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Environmental Health

Mr. Jerry Wickham Hazardous Materials Specialist Alameda County Environmental Health Services 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502-6577

Reference:

ACEH Case No. RO0002959, Geotracker Global ID SLT19761201

Subject:

Well Installation and Additional Soil Investigation

5901 MacArthur Blvd, Oakland, CA

Dear Mr. Wickham:

Attached is a report presenting well installation and additional soil investigation results (October 17, 2011) prepared by OTG EnviroEngineering Solutions, Inc. for the site located at 5901 MacArthur Blvd, Oakland, California. Funding for the project has been provided in full or in part by the American Recovery and Reinvestment Act of 2009 (ARRA) and the Orphan Site Cleanup Fund (OSCF), through an agreement with the California State Water Resources Control Board.

# Certification

"I agree with the conclusions and recommendations presented in the attached document. I declare, under penalty of perjury, that the information and recommendations contained in the attached document is true and correct to the best of my knowledge".

Please contact the undersigned at (510) 301-1600 if you have questions or comments.

Sincerely.

Jeffrey C. Huynh, Trustee

Huynh Cheng Family Living Trust

1501 Darius Court

San Leandro, CA 94577

# **REPORT**

# MONITORING WELL INSTALLATION & ADDITIONAL SOIL INVESTIGATION

For Site Located At 5901 MACARTHUR BLVD. OAKLAND, CALIFORNIA

Prepared for

Huynh Cheng Family Living Trust 1501 Darius Court San Leandro, CA 94577

October 17, 2011

Prepared by



**Enviroengineering Solutions, Inc.** 

7700 Edgewater Drive, Suite 260 Oakland, CA 94621



October 17, 2011

Mr. Jerry Wickham, PG, CEG, CHG Senior Hazardous Materials Specialist Alameda County Environmental Health Services 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502-6577

**Reference:** ACEH Case No. RO0002959, Geotracker Global ID SLT19761201

**Subject**: Monitoring Well Installation & Additional Soil Investigation

5901 MacArthur Blvd, Oakland, CA

Dear Mr. Wickham:

On behalf of the property owner – Huynh Cheng Family Living Trust, OTG EnviroEngineering Solutions, Inc. (OTG) is pleased to submit the Report for *Monitoring Well Installation and Additional Soil Investigation* for the site located at 5901 MacArthur Blvd, Oakland, California. Funding for the project has been provided in full or in part by the American Recovery and Reinvestment Act of 2009 (ARRA) and the Orphan Site Cleanup Fund (OSCF), through an agreement with the California State Water Resources Control Board.

#### Certification

"I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge".

Please contact the undersigned at (510) 465-8982 if you have questions or comments.

Sincerely,

OTG EnviroEngineering Solutions, Inc.

Xinggang Tong, PhD, PE

Project Manager

cc:

Jeffrey Huynh, 1501 Darius Ct, San Leandro, CA 94577

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#### 1. INTRODUCTION

This report presents the results of well installation and additional shallow soil sampling and analyses conducted in March and April 2011 at the site located at 5901 MacArthur Blvd, Oakland, California (the Site, Figure 1). The work was performed in accordance with a site investigation work plan (OTG, February 11, 2011), which was approved by the Alameda County Environmental Health (ACEH) in a February 23, 2011 letter.

Funding for this project has been provided in full or in part by the American Recovery and Reinvestment Act of 2009 (ARRA) and the Orphan Site Cleanup Fund (OSCF), through an agreement with the California State Water Resources Control Board (SWRCB). The contents of this document do not necessarily reflect the views and policies of the SWRCB, nor does mention of trade names or commercial products constitute endorsement or recommendation for use (Gov. Code §7550).

#### 1.1 Site Location

This currently vacant lot is located in Alameda County at 5901 MacArthur Boulevard (Blvd.) in Oakland, California (Figure 1). It occupies the southwest corner of MacArthur Blvd. and Seminary Avenue intersection and has the size of approximately 0.3 acre. It is located in projected Section 10, T2S, R3W, of the Mount Diablo Baseline and Meridian (MDB&M) at an elevation of approximately 92 feet above mean sea level (msl).

As shown on Figure 2, the Site is located in a mixed use area. An active auto service station is located to the East-Northeast across MacArthur Blvd (currently a Valero branded station, but was formerly Chevron Service Station #9-9708). To the North-Northwest across Seminary Avenue is Mills College Campus. A paved parking lot is located next to and southwest of the Site, and a mix of shops and residential houses are to the south and southeast. The Site itself is zoned for commercial use. The owner of the property intends to redevelop the site for commercial use.

# 1.2 Site Geology and Hydrogeology

The site is situated at the base of the northwest-southeast trending foothills of the Coast Range. It is located on relatively flat lying sediments that slope southwest at a gradient of approximately 65 feet/mile.

Lion Creek historically ran through the site (Figure 2). A concrete culvert was constructed in the creek bed in the early 1900s and the creek was then filled to create the present Site and many other sites along the creek path. The section of the concrete culvert beneath the Site is about 12 feet in width and eight feet in height. The roof of the culvert is approximately nine feet below ground surface (bgs). The culvert was abandoned in place in 2000 when a new culvert was constructed beneath the Seminary Avenue to replace the old one (Figure 2).

As discussed in details in Section 2 below, environmental investigations were conducted at the site from 1987 to 1997 and then again from 2007 to current. The 30-foot section soil tested beneath the site generally consists of stiff dark brown to yellowish silty clay that is bisected by a thin sand and gravel layer, first encountered at approximately 15 feet bgs. Fill materials (base aggregates, sand and silt in various proportions and some debris such as wood and glass) are recognized at some drilling locations down to as deep as 15 feet bgs. The sand and gravel layer is approximately 2 feet thick and forms a shallow water-bearing zone between 9 feet and 17 feet bgs. This shallow water-bearing zone appears heavily influenced by the storm water systems. Prior to 2000, the storm water drained through the culvert beneath the site and the shallow zone water flowed in a direction similar to the storm water flow (west to southwest direction). However, after the new culvert was built off-site beneath the Seminary Avenue in 2000 and the old one was abandoned, the shallow zone water beneath the site appears to flow toward the new culvert (northwest direction).

#### 2. HISTORY OF ENVIRONMENTAL INVESTIGATION AND REMEDIATION

Wickland Oil Company operated Regal Service Station #404 on the property from unknown time to May 1987 when fueling services ceased operation. All buildings, underground storage tanks (USTs) and associated piping, and pavement were removed by 1997. The site has since been vacant.

# 2.1 Environmental Activities from 1987 through 1997

According to the *Remedial Action Completion Certification* issued on August 29, 1997 by the Alameda County Environmental Health (ACEH), the following four USTs (single-walled steel tanks) once existed on the property (Figure 3):

Tank No:	Size (gallons)	Content	Date Removed
1	10,000	Regular gasoline	5/18/87
2	8,000	Unleaded gasoline	5/18/87
3	6,000	Premium gasoline	5/18/87
4	550	waste oil	2/24/93

Holes were noted on USTs #2 and #4 upon their removal. Six (6) soil samples were collected beneath the gasoline USTs (one from each end of the three USTs) and one soil sample was collected beneath the waste oil tank at the time of their removal. Sample locations are shown on Figure 3. Analytical results are summarized in Table 1. Gasoline (TPH-g) was reported up to 310 mg/kg and benzene up to 6.4 mg/kg in the gas tank excavation pit. The soil sample collected within the waste oil tank excavation pit was analyzed for gasoline (TPH-g), kerosene (TPH-k), and diesel (TPH-d) by modified EPA Method 8015; BTEX by EPA Method 8020; oil & grease by SM 5520; volatile organic compounds (VOCs) by EPA Method 8240; semi-VOCS (SVOCs) by EPA Method 8270; LUFT five metals by EPA 7000-Series Methods. Except toluene which was reported at 0.012 mg/kg, no other individual VOCs and SVOCs were

detected at or above their respective reporting limits (Table 1). TPH diesel was reported at 17 mg/kg, TPH kerosene at 4 mg/kg, and TPH gas at below reporting limit (<1.0 mg/kg).

No further investigation beyond the initial soil sampling within the gasoline-UST excavation pit was conducted until October 5, 1992 when the local regulatory agency ACEH issued a letter to the property owner (Wickland Properties) requesting a Preliminary Site Assessment. The following four shallow groundwater monitoring wells were installed and then destroyed:

Well ID	Total Depth (feet)	Well Dia (inches)	Screen Levels (feet, bgs)	Water Levels (feet, bgs)	Date of Installation	Date of Destruction
MW-1	25	4	9 – 24	13.2 – 14.5	10/27/93	11/11/97
MW-2	20	4	10 - 20	13.8 – 14.4	10/4/95	11/11/97
MW-3	20	4	10 – 20	13.4 – 14.6	10/4/95	11/11/97
MW-4	20	2	10 - 20	12.1 – 19.0	10/4/95	11/11/97

Soil samples were collected at various depths at the time of well installation and were analyzed for TPH gas, diesel and BTEX (Blakely Environmental Investigation, Inc, January 4, 1997). Results are summarized in Table 1. Except the soil sample collected at 10 feet bgs from MW-4, which had TPH gas at 5,100 mg/kg and TPH diesel at 840 mg/kg, all other soil samples had either no detection or minor detections of TPH gas (<30 mg/kg), TPH diesel (≤100 mg/kg), and benzene (<0.1 mg/kg). Results are summarized in Table 1.

Groundwater samples were collected from the four wells periodically by Western Geo-Engineers for TPH gas, diesel, and BTEX analysis and results are summarized in Table 2. The last round of groundwater samples were collected on September 4, 1996 (before well closure) and the highest reported TPH gas concentration was 1,100 ug/L from MW-1, the highest TPH diesel was 150 ug/L from MW-2, and the highest benzene was 51 ug/L from MW-1 (Western Geo-Engineers, September 19, 1996).

At the time of the waste oil tank removal on February 24, 1993, approximately 54 cubic yards of contaminated soil was removed and stockpiled on site. The soil was transported to B&J landfill in Vacaville, CA on November 19, 1997 for disposal. No other active soil and/or groundwater remediation was reported.

On behalf of Wickland Properties, Blakely Environmental Investigation, Inc. submitted a closure request on January 4, 1997 and again on April 29, 1997. ACEH approved the closure request by issuing a REMEDIAL ACTION COMPLETION CERTIFICATION dated August 29, 1997. When the State adopted the GeoTracker system, this case was assigned a Global ID T0600101300 and the case is listed as closed in the GeoTracker system. The four monitoring wells were destroyed on November 11, 1997 with the approval of ACEH. There were no site activities from December1997 through May 2007.

#### 2.2 Environmental Activities from 2007 to Current

After the UST case was closed by ACEH, Wickland Properties (a subsidiary of Wickland Oil Company) sold the vacant lot to Daniel S. and Belia Franko, Sr. on April 7, 2000, who then sold the property to Jeffrey Huynh and Anna Cheng on September 27, 2002. When Jeffrey Huynh and Anna Cheng submitted a development plan to the City of Oakland in July 2006, the City requested a soil and groundwater sampling be conducted to verify the level of petroleum hydrocarbons remaining at the property.

On June 20, 2007, OTG EnviroEngineering Solutions, Inc. (OTG) drilled five boreholes (TB-1 through TB-5, Figure 3) using a Geoprobe 6600, a direct-push rig, and collected continuous cores of soil columns from each borehole. TB-1, TB-4, and TB-5 were drilled to 20 feet bgs, and TB-2 and TB-3 were to 24 feet bgs. Groundwater was first encountered at 15 feet bgs in TB-4, but it was dry at the other four boreholes. TPH-g was reported at 1,620 ug/L in groundwater and up to 2,890 ppm in soil, and TPH-d was reported at 1,000 ug/L in groundwater and up to 440 ppm in soil. Results are summarized in Table 3. After reviewing the June 2007 sampling data, the City of Oakland Fire Department referred the case back to the County (ACEH) and the County opened a new case number for the Site (County new case # RO0002959 and a new Geotracker Global ID SLT19761201). On June 25, 2008, ACEH issued a letter to Mr. Huynh and Ms. Cheng requiring further site characterization.

Based on the approval of a Site Investigation Work Plan (OTG, October 9, 2009) by ACEH and additional comments from ACEH and SWRCB Financial Assistance Division Technical Support Group, a comprehensive site investigation was conducted in August and September 2010. Results were documented in a *Site Assessment Report* (OTG, December 27, 2010). In summary, a total of 21 temporary borings were drilled across the site in depths from 15 to 27.5 feet bgs. Continuous cores of soil columns were collected for logging and volatile hydrocarbons screening. Soil samples from selected depths (total 85 samples) were sent to a TestAmerica environmental laboratory for analyses of BTEX, fuel oxygenates and additives, TPH-g, TPH-d and TPH-mo. Grab groundwater samples were also collected from seven boreholes where groundwater was encountered. Groundwater analytical data is summarized in Table 6 and soil data is included in Table 7.

During the August and September 2010 investigation, shallow groundwater was encountered in seven of the 21 boreholes between 14 and 15 feet bgs. The rest boreholes were dry. Because these were temporary boreholes and their elevations were not surveyed, groundwater gradient and flow direction could not be determined. TPH-g was reported from ND (<50 ug/L) at bore location NW-9 to 11,000 ug/L at NW-7, TPH-d was reported from 120 ug/L at SB-2 to 9,100 ug/L at NW-7. NW-7 is located upgradient based on historical groundwater flow direction and reported the highest TPH-g and TPH-d concentrations in groundwater. TPH-g and TPH-d in soil were much less extensive than in the groundwater. TPH-g was only detected in 13 out of the 85 soil samples analyzed, and of the 13 detected only two samples had TPH-g concentrations above its commercial ESL of 180 mg/kg (NW-4-15 at 280 mg/kg and NW-7-15 at 860 mg/kg). Only three soil samples reported TPH-d at concentrations above its commercial ESL of 180 mg/kg, NW-4-15 at 740 mg/kg, and NW-8-5 at 340

mg/kg). TPH-mo was detected in six shallow soil locations (< 10 ft bgs), but none exceeded its commercial ESL of 2,500 mg/kg. BTEX, fuel oxygenates and additives in soil and groundwater were either below their respective reporting limits or at concentrations significantly lower than their respective commercial ESLs.

Under the direction of ACEH, a work plan for well installation and additional shallow soil characterization was prepared (OTG, February 11, 2011). ACEH approved the work plan with comments in a February 23, 2011 letter. This report presents the results of well installation and additional shallow soil investigation.

#### 3. SITE INVESTIGATION PROGRAM

The investigation was performed in accordance with the approved work plan (OTG, February 11, 2011) and additional comments contained in the ACEH approval letter (February 23, 2011). Field activities were conducted in March and April 2011.

# 3.1 Well Installation and Groundwater Monitoring

Locations of the planned seven monitoring wells are shown on Figure 3. Their actual locations as installed are identified on Figure 4. In particular, NMW-7 significantly deviated from its planned location due to refusal during drilling. Eight boreholes were drilled in its planned area (the shaded area on Figure 4) and were all abandoned due to refusal at depths between 7 ft and 12 ft bgs. The tip of the drill bit had concrete powder when pulled out from the abandoned boreholes. Because the concrete culvert was constructed in the early 1900s and no records are available today, its location and dimensions as shown on Figure 4 are only approximate.

Details of the completed seven monitoring wells are summarized in Table 4. Well installation procedures are described below.

- Pre-drilling details include: developing a site health and safety plan; obtaining well construction permits from Alameda County Public Works Agency Water Resources Section (Appendix A); and underground utility clearance (contacting Underground Services Alert [USA], and contracting to an independent utility locator to clear proposed locations).
- OTG retained PeneCore Drilling Company of Woodland, CA for the well installation. The well boreholes were drilled with a Geoprobe 6600 Comb rig equipped with hollow stem augers (8-inch diameter for 2-inch diameter wells and 10-inch auger for 4-inch wells). Because the wells were installed within two feet of previous borehole locations (direct-push sampling conducted in August and September 2010), soil samples were not collected during the well installation for logging and chemical analysis.
- Wells were constructed in March 31 and April 1 and 4, 2011 in accordance with the approved Work Plan (OTG, February 11, 2011) and the well permit. Well construction

details are summarized in Table 4 and well construction logs are included in Appendix B. During the well construction, groundwater was initially encountered between approximately 13 and 15 ft bgs in NMW-2, NMW-4, NMW-6, NMW-7, and NMW-9. No free-water was encountered in NMW-1 and NMW-3. Ms. Vicky Hamlin from Alameda County Public Works Agency Water Resources Well Permit Division was present during the placement of well sealing. The wells were completed to grade with lockable wellhead in traffic rated bolted well boxes.

- A decontamination pad was set up on site for pressure steam cleaning all downhole drilling equipment with potable water before drilling began, between drilling locations, and before leaving the site.
- PLS Surveys, Inc. of Oakland, CA, surveyed the seven wells on April 22, 2011 for horizontal coordinates (NAD 83 Datum) and elevation (NAVD 88 Datum). Survey results are included in Table 4.
- Soil cuttings and decontamination water (along with well development and sampling activities generated water) were stored in a central on-site location in properly labeled DOT-approved 55-gallon drums, which were transported by Bayview Environmental Services on April 21, 2011 to Evergreen Oil Inc. of Newark, CA for recycling and disposal.

On April 8, 2011, the newly installed wells were developed by repeatedly surging and bailing. The bailed out water was monitored for pH, temperature, specific conductivity, and visual turbidity. No potable water was introduced into wells during development. NMW-3 was dry and was thus not developed. There was less than one foot of water in NMW-1 and this well could not be adequately developed. Well development logs are included in Appendix C.

Groundwater monitoring was conducted on April 20, 2011. Prior to purging, static groundwater levels were measured to the nearest 0.01 foot in each of the seven wells, using a Solinist™ water level sounder. The volume of water inside the casing of each well was calculated, and at least three casing volumes of water were removed from each well, except NMW-1 and NMW-3. Only 2.4 casing volumes of water was removed from NMW-1 when it was purged to near dry. The well recharged extremely slowly. NMW-3 had no water (dry) when measured on the day of well development (April 8) and it still had no water on the sampling day. The purged water was monitored for pH, temperature, specific conductance, and visual turbidity/color. All readings were recorded on field sampling logs, which are included in Appendix C. All purging and sampling equipment used at each well were either dedicated or made of new, disposable materials requiring no decontamination prior to usage. Each well was sampled using a new disposable polyethylene (PE) bailer. For quality control purposes, a duplicate water sample was collected from NMW-2 and a trip blank (TB-1) was included in the cooler in which the samples were stored and it was treated as a sample for chemical analysis.

TestAmerica Laboratory of Pleasanton, CA provided sample containers. Filled sample bottles were labeled, packed, and stored in an iced-cooler, and were delivered to TestAmerica

Laboratory under chain-of-custody protocols. Samples were analyzed by EPA Method 8260B for TPH-g, BTEX, fuel oxygenates and additives, and by modified EPA Method 8015 for TPH-d and TPH-mo. Laboratory analytical reports are included in Appendix D. The analytical data received from TestAmerica Laboratory was found to be of acceptable quality.

Purge and decontamination water was contained in DOT-approved 55-gallon drums, which were transported by Bayview Environmental Services on April 21, 2011 to Evergreen Oil Inc. of Newark, CA for recycling and disposal.

# 3.2 Additional Shallow Soil Investigation

Results from the 2010 investigation indicated potential shallow soil contamination with diesel and motor oil, which could be related to pre-1988 auto service activities on the Site. Ten additional soil boreholes were drilled this time using hand auger on March 28 and 29, 2011. Their locations are identified on Figure 4. Two soil samples were collected from each of the 10 boreholes from the depths of 0.5-1.0 ft and 3.5-4.0 ft bgs. The 0.5-1.0 ft soil samples were collected by first removing surface soil with a hand shovel to 6-inch deep and then collected soil samples from 0.5 -1.0 depth with a stainless steel (ss) hand trowel into a ss container. Gravels with diameters larger than ¼ inches were removed and the remaining samples were mixed and transferred into an 8-oz glass jar, which was then capped with a Teflon-sheet lined cap and labeled. After the first sample was collected, the hole was further drilled to 3.5 ft bgs with a hand auger. The 3.5-4.0 ft sample was collected by driving a 2-inch diameter x 6-inch long ss sleeve with a hand operated slide hammer. The soil sample was then extruded into a ss container for examination and removal of gravels with diameters larger than ¼ inches. The remaining samples were mixed and transferred into an 8-oz glass jar, which was then capped with a Teflon-sheet lined cap and labeled. Borehole logs are included in Appendix B.

Soil samples were labeled, packed, and stored in an iced-cooler, and were delivered to TestAmerica Laboratory under chain-of-custody protocols. Samples were analyzed by modified EPA Method 8015 for TPH-d and TPH-mo. Laboratory analytical reports are included in Appendix D. The analytical data received from TestAmerica Laboratory was found to be of acceptable quality

All hand tools and sampling equipment were cleaned on site before, between, and after each soil sample collection by first brushing in a 5-gallon bucket with tap water to move soil particles, then cleaning in another 5-gallon bucket with Liquinox TM detergent solution and finally triple-rinsed with de-ionized water. Boreholes were backfilled with neat cement grout on the same day of drilling. Soil cuttings and decontamination water was contained in DOT-approved 55-gallon drums, which were transported by Bayview Environmental Services on April 21, 2011 to Evergreen Oil Inc. of Newark, CA for recycling and disposal.

#### 4. RESULTS OF INVESTIGATION

Groundwater elevation data is presented in Table 5. Groundwater and soil analytical results are summarized in Tables 6 and 7, respectively, along with relevant Environmental Screening Levels (ESLs; RWQCB, May 2008) for commercial site use. Well installation logs and soil boring logs are included in Appendix B.

# 4.1 Hydrogeology

Groundwater levels and gradients as measured on April 20, 2011 are plotted on Figure 5. Major points are discussed below.

Groundwater's apparent flow direction is now northwest toward the new storm drain beneath the Seminary Avenue. Before the storm drain was rerouted in 2000, the shallow groundwater beneath the site flowed southwesterly in approximately the same direction as the storm water flowed inside the culvert.

The shallow water zone appears non-continuous and is influenced by the culvert running through the site. The five wells which are located close to the culvert (NMW-2, NMW-4, NMW-6. NMW-7, and NMW-9) all had groundwater during the initial soil boring in August 2010 and continued to have groundwater during the well installation, development, and sampling. Water levels in these wells varied between 12 and 15 ft bgs. However, as boreholes (SB-1, NW-1, NW-3, NW-5, NW-10 and SB-5) located away from the culvert the shallow groundwater zone disappeared. Both NMW-1 and NMW-3 were dry at the time of their installation. NMW-1 had only 0.88 ft of water on the well development day (April 8) and 2.6 ft of water on the sampling day (April 20). NMW-3 was still dry on the day of sampling. NMW-3 is located within 5 ft of the former monitoring well MW-4, which existed before the on-site culvert was abandoned and had groundwater during its entire life span. NMW-3 has a total depth of 23 ft and screened between 10 and 23 ft bgs versus MW-4's total depth of 20 ft and screened between 10 and 20 ft. It appears that significantly less water recharges into the on-site shallow zone after the old culvert was abandoned and the new culvert was constructed off site.

# 4.2 Groundwater Analytical Results

Groundwater analytical results are presented in Table 6. Concentrations of BTEX, fuel oxygenates and additives and motor oil were either below their respective laboratory reporting limits or significantly below their respective ESLs.

TPH-g and TPH-d detections and concentration contours are shown on Figures 6 and 7, respectively. NW-7, which is located upgradient from on-site USTs and fueling islands based

on historical shallow groundwater flow direction, reported the highest concentration of both TPH-g (5,700 ug/L) and TPH-d (2,500 ug/L). Their distribution in groundwater suggests offsite source(s) from historically upgradient area. A comparison of TPH-g and TPH-d concentrations reported this time with the historical concentrations summarized in Table 2 reveals that the concentrations have increased significantly since the original four wells were destroyed and the site was closed by ACEH. For example, at the last monitoring event on September 4, 1996 (before well destruction) MW-1 reported TPH-g at 1,100 ug/L and TPH-d at less than 50 ug/L, whereas NMW-4 reported this time (April 20, 2011) TPH-g at 1,800 ug/L and TPH-d at 1,200 ug/L. NMW-4 is located within five feet of MW-1. The on-site USTs were removed by February 1993 and no additional sources were identified during the course of investigation from 1993 through 1996. In addition, BTEX, TPH-g and TPH-d concentrations had shown a decreasing trend during the same period of time, which led to the case closure by ACEH on August 29, 1997. The concentrations should have been much lower after additional 14 years (from 1997 through 2011) of natural attenuation had there no off-site sources migrating to the Site.

# 4.3 Soil Analytical Results

Soil analytical results are summarized in Table 7. Shallow soil ( $\leq 5$  ft bgs) TPH-d and TPH-mo data from this and previous investigations are plotted on Figure 8. Of the 41 shallow soil samples analyzed, only two samples had TPH-d concentrations exceed its commercial ESL of 180 mg/kg: NB-8-1 (0.5-1.0 ft bgs) at 400 mg/kg and NW-8-5 (4.5-5.0 ft bgs) at 340 mg/kg. None of the soil samples had TPH-mo concentrations exceed its commercial ESL of 2,500 mg/kg.

#### 5. DISCUSSIONS AND RECOMMENDATIONS

A Valero-branded active gas station is located across the street from the Site at 5910 MacArthur Blvd (Figure 2). It was formerly Chevron Service Station #9-9708. A review of the ACEH and the State GeoTracker electronic files indicated that a leaking underground storage tank (LUST) case was opened for the Chevron Site in 1997, the same year the case for this Site was closed. The Chevron Site has a State GeoTracker No. T0600102093 and an ACEH Case # RO0000124.

Based on groundwater contour and potentiometric maps presented for the Chevron Site as measured on 7 September 1998, 29 December 1998, and 29 September 1999, the groundwater flowed in a southwestern direction and the Chevron Site is located upgradient. This is consistent with the groundwater gradient measured on the Site prior to its case closure in 1997. However, after the Lion Creek culvert was relocated to beneath the Seminary Avenue in 2000 (Figure 2), the groundwater flow appeared to have been altered toward the new culvert in west

to northwest directions based on groundwater monitoring conducted at the Chevron Site in recent years and the latest measurement on the Site.

MNW-7, which is located upgradient (pre-2000) from all former USTs on the Site, reported the highest groundwater concentration of TPH-g (5,700 ug/L) and TPH-d (2,500 ug/L). The TPH-g and TPH-d contamination contours shown on Figure 6 and 7 suggest that they could have came from the Chevron Site.

The Site provided only gasoline fueling services and the three former fuel USTs were all for gasoline storage (Figure 3). The former waste oil UST was located downgradient on the southeastern side of the culvert. An on-site groundwater monitoring well (MW-3) was located downgradient of the former waste oil UST. Prior to its closure in November 1997, its groundwater concentrations of TPH-g, TPH-d, and BTEX were all below their respective laboratory reporting limits. Therefore, the detected relatively high concentrations of TPH-d in groundwater were highly unlikely originated from the former on-site waste oil UST.

The Chevron Site monitoring well MW-5 is located upgradient of the Site on the southeastern side of the culvert (Figure 2). This well has been monitored regularly for TPH-g, BTEX, MTBE, and ethanol since March 2002. However, TPH-d was never analyzed. Since the shallow groundwater appears to have a preferential path near and along the northwestern side of the culvert, it is recommended that the Chevron Site install a new monitoring well on the opposite side of the culvert from its MW-5. Both the new well and MW-5 should be monitored for TPH-g, TPH-d, TPH-mo, BTEX, and other constituents as deemed necessary.

It is recommended that the seven newly installed on-site monitoring wells be monitored for water levels and concentrations of BTEX, MTBE, TPH-g, and TPH-d quarterly for one year to assess seasonal variations. Due to the potential of continued migration from the Chevron Site to this Site, coordinated actions of the two sites will be necessary for an effective groundwater remediation.

The Site is zoned for commercial use and the owner intends to keep the Site for commercial redevelopment. In order to evaluate potential health impact on commercial workers from exposure to petroleum hydrocarbon vapor, a soil vapor survey should be conducted as requested by ACEH in its January 12, 2011 letter to the property owner.

#### **REFERENCES**

#### From 2007 to Current

Alameda County Environmental Health, Letter, June 25, 2008.

Alameda County Environmental Health, Letter, January 26, 2010.

Alameda County Environmental Health, Letter on *Review of Site Investigation Report*, January 12, 2011.

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Table 1 - Summary of Historic Soil Data 5901 MacArthur Blvd, Oakland, CA

Sample	Date of	Depth	Location	TPH gas	TPH kerosi	TPH diesel	Oil&grease	Benzene	Toluene	thylbenzen	Xylenes	other VOCs	SVOCs	Cd	Cr, total	Pb	Ni	Zn
ID	Sampling	(ft, bgs)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(EPA 6240)	(EPA 8270	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Soil Samp	les Collect	ed from the	e Bottom	of UST E	xcavation P	its:												
A1		14' - 17.5'		6.2		NA	NA	<0.1	<0.1	NA	<0.1							
A2		14' - 17.5'	UST #1	1.5		NA	NA	<0.1	<0.1	NA	<0.1							
B1			UST #3	310		NA	NA	6.4	1	NA	15							
B2		14' - 17.5'		2.3		NA	NA	<0.1	<0.1	NA	<0.1							
C1	05/18/87	14' - 17.5'	UST #2	50		NA	NA	5.9	3.7	NA	7.7							
C2	05/18/87		UST #2	2.4		NA	NA	<0.1	<0.1	NA	<0.1							
WO#1	02/24/93	9.5'	UST #4	<1.0	4	17	<100	<0.005	0.012	<0.005	<0.015	ND	ND	1.2	52	12	170	40
Soil Samp	les Collect	ed from W	ell Install	ations:														
MW-1-10	10/27/93	10	MW-1	27		NA		0.081	0.055	0.36	0.099							
MW-1-15	10/27/93	15	MW-1	7		NA NA		0.051	0.033	0.30	0.033							
MW-1-13	10/27/93	20	MW-1	13		NA NA		0.032	0.013	0.22	0.13							
10100 1 20	10/21/33	20	10100 1	10		14/-1		0.014	0.000	0.10	0.11							
MW-2-10	10/04/95	10	MW-2	29		2		<0.01	<0.01	<0.01	<0.03							
MW-2-15	10/04/95	15	MW-2	<0.2		<1		<0.005	<0.005	<0.005	<0.005							
MW-3-10	10/04/95	10	MW-3	<0.2		<1		<0.005	<0.005	<0.005	<0.005							
MW-3-15	10/04/95	15	MW-3	<0.2		100		<0.005	<0.005	<0.005	<0.005							
MW-4-10	10/04/95	10	MW-4	5100		840		<1	7.7	33	0.3							
MW-4-15	10/04/95	15	MW-4	<0.2		<1		<0.005	<0.005	<0.005	<0.005							
bgs - belov		rface																
NA - not ar	nalyzed																	
Data sourc	e: Blakely E	Environmen	tal Investi	gation, Inc	. (January 4	, 1997), Re	quest for Cl	osure										

Table 2 - Summary of Historic Groundwater Data 5901 MacArthur Blvd, Oakland, CA

Well	Date	Water Level	TPH gas	TPH diesel	Benzene	Toluene	thylbenzen	Xylenes
ID		(ft, bgs)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
MW-1	11/4/93	14.24	1900	610	210	2	0.6	7.8
	3/4/94	13.9	1700	610	220	4.9	2.9	10
	4/30/94	14.07	3200	<50	200	2	60	31
	9/6/94	13.96	3200	940	210	56	55	48
	1/12/95	13.68	500	500	13	<0.5	15	4
	3/13/95	13.2	50	400	8	<0.5	2	<2
	6/15/95	13.92	2000	<50	210	2	83	14
	10/18/95	14.22	1200	<50	110	5	8	6
	12/20/95	13.92	2600	200	320	4	180	55
	3/27/96	13.82	3500	NA	380	6.3	400	280
	6/11/96	13.83	1200	<20	120	1.5	7.7	2
	9/4/96	14.1	1100	<50	51	1.4	5.2	3
MW-2	10/18/95	14.36	500	650	59	1	28	13
	12/20/95	13.87	300	200	5	0.8	0.9	<2
	3/27/96	13.76	<50	NA	<0.5	<0.5	<0.5	<2
	6/11/96	13.9	<50	130	<0.5	<0.5	<0.5	<2
	9/4/96	14.24	240	150	0.7	0.7	9.7	3
MW-3	10/18/95	14.57	100	300	<0.5	<0.5	<0.5	<2
	12/20/95	13.85	<50	<50	<0.5	<0.5	<0.5	<2
	3/27/96	13.38	<50	NA	<0.5	<0.5	<0.5	<2
	6/11/96	14.1	<50	<50	<0.5	<0.5	<0.5	<2
	9/4/96	14.44	<50	<50	<0.5	<0.5	<0.5	<2
MW-4	12/2/95	19.02	2100	2200	20	0.9	5.8	8.4
	12/20/95	12.14	2000	300	17	1	4	7
	3/27/96	12.15	430	NA	0.6	<0.5	0.8	<2
	6/11/96	12.7	370	200	1.9	<0.5	1	<2
	9/4/96	14.16	290	<50	1.1	<0.5	1.4	<2
bgs - belo	ow ground s	urface						
NA - not a	analyzed							
The four	wells were c	lestroyed on	11/11/1997					

Table 3 - Summary of June 20, 2007 Soil and Groundwater Investigation Results 5901 MacArthur Blvd, Oakland, CA

Sample ID	Depth (ft)	medium	unit	TPH gas	TPH diesel	TPH motor oil	Benzene	Toluene	ethylbezene	xylenes	MTBE	Cadmium	Chromium	Lead	Nickel	Zinc
TB-4-W	15	groundwater	ug/L	1,620 (a)	1,000 (b)	ND (246)	2.3	0.97	2.38	0.74	12.3	ND (5)	ND (5)	ND (15)	ND (10)	15
TB-1 (trip blank)				ND (28)	NA	NA	ND (0.34)	ND (0.3)	ND (0.25)	ND (0.74)	ND (0.39)					
TB-1-1	2.0 - 2.5	shallow soil	mg/kg		ND (2.0)	7.5						ND (1.0)	29	25	41	130
TB-1-10	10 - 10.5	deep soil	mg/kg	26.6	2.1	ND (4.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.5)	ND (1.0)	ND (1.0)	78	11	210	76
TB-1-15	15 - 15.5	deep soil	mg/kg	ND (0.1)	ND (2.0)	ND (4.0)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.01)	ND (1.0)	27	8.8	38	32
TB-2-1	1.5 -2.0	shallow soil	mg/kg		ND (2.0)	ND (4.0)						ND (1.0)	34	24	37	42
TB-2-10	9.5 - 10	shallow soil	mg/kg	ND (0.1)	ND (2.0)	ND (4.0)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.01)	ND (1.0)	50	6.3	130	67
TB-2-15	15 - 15.5	deep soil	mg/kg	23	ND (2.0)	ND (4.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.5)	ND (1.0)					
TB-3-1	1.5 - 2.0	shallow soil	mg/kg		ND (2.0)	73.8						ND (1.0)	29	48	41	97
TB-3-5	5.5 - 6.0	shallow soil	mg/kg	0.22	ND (2.0)	ND (4.0)	ND (0.005)	0.01	0.034	0.13	ND (0.01)	ND (1.0)	150	13	270	88
TB-3-10	10 - 10.5	deep soil	mg/kg	ND (0.1)	ND (2.0)	ND (4.0)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.01)	ND (1.0)	94	7.5	170	82
TB-3-15	15 - 15.5	deep soil	mg/kg	ND (0.1)	ND (2.0)	ND (4.0)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.01)					
TB-4-1	1.0 - 1.5	shallow soil	mg/kg		ND (2.0)	ND (4.0)						ND (1.0)	32	14	48	32
TB-4-10	9.5 - 10	shallow soil	mg/kg	ND (0.1)	ND (2.0)	9.97	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.01)	ND (1.0)	39	26	53	78
TB-4-15	15 - 15.5	deep soil	mg/kg	2,890 (c)	440	44.6	ND (5)	ND (5)	ND (5)	ND (15)	ND (10)	ND (1.0)	200	12	330	160
TB-5-1	1.0 - 1.5	shallow soil	mg/kg		ND (2.0)	ND (4.0)						ND (1.0)	33	7.2	43	29
TB-5-5	5.0 - 5.5	shallow soil	mg/kg	ND (0.1)	ND (2.0)	ND (4.0)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.01)	ND (1.0)	80	17	220	110
TB-5-10	10 - 10.5	deep soil	mg/kg	ND (0.1)	ND (2.0)	ND (4.0)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.01)	ND (1.0)	110	6.6	240	68
TB-5-15	15 - 15.5	deep soil	mg/kg	0.143	5.8	ND (4.0)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.01)					
Note: a - laboratory	reported that	the result is e	elevated o	due to presen	ce of non-tar	get compounds	within the	∣ TPH gas au	l antitative rar	nge.						
Note: b - sample ch						· .				0	ge quantitat	ted as diese	el.			
Note: c - sample ch											, , , , , , , , ,					

TABLE 4
Well Construction Details
5901 MacArthur Blvd, Oakland, California

Well ID	NMW-1	NMW-2	NMW-3	NMW-4	NMW-6	NMW-7	NMW-9
Original Borehole ID	NW-1	NW-2	SB-5	NW-4	NW-6	NW-7	NW-9
Date of Well Completion	4/1/2011	4/1/2011	3/31/2011	4/4/2011	3/31/2011	4/1/2011	3/31/2011
Well Casing Diameter (inch)	4	4	2	4	2	2	2
Flush threaded casing material	Sch 40 PVC	Sch 40 PVC	Sch 40 PVC	Sch 40 PVC	Sch 40 PVC	Sch 40 PVC	Sch 40 PVC
Borehole diameter (inch)	10	10	8	10	8	8	8
Total well depth (feet, btoc)	23	23	23	22	23	22	24
Screen location (0.01" slots, feet, btoc)	10-23	10-23	10-23	10-22	10-23	9-22	10-24
#2/12 sand pack (feet, btoc)	9-23	9-23	9-23	9-22	9-23	8-22	9-24
Bentonite seal (feet, btoc)	8-9	8-9	8-9	8-9	8-9	7-8	8-9
Cement seal (feet, btoc)	0-8	0-8	0-8	0-8	0-8	0-7	0-8
Coordinates (NAD 83 Datum)							
Latitude (dec.)	37.7763158	37.7762806	37.7763381	37.7762141	37.7761906	37.7763160	37.7761252
Longitude (dec.)	-122.1841406	-122.1841321	-122.1840322	-122.1842739	-122.1843248	-122.1840449	-122.1842652
Elevation (feet, NAVD 88 Datum)							
Top of PVC casing (TOC)	97.85	97.94	97.70	97.73	97.10	97.78	97.91
btoc - below top of casing							
One foot hydrated bentonite chips on top	of sand packing	and then cemer	nt grout to surfac	e.			
Well completed with lockable wellhead in	a traffic rated bo	Ited well box mo	ounted flush to su	urface.			
XYZ survey was conducted by PLS Surve	eys Inc. on April 2	22, 2011.					

Table 5 Groundwater Elevation Data 5901 MacArthur Blvd, Oakland, CA

	NIV	1W-1	NN	1W-2	NN	1W-3	NN	/IW-4	NN	1W-6	NN	1W-7	NN	/IW-9
	Depth to	Water elev	Depth to	Water elev	Depth to	Water elev	Depth to	Water elev	Depth to	Water elev	Depth to	Water elev	Depth to	Water elev
	water	(88 Datum)	water	(88 Datum)	water	(88 Datum)	water	(88 Datum)	water	(88 Datum)	water	(88 Datum)	water	(88 Datum)
	(ft, btoc)	(ft)	(ft, btoc)	(ft)	(ft, btoc)	(ft)	(ft, btoc)	(ft)	(ft, btoc)	(ft)	(ft, btoc)	(ft)	(ft, btoc)	(ft)
TOC elevation		97.85		97.94		97.70		97.73		97.10		97.78		97.91
Depth to well														
bottom, 4/20/11	22.70		21.84		22.64		21.47		22.61		21.61		23.48	
Date														
4/20/2011	20.10	77.75	14.01	83.93	dry		14.19	83.54	13.58	83.52	13.75	84.03	12.70	85.21
btoc - below to	otoc - below top of casing													
TOC - top of cas	ing													
* All wells were	surveyed f	or xyz coord	linates on 4	/22/2011										

**Table 6** - Summary of Groundwater Investigation Data (2010 to current) 5901 MacArthur Blvd, Oakland, CA

Sample ID	Date of	Depth	medium	unit	TPH gas	TPH diesel	TPH motor oil	Benzene	Toluene	ethylbezene	xvlenes	MTBE	ТВА	DIPE	TAME	ETBE	EDB	EDC	Ethanol
Campio is	collection	(ft, bgs)	ouiu		940			201120110		0111/10020110	ху.оп.оо			J.: 2					2411041101
commercial ESLs		(11, 290)	groundwater	ua/l	210	210	210	46	130	43	100	1800	18000	NA	NA	NA	150	200	NA
000.0	ay oo		groundinator	<i>∝</i> g/ <i>−</i>										1001					
Groundwater sam	ples colle	cted fror	n monitorina	wells															
NMW-1	4/20/11		groundwater	ug/L	ND (50)	ND (50)	ND (100)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	13	ND (4.0)	ND (0.5)	ND (250)				
NMW-2	4/20/11		groundwater	ug/L	3,100	1,000	ND (100)	0.84	0.72	7.7	1.9	ND (0.5)	7.6	ND (0.5)	ND (250)				
NMW-2D	4/20/11		groundwater	ug/L	2,100	750	ND (100)	ND (2.5)	ND (2.5)	ND (2.5)	ND (5.0)	ND (2.5)	ND (20)	ND (2.5)	ND (1200)				
NMW-4	4/20/11		groundwater	ug/L	1,800	1,200	ND (100)	ND (1.0)	ND (1.0)	ND (1.0)	2.3	ND (1.0)	ND (8.0)	ND (1.0)	ND (500)				
NMW-6	4/20/11		groundwater	ug/L	880	230	ND (100)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	ND (0.5)	ND (4.0)	ND (0.5)	ND (250)				
NMW-7	4/20/11		groundwater	uglL	5,700	2,500	ND (100)	ND (5.0)	ND (5.0)	ND (5.0)	ND (10)	ND (5.0)	ND (40)	ND (5.0)	ND(2500)				
NMW-9	4/20/11		groundwater	uglL	2,600	250	ND (100)	ND (5.0)	ND (5.0)	ND (5.0)	ND (10)	ND (5.0)	ND (40)	ND (5.0)	ND(2500)				
TB-1	4/20/11		Lab D.I.water	ug/L	ND (50)	NA	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	ND (0.5)	ND (4.0)	ND (0.5)	ND (250)				
Grab groundwate	r samples	collecte	d by Geoprol	e direct	-push meth	od													
NW-4-W	8/30/10	15	groundwater	ug/L	1,700	2,400	ND (600)	ND (5.0)	ND (5.0)	ND (5.0)	ND (10)	ND (5.0)	ND (40)	ND (5.0)	NA				
NW-4-WD	8/30/10	15	groundwater	ug/L	2,900	NA	NA	ND (5.0)	ND (5.0)	5.7	ND (10)	ND (5.0)	ND (40)	ND (5.0)	NA				
NW-2-W	8/30/10	15	groundwater	ug/L	1,600	2,200	ND(650)	ND (5.0)	ND (5.0)	ND (5.0)	ND (10)	ND (5.0)	ND (40)	ND (5.0)	NA				
NW-7-W	8/31/10	14	groundwater	ug/L	11,000	9,100	ND(1500)	ND (5.0)	ND (5.0)	ND (5.0)	ND (10)	ND (5.0)	ND (40)	ND (5.0)	NA				
NW-9-W	8/31/10	15	groundwater	ug/L	ND (50)	700	880	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	ND (0.5)	ND (4.0)	ND (0.5)	NA				
SB-2-W	8/30/10	15	groundwater	ug/L	170	120	ND (620)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	1.4	ND (4.0)	ND (0.5)	NA				
SB-3-W	8/30/10	15	groundwater	ug/L	340	360	ND (630)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	10	7.2	ND (0.5)	NA				
ASB-4-W	9/1/10	15	groundwater	ug/L	2,800	6.500	ND(1500)	ND (5.0)	ND (5.0)	ND (5.0)	ND (10)	ND (5.0)	ND (40)	ND (5.0)	NA				
ASB-4-Wd	9/1/10	15	groundwater	ug/L	2,900	NA	NA	ND (5.0)	ND (5.0)	ND (5.0)	ND (10)	ND (5.0)	ND (40)	ND (5.0)	ND (5.0)		ND (5.0)	ND (5.0)	NA
																			1
TB-1	8/30/10		lab DI water	ug/L	ND (50)	NA	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)		ND (4.0)	. ,	ND (0.5)	· · ·	ND (0.5)	ND (0.5)	NA
TB-2	8/31/10		lab DI water	ug/L	ND (50)	NA	NA	ND (0.5)	ND (0.5)	ND (0.5)	` '	ND (0.5)	` '	` '	ND (0.5)	· '	ND (0.5)	ND (0.5)	NA
TB-3	9/1/10		lab DI water	ug/L	ND (50)	NA	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	ND (0.5)	ND (4.0)	ND (0.5)	NA				

All ESL standards cited above are for groundwater is not a current or potential source of drinking water (RWQCB, May 2008)

**Table 7** - Summary of Soil Investigation Data (2010 to current) 5901 MacArthur Blvd, Oakland, CA

Sample ID	Date of	Depth (ft)	medium	unit	TPH gas	TPH diesel	TPH motor oi	Benzene	Toluene	ethylbezene	xvlenes	MTBE	TBA	DIPE	TAME	ETBE	EDB	EDC
Capio ib	collection	(ft, bqs)	Juluiii	G. 110	11 900	11 010001		231120110	. 5146116	0.1910020110	.,,101100	, DE	. 5/ (	L				
	CONCOLON	(it, bgs)																
commercial ESLs	May-08	≤ 10	shallow soil	mg/kg	180	180	2500	0.27	9.3	4.7	11	8.4	110	NA	NA	NA	0.044	0.48
commercial ESLs	May-08	> 10	deep soil	mg/kg	180	180	5000	2	9.3	4.7	11	8.4	110	NA	NA	NA	1	1.8
001111101101111111111111111111111111111	may oo		цоор соп	g/.tg				_	0.0			-		101				
NB-1-1 *	3/28/11	0.5-1.0	shallow soil	mg/kg	NA	65	590	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NB-1-4 *	3/28/11	3.5-4.0	shallow soil	mg/kg	NA	46	210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NB-2-1 *	3/28/11	0.5-1.0	shallow soil	mg/kg	NA	2.6	ND (49)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NB-2-4 *	3/28/11	3.5-4.0	shallow soil	mg/kg	NA	ND (1.0)	ND (50)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NB-2-4-D	3/28/11	3.5-4.0	shallow soil	mg/kg	NA	2.6	ND (50)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NB-3-1 *	3/29/11	0.5-1.0	shallow soil	mg/kg	NA	11	61	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NB-3-4 *	3/29/11	3.5-4.0	shallow soil	mg/kg	NA	7.5	170	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NB-4-1 *	3/29/11	0.5-1.0	shallow soil	mg/kg	NA	3.2	ND (50)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NB-4-4 *	3/29/11	3.5-4.0	shallow soil	mg/kg	NA	11	280	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NB-4-4-D	3/29/11	3.5-4.0	shallow soil	mg/kg	NA	53	320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NB-5-1 *	3/29/11	0.5-1.0	shallow soil	mg/kg	NA	3	ND (50)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NB-5-4 *	3/29/11	3.5-4.0	shallow soil	mg/kg	NA	1.9	ND (50)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NB-6-1 *	3/28/11	0.5-1.0	shallow soil	mg/kg	NA	56	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NB-6-4 *	3/28/11	3.5-4.0	shallow soil	mg/kg	NA	32	220	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NB-7-1 *	3/29/11	0.5-1.0	shallow soil	mg/kg	NA	30	160	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NB-7-4 *	3/29/11	3.5-4.0	shallow soil	mg/kg	NA	15	62	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NB-7-4-D	3/29/11	3.5-4.0	shallow soil	mg/kg	NA	37	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NB-8-1 *	3/28/11	0.5-1.0	shallow soil	mg/kg	NA	400	1800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NB-8-4 *	3/28/11	3.5-4.0	shallow soil	mg/kg	NA	ND (1.0)	ND (49)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NB-9-1 *	3/29/11	0.5-1.0	shallow soil	mg/kg	NA	14	57	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NB-9-4 *	3/29/11	3.5-4.0	shallow soil	mg/kg	NA	2.7	ND (49)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NB-10-1 *	3/29/11	0.5-1.0	shallow soil	mg/kg	NA	1.6	ND (49)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ND-10-4 *	3/29/11	3.5-4.0	shallow soil	mg/kg	NA	ND (1.0)	ND (49)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
* Samples went thro	ugh selica	gel cleanur	to remove no	on-petrole	um based hy	drocarbons	before analysi	s for TPH-c	and TPH-	mo								
SB-1-5	8/30/10	4.5-5.0	shallow soil	mg/kg	ND(0.25)	13	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
SB-1-15	8/30/10	15-15.5	deep soil	mg/kg	ND(0.25)	2.3	ND (49)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
SB-1-20	8/30/10	19.5-20	deep soil	mg/kg	ND(0.25)	1.2	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
SB-2-5	8/30/10	4.5-5.0	shallow soil	mg/kg	ND(0.25)	2	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
SB-2-15	8/30/10	14.5-15	deep soil	mg/kg	2.1	14	ND (50)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.05)	ND(0.025)	ND(0.05)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)
SB-2-20	8/30/10	19.5-20	deep soil	mg/kg	ND(0.25)	1.4	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
SB-3-10	8/30/10	10-10.5	shallow soil	mg/kg	ND(0.25)	9.3	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
SB-3-15	8/30/10	14.5-15	deep soil	mg/kg	3.3	480	ND (490)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
SB-3-20	8/30/10	19.5-20	deep soil	mg/kg	ND(0.25)	1.1	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	0.006	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)

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**Table 7** - Summary of Soil Investigation Data (2010 to current) 5901 MacArthur Blvd, Oakland, CA

Sample ID	Date of	Depth (ft)	medium	unit	TPH gas	TPH diesel	TPH motor of	i Benzene	Toluene	ethylbezene	xylenes	MTBE	TBA	DIPE	TAME	ETBE	EDB	EDC
	collection	(ft, bgs)																
commercial ESLs	May-08	≤ 10	shallow soil	mg/kg	180	180	2500	0.27	9.3	4.7	11	8.4	110	NA	NA	NA	0.044	0.48
commercial ESLs	May-08	> 10	deep soil	mg/kg	180	180	5000	2	9.3	4.7	11	8.4	110	NA	NA	NA	1	1.8
SB-3-25	8/30/10	24.5-25	deep soil	mg/kg	ND(0.25)	NA	NA	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
SB-4-5	8/30/10	4.5-5.0	shallow soil	mg/kg	ND(0.25)	23	120	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
SB-4-10	8/30/10	9.5-10	shallow soil	mg/kg	ND(0.24)	NA	NA	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
SB-4-15	8/30/10	14.5-15	deep soil	mg/kg	5.2	35	ND (50)	ND(0.023)	ND(0.023)	ND(0.023)	ND(0.05)	ND(0.023)	ND(0.05)	ND(0.023)	ND(0.023)	ND(0.023)	ND(0.023)	ND(0.023)
SB-4-20	8/30/10	19.5-20	deep soil	mg/kg	ND(0.24)	NA	NA	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
SB-4-25	8/30/10	24.5-25	deep soil	mg/kg	ND(0.25)	11	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	0.049	0.040	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
SB-5-8	8/31/10	8.0-8.5	shallow soil	mg/kg	ND(0.24)	32	230	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
SB-5-13	8/31/10	12.5-13	deep soil	mg/kg	140	130	ND(100)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	ND (0.5)	ND (1.0)	ND (0.5)				
SB-5-15	8/31/10	15-15.5	deep soil	mg/kg	ND(0.23)	1.0	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
SB-5-20	8/31/10	19.5-20	deep soil	mg/kg	ND(0.24)	2.1	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
SB-5-25	8/31/10	24.5-25	deep soil	mg/kg	ND(0.23)	NA	NA	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
NW-1-5	8/30/10	4.5-5.0	shallow soil	mg/kg	ND(0.25)	5.9	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
NW-1-10	8/30/10	9.5-10	shallow soil	mg/kg	ND(0.25)	NA	NA	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
NW-1-15	8/30/10	14.5-15	deep soil	mg/kg	130	13	ND (50)	ND(0.024)	ND(0.024)	0.840	0.990	ND(0.024)	ND(0.05)	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.024)	ND(0.024)
NW-1-20	8/30/10	19.5-20	deep soil	mg/kg	ND(0.25)	NA	NA	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
NW-1-25	8/30/10	24.5-25	deep soil	mg/kg	ND(0.24)	1	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
NW-2-5	8/30/10	4.5-5.0	shallow soil	mg/kg	ND(0.24)	11	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
NW-2-10	8/30/10	9.5-10	shallow soil	mg/kg	ND(0.24)	NA	NA	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
NW-2-15	8/30/10	15-15.5	deep soil	mg/kg	82	88	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
NW-2-20	8/30/10	19.5-20	deep soil	mg/kg	ND(0.25)	4.9	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
NW-3-5	8/31/10	4.5-5.0	shallow soil	mg/kg	ND(0.24)	27	70	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
NW-3-10	8/31/10	9.5-10	shallow soil	mg/kg	ND(0.23)	NA	NA	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
NW-3-15	8/31/10	14.5-15	deep soil	mg/kg	8.4	ND (1.0)	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	0.05	0.014	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
NW-3-20	8/31/10	19.5-20	deep soil	mg/kg	ND(0.24)	NA	NA	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
NW-4-5	8/30/10	4.5-5.0	shallow soil	mg/kg	ND(0.25)	12	ND (49)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
NW-4-10	8/30/10	9.5-10	shallow soil	mg/kg	ND(0.25)	NA	NA	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
NW-4-15	8/30/10	14.5-15	deep soil	mg/kg	280	740	ND (500)	_ ` /	, ,	ND(0.025)	, ,	ND(0.025)	_ ` /	, ,	, ,	, ,	ND(0.025)	ND(0.025)
NW-4-20	8/30/10	19.5-20	deep soil	mg/kg	ND(0.24)	NA	NA	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
NW-4-25	8/30/10	24.5-25	deep soil	mg/kg	ND(0.25)	2.7	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	0.006	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
NW-5-5	8/31/10	4.5-5.0	shallow soil	mg/kg	ND(0.25)	2.6	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)

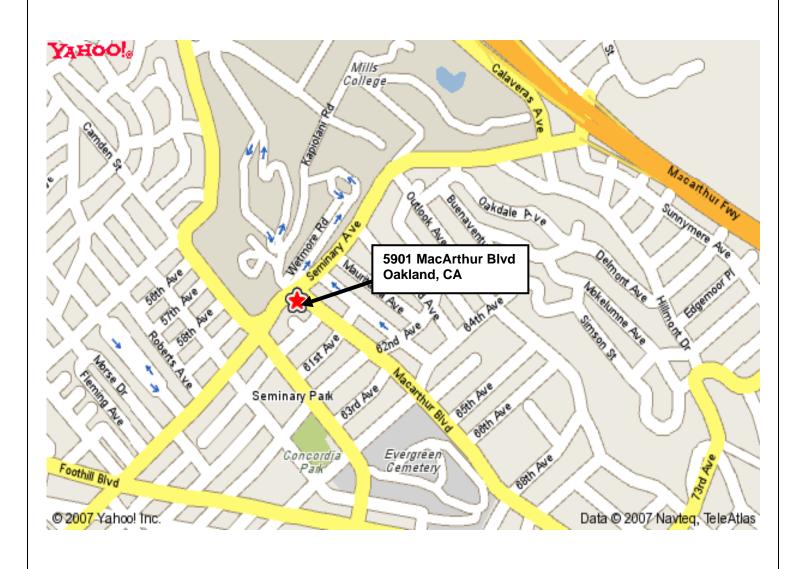
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Sample ID	Date of	Depth (ft)	medium	unit	TPH gas	TPH diesel	TPH motor o	ilBenzene	Toluene	ethylbezene	xylenes	MTBE	TBA	DIPE	TAME	ETBE	EDB	EDC
	collection	(ft, bgs)																
commercial ESLs	May-08	≤ 10	shallow soil	mg/kg	180	180	2500	0.27	9.3	4.7	11	8.4	110	NA	NA	NA	0.044	0.48
commercial ESLs	May-08	> 10	deep soil	mg/kg	180	180	5000	2	9.3	4.7	11	8.4	110	NA	NA	NA	1	1.8
NW-5-10	8/31/10	9.5-10	shallow soil	mg/kg	ND(0.25)	1.0	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
NW-5-15	8/31/10	14.5-15	deep soil	mg/kg	ND(0.25)	2.2	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
NW-5-20	8/31/10	19.5-20	deep soil	mg/kg	ND(0.24)	3.1	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
NW-5-25	8/31/10	24.5-25	deep soil	mg/kg	ND(0.25)	2.0	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
NW-6-10	8/31/10	9.5-10	shallow soil	mg/kg	ND(0.24)	1.0	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
NW-6-15	8/31/10	14.5-15	deep soil	mg/kg	ND(0.24)	6.5	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
NW-7-5	8/31/10	4.5-5.0	shallow soil	mg/kg	ND(0.25)	5.8	ND (50)	_ ` _ ′	` ′	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
NW-7-10	8/31/10	9.5-10	shallow soil	mg/kg	ND(0.25)	6.0	ND (50)	( /	ND(0.005)	ND(0.005)		ND(0.005)		ND(0.005)	ND(0.005)	( /	ND(0.005)	ND(0.005)
NW-7-15	8/31/10	14.5-15	deep soil	mg/kg	860	110	ND(100)	ND(2.5)	ND(2.5)	ND(2.5)	ND(5.0)	ND(2.5)	ND(5.0)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
NW-7-20	8/31/10	19.5-20	deep soil	mg/kg	ND(0.24)	NA	NA	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
NW-8-5	8/31/10	4.5-5.0	shallow soil	mg/kg	ND(0.25)	340	1700	<del></del>		ND(0.005)	_ ` /	ND(0.005)		ND(0.005)	ND(0.005)	/	/	ND(0.005)
NW-8-10	8/31/10	9.5-10	shallow soil	mg/kg	ND(0.25)	NA	NA	_ ` _ ′		ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
NW-8-15	8/31/10	14.5-15	deep soil	mg/kg	ND(0.23)	ND (1.0)	ND (50)	` '	` '	ND(0.005)	. ,	ND(0.005)		` ′	` '	` '	ND(0.005)	• •
NW-8-20	8/31/10	19.5-20	deep soil	mg/kg	ND(0.25)	ND (1.0)	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
NW-9-5	8/31/10	4.5-5.0	shallow soil	mg/kg	ND(0.25)	NA	NA	<del></del>		ND(0.005)	_ ` /	NA	NA	NA	NA	NA	NA	NA
NW-9-10	8/31/10	9.5-10	shallow soil	mg/kg	ND(0.24)	ND (1.0)	ND (50)	_ ` _ ′		ND(0.005)	_ ` /	ND(0.005)		ND(0.005)	ND(0.005)	( /	ND(0.005)	ND(0.005)
NW-9-15	8/31/10	14.5-15	deep soil	mg/kg	ND(0.23)	8.8	ND (50)	` '	` '	ND(0.005)	· · · · ·	ND(0.005)		ND(0.005)	` ′	ND(0.005)	ND(0.005)	ND(0.005)
NW-9-20	8/31/10	19.5-20	deep soil	mg/kg	ND(0.25)	ND (1.0)	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
MW-10-5	9/1/10	4.5-5.0	shallow soil	mg/kg	ND(0.25)	ND (1.0)	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
MW-10-10	9/1/10	9.5-10	shallow soil	mg/kg	ND(0.24)	ND (1.0)	ND (50)	<del></del>	<u> </u>	ND(0.005)							ND(0.005)	
MW-10-15	9/1/10	14.5-15	deep soil	mg/kg	ND(0.25)	ND (1.0)	ND (50)	· · · · ·	` ′	ND(0.005)	ND(0.01)	ND(0.005)		_ ` _ ′	` '	_ ` _ ′	, ,	ND(0.005)
MW-10-20	9/1/10	20-20.5	deep soil	mg/kg	ND(0.25)	ND (1.0)	ND (50)	· · · · ·	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
	0/ 1/ 10	20 20.0	400p 00::	99	112(0.20)	112 (110)	112 (00)	112 (0.000)	112(0.000)	112(0.000)	112(0.0.)							
ASB-3-5	9/1/10	4.5-5.0	shallow soil	mg/kg	ND(0.24)	ND (1.0)	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
ASB-3-10	9/1/10	9.5-10	shallow soil	mg/kg	ND(0.25)	15	83	<del></del>	ND(0.005)	ND(0.005)	· ,	ND(0.005)		ND(0.005)	ND(0.005)			ND(0.005)
ASB-3-15	9/1/10	15-15.5	deep soil	mg/kg	ND(0.24)	ND (1.0)	ND (50)	( /	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.005)		ND(0.005)	ND(0.005)		ND(0.005)	ND(0.005)
ASB-3-20	9/1/10	19.5-20	deep soil	mg/kg	ND(0.25)	ND (1.0)	ND (50)	· · · · ·	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
				Jg	\/	()	\/	(21220)	, ,,,,,,,,	(2.223)	(2.2.)					1		
ASB-4-5	9/1/10	4.5-5.0	shallow soil	mg/kg	ND(0.25)	8.1	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
ASB-4-10	9/1/10	10-10.5	shallow soil	mg/kg	ND(0.25)	1.9	ND (50)	_ ` _ ′		ND(0.005)					ND(0.005)		ND(0.005)	-
ASB-4-15	9/1/10	14.5-15	deep soil	mg/kg	16	30	ND (50)	_ ` _ ′	` ′	ND(0.025)	· /	ND(0.025)	` '	` '	, ,	· '	ND(0.025)	ND(0.025)
ASB-4-20	9/1/10	19.5-20	deep soil	mg/kg	ND(0.24)	ND (1.0)	ND (50)	_ ` _ ′	` ′	ND(0.005)	· /			ND(0.005)		_ ` _ ′	_ ` _ ′	ND(0.005)

**Table 7** - Summary of Soil Investigation Data (2010 to current) 5901 MacArthur Blvd, Oakland, CA

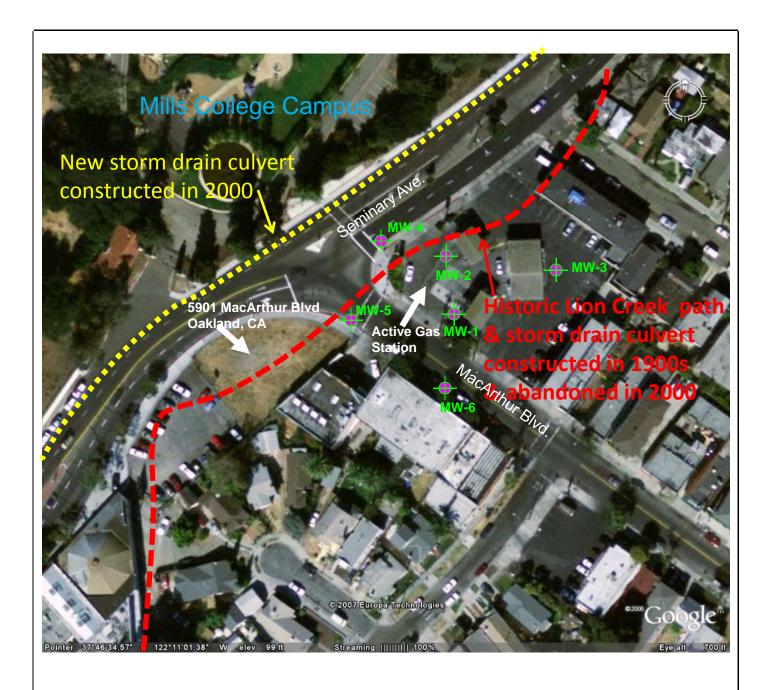
Sample ID	Date of	Depth (ft)	medium	unit	TPH gas	TPH diesel	TPH motor oi	Benzene	Toluene	ethylbezene	xylenes	MTBE	TBA	DIPE	TAME	ETBE	EDB	EDC
	collection	(ft, bgs)																
commercial ESLs	May-08	≤ 10	shallow soil	mg/kg	180	180	2500	0.27	9.3	4.7	11	8.4	110	NA	NA	NA	0.044	0.48
commercial ESLs	May-08	> 10	deep soil	mg/kg	180	180	5000	2	9.3	4.7	11	8.4	110	NA	NA	NA	1	1.8
ASB-5-5	9/1/10	4.5-5.0	shallow soil	mg/kg	ND(0.23)	ND (1.0)	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
ASB-5-10	9/1/10	9.5-10	shallow soil	mg/kg	ND(0.25)	ND (1.0)	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
ASB-5-15	9/1/10	14.5-15	deep soil	mg/kg	ND(0.25)	1.4	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
ASB-5-20	9/1/10	19.5-20	deep soil	mg/kg	ND(0.24)	ND (1.0)	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
ASB-6-5	9/1/10	4.5-5.0	shallow soil	mg/kg	ND(0.25)	140	890	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
ASB-6-10	9/1/10	9.5-10	shallow soil	mg/kg	ND(0.24)	4.2	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
ASB-6-15	9/1/10	14.5-15	deep soil	mg/kg	110	26	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
ASB-6-20	9/1/10	19.5-20	deep soil	mg/kg	ND(0.23)	ND (1.0)	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
ASB-6-27	9/1/10	27-27.5	deep soil	mg/kg	ND(0.25)	ND (1.0)	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
ASB-7-10	9/1/10	9.5-10	shallow soil	mg/kg	ND(0.24)	ND (1.0)	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
ASB-7-15	9/1/10	14.5-20	deep soil	mg/kg	0.39	1.4	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
ASB-7-20	9/1/10	19.5-20	deep soil	mg/kg	ND(0.24)	ND (1.0)	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
ASB-10-5	8/31/10	4.5-5.0	shallow soil	mg/kg	ND(0.24)	1.9	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA
ASB-10-10	8/31/10	9.5-10	shallow soil	mg/kg	ND(0.24)	1.5	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
ASB-10-15	8/31/10	14.5-15	deep soil	mg/kg	47	6.1	ND (50)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
ASB-10-20	8/31/10	19.5-20	deep soil	mg/kg	ND(0.24)	NA	NA	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	NA	NA	NA	NA	NA	NA	NA

All ESL standards cited above are for groundwater is not a current or potential source of drinking water (RWQCB, May 2008)





PROJECT NO. 10HCT02	5901 MacArthur Blvd Oakland, CA	SITE LOCATION MAP	FIGURE 1
OTG EnviroEngi	neering Solutions Inc.		





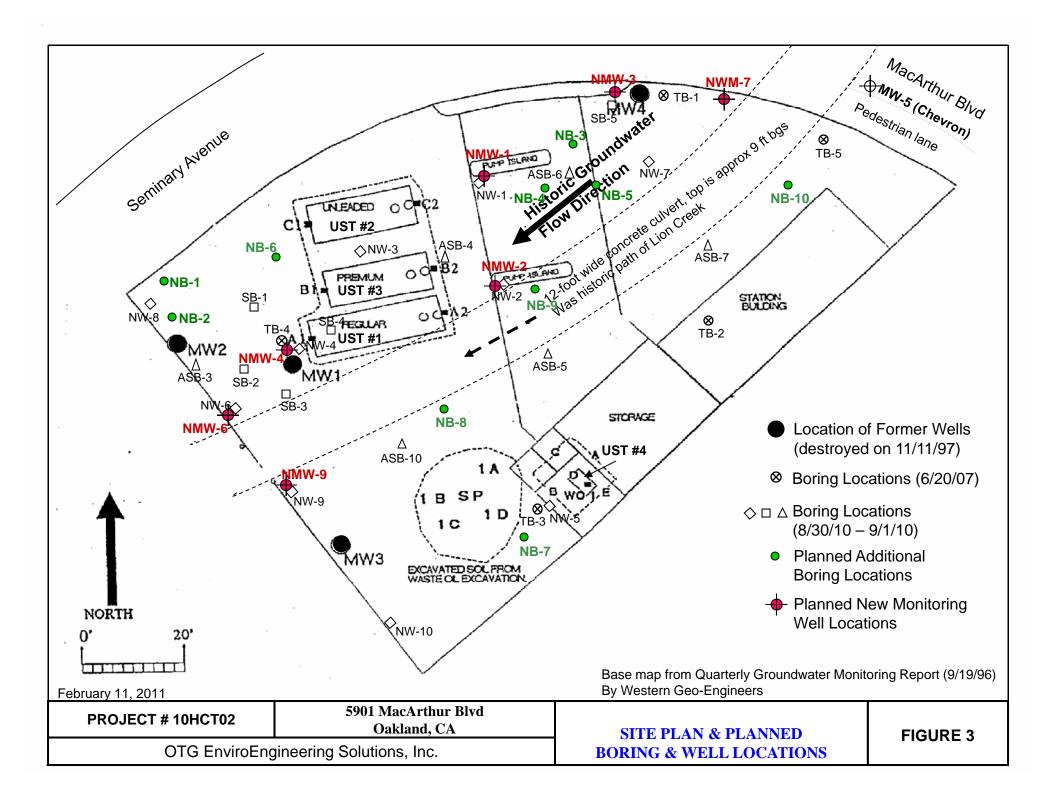
# **LEGEND:**

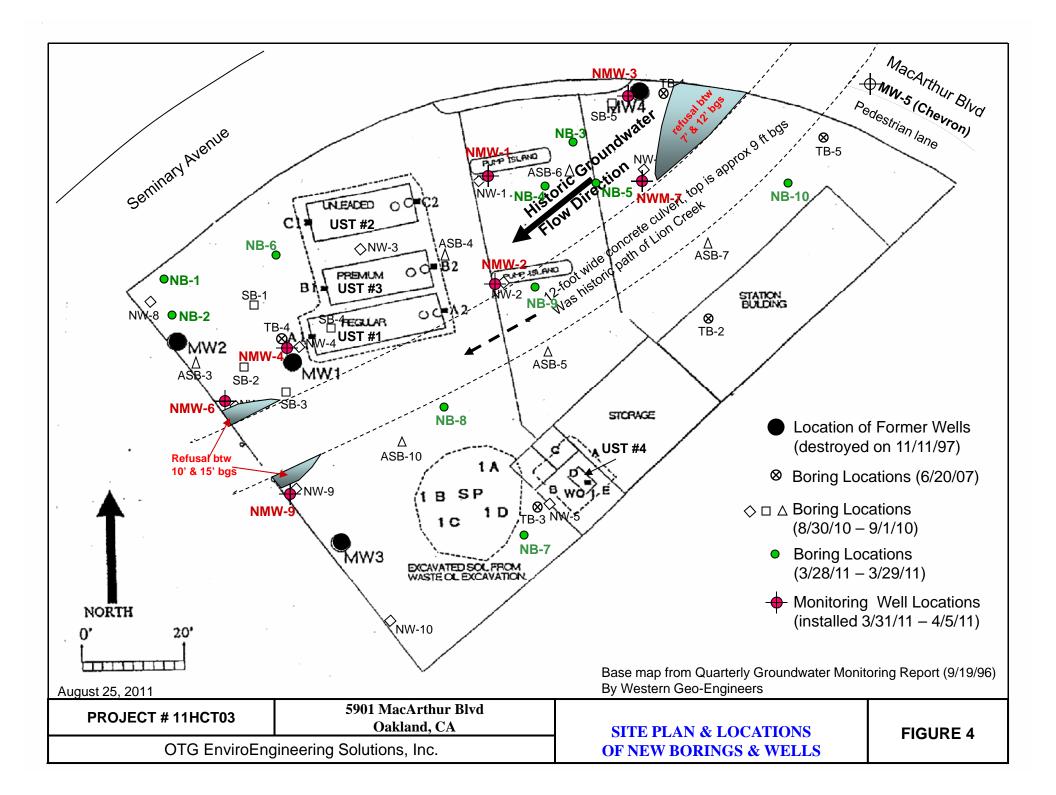
+

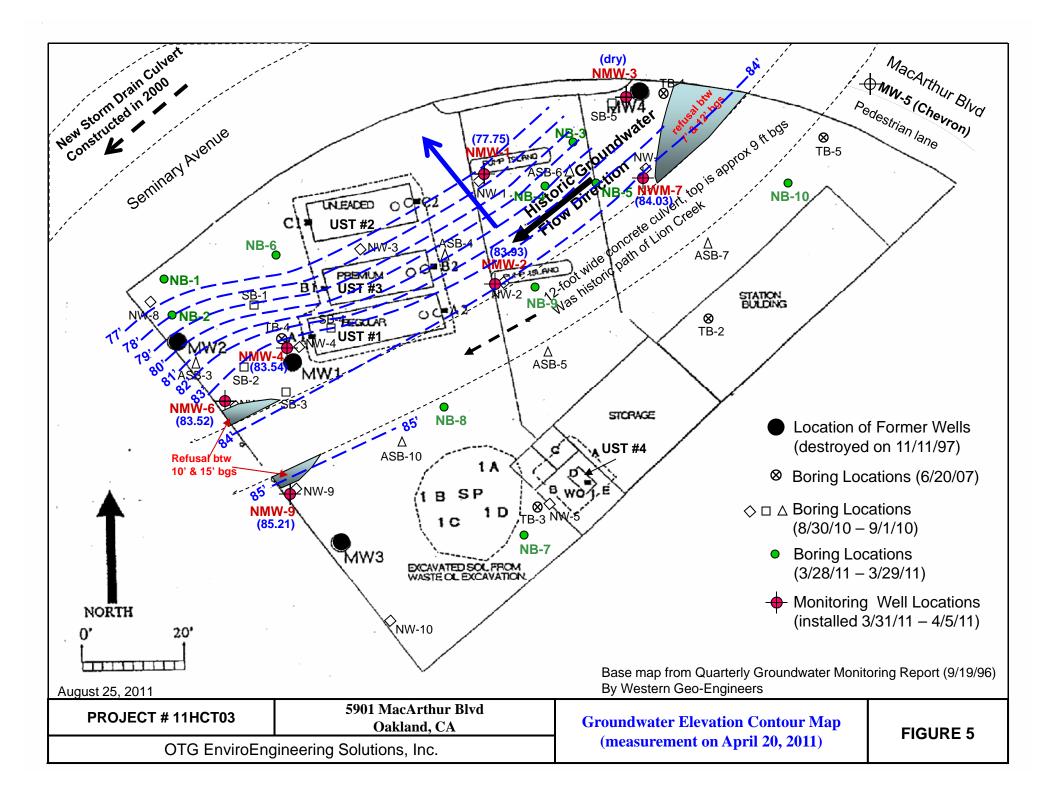
Existing groundwater monitoring wells installed by the active gas station at 5910 MacArthur Blvd. (Chevron Service Station #9-9708)

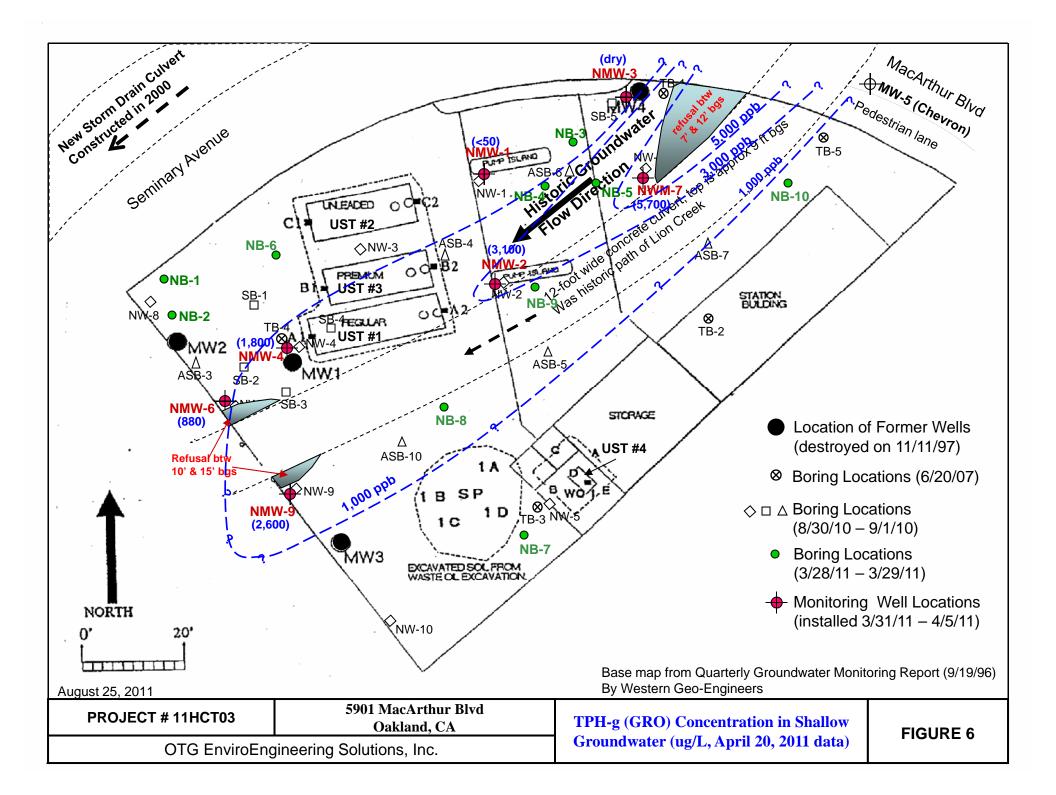
October 2010

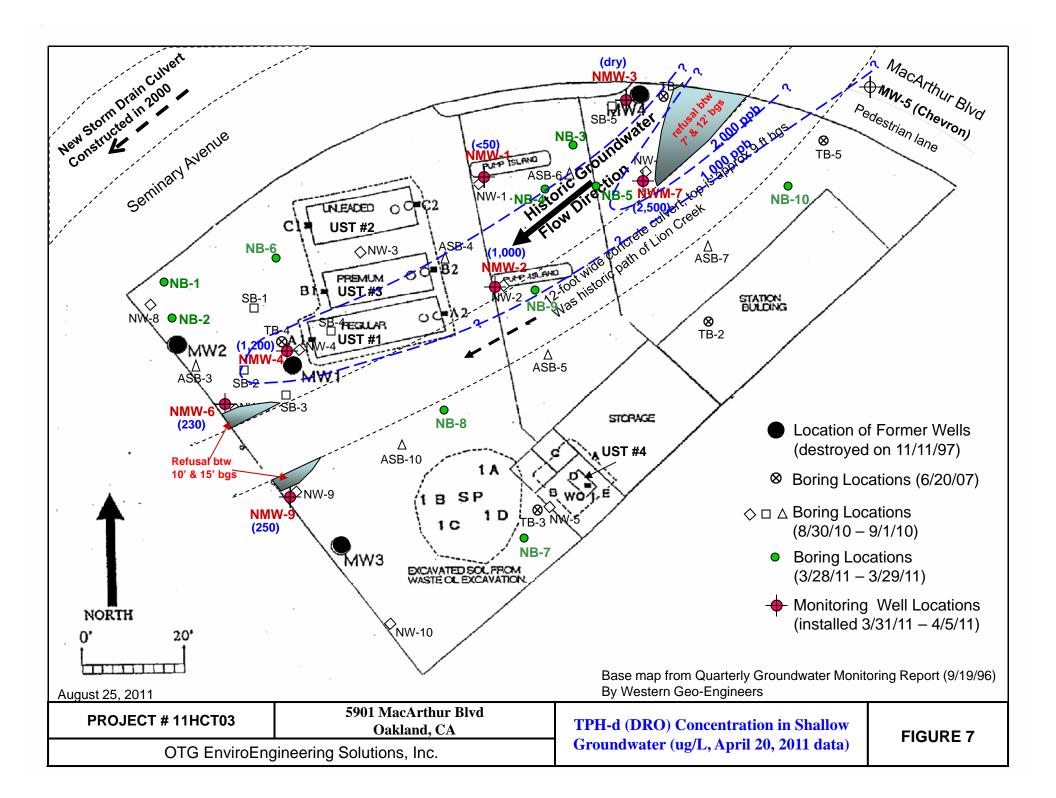
PROJECT NO. 10HCT02.2000	5901 MacArthur Blvd Oakland, CA	VICINITY AERIAL MAP  & Locations of Storm Drain Culverts	FIGURE 2	
OTG EnviroEngi	neering Solutions Inc.	& Active Monitoring Wells from the Gas Station Across MacArthur Blvd.		

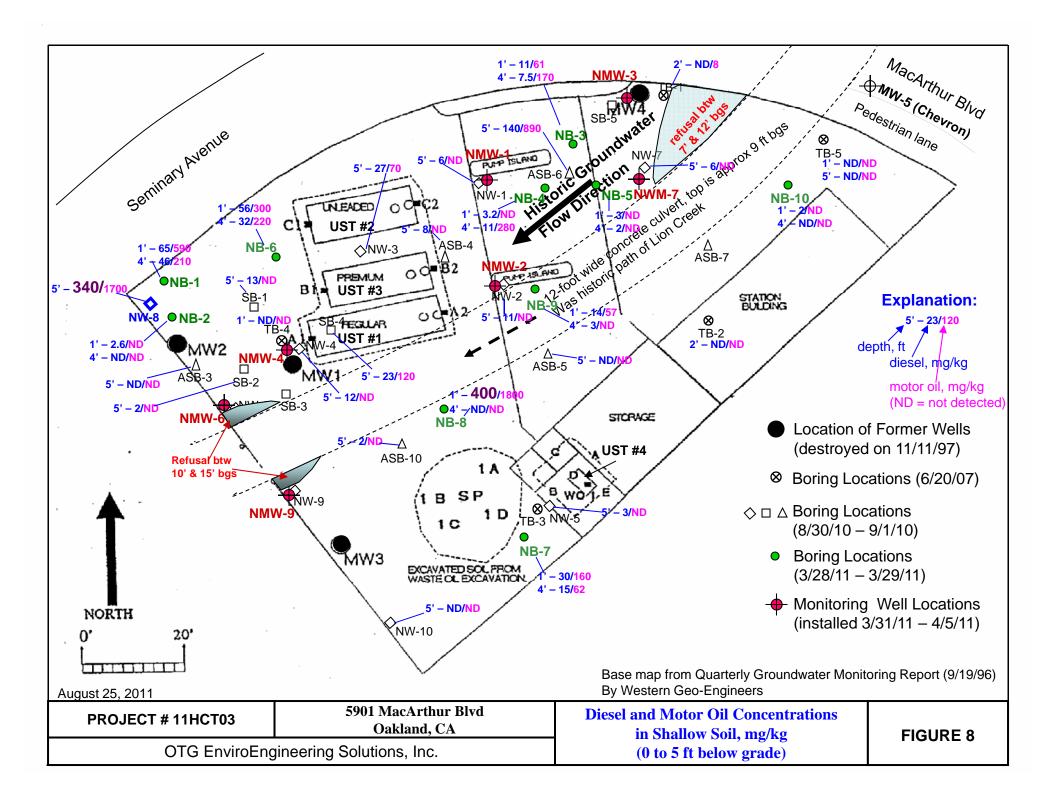












# **APPENDIX A**

**Well Construction Permit** 

### 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: 03/17/2011 By jamesy Permit Numbers: W2011-0158 to W2011-0164 Permits Valid from 03/31/2011 to 04/06/2011

Application Id: 1300298812036 City of Project Site:Oakland

**Site Location:** 5901 MacArthur Blvd, Oakland, CA

a vacant lot, formerly Regal Service Station #404

Project Start Date: 03/31/2011 Completion Date:04/06/2011

Assigned Inspector: Contact Vicky Hamlin at (510) 670-5443 or vickyh@acpwa.org

Applicant: OTG EnviroEngineering Solutions, Inc. - Phone: 510-465-8982

Xinggang Tong

7700 Edgewater Drive, Suite 260, Oakland, CA 94621

Property Owner: Jeffrey Huynh Phone: 510-301-1600

1501 Darius Court, Oakland, CA 94577

Client: Xinggang Tong Phone: 510-465-8982

7700 Edgewater Drive, Suite 260, Oakland, CA 94621

 Contact:
 Xinggang Tong
 Phone: 510-465-8982

 Cell: 510-612-0857

Total Due: \$2779.00

Receipt Number: WR2011-0073 Total Amount Paid: \$2779.00

Payer Name : Xinggang Tong Paid By: VISA PAID IN FULL

### **Works Requesting Permits:**

Well Construction-Monitoring-Monitoring - 7 Wells

Driller: PeneCore Drilling - Lic #: 906899 - Method: hstem Work Total: \$2779.00

#### **Specifications**

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2011- 0158	03/17/2011	06/29/2011	NMW-1	10.00 in.	4.00 in.	9.00 ft	25.00 ft
W2011- 0159	03/17/2011	06/29/2011	NMW-2	10.00 in.	4.00 in.	9.00 ft	25.00 ft
W2011- 0160	03/17/2011	06/29/2011	NMW-3	8.00 in.	2.00 in.	9.00 ft	25.00 ft
W2011- 0161	03/17/2011	06/29/2011	NMW-4	10.00 in.	4.00 in.	9.00 ft	25.00 ft
W2011- 0162	03/17/2011	06/29/2011	NMW-6	8.00 in.	2.00 in.	9.00 ft	25.00 ft
W2011- 0163	03/17/2011	06/29/2011	NMW-7	8.00 in.	2.00 in.	9.00 ft	25.00 ft
W2011- 0164	03/17/2011	06/29/2011	NMW-9	8.00 in.	2.00 in.	9.00 ft	25.00 ft

#### **Specific Work Permit Conditions**

- 1. 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.
- 2. Permittee, 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,

### Alameda County Public Works Agency - Water Resources Well Permit

properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no 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.

- 3. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an 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.
- 4. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well construction or destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including permit number and site map.
- 5. Applicant shall submit the copies of the approved encroachment permit to this office within 60 days.
- 6. Applicant shall contact Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org 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.
- 7. Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.
- 8. Minimum surface seal thickness is two inches of cement grout placed by tremie
- 9. Minimum seal (Neat Cement seal) depth for monitoring wells is 5 feet below ground surface(BGS) or the maximum depth practicable or 20 feet.
- 10. 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.

## **APPENDIX B**

Well Installation Logs and Soil Boring Logs

Org	EnviroEr Solutions	_		ng		Mor	nitoring Wel	l Log	Well ID	NMW-1	
Site L	ocation:		<u> </u>		5901 Ma	cArthı	ır Blvd, Oakland, CA		Borehole ID	NW-1	
	wner:						Family Living Trust			<del>-</del>	
orehole	Informatio	n					Well Construction I	nformation	·	Top of Casing Elevation: 97.85 ft	
rilling Co	ontractor:			Drilling			Drilling Contractor:	PeneCore Drilli	ing Co.	Well Casing Diameter: 4 inches	
rilling M					robe78221	DT	Drilling Equipment:	GeoProbe 660	_	Casing Material: Sch 40 PVC	
	Diameter:			2.25"0	D/1"ID		Drilling Method:	Hollow-stem a	uger, 10" O.D.	Total Depth of Well: 23 feet	
ate Drille	ea: I borehole wit		)/2010		)ualCara lir	205	Date Drilled:	4/1/2011	llod appr 12" from	Boring Diameter: 10 inches  n original borehole location	
	ent sealed bo						_			11" standard screen 10 to 23 ft.	
						1		00 10 1 10 000		or standard screen to to 25 ft.	
Depth (feet, bgs)	Sampling location & ID	Blow counts	Recovery, %	PID reading (ppm)	Odor	Graphic log	Lithology/R	Remarks		Well Construction	
0				0.1	no		Gravel-sand-silt fill (G	iM)		Traffic rated well box, bolted cov	
1							very dense, non-plast	•		Twist & lock well cap	
1	1	$\Box$					brown color				
2	1	$\pm \parallel$	70							Neat cement grout (0 to 8 ft bgs)	
3			70								
,	+	$\vdash$								4-inch dia, Sch 40 PVC casing	
4	NI)A/ 1 F			1	no	-				surface to 10 feet bgs	
5	NW-1-5	+		1	no						
6						-					
-	+	$\vdash$									
7	70					Silty sand fill (SM), no	n-plastic				
8						-	<10% gravels, brown			Bentonite chip seal (8 to 9 ft bgs)	
9										,	
	NW-1-10			3.5	no		Aggregates-sand-silt to very dense, non-plast			#2/12 filter pack sand	
10	1444 1 10			3.3	110		brown color			(9 to 22 ft bgs)	
11							Clayey silt - Silty clay	(ML/CL)			
12							brown	(1412) 02)		4-inch dia, Sch 40 PVC well screei	
12			100							0.01-inch factory slotted standard 10 to 23 feet bgs	
13										10 to 25 feet 565	
14							Clayey silt (ML), soft,	no fron water			
15	NW-1-15			316	strong petro		dark green to dark gr				
15							Silty clay (CL), mediur	n plasticity			
16		$\vdash$					firm to stiff, light brown to yellow	ish brown			
17						]					
F	+	$\vdash$	100								
18											
19	+	$\vdash$									
20	NW-1-20			2	no						
F	1	$\vdash$									
21										A 10 144 - 1 4 14 14 4	
22	1	$\vdash$	4			-				4/8/11, dry on 4/1/11	
23			100							Schedule 40 PVC end cap	
-	1	$\vdash$								Total Well Depth = 23 feet	
24											
25	NW-1-25			0.5	no		Total Boring Depth = no groundwater enco				
26	+	$\vdash$				1	no groundwater enco	ountereu			
26						]					
27	1	$\vdash$				1					
-	1					1			1		

	EnviroEn Solutions	_		ng		Mor	nitoring Wel	Log	Well ID	NMW-2
Site Lo	ocation:				5901 Ma	cArthu	ır Blvd, Oakland, CA		Borehole ID	NW-2
	vner:				Huynh (	Cheng	Family Living Trust			
Borehole	Information	1					Well Construction I	nformation		Top of Casing Elevation: 97.94 ft
Orilling Co	ntractor:	Pene	Core	Drilling	Co.		Drilling Contractor:	PeneCore Drillin	g Co.	Well Casing Diameter: 4 inches
rilling Me	ethod:	Dire	ct Pus	h, GeoF	robe7822I	TC	Drilling Equipment:	GeoProbe 6600	Comb rig	Casing Material: Sch 40 PVC
orehole D	Diameter:	Dual	Core,	2.25"0	D/1"ID		Drilling Method:	Hollow-stem au	ger, 10" O.D.	Total Depth of Well: 23 feet
Date Drille			/2010				Date Drilled:	4/1/2011		Boring Diameter: 10 inches
	borehole wit						-			n original borehole location
leat ceme	ent sealed bo	rehol	e at e	nd of th	e same da	У		Sch 40 PVC casii	ng 0 to 10 ft; 0.0	1" standard screen 10 to 23 ft.
Depth (feet, bgs)	Sampling location & ID	Blow counts	Recovery, %	PID reading (ppm)	Odor	Graphic log	Lithology/F	temarks		Well Construction
0				0	no		Base aggregates fill (0	GW)		Traffic rated well box, bolted cover
1						1				Twist & lock well cap
· _							Aggregates-sand-silt			
2						-	very dense, non-plast brown color	iiC		Neat cement grout (0 to 8 ft bgs)
<u>,</u>			70			-	2.0			
3						1				
4		$\vdash$				-				4-inch dia, Sch 40 PVC casing surface to 10 feet bgs
_	NW-2-5	$\vdash$		1.3	no	-				Sande to 10 feet MgJ
5										
6						_				
_										
7			70							
8			70							Bentonite chip seal (8 to 9 ft bgs)
_						_				Bentonite chip sear (8 to 3 it bgs)
9										
10 —	NW-2-10			1	no	000000	Silty sand (SM), dark	hrown		#2/12 filter pack sand (9 to 22 ft bgs)
							Sifty Salid (Sivi), dark	DIOWII		(5 to 22 it bgs)
11										
12						-				4-inch dia, Sch 40 PVC well screen 0.01-inch factory slotted standard
12			15			١,				10 to 23 feet bgs
13						?				10/11
14						-				4/8/11
15	NW-2-W					-	▽ 8/30/10, NW-2-W	is a gw sample		
15	NW-2-15			160	petro		Silty sand (SM), dark	green to		
16						-	dark gray gw first encountered	at apprx 15 ft		
17										
1'			90			-	Silty clay (CL), mediur firm to stiff,	n plasticity		
18						<del> </del>	brown to yellowish b	rown		
19										
	NW-2-20			1.5	no	-				
20	2 23									
21										
-		$\vdash$								
22			100							
23			100			-				Schedule 40 PVC end cap Total Well Depth = 23 feet
_										Total Well Deptil - 23 leet
24						1				
25				0.5	no		Total Boring Depth =	25 feet		
_		$\vdash$				1				
26						1				
27	<u> </u>					4				
27										

ОТ		EnviroEn Solutions	_		ng	l	Mor	nitoring Wel	l Log	Well ID	NMW-3
Site		cation:				5901 Ma	cArthu	ır Blvd, Oakland, CA		Borehole ID	SB-5
		ner:				Huynh (	Cheng	Family Living Trust			1
		Informatio						Well Construction I			Top of Casing Elevation: 97.70 ft
		tractor:	1		Drilling			Drilling Contractor:	PeneCore Drillin		Well Casing Diameter: 2 inches
Orilling N			_			Probe7822[	DT	Drilling Equipment:	GeoProbe 6600		Casing Material: Sch 40 PVC
		iameter:	_		2.25"0	D/1"ID		Drilling Method:	Hollow-stem au	iger, 8" O.D.	Total Depth of Well: 23 feet
Date Dri				/2010				Date Drilled:	3/31/2011	1 4 Oll C	Boring Diameter: 8 inches
		orehole wit nt sealed bo						-			om original borehole location 01" standard screen 10 to 23 ft.
	lllei	iit sealed bo		_		le same day			3CIT 40 PVC Casi	ing o to 10 it, o	of standard screen to to 25 it.
Depth (feet, bgs)		Sampling Iocation & ID	Blow counts	Recovery, %	PID reading (ppm)	Odor	Graphic log	Lithology/F	Remarks		Well Construction
0 -					0.1			aggregates sand silt f	SII (GM)		Traffic rated well box, bolted cove
	Н		$\vdash$		0.1	no	_	aggregates-sand-silt f very dense, non-plast			Twist & lock well cap
1 —	Ħ						1	brown color			
2 —	Д						_				Next coment grout (0 to 9 ft bas)
	Н			50							Neat cement grout (0 to 8 ft bgs)
3 —	П						]				
4 —	+						_				2-inch dia, Sch 40 PVC casing surface to 10 feet bgs
_	Н		$\vdash$		0.2	no					PALLIAGE TO TO LEET NRS
5 —	П						]				
6 —	$\mathbb{H}$		$\vdash$				-				
7	50						1				
7 —							]				
8 —		SB-5-8			1.5 no						Bentonite chip seal (8 to 9 ft bgs)
0		0000					_				zemeemice emp sear (o to s it sgs)
9 —	П							Clayey silt (ML), dark	green		#2/12 filton!!
10 —	H					no					#2/12 filter pack sand (9 to 23 ft bgs)
11 —	Ħ										
11	П										2-inch dia, Sch 40 PVC well screen
12 —	+						-	Gravelly sands (SP), b	rown		0.01-inch factory slotted standard
13 —		SB-5-13		60	69	faint petro	1	, , , , , , , , , , , , , , , , , , , ,			10 to 23 feet bgs
13							-				
14 —	+						-				
15 —							<b>.</b>	moist at approx 15 ft			
	Ħ	SB-5-15	$\vdash$		1.7	no		Silty clay (CL), mediur firm to stiff,	n plasticity		
16 —	H							light brown to yellow	ish brown		
17 —	Д										
	Н			100							
18 —	П										
19 —	П		Щ								
		SB-5-20			0.8	no	+				
20 —							1				
21 —	+										
22	Н										
22 —	П			100			]				Schodulo 40 DVC and
23 —	H										Schedule 40 PVC end cap Total Well Depth = 23 feet
24 —	H						<b>j</b>				
24 —	L	CD = 2=			0.5			Tatal Barden S	25 foot		
25 —	Ħ	SB-5-25			0.5	no		Total Boring Depth = no groundwater enco			dry when completed on 3/31/11
26	H						j	b. canamater ente			,
26 —	П										
27 —	Н						1				
	Н				-		1			1	

OIG	EnviroEr Solutions	_		ng		Mor	nitoring Wel	l Log	Well ID	NMW-4
Site L	ocation:				5901 Ma	cArthu	ır Blvd, Oakland, CA		Borehole ID	NW-4
٥١	wner:				Huynh (	Cheng	Family Living Trust			
Borehole	Informatio	n					Well Construction	nformation		Top of Casing Elevation: 97.73 ft
rilling Co	ntractor:	Pene	Core	Drilling	Co.		Drilling Contractor:	PeneCore Drilli	ng Co.	Well Casing Diameter: 4 inches
rilling M	ethod:	Direc	ct Pus	h, GeoP	robe78221	DT	Drilling Equipment:	GeoProbe 6600	Comb rig	Casing Material: Sch 40 PVC
orehole I	Diameter:	Dual	Core,	2.25"0	D/1"ID		Drilling Method:	Hollow-stem au	uger, 10" O.D.	Total Depth of Well: 22 feet
Date Drille	ed:	8/30	/2010	)			Date Drilled:	4/4/2011		Boring Diameter: 10 inches
dvanced	borehole wit	h 5-ft	section	ons of D	ualCore lir	nes		Well was instal	led appr 12" fron	n original borehole location
leat ceme	ent sealed bo	rehol	e at e	nd of th	e same da	у		Sch 40 PVC casi	ing 0 to 10 ft; 0.0	1" standard screen 10 to 22 ft.
Depth (feet, bgs)	Sampling Iocation & ID	Blow counts	Recovery, %	PID reading (ppm)	Odor	Graphic log	Lithology/F	Remarks		Well Construction
0				0.1	no		Gravel-sand-silt fill (G	iM)		Traffic rated well box, bolted cove
F				0.1	110	_	very dense, non-plast	,		Twist & lock well cap
1						_	brown color			,
2						mann	Scilty cand fill (CNA)	n plactic		Noat coment grout (0 to 0 ft look
F		-	70				Silty sand fill (SM), no <10% gravels, brown	ni-piastic		Neat cement grout (0 to 8 ft bgs)
3							10,0 61 ave.13, 61 0 WII			
<u>ا</u>										4-inch dia, Sch 40 PVC casing
-	NIM 4 F	igsqcup		0.1	~-		Silty clay (CL), mediu			surface to 10 feet bgs
5 —	NW-4-5			0.1	no		firm to stiff, brown to	uark brown		
_										
6										
7						-				
_ }		70 70								
8 —										Bentonite chip seal (8 to 9 ft bgs)
9										
	NW-4-10			3.5	no	-				#2/12 filter pack sand
10	1444 4 10			5.5	110	-				(9 to 22 ft bgs)
11										
						_				4-inch dia, Sch 40 PVC well screen
12						-				0.01-inch factory slotted standard
12			60							10 to 22 feet bgs
13										- 45 (5.4
14										4/8/11
	NW-4-15			178	strong petro	7	√ 8/30/10			
15	NW-4-W				31	]	Silty sand with gravel			
16	NW-4-Wd	igsquare					(SM/SP), dark green t			
F		$\vdash$					gw first encountered NW-4-W is a gw sam			
17			00				NW-4-W is a duplicat	e gw sample		
18			90		_		Silty clay (CL), mediu	n plasticity		
		$\vdash$				-	firm to stiff, brown to yellowish b	rown		
19							S. OWIT TO YELLOWISH D	- CVVIII		
20	NW-4-20			1.2	no					
		igspace		$\vdash$		_				
21										
22										Schedule 40 PVC end cap
22			100		-					Total Well Depth = 22 feet
23						-				
<u>,</u> }										
24										
25	NW-4-25			0.5	no		Total Boring Depth =	25 feet		
		$\vdash$				4				
26						1				
-	1					1				
27										

0	rmation ttor: Pe d: Dir eter: Du 8/3 hole with 5-	ect Pus alCore, 31/2010 ft section ble at e	Drilling ( h, GeoPr 2.25"OD ) ons of Du	Huynh C Co. robe7822D D/1"ID ualCore lin	ot es	r Blvd, Oakland, CA Family Living Trust  Well Construction I  Drilling Contractor:  Drilling Equipment:  Drilling Method:  Date Drilled:  Lithology/F  aggregates-sand-silt I  very dense, non-plast brown color	PeneCore Drillin GeoProbe 6600 Hollow-stem au 3/31/2011 Well was install Sch 40 PVC casin Remarks	Comb rig ger, 8" O.D. ed appr 18" fro	NW-6  Top of Casing Elevation: 97.10 ft Well Casing Diameter: 2 inches Casing Material: Sch 40 PVC Total Depth of Well: 23 feet Boring Diameter: 8 inches m original borehole location 01" standard screen 10 to 23 ft.  Well Construction  Traffic rated well box, bolted cove Twist & lock well cap  Neat cement grout (0 to 8 ft bgs)  2-inch dia, Sch 40 PVC casing
Borehole Information of Prilling Contracts of Prilling Method: Borehole Diamet Date Drilled: Advanced borehole Diamet Sea of Sea	rmation ctor: Pe d: Dir eter: Du 8/3 hole with 5-	ect Pus alCore, 31/2010 ft section ble at e	h, GeoPri 2.25"OD ons of Dons of Dons ad of the Bullippea QIA 0.1	Co. robe7822D D/1"ID  ualCore lin e same day  no	es	Well Construction I Drilling Contractor: Drilling Equipment: Drilling Method: Date Drilled:  Lithology/F  aggregates-sand-silt I very dense, non-plast	PeneCore Drillin GeoProbe 6600 Hollow-stem au 3/31/2011 Well was install Sch 40 PVC casin Remarks	Comb rig ger, 8" O.D. ed appr 18" fro	Well Casing Diameter: 2 inches Casing Material: Sch 40 PVC Total Depth of Well: 23 feet Boring Diameter: 8 inches m original borehole location 01" standard screen 10 to 23 ft.  Well Construction  Traffic rated well box, bolted cove Twist & lock well cap  Neat cement grout (0 to 8 ft bgs)
Drilling Contract  Drilling Method: Borehole Diamet Date Drilled: Advanced boreh Neat cement sea  Table Drilled: Advanc	ttor: Ped: Director: Du 8/3 hole with 5-ealed boreho	ect Pus alCore, 31/2010 ft section ble at e	h, GeoPri 2.25"OD ons of Dons of Dons ad of the Bullippea QIA 0.1	obe7822D D/1"ID ualCore lin e same day O no	es '	Drilling Contractor: Drilling Equipment: Drilling Method: Date Drilled:  Lithology/F aggregates-sand-silt ivery dense, non-plast	PeneCore Drillin GeoProbe 6600 Hollow-stem au 3/31/2011 Well was install Sch 40 PVC casin Remarks	Comb rig ger, 8" O.D. ed appr 18" fro	Well Casing Diameter: 2 inches Casing Material: Sch 40 PVC Total Depth of Well: 23 feet Boring Diameter: 8 inches m original borehole location 01" standard screen 10 to 23 ft.  Well Construction  Traffic rated well box, bolted cove Twist & lock well cap  Neat cement grout (0 to 8 ft bgs)
orilling Method: Sorehole Diamet Date Drilled: Advanced boreh Reat cement sea  (c)  (c)  (d)  (d)  (d)  (d)  (d)  (d)	d: Dir eter: Du 8/3 hole with 5- ealed boreho	ect Pus alCore, 31/2010 ft section ble at e	h, GeoPri 2.25"OD ons of Dons of Dons ad of the Bullippea QIA 0.1	obe7822D D/1"ID ualCore lin e same day O no	es '	Drilling Equipment: Drilling Method: Date Drilled:  Lithology/F aggregates-sand-silt ivery dense, non-plast	GeoProbe 6600 Hollow-stem au 3/31/2011 Well was install Sch 40 PVC casin	Comb rig ger, 8" O.D. ed appr 18" fro	Casing Material: Sch 40 PVC Total Depth of Well: 23 feet Boring Diameter: 8 inches m original borehole location 01" standard screen 10 to 23 ft.  Well Construction  Traffic rated well box, bolted cove Twist & lock well cap  Neat cement grout (0 to 8 ft bgs)
Jorehole Diametro Porchole Dia	eter: Du 8/3 hole with 5- ealed boreh	alCore, 31/2010 ft sectional section at each of the section at each	2.25"OD ons of Do ons of Do ond of the gu uppe ( a d o o o o o o o o o o o o o o o o o o	ualCore line e same day	es '	Drilling Method: Date Drilled:  Lithology/F aggregates-sand-silt I very dense, non-plast	Hollow-stem au 3/31/2011 Well was install Sch 40 PVC casin Remarks	ger, 8" O.D. ed appr 18" fro	Total Depth of Well: 23 feet Boring Diameter: 8 inches m original borehole location 01" standard screen 10 to 23 ft.  Well Construction  Traffic rated well box, bolted cove Twist & lock well cap  Neat cement grout (0 to 8 ft bgs)
ate Drilled:   dvanced boreh     leat cement sea     o	8/3 hole with 5- ealed boreh	s1/2016 ft sectional ft section	ons of Dond of the Market Mark	ualCore lin e same day O O	, 	Date Drilled:  Lithology/F  aggregates-sand-silt ivery dense, non-plast	3/31/2011 Well was install Sch 40 PVC casin Remarks	ed appr 18" fro	Boring Diameter: 8 inches m original borehole location 01" standard screen 10 to 23 ft.  Well Construction  Traffic rated well box, bolted cove Twist & lock well cap  Neat cement grout (0 to 8 ft bgs)
dvanced boreh leat cement sea	hole with 5-	ft section ble at e	ons of Du nd of the guippeau (Edd.) 0.1	op O no	, 	Lithology/F aggregates-sand-silt I very dense, non-plast	Well was install Sch 40 PVC casin Remarks		m original borehole location 01" standard screen 10 to 23 ft.  Well Construction  Traffic rated well box, bolted cove Twist & lock well cap  Neat cement grout (0 to 8 ft bgs)
Deat cement sea	ealed boreh	Sple at e	bid of the hold of	op O no	, 	aggregates-sand-silt t	Sch 40 PVC casii Remarks Fill (GM)		Well Construction  Traffic rated well box, bolted cove Twist & lock well cap  Neat cement grout (0 to 8 ft bgs)
11		% Recovery, %	PID reading 1:0 (ppm)	no		aggregates-sand-silt t	Remarks	ng 0 to 10 ft; 0.	Well Construction  Traffic rated well box, bolted cove Twist & lock well cap  Neat cement grout (0 to 8 ft bgs)
0	location & ID	70	0.1	no	Graphic log	aggregates-sand-silt t	fill (GM)		Traffic rated well box, bolted cove Twist & lock well cap Neat cement grout (0 to 8 ft bgs)
1						very dense, non-plast			Twist & lock well cap  Neat cement grout (0 to 8 ft bgs)
2			0.2	no		very dense, non-plast			Neat cement grout (0 to 8 ft bgs)
2			0.2	no		brown color			
3 4 5 6 7 8 9 10 NW 11 12 13 14 NB			0.2	no					
4 — — — — — — — — — — — — — — — — — — —			0.2	no					
4 — — — — — — — — — — — — — — — — — — —		60	0.2	no					2-inch dia Sch 40 DVC casing
5		60	0.2	no					I /-inch dia Sch // DV/C cacing
6		60	0.2	no				parameter (1)	surface to 10 feet bgs
6		60							50.1000 to 10 feet 063
7 - 8 9 10 NW 11 12 13 14 NB		60			<b>-</b> 00000000000	Gravelly sands fill (SP	)		
8 9 NW 10 NW 11 12 13 NR NR		60			ł	dark brown			
8 9 NW 10 NW 11 12 13 NR NR		60			l				
9 NW 11 12 13 NR NR		-			1				
10 NW 11 12 13 14 NR			<b>-</b>		ł				Bentonite chip seal (8 to 9 ft bgs)
10 NW 11 12 13 14 NR	1	1			ł				pentonite only sear to to a it ngs)
10 ————————————————————————————————————		1			1				
12 ————————————————————————————————————	W-6-10	1	0.5	no		Silty clay (CL), mediur	m nlasticity		#2/12 filter pack sand (9 to 22 ft bgs)
12 ————————————————————————————————————		1				medium soft, dark br			(3 to 22 it bgs)
13 14 NB		]							
14 NB.		-							2-inch dia, Sch 40 PVC well screen 0.01-inch factory slotted standard
14 NB.		70							10 to 23 feet bgs
NB		1							
NB		4							4/8/11
4 F IND	B-6-15	+	0.5	no		refusal at 15 ft on 3/3	31/11		
15		1				Silty sand (SM), non-r	olastic		
16		4				dark green to dark gr free water at 15 ft	ay		
17		1				cc water at 13 ft			
17		]				Slity clay (CL), mediur	m plasticity		
18		-			H	firm to stiff yellowish brown to b	rown		
19		1				, 2. 3 10 0			
19		1							
20		+							
21		1					_		
-1		4				Soil logging from 15 t			
22		-				on 3/31/11 during we	en mstanation		
23		1							Schedule 40 PVC end cap
		4			-				Total Well Depth = 23 feet
24		+			1				
25					1				
		4			1				
26		$\dashv$			1				
27		1			1				
-'  -					1				

ОТ	G Envi Solut		_		ng	ſ	Mor	nitoring Wel	l Log	Well ID	NMW-7
Site	Location		,	_		5901 Mad	Arthu	ır Blvd, Oakland, CA		Borehole ID	NW-7
	Owner:					Huynh C	heng	Family Living Trust			
Borehol								Well Construction I	1		Top of Casing Elevation: 97.78 ft
	Contracto				Drilling			Drilling Contractor:	PeneCore Drillin		Well Casing Diameter: 2 inches
Drilling N					sh, GeoF 2.25"O	Probe7822D	)T	Drilling Equipment:	GeoProbe 6600 Hollow-stem au		Casing Material: Sch 40 PVC Total Depth of Well: 22 feet
Date Dril	Diamete			/2010		טו דוע		Drilling Method:  Date Drilled:	4/1/2011	iger, & O.D.	Boring Diameter: 8 inches
						DualCore lin	es	Bute Brinea.		ed appr 18" fror	n original borehole location
						ie same day					" standard screen 9 to 22 ft.
Depth (feet, bgs)	Sampling location &	ID	Blow counts	Recovery, %	PID reading (ppm)	Odor	Graphic log	Lithology/F	Remarks		Well Construction
0 —					0.1	no		Gravel-sand-silt fill (G	iM)		Traffic rated well box, bolted cover
1 —								very dense, non-plast brown color	tic		Twist & lock well cap
	$\vdash$							DIOMII COIOF			
2 —	H			80							Neat cement grout (0 to 7 ft bgs)
3 —	Ш										
4 —											2-inch dia, Sch 40 PVC casing surface to 9 feet bgs
5 —	NW	-7-5			0.5	no					Surface to 5 feet bgs
J											
6 —											
7 —								Gravelly sands fill (SP	). brown		Bentonite chip seal (7 to 8 ft bgs)
8 <del>-</del>				50				(1	,,		
	8										#2/12 filter pack sand (8 to 22 ft bgs)
9 —		7.40			0.5						, ,
10 —	NW-	7-10			0.5	no		Clayey silt (ML)			
11 —								dark green to dark gr	ay		
12											2-inch dia, Sch 40 PVC well screen
12 —				50							0.01-inch factory slotted standard 9 to 22 feet bgs
13 —								about 2" concrete at	14 ft, wet		_
14 —	NW-	7-W						<u>∨</u> 8/31/10			4/8/11
15 —	NW-				365	strong petro		NW-7-W is a gw sam			
								Silty clay (CL), mediur firm to stiff,	m plasticity		
16 —								light brown to yellow	ish brown		
17 —	H			400							
18 —				100							
19 —	oxdot										
19 —	NI/A/	7-20			0.5	no					
20 —	1400-	, 20			0.5	110					
21 —	H										
22 —											Schedule 40 PVC end cap
	H										Total Well Depth = 22 feet
23 —											
24 —	H										
25 —											
	oxdot	_									
26 —											
27 —	Ш										
	logge	d by: >	V To-	<u> </u>				Date: 4/11/2011			

OTG	EnviroEn Solutions	_		ng		Mor	nitoring Wel	l Log	Well ID	NMW-9
Site L	ocation:				5901 Ma	cArthu	ır Blvd, Oakland, CA		Borehole ID	NW-9
٥١	wner:				Huynh (	Cheng	Family Living Trust			
Borehole	Information	1		-			Well Construction I	nformation		Top of Casing Elevation: 97.91 ft
Orilling Co	ontractor:	Pene	eCore	Drilling	Co.		Drilling Contractor:	PeneCore Drillin	ıg Co.	Well Casing Diameter: 2 inches
Orilling M	ethod:	Dire	ct Pus	h, GeoP	Probe78221	TC	Drilling Equipment:	GeoProbe 6600	Comb rig	Casing Material: Sch 40 PVC
Borehole I	Diameter:	Dual	lCore,	2.25"0	D/1"ID		Drilling Method:	Hollow-stem au	ger, 8" O.D.	Total Depth of Well: 24 feet
Date Drille	ed:	8/31	/2010	)			Date Drilled:	3/31/2011		Boring Diameter: 8 inches
Advanced	borehole wit	h 5-ft	secti	ons of D	ualCore lir	nes		Well was install	ed appr 12" fror	n original borehole location
leat ceme	ent sealed bo	rehol	e at e	nd of th	e same da	y		Sch 40 PVC casi	ng 0 to 10 ft; 0.0	1" standard screen 9 to 24 ft.
Depth (feet, bgs)	Sampling location & ID	Blow counts	Recovery, %	PID reading (ppm)	Odor	Graphic log	Lithology/R	Remarks		Well Construction
0				0.1	no		Aggregates-sand-silt	fill (GM)		Traffic rated well box, bolted cover
1						1	very dense, non-plast			Twist & lock well cap
1						-	brown color			
2	1					4				Neat cement grout (0 to 8 ft bgs)
<u> </u>			70			-				inear cement grout to to o it ugs)
3						1				
4						100000000000000000000000000000000000000	Gravelly canda fill (CD	1		2-inch dia, Sch 40 PVC casing surface to 10 feet bgs
	NW-9-5			0.2	no	-	Gravelly sands fill (SP dense, non-plastic, but	•		Solitace to to leet ngs
5						1	, p p			
6						4				
-	-			<u> </u>		-				
7			50			1				
8			50			1				
									Bentonite chip seal (8 to 9 ft bgs)	
9							Clayey silt (ML), dark	brown		#2/12 filter pack sand
10	NW-9-10			0.5	no					(9 to 24 ft bgs)
-						_				
11										
12										
			100			-				4/8/11
13										
14										
14	NW-9-15			0.5		4	Gravelly sands fill (SP 8/31/10	), wet at 15 ft		2-inch dia, Sch 40 PVC well screen 0.01-inch factory slotted standard
15	NW-9-13			0.5	no		Clayey silt (ML), dark	green		10 to 24 feet bgs
16							NW-9-W is a gw sam			, and the second
-10	-					-				
17	1		100				Silty clay (CL), mediur	m plasticity		
18			100			]	firm to stiff,			
F						-	light brown to yellow	isn prown		
19										
20 —	NW-9-20			0.2	no	<b>.</b>	Borehole ended at 20			
F							Soil logging from 20 t on 3/31/11 during we			
21							. ,	-		
22				<u> </u>		-				
<u> </u>										
23										S
24							1			Schedule 40 PVC end cap Total Well Depth = 24 feet
F						1				rotal Well Deptil - 24 feet
25										
26										
-	-			<u> </u>		-				
27						1				
	logged by:									

0		roEngin tions, In		ng			В		NG LOG	Boring ID Well ID	NB-1
Site:		Arthur Blvd		and,	, CA			SHEE	Ground Elevation:	NA	
Client	Huynh Cheng	g Family Livin							T.O.C. Elevation:	NA	
	t Number:	11HCT03.10	000						Coordinates:	NA	
	s) Drilled: s) Installed:	03/28/11 NA							Drilling Method:  Final Borehole Diameter:	Hand a	
	g Co./Driller:	OTG							Borehole Total Depth, ft	4	CII
	ent Groundwate		Drilling 9	Summ	orv:	firet hand did	with a	shavel	& pick to 1-ft diameter 6-inch dee		nle with se spoon
		ater encountered		Julilii					to 3.5-ft, collect 2nd sample with		
ft	after	hrs							orehle at the end of the same da		
Well Construction Details	Sample No. Sample Interval (ft) PID Reading (ppm) Recovery, %					Odor	Depth (ft)	Graphic Log	LITHOLO	OGY/REMARK	S
-	NR-1-1	0.5-1.0				no	1	GM	0 - 4 ft, AGGREGATES-S	SAND-SILT FILL (GM)	
-	NDTT	0.0 1.0				110			very stiff & well compacted	FILL	
_				-			2_		brown to dark brown dotted wi	ith yellowish sand/silt, mois	t
-				100			3_				
-	NB-1-4	3.5-4.0				no	4		Total borehole depth = 4 feet,	no groundwater encounter	ed
-											
-							5_				
-							6				
=							7				
-							' –				
-							8				
=							9				
-							10				
-							11				
-											
=				-			12_				
-							13				
-							14				
							' <sup>+</sup> _				
=							15				
-				1			16				
_											
-				-			17_				
							18				
-			1				10				
-							19_				
-							20				
-				-			21				
-				-			22				
				1			23				
				-			24				
				1			25				

0		roEngin tions, In		ng			В		NG LOG	Boring ID Well ID	NB-2
Site:		Arthur Blvd		and,	, CA			SHEE	Ground Elevation:	NA	
Client	Huynh Cheng	g Family Livin							T.O.C. Elevation:	NA	
	t Number:	11HCT03.10	000						Coordinates:	NA	
	s) Drilled:	03/28/11							Drilling Method:	Hand a	
	s) Installed: g Co./Driller:	NA OTG							Final Borehole Diameter: _ Borehole Total Depth, ft	4	Cn
			Deilling C			first band dis	with a	shovol	& pick to 1-ft diameter 6-inch dee		anla with as anoon
	ent Groundwate illing: no free w	ater encountered		summ					to 3.5-ft, collect 2nd sample with		
ft	after	hrs	_						porehle at the end of the same da		
Well Construction Details	Sample No. Sample Interval (ft) PID Reading (ppm) Recovery, % Blow Counts					Odor	Depth (ft)	Graphic Log	LITHOLO	OGY/REMARK	S
-	NR-2-1	0.5-1.0				no	1	GM	0 - 4 ft, AGGREGATES-	SAND-SILT FILL (GM)	
-	IND-Z-1	0.5-1.0				TIO		<b></b>	very stiff & well compacted	SAND-SILT TILL (GIVI)	
-							2		brown to dark brown dotted w	ith yellowish sand/silt, mois	st
-				100			3_				
-	NB-2-4	3.5-4.0				no	4		Total borehole depth = 4 feet,	no groundwater encounter	ed
-	ND-2-4 5.5-4.0						5				
-											
-							6_				
-							7				
-							8				
-							9				
-							10				
-							11				
-											
-							12_				
=							13_				
-							14				
-							15				
<del>-</del> -							16				
-							17				
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0	OTG EnviroEngineering Solutions, Inc.  Site: 5901 MacArthur Blvd, Oakland, CA Client Huynh Cheng Family Living Trust								NG LOG	Boring ID	NB-3	
								shee	t 1 of 1	Well ID		
				and,	, CA	<u>I</u>			Ground Elevation:	NA		
									T.O.C. Elevation:	NA NA		
-	t Number:	11HCT03.10	000						Coordinates:	NA		
	s) Drilled: s) Installed:	03/29/11 NA							Drilling Method:  Final Borehole Diameter:	Hand a		
	g Co./Driller:	OTG							Borehole Total Depth, ft	4		
	ent Groundwate		Drilling 9	Summ	arv:	first hand did	with a	havel.	& pick to 1-ft diameter 6-inch dee		nle with ss snoon	
	rilling: no free wa			Julili	iaiy.				to 3.5-ft, collect 2nd sample with			
ft	after	hrs							orehle at the end of the same da			
Well Construction Details								Graphic Log	LITHOLO	OGY/REMARK	6	
1 1	NB-3-1	0.5-1.0				no	1_	GM	0 - 3 ft, AGGREGATES-	SAND-SILT FILL (GM)		
-							_		very stiff & well compacted, but	rown		
_				100			2_					
_				1			3					
-	NB-3-4	3.5-4.0				no	4	GC	3 - 4 ft, stiff clayey silt with yellow to light brown	th gravels (GC)		
-	ND 5 T	3.5 4.0				110	· –		Total borehole depth = 4 feet,	no groundwater encounter	ed	
							5					
-							6					
-												
-							7_					
-							8					
-							_					
-							9_					
-							10					
-							11					
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Logged b	y: Xtong		Date of	f log:	: -	3/29/2011				·	<u></u>	

0	TG Envi	roEngin	eerir	ng			В	ORI	NG LOG	Boring ID	NB-4
		tions, In		-				shee	t 1 of 1	Well ID	
Site:	5901 Mac	Arthur Blvd	, Oakla	and,	CA				Ground Elevation:	NA	
Client	Huynh Cheng	Family Livin	g Trust						T.O.C. Elevation:	NA	
Projec	ct Number:	11HCT03.10	000						Coordinates:	NA	
	s) Drilled:	03/29/11							Drilling Method:	Hand a	
	s) Installed: g Co./Driller:	NA OTG							Final Borehole Diameter: Borehole Total Depth, ft	2-in 4	cn
			Deillie e C	· · · · · ·		first band die	u with a	shoual	& pick to 1-ft diameter 6-inch dee		unla with as anon
	ent Groundwate			summ					to 3.5-ft, collect 2nd sample with		
ft	after	hrs	<u> </u>						orehle at the end of the same da		
Ľ	· · · · · · · · · · · · · · · · · · ·										
ructic	e No	al (ff	eadir	ery,	Soun		( <del>L</del> )	ic Lo	LITHOLO	OGY/REMARK	S
Well Construction Details	ampl	ampl	ID R	ecov	low (	dor	epth	Graphic Log			
> 0 0	S	S =	<u> </u>	~	Ω	0		Ü			
-	NB-4-1				no	1	GM	0 - 3 ft, Sandy silt fill with	n about 20% gravels (0	GM)	
-				-			2		moderate stiff, brown		
<u>-</u> _		<u> </u>		100							
=							3				
-	NB-4-4	3.5-4.0		_		no	4	GC	3 - 4 ft, clayey silt with ye	ellow sand and brown	gravels (GC)
-	ND 11	0.0 1.0					· <u> </u>	8	Total borehole depth = 4 feet,	no groundwater encounter	ed
_							5_				
-							6				
_							_				
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0		roEngin		ng			В		NG LOG	Boring ID Well ID	NB-5		
Site:		Arthur Blvd		and,	, CA			SHEE	Ground Elevation:	NA			
		g Family Livin							T.O.C. Elevation:	NA NA			
	t Number:	11HCT03.10	000						Coordinates:	NA Hand auger			
	s) Drilled: s) Installed:	03/29/11 NA							Drilling Method:  Final Borehole Diameter:	iuger ch			
	g Co./Driller:	OTG							Borehole Total Depth, ft	4	CII		
	ent Groundwate		Drilling S	Summ	arv.	first hand did	ı with a s	shavel	• • •		ple with ss spoon		
		ater encountered		<u> </u>					havel & pick to 1-ft diameter 6-inch deep, collect first soil sample with ss spoon down to 3.5-ft, collect 2nd sample with a new 2"x 6" ss sleeve.				
<u>ft</u>	after			Neat cement	grout s	ealed borehle at the end of the same day.							
Well Construction Details	Sample No.	PID Reading (ppm)	Recovery, %	Blow Counts	Odor	Depth (ft)	LITHOLOGY/REMARKS						
-	NB-5-1	0.5-1.0				no	1	GM	0 - 2.5 ft, AGGREGATES	S-SAND-SILT FILL (GN	Л)		
-	140-5-1	0.3-1.0				110	· <u>-</u>		very stiff & well compacted, bi		vi)		
_							2_						
-				100			3_	ML	2.5 - 4 ft, clayey silt (ML)	, moderately stiff, brow	/n		
-	NB-5-4	3.5-4.0				no	4	1412	Total borehole depth = 4 feet,	no groundwater encounter	ed		
-													
=							5_						
-							6						
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			1				24						
							25						

									BORING LOG Boring ID N				
	Solut	ions, Ind	C.					shee	t 1 of 1	Well ID			
Site:	5901 MacA	rthur Blvd	, Oakla	and,	, CA				Ground Elevation:	NA			
Client	Huynh Cheng	Family Livin	g Trust						T.O.C. Elevation:	NA			
Projec	t Number:	11HCT03.10	000						Coordinates:	NA			
	s) Drilled:	03/28/11							Drilling Method:	Hand a			
	s) Installed:	NA OTG							Final Borehole Diameter:	2-in 4	ch		
,									Borehole Total Depth, ft		1 20		
	Apparent Groundwater Depth Drilling Summary: first hand dig with a stat drilling: no free water encountered and then hand auge								& pick to 1-π diameter 6-inch dee to 3.5-ft, collect 2nd sample with				
ft	after	hrs	<u>.</u>						orehle at the end of the same da		,		
Ľ								Ō					
ructic	Sample No. Sample Interval (ft) PID Reading (ppm) Recovery, % Blow Counts Odor							ic Lo	LITHOLO	OGY/REMARK	S		
Well Construction Details	ampl	Sample Interval	PID Re	ecov	) wo	Odor	Depth (ft)	Graphic Log					
S O D	Ø	<u> </u>	<u> </u>	2	В	0		Ö					
1	NB-6-1	0.5-1.0				no	1_	GW	0 - 1 ft, gravel (>70%) &	sand mix (GW), brown	1		
-			<u> </u>	-			2		1 - <i>4</i> # ACCRECATED	SAND-SUTEUL (CAA)			
-				100				GM	<ul><li>1 - 4 ft, AGGREGATES- very stiff &amp; well compacted, b</li></ul>				
_							3						
-	NB-6-4	3.5-4.0				no	4	Total borehole depth = 4 feet, no groundwater encountered					
-	112 0 1	0.0 1.0					· <u> </u>		Total Bololiolo dopul = 4 look	, no groundwater encounter	ou		
-							5						
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OTG EnviroEngineering								BORING LOG Boring ID NE				
	Solut	tions, In	C.					shee	et 1 of 1	Well ID		
	5901 MacA Huynh Cheng			and,	, CA				Ground Elevation: T.O.C. Elevation:	NA NA		
-	t Number:	11HCT03.10	000				Coordinates: NA					
	s) Drilled: s) Installed:	03/29/11 NA				Drilling Method: Final Borehole Diamete				Hand a		
	g Co./Driller:	OTG							Borehole Total Depth, ft	4	CII	
	ent Groundwate		Drilling S	Summ	ary:	first hand did	with a	shavel	& pick to 1-ft diameter 6-inch dee		ple with ss spoon	
	ft at drilling: no free water encountered and then ha							down	to 3.5-ft, collect 2nd sample with	a new 2"x 6" ss sleeve		
ft	ft after hrs Neat cement grout s						t grout s	ealed b	orehle at the end of the same da	ay.		
Well Construction Details	Sample No.	Sample Interval (ft) PID Reading (ppm) Recovery, % Blow Counts Odor						Claphic Lithology/REMARKS				
-	NB-7-1	0.5-1.0				no	1	GC	0 - 3 ft, sandy Silty clay	with about 20% gravels	; (GC)	
-									moderate stiff, dark brown	FILL	()	
-				100			2_					
- -							3					
-	NB-7-4 3.5-4.0 no 4						4	ML	3 - 4 ft, clayey silt (ML), dark brown motted with yellow			
_							_		Total borehole depth = 4 feet,		ed	
-	5						5_					
_							6					
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25												
Logged b	y: Xtong	1	Date of	f log:	: 3	3/29/2011	20		<u>I</u>			

0	OTG EnviroEngineering								NG LOG	Boring ID	NB-8	
		tions, Ind		J				shee	et 1 of 1	Well ID		
Site:	5901 Mac	Arthur Blvd	, Oakla	and,	CA				Ground Elevation:	NA		
Client	Huynh Cheng	Family Livin	g Trust						T.O.C. Elevation:	NA		
Projec	ct Number:	11HCT03.10	000						Coordinates:	NA		
Date(s	s) Drilled:	03/28/11							Drilling Method:	Hand a	auger	
Date(s	s) Installed:	NA							Final Borehole Diameter:	2-in	ch	
Drilling	g Co./Driller:	OTG							Borehole Total Depth, ft	4		
Annar	ent Groundwate	r Denth	Drilling S	Summ	arv.	first hand did	ı with a s	shavel	& pick to 1-ft diameter 6-inch dee	en collect first soil sam	nle with ss spoon	
	· · · · · · · · · · · · · · · · · · ·								to 3.5-ft, collect 2nd sample with			
ft	after	hrs	<u> </u>						orehle at the end of the same da		<i>,</i>	
										•		
ction	o S	Œ	ding	y, %	unts		t)	Log		THOLOGY/REMARKS		
struc	ble	ple	Rea (۲	over	ပိ	_	th (fi	ohic	LITHOLO			
Well Construction Details	Sample No.	Sample Interval (ft)	PID Reading (ppm)	Recovery, %	Blow Counts	Odor	Depth (ft)	Graphic Log				
_												
_	NB-8-1	0.5-1.0				no	1_	GW	0 - 2 ft, gravel (>50%) &	sand mix (GW), brown	1	
_												
-												
-				100	$\vdash$		3	CL	2 - 4 ft, silty clay (CL), m	oderately stiff, brown n	notted with yellow	
-				1			٥_	OL.				
-	NB-8-4	3.5-4.0				no	4		Total borehole depth = 4 feet	, no groundwater encounter	ed	
-									,			
_							5					
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0	TG Envi		ng			В		NG LOG	Boring ID	NB-9			
		tions, In						shee	t 1 of 1	Well ID			
	5901 MacA			and,	, CA				Ground Elevation:  T.O.C. Elevation:	NA NA			
	Huynh Cheng et Number:	11HCT03.10							Coordinates:	NA NA			
-	s) Drilled:	03/29/11							Drilling Method:	Hand a	auger		
	s) Installed:	NA							Final Borehole Diameter:	ch			
Drilling	g Co./Driller:	OTG							Borehole Total Depth, ft	4			
Appar	ent Groundwate	er Depth	Drilling S	Summ					& pick to 1-ft diameter 6-inch dee				
ft at di									to 3.5-ft, collect 2nd sample with corehle at the end of the same da		). 		
Well Construction Details	Sample No.	Sample Interval (ft)	PID Reading (ppm)	Recovery, %	Blow Counts	Odor	Depth (ft)	Capplic Log  LITHOLOGY/REMARKS					
1 1	NB-9-1	0.5-1.0				no	1_	GW	0 - 2.5 ft, gravel & sand r	mix (GW), light brown			
-							2_						
-				100			3_	ML	2.5 - 4 ft, clayey silt with		oist		
-	NB-9-4	3.5-4.0				no	4_	IVIE	brown motted with yellow Total borehole depth = 4 feet,		ed		
1	5						5_						
-							6_						
1 1							7						
1							8_						
1 1							9_						
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Logged b	y: Xtong		Date of	f log:	: 3	3/29/2011							

0		roEngin tions, In		ng			В		NG LOG	Boring ID	NB-10	
Site:		Arthur Blvd		and,	CA			snee	Ground Elevation:	Well ID		
		g Family Livin							T.O.C. Elevation:	NA		
Projec	t Number:	11HCT03.10	000						Coordinates:	NA		
	s) Drilled:	03/29/11							Drilling Method:	auger		
	s) Installed:	NA OTG							Final Borehole Diameter: _ Borehole Total Depth, ft	2-in 4	ch	
	g Co./Driller:		D.III. 6			finat banal alia					unta with an amana	
	ent Groundwate	er Deptn ater encountered		summ					& pick to 1-ft diameter 6-inch dee to 3.5-ft, collect 2nd sample with			
ft	after						orehle at the end of the same da					
Well Construction Details	Sample No.	Sample Interval (ft)	PID Reading (ppm)	Recovery, %	Blow Counts	Odor	Depth (ft)	Graphic Log	S			
=	NB-10-1	0.5-1.0				no	1		0 - 4 ft, clayey silty sand	with some gravels (MI	) moist	
-	ND-10-1	0.5-1.0				110	'- -	ML	moderately stiff, light bro		-), moist	
-							2_					
-				100			3					
-												
-	NB-10-4	3.5-4.0				no	4		Total borehole depth = 4 feet,	no groundwater encounter	red	
_							5					
-							6					
=							0_					
-							7					
=							8					
-							9					
-							10					
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# **APPENDIX C**

Well Development and Sampling Logs



FIELD SAMPLING LOG SHEET

Site Location 5901 MacArthur

OTG Project Manager X Torus

Client Contact: Jeffrey Huynh

Pump lines: (NA, New, Dedicated, Cleaned

Discharge

(gallons)

2.5

Total discharge: 2.5 gallons

Date/time sampled:

Sample containers filled:

Near dry, onl

Less than I' water in the well

Ha

Well Diameter: 2" 3" (4")6" other

Is well secured? Yes no

Project # 11 HCT 0 3 Task # /000

Client: Huynh Chens Family Trust

Bolt size:

Method of cleaning pump: (NA, Alconox, Liqui-nox, Tap water DI rinse, other

Sampling method: PE/PVC disp bailer, Teflon bailer, Peristaltic pump, other pH meter serial # #19811-5 Spec cond meter serial # #198115

Temp 1

(°C)

17.9

Specific

conductivity

(mS or uS)

3170

29/0

2810

Signature:

Turbidity

(NTU)

f z" water in bailer

Water level meter: Solinst Serial # 39506 P.I.D. reading:

Blue, Cakland

Title

Phone #

Phone #

WELL ID NMW-

Laboratory:

Comments:

Time

4: (o 15:20

15:30

Weather Partial claud Well Development Date of Sampling 4/8/2011 5/0-465-8982 Well Material: sch 40 PVO, sch 80 PVC, other Type of lock/Lock # Master Purge Method: PE/PYC disp baile, Teflon bailer, Centrifugal pump, Peristaltic pump, Grundfos pump, Other Bailer line: NA, New Dedicated, Cleaned Method of cleaning Bailer: (IA, Alconox, Liqui-nox, Tap water DI rinse, other Calibrated at: PH 4.0, 7.0, 10.0 ppm at well head Water level before purging (TOC, ft) 2/.84/TD = 22.72 | Water level prior to sampling 22.72(TD) - 2184(TOC) = 088 (ft of water) x k (0653 = 0.57 gallons/CV x 3 (# of CV) = 1.7 gallons k = 0.163 (2" well), k = 0.653 (4" well), k = 1.02 (5" well), k = 1.46 (6" well), k = 2.61 (8" well) FIELD WATER QUALITY PARAMETERS D.O. Color Comments (mg/L) Casing volumes removed: Handling of purge & rinsate water: stored in labeled 55-gallon DOT drum & left on site QA: duplicate, Eq. blank, trip blank, other



Weather Partia FIELD SAMPLING LOG SHEET Well Developmen WELL ID NMW-2 **Date of Sampling** Oakland Site Location 5901 MacArthur Klud. Project # 11 HCT03 1000 Title OTG Project Manager Torig Phone # 5/0-465-8982 Client: Huynh //www Family Client Contact: Jeffrey Hughh Phone # Laboratory: Well Diameter: 2" 3" 4" 6" other Well Material: sch 40 PVC, sch 80 PVC, other Is well secured? Yes no Type of lock/Lock # Bolt size: Comments: Purge Method: PE/PVC disp bailer, Teflon bailer, Centrifugal pump, Peristaltic pump, Grundfos pump, Other Pump lines: (A), New, Dedicated, Cleaned Bailer line: NA, New, Dedicated, Cleaned Method of cleaning pump: (A) Alconox, Liqui-nox, Tap water DI rinse, other Method of cleaning Bailer: NA, Alconox, Liqui-nox, Tap water DI rinse, other Sampling method: PE/PVC disp bailer, Teflon bailer, Peristaltic pump, other pH meter serial # H19811-5 Spec cond meter serial # H198115 Calibrated at: PH 年のプロ・1000 Water level meter: Solinst Serial # 39506 P.I.D. reading: ppm at well head Water level before purging (TOC, ft)  $\frac{13.9}{70}$  Water level prior to sampling 21.7 (TD) -13.91(TOC) = 7.79 (ft of water) x k (.653) = 51 gallons/CV x 3 (# of CV) = 15.3 k = 0.163 (2" well), k = 0.653 (4" well), k = 1.02 (5" well), k = 1.46 (6" well), k = 2.61 (8" well) **FIELD WATER QUALITY PARAMETERS** Specific Discharge Time Hq Temp conductivity Turbidity D.O. Color Comments (gallons) (°C) (mS or uS) (NTU) (mg/L) 960 17:3 15:45 gray mudd weter 15155 16 850 4 16210 8/0 17,2 gray 820 16:25 Total discharge: 26 gallons Casing volumes removed: Handling of purge & rinsate water: stored in labeled 55-gallon DOT drum & left on site Date/time sampled: QA: duplicate, Eq. blank, trip blank, other Sample containers filled: Recorded by: Xi/49cm Signature: Date: 4/8

Page



Page of Weather Partial Cloud

FIELD SAMPLING LOG SHEET Well Development												
WELL ID												
Site Locatio	n 5901/	nacAi	Mur	Blud, 1	Paklar	ud						
Project#	IHCTO 3		Task #	1000	Title							
OTG Projec	t Manager	X To	ng		Phone #	5/0-465	5-898	2				
Client: Hug	mh Chei	R F	amily	Trust				71F-144L 1986				
Client Conta			Huynh	,	Phone #	*****						
Laboratory:		•		7777								
Well Diame	ter:/2"/3" 4"	6" othe	r		Well Materia	al: son 40 P	/e, sch 80 P	VC, other				
ls well secu	red? (es no		Bolt size	:	Type of lock							
Comments:												
Purge Metho	Purge Method: PE/PCC disp baller, Teflon bailer, Centrifugal pump, Peristaltic pump, Grundfos pump, Other											
Pump lines: (A) New, Dedicated, Cleaned Bailer line: NA, (ew, Dedicated, Cleaned												
Method of cleaning pump: 🚜 Alconox, Liqui-nox, Tap water DI rinse, other												
Method of cleaning Bailer: A Alconox, Liqui-nox, Tap water DI rinse, other												
Sampling method: PE/PVC disp bailer, Teflon bailer, Peristaltic pump, other												
pH meter serial #   Spec cond meter serial #   Calibrated at:												
Water level meter:  P.I.D. reading: ppm at well head												
Water level before purging (TOC, ft) 22・64 / Tり=22・64   Water level prior to sampling												
(TD) -												
				1.02 (5" well), I				<u> </u>				
····	· · · · · · · · · · · · · · · · · · ·	*****	•			,						
			FIEL	D WATER Q	JALITY PA	RAMETER	S					
				Specific				-				
Time	Discharge	рН	Temp	conductivity	Turbidity	D.O.	Color	Comments				
	(gallons)		(°C)	(mS or uS)	(NTU)	(mg/L)						
	DV	$\rightarrow$	10	Wat	DN-							
		1 1	165	<del>( )                                   </del>	<b>\</b>		•					
		-t-										
			1									
				· · · · · · · · · · · · · · · · · · ·								
Total discharge: gallons Casing volumes removed:												
Handling of purge & rinsate water: stored in labeled 55-gallon DOT drum & left on site												
Date/time sampled: QA: duplicate, Eq. blank, trip blank, other												
Sample con	tainers filled:											
Recorded b	y: Xi/rejc	Recorded by: Xi/regiany Tong Signature: Date: 4/8/2011										



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FIELD SAMPLING LOG SHEET Well Development  WELL ID NMW-4 Date of Sampling 4/8/201											
WELL ID	NMW.	-4			Date of Sa		. / 6. /	0//			
Site Location	n 5901	Mac	Arthu	or Blud,	Oakli	nd	1/0/-				
Project#	HCT O	3	Task#	1000	Title						
OTG Projec	t Manager 💙	X 701	y		Phone #	5/0-1	465-8	982			
Client: Hu	inh che	113 F	amily	Trust							
Client Conta	ict: Teff	vey M	wynh		Phone #						
Laboratory:	`						·				
	er: 2" 3" <b>4</b> "		r		Well Materia			VC, other			
	ed? Yes no		Bolt size:	•	Type of lock	Lock# 1/1	astiv				
Comments:						<b></b>					
Purge Metho	Purge Method: PE/PXC disp bailer, Teflon bailer, Centrifugal pump, Peristaltic pump, Grundfos pump, Other										
Pump lines: (NA, New, Dedicated, Cleaned Bailer line: NA, New, Dedicated, Cleaned											
Method of cleaning pump: (NA, Alconox, Liqui-nox, Tap water DI rinse, other											
Method of cleaning Bailer: NA, Alconox, Liqui-nox, Tap water DI rinse, other											
Sampling method: PE/PVC disp bailer, Teflon bailer, Peristaltic pump, other											
			5 :	nd meter serial			Calibrated a	t: pH 40, 7,0, 100			
Water level	meter: Soli	<u>nst 5</u>	erial #	39506	P.I.D. readin	g:	ppm at well	head			
							- durant				
Water level	before purg	ing (TO	c, ft) 13,	198/TD	20.0	Water level	prior to san	npling			
20 (TD) -	<b>5.98</b> (TOC) =	6.12(ft c	of water) x	k (653) =4.0	gallons/CV	x 3 (# of CV	)= 12-	gallons			
k = 0.163 (2	" well), k = 0.	653 (4" v	well), k = <sup>-</sup>	1.02 (5" well), k	c = 1.46 (6" w	/ell), k = 2.6	1 (8" well)				
			elet i	D WATER OI	IALITY DAI		c				
			FIEL	D WATER QU Specific	JALII I PAI	TAIVIETER	.5				
Time	Discharge	рН	Temp	conductivity	Turbidity	D.O.	Color	Comments			
	(gallons)	μ	(°C)	(mS or uS)	(NTU)	(mg/L)	00101	Comments			
12:45	15	619	17.3	1400				gray cloudy			
13:00	20	6.9	17.6	12/0				J. Cloudy			
,	25		III								
13:10		6.9	17.4	12/10				N 1			
13:25	30	6.9	17.4	1280				114			
			,								
						***	***************************************				
Total discha	rge: <b>3 o</b> g	allons			Casing volur	nes remove	ed: 7.5				
Handling of purge & rinsate water: stored in labeled 55-gallon DOT drum & left on site											
Date/time sampled: QA: duplicate, Eq. blank, trip blank, other											
Sample con	Sample containers filled:										
Recorded by: Xi/49ary Tors Signature: Date: 4/8/2011											



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FIELD S	<u>AMPLING</u>		SHEET	r well	Develop	ment					
WELL ID	NMW	-6			Date of Sa	mpling	4/8/2	0]			
Site Locatio	6		rthur	Blud, C	akland			-/			
Project #	HCTO.		Task #	1000	Title						
OTG Projec		X 701	res		Phone #	3/0-4	65-892	82			
Client: Hu	inh chen	x Fan	uly	rust							
	act: Jeffia	11 .	ynh		Phone #						
Laboratory:		1	<del>/</del>				_				
Well Diame	ter: <b>(</b> 2") 3" 4"	6" othe	r		Well Materia	al: 8ch 40 P)	/C, sch 80 P	VC, other			
Is well secu	red? Yes no	)	Bolt size:		Type of lock	/Lock # M	aster				
Comments:											
Purge Meth	od: PE/PVC	disp bail	er, Teflon	bailer, Centrif	ugal pump, F	eristaltic pu	mp, Grundfo	s pump, Other			
	New, D				Bailer line:						
Method of c	leaning pump	: <b>N</b> A, A	conox, Li	qui-nox, Tap w	ater DI rinse	, other					
Method of cleaning pump: NA, Alconox, Liqui-nox, Tap water DI rinse, other Method of cleaning Bailer: NA, Alconox, Liqui-nox, Tap water DI rinse, other											
				lon bailer, Peri							
pH meter se	rial # H19	811-5	Spec cor	nd meter serial	# H198	115	Calibrated a	t: pH4.0, 7.0, 10.0			
Water level	meter: Sp.	inst s	ërial t	39506	P.I.D. readir		ppm at well l				
Water level	before purg	ing (TO	C. ft) /3	45/TD=	=22.63	Water leve	prior to sam	nolina			
				k (163) = 1.5				gallons			
k = 0.163 (2	" well), k = 0.	653 (4" v	vell), k = '	1.02 (5" well), I	c = 1.46 (6" v	vell), k = 2.6	1 (8" well)	9			
			FIEL	D WATER QU	JALITY PA	RAMETER	S				
<b>-</b> :	Divid	.,	_	Specific	1 · 1·		0.1				
Time	Discharge (gallons)	рН	Temp( (°C)	conductivity (mS or uS)		D.O.	Color	Comments			
2 4 5		,			(1410)	(mg/L)	***************************************	/ \ / d			
11:45	10	7.1	17.6	1470				light gray cloudy			
12200	13	7.0	17,0	990				u u d			
1230	15	7.0	16.9	1090				n 4 y			
12:20	18	70	16.9	1050				nuy			
	- 0	710	10, 1								
					<u> </u>						
Total discha	rae: 18 a	allons			Casing volu	mae remove	ed: 12				
			etored i	n Jaholed 55 a							
Handling of purge & rinsate water: stored in labeled 55-gallon DOT drum & left on site											
Date/time sampled:  QA: duplicate, Eq. blank, trip blank, other  Sample containers filled:											
Sample con	Cample Containers illeu.										
	Recorded by: Xilogany Date: 4/8/2011										
Recorded b	y: Allygo	114-	one	Signature:	Som	7		Date: 4/8/2011			



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	AMPLING		SHEE	well well	Leve (		<u>π</u>		
WELL ID	NMW-	-7			Date of Sa	mpling	4/8/2	20//	
Site Location	n 590/	Mack	Arllur	Blud, Ca	ikland			7	
	IHC TO		Task#	1000	Title				
OTG Project	t Manager	Xingg	ang	TOILS	Phone #	5/0-46	5-898	2_	
Client: Hน	ynh Ché	ng Fo	amily	Trust					
Client Conta		•	Huynh		Phone #				
Laboratory:			<u>.</u>						
Well Diamet	ter: <b>(</b> 2") 3" 4"	6" othe	r		Well Materia	al: s <b>c</b> h 40 P\	/C)sch 80 F	VC, other	
Is well secur	red? Yes no	)	Bolt size:		Type of lock	/Lock# N	aster		
Comments:									
Purge Metho	od: PE/PVC	disp bail	Teflon	bailer, Centrif	ugal pump, F	eristaltic pu	mp, Grundfo	os pump, Ot	ther
	NA, New, D				Bailer line:				
Method of cl	eaning pump	o: <b>(√</b> A, Al	conox, Li	qui-nox, Tap w	ater DI rinse	, other			
Method of cl	eaning Baile	r: 🕅, Al	lconox, Li	qui-nox, Tap w	ater DI rinse	, other			
Sampling m	ethod: PE/P\	/C disp b	ailer, Tef	lon bailer, Peri	staltic pump,	other			
pH meter se	rial # H 19 §	311-5	Spec cor	nd meter serial	# H1981	15	Calibrated a	t: PH 40	,7.0, 10.0
Water level	meter: So(	inst &	erial a	± 39506	P.I.D. readir		opm at well		
Water level	before purg	ing (TO	c, ft) 13.	64/TD	21.61	Water level	prior to san	nplina	
				k (alb3) = 1.3				gallons	
				1.02 (5" well), I				<u> </u>	
-		`			·····				
			FIELI	D WATER Q	JALITY PA	RAMETER	S		
				Specific					
Time	Discharge	рН	Temp	conductivity	Turbidity	D.O.	Color	Cor	mments
	(gallons)		(°C)	(mS or uS)	(NTU)	(mg/L)			
13750	10	6.7	16.8	860				gray	િષ્યત્વે પ
14:00	13	6.8	16.5	690				u	1,
14:10	15	E18	16.6	720				n	ч
26	18		- 1					81	
14:25	10	6.8	16.5	7/0					4
Total discha	rge: <b>  🎉</b> g	allons			Casing volu	mes remove	d: 13.8		
Handling of	purge & rinsa	ate water	: stored i	n labeled 55-g	allon DOT dr	um & left on	site		
Date/time s	ampled:				QA: duplica	te, Eq. blanl	k, trip blank,	other	
	tainers filled:								
Recorded by	r Xinaa	ans -	Tobo	Signature:	X5 Vn.	 4		Date: チ	18/4
r recorded by	y. / ( 1. 5) <sup>3</sup> / <sub>4</sub>	77.9	, or co	oignature.		<i>Y</i>	··· <u>·</u> ·····	Date. 9	12/4



Recorded by: Xirgamy

101 VS

Signature:

Date:

4/8/2011

Weather Partial FIELD SAMPLING LOG SHEET Well Development WELLID NMW-9 **Date of Sampling** Site Location 5901 MacArthur Blud, k'akland Project# // HCT 0 3 Task# / v v C Title OTG Project Manager X. Torus 510-465-8987 Phone # Client: Hugh Chens Family Trust Client Contact: Jeffizy Hwynl Phone # Laboratory: Well Diameter 2" 3" 4" 6" other Well Material: sch 40 PVC, sch 80 PVC, other Is well secured? Yes no Bolt size: Type of lock/Lock # Master Comments: Purge Method: PE(PVC disp bailer, Teflon bailer, Centrifugal pump, Peristaltic pump, Grundfos pump, Other Pump lines: (NA), New, Dedicated, Cleaned Bailer line: NA, New, Dedicated, Cleaned Method of cleaning pump: (AA, Alconox, Liqui-nox, Tap water DI rinse, other Method of cleaning Bailer: (A) Alconox, Liqui-nox, Tap water DI rinse, other Sampling method: PE/PVC disp bailer, Teflon bailer, Peristaltic pump, other pH meter serial # # 19811-5 Spec cond meter serial # # 198115 Calibrated at: PHUO, 710, 1010 Water level meter: Solinst Serial # 39506 P.I.D. reading: ppm at well head Water level before purging (TOC, ft) 12.28 / TD = 23.67 Water level prior to sampling 23.67 (TD) - 12.28 (TOC) = 11.39 (ft of water) x k (.163) = 1.9 gallons/CV x 3 (# of CV) = 5.6 k = 0.163 (2" well), k = 0.653 (4" well), k = 1.02 (5" well), k = 1.46 (6" well), k = 2.61 (8" well) FIELD WATER QUALITY PARAMETERS Specific conductivity Time Discharge Turbidity Temp D.O. Color Comments (gallons) (°C) (mS or(uS)) (NTU) (mg/L) 10:45 10:50 6.9 17:1 720 650 11200 15 17.1 light brown cloudy ıΧ RB 17.2 650 11:25 17.2 650 Total discharge: 2 gallons Casing volumes removed: Handling of purge & rinsate water: stored in labeled 55-gallon DOT drum & left on site Date/time sampled: QA: duplicate, Eq. blank, trip blank, other Sample containers filled:



Weather OperCast light shower FIELD SAMPLING LOG SHEET WELL ID NMW-Date of Sampling Site Location 590 MacArthur B (Vd Project # 11 HCT 03 Task # 1000 phase II OTG Project Manager X Tons 510-465-8982 Phone # Client: Teffrey Huynh Client Contact: Phone # Labòratory: Test America Well Diameter: 2" 3" (4")6" other Well Material: sch 40 PVO, sch 80 PVC, other Is well secured? ( no Bolt size: Type of lock/Lock # Master Comments: Purge Method: PE/PC disp beiler, Teflon bailer, Centrifugal pump, Peristaltic pump, Grundfos pump, Other Pump lines: (A), New, Dedicated, Cleaned Bailer line: NA, New, Dedicated, Cleaned Method of cleaning pump: (A), Alconox, Liqui-nox, Tap water DI rinse, other Method of cleaning Bailer: 🕼 Alconox, Liqui-nox, Tap water DI rinse, other Sampling method: PE/PVC disp bailer, Teflon bailer, Peristaltic pump, other pH meter serial # H 198(1-5 Spec cond meter serial # H 198(15 Calibrated at: PH 4.0/7.08 10.0 Water level meter: Solin Serial # 39506 P.I.D. reading: ppm at well head Water level before purging (TOC, ft) 20,/o at 9:55 Water level prior to sampling 22/6(TD) - 20/0(TOC) = 2/6 (ft of water) x k (653) = 1.7 gallons/CV x 3 (# of CV) = 5/1 k = 0.163 (2" well), k = 0.653 (4" well), k = 1.02 (5" well), k = 1.46 (6" well), k = 2.61 (8" well) FIELD WATER QUALITY PARAMETERS Specific Time Discharge На Temp | conductivity Turbidity D.O. Color Comments (°C) (mS or (uS) (gallons) (NTU) (mg/L) 18,2 2370 14:40 lio. 2.8 dear 18.3 2200 200 18.4 2 30 310 7.0 3,5 ٧.( 2150 40 U Total discharge: 40 gallons Casing volumes removed: Z.4 Handling of purge & rinsate water: stored in labeled 55-gallon DOT drum & left on site Date/time sampled: 4/2 c/11 at 17:05 QA: duplicate, Eq. blank, trip blank, other 3 40-ml VOAs, I I-l glass bottle almost duy after front Sample containers filled: bottle, didnot collect 2nd 1-1 bottle Signature:



Page Weather Cloudy / Citht Struct FIELD SAMPLING LOG SHEET WELL ID NMW-2 Date of Sampling Site Location 590/ MacArthur Blud, Oakland Title Phase II Project # 11 HCT 03 Task # 1000 OTG Project Manager Phone # 510-465-8982 Tefren Client: Client Contact: Phone # Laboratory: Test America Well Material: sch 40 PVC, sch 80 PVC, other Well Diameter: 2" 3" 4" 6" other Type of lock/Lock # Master Is well secured? Yes no Bolt size: Comments: Purge Method: PE/PVC disp bailer, Teflon bailer, Centrifugal pump, Peristaltic pump, Grundfos pump, Other Bailer line: NA, New Dedicated, Cleaned Pump lines: NA, New, Dedicated, Cleaned Method of cleaning pump: 🔊 Alconox, Liqui-nox, Tap water DI rinse, other Method of cleaning Bailer: (Alconox, Liqui-nox, Tap water DI rinse, other Sampling method: PE/PC disp baller, Teflon bailer, Peristaltic pump, other pH meter serial # # 19811-5 Spec cond meter serial # # 198115 Calibrated at: pH 40,70& 0.0 Water level meter: Solinst Sarial # 39506 P.I.D. reading: ppm at well head Water level before purging (TOC, ft) /4,0/ 9+ /0205 Water level prior to sampling 14,07 2184(TD) -14:01(TOC) =7.83 (ft of water) x k (.653) =5.1 gallons/CV x 3 (# of CV) = 15.3 gallons k = 0.163 (2" well), k = 0.653 (4" well), k = 1.02 (5" well), k = 1.46 (6" well), k = 2.61 (8" well) FIELD WATER QUALITY PARAMETERS Specific conductivity Discharge pΗ Turbidity D.O. Color Comments Time Temp (°C) (mS or uS) (NTU) (gallons) (mg/L) 650 light gray 15:25 40 67 17.4 1,2 650 15:35 1.3 640 1.3 140 n 16.0 15:54 11 6:02 19.0 વ Total discharge: [9 gallons Casing volumes removed: Handling of purge & rinsate water: stored in labeled 55-gallon DOT drum & left on site QA: (uplicate) Eq. blank, trip blank, other Date/time sampled: 4/20/11 at 16:25 6 your VOD; W/ACL, 41-l glass boffle Sample containers filled: Recorded by: XMSCany Date:



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FIELD SAMPLING LOG SHEET NMW/- 3 WELL ID Date of Sampling 2011 5901 MacArlhur Site Location Oakland Project # IIHCT 03 Task# Title Phase IL 1000 OTG Project Manager X Tong Phone # Client: ren Client Contact: Phone # Laboratory: Well Diameter: (2") 3" 4" 6" other Well Material: sch 40 PVC, sch 80 PVC, other Is well secured? Yes no Bolt size: Type of lock/Lock # Comments: Purge Method: PE/PVC disp bailer, Teflon bailer, Centrifugal pump, Peristaltic pump, Grundfos pump, Other Pump lines: NA, New, Dedicated, Cleaned Bailer line: NA, New, Dedicated, Cleaned Method of cleaning pump: NA, Alconox, Liqui-nox, Tap water DI rinse, other Method of cleaning Bailer: NA, Alconox, Liqui-nox, Tap water DI rinse, other Sampling method: PE/PVC disp bailer, Teflon bailer, Peristaltic pump, other pH meter serial # Spec cond meter serial # Calibrated at: Water level meter: P.I.D. reading: ppm at well head Water level before purging (TOC, ft) Water level prior to sampling (TD) -(TOC) =(ft of water) x k ( gallons/CV x 3 (# of CV) = gallons k = 0.163 (2" well), k = 0.653 (4" well), k = 1.02 (5" well), k = 1.46 (6" well), k = 2.61 (8" well) FIELD WATER QUALITY PARAMETERS Specific Time Discharge pΗ Temp conductivity Turbidity D.O. Color Comments (°C) (gallons) (mS or uS) (NTU) (mg/L) 10:04 Total discharge: gallons Casing volumes removed: Handling of purge & rinsate water: stored in labeled 55-gallon DOT drum & left on site Date/time sampled: QA: duplicate, Eq. blank, trip blank, other Sample containers filled: M Signature: Xinggana Recorded by: Date:



Weather Overcast/Cight Grower FIELD SAMPLING LOG SHEET WELLID NMW-4 Date of Sampling Site Location 590/ MacArlum Oakland Blod, Project # 11 HCT 0 3 Phase In Task # 1000 OTG Project Manager X Torra \$10-465-8982 Phone # Client: Client Contact: Phone # Tost America Laboratory: Well Diameter: 2" 3" 4 6" other Well Material: sch 40 PVe, sch 80 PVC, other Is well secured? Yes no Type of lock/Lock # Master Bolt size: Comments: Purge Method: PE/PC disp baller, Teflon bailer, Centrifugal pump, Peristaltic pump, Grundfos pump, Other Pump lines: New, Dedicated, Cleaned Bailer line: NA, New, Dedicated, Cleaned Method of cleaning pump: KA, Alconox, Liqui-nox, Tap water DI rinse, other Method of cleaning Bailer: MA, Alconox, Liqui-nox, Tap water DI rinse, other Sampling method: PE/EVC disp hailer, Teflon bailer, Peristaltic pump, other pH meter serial # #19811-5 | Spec cond meter serial # #19805 Calibrated at: pH 40, 7,0 & 1000 Water level meter: Solinst Sonal \$ 39506 P.I.D. reading: ppm at well head Water level before purging (TOC, ft) 14,19 at 9252 Water level prior to sampling 14:30 21.47(TD) -14.19 (TOC) =7.28(ft of water) x k (.653) = 4.8gallons/CV x 3 (# of CV) = 14.3 gallons k = 0.163 (2" well), k = 0.653 (4" well), k = 1.02 (5" well), k = 1.46 (6" well), k = 2.61 (8" well) FIELD WATER QUALITY PARAMETERS Specific Time Discharge conductivity Ηq Temp Turbidity D.O. Color Comments (gallons) (°C) (mS or ((S)) (NTU) (mg/L) 13:25 6.8 17.6 1530 4.0 1.4 light gray 13:32 Lio 17.6 1500 1.5 ч 8.0 17:38 1,4 77 10.0 1400 ~ 11 12.0 1370 1,25 4 14.0 1340 1135 lightly gray 16.0 13/0 1.40 u 18,0 6.9 1300 14:05 1.4 fţ Total discharge: (8 gallons Casing volumes removed: Handling of purge & rinsate water: stored in labeled 55-gallon DOT drum & left on site Date/time sampled: 4/20/11 at 14125QA: duplicate, Eq. blank, trip blank, other Sample containers filled: 3 40-ml VOAs W/HCL 2 1-l glass bofflex Recorded by: Vingsam Signature: Date: 4/10/11



light shower Weather Overcast FIELD SAMPLING LOG SHEET WELLID NMW-1 Date of Sampling Site Location 5901 MacArthur Blvd Project # 11 HCT 03 Phase I 1000 OTG Project Manager Phone # 510-465-8982 Client: Jettrey Huynh Client Contact: Phone # Laboratory: Well Diameter: 2"/3" 4" 6" other Well Material: sch 40 PVC, sch 80 PVC, other Is well secured? Yes no Type of lock/Lock # Master Bolt size: Comments: Purge Method: PE/PVC disp bailer, Teflon bailer, Centrifugal pump, Peristaltic pump, Grundfos pump, Other Pump lines: NA, New, Dedicated, Cleaned Bailer line: NA, New, Dedicated, Cleaned Method of cleaning pump: A Alconox, Liqui-nox, Tap water DI rinse, other Method of cleaning Bailer: NA Alconox, Liqui-nox, Tap water DI rinse, other Sampling method: PE/RVC disp bailer, Teflon bailer, Peristaltic pump, other pH meter serial # #198() > Spec cond meter serial # #198() > Calibrated at: PH 40, 70 \$ 100 Water level meter: Splint Spring # 39506 P.I.D. reading: ppm at well head Water level before purging (TOC, ft) 13.55 of 9:48 Water level prior to sampling 13.64 2.6(TD) - 13.55(TOC) = 9.03 (ft of water) x k (.163) = 1.5 gallons/CV x 3 (# of CV) = 4.5 gallons k = 0.163 (2" well), k = 0.653 (4" well), k = 1.02 (5" well), k = 1.46 (6" well), k = 2.61 (8" well) FIELD WATER QUALITY PARAMETERS Specific Time Discharge conductivity Temp Turbidity D.O. Color Comments (gallons) (°C) (mS or/uS) (NTU) (mg/L) [[230 2.0 1700 light gray 710 1.8 3.0 17.0 760 21 U 620 4.0 1.9 11240 ų 11:45 5.0 620 2.1 Ч 11250 6-8 2 5 630 lightly cloudy 11255 2 \ 2 Total discharge: 7.5 gallons Casing volumes removed: Handling of purge & rinsate water: stored in labeled 55-gallon DOT drum & left on site Date/time sampled: 4/20/11 + 12:40 QA: duplicate, Eq. blank, trip blank, other Sample containers filled: 3 40-ml VOAc W/ HCl 2 1-l glass bottles Recorded by: Villy Jan Signature: Date: 4/20/11

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Weather Cloud FIELD SAMPLING LOG SHEET WELL ID NMW-7 4/20/2011 Date of Sampling Site Location 5-90 Mar Arthur Blud. phase I Project # //HCTo3 Task # 1000 510-465-8982 OTG Project Manager Tona Phone # Client: Jeffrey Huynh Client Contact: Phone # Laboratory: Test America
Well Diameter (2") 3" 4" 6" other Well Material: sch 40 PVC) sch 80 PVC, other Type of lock/Lock # Marter Is well secured? (es) no Bolt size: Comments: Purge Method: PE/EVC disp bailes, Teflon bailer, Centrifugal pump, Peristaltic pump, Grundfos pump, Other Pump lines: (NA), New, Dedicated, Cleaned Bailer line: NA, New Dedicated, Cleaned Method of cleaning pump: Alconox, Liqui-nox, Tap water DI rinse, other Method of cleaning Bailer: NA Alconox, Liqui-nox, Tap water DI rinse, other Sampling method: PE/RVC disp bailer, Teflon bailer, Peristaltic pump, other pH meter serial # HI9811-5 | Spec cond meter serial # HI98115 Calibrated at: PH 4.0, フーム 100 Water level meter: Solanst Serial # 39506 P.I.D. reading: ppm at well head Water level before purging (TOC, ft) 13.75 at 10:02 Water level prior to sampling 13.86 216(TD) - 13.75(TOC) = 7.86 (ft of water) x k (.163) = 1 · 3gallons/CV x 3 (# of CV) = 3 · 9 gallons k = 0.163 (2" well), k = 0.653 (4" well), k = 1.02 (5" well), k = 1.46 (6" well), k = 2.61 (8" well) FIELD WATER QUALITY PARAMETERS Specific Time Discharge Hq Temp conductivity Turbidity D.O. Color Comments (°C) (mS or us) (gallons) (NTU) (mg/L) 16.5 690 17:20 210 Milky 16.5 660 3,0 17224 Ħ 16.6 40 640 17:27 ١į 16.5 17:30 510 640 ч 6.0 17:35 164 640 n gallons Casing volumes removed: Total discharge: Handling of purge & rinsate water: stored in labeled 55-gallon DOT drum & left on site Date/time sampled: 4/20 /11 at 17:55 QA: duplicate, Eq. blank, trip blank, other Sample containers filled: 3 Yoml 1/0A w/Hcl Recorded by: XHUSAN Signature:

Page



Weather Cloudy / light shower FIELD SAMPLING LOG SHEET **W**ELL ID *∖\M\\J−*9 Date of Sampling Site Location 5901 MacArthur Blvd Oakland 1000 Project # 11HCP03 phase I Task # 510-465-298 OTG Project Manager Phone # Client: Teffory Huyoh Client Contact: Phone # Laboratory: Well Diameter 2 3" 4" 6" other Well Material: sch 40 PVC, sch 80 PVC, other Is well secured? ( no Type of lock/Lock # Master Bolt size: Comments: Purge Method: PE/PVC disp baller, Teflon bailer, Centrifugal pump, Peristaltic pump, Grundfos pump, Other Pump lines: MR New, Dedicated, Cleaned Bailer line: NA, New Dedicated, Cleaned Method of cleaning pump: MR, Alconox, Liqui-nox, Tap water DI rinse, other Method of cleaning Bailer: NR, Alconox, Liqui-nox, Tap water DI rinse, other Sampling method: PE/PVC disp bailer, Teflon bailer, Peristaltic pump, other pH meter serial # H 19811-5 Spec cond meter serial # H 19811-5 Calibrated at: pH 4.0, 7.0 & 10.0 Water level meter: Solin + Serial # 39.506 P.I.D. reading: ppm at well head Water level before purging (TOC, ft) 12.70 at 9:45 Water level prior to sampling 12.80 348(TD) - 1276TOC) =10,78(ft of water) x k (.163) = 1,8 gallons/CV x 3 (# of CV) = 53 gallons k = 0.163 (2" well), k = 0.653 (4" well), k = 1.02 (5" well), k = 1.46 (6" well), k = 2.61 (8" well) FIELD WATER QUALITY PARAMETERS Specific conductivity Time Discharge рН Temp Turbidity D.O. Color Comments (°C) (mS or (uS)) (NTU) (gallons) (mg/L) 10:50 17.7 1.4 brown 2.0 570 3.0 10:54 1.0 11500 17.4 1.6 570 11:04 μŲ 570 17.5 1( 17.5 570 11:15 570 17.5 u Casing volumes removed: 42 Total discharge: 7.5 gallons Handling of purge & rinsate water: stored in labeled 55-gallon DOT drum & left on site Date/time sampled: 4/20/11 at 12:10 QA: duplicate, Eq. blank, trip blank, other Sample containers filled: 3 40-ml VOAs W/HCl I-l glass boffles Date: 4/20/11 Recorded by: X //LLGau-Signature:

# APPENDIX D

**Laboratory Analytical Reports** 



THE LEADER IN ENVIRONMENTAL TESTING

# **ANALYTICAL REPORT**

TestAmerica Laboratories, Inc.

TestAmerica San Francisco 1220 Quarry Lane Pleasanton, CA 94566 Tel: (925)484-1919

TestAmerica Job ID: 720-34711-1 Client Project/Site: B112-Oakland

For:

OTG EnviroEngineering Solutions, Inc. 7700 Edgwater Drive Suite 260 Oakland, California 94621

Attn: Xinggang Tong



Authorized for release by: 04/29/2011 11:21:17 AM

Afsaneh Salimpour
Project Manager I
afsaneh.salimpour@testamericainc.com



.....LINKS .....



Visit us at: www.testamericainc.com This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Page 1 of 26 04/29/2011

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Method Summary	23
Sample Summary	24
Chain of Custody	25
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# **Qualifier Definition/Glossary**

Client: OTG EnviroEngineering Solutions, Inc.

Project/Site: B112-Oakland

TestAmerica Job ID: 720-34711-1

## **Glossary**

Abbreviation	These commonly used abbreviations may or may not be present in this report.
<b>*</b>	Listed under the "D" column to designate that the result is reported on a dry weight basis.
EPA	United States Environmental Protection Agency
ND	Not Detected above the reporting level.
MDL	Method Detection Limit
RL	Reporting Limit
RE, RE1 (etc.)	Indicates a Re-extraction or Reanalysis of the sample.
%R	Percent Recovery
RPD	Relative Percent Difference, a measure of the relative difference between two points.

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#### **Case Narrative**

Client: OTG EnviroEngineering Solutions, Inc.

Project/Site: B112-Oakland

TestAmerica Job ID: 720-34711-1

Job ID: 720-34711-1

Laboratory: TestAmerica San Francisco

Narrative

Job Narrative 720-34711-1

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

GC/MS VOA

No analytical or quality issues were noted.

GC Semi VOA

No analytical or quality issues were noted.

**Organic Prep** 

No analytical or quality issues were noted.

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Project/Site: B112-Oakland

TestAmerica Job ID: 720-34711-1

Client Sample ID: NMW-9 Lab Sample ID: 720-34711-1 Result Qualifier RL MDL Unit Analyte Dil Fac D Method Prep Type 500 Gasoline Range Organics (GRO) 2600 10 8260B/CA\_LUFTM Total/NA ug/L -C5-C12 8015B Diesel Range Organics [C10-C28] 250 52 Silica Gel Clear ug/L **Client Sample ID: NMW-6** Lab Sample ID: 720-34711-2

Analyte Result Qualifier RL MDL Unit Dil Fac D Method Prep Type Gasoline Range Organics (GRO) Total/NA 880 50 ug/L 1 8260B/CA LUFTM -C5-C12 ug/L Diesel Range Organics [C10-C28] 230 50 8015B Silica Gel Clear

Client Sample ID: NMW-4 Lab Sample ID: 720-34711-3 Analyte Result Qualifier RL MDL Unit Dil Fac D Method Prep Type Xylenes, Total 2.3 2.0 ug/L 2 8260B/CA LUFTM Total/NA Gasoline Range Organics (GRO) 1800 100 2 8260B/CA\_LUFTM Total/NA ug/L Diesel Range Organics [C10-C28] 1200 50 8015B Silica Gel Clear ug/L 1

Client Sample ID: NMW-1

Analyte Result Qualifier RL MDL Unit Dil Fac D Method Prep Type

Method to build letter build either Techniques

Analyte Result Qualifier RL MDL Unit Dil Fac D Method Prep Type

Analyte Result Qualifier RL MDL Unit Dil Fac D Method Prep Type

Methyl tert-butyl ether 13 0.50 ug/L 1 8260B/CA\_LUFTM Total/NA

Client Sample ID: NMW-2 Lab Sample ID: 720-34711-5

Analyte Result Qualifier RL MDL Unit Dil Fac D Method Prep Type 0.84 0.50 8260B/CA\_LUFTM Total/NA Benzene ug/L Ethylbenzene 7.7 0.50 8260B/CA LUFTM Total/NA ug/L 0.50 8260B/CA LUFTM Total/NA Toluene 0.72 ug/L 1 Xylenes, Total 1.9 1.0 ug/L 8260B/CA LUFTM Total/NA Gasoline Range Organics (GRO) 3100 50 ug/L 8260B/CA LUFTM Total/NA 1 -C5-C12 8260B/CA LUFTM Total/NA 7.6 4.0 ug/L 1 1000 8015B Diesel Range Organics [C10-C28] 50 Silica Gel Clear ug/L

Client Sample ID: NMW-2D Lab Sample ID: 720-34711-6 Analyte Result Qualifier RL MDL Unit Dil Fac D Method Prep Type 250 Gasoline Range Organics (GRO) 2100 ug/L 5 8260B/CA LUFTM Total/NA -C5-C12

 
 Gasoline Range Organics (GRO)
 2100
 250
 ug/L
 5
 8260B/CA\_LUFTM
 Total/NA

 -C5-C12 Diesel Range Organics [C10-C28]
 750
 50
 ug/L
 1
 8015B
 Silica Gel Clear

 Client Sample ID: NMW-7

Result Qualifier RL MDL Unit Method Analyte Dil Fac D Prep Type 5700 500 8260B/CA\_LUFTM Total/NA Gasoline Range Organics (GRO) 10 ug/L -C5-C12 ug/L Diesel Range Organics [C10-C28] 2500 50 8015B Silica Gel Clear

Client Sample ID: TB-1 Lab Sample ID: 720-34711-8

No Detections

Client: OTG EnviroEngineering Solutions, Inc.

Project/Site: B112-Oakland

**Client Sample ID: NMW-9** 

Date Collected: 04/20/11 12:10

Date Received: 04/21/11 10:25

Lab Sample ID: 720-34711-1

TestAmerica Job ID: 720-34711-1

Matrix: Water

Method: 8260B/CA	<b>LUFTMS - 8260B</b>	/ CA LUFT MS
moniou. ozoobi or		/ O/L EOI I IIIO

Analyte	Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	5.0	ug/L			04/27/11 02:37	10
Benzene	ND	5.0	ug/L			04/27/11 02:37	10
Ethylene Dibromide	ND	5.0	ug/L			04/27/11 02:37	10
1,2-Dichloroethane	ND	5.0	ug/L			04/27/11 02:37	10
Ethylbenzene	ND	5.0	ug/L			04/27/11 02:37	10
Toluene	ND	5.0	ug/L			04/27/11 02:37	10
Xylenes, Total	ND	10	ug/L			04/27/11 02:37	10
Gasoline Range Organics (GRO) -C5-C12	2600	500	ug/L			04/27/11 02:37	10
TBA	ND	40	ug/L			04/27/11 02:37	10
DIPE	ND	5.0	ug/L			04/27/11 02:37	10
TAME	ND	5.0	ug/L			04/27/11 02:37	10
Ethyl t-butyl ether	ND	5.0	ug/L			04/27/11 02:37	10
Ethanol	ND	2500	ug/L			04/27/11 02:37	10

	Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
	4-Bromofluorobenzene	104		67 - 130		04/27/11 02:37	10
İ	1,2-Dichloroethane-d4 (Surr)	118		67 - 130		04/27/11 02:37	10
	Toluene-d8 (Surr)	98		70 - 130		04/27/11 02:37	10

## Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Analyte	Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	250	52	ug/L		04/22/11 13:30	04/23/11 12:12	1
Motor Oil Range Organics [C24-C36]	ND	100	ug/L		04/22/11 13:30	04/23/11 12:12	1
Surrogate	% Recovery Qualifier	Limits			Prepared	Analyzed	Dil Fac
Capric Acid (Surr)	0.9	0 - 5			04/22/11 13:30	04/23/11 12:12	1
		31 - 150			04/22/11 13:30	04/23/11 12:12	

Lab Sample ID: 720-34711-2 Client Sample ID: NMW-6

Date Collected: 04/20/11 12:40 **Matrix: Water** Date Received: 04/21/11 10:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			04/27/11 03:09	1
Benzene	ND		0.50		ug/L			04/27/11 03:09	1
Ethylene Dibromide	ND		0.50		ug/L			04/27/11 03:09	1
1,2-Dichloroethane	ND		0.50		ug/L			04/27/11 03:09	1
Ethylbenzene	ND		0.50		ug/L			04/27/11 03:09	1
Toluene	ND		0.50		ug/L			04/27/11 03:09	1
Xylenes, Total	ND		1.0		ug/L			04/27/11 03:09	1
Gasoline Range Organics (GRO)	880		50		ug/L			04/27/11 03:09	1
-C5-C12 TBA	ND		4.0		ug/L			04/27/11 03:09	1
DIPE	ND		0.50		ug/L			04/27/11 03:09	· · · · · · · · · · · · · · · · · · ·
TAME	ND		0.50		ug/L			04/27/11 03:09	1
Ethyl t-butyl ether	ND		0.50		ug/L			04/27/11 03:09	1
Ethanol	ND		250		ug/L			04/27/11 03:09	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene			67 - 130			-		04/27/11 03:09	1

TestAmerica San Francisco 04/29/2011

Client: OTG EnviroEngineering Solutions, Inc.

Project/Site: B112-Oakland

Lab Sample ID: 720-34711-2

TestAmerica Job ID: 720-34711-1

Matrix: Water

Matrix: Water

Date Collected: 04/20/11 12:40 Date Received: 04/21/11 10:25

Client Sample ID: NMW-6

#### Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	118		67 - 130		04/27/11 03:09	1
Toluene-d8 (Surr)	99		70 - 130		04/27/11 03:09	1

Method: 8015B - Diese	el Range Organics (DRC	)) (GC) - Silic	ca Gel Cleanup						
Analyte	Resu	lt Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C1	[0-C28] 23	0	50		ug/L		04/22/11 13:30	04/23/11 12:35	1
Motor Oil Range Organics [Ca	24-C36] N	D	100		ug/L		04/22/11 13:30	04/23/11 12:35	1
Surrogate	% Recover	y Qualifier	Limits				Prepared	Analyzed	Dil Fac
Capric Acid (Surr)	0.	3	0 - 5				04/22/11 13:30	04/23/11 12:35	1
p-Terphenyl	8	19	31 - 150				04/22/11 13:30	04/23/11 12:35	1

**Client Sample ID: NMW-4** Lab Sample ID: 720-34711-3

Date Collected: 04/20/11 14:25

Date Received: 04/21/11 10:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		1.0		ug/L			04/27/11 03:41	2
Benzene	ND		1.0		ug/L			04/27/11 03:41	2
Ethylene Dibromide	ND		1.0		ug/L			04/27/11 03:41	2
1,2-Dichloroethane	ND		1.0		ug/L			04/27/11 03:41	2
Ethylbenzene	ND		1.0		ug/L			04/27/11 03:41	2
Toluene	ND		1.0		ug/L			04/27/11 03:41	2
Xylenes, Total	2.3		2.0		ug/L			04/27/11 03:41	2
Gasoline Range Organics (GRO) -C5-C12	1800		100		ug/L			04/27/11 03:41	2
TBA	ND		8.0		ug/L			04/27/11 03:41	2
DIPE	ND		1.0		ug/L			04/27/11 03:41	2
TAME	ND		1.0		ug/L			04/27/11 03:41	2
Ethyl t-butyl ether	ND		1.0		ug/L			04/27/11 03:41	2
Ethanol	ND		500		ug/L			04/27/11 03:41	2
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene			67 - 130			-		04/27/11 03:41	2
1,2-Dichloroethane-d4 (Surr)	115		67 - 130					04/27/11 03:41	2
Toluene-d8 (Surr)	98		70 - 130					04/27/11 03:41	2

_ , ,									_
Method: 8015B - Diesel Range O	rganics (DRO)	(GC) - Silic	a Gel Cleanup						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	1200		50		ug/L		04/22/11 13:30	04/23/11 12:59	1
Motor Oil Range Organics [C24-C36]	ND		100		ug/L		04/22/11 13:30	04/23/11 12:59	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Capric Acid (Surr)			0 - 5				04/22/11 13:30	04/23/11 12:59	1
p-Terphenyl	91		31 - 150				04/22/11 13:30	04/23/11 12:59	1

TestAmerica San Francisco 04/29/2011

Client: OTG EnviroEngineering Solutions, Inc.

Project/Site: B112-Oakland

Lab Sample ID: 720-34711-4

TestAmerica Job ID: 720-34711-1

ab Sample 1D. 120-341 11-4

Matrix: Water

Date Collected: 04/20/11 17:05 Date Received: 04/21/11 10:25

Date Received: 04/21/11 10:25

Client Sample ID: NMW-1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	13		0.50		ug/L			04/27/11 01:02	1
Benzene	ND		0.50		ug/L			04/27/11 01:02	1
Ethylene Dibromide	ND		0.50		ug/L			04/27/11 01:02	1
1,2-Dichloroethane	ND		0.50		ug/L			04/27/11 01:02	1
Ethylbenzene	ND		0.50		ug/L			04/27/11 01:02	1
Toluene	ND		0.50		ug/L			04/27/11 01:02	1
Xylenes, Total	ND		1.0		ug/L			04/27/11 01:02	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			04/27/11 01:02	1
TBA	ND		4.0		ug/L			04/27/11 01:02	1
DIPE	ND		0.50		ug/L			04/27/11 01:02	1
TAME	ND		0.50		ug/L			04/27/11 01:02	1
Ethyl t-butyl ether	ND		0.50		ug/L			04/27/11 01:02	1
Ethanol	ND		250		ug/L			04/27/11 01:02	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	103		67 - 130			_		04/27/11 01:02	1
1,2-Dichloroethane-d4 (Surr)	119		67 - 130					04/27/11 01:02	1
Toluene-d8 (Surr)	98		70 - 130					04/27/11 01:02	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		50		ug/L		04/22/11 13:30	04/23/11 13:22	1
Motor Oil Range Organics [C24-C36]	ND		100		ug/L		04/22/11 13:30	04/23/11 13:22	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Capric Acid (Surr)	2		0 - 5				04/22/11 13:30	04/23/11 13:22	1
p-Terphenyl	90		31 - 150				04/22/11 13:30	04/23/11 13:22	1

Client Sample ID: NMW-2

Date Collected: 04/20/11 16:25

Lab Sample ID: 720-34711-5

Matrix: Water

Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS Analyte RL MDL Unit Result Qualifier D Prepared Analyzed Dil Fac 0.50 Methyl tert-butyl ether ND ug/L 04/27/11 04:13 0.84 0.50 ug/L 04/27/11 04:13 1 **Benzene** ND 0.50 04/27/11 04:13 Ethylene Dibromide ug/L 04/27/11 04:13 1,2-Dichloroethane ND 0.50 ug/L 0.50 ug/L 04/27/11 04:13 Ethylbenzene 7.7 0.50 **Toluene** 0.72 ug/L 04/27/11 04:13 1.0 ug/L 04/27/11 04:13 Xylenes, Total 1.9 3100 50 ug/L 04/27/11 04:13 **Gasoline Range Organics (GRO)** -C5-C12 **TBA** 4.0 ug/L 04/27/11 04:13 7.6 DIPE ND 0.50 04/27/11 04:13 ug/L ND TAME 0.50 ug/L 04/27/11 04:13 ND 0.50 04/27/11 04:13 Ethyl t-butyl ether ug/L Ethanol ND 250 ug/L 04/27/11 04:13 Surrogate % Recovery Qualifier Limits Prepared Analyzed Dil Fac 4-Bromofluorobenzene 108 67 - 130 04/27/11 04:13

TestAmerica San Francisco 04/29/2011

Project/Site: B112-Oakland

Lab Sample ID: 720-34711-5

**Client Sample ID: NMW-2** Date Collected: 04/20/11 16:25 Date Received: 04/21/11 10:25

TestAmerica Job ID: 720-34711-1

Matrix: Water

Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		67 - 130		04/27/11 04:13	1
Toluene-d8 (Surr)	99		70 - 130		04/27/11 04:13	1

Method: 8015B - Diesel Range O	rganics (DRO)	(GC) - Silic	a Gel Cleanup						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	1000		50		ug/L		04/22/11 13:30	04/23/11 13:46	1
Motor Oil Range Organics [C24-C36]	ND		100		ug/L		04/22/11 13:30	04/23/11 13:46	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Capric Acid (Surr)	0.4		0 - 5				04/22/11 13:30	04/23/11 13:46	1
p-Terphenyl	86		31 - 150				04/22/11 13:30	04/23/11 13:46	1

Lab Sample ID: 720-34711-6 **Client Sample ID: NMW-2D** 

Date Collected: 04/20/11 16:25 Matrix: Water

Date Received: 04/21/11 10:25

Analyte	Result	Qualifier		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND			2.5		ug/L			04/27/11 04:44	5
Benzene	ND			2.5		ug/L			04/27/11 04:44	5
Ethylene Dibromide	ND			2.5		ug/L			04/27/11 04:44	5
1,2-Dichloroethane	ND			2.5		ug/L			04/27/11 04:44	5
Ethylbenzene	ND			2.5		ug/L			04/27/11 04:44	5
Toluene	ND			2.5		ug/L			04/27/11 04:44	5
Xylenes, Total	ND			5.0		ug/L			04/27/11 04:44	5
Gasoline Range Organics (GRO) -C5-C12	2100			250		ug/L			04/27/11 04:44	5
TBA	ND			20		ug/L			04/27/11 04:44	5
DIPE	ND			2.5		ug/L			04/27/11 04:44	5
TAME	ND			2.5		ug/L			04/27/11 04:44	5
Ethyl t-butyl ether	ND			2.5		ug/L			04/27/11 04:44	5
Ethanol	ND			1200		ug/L			04/27/11 04:44	5
Surrogate	% Recovery	Qualifier	Lim	its				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	106		67 -	130			_		04/27/11 04:44	- 5
1,2-Dichloroethane-d4 (Surr)	109		67 -	130					04/27/11 04:44	5
Toluene-d8 (Surr)	98		70 -	130					04/27/11 04:44	5

30		70 - 700					04/21/11 04.44	,
ganics (DRO)	(GC) - Silic	a Gel Cleanup						
Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
750		50		ug/L		04/22/11 13:30	04/23/11 14:09	1
ND		100		ug/L		04/22/11 13:30	04/23/11 14:09	1
% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
		0 - 5				04/22/11 13:30	04/23/11 14:09	1
83		31 - 150				04/22/11 13:30	04/23/11 14:09	1
	rganics (DRO) Result 750 ND % Recovery	rganics (DRO) (GC) - Silic Result 750 ND  % Recovery 1  Qualifier Qualifier	rganics (DRO) (GC) - Silica Gel Cleanup           Result         Qualifier         RL           750         50           ND         100           % Recovery         Qualifier         Limits           0 - 5         0 - 5	rganics (DRO) (GC) - Silica Gel Cleanup           Result         Qualifier         RL         MDL           750         50         100           ND         100         100           % Recovery         Qualifier         Limits           0 - 5         0 - 5	rganics (DRO) (GC) - Silica Gel Cleanup           Result         Qualifier         RL         MDL         Unit           750         50         ug/L           ND         100         ug/L           % Recovery         Qualifier         Limits           0 - 5         0 - 5	rganics (DRO) (GC) - Silica Gel Cleanup           Result         Qualifier         RL         MDL         Unit         D           750         50         ug/L           ND         100         ug/L           % Recovery         Qualifier         Limits           0 - 5         0 - 5	rganics (DRO) (GC) - Silica Gel Cleanup           Result         Qualifier         RL         MDL         Unit         D         Prepared           750         50         ug/L         04/22/11 13:30           ND         100         ug/L         04/22/11 13:30           % Recovery         Qualifier         Limits         Prepared           1         0-5         04/22/11 13:30	rganics (DRO) (GC) - Silica Gel Cleanup           Result         Qualifier         RL         MDL         Unit         D         Prepared         Analyzed           750         50         ug/L         04/22/11 13:30         04/23/11 14:09           ND         100         ug/L         04/22/11 13:30         04/23/11 14:09           % Recovery         Qualifier         Limits         Prepared         Analyzed           1         0 - 5         04/22/11 13:30         04/23/11 14:09

Client: OTG EnviroEngineering Solutions, Inc.

Project/Site: B112-Oakland

**Client Sample ID: NMW-7** Date Collected: 04/20/11 17:55

Date Received: 04/21/11 10:25

Lab Sample ID: 720-34711-7

TestAmerica Job ID: 720-34711-1

Matrix: Water

Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS

Analyte	Result Qualifier	RL	MDL Unit	D Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	5.0	ug/L	<del></del>	04/27/11 05:16	10
Benzene	ND	5.0	ug/L		04/27/11 05:16	10
Ethylene Dibromide	ND	5.0	ug/L		04/27/11 05:16	10
1,2-Dichloroethane	ND	5.0	ug/L		04/27/11 05:16	10
Ethylbenzene	ND	5.0	ug/L		04/27/11 05:16	10
Toluene	ND	5.0	ug/L		04/27/11 05:16	10
Xylenes, Total	ND	10	ug/L		04/27/11 05:16	10
Gasoline Range Organics (GRO)	5700	500	ug/L		04/27/11 05:16	10
-C5-C12						
TBA	ND	40	ug/L		04/27/11 05:16	10
DIPE	ND	5.0	ug/L		04/27/11 05:16	10
TAME	ND	5.0	ug/L		04/27/11 05:16	10
Ethyl t-butyl ether	ND	5.0	ug/L		04/27/11 05:16	10
Ethanol	ND	2500	ug/L		04/27/11 05:16	10

Surrogate	% Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	110		67 - 130	_		04/27/11 05:16	10
1,2-Dichloroethane-d4 (Surr)	108		67 - 130			04/27/11 05:16	10
Toluene-d8 (Surr)	98		70 - 130			04/27/11 05:16	10

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Analyte	Result Qu	ualifier RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	2500	50	ug/L		04/22/11 13:30	04/23/11 14:33	1
Motor Oil Range Organics [C24-C36]	ND	100	ug/L		04/22/11 13:30	04/23/11 14:33	1
Surrogate	% Recovery Qu	ualifier Limits			Prepared	Analyzed	Dil Fac
Capric Acid (Surr)	3	0 - 5			04/22/11 13:30	04/23/11 14:33	1
p-Terphenyl	97	31 - 150			04/22/11 13:30	04/23/11 14:33	1

Lab Sample ID: 720-34711-8 **Client Sample ID: TB-1** Date Collected: 04/20/11 09:00 **Matrix: Water** 

Date Received: 04/21/11 10:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			04/22/11 15:06	1
Benzene	ND		0.50		ug/L			04/22/11 15:06	1
Ethylene Dibromide	ND		0.50		ug/L			04/22/11 15:06	1
1,2-Dichloroethane	ND		0.50		ug/L			04/22/11 15:06	1
Ethylbenzene	ND		0.50		ug/L			04/22/11 15:06	1
Toluene	ND		0.50		ug/L			04/22/11 15:06	1
Xylenes, Total	ND		1.0		ug/L			04/22/11 15:06	1
Gasoline Range Organics (GRO)	ND		50		ug/L			04/22/11 15:06	1
-C5-C12									
TBA	ND		4.0		ug/L			04/22/11 15:06	1
DIPE	ND		0.50		ug/L			04/22/11 15:06	1
TAME	ND		0.50		ug/L			04/22/11 15:06	1
Ethyl t-butyl ether	ND		0.50		ug/L			04/22/11 15:06	1
Ethanol	ND		250		ug/L			04/26/11 23:26	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		67 - 130			-		04/22/11 15:06	1

04/29/2011

TestAmerica San Francisco

Client: OTG EnviroEngineering Solutions, Inc.

Project/Site: B112-Oakland

Client Sample ID: TB-1

TestAmerica Job ID: 720-34711-1

Lab Sample ID: 720-34711-8

Matrix: Water

Date Collected: 04/20/11 09:00 Date Received: 04/21/11 10:25

Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Surrogate	% Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102	67 - 130		04/26/11 23:26	1
1,2-Dichloroethane-d4 (Surr)	98	67 - 130		04/22/11 15:06	1
1,2-Dichloroethane-d4 (Surr)	115	67 - 130		04/26/11 23:26	1
Toluene-d8 (Surr)	95	70 - 130		04/22/11 15:06	1
Toluene-d8 (Surr)	99	70 - 130		04/26/11 23:26	1

4

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## **Quality Control Data**

Client: OTG EnviroEngineering Solutions, Inc.

Project/Site: B112-Oakland

TestAmerica Job ID: 720-34711-1

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS

Lab Sample ID: MB 720-90179/9

**Matrix: Water** 

**Analysis Batch: 90179** 

Client Sample ID: MB 720-90179/9

**Prep Type: Total/NA** 

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			04/22/11 11:53	1
Benzene	ND		0.50		ug/L			04/22/11 11:53	1
Ethylene Dibromide	ND		0.50		ug/L			04/22/11 11:53	1
1,2-Dichloroethane	ND		0.50		ug/L			04/22/11 11:53	1
Ethylbenzene	ND		0.50		ug/L			04/22/11 11:53	1
Toluene	ND		0.50		ug/L			04/22/11 11:53	1
m-Xylene & p-Xylene	ND		1.0		ug/L			04/22/11 11:53	1
o-Xylene	ND		0.50		ug/L			04/22/11 11:53	1
Xylenes, Total	ND		1.0		ug/L			04/22/11 11:53	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			04/22/11 11:53	1
TBA	ND		4.0		ug/L			04/22/11 11:53	1
DIPE	ND		0.50		ug/L			04/22/11 11:53	1
TAME	ND		0.50		ug/L			04/22/11 11:53	1
Ethyl t-butyl ether	ND		0.50		ug/L			04/22/11 11:53	1

MB MB

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	104		67 - 130		04/22/11 11:53	1
1,2-Dichloroethane-d4 (Surr)	108		67 - 130		04/22/11 11:53	1
Toluene-d8 (Surr)	96		70 - 130		04/22/11 11:53	1

Lab Sample ID: LCS 720-90179/10

**Matrix: Water** 

**Analysis Batch: 90179** 

Client Sample ID: LCS 720-90179/10 **Prep Type: Total/NA** 

	Spike	LCS	LCS				% Rec.
nalyte	Added	Result	Qualifier	Unit	D	% Rec	Limits
lethyl tert-butyl ether	20.0	19.9		ug/L		100	62 - 130
enzene	20.0	20.1		ug/L		101	82 - 127
thylene Dibromide	20.0	19.4		ug/L		97	70 - 130
,2-Dichloroethane	20.0	19.4		ug/L		97	70 - 126
thylbenzene	20.0	19.2		ug/L		96	86 - 135
oluene	20.0	18.6		ug/L		93	83 - 129
n-Xylene & p-Xylene	40.0	41.8		ug/L		105	70 - 142
-Xylene	20.0	20.8		ug/L		104	89 - 136
BA	100	97.6		ug/L		98	82 - 116
IPE	20.0	19.9		ug/L		99	74 - 155
AME	20.0	20.1		ug/L		100	79 - 129
thyl t-butyl ether	20.0	19.8		ug/L		99	70 - 130

LCS LCS

Surrogate	% Recovery Qualifier	Limits
4-Bromofluorobenzene	108	67 - 130
1,2-Dichloroethane-d4 (Surr)	95	67 - 130
Toluene-d8 (Surr)	95	70 - 130

Project/Site: B112-Oakland

Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-90179/12

**Matrix: Water** 

**Analysis Batch: 90179** 

Client Sample ID: LCS 720-90179/12

TestAmerica Job ID: 720-34711-1

Prep Type: Total/NA

LCS LCS Spike % Rec. Added Result Qualifier Unit % Rec Limits 500 Gasoline Range Organics (GRO) 461 ug/L 92 62 - 117

-C5-C12

LCS	LCS	
% Recovery	Qualifier	Limits
107		67 - 130
105		67 - 130
100		70 - 130
	% Recovery 107 105	107

Lab Sample ID: LCSD 720-90179/11 Client Sample ID: LCSD 720-90179/11 Prep Type: Total/NA

**Matrix: Water** 

**Analysis Batch: 90179** 

Time Join Date in Control										
	Spike	LCSD I	LCSD				% Rec.		RPD	
Analyte	Added	Result (	Qualifier	Unit	D	% Rec	Limits	RPD	Limit	
Methyl tert-butyl ether	20.0	19.3		ug/L		96	62 - 130	3	20	
Benzene	20.0	20.3		ug/L		101	82 - 127	1	20	
Ethylene Dibromide	20.0	19.1		ug/L		95	70 - 130	2	20	
1,2-Dichloroethane	20.0	18.5		ug/L		92	70 - 126	5	20	
Ethylbenzene	20.0	19.1		ug/L		96	86 - 135	0	20	
Toluene	20.0	19.3		ug/L		97	83 - 129	4	20	
m-Xylene & p-Xylene	40.0	40.3		ug/L		101	70 - 142	4	20	
o-Xylene	20.0	19.7		ug/L		98	89 - 136	5	20	
TBA	100	94.2		ug/L		94	82 - 116	4	20	
DIPE	20.0	20.5		ug/L		103	74 - 155	3	20	
TAME	20.0	19.7		ug/L		99	79 - 129	2	20	
Ethyl t-butyl ether	20.0	19.6		ug/L		98	70 - 130	1	20	

LCSD LCSD

Surrogate	% Recovery	Qualifier	Limits
4-Bromofluorobenzene	102		67 - 130
1,2-Dichloroethane-d4 (Surr)	99		67 - 130
Toluene-d8 (Surr)	94		70 - 130

Lab Sample ID: LCSD 720-90179/13

**Matrix: Water** 

**Analysis Batch: 90179** 

	Spike	LCSD	LCSD				% Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	% Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)	500	441		ug/L		88	62 - 117	4	20

-C5-C12

	LCSD	LCSD	
Surrogate	% Recovery	Qualifier	Limits
4-Bromofluorobenzene	100		67 - 130
1,2-Dichloroethane-d4 (Surr)	101		67 - 130
Toluene-d8 (Surr)	97		70 - 130

Lab Sample ID: MB 720-90411/5

**Matrix: Water** 

Analysis Batch: 90411

мв мв

Analyte	Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND —	0.50	ug/L			04/26/11 20:46	1

TestAmerica San Francisco

Client Sample ID: MB 720-90411/5

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Prep Type: Total/NA

Client Sample ID: LCSD 720-90179/13

Prep Type: Total/NA

Project/Site: B112-Oakland

TestAmerica Job ID: 720-34711-1

Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: MB 720-90411/5

**Matrix: Water** 

Analysis Batch: 90411

Client Sample ID: MB 720-90411/5

Prep Type: Total/NA

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			04/26/11 20:46	1
Ethylene Dibromide	ND		0.50		ug/L			04/26/11 20:46	1
1,2-Dichloroethane	ND		0.50		ug/L			04/26/11 20:46	1
Ethylbenzene	ND		0.50		ug/L			04/26/11 20:46	1
Toluene	ND		0.50		ug/L			04/26/11 20:46	1
m-Xylene & p-Xylene	ND		1.0		ug/L			04/26/11 20:46	1
o-Xylene	ND		0.50		ug/L			04/26/11 20:46	1
Xylenes, Total	ND		1.0		ug/L			04/26/11 20:46	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			04/26/11 20:46	1
TBA	ND		4.0		ug/L			04/26/11 20:46	1
DIPE	ND		0.50		ug/L			04/26/11 20:46	1
TAME	ND		0.50		ug/L			04/26/11 20:46	1
Ethyl t-butyl ether	ND		0.50		ug/L			04/26/11 20:46	1
Ethanol	ND		250		ug/L			04/26/11 20:46	1

MB MB Surrogate % Recovery Qualifier Limits Prepared Analyzed 103 67 - 130 04/26/11 20:46 4-Bromofluorobenzene 1,2-Dichloroethane-d4 (Surr) 116 67 - 130 04/26/11 20:46 Toluene-d8 (Surr) 98 70 - 130 04/26/11 20:46

Lab Sample ID: LCS 720-90411/6

**Matrix: Water** 

**Analysis Batch: 90411** 

Client Sample ID: LCS 720-90411/6 Prep Type: Total/NA

Dil Fac

1

	Spike	LCS	LCS				% Rec.
Analyte	Added	Result	Qualifier	Unit	D	% Rec	Limits
Methyl tert-butyl ether	25.0	27.1		ug/L		109	62 - 130
Benzene	25.0	24.0		ug/L		96	82 - 127
Ethylene Dibromide	25.0	26.1		ug/L		104	70 - 130
1,2-Dichloroethane	25.0	28.4		ug/L		114	70 - 126
Ethylbenzene	25.0	24.0		ug/L		96	86 - 135
Toluene	25.0	23.1		ug/L		93	83 - 129
m-Xylene & p-Xylene	50.0	48.9		ug/L		98	70 - 142
o-Xylene	25.0	25.8		ug/L		103	89 - 136
TBA	500	490		ug/L		98	82 - 116
DIPE	25.0	25.3		ug/L		101	74 - 155
TAME	25.0	28.4		ug/L		114	79 - 129
Ethyl t-butyl ether	25.0	26.6		ug/L		107	70 - 130
Ethanol	500	469		ug/L		94	31 - 216

	LCS	LCS	
Surrogate	% Recovery	Qualifier	Limits
4-Bromofluorobenzene	104		67 - 130
1,2-Dichloroethane-d4 (Surr)	114		67 - 130
Toluene-d8 (Surr)	100		70 - 130

Project/Site: B112-Oakland

TestAmerica Job ID: 720-34711-1

Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-90411/8

**Matrix: Water** 

**Analysis Batch: 90411** 

**Client Sample ID: LCS 720-90411/8** 

Prep Type: Total/NA

Spike LCS LCS % Rec. Added Result Qualifier Unit % Rec Limits Gasoline Range Organics (GRO) 500 468 94 62 - 117 ug/L

-C5-C12

	LCS	LCS	
Surrogate	% Recovery	Qualifier	Limits
4-Bromofluorobenzene	108		67 - 130
1,2-Dichloroethane-d4 (Surr)	119		67 - 130
Toluene-d8 (Surr)	100		70 - 130

Client Sample ID: LCSD 720-90411/7

Prep Type: Total/NA

**Analysis Batch: 90411** 

**Matrix: Water** 

Lab Sample ID: LCSD 720-90411/7

Spike LCSD LCSD % Rec. RPD Added Result Qualifier Limits RPD Limit Analyte Unit D % Rec 25.0 Methyl tert-butyl ether 27.4 109 62 - 130 20 ug/L 25.0 23.9 96 82 - 127 0 20 Benzene ug/L Ethylene Dibromide 25.0 26.4 106 70 - 130 20 ug/L 1,2-Dichloroethane 25.0 28.3 ug/L 113 70 - 126 0 20 86 - 135 Ethylbenzene 25.0 23.5 ug/L 94 2 20 Toluene 25.0 22.8 ug/L 91 83 - 129 20 50.0 48.5 ug/L 97 70 - 142 20 m-Xylene & p-Xylene o-Xylene 25.0 25.2 ug/L 101 89 - 136 2 20 TBA 500 465 ug/L 93 82 - 116 5 20 DIPE 25.0 25.4 102 ug/L 74 - 155 20

28.5

26.7

466

ug/L

ug/L

ug/L

25.0

25.0

500

LCSD LCSD

Surrogate	% Recovery	Qualifier	Limits
4-Bromofluorobenzene	99		67 - 130
1,2-Dichloroethane-d4 (Surr)	117		67 - 130
Toluene-d8 (Surr)	99		70 - 130

Lab Sample ID: LCSD 720-90411/9

**Matrix: Water** 

Analysis Batch: 90411

Client Sample ID: LCSD 720-90411/9 Prep Type: Total/NA

79 - 129

70 - 130

31 - 216

0

0

20

20

30

114

107

Spike LCSD LCSD % Rec. RPD Added Result Qualifier Limits Analyte Unit % Rec RPD Limit 500 Gasoline Range Organics (GRO) 462 ug/L 92 62 - 117 20

-C5-C12

TAME

Ethanol

Ethyl t-butyl ether

	LCSD LCSD	
Surrogate	% Recovery Qualifie	r Limits
4-Bromofluorobenzene	104	67 - 130
1,2-Dichloroethane-d4 (Surr)	114	67 - 130
Toluene-d8 (Surr)	99	70 - 130

Project/Site: B112-Oakland

TestAmerica Job ID: 720-34711-1

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: 720-34711-4 MS

**Matrix: Water** 

Analysis Batch: 90411

Client Sample ID: NMW-1
Prep Type: Total/NA

Sample	Sample Spi	ke MS	MS			% Rec.
Analyte Resul	Qualifier Add	ed Result	Qualifier Un	nit D	% Rec	Limits
Methyl tert-butyl ether 13	25	.0 42.5	ug	/L	119	60 - 138
Benzene NE	25	.0 23.3	ug	/L	93	60 - 140
Ethylene Dibromide NE	25	.0 28.0	ug	/L	112	60 - 140
1,2-Dichloroethane NE	25	.0 29.7	ug	/L	119	60 - 140
Ethylbenzene NE	25	.0 22.9	ug	/L	92	60 - 140
Toluene NE	25	.0 22.3	ug	/L	89	60 - 140
m-Xylene & p-Xylene NE	50	.0 46.9	ug	/L	94	60 - 140
o-Xylene NE	25	.0 25.0	ug	/L	100	60 - 140
TBA NE	5	00 470	ug	/L	93	60 - 140
DIPE NE	25	.0 26.3	ug	/L	105	60 - 140
TAME	25	.0 30.0	ug	/L	120	60 - 140
Ethyl t-butyl ether NE	25	.0 28.1	ug	/L	113	60 - 140
Ethanol NE	5	00 426	ug	/L	85	60 - 140

MS MS

Surrogate	% Recovery	Qualifier	Limits
4-Bromofluorobenzene	103		67 - 130
1,2-Dichloroethane-d4 (Surr)	124		67 - 130
Toluene-d8 (Surr)	100		70 - 130

Lab Sample ID: 720-34711-4 MSD

**Matrix: Water** 

**Analysis Batch: 90411** 

Client Sample ID: NMW-1
Prep Type: Total/NA

	Sample	Sample	Spike	MSD	MSD				% Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	% Rec	Limits	RPD	Limit
Methyl tert-butyl ether	13		25.0	43.2		ug/L		122	60 - 138	2	20
Benzene	ND		25.0	24.0		ug/L		96	60 - 140	3	20
Ethylene Dibromide	ND		25.0	27.4		ug/L		109	60 - 140	2	20
1,2-Dichloroethane	ND		25.0	29.9		ug/L		119	60 - 140	1	20
Ethylbenzene	ND		25.0	22.9		ug/L		92	60 - 140	0	20
Toluene	ND		25.0	22.6		ug/L		91	60 - 140	1	20
m-Xylene & p-Xylene	ND		50.0	47.2		ug/L		94	60 - 140	1	20
o-Xylene	ND		25.0	25.1		ug/L		100	60 - 140	0	20
TBA	ND		500	473		ug/L		94	60 - 140	1	20
DIPE	ND		25.0	27.1		ug/L		108	60 - 140	3	20
TAME	ND		25.0	30.8		ug/L		123	60 - 140	3	20
Ethyl t-butyl ether	ND		25.0	28.9		ug/L		115	60 - 140	3	20
Ethanol	ND		500	459		ug/L		92	60 - 140	7	20

MSD MSD

Surrogate	% Recovery Qualifier	Limits
4-Bromofluorobenzene	102	67 - 130
1,2-Dichloroethane-d4 (Surr)	120	67 - 130
Toluene-d8 (Surr)	100	70 - 130

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### **Quality Control Data**

Client: OTG EnviroEngineering Solutions, Inc.

Project/Site: B112-Oakland

TestAmerica Job ID: 720-34711-1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 720-90175/1-A

**Matrix: Water** 

**Analysis Batch: 90167** 

Client Sample ID: MB 720-90175/1-A Prep Type: Silica Gel Cleanup

Prep Batch: 90175

Analyte	Result	Qualifier	RL	MDL	Unit	[	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		50		ug/L			04/22/11 10:25	04/22/11 18:54	1
Motor Oil Range Organics [C24-C36]	ND		99		ug/L			04/22/11 10:25	04/22/11 18:54	1

MR MR

MB MB

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Capric Acid (Surr)	0.2		0 - 5	04/22/11 10:25	04/22/11 18:54	1
p-Terphenyl	98		31 - 150	04/22/11 10:25	04/22/11 18:54	1

Client Sample ID: LCS 720-90175/2-A

Client Sample ID: LCSD 720-90175/3-A

Prep Type: Silica Gel Cleanup

Lab Sample ID: LCS 720-90175/2-A **Matrix: Water** 

**Analysis Batch: 90167** Prep Batch: 90175 LCS LCS Spike % Rec.

Added Result Qualifier Unit % Rec Limits Diesel Range Organics 2500 1840 ug/L 74 32 - 119

[C10-C28]

LCS LCS Surrogate % Recovery Qualifier

Limits 31 - 150 p-Terphenyl 107

Lab Sample ID: LCSD 720-90175/3-A

**Matrix: Water** 

Prep Type: Silica Gel Cleanup **Analysis Batch: 90167** Prep Batch: 90175 LCSD LCSD Spike % Rec. RPD Analyte Added Result Qualifier Unit Limits RPD Limit % Rec 2500 1710 69 Diesel Range Organics ug/L 32 - 119

Page 17 of 26

[C10-C28]

LCSD LCSD Surrogate % Recovery Qualifier Limits p-Terphenyl 31 - 150 107

> TestAmerica San Francisco 04/29/2011

# **QC Association Summary**

Client: OTG EnviroEngineering Solutions, Inc.

Project/Site: B112-Oakland

TestAmerica Job ID: 720-34711-1

## **GC/MS VOA**

## Analysis Batch: 90179

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method Prep B	<b>atch</b>
LCS 720-90179/10	LCS 720-90179/10	Total/NA	Water	8260B/CA_LUF TMS	
LCSD 720-90179/11	LCSD 720-90179/11	Total/NA	Water	8260B/CA_LUF TMS	
LCS 720-90179/12	LCS 720-90179/12	Total/NA	Water	8260B/CA_LUF TMS	
LCSD 720-90179/13	LCSD 720-90179/13	Total/NA	Water	8260B/CA_LUF TMS	
720-34711-8	TB-1	Total/NA	Water	8260B/CA_LUF TMS	
MB 720-90179/9	MB 720-90179/9	Total/NA	Water	8260B/CA_LUF TMS	

### Analysis Batch: 90411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batc
720-34711-8	TB-1	Total/NA	Water	8260B/CA_LUF TMS	
720-34711-4	NMW-1	Total/NA	Water	8260B/CA_LUF TMS	
720-34711-4 MS	NMW-1	Total/NA	Water	8260B/CA_LUF TMS	
720-34711-4 MSD	NMW-1	Total/NA	Water	8260B/CA_LUF TMS	
720-34711-1	NMW-9	Total/NA	Water	8260B/CA_LUF TMS	
720-34711-2	NMW-6	Total/NA	Water	8260B/CA_LUF TMS	
720-34711-3	NMW-4	Total/NA	Water	8260B/CA_LUF TMS	
720-34711-5	NMW-2	Total/NA	Water	8260B/CA_LUF TMS	
720-34711-6	NMW-2D	Total/NA	Water	8260B/CA_LUF TMS	
720-34711-7	NMW-7	Total/NA	Water	8260B/CA_LUF TMS	
MB 720-90411/5	MB 720-90411/5	Total/NA	Water	8260B/CA_LUF TMS	
LCS 720-90411/6	LCS 720-90411/6	Total/NA	Water	8260B/CA_LUF TMS	
LCSD 720-90411/7	LCSD 720-90411/7	Total/NA	Water	8260B/CA_LUF TMS	
LCS 720-90411/8	LCS 720-90411/8	Total/NA	Water	8260B/CA_LUF TMS	
LCSD 720-90411/9	LCSD 720-90411/9	Total/NA	Water	8260B/CA_LUF TMS	

### GC Semi VOA

## **Analysis Batch: 90167**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 720-90175/2-A	LCS 720-90175/2-A	Silica Gel Cleanup	Water	8015B	90175
LCSD 720-90175/3-A	LCSD 720-90175/3-A	Silica Gel Cleanup	Water	8015B	90175
MB 720-90175/1-A	MB 720-90175/1-A	Silica Gel Cleanup	Water	8015B	90175

### Prep Batch: 90175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-90175/1-A	MB 720-90175/1-A	Silica Gel Cleanup	Water	3510C SGC	
720-34711-3	NMW-4	Silica Gel Cleanup	Water	3510C SGC	
720-34711-4	NMW-1	Silica Gel Cleanup	Water	3510C SGC	
720-34711-5	NMW-2	Silica Gel Cleanup	Water	3510C SGC	
720-34711-6	NMW-2D	Silica Gel Cleanup	Water	3510C SGC	
720-34711-7	NMW-7	Silica Gel Cleanup	Water	3510C SGC	

TestAmerica San Francisco 04/29/2011

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# **QC Association Summary**

Client: OTG EnviroEngineering Solutions, Inc.

Project/Site: B112-Oakland

TestAmerica Job ID: 720-34711-1

## GC Semi VOA (Continued)

## Prep Batch: 90175 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 720-90175/2-A	LCS 720-90175/2-A	Silica Gel Cleanup	Water	3510C SGC	
LCSD 720-90175/3-A	LCSD 720-90175/3-A	Silica Gel Cleanup	Water	3510C SGC	
720-34711-1	NMW-9	Silica Gel Cleanup	Water	3510C SGC	
720-34711-2	NMW-6	Silica Gel Cleanup	Water	3510C SGC	

#### **Analysis Batch: 90248**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-34711-4	NMW-1	Silica Gel Cleanup	Water	8015B	90175
720-34711-5	NMW-2	Silica Gel Cleanup	Water	8015B	90175
720-34711-6	NMW-2D	Silica Gel Cleanup	Water	8015B	90175
720-34711-7	NMW-7	Silica Gel Cleanup	Water	8015B	90175
720-34711-1	NMW-9	Silica Gel Cleanup	Water	8015B	90175
720-34711-2	NMW-6	Silica Gel Cleanup	Water	8015B	90175
720-34711-3	NMW-4	Silica Gel Cleanup	Water	8015B	90175

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TestAmerica Job ID: 720-34711-1

Client: OTG EnviroEngineering Solutions, Inc.

Project/Site: B112-Oakland

**Client Sample ID: NMW-9** 

Lab Sample ID: 720-34711-1

Matrix: Water

Date Collected: 04/20/11 12:10 Date Received: 04/21/11 10:25

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUF TMS		10	90411	04/27/11 02:37	AC	TestAmerica San Francisco
Silica Gel Cleanup	Prep	3510C SGC			90175	04/22/11 13:30	AM	TestAmerica San Francisco
Silica Gel Cleanup	Analysis	8015B		1	90248	04/23/11 12:12	DH	TestAmerica San Francisco

Lab Sample ID: 720-34711-2

Matrix: Water

**Client Sample ID: NMW-6** Date Collected: 04/20/11 12:40 Date Received: 04/21/11 10:25

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUF TMS		1	90411	04/27/11 03:09	AC	TestAmerica San Francisco
Silica Gel Cleanup	Prep	3510C SGC			90175	04/22/11 13:30	AM	TestAmerica San Francisco
Silica Gel Cleanup	Analysis	8015B		1	90248	04/23/11 12:35	DH	TestAmerica San Francisco

Client Sample ID: NMW-4 Lab Sample ID: 720-34711-3 Date Collected: 04/20/11 14:25

Matrix: Water

Date Received: 04/21/11 10:25

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUF TMS			90411	04/27/11 03:41	AC	TestAmerica San Francisco
Silica Gel Cleanup	Prep	3510C SGC			90175	04/22/11 13:30	AM	TestAmerica San Francisco
Silica Gel Cleanup	Analysis	8015B		1	90248	04/23/11 12:59	DH	TestAmerica San Francisco

**Client Sample ID: NMW-1** Lab Sample ID: 720-34711-4 Date Collected: 04/20/11 17:05 **Matrix: Water** 

Date Received: 04/21/11 10:25

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUF TMS		1	90411	04/27/11 01:02	AC	TestAmerica San Francisco
Silica Gel Cleanup	Prep	3510C SGC			90175	04/22/11 13:30	AM	TestAmerica San Francisco
Silica Gel Cleanup	Analysis	8015B		1	90248	04/23/11 13:22	DH	TestAmerica San Francisco

**Client Sample ID: NMW-2** Lab Sample ID: 720-34711-5

Date Collected: 04/20/11 16:25 Matrix: Water Date Received: 04/21/11 10:25

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUF TMS		1	90411	04/27/11 04:13	AC	TestAmerica San Francisco
Silica Gel Cleanup	Prep	3510C SGC			90175	04/22/11 13:30	AM	TestAmerica San Francisco
Silica Gel Cleanup	Analysis	8015B		1	90248	04/23/11 13:46	DH	TestAmerica San Francisco

### **Lab Chronicle**

Client: OTG EnviroEngineering Solutions, Inc.

Project/Site: B112-Oakland

Lab Sample ID: 720-34711-6

TestAmerica Job ID: 720-34711-1

Matrix: Water

Date Collected: 04/20/11 16:25 Date Received: 04/21/11 10:25

Client Sample ID: NMW-2D

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUF TMS		5	90411	04/27/11 04:44	AC	TestAmerica San Francisco
Silica Gel Cleanup	Prep	3510C SGC			90175	04/22/11 13:30	AM	TestAmerica San Francisco
Silica Gel Cleanup	Analysis	8015B		1	90248	04/23/11 14:09	DH	TestAmerica San Francisco

Lab Sample ID: 720-34711-7

Matrix: Water

Date Collected: 04/20/11 17:55 Date Received: 04/21/11 10:25

**Client Sample ID: NMW-7** 

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUF TMS		10	90411	04/27/11 05:16	AC	TestAmerica San Francisco
Silica Gel Cleanup	Prep	3510C SGC			90175	04/22/11 13:30	AM	TestAmerica San Francisco
Silica Gel Cleanup	Analysis	8015B		1	90248	04/23/11 14:33	DH	TestAmerica San Francisco

Client Sample ID: TB-1 Lab Sample ID: 720-34711-8

Date Collected: 04/20/11 09:00 Matrix: Water

Date Received: 04/21/11 10:25

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUF TMS		1	90179	04/22/11 15:06	LL	TestAmerica San Francisco
Total/NA	Analysis	8260B/CA_LUF TMS		1	90411	04/26/11 23:26	AC	TestAmerica San Francisco

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# **Certification Summary**

Client: OTG EnviroEngineering Solutions, Inc.

Project/Site: B112-Oakland

TestAmerica Job ID: 720-34711-1

Laboratory	Authority	Program	EPA Region	Certification ID	
TestAmerica San Francisco	California	State Program	9	2496	

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

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## **Method Summary**

Client: OTG EnviroEngineering Solutions, Inc.

Project/Site: B112-Oakland

TestAmerica Job ID: 720-34711-1

Method	Method Description	Protocol	Laboratory
8260B/CA_LUFT MS	8260B / CA LUFT MS	SW846	TAL SF
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL SF

#### **Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### Laboratory References:

TAL SF = TestAmerica San Francisco, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

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## **Sample Summary**

Client: OTG EnviroEngineering Solutions, Inc.

Project/Site: B112-Oakland

Lab Sample ID Client Sample ID Matrix Collected Received 720-34711-1 NMW-9 Water 04/20/11 12:10 04/21/11 10:25 NMW-6 720-34711-2 Water 04/20/11 12:40 04/21/11 10:25 720-34711-3 NMW-4 Water 04/20/11 14:25 04/21/11 10:25 720-34711-4 NMW-1 Water 04/20/11 17:05 04/21/11 10:25 720-34711-5 NMW-2 Water 04/20/11 16:25 04/21/11 10:25 720-34711-6 NMW-2D Water 04/20/11 16:25 04/21/11 10:25 720-34711-7 NMW-7 Water 04/20/11 17:55 04/21/11 10:25 720-34711-8 04/20/11 09:00 04/21/11 10:25 TB-1 Water

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TestAmerica Job ID: 720-34711-1

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THE LEADER IN ENVIRONMENTAL TESTING

TESTAMERICA San Francisco Chain of Custody 1220 Quarry Lane © Pleasanton CA 94566-4756 Phone: (925) 484-1919 © Fax: (925) 600-3002

Report To Attn: Xinggang To	ng:					- T	ol				-	86 81	_Ana	alysis	CONTRACTOR CO.	COLUMN TO A STATE OF THE PARTY		-		٤					
Company: OTG EnviroE		ering	Solse	fions .	I MTBE	TEPH EPA 8015M* 斯 Silica Gel 斯Diesel 斯Motor Oil 口 Other	EPA 82608: <b>机</b> Gas <b>机</b> BTEX <b>域</b> 5 Oxygenates <b>队</b> DCA, EDB <b>州</b> Ethanol	260B	Volatile Organics GC/MS (VOCs)		enm	10 608 11 608	8310		Metais: ☐ Lead ☐ LUFT ☐ RCRA ☐ Other.	Low Level Metals by EPA 200.8/6020 (ICP-MS):		(O <sup>2</sup> +	ğı.	□ NO₃ □					
Address: 7700 Edgew Phone:510-465-8982_Em	Jæter D	m, Sur	te 26	c, Oaklod	) D	S SI	BTEX A, EDB	(HVOCs) EPA 8021 by 8260B	C/MS 624	AS 525	☐ Petroleum ☐ Total	EPA 8081 EPA 8082	8270 🗆	471)	LUFT	oy EPA	G	Hexavalent Chromium pH (24h hold time for H <sub>2</sub> O)	Alkalinity TDS	□ 504 □ □ NO2 □				Number of October 1980	OH S
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## **Login Sample Receipt Checklist**

Client: OTG EnviroEngineering Solutions, Inc.

Job Number: 720-34711-1

Login Number: 34711 List Source: TestAmerica San Francisco

List Number: 1 Creator: Mullen, Joan

<del></del>		
Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

TestAmerica San Francisco

04/29/2011



THE LEADER IN ENVIRONMENTAL TESTING

# **ANALYTICAL REPORT**

TestAmerica Laboratories, Inc.

TestAmerica San Francisco 1220 Quarry Lane Pleasanton, CA 94566 Tel: (925)484-1919

TestAmerica Job ID: 720-34269-1 Client Project/Site: B112-Oakland

For:

OTG EnviroEngineering Solutions, Inc. 7700 Edgwater Drive Suite 260 Oakland, California 94621

Attn: Xinggang Tong



Authorized for release by: 04/07/2011 04:46:57 PM

Afsaneh Salimpour Project Manager I afsaneh.salimpour@testamericainc.com



Review your project results through

Total Access

**Have a Question?** 



Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Page 1 of 29 04/07/2011

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# **Qualifier Definition/Glossary**

Client: OTG EnviroEngineering Solutions, Inc.

Project/Site: B112-Oakland

TestAmerica Job ID: 720-34269-1

### **Qualifiers**

### GC Semi VOA

Qualifier	Qualifier Description
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
X	Surrogate is outside control limits

## **Glossary**

Abbreviation	These commonly used abbreviations may or may not be present in this report.
<b>\$</b>	Listed under the "D" column to designate that the result is reported on a dry weight basis.
EPA	United States Environmental Protection Agency
ND	Not Detected above the reporting level.
MDL	Method Detection Limit
RL	Reporting Limit
RE, RE1 (etc.)	Indicates a Re-extraction or Reanalysis of the sample.
%R	Percent Recovery
RPD	Relative Percent Difference, a measure of the relative difference between two points.

TestAmerica San Francisco 04/07/2011

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#### **Case Narrative**

Client: OTG EnviroEngineering Solutions, Inc.

Project/Site: B112-Oakland

Job ID: 720-34269-1

Laboratory: TestAmerica San Francisco

Narrative

**Job Narrative** 720-34269-1

#### Comments

No additional comments.

#### Receipt

Received 2 containers for nb-9-4. no extra analysis requested.

All other samples were received in good condition within temperature requirements.

#### GC Semi VOA

Method(s) 8015B: Due to the level of dilution required for the following sample(s), surrogate recoveries are not reported: (720-34269-1 MS), (720-34269-1 MSD), NB-1-1 (720-34269-1).

Method(s) 8015B: Due to the level of dilution required for the following sample(s), surrogate recoveries are not reported: NB-4-4D (720-34269-22), NB-6-1 (720-34269-5), NB-8-1 (720-34269-7).

No other analytical or quality issues were noted.

#### **Organic Prep**

No analytical or quality issues were noted.

TestAmerica Job ID: 720-34269-1

Project/Site: B112-Oakland

Client Sample ID: NB-1-1

TestAmerica Job ID: 720-34269-1

Lab Sample ID: 720-34269-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	65		10		mg/Kg	10	_	8015B	 Silica Gel Clear
Motor Oil Range Organics [C24-C36]	590		500		mg/Kg	10		8015B	Silica Gel Clear

Client Sample ID: NB-1-4 Lab Sample ID: 720-34269-2

	Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
l	Diesel Range Organics [C10-C28]	46		3.0		mg/Kg	3	_	8015B	Silica Gel Clear
	Motor Oil Range Organics [C24-C36]	210		150		mg/Kg	3		8015B	Silica Gel Clear

Client Sample ID: NB-2-1 Lab Sample ID: 720-34269-3

Analyte	Result Qualifie		MDL Unit	Dil Fac D	Method	Prep Type
Diesel Range Organics [C10-C28]	2.6	0.98	mg/Kg		8015B	Silica Gel Clear

Client Sample ID: NB-2-4 Lab Sample ID: 720-34269-4

No Detections.

Client Sample ID: NB-6-1 Lab Sample ID: 720-34269-5

Analyte	Result Quali	ifier RL	MDL Unit	Dil Fac	D Metho	d Prep Type
Diesel Range Organics [C10-C28]	56	4.9	mg/Kg	5	8015B	Silica Gel Clear
Motor Oil Range Organics [C24-C36]	300	250	mg/Kg	5	8015B	Silica Gel Clear

Client Sample ID: NB-6-4 Lab Sample ID: 720-34269-6

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac D	Method	Prep Type
Diesel Range Organics [C10-C28]	32	3.0	mg/Kg	3	8015B	Silica Gel Clear
Motor Oil Range Organics [C24-C36]	220	150	mg/Kg	3	8015B	Silica Gel Clear

Client Sample ID: NB-8-1 Lab Sample ID: 720-34269-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	400		20		mg/Kg	20	_	8015B	 Silica Gel Clear
Motor Oil Range Organics [C24-C36]	1800		990		mg/Kg	20		8015B	Silica Gel Clear

Client Sample ID: NB-8-4

Lab Sample ID: 720-34269-8

No Detections.

Client Sample ID: NB-7-1 Lab Sample ID: 720-34269-9

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac	D Method	Prep Type
Diesel Range Organics [C10-C28]	30	3.0	mg/Kg	3	8015B	Silica Gel Clear
Motor Oil Range Organics [C24-C36]	160	150	mg/Kg	3	8015B	Silica Gel Clear

Client Sample ID: NB-7-4 Lab Sample ID: 720-34269-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	15		1.0		mg/Kg	1	_	8015B	 Silica Gel Clear
Motor Oil Range Organics [C24-C36]	62		50		mg/Kg	1		8015B	Silica Gel Clear

Client Sample ID: NB-4-1 Lab Sample ID: 720-34269-11

Project/Site: B112-Oakland

TestAmerica Job ID: 720-34269-1

Client Sample ID: NB-4-1 (Con	tinued)					Lal	s Sa	ample ID:	): 720-34269-11	
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D I	Method	Prep Type	
Diesel Range Organics [C10-C28]	3.2		0.99		mg/Kg	1	_ {8	8015B	Silica Gel Clear	
Client Sample ID: NB-4-4						Lal	o Sa	ample ID:	720-34269-12	

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	11		2.0		mg/Kg	2	_	8015B	Silica Gel Clear
Motor Oil Range Organics [C24-C36]	280		100		mg/Kg	2		8015B	Silica Gel Clear

Client Sample ID: NB-3-1		Lab Sa	mple ID: 72	0-34269-13
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Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	11		0.99		mg/Kg	1	_	8015B	Silica Gel Clear
Motor Oil Range Organics [C24-C36]	61		49		mg/Kg	1		8015B	Silica Gel Clear

Client Sample ID: NB-3-4	Lab Sample ID: 720-34269-14

Analyte	Result	Qualifier	RL	MDL U	nit	Dil Fac	D	Method	Prep T	уре
Diesel Range Organics [C10-C	28] 7.5		1.0	m	ng/Kg	1	_	8015B	Silica (	Gel Clear
Motor Oil Range Organics [C24	-C36] 170		50	m	ng/Kg	1		8015B	Silica (	Gel Clear

# Client Sample ID: NB-5-1 Lab Sample ID: 720-34269-15

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac D Method	Prep Type
Diesel Range Organics [C10-C28]	3.0	0.99	mg/Kg	1 8015B	Silica Gel Clear

# Client Sample ID: NB-5-4 Lab Sample ID: 720-34269-16

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac D	Method	Prep Type
Diesel Range Organics [C10-C28]	1.9	0.99	mg/Kg	1	8015B	Silica Gel Clear

# Client Sample ID: NB-9-1 Lab Sample ID: 720-34269-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	14		0.99		mg/Kg	1	_	8015B	Silica Gel Clear
Motor Oil Range Organics [C24-C36]	57		50		mg/Kg	1		8015B	Silica Gel Clear

# Client Sample ID: NB-9-4 Lab Sample ID: 720-34269-18

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac D Method	Prep Type
Diesel Range Organics [C10-C28]	2.7	0.99	mg/Kg	1 8015B	Silica Gel Clear

# Client Sample ID: NB-10-1 Lab Sample ID: 720-34269-19

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac	D Method	Prep Type
Diesel Range Organics [C10-C28]	1.6	0.99	mg/Kg	1	8015B	Silica Gel Clear

# Client Sample ID: NB-10-4 Lab Sample ID: 720-34269-20

No Detections.

Analyte	Result Qualif	fier RL	MDL Unit	Dil Fac I	O Method	Prep Type
Diesel Range Organics [C10-C28]	2.6	0.99	mg/Kg	1	8015B	Total/NA

# **Detection Summary**

Client: OTG EnviroEngineering Solutions, Inc.

Project/Site: B112-Oakland

TestAmerica Job ID: 720-34269-1

Client Sample ID: NB-4-4D Lab Sample ID: 720-34269-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	53		4.9		mg/Kg	 5	_	8015B	 Total/NA
Motor Oil Range Organics [C24-C36]	320		250		mg/Kg	5		8015B	Total/NA

Client Sample ID: NB-7-4-D Lab Sample ID: 720-34269-23

Analyte	Result Qualifie	r RL	MDL Unit	Dil Fac	D Method	Prep Type
Diesel Range Organics [C10-C28]	37	0.99	mg/Kg	1	8015B	Total/NA
Motor Oil Range Organics [C24-C36]	110	50	mg/Kg	1	8015B	Total/NA

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Project/Site: B112-Oakland

Client Sample ID: NB-1-1 Lab Sample ID: 720-34269-1

Date Collected: 03/28/11 11:15 Matrix: Solid

Date Received: 03/31/11 17:15

Method: 8015B - Diesel Range O	rganics (DRO)	(GC) - Silic	a Gel Cleanup						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	65		10		mg/Kg		04/01/11 16:11	04/04/11 11:09	10
Motor Oil Range Organics [C24-C36]	590		500		mg/Kg		04/01/11 16:11	04/04/11 11:09	10
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Capric Acid (Surr)		-	0 - 5				04/01/11 16:11	04/04/11 11:09	10
p-Terphenyl	0	D	50 - 150				04/01/11 16:11	04/04/11 11:09	10

Client Sample ID: NB-1-4 Lab Sample ID: 720-34269-2

Date Collected: 03/28/11 12:10 Date Received: 03/31/11 17:15

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup MDL Unit Result Qualifier Prepared Dil Fac Analyzed 3.0 04/01/11 16:11 04/05/11 18:50 3 Diesel Range Organics [C10-C28] 46 mg/Kg 04/05/11 18:50 **Motor Oil Range Organics** 210 150 mg/Kg 04/01/11 16:11 3 [C24-C36] Surrogate Limits Dil Fac % Recovery Qualifier Prepared Analyzed Capric Acid (Surr) 0 - 5 04/01/11 16:11 04/05/11 18:50 2 p-Terphenyl 69 50 - 150 04/01/11 16:11 04/05/11 18:50

Client Sample ID: NB-2-1

Date Collected: 03/28/11 12:38

Lab Sample ID: 720-34269-3

Matrix: Solid

Date Received: 03/31/11 17:15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	2.6		0.98		mg/Kg		04/01/11 16:11	04/04/11 14:21	1
Motor Oil Range Organics [C24-C36]	ND		49		mg/Kg		04/01/11 16:11	04/04/11 14:21	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Capric Acid (Surr)	0.1		0 - 5				04/01/11 16:11	04/04/11 14:21	1
p-Terphenyl	86		50 <sub>-</sub> 150				04/01/11 16:11	04/04/11 14:21	1

Client Sample ID: NB-2-4

Date Collected: 03/28/11 13:20

Lab Sample ID: 720-34269-4

Matrix: Solid

Date Received: 03/31/11 17:15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		0.99		mg/Kg		04/01/11 16:11	04/04/11 11:56	1
Motor Oil Range Organics [C24-C36]	ND		50		mg/Kg		04/01/11 16:11	04/04/11 11:56	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Capric Acid (Surr)	0.07		0 - 5				04/01/11 16:11	04/04/11 11:56	1
p-Terphenyl	86		50 - 150				04/01/11 16:11	04/04/11 11:56	1

TestAmerica San Francisco 04/07/2011

**Matrix: Solid** 

Project/Site: B112-Oakland

**Client Sample ID: NB-6-1** 

Date Collected: 03/28/11 13:50

Date Received: 03/31/11 17:15

Lab Sample ID: 720-34269-5

TestAmerica Job ID: 720-34269-1

Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	56		4.9	mg/Kg		04/01/11 16:11	04/04/11 15:32	5
Motor Oil Range Organics	300		250	mg/Kg		04/01/11 16:11	04/04/11 15:32	5
[C24-C36]								

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Capric Acid (Surr)	0		0 - 5	04/01/11 16:11	04/04/11 15:32	5
p-Terphenyl	0	D	50 - 150	04/01/11 16:11	04/04/11 15:32	5

Client Sample ID: NB-6-4 Lab Sample ID: 720-34269-6

Date Collected: 03/28/11 16:10 **Matrix: Solid** Date Received: 03/31/11 17:15

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	32		3.0		mg/Kg		04/01/11 16:11	04/05/11 19:14	3
Motor Oil Range Organics [C24-C36]	220		150		mg/Kg		04/01/11 16:11	04/05/11 19:14	3
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac

Capric Acid (Surr) 0 - 5 04/01/11 16:11 04/05/11 19:14 p-Terphenyl 61 50 - 150 04/01/11 16:11 04/05/11 19:14

Client Sample ID: NB-8-1 Lab Sample ID: 720-34269-7 Date Collected: 03/28/11 16:40 **Matrix: Solid** 

Date Received: 03/31/11 17:15

Method: 8015B - Diesel Range O	rganics (DRO)	(GC) - Silic	a Gel Cleanup						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	400		20		mg/Kg		04/01/11 16:11	04/06/11 20:33	20
Motor Oil Range Organics [C24-C36]	1800		990		mg/Kg		04/01/11 16:11	04/06/11 20:33	20
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Capric Acid (Surr)	3		0 - 5				04/01/11 16:11	04/06/11 20:33	20
p-Terphenyl	0	DX	50 <sub>-</sub> 150				04/01/11 16:11	04/06/11 20:33	20

Client Sample ID: NB-8-4 Lab Sample ID: 720-34269-8

Date Collected: 03/28/11 17:15 **Matrix: Solid** Date Received: 03/31/11 17:15

Method: 8015B - Diesel Range O	rganics (DRO)	(GC) - Silic	a Gel Cleanup						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		0.98		mg/Kg		04/01/11 16:11	04/04/11 14:45	1
Motor Oil Range Organics [C24-C36]	ND		49		mg/Kg		04/01/11 16:11	04/04/11 14:45	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Capric Acid (Surr)	0.1		0 - 5				04/01/11 16:11	04/04/11 14:45	1
p-Terphenyl	89		50 <sub>-</sub> 150				04/01/11 16:11	04/04/11 14:45	1

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Project/Site: B112-Oakland

Lab Sample ID: 720-34269-9 Client Sample ID: NB-7-1

Date Collected: 03/29/11 09:20

Matrix: Solid

Date Received: 03/31/11 17:15

Method: 8015B - Diesel Range O	rganics (DRO)	(GC) - Silic	a Gel Cleanup						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	30		3.0		mg/Kg		04/01/11 16:11	04/06/11 20:57	3
Motor Oil Range Organics [C24-C36]	160		150		mg/Kg		04/01/11 16:11	04/06/11 20:57	3
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Capric Acid (Surr)	0.4		0 - 5				04/01/11 16:11	04/06/11 20:57	3
p-Terphenyl	80		50 - 150				04/01/11 16:11	04/06/11 20:57	3

Client Sample ID: NB-7-4 Lab Sample ID: 720-34269-10

Date Collected: 03/29/11 10:50 Date Received: 03/31/11 17:15 **Matrix: Solid** 

Method: 8015B - Diesel Range O	rganics (DRO)	(GC) - Silic	a Gel Cleanup						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	15		1.0		mg/Kg		04/05/11 14:30	04/06/11 15:09	1
Motor Oil Range Organics [C24-C36]	62		50		mg/Kg		04/05/11 14:30	04/06/11 15:09	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Capric Acid (Surr)	0.1		0 - 5				04/05/11 14:30	04/06/11 15:09	1
p-Terphenyl	55		50 <sub>-</sub> 150				04/05/11 14:30	04/06/11 15:09	1

**Client Sample ID: NB-4-1** Lab Sample ID: 720-34269-11 Date Collected: 03/29/11 11:25

Date Received: 03/31/11 17:15

**Matrix: Solid** 

**Matrix: Solid** 

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	3.2		0.99		mg/Kg		04/05/11 14:30	04/06/11 16:16	1
Motor Oil Range Organics [C24-C36]	ND		50		mg/Kg		04/05/11 14:30	04/06/11 16:16	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Capric Acid (Surr)	0.6		0 - 5				04/05/11 14:30	04/06/11 16:16	1
p-Terphenyl	100		50 <sub>-</sub> 150				04/05/11 14:30	04/06/11 16:16	1

Client Sample ID: NB-4-4 Lab Sample ID: 720-34269-12

Date Collected: 03/29/11 12:10 Date Received: 03/31/11 17:15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	11		2.0		mg/Kg		04/05/11 14:30	04/06/11 17:26	2
Motor Oil Range Organics [C24-C36]	280		100		mg/Kg		04/05/11 14:30	04/06/11 17:26	2
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Capric Acid (Surr)	0.2		0 _ 5				04/05/11 14:30	04/06/11 17:26	2
p-Terphenyl	55		50 <sub>-</sub> 150				04/05/11 14:30	04/06/11 17:26	2

Project/Site: B112-Oakland

Client Sample ID: NB-3-1 Lab Sample ID: 720-34269-13

Date Collected: 03/29/11 12:35 Matrix: Solid

Date Received: 03/31/11 17:15

Method: 8015B - Diesel Range Org	janics (DRO)	(GC) - Silic	a Gel Cleanup						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	11		0.99		mg/Kg		04/05/11 14:30	04/06/11 17:49	1
Motor Oil Range Organics [C24-C36]	61		49		mg/Kg		04/05/11 14:30	04/06/11 17:49	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Capric Acid (Surr)	0.4		0 - 5				04/05/11 14:30	04/06/11 17:49	1
p-Terphenyl	88		50 - 150				04/05/11 14:30	04/06/11 17:49	1

Client Sample ID: NB-3-4 Lab Sample ID: 720-34269-14

Date Collected: 03/29/11 14:00 Date Received: 03/31/11 17:15

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup MDL Unit Result Qualifier Dil Fac Prepared Analyzed 1.0 04/05/11 14:30 04/06/11 18:13 Diesel Range Organics [C10-C28] 7.5 mg/Kg 04/06/11 18:13 **Motor Oil Range Organics** 170 50 mg/Kg 04/05/11 14:30 [C24-C36] Surrogate Limits Dil Fac % Recovery Qualifier Prepared Analyzed

Capric Acid (Surr) 0 - 5 04/05/11 14:30 04/06/11 18:13 0.2 p-Terphenyl 59 50 - 150 04/05/11 14:30 04/06/11 18:13

Client Sample ID: NB-5-1 Lab Sample ID: 720-34269-15 Date Collected: 03/29/11 14:25 Matrix: Solid

Date Received: 03/31/11 17:15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	3.0		0.99		mg/Kg		04/05/11 14:30	04/06/11 18:36	1
Motor Oil Range Organics [C24-C36]	ND		50		mg/Kg		04/05/11 14:30	04/06/11 18:36	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Capric Acid (Surr)	0.2		0 - 5				04/05/11 14:30	04/06/11 18:36	1
p-Terphenyl	100		50 - 150				04/05/11 14:30	04/06/11 18:36	1

Client Sample ID: NB-5-4 Lab Sample ID: 720-34269-16 Date Collected: 03/29/11 14:50 Matrix: Solid

Date Received: 03/31/11 17:15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	1.9		0.99		mg/Kg		04/05/11 14:30	04/06/11 18:59	1
Motor Oil Range Organics [C24-C36]	ND		50		mg/Kg		04/05/11 14:30	04/06/11 18:59	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Capric Acid (Surr)	0.09		0 - 5				04/05/11 14:30	04/06/11 18:59	1
p-Terphenyl	104		50 - 150				04/05/11 14:30	04/06/11 18:59	1

TestAmerica San Francisco

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TestAmerica Job ID: 720-34269-1

**Matrix: Solid** 

04/07/2011

TestAmerica Job ID: 720-34269-1

Client Sample ID: NB-9-1 Lab Sample ID: 720-34269-17

Date Collected: 03/29/11 15:15

Date Received: 03/31/11 17:15

Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup Analyte MDL Unit Result Qualifier Analyzed Dil Fac Prepared Diesel Range Organics [C10-C28] 0.99 mg/Kg 04/05/11 14:30 04/07/11 14:03 14 **Motor Oil Range Organics** 57 50 mg/Kg 04/05/11 14:30 04/07/11 14:03 [C24-C36] Surrogate % Recovery Qualifier Limits Dil Fac Prepared Analyzed

 Capric Acid (Surr)
 0.4
 0 - 5
 04/05/11 14:30
 04/07/11 14:03
 1

 p-Terphenyl
 89
 50 - 150
 04/05/11 14:30
 04/07/11 14:03
 1

Client Sample ID: NB-9-4 Lab Sample ID: 720-34269-18

Date Collected: 03/29/11 15:45

Date Received: 03/31/11 17:15

Matrix: Solid

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup MDL Unit Result Qualifier Dil Fac Prepared Analyzed 04/05/11 14:30 0.99 04/06/11 19:46 Diesel Range Organics [C10-C28] mg/Kg 2.7 04/06/11 19:46 Motor Oil Range Organics [C24-C36] ND 49 mg/Kg 04/05/11 14:30 Surrogate Dil Fac % Recovery Qualifier Limits Prepared Analyzed Capric Acid (Surr) 0.2 0 - 5 04/05/11 14:30 04/06/11 19:46 79 04/05/11 14:30 04/06/11 19:46 p-Terphenyl 50 - 150

Client Sample ID: NB-10-1 Lab Sample ID: 720-34269-19

Date Collected: 03/29/11 16:10 Matrix: Solid
Date Received: 03/31/11 17:15

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup MDL Unit Analyte Result Qualifier RL Dil Fac Prepared Analyzed 0.99 Diesel Range Organics [C10-C28] mg/Kg 04/05/11 14:30 04/06/11 16:16 1.6 Motor Oil Range Organics [C24-C36] ND 49 mg/Kg 04/05/11 14:30 04/06/11 16:16 Surrogate % Recovery Qualifier Limits Prepared Analyzed Dil Fac Capric Acid (Surr) 0.3 0 - 5 04/05/11 14:30 04/06/11 16:16 50 - 150 04/05/11 14:30 04/06/11 16:16 p-Terphenyl 84

Client Sample ID: NB-10-4 Lab Sample ID: 720-34269-20

Date Collected: 03/29/11 16:42

Matrix: Solid

Date Received: 03/31/11 17:15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		0.98		mg/Kg		04/05/11 14:30	04/06/11 16:39	1
Motor Oil Range Organics [C24-C36]	ND		49		mg/Kg		04/05/11 14:30	04/06/11 16:39	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Capric Acid (Surr)	0.03		0 - 5				04/05/11 14:30	04/06/11 16:39	1
p-Terphenyl	79		50 <sub>-</sub> 150				04/05/11 14:30	04/06/11 16:39	1

## **Analytical Data**

Client: OTG EnviroEngineering Solutions, Inc.

Project/Site: B112-Oakland

TestAmerica Job ID: 720-34269-1

Client Sample ID: NB-2-4-D Date Collected: 03/28/11 13:20

Lab Sample ID: 720-34269-21

Date Received: 03/31/11 17:15

. Matrix: Solid

Method: 8015B - Diesel Range O	rganics (DRO)	(GC)						
Analyte	Result	Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	2.6		0.99	mg/Kg		04/01/11 16:08	04/04/11 15:55	1
Motor Oil Range Organics [C24-C36]	ND		50	mg/Kg		04/01/11 16:08	04/04/11 15:55	1
Surrogate	% Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
p-Terphenyl	93		50 - 150			04/01/11 16:08	04/04/11 15:55	1

Client Sample ID: NB-4-4D Lab Sample ID: 720-34269-22

Date Collected: 03/29/11 12:10 Date Received: 03/31/11 17:15 Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Diesel Range Organics [C10-C28]	53		4.9		mg/Kg		04/01/11 16:08	04/04/11 16:42	į
Motor Oil Range Organics [C24-C36]	320		250		mg/Kg		04/01/11 16:08	04/04/11 16:42	5
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
p-Terphenyl		D	50 - 150				04/01/11 16:08	04/04/11 16:42	

Client Sample ID: NB-7-4-D Lab Sample ID: 720-34269-23

Method: 8015B - Diesel Range O	rganics (DRO)	(GC)							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	37		0.99		mg/Kg		04/01/11 16:08	04/04/11 16:18	1
Motor Oil Range Organics [C24-C36]	110		50		mg/Kg		04/01/11 16:08	04/04/11 16:18	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
p-Terphenyl	66		50 - 150				04/01/11 16:08	04/04/11 16:18	1

MB MB

110

Project/Site: B112-Oakland

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 720-88813/1-A

Matrix: Solid

**Analysis Batch: 88838** 

Client Sample ID: MB 720-88813/1-A

TestAmerica Job ID: 720-34269-1

Prep Type: Total/NA

Prep Batch: 88813

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		0.99		mg/Kg		04/01/11 16:08	04/02/11 16:09	1
Motor Oil Range Organics [C24-C36]	ND		50		mg/Kg		04/01/11 16:08	04/02/11 16:09	1
	МВ	MB							
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac

50 - 150

Lab Sample ID: LCS 720-88813/2-A

**Analysis Batch: 88838** 

Matrix: Solid

Client Sample ID: LCS 720-88813/2-A Prep Type: Total/NA

04/02/11 16:09

04/01/11 16:08

Prep Batch: 88813

 Analyte
 Added Diesel Range Organics
 Result Range Organics
 Unit Major M

[C10-C28]

p-Terphenyl

LCS LCS

Surrogate% Recovery<br/>p-TerphenylQualifier<br/>96Limits<br/>50 - 150

Lab Sample ID: LCSD 720-88813/3-A

**Matrix: Solid** 

**Analysis Batch: 88838** 

Client Sample ID: LCSD 720-88813/3-A

Prep Type: Total/NA Prep Batch: 88813

LCSD LCSD Spike % Rec. RPD Analyte Added Result Qualifier Unit Limits Limit % Rec RPD Diesel Range Organics 82.9 80.3 mg/Kg 97 50 - 150 20

[C10-C28]

LCSD LCSD

Surrogate% RecoveryQualifierLimitsp-Terphenyl10450 - 150

Lab Sample ID: MB 720-88814/1-A

**Matrix: Solid** 

**Analysis Batch: 88838** 

Client Sample ID: MB 720-88814/1-A

Prep Type: Silica Gel Cleanup

Prep Batch: 88814

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		0.99		mg/Kg		04/01/11 16:11	04/02/11 17:19	1
Motor Oil Range Organics [C24-C36]	ND		50		mg/Kg		04/01/11 16:11	04/02/11 17:19	1

MB MB

Surrogate % Recovery Qualifier Limits Prepared Analyzed Dil Fac Capric Acid (Surr) 0.4 0 - 5 04/01/11 16:11 04/02/11 17:19 p-Terphenyl 04/01/11 16:11 104 50 - 150 04/02/11 17:19

Lab Sample ID: LCS 720-88814/2-A

**Matrix: Solid** 

**Analysis Batch: 88838** 

Client Sample ID: LCS 720-88814/2-A
Prep Type: Silica Gel Cleanup

Prep Batch: 88814

 Analyte
 Added Diesel Range Organics
 Result 83.2
 Qualifier Gas of Gas

[C10-C28]

TestAmerica San Francisco

04/07/2011

3

5

7

8

10

11 12

13

TestAmerica Job ID: 720-34269-1

Project/Site: B112-Oakland

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 720-88814/2-A

Client: OTG EnviroEngineering Solutions, Inc.

**Matrix: Solid** 

**Analysis Batch: 88838** 

Client Sample ID: LCS 720-88814/2-A Prep Type: Silica Gel Cleanup

Prep Batch: 88814

Prep Type: Silica Gel Cleanup

50 - 150

85

LCS LCS

Surrogate % Recovery Qualifier Limits p-Terphenyl 50 - 150 88

Lab Sample ID: LCSD 720-88814/3-A Client Sample ID: LCSD 720-88814/3-A

70.1

mg/Kg

**Matrix: Solid** 

**Analysis Batch: 88838** 

Prep Batch: 88814 Spike LCSD LCSD % Rec. Added Result Qualifier Unit **RPD** Analyte D % Rec Limits

82.9

**Diesel Range Organics** [C10-C28]

LCSD LCSD

Qualifier Surrogate % Recovery Limits 50 - 150 p-Terphenyl 101

Lab Sample ID: 720-34269-1 MS Client Sample ID: NB-1-1 Prep Type: Silica Gel Cleanup

**Matrix: Solid** 

**Analysis Batch: 88864** 

Sample Sample Spike MS MS % Rec. Analyte Result Qualifier Added Result Qualifier Unit % Rec Limits **Diesel Range Organics** 65 82.4 138 mg/Kg 89 50 - 150

[C10-C28]

MS MS

% Recovery Qualifier Limits Surrogate 50 - 150 p-Terphenyl 0 D

Lab Sample ID: 720-34269-1 MSD

Matrix: Solid

**Analysis Batch: 88864** Prep Batch: 88814 Spike MSD MSD % Rec. RPD Sample Sample Result Qualifier Analyte Result Qualifier Added Unit % Rec Limits RPD Limit Diesel Range Organics 65 82.9 133 82 50 - 150 20 mg/Kg

[C10-C28]

MSD MSD

Surrogate % Recovery Qualifier Limits ō D 50 - 150 p-Terphenyl

**Matrix: Solid** 

Analysis Batch: 89029

Lab Sample ID: MB 720-88994/1-A Client Sample ID: MB 720-88994/1-A Prep Type: Silica Gel Cleanup

Prep Batch: 88994

Qualifier Dil Fac MDL Unit Result RL Prepared Analyzed 1.0 Diesel Range Organics [C10-C28] ND mg/Kg 04/05/11 14:30 04/06/11 09:53 Motor Oil Range Organics [C24-C36] ND 50 mg/Kg 04/05/11 14:30 04/06/11 09:53

MB MB

MR MR

Surrogate	% Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
Capric Acid (Surr)	0.03	0 - 5	04/05/11 14:30	04/06/11 09:53	1
p-Terphenyl	124	50 - 150	04/05/11 14:30	04/06/11 09:53	1

TestAmerica San Francisco 04/07/2011

RPD

Limit

9

Prep Batch: 88814

Client Sample ID: NB-1-1

Prep Type: Silica Gel Cleanup

Project/Site: B112-Oakland

Client: OTG EnviroEngineering Solutions, Inc. TestAmerica Job ID: 720-34269-1

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 720-88994/2-A Client Sample ID: LCS 720-88994/2-A **Matrix: Solid** Prep Type: Silica Gel Cleanup Prep Batch: 88994 **Analysis Batch: 89029** Spike LCS LCS % Rec.

Analyte Added Result Qualifier Unit D % Rec Limits Diesel Range Organics 82 8 80.8 98 50 - 150 mg/Kg [C10-C28]

LCS LCS Limits Surrogate % Recovery Qualifier 106 50 - 150 p-Terphenyl

Lab Sample ID: LCSD 720-88994/3-A Client Sample ID: LCSD 720-88994/3-A

**Matrix: Solid** 

p-Terphenyl

Prep Type: Silica Gel Cleanup **Analysis Batch: 89029** Prep Batch: 88994

Spike LCSD LCSD % Rec. RPD Analyte Added Result Qualifier Unit % Rec Limits RPD Limit Diesel Range Organics 82.8 78.6 mg/Kg 95 50 - 150 3 20 [C10-C28]

LCSD LCSD Surrogate Qualifier Limits % Recovery 50 - 150 p-Terphenyl 107

Lab Sample ID: 720-34269-11 MS Client Sample ID: NB-4-1 **Matrix: Solid** Prep Type: Silica Gel Cleanup

Analysis Batch: 89040 Prep Batch: 88994

Sample Sample Spike MS MS % Rec. Analyte Result Qualifier Added Result Qualifier Unit % Rec Limits Diesel Range Organics 3.2 82.7 73.8 mg/Kg 85 50 - 150 [C10-C28]

MS MS % Recovery Surrogate Qualifier Limits

Lab Sample ID: 720-34269-11 MSD Client Sample ID: NB-4-1 **Matrix: Solid** Prep Type: Silica Gel Cleanup Analysis Batch: 89040 Prep Batch: 88994

50 - 150

Sample Sample Spike MSD MSD % Rec. RPD Analyte Result Qualifier Added Result Qualifier Unit % Rec Limits RPD Limit Diesel Range Organics 82.7 92 50 - 150 20 3.2 79.4 mg/Kg

[C10-C28] MSD MSD Surrogate % Recovery Qualifier Limits p-Terphenyl 103 50 - 150

## **QC Association Summary**

Client: OTG EnviroEngineering Solutions, Inc.

Project/Site: B112-Oakland

TestAmerica Job ID: 720-34269-1

#### **GC Semi VOA**

#### Prep Batch: 88813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-88813/1-A	MB 720-88813/1-A	Total/NA	Solid	3546	<u> </u>
720-34269-21	NB-2-4-D	Total/NA	Solid	3546	
720-34269-22	NB-4-4D	Total/NA	Solid	3546	
720-34269-23	NB-7-4-D	Total/NA	Solid	3546	
LCS 720-88813/2-A	LCS 720-88813/2-A	Total/NA	Solid	3546	
LCSD 720-88813/3-A	LCSD 720-88813/3-A	Total/NA	Solid	3546	

#### Prep Batch: 88814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-88814/1-A	MB 720-88814/1-A	Silica Gel Cleanup	Solid	3546	
720-34269-5	NB-6-1	Silica Gel Cleanup	Solid	3546	
720-34269-6	NB-6-4	Silica Gel Cleanup	Solid	3546	
720-34269-7	NB-8-1	Silica Gel Cleanup	Solid	3546	
720-34269-8	NB-8-4	Silica Gel Cleanup	Solid	3546	
720-34269-9	NB-7-1	Silica Gel Cleanup	Solid	3546	
LCS 720-88814/2-A	LCS 720-88814/2-A	Silica Gel Cleanup	Solid	3546	
LCSD 720-88814/3-A	LCSD 720-88814/3-A	Silica Gel Cleanup	Solid	3546	
720-34269-1	NB-1-1	Silica Gel Cleanup	Solid	3546	
720-34269-1 MS	NB-1-1	Silica Gel Cleanup	Solid	3546	
720-34269-1 MSD	NB-1-1	Silica Gel Cleanup	Solid	3546	
720-34269-2	NB-1-4	Silica Gel Cleanup	Solid	3546	
720-34269-3	NB-2-1	Silica Gel Cleanup	Solid	3546	
720-34269-4	NB-2-4	Silica Gel Cleanup	Solid	3546	

#### Analysis Batch: 88838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 720-88813/2-A	LCS 720-88813/2-A	Total/NA	Solid	8015B	88813
LCSD 720-88813/3-A	LCSD 720-88813/3-A	Total/NA	Solid	8015B	88813
MB 720-88813/1-A	MB 720-88813/1-A	Total/NA	Solid	8015B	88813
LCS 720-88814/2-A	LCS 720-88814/2-A	Silica Gel Cleanup	Solid	8015B	88814
LCSD 720-88814/3-A	LCSD 720-88814/3-A	Silica Gel Cleanup	Solid	8015B	88814
MB 720-88814/1-A	MB 720-88814/1-A	Silica Gel Cleanup	Solid	8015B	88814

#### **Analysis Batch: 88863**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-34269-21	NB-2-4-D	Total/NA	Solid	8015B	88813
720-34269-23	NB-7-4-D	Total/NA	Solid	8015B	88813
720-34269-22	NB-4-4D	Total/NA	Solid	8015B	88813

#### Analysis Batch: 88864

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-34269-1	NB-1-1	Silica Gel Cleanup	Solid	8015B	88814
720-34269-4	NB-2-4	Silica Gel Cleanup	Solid	8015B	88814
720-34269-3	NB-2-1	Silica Gel Cleanup	Solid	8015B	88814
720-34269-8	NB-8-4	Silica Gel Cleanup	Solid	8015B	88814
720-34269-5	NB-6-1	Silica Gel Cleanup	Solid	8015B	88814
720-34269-1 MS	NB-1-1	Silica Gel Cleanup	Solid	8015B	88814
720-34269-1 MSD	NB-1-1	Silica Gel Cleanup	Solid	8015B	88814

#### Analysis Batch: 88948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-34269-2	NB-1-4	Silica Gel Cleanup	Solid	8015B	88814

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# **QC Association Summary**

Client: OTG EnviroEngineering Solutions, Inc.

Project/Site: B112-Oakland

TestAmerica Job ID: 720-34269-1

## GC Semi VOA (Continued)

<b>Analysis</b>	Batch: 88948	(Continued)
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Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-34269-6	NB-6-4	Silica Gel Cleanup	Solid	8015B	88814

### Prep Batch: 88994

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-88994/1-A	MB 720-88994/1-A	Silica Gel Cleanup	Solid	3546	
720-34269-14	NB-3-4	Silica Gel Cleanup	Solid	3546	
720-34269-15	NB-5-1	Silica Gel Cleanup	Solid	3546	
720-34269-16	NB-5-4	Silica Gel Cleanup	Solid	3546	
720-34269-17	NB-9-1	Silica Gel Cleanup	Solid	3546	
720-34269-18	NB-9-4	Silica Gel Cleanup	Solid	3546	
720-34269-19	NB-10-1	Silica Gel Cleanup	Solid	3546	
720-34269-20	NB-10-4	Silica Gel Cleanup	Solid	3546	
LCS 720-88994/2-A	LCS 720-88994/2-A	Silica Gel Cleanup	Solid	3546	
LCSD 720-88994/3-A	LCSD 720-88994/3-A	Silica Gel Cleanup	Solid	3546	
720-34269-10	NB-7-4	Silica Gel Cleanup	Solid	3546	
720-34269-11	NB-4-1	Silica Gel Cleanup	Solid	3546	
720-34269-11 MS	NB-4-1	Silica Gel Cleanup	Solid	3546	
720-34269-11 MSD	NB-4-1	Silica Gel Cleanup	Solid	3546	
720-34269-12	NB-4-4	Silica Gel Cleanup	Solid	3546	
720-34269-13	NB-3-1	Silica Gel Cleanup	Solid	3546	

#### Analysis Batch: 89029

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-34269-10	NB-7-4	Silica Gel Cleanup	Solid	8015B	88994
MB 720-88994/1-A	MB 720-88994/1-A	Silica Gel Cleanup	Solid	8015B	88994
LCS 720-88994/2-A	LCS 720-88994/2-A	Silica Gel Cleanup	Solid	8015B	88994
LCSD 720-88994/3-A	LCSD 720-88994/3-A	Silica Gel Cleanup	Solid	8015B	88994

## Analysis Batch: 89040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch	
720-34269-11	NB-4-1	Silica Gel Cleanup	Silica Gel Cleanup Solid 8015B		88994	
720-34269-11 MS	NB-4-1	Silica Gel Cleanup	Solid	8015B	88994	
720-34269-11 MSD	NB-4-1	Silica Gel Cleanup	Solid	8015B	88994	
720-34269-12	NB-4-4	Silica Gel Cleanup	Solid	8015B	88994	
720-34269-13	NB-3-1	Silica Gel Cleanup	Solid	8015B	88994	
720-34269-14	NB-3-4	Silica Gel Cleanup	Solid	8015B	88994	
720-34269-15	NB-5-1	Silica Gel Cleanup	Solid	8015B	88994	
720-34269-16	NB-5-4	Silica Gel Cleanup	Solid	8015B	88994	
720-34269-18	NB-9-4	Silica Gel Cleanup	Solid	8015B	88994	

#### Analysis Batch: 89041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-34269-19	NB-10-1	Silica Gel Cleanup	Solid	8015B	88994
720-34269-20	NB-10-4	Silica Gel Cleanup	Solid	8015B	88994
720-34269-7	NB-8-1	Silica Gel Cleanup	Solid	8015B	88814
720-34269-9	NB-7-1	Silica Gel Cleanup	Solid	8015B	88814

#### Analysis Batch: 89119

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-34269-17	NB-9-1	Silica Gel Cleanup	Solid	8015B	88994

Project/Site: B112-Oakland

Client Sample ID: NB-1-1

Date Received: 03/31/11 17:15

Date Collected: 03/28/11 11:15

Lab Sample ID: 720-34269-1

Matrix: Solid

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			88814	04/01/11 16:11	RU	TestAmerica San Francisco
Silica Gel Cleanup	Analysis	8015B		10	88864	04/04/11 11:09	DH	TestAmerica San Francisco

Lab Sample ID: 720-34269-2 Client Sample ID: NB-1-4

Date Collected: 03/28/11 12:10 Matrix: Solid

Date Received: 03/31/11 17:15

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546		· ——	88814	04/01/11 16:11	RU	TestAmerica San Francisco
Silica Gel Cleanup	Analysis	8015B		3	88948	04/05/11 18:50	DH	TestAmerica San Francisco

**Client Sample ID: NB-2-1** Lab Sample ID: 720-34269-3

Date Collected: 03/28/11 12:38 Matrix: Solid

Date Received: 03/31/11 17:15

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			88814	04/01/11 16:11	RU	TestAmerica San Francisco
Silica Gel Cleanup	Analysis	8015B		1	88864	04/04/11 14:21	DH	TestAmerica San Francisco

Client Sample ID: NB-2-4 Lab Sample ID: 720-34269-4 **Matrix: Solid** 

Date Collected: 03/28/11 13:20

Date Received: 03/31/11 17:15

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			88814	04/01/11 16:11	RU	TestAmerica San Francisco
Silica Gel Cleanup	o Analysis	8015B		1	88864	04/04/11 11:56	DH	TestAmerica San Francisco

Client Sample ID: NB-6-1 Lab Sample ID: 720-34269-5

Date Collected: 03/28/11 13:50

Matrix: Solid Date Received: 03/31/11 17:15

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			88814	04/01/11 16:11	RU	TestAmerica San Francisco
Silica Gel Cleanup	Analysis	8015B		5	88864	04/04/11 15:32	DH	TestAmerica San Francisco

Client Sample ID: NB-6-4 Lab Sample ID: 720-34269-6

Date Collected: 03/28/11 16:10 **Matrix: Solid** 

Date Received: 03/31/11 17:15

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			88814	04/01/11 16:11	RU	TestAmerica San Francisco
Silica Gel Cleanup	Analysis	8015B		3	88948	04/05/11 19:14	DH	TestAmerica San Francisco

Project/Site: B112-Oakland

Client Sample ID: NB-8-1

Date Collected: 03/28/11 16:40 Date Received: 03/31/11 17:15 Lab Sample ID: 720-34269-7

Matrix: Solid

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			88814	04/01/11 16:11	RU	TestAmerica San Francisco
Silica Gel Cleanup	Analysis	8015B		20	89041	04/06/11 20:33	DH	TestAmerica San Francisco

Client Sample ID: NB-8-4

Date Collected: 03/28/11 17:15 Date Received: 03/31/11 17:15 Lab Sample ID: 720-34269-8

Matrix: Solid

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			88814	04/01/11 16:11	RU	TestAmerica San Francisco
Silica Gel Cleanup	Analysis	8015B		1	88864	04/04/11 14:45	DH	TestAmerica San Francisco

Client Sample ID: NB-7-1

Date Collected: 03/29/11 09:20

Date Received: 03/31/11 17:15

Lab Sample ID: 720-34269-9

Matrix: Solid

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			88814	04/01/11 16:11	RU	TestAmerica San Francisco
Silica Gel Cleanup	Analysis	8015B		3	89041	04/06/11 20:57	DH	TestAmerica San Francisco

Client Sample ID: NB-7-4

Date Collected: 03/29/11 10:50

Date Received: 03/31/11 17:15

Lab Sample ID: 720-34269-10

Matrix: Solid

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			88994	04/05/11 14:30	RU	TestAmerica San Francisco
Silica Gel Cleanup	Analysis	8015B		1	89029	04/06/11 15:09	DH	TestAmerica San Francisco

Client Sample ID: NB-4-1

Date Collected: 03/29/11 11:25 Date Received: 03/31/11 17:15 Lab Sample ID: 720-34269-11

Matrix: Solid

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			88994	04/05/11 14:30	RU	TestAmerica San Francisco
Silica Gel Cleanup	Analysis	8015B		1	89040	04/06/11 16:16	DH	TestAmerica San Francisco

Client Sample ID: NB-4-4

Date Collected: 03/29/11 12:10

Date Received: 03/31/11 17:15

Lab Sample ID:	720-34269-12

Matrix: Solid

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			88994	04/05/11 14:30	RU	TestAmerica San Francisco
Silica Gel Cleanup	Analysis	8015B		2	89040	04/06/11 17:26	DH	TestAmerica San Francisco

Project/Site: B112-Oakland

Client Sample ID: NB-3-1

Date Collected: 03/29/11 12:35 Date Received: 03/31/11 17:15 Lab Sample ID: 720-34269-13

Matrix: Solid

ı		Batch	Batch		Dilution	Batch	Prepared		
	Prep Type	Type	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
	Silica Gel Cleanup	Prep	3546			88994	04/05/11 14:30	RU	TestAmerica San Francisco
	Silica Gel Cleanup	Analysis	8015B		1	89040	04/06/11 17:49	DH	TestAmerica San Francisco

Client Sample ID: NB-3-4

Date Collected: 03/29/11 14:00 Date Received: 03/31/11 17:15 Lab Sample ID: 720-34269-14

**Matrix: Solid** 

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			88994	04/05/11 14:30	RU	TestAmerica San Francisco
Silica Gel Cleanup	Analysis	8015B		1	89040	04/06/11 18:13	DH	TestAmerica San Francisco

Client Sample ID: NB-5-1

Date Collected: 03/29/11 14:25

Date Received: 03/31/11 17:15

Lab Sample ID: 720-34269-15

**Matrix: Solid** 

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			88994	04/05/11 14:30	RU	TestAmerica San Francisco
Silica Gel Cleanup	Analysis	8015B		1	89040	04/06/11 18:36	DH	TestAmerica San Francisco

Client Sample ID: NB-5-4

Date Collected: 03/29/11 14:50

Date Received: 03/31/11 17:15

Lab Sample ID: 720-34269-16

**Matrix: Solid** 

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			88994	04/05/11 14:30	RU	TestAmerica San Francisco
Silica Gel Cleanup	Analysis	8015B		1	89040	04/06/11 18:59	DH	TestAmerica San Francisco

Client Sample ID: NB-9-1

Date Collected: 03/29/11 15:15

Date Received: 03/31/11 17:15

Lab Sample ID: 720-34269-17

Matrix: Solid

		Batch	Batch		Dilution	Batch	Prepared		
Prep Type		Type	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Silica Gel C	Cleanup	Prep	3546			88994	04/05/11 14:30	RU	TestAmerica San Francisco
Silica Gel C	Cleanup	Analysis	8015B		1	89119	04/07/11 14:03	WR	TestAmerica San Francisco

Client Sample ID: NB-9-4

Date Collected: 03/29/11 15:45

Date Received: 03/31/11 17:15

Lab Sam	ple ID:	720-34269	-18
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Matrix: Solid

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			88994	04/05/11 14:30	RU	TestAmerica San Francisco
Silica Gel Cleanup	Analysis	8015B		1	89040	04/06/11 19:46	DH	TestAmerica San Francisco

Project/Site: B112-Oakland

Client Sample ID: NB-10-1 Lab Sample ID: 720-34269-19 Date Collected: 03/29/11 16:10

Matrix: Solid

**Matrix: Solid** 

Date Received: 03/31/11 17:15

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			88994	04/05/11 14:30	RU	TestAmerica San Francisco
Silica Gel Cleanup	Analysis	8015B		1	89041	04/06/11 16:16	DH	TestAmerica San Francisco

Lab Sample ID: 720-34269-20 Client Sample ID: NB-10-4

Date Collected: 03/29/11 16:42 Matrix: Solid

Date Received: 03/31/11 17:15

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Silica Gel Cleanup	Prep	3546			88994	04/05/11 14:30	RU	TestAmerica San Francisco
Silica Gel Cleanup	Analysis	8015B		1	89041	04/06/11 16:39	DH	TestAmerica San Francisco

Client Sample ID: NB-2-4-D Lab Sample ID: 720-34269-21

Date Collected: 03/28/11 13:20 Date Received: 03/31/11 17:15

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Total/NA	Prep	3546			88813	04/01/11 16:08	RU	TestAmerica San Francisco
Total/NA	Analysis	8015B		1	88863	04/04/11 15:55	DH	TestAmerica San Francisco

Client Sample ID: NB-4-4D Lab Sample ID: 720-34269-22

Date Collected: 03/29/11 12:10 **Matrix: Solid** 

Date Received: 03/31/11 17:15

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Total/NA	Prep	3546			88813	04/01/11 16:08	RU	TestAmerica San Francisco
Total/NA	Analysis	8015B		5	88863	04/04/11 16:42	DH	TestAmerica San Francisco

Client Sample ID: NB-7-4-D Lab Sample ID: 720-34269-23

Date Collected: 03/29/11 10:50 Matrix: Solid

Date Received: 03/31/11 17:15

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	Or Analyzed	Analyst	Lab
Total/NA	Prep	3546			88813	04/01/11 16:08	RU	TestAmerica San Francisco
Total/NA	Analysis	8015B		1	88863	04/04/11 16:18	DH	TestAmerica San Francisco

## **Certification Summary**

Client: OTG EnviroEngineering Solutions, Inc.

Project/Site: B112-Oakland

TestAmerica Job ID: 720-34269-1

		<u>_</u>			
Laboratory	Authority	Program	EPA Region	Certification ID	
TestAmerica San Francisco	California	State Program	9	2496	

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

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## **Method Summary**

Client: OTG EnviroEngineering Solutions, Inc.

Project/Site: B112-Oakland

TestAmerica Job ID: 720-34269-1

Method	Method Description	Protocol	Laboratory
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL SF

#### Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### **Laboratory References:**

TAL SF = TestAmerica San Francisco, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

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### Sample Summary

Client: OTG EnviroEngineering Solutions, Inc.

NB-2-4-D

NB-4-4D

NB-7-4-D

Project/Site: B112-Oakland

720-34269-21

720-34269-22

720-34269-23

Lab Sample ID Client Sample ID Matrix Collected Received 720-34269-1 NB-1-1 Solid 03/28/11 11:15 03/31/11 17:15 720-34269-2 NB-1-4 Solid 03/28/11 12:10 03/31/11 17:15 720-34269-3 NB-2-1 Solid 03/28/11 12:38 03/31/11 17:15 720-34269-4 NB-2-4 Solid 03/28/11 13:20 03/31/11 17:15 720-34269-5 NB-6-1 Solid 03/28/11 13:50 03/31/11 17:15 720-34269-6 NB-6-4 Solid 03/28/11 16:10 03/31/11 17:15 720-34269-7 NB-8-1 Solid 03/28/11 16:40 03/31/11 17:15 720-34269-8 03/28/11 17:15 03/31/11 17:15 NB-8-4 Solid 720-34269-9 NB-7-1 Solid 03/29/11 09:20 03/31/11 17:15 NB-7-4 Solid 03/29/11 10:50 03/31/11 17:15 720-34269-10 720-34269-11 NB-4-1 Solid 03/29/11 11:25 03/31/11 17:15 Solid 720-34269-12 NB-4-4 03/29/11 12:10 03/31/11 17:15 720-34269-13 NB-3-1 Solid 03/29/11 12:35 03/31/11 17:15 720-34269-14 NB-3-4 Solid 03/29/11 14:00 03/31/11 17:15 720-34269-15 NB-5-1 Solid 03/29/11 14:25 03/31/11 17:15 720-34269-16 NB-5-4 Solid 03/29/11 14:50 03/31/11 17:15 720-34269-17 NB-9-1 Solid 03/29/11 15:15 03/31/11 17:15 720-34269-18 NB-9-4 Solid 03/29/11 15:45 03/31/11 17:15 Solid 720-34269-19 NB-10-1 03/29/11 16:10 03/31/11 17:15 720-34269-20 Solid 03/29/11 16:42 03/31/11 17:15 NB-10-4

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TestAmerica Job ID: 720-34269-1

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03/28/11 13:20

03/29/11 12:10

03/29/11 10:50

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THE LEADER IN ENVIRONMENTAL TESTING

TESTAMERICA San Francisco Chain of Custody 1220 Quarry Lane Pleasanton CA 94566-4756 Phone: (925) 484-1919 Fax: (925) 600-3002

Reference #:	130552	•	6.4
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	OTG	Dhono	<u> </u>	- 0	28	PA -	TEPH EPA 8015M* X Silica Gel X Diesel X Motor Oil 口 Other	EPA 8260B. M Gas M BTEX M 5 Oxygenates M DCA, EDBIN Ethanol	(HVOCs) EPA 8021 by 8260B	Volatile Organics GC/MS (VOCs) ☐ EPA 8260B ☐ 624	Semivolatiles GC/MS II EPA 8270 II 625	Oil and Grease 🏻 Petroleum (EPA 1664) 🗘 Total	des	1	CAM17 Metals (EPA 6010/7470/7471)	Metals: ☐ Lead ☐ LUFT ☐ RCRA ☐ Other:	Low Level Metals by EPA 200.8/6020 (ICP-MS):	W.E.T (STLC) TCLP	Hexavalent Chromium pH (24h hold time for H <sub>2</sub> O)	☐ Spec. Cond. ☐ Alkalinity ☐ TSS ☐ TDS	Anions: 🗆 Cl 🖸 SO, 🗆 NO, 🗇 F	EPA8015M-TPHdamo Without Silica gel clem				Number of Containers
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Page 27 of 29

THE LEADER IN ENVIRONMENTAL TESTING

TESTAMERICA San Francisco Chain of Custody 1220 Quarry Lane ● Pleasanton CA 94566-4756 Phone: (925) 484-1919 ● Fax: (925) 600-3002

Reference #:	130550	
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Date	Page	of	3

A	itn: Xinggang 7 iompany: OTG Envil	tions	CI MTBE	lica Gel ther	⊐ Ethenol	60B	,vocs)		mne	E 608	8310		I RCRA	00.8/6020		,0°	ış	IO, □ F							
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8	See Terms and Conditions on reverse TestAmerica SF reports 8015M from			, ,	ł								·	=						, ,				Rev09	/09

Reference #: \_/30550

	THE LEADER IN ENVIRONMENTAL TESTING		12	20 Qt	uarry	Lane	• F	Pleasa	anton	CA 94	of Cu 4566-4 600-3	756	y	Date			P	age_	2	of		5.6	04/07/2011
110	Attn: X. Tong Phone: 510-465-8982  Sample ID Date Time Mat Preserv  NB-4-1 3/29/11 11:25 5 No	TPH EPA - U 82608	A 8015M*	EPA 82608: CI Gas CI BTEX C 5 Oxygenates CI DCA, EDBCI Ethanol	(HVOCs) EPA 8021 by 8260B	Volatile Organics GC/MS (VOCs)	Semivolatiles GC/MS CI EPA 8270 CI 625	Oil and Grease 🏻 Petroleum (EPA 1664) 🖂 Total	Pesticides II EPA 8081 II 608 PCBs II EPA 8082 II 608	PNAs by [] 8270 [] 8310	CAM17 Metals (EPA 6010/7470/7471)	Metals: 🗆 Lead 🗆 LUFT 🗆 RCRA 00 00 output	Low Level Metals by EPA 200.8/6020 (ICP-MS):	D WE.T (STLC)	☐ Hexavalent Chromium ☐ pH (24h hold time for H <sub>2</sub> O)	☐ Spec. Cond. ☐ Alkalinity ☐ TSS ☐ TDS	Anions: II CI II SO <sub>4</sub> II NO <sub>3</sub> II F II Br II NO <sub>2</sub> II PO <sub>4</sub>					Number of Containers	
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# **Login Sample Receipt Checklist**

Client: OTG EnviroEngineering Solutions, Inc.

Job Number: 720-34269-1

Login Number: 34269 List Source: TestAmerica San Francisco

List Number: 1

Creator: Apostol, Anita

Answer	Comment
N/A	
N/A	
True	
False	
True	
N/A	
True	
	N/A  N/A  True

TestAmerica San Francisco

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