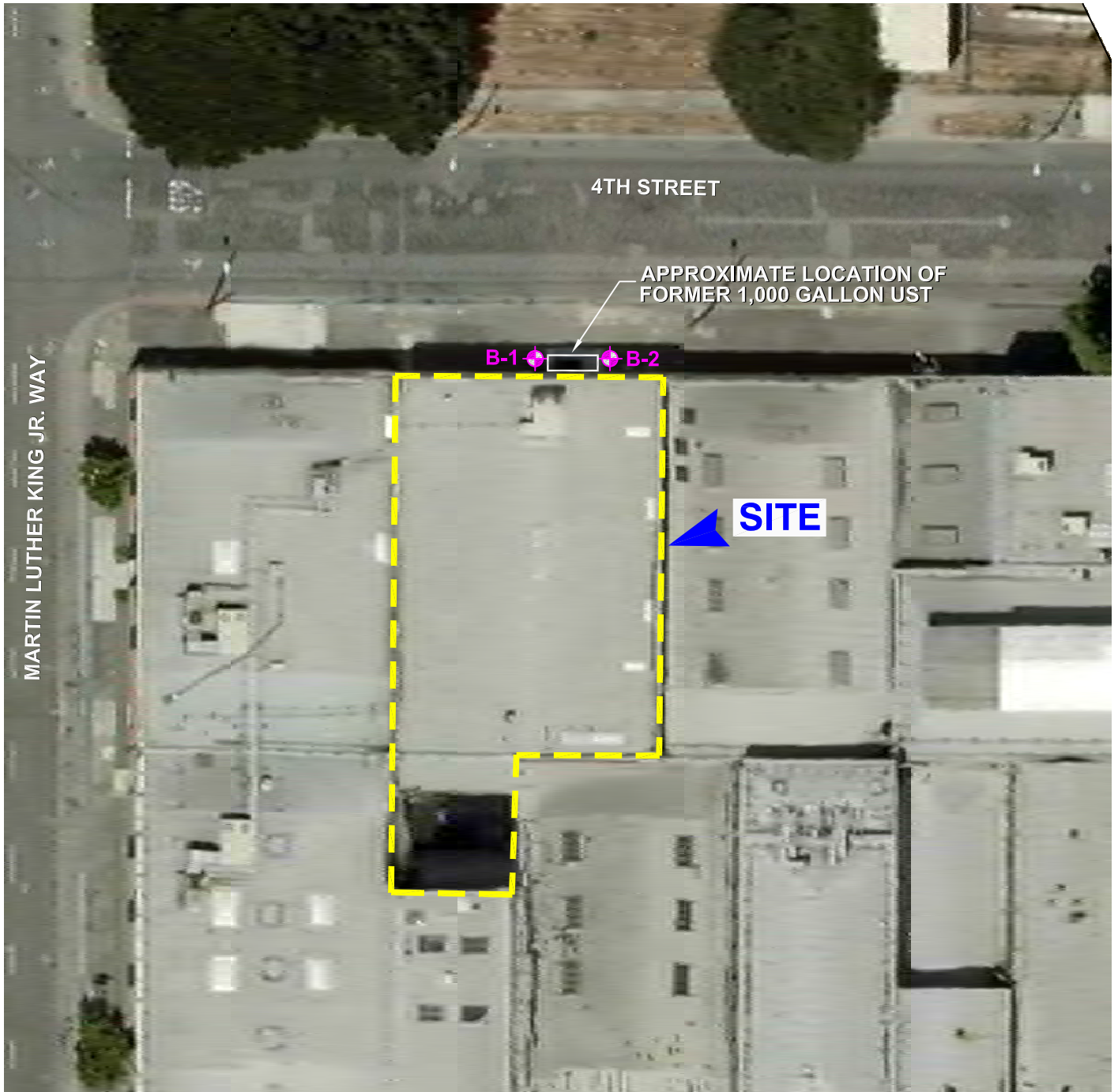


APPROXIMATE SCALE IN FEET



NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

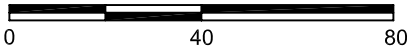
		SITE LOCATION MAP		FIGURE 1



REFERENCE: GOOGLE EARTH, 2009.




APPROXIMATE SCALE IN FEET



NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

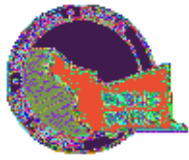
LEGEND

 **B-2** APPROXIMATE LOCATION OF EXPLORATORY BORING

		<p align="center">BORING LOCATION MAP</p>	<p align="center">FIGURE 2</p>

APPENDIX A
PERMITS

Alameda County Public Works Agency - Water Resources Well Permit



399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 07/02/2009 By jamesy

Permit Numbers: W2009-0625
Permits Valid from 07/09/2009 to 07/09/2009

Application Id: 1246318564590
Site Location: 645 4th Street

City of Project Site:Oakland

Project Start Date: 07/09/2009
Assigned Inspector: Contact John Shouldice at (510) 670-5424 or johns@acpwa.org

Completion Date:07/09/2009

Applicant: Ninyo & Moore - Cem Atabek
1956 Webster Street Suite 400, Oakland, CA 94612
Property Owner: Terradev Jefferson, LLC Terradev Jefferson,

Phone: 510-633-5640

Phone: --

LLC
580 Second Street, Suit 260, Oakland, CA 94607
Client: ** same as Property Owner **

Receipt Number: WR2009-0247 Total Due: \$230.00
Payer Name : Ninyo & Moore Total Amount Paid: \$230.00
Paid By: CHECK PAID IN FULL

Works Requesting Permits:

Borehole(s) for Geo Probes-Sampling 24 to 72 hours only - 2 Boreholes
Driller: Vapor Tech Services - Lic #: 916085 - Method: DP

Work Total: \$230.00

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2009-0625	07/02/2009	10/07/2009	2	2.50 in.	20.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.
2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.
3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.
4. Applicant shall contact John Shouldice for an inspection time at 510-670-5424 at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
5. Permitte, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no

Alameda County Public Works Agency - Water Resources Well Permit

case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

6. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.

7. Prior to any drilling activities onto any public right-of-ways, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

8. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

CITY OF OAKLAND • Community and Economic Development Agency

250 Frank H. Ogawa Plaza, 2nd Floor, Oakland, CA 94612 • Phone (510) 238-3443 • Fax (510) 238-2263

Applications for which no permit is issued within 180 days shall expire by limitation. No refund after 180 days when expired.

Appl# X0900842 Job Site 301 JEFFERSON ST Parcel# 001 -0123-009-00

Descr Soil boring on 4th St side per map Permit Issued 07/02/09

Work Type EXCAVATION-PRIVATE P

USA # Util Co. Job # Acctg#: Util Fund #:

Applicant Phone# Lic# --License Classes--

Owner TERRADEV JEFFERSON LLC

Contractor NINYO & MOORE GEOTECHNICAL CON X (858)576-1000 697063 A

Arch/Engr

Agent

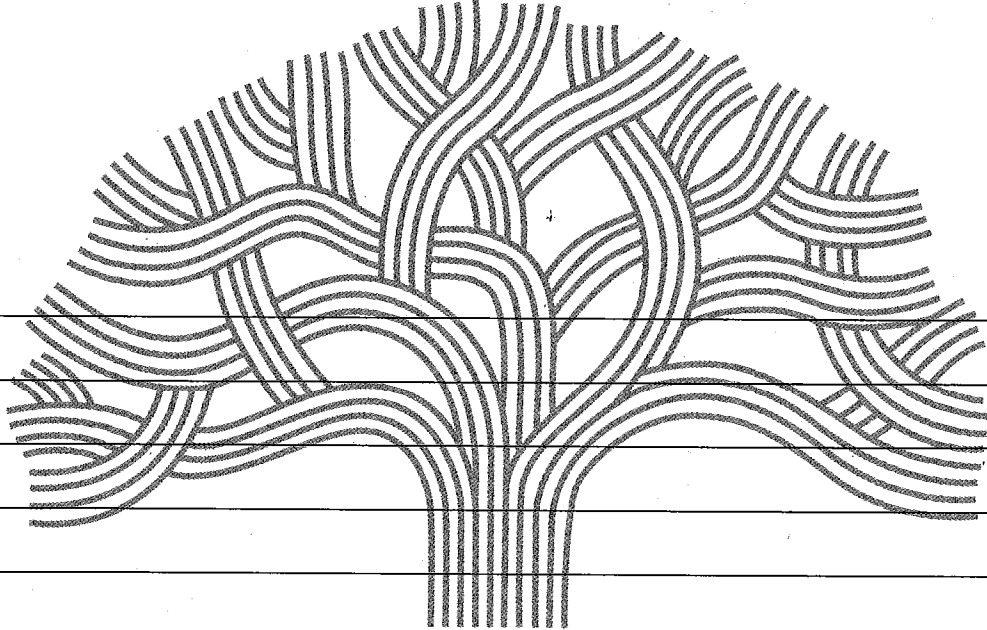
Applic Addr 5710 RUFFIN ROAD, SAN DIEGO, CA, 92123-101

\$433.18 TOTAL FEES PAID AT ISSUANCE	
\$68.50 Applic	\$309.00 Permit
\$.00 Process	\$35.86 Rec Mgmt
\$.00 Gen Plan	\$.00 Invstg
\$.00 Other	\$19.82 Tech Enh

JOB SITE

Permit Issued By [Signature] Date: [Signature]

Finald By _____ Date: _____



ADDRESS:

DIST:

CITY OF OAKLAND

PAID
SNK 7/2/09

APPENDIX B
SOIL BORING LOGS

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED <u>7/9/09</u> BORING NO. <u>B-1</u>		
	Bulk	Driven							GROUND ELEVATION <u>14' ± MSL</u> SHEET <u>1</u> OF <u>2</u>		METHOD OF DRILLING <u>HAND AUGER/DIRECT PUSH</u>
0									DESCRIPTION/INTERPRETATION		
						24.9		SM	<u>CONCRETE</u> : Approximately 4 inches thick. <u>FILL</u> : Dark brown, moist, silty fine to medium SAND.		
						44.5		SP	Brown, moist, fine to medium SAND.		
5						1,120					
						1,341		SC	<u>ALLUVIUM</u> :		
						686		CL	Brown, moist, clayey fine to medium SAND.		
									Brown, moist, dense, sandy CLAY.		
						1,422		SC	Brown, saturated, clayey fine to medium SAND.		
10						707					
						386					
						389		SP	Brown, saturated, fine to medium SAND; little fines.		
15						427			Dark staining.		
									Gray.		
						21		SC	Gray, saturated, silty clayey SAND.		
						3.5			Brown.		
20						2.1					



BORING LOG

LIMITED PHASE II ESA - 645 4th STREET
OAKLAND, CALIFORNIA

PROJECT NO.
401556001

DATE
7/09

FIGURE
B-1

DEPTH (feet)	Bulk	SAMPLES	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED <u>7/9/09</u> BORING NO. <u>B-1</u>
	Driven								GROUND ELEVATION <u>14' ± MSL</u> SHEET <u>2</u> OF <u>2</u>
METHOD OF DRILLING <u>HAND AUGER/DIRECT PUSH</u>									
DRIVE WEIGHT _____ DROP _____									
SAMPLED BY <u>CRA</u> LOGGED BY <u>CRA</u> REVIEWED BY <u>KML</u>									
DESCRIPTION/INTERPRETATION									
20	<p>Total depth = 20 feet bgs.</p> <p>Groundwater encountered at approximately 9.6 feet bgs.</p> <p>Boring tremie grouted on 7/10/09.</p>								
25	<p>Total depth = 20 feet bgs.</p> <p>Groundwater encountered at approximately 9.6 feet bgs.</p> <p>Boring tremie grouted on 7/10/09.</p>								
30	<p>Total depth = 20 feet bgs.</p> <p>Groundwater encountered at approximately 9.6 feet bgs.</p> <p>Boring tremie grouted on 7/10/09.</p>								
35	<p>Total depth = 20 feet bgs.</p> <p>Groundwater encountered at approximately 9.6 feet bgs.</p> <p>Boring tremie grouted on 7/10/09.</p>								
40	<p>Total depth = 20 feet bgs.</p> <p>Groundwater encountered at approximately 9.6 feet bgs.</p> <p>Boring tremie grouted on 7/10/09.</p>								



BORING LOG		
LIMITED PHASE II ESA - 645 4th STREET OAKLAND, CALIFORNIA		
PROJECT NO. 401556001	DATE 7/09	FIGURE B-2

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED	BORING NO.	
	Bulk	Driven							7/9/09	B-2	
									GROUND ELEVATION	SHEET	OF
									14' ± MSL	1	2
									METHOD OF DRILLING		
									HAND AUGER/DIRECT PUSH		
									DRIVE WEIGHT	DROP	
									SAMPLED BY	LOGGED BY	REVIEWED BY
									CRA	CRA	KML
									DESCRIPTION/INTERPRETATION		
0								SM	<u>CONCRETE</u> : Approximately 4" thick.		
						0			<u>FILL</u> : Brown, moist, silty fine to medium SAND.		
						0					
						0					
						0					
5						0					
									Boring advanced without continuous coring below 6 feet bgs.		
10											
15											
20											



BORING LOG

LIMITED PHASE II ESA - 645 4th STREET
OAKLAND, CALIFORNIA

PROJECT NO.
401556001

DATE
7/09

FIGURE
B-3

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED	BORING NO.	
	Bulk	Driven							7/9/09	B-2	
									GROUND ELEVATION	SHEET	OF
									14' ± MSL	2	2
									METHOD OF DRILLING		
									HAND AUGER/DIRECT PUSH		
									DRIVE WEIGHT	DROP	
									SAMPLED BY	LOGGED BY	REVIEWED BY
									CRA	CRA	KML
									DESCRIPTION/INTERPRETATION		
20									Final depth = 20 feet bgs.		
									Groundwater encountered at approximately 9.6 feet bgs.		
									Boring tremie grouted on 7/10/09.		
25											
30											
35											
40											



BORING LOG

LIMITED PHASE II ESA - 645 4th STREET
OAKLAND, CALIFORNIA

PROJECT NO.
401556001

DATE
7/09

FIGURE
B-4

APPENDIX C
GROUNDWATER SAMPLING FIELD DATA SHEETS

Project Name: _____

Site: 645 4th St.
 Project No.: 401556001
 Monitoring Well ID: B-1

Date: 7/9/09 Sampler: CRA
 Weather: Sunny
 Vapor Monitoring Results (ppmv): BZ= _____ WH= _____

Casing Diameter: 2" 4" 6" Other _____

Casing Material: SCH 40-PVC Other: S. Steel _____

Total Depth (ft.-TOC): _____
 Depth to Water (ft.-TOC): _____

Floating Immiscible Layer Observed?: No
 Floating Immiscible Layer Thickness (feet): NA

Water Column Height (feet): _____ x _____

2" = 0.16 gal/ft = _____ x 3 = _____
 4" = 0.65 gal/ft = _____
 6" = 1.47 gal/ft = _____
 Min. Purge Volume (gallons)

Water Level Measurement Equip.: Solinst Water Level Indicator

Cleaned: yes

Purging Method/Equipment: Geopump Peristaltic Pump & check valve

Cleaned: yes

Pump Lines/Bailer Ropes-New or Cleaned?: (New) Cleaned

Temp./pH Meter: Ultrameter

Calibration (date/time): 7/9/09 12:00

Conductivity Meter: Ultrameter

Calibration (date/time): Factory calibrated

Comments: _____

pH STND.	FIELD pH	FIELD TEMP. (°F)
4.0		
7.0	6.99	19.7

TIME	Purge Vol.(Gal)	Totalizer Reading (Gal)	TEMP. (°C)	ORP	DO (%)	pH	COND. (µS/cm)	COMMENTS (color, turbidity, odor, sheen, etc.):
1703	0.75		21.3			6.96	695	grey, very turbid, slight odor, no sheen
1208	0.5		20.7			6.22	677	" "
1310	0.25		19.8			6.78	633	brown turbid, slight odor, no sheen
1523	1.1		19.7			6.49	612	Clear, slightly turbid, slight odor, no sheen
1550	1.3		19.8			6.56	609	" "

Total Volume Purged (gallon): 1.3

Time Finished Purging: 1550

Sampling Method/Equipment: Disposable peristaltic pump
R/C-Bailer

PARAMETER	USEPA METHOD	CONTAINERS/VOLUME/TYPE (Voa/Glass/Plastic)	PRES.

Bailer Rope-New or Cleaned?: New

Sample Time: _____

Sample ID: _____

Replicate ID (if appl.): None

Laboratory: _____

Comments: _____

Project Name: _____

Site: 615 4th St

Date: 7/9/09 Sampler: CAA

Project No.: 40556001

Weather: Sunny

Monitoring Well ID: B-2

Vapor Monitoring Results (ppmv): BZ= _____ WII= _____

Casing Diameter: 2" 4" 6" Other _____

Casing Material: SCH 40-PVC Other: S. Steel _____

Total Depth (ft-TOC): _____

Floating Immiscible Layer Observed?: No

Depth to Water (ft-TOC): _____

Floating Immiscible Layer Thickness (feet): NA

2" = 0.16 gal/ft x 3 = _____
4" = 0.65 gal/ft x 3 = _____
6" = 1.47 gal/ft x 3 = _____

Water Column Height (feet): _____

Min. Purge Volume (gallons)

Water Level Measurement Equip.: Solinst Water Level Indicator Cleaned: yes

Purging Method/Equipment: Geopump Peristaltic Pump & check valve Cleaned: yes

Pump Lines/Bailer Ropes-New or Cleaned?: (New) Cleaned

Temp./pH Meter: Ultrameter

Calibration (date/time): 7/9/09 1200

Conductivity Meter: Ultrameter

Calibration (date/time): Factory calibrated

Comments: _____

pH STND.	FIELD pH	FIELD TEMP. (°F)
4.0		
7.0	<u>6.99</u>	<u>19.7</u>

TIME	Purge Vol. (Gal)	Totalizer Reading (Gal)	TEMP. (°F)	ORP	DO (%)	pH	COND. (µS/cm)	COMMENTS (color, turbidity, odor, sheen, etc.):
1218	0.25		21.6			6.0P	627	grey, very turbid, slight odor, no sheen
1221	0.5		21.4			6.29	588	"
1330	0.75		19.9			6.40	590	Brown, turbid, no odor, no sheen
1333	1.0		19.8			6.39	587	"
1510	1.3		19.6			6.56	592	Clear, slightly turbid, no odor, no sheen
1540	1.6		19.7			6.61	593	"

Total Volume Purged (gallon): 1.6 Time Finished Purging: 1540

Sampling Method/Equipment: Disposable peristaltic pump
PVC Bailer

PARAMETER	USEPA METHOD	CONTAINERS/VOLUME/TYPE (Voa/Glass/Plastic)	PRES.

Bailer Rope-New or Cleaned?: New

Sample Time: _____

Sample ID: _____

Replicate ID (if appl.): None

Laboratory: _____

Comments: _____

APPENDIX D
LABORATORY ANALYTICAL REPORT

July 20, 2009



Cem Atabek
Ninyo & Moore
1956 Webster Street, Suite 400
Oakland, CA 94612
TEL: (510) 772-7418
FAX: (510) 633-5646

ELAP No.: 1838
NELAP No.: 02107CA
NEVADA.: CA-401
CSDLAC No.: 10196

Workorder No.: 106350

RE: Terradev \ 645 4th Street, 401556001

Attention: Cem Atabek

Enclosed are the results for sample(s) received on July 11, 2009 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,

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

Eddie F. Rodriguez
Laboratory Director

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



CLIENT: Ninyo & Moore
Project: Terradev \ 645 4th Street, 401556001
Lab Order: 106350

CASE NARRATIVE

Analytical Comments for EPA 8015B (DRO)

Samples 106350-002B and 106350-003B, surrogate diluted out.



Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 20-Jul-09

CLIENT: Ninyo & Moore
Lab Order: 106350
Project: Terradev \ 645 4th Street, 401556001
Lab ID: 106350-001A

Client Sample ID: Drum Soil
Collection Date: 7/10/2009 7:00:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS

EPA 3050B

EPA 6010B

RunID:	ICP8_090715F	QC Batch:	56618	PrepDate:	7/15/2009	Analyst:	CL
Antimony	ND	2.0	mg/Kg	1	7/15/2009 07:09 PM		
Arsenic	ND	1.0	mg/Kg	1	7/15/2009 07:09 PM		
Barium	50	1.0	mg/Kg	1	7/15/2009 07:09 PM		
Beryllium	ND	1.0	mg/Kg	1	7/15/2009 07:09 PM		
Cadmium	ND	1.0	mg/Kg	1	7/15/2009 07:09 PM		
Chromium	21	1.0	mg/Kg	1	7/15/2009 07:09 PM		
Cobalt	4.2	1.0	mg/Kg	1	7/15/2009 07:09 PM		
Copper	11	2.0	mg/Kg	1	7/15/2009 07:09 PM		
Lead	24	1.0	mg/Kg	1	7/15/2009 07:09 PM		
Molybdenum	ND	1.0	mg/Kg	1	7/15/2009 07:09 PM		
Nickel	14	1.0	mg/Kg	1	7/15/2009 07:09 PM		
Selenium	ND	1.0	mg/Kg	1	7/15/2009 07:09 PM		
Silver	ND	1.0	mg/Kg	1	7/15/2009 07:09 PM		
Thallium	ND	1.0	mg/Kg	1	7/15/2009 07:09 PM		
Vanadium	16	1.0	mg/Kg	1	7/15/2009 07:09 PM		
Zinc	48	1.0	mg/Kg	1	7/15/2009 07:09 PM		

MERCURY BY COLD VAPOR TECHNIQUE

EPA 7471A

RunID:	AA5_090716A	QC Batch:	56616	PrepDate:	7/15/2009	Analyst:	IL
Mercury	0.22	0.10	mg/Kg	1	7/16/2009 10:30 AM		

VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID:	MS4_090714A	QC Batch:	K09VS118	PrepDate:	Analyst:	HH
1,1,1,2-Tetrachloroethane	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
1,1,1-Trichloroethane	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
1,1,2,2-Tetrachloroethane	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
1,1,2-Trichloroethane	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
1,1-Dichloroethane	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
1,1-Dichloroethene	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
1,1-Dichloropropene	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
1,2,3-Trichlorobenzene	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
1,2,3-Trichloropropane	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
1,2,4-Trichlorobenzene	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
1,2,4-Trimethylbenzene	1500	25	µg/Kg	5	7/15/2009 04:04 PM	

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



Advanced Technology
Laboratories

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

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 20-Jul-09

CLIENT: Ninyo & Moore
Lab Order: 106350
Project: Terradev \ 645 4th Street, 401556001
Lab ID: 106350-001A

Client Sample ID: Drum Soil
Collection Date: 7/10/2009 7:00:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID:	MS4_090714A	QC Batch:	K09VS118	PrepDate:	Analyst:	HH
1,2-Dibromo-3-chloropropane	ND	10	µg/Kg	1	7/14/2009 11:51 AM	
1,2-Dibromoethane	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
1,2-Dichlorobenzene	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
1,2-Dichloroethane	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
1,2-Dichloropropane	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
1,3,5-Trimethylbenzene	220	5.0	µg/Kg	1	7/14/2009 11:51 AM	
1,3-Dichlorobenzene	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
1,3-Dichloropropane	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
1,4-Dichlorobenzene	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
2,2-Dichloropropane	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
2-Chlorotoluene	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
4-Chlorotoluene	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
4-Isopropyltoluene	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
Benzene	10	5.0	µg/Kg	1	7/14/2009 11:51 AM	
Bromobenzene	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
Bromodichloromethane	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
Bromoform	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
Bromomethane	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
Carbon tetrachloride	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
Chlorobenzene	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
Chloroethane	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
Chloroform	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
Chloromethane	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
cis-1,2-Dichloroethene	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
cis-1,3-Dichloropropene	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
Dibromochloromethane	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
Dibromomethane	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
Dichlorodifluoromethane	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
Ethylbenzene	95	5.0	µg/Kg	1	7/14/2009 11:51 AM	
Hexachlorobutadiene	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
Isopropylbenzene	14	5.0	µg/Kg	1	7/14/2009 11:51 AM	
m,p-Xylene	510	10	µg/Kg	1	7/14/2009 11:51 AM	
Methylene chloride	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
n-Butylbenzene	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
n-Propylbenzene	66	5.0	µg/Kg	1	7/14/2009 11:51 AM	

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



Advanced Technology
Laboratories

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

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 20-Jul-09

CLIENT: Ninyo & Moore
Lab Order: 106350
Project: Terradev \ 645 4th Street, 401556001
Lab ID: 106350-001A

Client Sample ID: Drum Soil
Collection Date: 7/10/2009 7:00:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID:	MS4_090714A	QC Batch:	K09VS118	PrepDate:	Analyst:	HH
Naphthalene	150	5.0	µg/Kg	1	7/14/2009 11:51 AM	
o-Xylene	270	5.0	µg/Kg	1	7/14/2009 11:51 AM	
sec-Butylbenzene	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
Styrene	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
tert-Butylbenzene	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
Tetrachloroethene	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
Toluene	190	5.0	µg/Kg	1	7/14/2009 11:51 AM	
trans-1,2-Dichloroethene	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
Trichloroethene	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
Trichlorofluoromethane	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
Vinyl chloride	ND	5.0	µg/Kg	1	7/14/2009 11:51 AM	
Surr: 1,2-Dichloroethane-d4	101	70-130	%REC	1	7/14/2009 11:51 AM	
Surr: 1,2-Dichloroethane-d4	111	70-130	%REC	5	7/15/2009 04:04 PM	
Surr: 4-Bromofluorobenzene	98.8	70-130	%REC	1	7/14/2009 11:51 AM	
Surr: 4-Bromofluorobenzene	106	70-130	%REC	5	7/15/2009 04:04 PM	
Surr: Dibromofluoromethane	113	70-130	%REC	1	7/14/2009 11:51 AM	
Surr: Dibromofluoromethane	112	70-130	%REC	5	7/15/2009 04:04 PM	
Surr: Toluene-d8	109	70-130	%REC	5	7/15/2009 04:04 PM	
Surr: Toluene-d8	113	70-130	%REC	1	7/14/2009 11:51 AM	

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



Advanced Technology
Laboratories

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

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 20-Jul-09

CLIENT: Ninyo & Moore
Lab Order: 106350
Project: Terradev \ 645 4th Street, 401556001
Lab ID: 106350-002A

Client Sample ID: B-1-GW
Collection Date: 7/10/2009 7:55:00 AM
Matrix: GROUNDWATER

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

EPA 8015B(M)

RunID: GC1_090715A	QC Batch: D09VW113	PrepDate:	Analyst: BD		
GRO	78	2.5	mg/L	50	7/15/2009 03:47 PM
Surr: Bromofluorobenzene (FID)	99.8	71-130	%REC	50	7/15/2009 03:47 PM

VOLATILE ORGANIC COMPOUNDS BY GC/PID

EPA 8021B

RunID: GC1_090715A	QC Batch: D09VW113	PrepDate:	Analyst: BD		
Benzene	15000	25	µg/L	50	7/15/2009 03:47 PM
Ethylbenzene	1700	25	µg/L	50	7/15/2009 03:47 PM
m,p-Xylene	7100	50	µg/L	50	7/15/2009 03:47 PM
Methyl tert-butyl ether	570	25	µg/L	50	7/15/2009 03:47 PM
o-Xylene	3400	25	µg/L	50	7/15/2009 03:47 PM
Toluene	13000	25	µg/L	50	7/15/2009 03:47 PM
Surr: Bromofluorobenzene (PID)	101	73-127	%REC	50	7/15/2009 03:47 PM

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



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ANALYTICAL RESULTS

Print Date: 20-Jul-09

CLIENT: Ninyo & Moore
Lab Order: 106350
Project: Terradev \ 645 4th Street, 401556001
Lab ID: 106350-002B

Client Sample ID: B-1-GW
Collection Date: 7/10/2009 7:55:00 AM
Matrix: GROUNDWATER

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

EPA 3510C

EPA 8015B(M)

RunID: GC16_090715C	QC Batch: 56584				PrepDate: 7/14/2009	Analyst: CBR
DRO	5.3	1.2		mg/L	25	7/15/2009 02:49 PM
Surr: p-Terphenyl	0	35-131	SDO	%REC	25	7/15/2009 02:49 PM

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



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ANALYTICAL RESULTS

Print Date: 20-Jul-09

CLIENT: Ninyo & Moore
Lab Order: 106350
Project: Terradev \ 645 4th Street, 401556001
Lab ID: 106350-003A

Client Sample ID: B-2-GW
Collection Date: 7/10/2009 8:30:00 AM
Matrix: GROUNDWATER

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

EPA 8015B(M)

RunID: GC1_090715A	QC Batch: D09VW113	PrepDate:	Analyst: BD		
GRO	60	2.5	mg/L	50	7/15/2009 02:47 PM
Surr: Bromofluorobenzene (FID)	91.0	71-130	%REC	50	7/15/2009 02:47 PM

VOLATILE ORGANIC COMPOUNDS BY GC/PID

EPA 8021B

RunID: GC1_090715A	QC Batch: D09VW113	PrepDate:	Analyst: BD		
Benzene	13000	25	µg/L	50	7/15/2009 02:47 PM
Ethylbenzene	890	25	µg/L	50	7/15/2009 02:47 PM
m,p-Xylene	3200	50	µg/L	50	7/15/2009 02:47 PM
Methyl tert-butyl ether	120	25	µg/L	50	7/15/2009 02:47 PM
o-Xylene	1600	25	µg/L	50	7/15/2009 02:47 PM
Toluene	13000	25	µg/L	50	7/15/2009 02:47 PM
Surr: Bromofluorobenzene (PID)	87.6	73-127	%REC	50	7/15/2009 02:47 PM

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



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ANALYTICAL RESULTS

Print Date: 20-Jul-09

CLIENT: Ninyo & Moore
Lab Order: 106350
Project: Terradev \ 645 4th Street, 401556001
Lab ID: 106350-003B

Client Sample ID: B-2-GW
Collection Date: 7/10/2009 8:30:00 AM
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

DIESEL RANGE ORGANICS BY GC/FID

EPA 3510C

EPA 8015B(M)

RunID: GC16_090715C	QC Batch: 56584				PrepDate: 7/14/2009	Analyst: CBR
DRO	2.3	1.2		mg/L	25	7/15/2009 02:58 PM
Surr: p-Terphenyl	0	35-131	SDO	%REC	25	7/15/2009 02:58 PM

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



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CLIENT: Ninyo & Moore
Work Order: 106350
Project: Terradev \ 645 4th Street, 401556001

ANALYTICAL QC SUMMARY REPORT

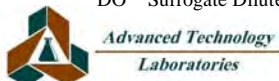
TestCode: 6010_S

Sample ID: MB-56618	SampType: MBLK	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/15/2009	RunNo: 110842						
Client ID: PBS	Batch ID: 56618	TestNo: EPA 6010B EPA 3050B		Analysis Date: 7/15/2009	SeqNo: 1744667						
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: LCS-56618	SampType: LCS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/15/2009	RunNo: 110842						
Client ID: LCSS	Batch ID: 56618	TestNo: EPA 6010B EPA 3050B		Analysis Date: 7/15/2009	SeqNo: 1744668						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	44.386	2.0	50.00	0	88.8	80	120				
Arsenic	45.479	1.0	50.00	0	91.0	80	120				
Barium	49.292	1.0	50.00	0	98.6	80	120				
Beryllium	48.153	1.0	50.00	0	96.3	80	120				
Cadmium	47.227	1.0	50.00	0	94.5	80	120				
Chromium	47.430	1.0	50.00	0	94.9	80	120				
Cobalt	46.824	1.0	50.00	0	93.6	80	120				

Qualifiers:

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



CLIENT: Ninyo & Moore
Work Order: 106350
Project: Terradev \ 645 4th Street, 401556001

ANALYTICAL QC SUMMARY REPORT

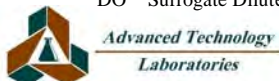
TestCode: 6010_S

Sample ID: LCS-56618	SampType: LCS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/15/2009	RunNo: 110842						
Client ID: LCSS	Batch ID: 56618	TestNo: EPA 6010B	EPA 3050B	Analysis Date: 7/15/2009	SeqNo: 1744668						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	51.034	2.0	50.00	0	102	80	120				
Lead	49.268	1.0	50.00	0	98.5	80	120				
Molybdenum	48.698	1.0	50.00	0	97.4	80	120				
Nickel	46.301	1.0	50.00	0	92.6	80	120				
Selenium	43.536	1.0	50.00	0	87.1	80	120				
Silver	48.235	1.0	50.00	0	96.5	80	120				
Thallium	45.965	1.0	50.00	0	91.9	80	120				
Vanadium	50.273	1.0	50.00	0	101	80	120				
Zinc	46.748	1.0	50.00	0	93.5	80	120				

Sample ID: 106386-008AMS	SampType: MS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/15/2009	RunNo: 110842						
Client ID: ZZZZZ	Batch ID: 56618	TestNo: EPA 6010B	EPA 3050B	Analysis Date: 7/15/2009	SeqNo: 1744671						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	84.259	2.0	125.0	0	67.4	25	106				
Arsenic	99.621	1.0	125.0	0	79.7	42	113				
Barium	221.674	1.0	125.0	118.4	82.6	19	140				
Beryllium	106.177	1.0	125.0	0	84.9	50	109				
Cadmium	99.120	1.0	125.0	0.4398	78.9	48	106				
Chromium	121.883	1.0	125.0	18.22	82.9	44	116				
Cobalt	103.305	1.0	125.0	4.078	79.4	47	107				
Copper	140.940	2.0	125.0	22.04	95.1	49	124				
Lead	117.376	1.0	125.0	13.33	83.2	33	120				
Molybdenum	103.933	1.0	125.0	0.2177	83.0	46	111				
Nickel	109.701	1.0	125.0	10.38	79.5	43	111				
Selenium	95.204	1.0	125.0	0	76.2	43	104				
Silver	106.751	1.0	125.0	0	85.4	53	114				
Thallium	99.177	1.0	125.0	0	79.3	41	107				
Vanadium	125.639	1.0	125.0	18.85	85.4	48	116				
Zinc	148.856	1.0	125.0	40.38	86.8	24	129				

Qualifiers:

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



CLIENT: Ninyo & Moore
Work Order: 106350
Project: Terradev \ 645 4th Street, 401556001

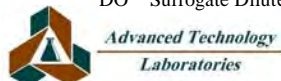
ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: 106386-008AMSD	SampType: MSD	TestCode: 6010_S	Units: mg/Kg	Prep Date: 7/15/2009	RunNo: 110842						
Client ID: ZZZZZZ	Batch ID: 56618	TestNo: EPA 6010B	EPA 3050B	Analysis Date: 7/15/2009	SeqNo: 1744672						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	88.159	2.0	125.0	0	70.5	25	106	84.26	4.52	20	
Arsenic	101.773	1.0	125.0	0	81.4	42	113	99.62	2.14	20	
Barium	237.224	1.0	125.0	118.4	95.0	19	140	221.7	6.78	20	
Beryllium	109.581	1.0	125.0	0	87.7	50	109	106.2	3.16	20	
Cadmium	102.178	1.0	125.0	0.4398	81.4	48	106	99.12	3.04	20	
Chromium	127.360	1.0	125.0	18.22	87.3	44	116	121.9	4.39	20	
Cobalt	106.723	1.0	125.0	4.078	82.1	47	107	103.3	3.25	20	
Copper	143.437	2.0	125.0	22.04	97.1	49	124	140.9	1.76	20	
Lead	120.354	1.0	125.0	13.33	85.6	33	120	117.4	2.51	20	
Molybdenum	108.872	1.0	125.0	0.2177	86.9	46	111	103.9	4.64	20	
Nickel	116.242	1.0	125.0	10.38	84.7	43	111	109.7	5.79	20	
Selenium	96.746	1.0	125.0	0	77.4	43	104	95.20	1.61	20	
Silver	110.676	1.0	125.0	0	88.5	53	114	106.8	3.61	20	
Thallium	101.413	1.0	125.0	0	81.1	41	107	99.18	2.23	20	
Vanadium	131.791	1.0	125.0	18.85	90.4	48	116	125.6	4.78	20	
Zinc	153.067	1.0	125.0	40.38	90.2	24	129	148.9	2.79	20	

Qualifiers:

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



CLIENT: Ninyo & Moore
Work Order: 106350
Project: Terradev \ 645 4th Street, 401556001

ANALYTICAL QC SUMMARY REPORT

TestCode: 7471_S

Sample ID: MB-56616	SampType: MBLK	TestCode: 7471_S	Units: mg/Kg	Prep Date: 7/15/2009	RunNo: 110848						
Client ID: PBS	Batch ID: 56616	TestNo: EPA 7471A		Analysis Date: 7/16/2009	SeqNo: 1744785						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.10									

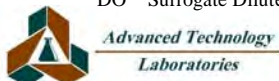
Sample ID: LCS-56616	SampType: LCS	TestCode: 7471_S	Units: mg/Kg	Prep Date: 7/15/2009	RunNo: 110848						
Client ID: LCSS	Batch ID: 56616	TestNo: EPA 7471A		Analysis Date: 7/16/2009	SeqNo: 1744786						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.735	0.10	0.8300	0	88.5	80	120				

Sample ID: 106386-008A-MS	SampType: MS	TestCode: 7471_S	Units: mg/Kg	Prep Date: 7/15/2009	RunNo: 110848						
Client ID: ZZZZZ	Batch ID: 56616	TestNo: EPA 7471A		Analysis Date: 7/16/2009	SeqNo: 1744787						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.049	0.10	0.8300	0.2489	96.4	70	130				

Sample ID: 106386-008A-MSD	SampType: MSD	TestCode: 7471_S	Units: mg/Kg	Prep Date: 7/15/2009	RunNo: 110848						
Client ID: ZZZZZ	Batch ID: 56616	TestNo: EPA 7471A		Analysis Date: 7/16/2009	SeqNo: 1744788						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.053	0.10	0.8300	0.2489	96.9	70	130	1.049	0.351	20	

Qualifiers:

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



CLIENT: Ninyo & Moore
Work Order: 106350
Project: Terradev \ 645 4th Street, 401556001

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015_W_DSL LL

Sample ID: MB-56584	SampType: MBLK	TestCode: 8015_W_DSL	Units: mg/L	Prep Date: 7/14/2009	RunNo: 110873						
Client ID: PBW	Batch ID: 56584	TestNo: EPA 8015B(M EPA 3510C		Analysis Date: 7/15/2009	SeqNo: 1745137						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	ND	0.050									
Surr: p-Terphenyl	0.031		0.08000		39.2	35	131				

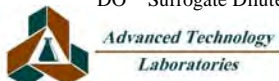
Sample ID: LCS-56584	SampType: LCS	TestCode: 8015_W_DSL	Units: mg/L	Prep Date: 7/14/2009	RunNo: 110873						
Client ID: LCSW	Batch ID: 56584	TestNo: EPA 8015B(M EPA 3510C		Analysis Date: 7/15/2009	SeqNo: 1745138						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	0.403	0.050	0.5000	0	80.7	42	118				
Surr: p-Terphenyl	0.033		0.08000		41.8	35	131				

Sample ID: MB-56584MS	SampType: MS	TestCode: 8015_W_DSL	Units: mg/L	Prep Date: 7/14/2009	RunNo: 110873						
Client ID: ZZZZZZ	Batch ID: 56584	TestNo: EPA 8015B(M EPA 3510C		Analysis Date: 7/15/2009	SeqNo: 1745139						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	0.396	0.050	0.5000	0	79.2	42	118				
Surr: p-Terphenyl	0.031		0.08000		38.4	35	131				

Sample ID: MB-56584MSD	SampType: MSD	TestCode: 8015_W_DSL	Units: mg/L	Prep Date: 7/14/2009	RunNo: 110873						
Client ID: ZZZZZZ	Batch ID: 56584	TestNo: EPA 8015B(M EPA 3510C		Analysis Date: 7/15/2009	SeqNo: 1745140						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	0.380	0.050	0.5000	0	76.0	42	118	0.3961	4.13	20	
Surr: p-Terphenyl	0.029		0.08000		36.5	35	131		0	0	

Qualifiers:

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



CLIENT: Ninyo & Moore
Work Order: 106350
Project: Terradev \ 645 4th Street, 401556001

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015_W_GP LL

Sample ID: 090715LCS2		SampType: LCS		TestCode: 8015_W_GP		Units: mg/L		Prep Date:		RunNo: 110849		
Client ID: LCSW		Batch ID: D09VW113		TestNo: EPA 8015B(M)		Analysis Date: 7/15/2009		SeqNo: 1744822				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
GRO	0.772	0.050	1.000	0	77.2	69	125					
Surr: Bromofluorobenzene (FID)	98.974		100.0		99.0	71	130					

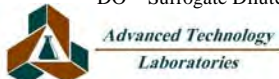
Sample ID: 090715MB1MS		SampType: MS		TestCode: 8015_W_GP		Units: mg/L		Prep Date:		RunNo: 110849		
Client ID: ZZZZZ		Batch ID: D09VW113		TestNo: EPA 8015B(M)		Analysis Date: 7/15/2009		SeqNo: 1744822				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
GRO	0.853	0.050	1.000	0	85.3	69	125					
Surr: Bromofluorobenzene (FID)	98.830		100.0		98.8	71	130					

Sample ID: 090715MB1MSD		SampType: MSD		TestCode: 8015_W_GP		Units: mg/L		Prep Date:		RunNo: 110849		
Client ID: ZZZZZ		Batch ID: D09VW113		TestNo: EPA 8015B(M)		Analysis Date: 7/15/2009		SeqNo: 1744824				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
GRO	0.742	0.050	1.000	0	74.2	69	125	0.8530	13.9	20		
Surr: Bromofluorobenzene (FID)	97.449		100.0		97.4	71	130		0	0		

Sample ID: 090715MB1		SampType: MBLK		TestCode: 8015_W_GP		Units: mg/L		Prep Date:		RunNo: 110849		
Client ID: PBW		Batch ID: D09VW113		TestNo: EPA 8015B(M)		Analysis Date: 7/15/2009		SeqNo: 1744825				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
GRO	ND	0.050										
Surr: Bromofluorobenzene (FID)	98.622		100.0		98.6	71	130					

Qualifiers:

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



CLIENT: Ninyo & Moore
Work Order: 106350
Project: Terradev \ 645 4th Street, 401556001

ANALYTICAL QC SUMMARY REPORT

TestCode: 8021_WP_BTEX

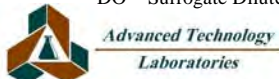
Sample ID: 090715LCS1		SampType: LCS		TestCode: 8021_WP_BT		Units: µg/L		Prep Date:		RunNo: 110849		
Client ID: LCSW		Batch ID: D09VW113		TestNo: EPA 8021B		Analysis Date: 7/15/2009				SeqNo: 1744803		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	96.847	0.50	100.0	0	96.8	49	131					
Toluene	95.819	0.50	100.0	0	95.8	64	125					
Ethylbenzene	92.868	0.50	100.0	0	92.9	63	128					
m,p-Xylene	189.192	1.0	200.0	0	94.6	68	122					
o-Xylene	95.540	0.50	100.0	0	95.5	60	124					
Methyl tert-butyl ether	89.570	0.50	100.0	0	89.6	53	141					
Surr: Bromofluorobenzene (PID)	89.018		100.0		89.0	73	127					

Sample ID: 090715MB1MS		SampType: MS		TestCode: 8021_WP_BT		Units: µg/L		Prep Date:		RunNo: 110849		
Client ID: ZZZZZZ		Batch ID: D09VW113		TestNo: EPA 8021B		Analysis Date: 7/15/2009				SeqNo: 1744804		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	5.837	0.50	7.150	0	81.6	49	131					
Toluene	31.089	0.50	34.45	0	90.2	64	125					
Ethylbenzene	8.129	0.50	9.930	0	81.9	63	128					
m,p-Xylene	32.987	1.0	39.91	0	82.7	68	122					
o-Xylene	12.282	0.50	15.68	0	78.3	60	124					
Methyl tert-butyl ether	99.104	0.50	107.0	0	92.6	53	141					
Surr: Bromofluorobenzene (PID)	96.098		100.0		96.1	73	127					

Sample ID: 090715MB1MSD		SampType: MSD		TestCode: 8021_WP_BT		Units: µg/L		Prep Date:		RunNo: 110849		
Client ID: ZZZZZZ		Batch ID: D09VW113		TestNo: EPA 8021B		Analysis Date: 7/15/2009				SeqNo: 1744805		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	5.658	0.50	7.150	0	79.1	49	131	5.837	3.11	20		
Toluene	30.378	0.50	34.45	0	88.2	64	125	31.09	2.31	20		
Ethylbenzene	7.761	0.50	9.930	0	78.2	63	128	8.129	4.63	20		
m,p-Xylene	31.693	1.0	39.91	0	79.4	68	122	32.99	4.00	20		
o-Xylene	11.653	0.50	15.68	0	74.3	60	124	12.28	5.26	20		
Methyl tert-butyl ether	101.587	0.50	107.0	0	94.9	53	141	99.10	2.47	20		

Qualifiers:

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



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Work Order: 106350
Project: Terradev \ 645 4th Street, 401556001

ANALYTICAL QC SUMMARY REPORT

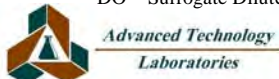
TestCode: 8021_WP_BTEX

Sample ID: 090715MB1MSD	SampType: MSD	TestCode: 8021_WP_BT	Units: µg/L	Prep Date:	RunNo: 110849						
Client ID: ZZZZZ	Batch ID: D09VW113	TestNo: EPA 8021B		Analysis Date: 7/15/2009	SeqNo: 1744805						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Bromofluorobenzene (PID)	91.557		100.0		91.6	73	127		0	0	

Sample ID: 090715MB1	SampType: MBLK	TestCode: 8021_WP_BT	Units: µg/L	Prep Date:	RunNo: 110849						
Client ID: PBW	Batch ID: D09VW113	TestNo: EPA 8021B		Analysis Date: 7/15/2009	SeqNo: 1744806						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.50									
Toluene	ND	0.50									
Ethylbenzene	ND	0.50									
m,p-Xylene	ND	1.0									
o-Xylene	ND	0.50									
Methyl tert-butyl ether	ND	0.50									
Surr: Bromofluorobenzene (PID)	91.639		100.0		91.6	73	127				

Qualifiers:

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



CLIENT: Ninyo & Moore
Work Order: 106350
Project: Terradev \ 645 4th Street, 401556001

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S

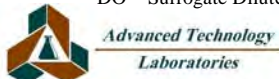
Sample ID: K090714LC1	SampType: LCS	TestCode: 8260_S	Units: µg/Kg	Prep Date:	RunNo: 110802						
Client ID: LCSS	Batch ID: K09VS118	TestNo: EPA 8260B		Analysis Date: 7/14/2009	SeqNo: 1743985						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	46.700	5.0	50.00	0	93.4	70	130				
Benzene	96.080	5.0	100.0	0	96.1	70	130				
Chlorobenzene	49.060	5.0	50.00	0	98.1	70	130				
MTBE	50.540	5.0	50.00	0	101	70	130				
Toluene	97.370	5.0	100.0	0	97.4	70	130				
Trichloroethene	47.830	5.0	50.00	0	95.7	70	130				
Surr: 1,2-Dichloroethane-d4	52.160		50.00		104	70	130				
Surr: 4-Bromofluorobenzene	50.410		50.00		101	70	130				
Surr: Dibromofluoromethane	57.130		50.00		114	70	130				
Surr: Toluene-d8	55.180		50.00		110	70	130				

Sample ID: 106350-001AMS	SampType: MS	TestCode: 8260_S	Units: µg/Kg	Prep Date:	RunNo: 110802						
Client ID: Drum Soil	Batch ID: K09VS118	TestNo: EPA 8260B		Analysis Date: 7/14/2009	SeqNo: 1743986						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	46.230	5.0	50.00	0	92.5	70	130				
Benzene	102.010	5.0	100.0	9.990	92.0	70	130				
Chlorobenzene	45.000	5.0	50.00	0	90.0	70	130				
MTBE	50.170	5.0	50.00	2.050	96.2	70	130				
Toluene	277.140	5.0	100.0	189.9	87.3	70	130				
Trichloroethene	49.560	5.0	50.00	0	99.1	70	130				
Surr: 1,2-Dichloroethane-d4	51.170		50.00		102	70	130				
Surr: 4-Bromofluorobenzene	50.820		50.00		102	70	130				
Surr: Dibromofluoromethane	53.590		50.00		107	70	130				
Surr: Toluene-d8	54.630		50.00		109	70	130				

Sample ID: 106350-001AMSD	SampType: MSD	TestCode: 8260_S	Units: µg/Kg	Prep Date:	RunNo: 110802						
Client ID: Drum Soil	Batch ID: K09VS118	TestNo: EPA 8260B		Analysis Date: 7/14/2009	SeqNo: 1743987						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

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



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Work Order: 106350
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ANALYTICAL QC SUMMARY REPORT

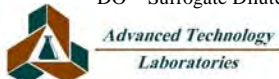
TestCode: 8260_S

Sample ID: 106350-001AMSD	SampType: MSD	TestCode: 8260_S	Units: µg/Kg	Prep Date:	RunNo: 110802						
Client ID: Drum Soil	Batch ID: K09VS118	TestNo: EPA 8260B		Analysis Date: 7/14/2009	SeqNo: 1743987						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	49.510	5.0	50.00	0	99.0	70	130	46.23	6.85	20	
Benzene	108.030	5.0	100.0	9.990	98.0	70	130	102.0	5.73	20	
Chlorobenzene	48.400	5.0	50.00	0	96.8	70	130	45.00	7.28	20	
MTBE	52.670	5.0	50.00	2.050	101	70	130	50.17	4.86	20	
Toluene	266.200	5.0	100.0	189.9	76.3	70	130	277.1	4.03	20	
Trichloroethene	53.190	5.0	50.00	0	106	70	130	49.56	7.07	20	
Surr: 1,2-Dichloroethane-d4	48.620		50.00		97.2	70	130		0	20	
Surr: 4-Bromofluorobenzene	50.490		50.00		101	70	130		0	20	
Surr: Dibromofluoromethane	53.610		50.00		107	70	130		0	20	
Surr: Toluene-d8	55.440		50.00		111	70	130		0	20	

Sample ID: K090714MB2	SampType: MBLK	TestCode: 8260_S	Units: µg/Kg	Prep Date:	RunNo: 110802						
Client ID: PBS	Batch ID: K09VS118	TestNo: EPA 8260B		Analysis Date: 7/14/2009	SeqNo: 1743989						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	5.0									
1,1,1-Trichloroethane	ND	5.0									
1,1,2,2-Tetrachloroethane	ND	5.0									
1,1,2-Trichloroethane	ND	5.0									
1,1-Dichloroethane	ND	5.0									
1,1-Dichloroethene	ND	5.0									
1,1-Dichloropropene	ND	5.0									
1,2,3-Trichlorobenzene	ND	5.0									
1,2,3-Trichloropropane	ND	5.0									
1,2,4-Trichlorobenzene	ND	5.0									
1,2,4-Trimethylbenzene	ND	5.0									
1,2-Dibromo-3-chloropropane	ND	10									
1,2-Dibromoethane	ND	5.0									
1,2-Dichlorobenzene	ND	5.0									
1,2-Dichloroethane	ND	5.0									

Qualifiers:

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



CLIENT: Ninyo & Moore
Work Order: 106350
Project: Terradev \ 645 4th Street, 401556001

ANALYTICAL QC SUMMARY REPORT

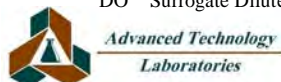
TestCode: 8260_S

Sample ID: K090714MB2	SampType: MBLK	TestCode: 8260_S	Units: µg/Kg	Prep Date:	RunNo: 110802
Client ID: PBS	Batch ID: K09VS118	TestNo: EPA 8260B		Analysis Date: 7/14/2009	SeqNo: 1743989

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloropropane	ND	5.0									
1,3,5-Trimethylbenzene	ND	5.0									
1,3-Dichlorobenzene	ND	5.0									
1,3-Dichloropropane	ND	5.0									
1,4-Dichlorobenzene	ND	5.0									
2,2-Dichloropropane	ND	5.0									
2-Chlorotoluene	ND	5.0									
4-Chlorotoluene	ND	5.0									
4-Isopropyltoluene	ND	5.0									
Benzene	ND	5.0									
Bromobenzene	ND	5.0									
Bromodichloromethane	ND	5.0									
Bromoform	ND	5.0									
Bromomethane	ND	5.0									
Carbon tetrachloride	ND	5.0									
Chlorobenzene	ND	5.0									
Chloroethane	ND	5.0									
Chloroform	ND	5.0									
Chloromethane	ND	5.0									
cis-1,2-Dichloroethene	ND	5.0									
cis-1,3-Dichloropropene	ND	5.0									
Dibromochloromethane	ND	5.0									
Dibromomethane	ND	5.0									
Dichlorodifluoromethane	ND	5.0									
Ethylbenzene	ND	5.0									
Hexachlorobutadiene	ND	5.0									
Isopropylbenzene	ND	5.0									
m,p-Xylene	ND	10									
Methylene chloride	ND	5.0									
MTBE	ND	5.0									

Qualifiers:

- | | | |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| ND Not Detected at the Reporting Limit | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
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Work Order: 106350
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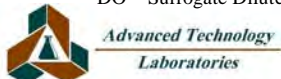
ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S

Sample ID: K090714MB2	SampType: MBLK	TestCode: 8260_S	Units: µg/Kg	Prep Date:	RunNo: 110802						
Client ID: PBS	Batch ID: K09VS118	TestNo: EPA 8260B	Analysis Date: 7/14/2009	SeqNo: 1743989							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
n-Butylbenzene	ND	5.0									
n-Propylbenzene	ND	5.0									
Naphthalene	ND	5.0									
o-Xylene	ND	5.0									
sec-Butylbenzene	ND	5.0									
Styrene	ND	5.0									
tert-Butylbenzene	ND	5.0									
Tetrachloroethene	ND	5.0									
Toluene	ND	5.0									
trans-1,2-Dichloroethene	ND	5.0									
Trichloroethene	ND	5.0									
Trichlorofluoromethane	ND	5.0									
Vinyl chloride	ND	5.0									
Surr: 1,2-Dichloroethane-d4	51.520		50.00		103	70	130				
Surr: 4-Bromofluorobenzene	49.590		50.00		99.2	70	130				
Surr: Dibromofluoromethane	55.240		50.00		110	70	130				
Surr: Toluene-d8	55.870		50.00		112	70	130				

Qualifiers:

- | | | |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| ND Not Detected at the Reporting Limit | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
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CLIENT: Ninyo & Moore
Work Order: 106350
Project: Terradev \ 645 4th Street, 401556001

ANALYTICAL QC SUMMARY REPORT

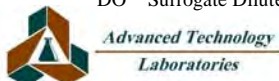
TestCode: 8260_S

Sample ID: K090715LC1	SampType: LCS	TestCode: 8260_S	Units: µg/Kg	Prep Date:	RunNo: 110889						
Client ID: LCSS	Batch ID: K09VS119	TestNo: EPA 8260B		Analysis Date: 7/15/2009	SeqNo: 1745523						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	48.020	5.0	50.00	0	96.0	70	130				
Benzene	97.950	5.0	100.0	0	98.0	70	130				
Chlorobenzene	51.670	5.0	50.00	0	103	70	130				
MTBE	48.370	5.0	50.00	0	96.7	70	130				
Toluene	100.440	5.0	100.0	0	100	70	130				
Trichloroethene	47.550	5.0	50.00	0	95.1	70	130				
Surr: 1,2-Dichloroethane-d4	50.140		50.00		100	70	130				
Surr: 4-Bromofluorobenzene	51.210		50.00		102	70	130				
Surr: Dibromofluoromethane	51.470		50.00		103	70	130				
Surr: Toluene-d8	53.220		50.00		106	70	130				

Sample ID: K090715MB1	SampType: MBLK	TestCode: 8260_S	Units: µg/Kg	Prep Date:	RunNo: 110889						
Client ID: PBS	Batch ID: K09VS119	TestNo: EPA 8260B		Analysis Date: 7/15/2009	SeqNo: 1745524						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	5.0									
1,1,1-Trichloroethane	ND	5.0									
1,1,1,2-Tetrachloroethane	ND	5.0									
1,1,2-Trichloroethane	ND	5.0									
1,1-Dichloroethane	ND	5.0									
1,1-Dichloroethene	ND	5.0									
1,1-Dichloropropene	ND	5.0									
1,2,3-Trichlorobenzene	ND	5.0									
1,2,3-Trichloropropane	ND	5.0									
1,2,4-Trichlorobenzene	ND	5.0									
1,2,4-Trimethylbenzene	ND	5.0									
1,2-Dibromo-3-chloropropane	ND	10									
1,2-Dibromoethane	ND	5.0									
1,2-Dichlorobenzene	ND	5.0									
1,2-Dichloroethane	ND	5.0									

Qualifiers:

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



CLIENT: Ninyo & Moore
Work Order: 106350
Project: Terradev \ 645 4th Street, 401556001

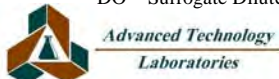
ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S

Sample ID: K090715MB1	SampType: MBLK	TestCode: 8260_S	Units: µg/Kg	Prep Date:	RunNo: 110889						
Client ID: PBS	Batch ID: K09VS119	TestNo: EPA 8260B		Analysis Date: 7/15/2009	SeqNo: 1745524						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloropropane	ND	5.0									
1,3,5-Trimethylbenzene	ND	5.0									
1,3-Dichlorobenzene	ND	5.0									
1,3-Dichloropropane	ND	5.0									
1,4-Dichlorobenzene	ND	5.0									
2,2-Dichloropropane	ND	5.0									
2-Chlorotoluene	ND	5.0									
4-Chlorotoluene	ND	5.0									
4-Isopropyltoluene	ND	5.0									
Benzene	ND	5.0									
Bromobenzene	ND	5.0									
Bromodichloromethane	ND	5.0									
Bromoform	ND	5.0									
Bromomethane	ND	5.0									
Carbon tetrachloride	ND	5.0									
Chlorobenzene	ND	5.0									
Chloroethane	ND	5.0									
Chloroform	ND	5.0									
Chloromethane	ND	5.0									
cis-1,2-Dichloroethene	ND	5.0									
cis-1,3-Dichloropropene	ND	5.0									
Dibromochloromethane	ND	5.0									
Dibromomethane	ND	5.0									
Dichlorodifluoromethane	ND	5.0									
Ethylbenzene	ND	5.0									
Hexachlorobutadiene	ND	5.0									
Isopropylbenzene	ND	5.0									
m,p-Xylene	ND	10									
Methylene chloride	ND	5.0									
MTBE	ND	5.0									

Qualifiers:

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



CLIENT: Ninyo & Moore
Work Order: 106350
Project: Terradev \ 645 4th Street, 401556001

ANALYTICAL QC SUMMARY REPORT

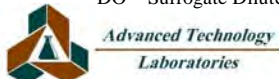
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Sample ID: K090715MB1	SampType: MBLK	TestCode: 8260_S	Units: µg/Kg	Prep Date:	RunNo: 110889						
Client ID: PBS	Batch ID: K09VS119	TestNo: EPA 8260B		Analysis Date: 7/15/2009	SeqNo: 1745524						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
n-Butylbenzene	ND	5.0									
n-Propylbenzene	ND	5.0									
Naphthalene	ND	5.0									
o-Xylene	ND	5.0									
sec-Butylbenzene	ND	5.0									
Styrene	ND	5.0									
tert-Butylbenzene	ND	5.0									
Tetrachloroethene	ND	5.0									
Toluene	ND	5.0									
trans-1,2-Dichloroethene	ND	5.0									
Trichloroethene	ND	5.0									
Trichlorofluoromethane	ND	5.0									
Vinyl chloride	ND	5.0									
Surr: 1,2-Dichloroethane-d4	50.610		50.00		101	70	130				
Surr: 4-Bromofluorobenzene	49.700		50.00		99.4	70	130				
Surr: Dibromofluoromethane	53.820		50.00		108	70	130				
Surr: Toluene-d8	53.750		50.00		108	70	130				

Sample ID: 106350-001AMS	SampType: MS	TestCode: 8260_S	Units: µg/Kg	Prep Date:	RunNo: 110889						
Client ID: Drum Soil	Batch ID: K09VS119	TestNo: EPA 8260B		Analysis Date: 7/15/2009	SeqNo: 1745527						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	229.200	25	250.0	0	91.7	70	130				
Benzene	472.750	25	500.0	8.350	92.9	70	130				
Chlorobenzene	240.750	25	250.0	0	96.3	70	130				
MTBE	233.250	25	250.0	0	93.3	70	130				
Toluene	625.700	25	500.0	260.6	73.0	70	130				
Trichloroethene	250.800	25	250.0	0	100	70	130				
Surr: 1,2-Dichloroethane-d4	258.050		250.0		103	70	130				
Surr: 4-Bromofluorobenzene	263.150		250.0		105	70	130				

Qualifiers:

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



CLIENT: Ninyo & Moore
Work Order: 106350
Project: Terradev \ 645 4th Street, 401556001

ANALYTICAL QC SUMMARY REPORT

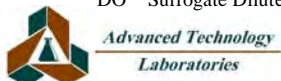
TestCode: 8260_S

Sample ID: 106350-001AMS	SampType: MS	TestCode: 8260_S	Units: µg/Kg	Prep Date:	RunNo: 110889						
Client ID: Drum Soil	Batch ID: K09VS119	TestNo: EPA 8260B	Analysis Date: 7/15/2009	SeqNo: 1745527							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	270.800		250.0		108	70	130				
Surr: Toluene-d8	274.950		250.0		110	70	130				

Sample ID: 106350-001AMSD	SampType: MSD	TestCode: 8260_S	Units: µg/Kg	Prep Date:	RunNo: 110889						
Client ID: Drum Soil	Batch ID: K09VS119	TestNo: EPA 8260B	Analysis Date: 7/15/2009	SeqNo: 1745528							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	245.000	25	250.0	0	98.0	70	130	229.2	6.66	20	
Benzene	506.800	25	500.0	8.350	99.7	70	130	472.8	6.95	20	
Chlorobenzene	256.450	25	250.0	0	103	70	130	240.8	6.32	20	
MTBE	255.900	25	250.0	0	102	70	130	233.2	9.26	20	
Toluene	701.250	25	500.0	260.6	88.1	70	130	625.7	11.4	20	
Trichloroethene	276.750	25	250.0	0	111	70	130	250.8	9.84	20	
Surr: 1,2-Dichloroethane-d4	249.350		250.0		99.7	70	130		0	20	
Surr: 4-Bromofluorobenzene	257.050		250.0		103	70	130		0	20	
Surr: Dibromofluoromethane	264.750		250.0		106	70	130		0	20	
Surr: Toluene-d8	264.450		250.0		106	70	130		0	20	

Qualifiers:

- | | | |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range | H Holding times for preparation or analysis exceeded |
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CHAIN OF CUSTODY RECORD



**Advanced Technology
Laboratories**

3275 Walnut Avenue
Signal Hill, CA 90755
(562) 989-4045 • Fax (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____	Method of Transport Client <input type="checkbox"/> ATL <input type="checkbox"/> CA OverN <input type="checkbox"/> FEDEX <input type="checkbox"/> Other: <u>ONTNAC</u>	Sample Condition Upon Receipt 1. CHILLED <u>3.0</u> Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: <u>[Signature]</u>	Date: <u>7/11/09</u>	

Client: <u>Ninyo & Moore</u>	Address: <u>1956 Webster St.</u>	TEL: <u>(510) 633-5640</u>
Attn: <u>Cem Atabek</u>	City: <u>Oakland</u> State: <u>CA</u> Zip Code: <u>94612</u>	FAX: <u>(510) 633-5646</u>

Project Name: Ferrader 1645 4th Street Project #: 401556001 Sampler: Cem Atabek (Signature)

Relinquished by: <u>[Signature]</u>	Date: <u>7/10/09</u>	Time: <u>1:32</u>	Received by: <u>[Signature]</u>	Date: <u>7/10/09</u>	Time: <u>1:35 pm</u>
Relinquished by: <u>[Signature]</u>	Date: <u>7/10/09</u>	Time: <u>2:52 pm</u>	Received by: <u>[Signature]</u>	Date: <u>7/10/09</u>	Time: <u>2:52 pm</u>
Relinquished by: <u>[Signature]</u>	Date: _____	Time: _____	Received by: <u>[Signature]</u>	Date: <u>7/11/09</u>	Time: <u>10:00</u>

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>Cem Atabek 7/10/09</u> Print Name Date <u>[Signature]</u> Signature	Send Report To: Attn: <u>Cem Atabek</u> Co: <u>See above</u> Address _____ City _____ State _____ Zip _____	Bill To: Attn: <u>Same</u> Co: _____ Address _____ City _____ State _____ Zip _____	Special Instructions/Comments: _____
--	---	---	---

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	SPECIFY APPROPRIATE MATRIX										PRESERVATION	QA/QC								
													Container(s)	REMARKS						
															#	Type				
8091A (Pesticides)	8092 (PCB)	8200B (Volatiles)	8270C (BVA)	8010B (Total Metals)	8015B (GRO) / 8020 (BTEX) / MIBZ	8015B (DPO)	8021 (BTEX)	TITLE 22 / CAM 17 (8010 / 7000)	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	#	Type	RTNE <input type="checkbox"/>	CT <input type="checkbox"/>	SWRCB <input type="checkbox"/>	Logcode _____	OTHER _____
X					X				X				5 day	1	15:802					
				X	X					X			↓	5	16:4V					
				X	X					X			↓	5	16:4V					

ITEM	LAB USE ONLY:		Sample Description			
	Batch #:	Lab No.	Sample I.D. / Location	Date	Time	
		<u>106350 - 01</u>	<u>Drum Soil</u>	<u>7/10</u>	<u>700</u>	
		<u>- 02</u>	<u>B-1-GW</u>	<u>↓</u>	<u>755</u>	
		<u>- 03</u>	<u>B-2-GW</u>	<u>↓</u>	<u>830</u>	

• TAT starts 8 a.m. following day if samples received after 3 p.m.

TAT: A= Overnight ≤ 24 hr B= Emergency Next workday C= Critical 2 Workdays D= Urgent 3 Workdays E= Routine 7 Workdays

Preservatives: H=HCl N=HNO₃ S=H₂SO₄ C=4°C
Z=Zn(AC)₂ O=NaOH T=Na₂S₂O₃

Container Types: T=Tube V=VOA L=Liter P=Fint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Rachelle Arada

From: Cem Atabek [catabek@ninyoandmoore.com]
Sent: Tuesday, July 14, 2009 10:21 AM
To: Rachelle Arada
Subject: RE: Terradev \ 645 4th Street, 401556001 (ATL# 106350.

Hi Rachelle, please analyze by 8021 instead of 8020. Thanks

-Cem

Cem R. Atabek
Senior Staff Engineer
Ninyo & Moore
Geotechnical & Environmental Sciences Consultants
1956 Webster Street, Suite 400
Oakland, California 94612
(510) 633-5640 (x5202)
(510) 633-5646 (Fax)
catabek@ninyoandmoore.com

Experience · Quality · Commitment

-----Original Message-----

From: Rachelle Arada [mailto:Rachelle@atiglobal.com]
Sent: Tuesday, July 14, 2009 10:17 AM
To: Cem Atabek
Cc: Carmen Aguila
Subject: Terradev \ 645 4th Street, 401556001 (ATL# 106350.

Hi Cem

For this project, I just want to check with you if it is okay to analyze BTEX+MTBE by EPA 8021 instead of EPA 8020. Please advise.

Enclosed is a copy of the COC for your reference.

Thanks,
Rachelle

-----Original Message-----

From: Cem Atabek [mailto:catabek@ninyoandmoore.com]
Sent: Monday, July 13, 2009 3:55 PM
To: Rachelle Arada
Subject: samples

Hi Rachelle, I just wanted to make sure that the samples we sent out on Friday arrived safely.
Thanks

-Cem

Cem R. Atabek

7/14/2009

Senior Staff Engineer

Ninyo & Moore

Geotechnical & Environmental Sciences Consultants

1956 Webster Street, Suite 400

Oakland, California 94612

(510) 633-5640 (x5202)

(510) 633-5646 (Fax)

catabek@ninyoandmoore.com

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April 30, 2009

**GROUNDWATER MONITORING REPORT
First Quarter, 2009**

325 Martin Luther King Jr. Way
Oakland, California

Project No. 270308

Prepared For

Jane and Kimball Allen
2 Lone Tree Avenue
Mill Valley, CA 94941

Prepared By

AEI Consultants
2500 Camino Diablo, Suite 200
Walnut Creek, CA 94597
(925) 283-6000

AEI



2500 Camino Diablo, Walnut Creek, CA 94597
tel 800-801-3224
fax 925-944-2895

ENVIRONMENTAL & ENGINEERING SERVICES

www.aeiconsultants.com

April 30, 2009

Jane and Kimball Allen
2 Lone Tree Avenue
Mill Valley, California 94941

**Subject: Quarterly Groundwater Monitoring Report
First Quarter, 2009**
325 Martin Luther King Jr. Way
Oakland, California
AEI Project No. 270308

Dear Mr. and Mrs. Allen:

AEI Consultants (AEI) has prepared this report on behalf of Jane and Kimball Allen to document the ongoing groundwater investigation at the above referenced site (Figure 1, Site Location Map). The groundwater investigation is being performed in accordance with the requirements of the Alameda County Health Care Services Agency (ACEH). The purpose of these activities is to monitor groundwater quality in the vicinity of the identified release of fuel products at the site. This report presents the findings of the First Quarter 2009 episode of groundwater monitoring and sampling conducted on March 17, 2009 at the site.

I Background

The subject property is located on the western corner of the intersection of Martin Luther King Jr. Way and 4th Street in a mixed commercial and industrial area of Oakland. The property measures approximately 100 feet along Martin Luther King and approximately 150 feet along 4th Street with the property building covering essentially 100% of the land area. The northwestern portion of the building along 4th Street has also had the address 671 4th Street. The building is currently vacant, but was previously occupied by Pucci Enterprises as warehouse space and cold storage freezers.

A Phase I Environmental Site Assessment (ESA) of the property dated November 1, 1993 identified a 10,000-gallon former fuel UST that currently exists below the north side of the building. The fuel UST was used to provide fuel for the Pucci Enterprises truck fleet.

On October 20, 1993, the tank decommissioned by steam cleaning the tank, pumping remaining sludge out of the tank, and filling the tank with concrete slurry. At the time of the UST closure, the eastern section of the building had not yet been built. The tank could not be removed because of its proximity to the footing of the 671 4th Street

building. After tank closure, the eastern portion of the building (325 Martin Luther King) was constructed. Although records show that the UST was abandoned following proper procedures applicable at that time, no documentation was available of sampling around the tank prior to abandonment.

A number of site investigations were performed by several environmental consultants during 2005 and 2006.

In May 2005, AEI performed a Phase II Subsurface Investigation. Soil borings SB-1 and SB-3 encountered refusal at 4 feet bgs, possibly the top of the concrete filled UST. Soil borings SB-2 and SB-4 were advanced into the groundwater. Total petroleum hydrocarbon (TPH) as gasoline (TPH-g), TPH as diesel (TPH-d), and benzene were reported in groundwater from boring SB-2 at concentrations up to 780 micrograms per liter ($\mu\text{g/L}$), 420 $\mu\text{g/L}$, and 53 $\mu\text{g/L}$, respectively.

In September 2005, an additional investigation was performed by Terra Firma. Groundwater samples were collected from four (4) soil borings (labeled 50901-1 to 50901-4). Analysis of groundwater reported the highest concentrations of from the two borings to the south of the UST, where TPH-g, TPH-d, and benzene were reported in boring 50901-3 at concentrations of 20,000 $\mu\text{g/l}$, 3600 $\mu\text{g/l}$, and 990 $\mu\text{g/l}$, respectively.

In June 2006, Ceres Associated performed another subsurface investigation. The project included the analyses of soil and groundwater from five soil borings (SB-5 thru SB-9). The highest concentrations of hydrocarbons were reported in boring SB-7, located southeast of the UST. Maximum concentrations of TPH-g, TPH-d, and benzene were reported in sample SB-7-10 at concentrations of 20,000 mg/kg, 3,300 mg/kg, 200 mg/kg, respectively. Analysis of groundwater samples from SB-7 reported TPH-g, TPH-d, and benzene at concentrations of 110,000 $\mu\text{g/l}$, 110,000 $\mu\text{g/l}$, and 3,300 $\mu\text{g/l}$, respectively.

LRM Consulting prepared release notification documentation and a workplan for the ACEH in August 2006. The workplan included additional file and data base research into possible additional source locations (dispenser, piping, offsite releases, etc) and installing three (3) 2-inch diameter monitoring wells a screened interval of 5 to 20 feet bgs.

Following ACEH comments relating to the work plan and previous investigations, AEI was retained to prepare a comprehensive workplan. The *Site Characterization Workplan*, dated March 31, 2007, outlined the scope of work for installation of 12 additional soil borings and three groundwater monitoring wells to further characterize the release.

In May of 2007, AEI performed a soil and groundwater investigation which included of drilling additional twelve (12) soil borings at the property. Low to moderate concentrations of petroleum hydrocarbons were detected in the soil adjacent to the abandoned UST and in groundwater. Contaminant distributions in groundwater indicate that the release of hydrocarbons is limited to the 325 Martin Luther King Jr. Way unit.

On August 10, 2007, AEI installed three (3) groundwater monitoring wells (MW-1 thru MW-3) down gradient of the abandoned in place UST. Significant concentrations of petroleum hydrocarbons were reported in well MW-3, which is located immediately down gradient of abandoned UST. A site map and well construction details are contained in AEI's *Monitoring Well Installation Report*, dated September 21, 2008.

A *Corrective Action Pilot Test Workplan*, dated April 7, 2008, for a pilot-scale evaluation of in-situ chemical oxidation as a potential method of remediating the site was prepared from the ACEH. The workplan proposed five injection points in the immediate area of source well MW-3, targeting the saturated zone as well as the lower vadose zone using the product RegenOx™ manufactured by Regenesys, Inc. The workplan was approved by the ACEH in a letter dated May 13, 2008. On July 17 and 18, 2008, 720 lbs of RegenOx™ (Part A and Part B) was injected in five locations (IP-1 through IP-5) at spacing approximately five feet away from well MW-3.

Following the pilot test, groundwater samples collected on August 4, 2008 from well MW-3 reported an increase in TPH-g from pre-pilot concentration of 20,000 µg/L to 110,000 µg/L. Follow up sampling on August 20, 2008 reported TPH-g at a concentration of 120,000 µg/L. At the time of the present monitoring event TPG-g in well MW-3 was reported at a concentration of 83,000 µg/L. This increase is believed to be due to the release of hydrocarbons bound to the soil in the smear zone and below the top the groundwater.

II Summary of Monitoring Activities

AEI measured the depth to groundwater in the three (3) monitoring wells (labeled MW-1 through MW-3) on March 17, 2009. The depth to static groundwater from the top of the well casings was measured with an electric water level indicator prior to sampling.

The wells were purged with a battery-powered submersible pump. Temperature, pH, specific conductivity, dissolved oxygen (DO), and the oxidation-reduction potential (ORP) were measured and the turbidity was visually noted during purging of the wells. At least three (3) well volumes of water were purged from each well. The wells were allowed to recharge to at least 90% of their original level prior to sample collection.

Groundwater samples were collected with new disposable plastic bailers into 40 ml volatile organic analysis (VOA) vials and 1-liter amber bottles. VOAs were capped so that no head space or air bubbles were visible within the sample containers. Samples were transported on ice under appropriate chain of custody protocol to McCampbell Analytical, Inc. of Pittsburgh, California (Department of Health Services Certification #1644).

Three (3) groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPH-g); methyl tertiary-butyl ether (MTBE), benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA methods 8021B/8015Cm; total petroleum hydrocarbons as diesel (TPH-d) by EPA method 8015C; and MTBE, 1,2-Dibromoethane (EDB), and 1,2-dichloroethane (1,2-DCA) by EPA Method 8260B.

III Field Results

Groundwater levels for the 1st quarter 2009 monitoring episode ranged from 7.00 (MW-2) to 7.30 (MW-3) feet above mean sea level (amsl). Based on these measurements, groundwater flows in a south-southeasterly direction at a gradient of approximately 0.006 ft/ft. The flow direction and hydraulic gradient are consistent with previous episodes.

Groundwater elevation data, flow direction, and hydraulic gradient are summarized in Table 2: Groundwater Elevation Data. The water table elevations and the estimated groundwater flow direction are presented on Figures 3: Water Table Elevations. Please refer to Appendix A for the Groundwater Monitoring Well Field Sampling Forms, which include water quality data and other parameters collected during well purging.

IV Groundwater Quality

No petroleum hydrocarbons were reported in the groundwater samples collected from monitoring wells MW-1 and MW-2, with the exception of MTBE and 1,2-DCA reported in MW-1 at concentrations of 11 µg/L and 4.6 µg/L, respectively.

In MW-3, TPH-g and TPH-d were reported at concentrations of 83,000 µg/L and 8,000 µg/L, respectively. BTEX were reported at concentrations of 7,400 µg/L, 10,000 µg/L, 1,100 µg/L, and 8,500 µg/L, respectively. EDB and 1,2-DCA were reported in well MW-3 at concentrations of 98 µg/L and 370 µg/L, respectively.

V Summary

This report documents the findings of the 1st Quarter 2009 groundwater monitoring event at the site. Overall, hydrocarbon concentrations in well MW-3 decreased from the previous monitoring event.

The next groundwater monitoring event is tentatively scheduled for the 2nd Quarter 2009, in June of 2009.

VI Report Limitations

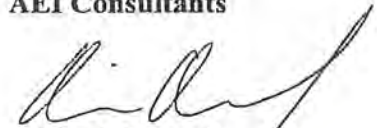
This report presents a summary of work completed by AEI Consultants. The completed work includes observations and descriptions of site conditions encountered. Where appropriate, it includes analytical results for samples taken during the course of the work.

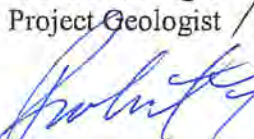
The number and location of samples are chosen to provide the requested information, but it cannot be assumed that they are representative of areas not sampled. All conclusions and/or recommendations are based on these analyses and observations, and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document.

These services were performed in accordance with generally accepted practices, in the environmental engineering field, which existed at the time and location of the work.

If you have any questions regarding our investigation, please do not hesitate to contact either of the undersigned at (925) 283-6000.

Sincerely,
AEI Consultants


Adrian M. Angel
Project Geologist


Robert F. Flory, PG
Senior Geologist



Figures

Figure 1: Site Location Map

Figure 2: Site Plan

Figure 3: Water Table Elevations (3/17/09)

Figure 4: Dissolved Phase Hydrocarbon Concentrations (3/17/09)

Tables

Table 1: Monitoring Well Construction Details

Table 2: Groundwater Elevation Data

Table 3: Groundwater Monitoring Sample Analytical Data

Table 4: Groundwater Monitoring Sample Analytical Data – Fuel Additives

Appendix A: *Groundwater Monitoring Well Field Sampling Forms*

Appendix B: *Laboratory Analyses With Chain of Custody Documentation*

Previous Documentation

- AEI Consultants, *Phase II Subsurface Investigation Report*, May 18, 2005
- AEI Consultants, *Site Characterization Workplan*, March 8, 2007
- AEI Consultants, *Soil and Groundwater Investigation Report*, September 21, 2007
- AEI Consultants, *Corrective Action Pilot Test Workplan*, April 7, 2008
- Alameda County Health Care Services Agency, *Fuel Leak Case No. RO0002930, 325 Martin Luther King Jr. Way, Oakland, CA 94607*, December 22, 2006
- Alameda County Health Care Services Agency, *Fuel Leak Case No. RO0002930, 325 Martin Luther King Jr. Way, Oakland, CA 94607*, May 13, 2008
- Ceres Associates, *Soil and Groundwater Investigation Report*, June 8, 2006
- Helley, E.J., et al, *Quaternary Geology of Alameda County and Surrounding Areas, California*, 1997
- LRM Consulting, Inc., *Notice of Unauthorized Release and Supplemental Investigation Workplan*, August 29, 2006
- Norfleet Consultants, *Groundwater Study and Water Supply History of the East Bay Plain, Alameda and Contra Costa Counties, CA*, June 19, 1998
- Terra Firma, *Findings of Environmental Subsurface Investigation*, September 16, 2005
- Touchstone Developments, *Phase I Investigation*, November 1, 1993

Distribution:

Jane and Kimball Allen (2 hard copies)
2 Lone Tree Way
Mill Valley, CA 94549

Alameda County Environmental Health Services (ACEHS) (electronic)
Attn: Mr. Jerry Wickham
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

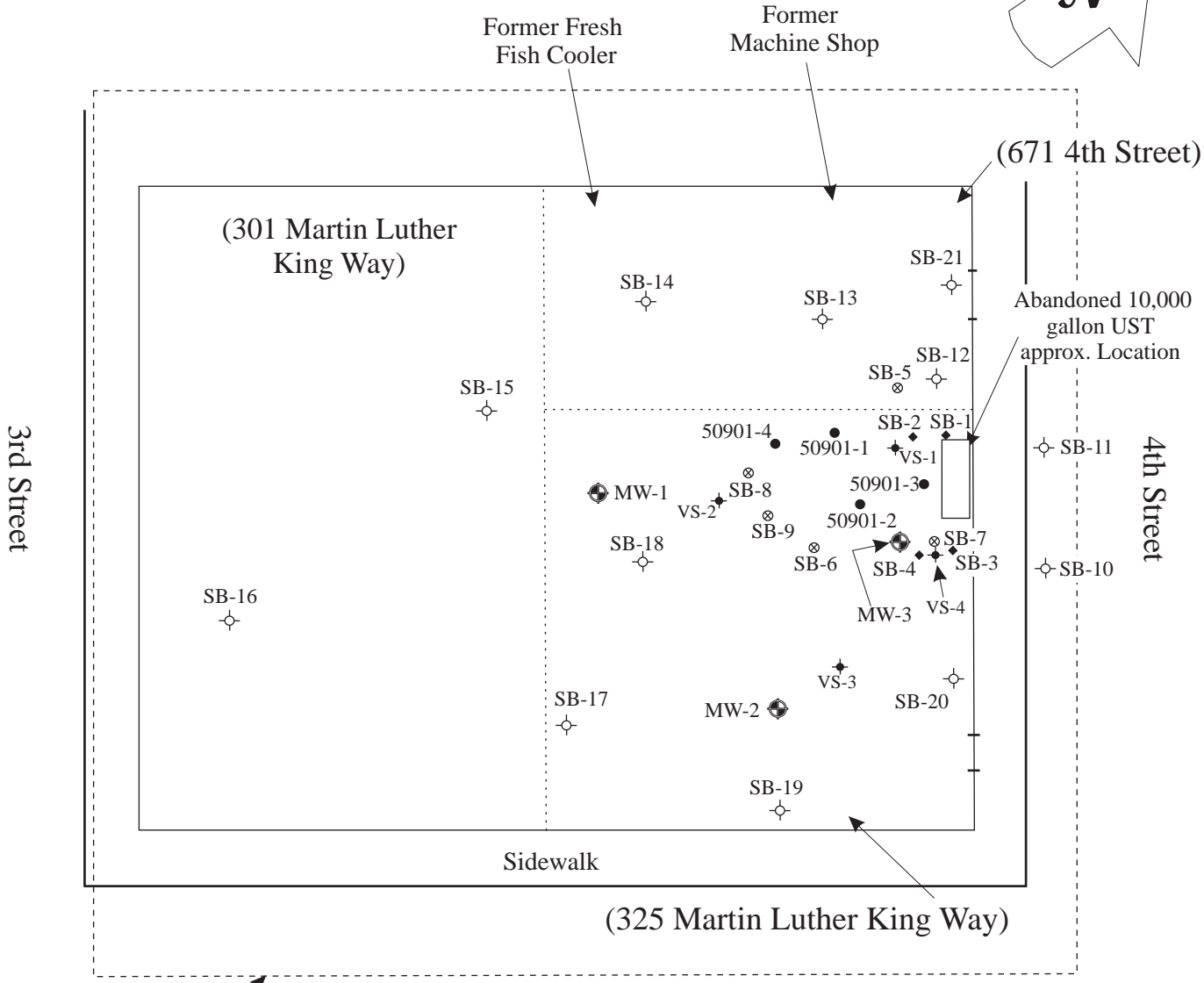
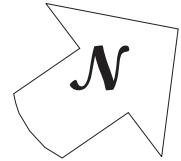
GeoTracker (electronic)

FIGURES

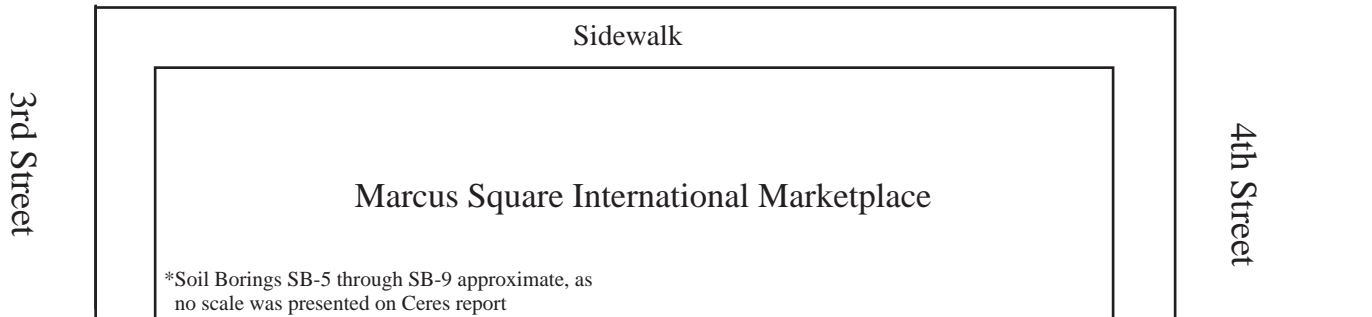


0' 20' 40'

Scale: 1" = 40'



Inset for Figures 3 through 4



*Soil Borings SB-5 through SB-9 approximate, as no scale was presented on Ceres report

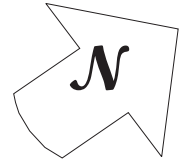
*Soil Borings SB-1 and SB-3 aborted due to refusal

- Designates Unit Boundary
- ◆ Soil Boring Location (AEI - 5/11/05)
- Soil Boring Location (TFC - 9/8/05)
- ⊗ Soil Boring Location (Ceres - 6/6/06)
- ⊕ Soil Boring Location (AEI - 5/29-30/07)
- ⊕ Monitoring Well Location (8/21/07)
- ◆ Dual-nested Soil Vapor Probe (8/21/07)

<p>AEI CONSULTANTS 2500 CAMINO DIABLO, SUITE 200 WALNUT CREEK, CA</p>	
<p>Site Plan</p>	
<p>325 Martin Luther King Jr. Way Oakland, California</p>	<p>FIGURE 2 PROJECT No. 270308</p>

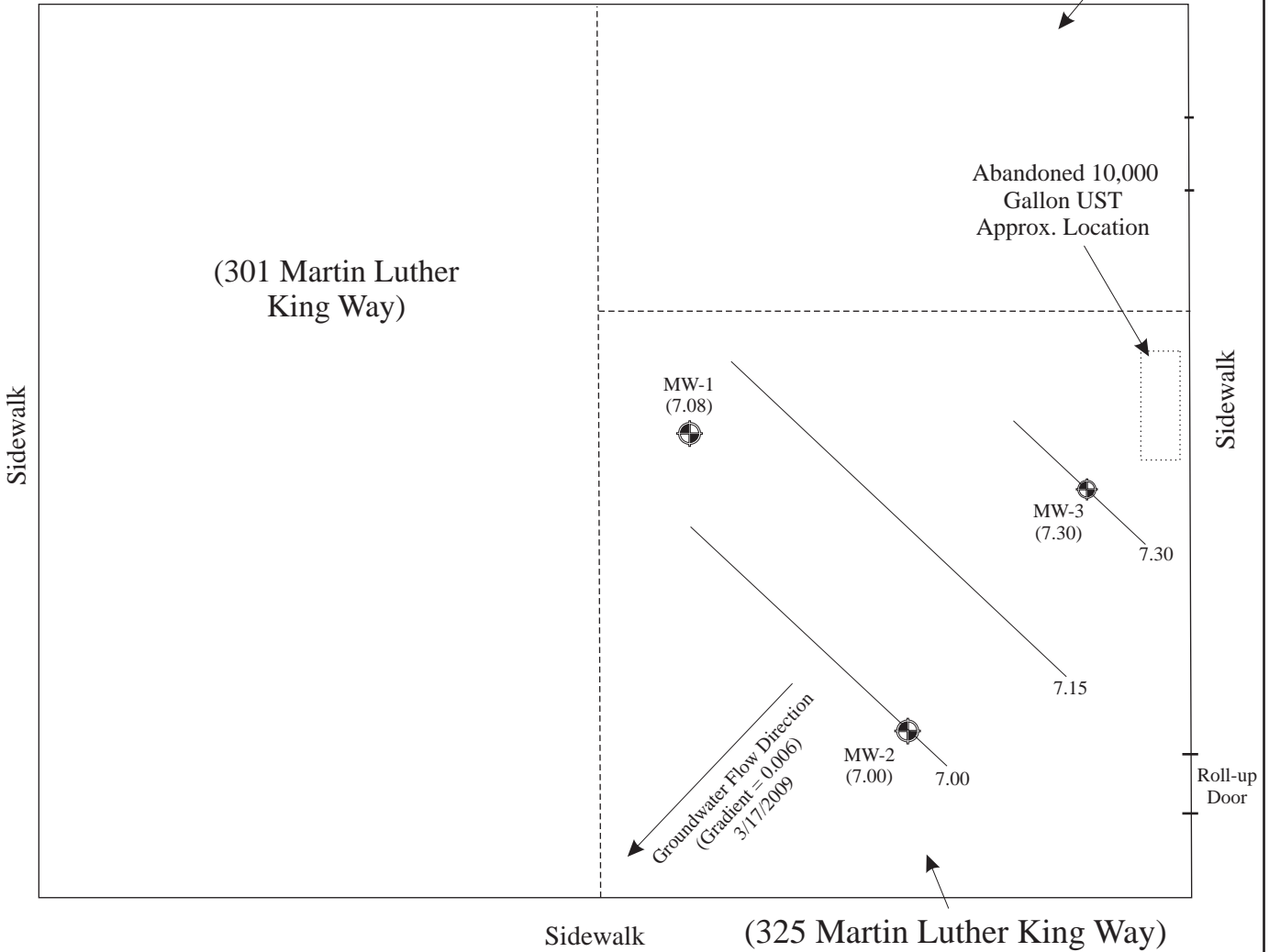
0' 15' 30'

Scale: 1" = 30'



Adjacent Commercial Unit

(671 4th Street)



Monitoring Well Locations

MW-2 (6.49) Water table elevations shown in parentheses in feet ams (above mean sea level)

— Contour Interval = 0.15 feet

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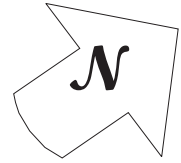
Water Table Elevations (3/17/09)

325 Martin Luther King Jr. Way
Oakland, California

FIGURE 3
PROJECT No. 270308

0' 15' 30'

Scale: 1" = 30'



Adjacent Commercial Unit

(671 4th Street)

(301 Martin Luther King Way)

Abandoned 10,000 Gallon UST
Approx. Location

Sidewalk

Sidewalk

MW-1

G - <50
D - <50
B - <0.5
M - 11

MW-3

G - 83,000
D - 8,000
B - 7,400
M - <25

MW-2

G - <50
D - <50
B - <0.5
M - <5.0

Roll-up Door

Sidewalk

(325 Martin Luther King Way)



Monitoring Well Locations

Hydrocarbon concentrations expressed in ug/L
(Refer to Tables 3 & 4 for details)

G = total petroleum hydrocarbons as gasoline
D = total petroleum hydrocarbons as diesel
B = benzene
M = methyl tertiary butyl ether (MTBE)

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2500 CAMINO DIABLO, SUITE 200 WALNUT CREEK, CA

**Dissolved Phase Hydrocarbon
Concentrations (3/17/09)**

325 Martin Luther King Jr. Way
Oakland, California

FIGURE 4
PROJECT No. 270308

TABLES



Table 1 - AEI Project # 270308
Monitoring Well Construction Details

Well ID	Date Installed	Top of Casing Elevation (ft amsl)	Well Depth (ft)	Slotted Casing (ft)	Slot Size (in)	Sand Interval (ft)	Sand Size	Bentonite Interval (ft)	Grout Interval (ft)
MW-1	08/10/07	14.92	18.0	8 - 18	0.010	7 - 18	# 2/12	7 - 8	0.75 - 7
MW-2	08/10/07	15.27	17.0	7 - 17	0.010	6 - 17	# 2/12	6 - 7	0.75 - 6
MW-3	08/10/07	15.26	18.0	8 - 18	0.010	7 - 18	# 2/12	7 - 8	0.75 - 7

Notes:
ft amsl = feet above mean sea level

**Table 2 - AEI Project # 270308
Groundwater Elevation Data**

Well ID (Screen Interval)	Date Collected	Well Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
MW-1 (8 - 18)	8/21/2007	14.92	8.38	6.54
	11/21/2007	14.92	8.37	6.55
	2/26/2008	14.92	7.98	6.94
	6/18/2008	14.92	8.41	6.51
	9/19/2008	14.92	8.56	6.36
	12/29/2008	14.92	8.66	6.26
	3/17/2009	14.92	7.84	7.08
MW-2 (7 - 17)	8/21/2007	15.27	8.78	6.49
	11/21/2007	15.27	8.72	6.55
	2/26/2008	15.27	8.37	6.90
	6/18/2008	15.27	8.82	6.45
	9/19/2008	15.27	8.92	6.35
	12/29/2008	15.27	8.87	6.40
	3/17/2009	15.27	8.27	7.00
MW-3 (8 - 18)	8/21/2007	15.26	8.59	6.67
	11/21/2007	15.26	8.55	6.71
	2/26/2008	15.26	8.11	7.15
	6/18/2008	15.26	8.62	6.64
	8/4/2008	15.26	8.65	6.61
	8/20/2008	15.26	8.68	6.58
	9/19/2008	15.26	8.74	6.52
	12/29/2008	15.26	8.67	6.59
	3/17/2009	15.26	7.96	7.30

Event #	Date	Average Water Table Elevation (ft amsl)	Change from Previous Episode (ft)	Flow Direction (gradient) (ft/ft)
1	8/21/2007	6.57	NA	S (0.003)
2	11/21/2007	6.60	0.04	S (0.005)
3	2/26/2008	7.00	0.39	S (0.005)
4	6/18/2008	6.53	-0.46	SSE (0.004)
5	9/19/2008	6.41	-0.12	S (0.003)
6	12/29/2008	6.42	0.01	SSW (0.005)
7	3/17/2009	7.13	0.71	X (X)

ft amsl = feet above mean sea level

All water level depths are measured from the top of casing

Table 3 - AEI Project # 270308
Groundwater Monitoring Sample Analytical Data

Sample ID	Date	TPHg µg/L	TPHd µg/L	MTBE µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L
MW-1	8/21/2007	<50	<50	15	<0.5	<0.5	<0.5	<0.5
	11/21/2007	<50	<50	12	<0.5	<0.5	<0.5	<0.5
	2/26/2008	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	6/18/2008	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	9/19/2008	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	12/29/2008	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	3/17/2009	<50	<50	-	<0.5	<0.5	<0.5	<0.5
MW-2	8/21/2007	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	11/21/2007	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	2/26/2008	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	6/18/2008	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	9/19/2008	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	12/29/2008	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	3/17/2009	<50	<50	-	<0.5	<0.5	<0.5	<0.5
MW-3	8/21/2007	24,000	2,100	<180	2,600	3,500	450	2,400
	11/21/2007	36,000	3,800	<500	4,900	1,200	230	2,700
	2/26/2008	31,000	5,400	-	4,200	1,900	590	2,200
	6/18/2008	20,000	3,000	-	2,900	1,100	390	990
	8/4/2008	110,000	27,000	-	5,900	9,000	76	8,100
	8/20/2008	120,000	6,500	-	8,900	18,000	930	12,000
	9/19/2008	64,000	4,500	-	6,200	9,200	660	6,600
	12/29/2008	130,000	7,900	-	11,000	19,000	1,800	11,000
	3/17/2009	83,000	8,000	-	7,400	10,000	1,100	8,500

Notes:

TPHd = total petroleum hydrocarbons as diesel (C10-C23) using EPA Method 8015

TPHg = total petroleum hydrocarbons as gasoline (C6-C12) using EPA Method 8015

Benzene, toluene, ethylbenzene, and xylenes using EPA Method 8021B

MTBE = methyl-tertiary butyl ether using EPA Method 8021B

µg/L= micrograms per liter

ND<50 = non detect at respective reporting limit

Table 4 - AEI Project # 270308
Groundwater Monitoring Sample Analytical Data
Fuel Additives

Sample ID	Date	MTBE µg/L	TAME µg/L	TBA µg/L	DIPE µg/L	ETBE µg/L	Ethanol µg/L	Methanol µg/L	EDB µg/L	1,2-DCA µg/L
MW-1	8/21/2007	18	<0.5	<5.0	<0.5	<0.5	<50	<500	<0.5	5.2
	11/21/2007	-	-	-	-	-	-	-	-	-
	2/26/2008	16	-	-	-	-	-	-	<0.5	6.9
	6/18/2008	15	-	-	-	-	-	-	<0.5	5.4
	9/19/2008	4.2	-	-	-	-	-	-	<0.5	6.8
	12/29/2008	0.62	-	-	-	-	-	-	<0.5	6.8
	3/17/2009	11	-	-	-	-	-	-	<0.5	4.6
	MW-2	8/21/2007	<0.5	<0.5	<5.0	<0.5	<0.5	<50	<500	<0.5
11/21/2007		-	-	-	-	-	-	-	-	-
2/26/2008		<0.5	-	-	-	-	-	-	<0.5	<0.5
6/18/2008		<0.5	-	-	-	-	-	-	<0.5	<0.5
9/19/2008		<0.5	-	-	-	-	-	-	<0.5	<0.5
12/29/2008		<0.5	-	-	-	-	-	-	<0.5	<0.5
3/17/2009		<0.5	-	-	-	-	-	-	<0.5	<0.5
MW-3		8/21/2007	<5.0	<5.0	<50	<5.0	<5.0	<500	<5000	34
	11/21/2007	-	-	-	-	-	-	-	-	-
	2/26/2008	<12	-	-	-	-	-	-	31	220
	6/18/2008	<5.0	-	-	-	-	-	-	21	190
	8/4/2008	<50	-	-	-	-	-	-	220	410
	8/20/2008	<50	-	-	-	-	-	-	330	410
	9/19/2008	<17	-	-	-	-	-	-	160	320
	12/29/2008	<50	-	-	-	-	-	-	200	440
	3/17/2009	<25	-	-	-	-	-	-	98	370

Notes:

µg/L= micrograms per liter

ND<50 = non detect at respective reporting limit

MTBE - methyl tertiary butyl ether

TAME - tert-amyl methyl ether

TBA - tert-butyl alcohol

DIPE - diisopropyl ether

ETBE - ethyl tert-butyl ether

1,2-DCA - 1,2 - dichloroethane

EDB - 1,2 - dibromoethane

Fuel additives analysed by EPA Method 8260