#### **RECEIVED**

2:04 pm, Mar 31, 2008

Alameda County Environmental Health

### ADDITIONAL SITE-CHARACTERIZATION REPORT 700 INDEPENDENT ROAD OAKLAND, CALIFORNIA

March 31, 2008

Copyright 2008 Kleinfelder All Rights Reserved

Unauthorized use or copying of this document is strictly prohibited by anyone other than the client for the specific project.

Additional Site-Characterization Report Prepared for:

Mr. James Soutter EOP – Industrial Portfolio, L.L.C. Two North Riverside Plaza, Suite 2100 Chicago, IL 60606

ADDITIONAL SITE-CHARCTERIZATION REPORT 700 INDEPENDENT ROAD OAKLAND, CALIFORNIA

File No.: 54504/5A

Prepared by:

Álvaro Domínguez

**Environmental Project Professional** 

Charles Almestad, P.G., C.HG.

Principal Professional

No. 6259 AVECTOR OF CALIFORNIA

KLEINFELDER WEST, INC.

1970 Broadway, Suite 710 Oakland, California 94612 (510) 628-9000

March 31, 2008

## **TABLE OF CONTENTS**

1.0	INTF	RODUCTION	1
2.0	BAC	KGROUND INFORMATION	2
	2.1	SITE DESCRIPTION	
	2.2	UST REMOVAL AND PREVIOUS ENVIRONMENTAL SITE	
		INVESTIGATION SUMMARY	2
3.0	ENV	IRONMENTAL FIELD INVESTIGATION	6
	3.1	PRE-FIELD ACTIVITIES	6
	3.2	SUBSURFACE INVESTIGATION	7
		3.2.1 Advancement of Soil Borings	7
		3.2.2 Soil Samples	7
		3.2.3 Grab Groundwater Samples	
		3.2.5 Installation of Groundwater Monitoring Wells	8
		3.2.6 Monitoring Well Sampling	
		3.2.7 Elevation Survey	9
	3.3	CHEMICAL ANALYSIS	10
4.0	SUN	IMARY AND DISCUSSION OF FIELD INVESTIGATION RESULTS	11
	4.1	SITE HYDROGEOLOGY	12
	4.2	SOIL SAMPLE ANALYTICAL RESULTS	12
	4.3	GROUND WATER ANALYTICAL RESULTS	13
5.0	FINE	DINGS, CONCLUSIONS AND RECOMMENDATIONS	14
6.0	LIMI	TATIONS	16
7.0	REF	ERENCES	18

#### **PLATES**

Plate 1 Site Vicinity Map Site Plan: Overall Plate 2 Plate 3 Soil Boring Locations Plate 4 Geologic Cross-Section A-A' Geologic Cross-Section B-B' Plate 5 Ground Water Surface Elevations and Estimated Ground Water Flow, Plate 6 February 2008. Total Petroleum Hydrocarbons as Gasoline and Benzene in Soil at 7 to 11 Plate 7 feet Below Ground Surface Plate 8 Total Petroleum Hydrocarbons as Gasoline and Benzene in Soil at 17 to 25 feet Below Ground Surface Total Petroleum Hydrocarbons as Gasoline and Benzene in Ground Water Plate 9 Samples

#### **TABLES**

Table 1	Monitoring Well Construction Details
Table 2	Summary of Final Purge Characteristic Data
Table 3	Depth to Water Measurement and Ground Water Surface Elevations
Table 4	Soil Samples Analytical Results
Table 5	Ground Water Samples Analytical Results

#### **APPENDICES**

- A Permits (Drilling and Encroachment)
- B Soil Boring and Monitoring Well Boring Logs
- C Analytical Laboratory Reports

#### 1.0 INTRODUCTION

On behalf of EOP-Industrial Portfolio, L.L.C. (EOP), Kleinfelder investigated subsurface environmental conditions at 700 Independent Road in Oakland, California (the Site) (Plate 1). The investigation was performed to further assess the horizontal and vertical extent of petroleum hydrocarbon impacts to soil and ground water associated with a leaking underground storage tank (UST) removed from the Site in August 2005. Alameda County Health Care Services Agency (ACHCSA) is providing regulatory oversight for the Site and has assigned the Site fuel leak case number RO0002900. This report summarizes the tasks, methods, observations, and results of the investigation.

The current investigation work consisted of collecting and analyzing soil and groundwater samples from five borings (K-21 to K-25) to better characterize the vertical and lateral extent of contamination associated with the UST removed from the Site in August 2005. Also, the work was performed to assess whether potential offsite sources have contributed to the petroleum hydrocarbons found in the subsurface at the Site. Two of the borings were reamed out and groundwater monitoring wells were installed (MW-4 and MW-5). The investigation was performed in response to the request for further investigation at the Site by the ACHCSA. The investigation was performed in general accordance with Kleinfelder's *Work plan for Site Investigation Work plan, 700 Independent Road, Oakland, California*, dated September 18, 2007. The work additionally included offsite borings and a monitoring well requested in ACHCSA's letter of workplan approval to Mr. James Soutter and dated October 9, 2007.

#### 2.1 SITE DESCRIPTION

The 700 Independent Road property is located in an industrial area of Oakland, California (Site). The property is approximately five-acres in size and is located about 1,000 feet north of the McAfee Stadium (Plate 1). On the property is a one-story warehouse building, a parking lot and a railroad spur. Attached to the north side of the warehouse building is a concrete block building that is about 900 square feet in size (Plate 2). The facility has been used as a warehouse since the 1950's. Currently, the Eagle Bag Company manufactures and warehouses plastic bags at the site. Previous subsurface investigations indicate that near surface soils at the Site are predominantly clay and silty clay in texture, and that groundwater is generally encountered at about 8 feet to 10 feet below ground surface (bgs).

## 2.2 UST REMOVAL AND PREVIOUS ENVIRONMENTAL SITE INVESTIGATION SUMMARY

A prospective purchaser of the 700 Independent Road property discovered the presence of petroleum hydrocarbons in soil and groundwater near the loading dock on the subject property. As a follow up to this discovery, Kleinfelder searched regulatory agency records and found no records indicating the presence of a UST on the property. Kleinfelder then performed a geophysical survey and identified the presence of a UST and associated piping in the vicinity of the loading dock. On August 17, 2005, Kleinfelder removed and disposed of one 1,100-gallon UST, under permit with the City of Oakland. The tank was in poor condition, with several holes, and the soil underneath the tank was visibly impacted with petroleum hydrocarbons. Kleinfelder collected confirmation samples from the bottom of the excavation. Backfilling and compaction was performed on September 15 and 16, 2005. A Site plan, indicating the approximate location of the former UST, exploratory borings, and monitoring wells locations are presented in Plate 3.

The top of the UST was encountered at about four feet bgs. A product pipeline was observed in the excavation about a foot below the top of the excavation. The product line from the tank had previously been traced using surface geophysical methods under the block building to an exterior corner between the block building and the main

warehouse building. At this location a pedestal was observed where a fuel dispenser is believed to have existed. A vent line was observed on the side of the warehouse building, extending through the overhang of the warehouse roof. The product and vent lines were left in place when the tank excavation was backfilled. The depth of the product and vent pipelines below the floor of the block building is not known. No excavation activities other than those required to sample shallow soil were performed in the vicinity of the dispenser during UST removal work. Analytical results from the confirmation samples collected below the UST indicated the presence of total petroleum hydrocarbons as gasoline (TPH-g) at concentrations as high as 877 milligrams per kilogram (mg/kg) and total petroleum hydrocarbons as diesel (TPH-d) as high as 5,090 mg/kg. Kleinfelder summarized the tank removal work and analytical results in a report titled *Underground Storage Tank Removal Report, 700 Independent Road, Oakland, California*, dated November 1, 2005. The report was submitted to the City of Oakland Fire Department.

Given the concentrations of petroleum hydrocarbons present, the Fire Department referred the Site to ACHCSA for regulatory oversight. On February 24, 2006 the ACHCSA sent a letter requesting that EOP delineate the extent of the contamination associated with the recently removed UST. On July 24 and 25 and August 10, 2006 Kleinfelder performed the requested investigation, which consisted of collecting soil and groundwater samples from thirteen soil boring locations (K-1 through K-13, Plate 3) advanced in the vicinity of the former UST location. Eleven of the borings were advanced to depths ranging from 16-feet to 24-feet bgs, and two borings were advanced to a depth of 32 feet bgs. Groundwater was first encountered at depths ranging from 5.5 to 19 feet bgs.

Kleinfelder summarized the results of the investigation in the *Site Field Investigation Report*, dated September 27, 2006, which was submitted to the ACHCSA. In brief, benzene, toluene, ethylbenzene, and xylenes (BTEX) in soil were reported at concentrations up to 3,000 micrograms per kilogram ( $\mu$ g/kg), 2,400  $\mu$ g/kg, 17,000  $\mu$ g/kg, and 33,000  $\mu$ g/kg, respectively. TPH-g was detected as high as 810 milligrams per kilogram ( $\mu$ g/kg). In groundwater, BTEX was reported as high as 13,800 micrograms per liter ( $\mu$ g/L), 929  $\mu$ g/L, 2,810  $\mu$ g/L, and 3,140  $\mu$ g/L, respectively. TPH-g and TPH-d were reported at concentrations up to 42 milligrams per liter ( $\mu$ g/L) and 4.19 mg/L respectively.

In a letter to EOP dated October 6, 2006 the ACHCSA requested that EOP further assess the horizontal extent of petroleum hydrocarbon impacts to the subsurface. The request included the collection of soil and groundwater samples in the southeast direction of the former UST location, installation of three monitoring wells, assessment of the presence of petroleum hydrocarbons in soil vapor, a well survey, and an assessment of potential preferential pathways. In response, Kleinfelder prepared a work plan titled *Work Plan for Further Site Investigation* that was submitted to ACHCSA on December 12, 2006.

The work plan was approved by the ACHCSA in a letter dated December 26, 2006, 2007. Between March 4 and March 7, 2007, Kleinfelder collected soil-vapor samples from five sample locations in the warehouse building, advanced and collected soil and groundwater samples for chemical analysis from seven soil boring locations (K-14 through K-20), and installed three monitoring wells. The results of the investigation are summarized in the May 11, 2007 *Further Site Investigation Report*.

The soil-vapor investigation did not indicate the presence of organic volatiles, including TPH-g, at concentrations above regulatory environmental thresholds. The soil and groundwater investigation identified two water bearing zones (seven to 11 feet bgs and 18 to 24 feet bgs) impacted with petroleum hydrocarbons. The 18 to 24 foot bgs zone is characterized by thicker, more permeable and more laterally continuous sediments than the shallower zone. Three monitoring were wells installed to target water quality in the 18 to 24 foot depth water bearing zone.

In soil, the highest TPH-g, TPH-d, and BTEX concentrations were reported at approximately 19 feet bgs in the samples collected from borings MW-1 and K-19. In MW-1, advanced approximately 65 feet east of the UST, TPH-g, TPH-d, and BTEX concentrations were reported at 1,200,000  $\mu$ g/Kg, 588,000  $\mu$ g/Kg, 63,000  $\mu$ g/Kg, 250,000  $\mu$ g/Kg, 310,000  $\mu$ g/Kg, and 1,200,000  $\mu$ g/Kg, respectively. In K-19, advanced adjacent to the former UST location, TPH-g, TPH-d, and BTEX concentrations were reported at 1,900,000  $\mu$ g/Kg, 200,000  $\mu$ g/Kg, 11,000  $\mu$ g/Kg, 26,000  $\mu$ g/Kg, 33,000  $\mu$ g/Kg, and 170,000  $\mu$ g/Kg, respectively.

In groundwater, the highest TPH-g, TPH-d, and BTEX concentrations were reported in the samples collected from borings MW-2 and K-19, both in close proximity to the former UST. In MW-2, TPH-g, TPH-d, and BTEX concentrations were reported at

38,000  $\mu$ g/L, 940  $\mu$ g/L, 11,600  $\mu$ g/L, 274  $\mu$ g/L, 588  $\mu$ g/L, and 2,880  $\mu$ g/L, respectively; while in K-19, TPH-g, TPH-d, and BTEX concentrations were reported at 33,100  $\mu$ g/L, 370  $\mu$ g/L, 5,170  $\mu$ g/L, 235  $\mu$ g/L, 1,010  $\mu$ g/L, and 955  $\mu$ g/L, respectively. In addition, significantly high levels of contamination were reported in the groundwater sample collected from K-17, where TPH-g, TPH-d, and BTEX concentrations were reported at 24,000  $\mu$ g/L, 530  $\mu$ g/L, 2,780  $\mu$ g/L, 150  $\mu$ g/L, 774  $\mu$ g/L, and 563  $\mu$ g/L, respectively. Together, the groundwater samples chemical results suggest that groundwater bearing Zone B is a more significant preferential pathway for contaminant migration.

Well survey data and water level measurements made on April 13, 2007 indicate ground water flow to the south; however, some of the highest petroleum hydrocarbon concentrations were reported to the east of the former UST (MW-1), as opposed to the south (K-17), suggesting that ground water flow patterns may be variable.

On June 13, 2007, after reviewing the May 11, 2007 Further Site Investigation Report, the ACHCSA requested that the extent of petroleum hydrocarbons east of the recently installed MW-1 be assessed, that quarterly groundwater monitoring be implemented at the Site, and that the results of the investigations and groundwater monitoring be uploaded onto the State Water Quality Control Board (SWQCB) Geo Tracker system.

Kleinfelder prepared a work-plan dated September 26, 2007 describing the objectives, tasks, methods and schedule for performing the investigations requested by the ACHCSA in the June 13, 2007 letter (Kleinfelder, 2007b). In the ACHCSA's letter approving the workplan, two additional soil borings and one monitoring well were requested. These additional borings and well were agreed to by EOP and incorporated into the current scope of work. This report describes the work performed and results of this additional investigation.

#### 3.0 ENVIRONMENTAL FIELD INVESTIGATION

The scope of the environmental field investigation included:

- Obtaining encroachment, drilling, and well installation permits;
- Clearing utilities;
- Advancing five soil borings to further assess the extent of petroleum hydrocarbons in soil and ground water. The borings were advanced to a depth of 40 feet bgs;
- Installing two monitoring wells to an approximate depth of 25-feet below ground surface and surveying them.
- Sampling soil and ground water for chemical analysis.

The following sections describe the field investigation as it was carried out.

#### 3.1 PRE-FIELD ACTIVITIES

Prior to drilling, Kleinfelder:

- Obtained the required drilling permit from the Alameda County Public Works Agency. A copy of the drilling permit is included in Appendix A;
- Obtained an encroachment permit from the City of Oakland (Appendix A);
- Retained the services of a private utility locator to clear proposed drilling locations;
- Informed Underground Service Alert (USA) of the planned drilling activities at the Site more than 48 hours prior to commencement of drilling activities (no member agency utility lines were marked in the planned work area);
- Retained Resonant Sonic International drilling company of Woodland, California to advance the soil boring probes and install the monitoring wells;
- Prepared a health and safety plan to establish protection standards and mandatory safety practices and procedures to follow during the field work; and
- Notified both the ACHCSA and the Alameda County Public Works of the work schedule for potential inspections.

#### 3.2 SUBSURFACE INVESTIGATION

The subsurface investigation was performed between January 22 and January 23, 2008. Five exploratory borings (K-21 to K-25) were advanced to about 40 feet bgs for soil and groundwater sample collection. Two of the borings, K-22 and K-25, were completed as monitoring wells MW-4 and MW-5, respectively. The location of borings and wells is shown in Plate 3.

#### 3.2.1 Advancement of Soil Borings

Soil borings were advanced using an AMS Power Probe 9630 PRO-D truck mounted direct-push drill rig. The direct-push rigs advance a four-foot long steel tube using a hydraulic ram and a rotary hammer. The steel tube has a two-inch internal diameter that holds interchangeable polyethylene liners, allowing for continuous core collection through the entire depth of the borehole. The wells were installed using hollow stem auger drilling rig.

A total of five soil borings were advanced to a depth of about 40 feet bgs. The soil-stratigraphy at each soil-boring location was logged in the field and classified using the Unified Soil Classification System. The cores were screened with an organic vapor analyzer equipped with a photo-ionization detector (PID). The PID readings obtained at different depths were recorded on the logs. Soil boring logs are included in Appendix B.

#### 3.2.2 Soil Samples

Samples for chemical analysis were selected based on field observations, including petroleum odor, staining, and/or elevated PID readings. Soil sampling equipment was decontaminated between sample locations using a steam cleaner.

Soil samples were collected from each boring at approximately four feet intervals by cutting approximately 6-inch sections of the polyethylene liners. The samples were subsequently sealed on both ends with Teflon sheets and corresponding end caps, labeled, and placed in a cooler with ice pending delivery to a California State-certified analytical laboratory under chain-of-custody protocol for chemical analysis. Seventeen soil samples were chemically analyzed. The depth of the samples analyzed ranged from about eight feet bgs to 40 feet bgs.

#### 3.2.3 Grab Groundwater Samples

Grab groundwater samples for chemical analyses were collected from each boring location (K-21 through K-25). In borings K-21, K24 and K-25, grab groundwater samples were collected from two distinct groundwater bearing zones, one encountered between about 18 feet bgs to 28 feet bgs and the other between about 35 feet bgs to 40 feet bgs. Grab groundwater samples from K-22 and K-23 were collected at 24 feet bgs and 30 feet bgs, respectively.

Grab groundwater samples were collected by inserting a 3/4-inch polyvinyl chloride (PVC) well casing into each borehole. A peristaltic pump was used to retrieve groundwater samples for chemical analysis. New, unused tubing was used in each sample location, including borings and depths. After grab groundwater samples were collected, the temporary well casings were removed and the boreholes were grouted with neat cement (95 pounds of cement in five gallons of water) from the bottom up, according to well permit requirements.

Groundwater samples were contained in laboratory-supplied containers, labeled, and stored in a cooler with ice pending delivery to the analytical laboratory under chain-of-custody protocol. A total of eight grab groundwater samples were collected and delivered to the laboratory for chemical analysis.

#### 3.2.4 Installation of Groundwater Monitoring Wells

Two two-inch diameter PVC monitoring wells were installed on January 22, 2008. The wells were constructed in borings K-22 (MW-4) and K25 (MW-5) to depths of 25 feet and 28 feet bgs, respectively, by sealing the lower portion of the borings with neat cement and reaming out the borings using an eight inch hollow stem auger drilling rig. The borings were reamed with an eight inch hollow stem drill rig. Ten feet of 0.02 inch factory slotted well screen was placed in each boring, between 15 feet to 25 feet bgs in MW-4 and 18 feet to 28 feet bgs in MW-5. A sand pack was placed in the annular space of the wells, from the bottom up, to an approximate depth of one foot above the slotted screen depth. Approximately one foot of hydrated bentonite was placed on top of the sand pack. Neat cement grout was placed on top of the bentonite plug using a tremmie pipe. Neat cement grout was tremmied to approximately nine inches bgs. Well

heads were completed in traffic-rated boxes, and a locking cap was placed on the finished well. Well construction details are summarized in Table 1 and are included on the well logs presented in Appendix B.

Kleinfelder developed the two wells on January 31, 2008. Well development was performed by surging and purging the water containing suspended sediments with a surge block and two-inch bailer. Well development was carried out until the water in the well was clear or at least ten wetted well volumes of water had been purged. The volume of purged water from wells MW-4, and MW-5 totaled about 12 gallons each.

#### 3.2.5 Monitoring-Well Samples

Monitoring wells MW-4 and MW-5 were sampled on March 17, 2008. The samples from the monitoring wells are believed to be representative of groundwater conditions encountered at approximately 18 feet bgs. Prior to sample collection the wells were purged of a minimum of three wetted well volumes of water using clean, unused, disposable bailers. During purging, temperature, electrical conductivity and pH were monitored until these parameters stabilized. Final purge data for the wells is summarized in Table 2. Following purging ground water samples were collected by decanting the water from the bailers into the bottles provided by the analytical laboratory. The bottles were filled with no headspace remaining in the bottles. The bottles were subsequently labeled and placed in an ice chest with ice for storage prior to transport to the analytical laboratory. Following chain-of-custody protocols, Kleinfelder delivered the samples to the laboratory the same day they were collected.

#### 3.2.6 Elevation Survey

On February 14, 2008, the latitude, longitude and elevations of the covers and tops of casings of the recently installed monitoring wells were surveyed by PLS Surveys Inc., a California licensed surveyor. Survey information of monitoring wells is summarized on Table 1.

#### 3.3 CHEMICAL ANALYSIS

Soil and groundwater samples were submitted for analysis to Torrent Laboratory, Inc. of Milpitas, a California state-certified analytical laboratory. Soil and groundwater samples from both, the soil borings and monitoring wells, were analyzed for:

- Benzene, toluene, ethylbenzene, total xylenes (BTEX), methyl tertiary-butyl ether (MTBE), and total petroleum hydrocarbons as gasoline (TPH-g) using the United States Environmental Protection Agency (EPA) Method 8260B; and
- Total petroleum hydrocarbons as diesel (TPH-d) using EPA Method 8015B (Silica gel cleanup procedure was requested and performed on samples analyzed for TPH-d).

#### 4.0 SUMMARY AND DISCUSSION OF FIELD INVESTIGATION RESULTS

In this report, the concentrations of chemicals of concern reported at concentrations above the laboratory's reporting limits were compared to their respective and most recent Environmental Screening Levels (ESLs) developed by the San Francisco Bay Region Regional Water Quality Control Board (RWQCB). The most recent ESLs are summarized in the Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim Final dated November 15, 2007 (RWQCB, 2007a).

ESLs were developed to address environmental protection goals presented in the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan, RWQCB, 2007b), and include the protection of human health and terrestrial biota through direct exposure, of drinking water resources, aquatic habitats, and against vapor intrusion into buildings, and adverse nuisance conditions.

To account for the different exposure potential to contaminants encountered at different depths, ESLs were developed for two soil depths, shallow and deep soils. Shallow soil are considered less than three meters (10 feet) deep, and ESLs for contaminants in this depth range account for the potential, regular direct exposure of residents and/or office workers. In turn, the ESLs for contaminants in deep soils, found at depths greater than three meters, account for only periodic exposure, during construction and utility maintenance work.

Comparing the concentrations of chemicals reported at a Site to their corresponding ESL allows for a rapid generalized risk assessment. Under most circumstances the presence of a chemical at concentrations below their corresponding ESL can be assumed to not pose a significant, long term (chronic), threat to human health or the environment. Areas where chemicals are present at concentrations exceeding the corresponding ESL generally require additional evaluation.

The ESLs used in this report were obtained from Table B (for shallow, less than 3 meters deep soils) and Table D (for deep, deeper than 3 meters bgs soils). These tables were developed assuming that groundwater is not a current or potential source of drinking water. For this investigation, these tables were used because the concentration of dissolved solids in the groundwater at the site is significantly greater than 3,000 milligrams per liter as documented in Kleinfelder's Fourth Quarter 2007

Groundwater Monitoring Report (Kleinfelder, 2008) for the site, making the groundwater unsuitable as a drinking water resource.

As described in Section 3, this investigation consisted of advancing five exploratory soil borings and installing two monitoring wells at the Site to further assess the extent of petroleum hydrocarbons in the subsurface at the Site. Previously, a total of 20 soil borings and three wells had been advanced. The following sub-sections describe the hydrogeology of the Site and summarize the analytical results of soil and groundwater, and how they compare to their respective ESLs.

#### 4.1 SITE HYDROGEOLOGY

The soils underlying the site consist of inter-fingered near-shore deposits from the San Francisco Bay and alluvial deposits. Cross-sections, derived from boring logs, which illustrate the stratified nature of the soil deposits at the site, are included as Plates 4 and 5. Cross-section locations are shown on Plate 3. Near surface soils in the borings had a relatively thin layer of sandy materials underlain by clay. A permeable water bearing zone, up to ten feet thick, is present at about 17 to 19 feet bgs. This zone is mostly comprised of sands and coarse sands, and can be traced horizontally between borings advanced to that depth. Below this permeable zone are clays (silty clay, clay, and sandy clay) to about 34 to 38 feet bgs where an additional horizontally continuous permeable zone was encountered. The five monitoring wells on site are screened in the predominant water bearing zone located at 15 to 28 feet bgs.

Water level measurements on the five wells were made on February 18, 2008. Based on these water level measurements and survey elevation data, groundwater is inferred to flow toward the southeast, east and north. Inferred ground water flow patterns from previous measurements indicated ground water flow generally to the south. Plate 6 contains inferred water level contours for February 18, 2008. The February 18, 2008 flow pattern is likely due to transitory seasonal influences (differential recharge from winter rains).

#### 4.2 SOIL SAMPLE ANALYTICAL RESULTS

Three to four samples per boring were chemically analyzed, for a total of 17 soil samples. The depths of the samples analyzed ranged from eight to 40 feet bgs. No

chemicals of concern were reported at concentrations above the laboratory's reporting limit in the borings installed during this scope of work. Analytical results of soil sample analyses are summarized in Table 4. The distribution of TPH-d and benzene in soil from this and previous investigations for the seven to 11 and the 17 to 25 foot depth zones are illustrated in Plates 7 and 8, respectively. Copies of the analytical laboratory reports are included in Appendix C.

#### 4.3 GROUND WATER ANALYTICAL RESULTS

No chemicals of concern were reported at concentrations above the laboratory's reporting limit, except for TPH-g and TPH-d reported in the groundwater samples collected from MW-4 and MW-5. TPH-g was reported slightly above the laboratory's reporting limit, at 56-µg/L and 55-µg/L, in the samples from MW-4 and MW-5, respectively, and TPH-d in the sample collected from MW-5, at a concentration of 544 µg/L. All of these concentrations are below their most current ESLs. Groundwater analytical results are summarized in Table 5, and copies of the analytical laboratory reports are included in Appendix C. The distribution of TPH-d and benzene in ground water from this and previous investigations is illustrated in Plate 9.

#### 5.0 FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

The objectives of this investigation were to:

- Further define the extent of petroleum hydrocarbon impacts to soil and groundwater at the site, particularly to the east and north of the former UST; and
- Install two groundwater monitoring wells.

To meet these objectives Kleinfelder advanced five exploratory soil borings for logging geologic conditions at the site and collecting soil and ground water samples for chemical analysis, and installed, surveyed, and sampled two monitoring wells. The wells were installed in groundwater bearing Zone B, located at a depth of 18 to 28 feet bgs, approximately. Groundwater bearing Zone B was previously identified as being the most impacted with petroleum hydrocarbons and the most likely preferential pathway for contaminants to migrate.

#### Hydrogeology

General site stratigraphy is illustrated in cross-sections in Plates 4 and 5. Based on historic groundwater level measurements it is estimated that ground water generally flows towards the south, at an approximate gradient of 0.003 to 0.005 feet per foot. However, water level data from February 18, 2008 indicate that ground water flow is variable, the variation likely due to seasonal influences (differential recharge from winter rains). The transitory flow patterns can explain the lateral spread of the petroleum hydrocarbons from the UST at the site, illustrated in Plate 9.

#### Petroleum Hydrocarbons in Soil and Ground Water

During the current investigation, no chemicals of concern were reported in soil above the laboratory's reporting limit. In groundwater, TPH-g and TPH-d were reported slightly above the laboratory's reporting limit in the samples from MW-4 and MW-5, but below their respective and most current ESLs. Analytical results for soil are summarized in Table 4, and Plates 7 and 8. Analytical results for groundwater are summarized in Table 5 and on Plate 9.

#### Conclusions

The results obtained in this investigation together with the results summarized in the Further Site Investigation Report (Kleinfelder, 2007) suggest that the extent of petroleum hydrocarbon impacted soil and groundwater has been delineated.

In shallow soil, seven to 11 feet bgs, TPH-g and benzene concentrations above the ESL of 450 mg/Kg and 260-µg/Kg, respectively, appear restricted to the area immediately adjacent to the former UST location. Plate 7 shows the approximate contours of TPH-g and benzene concentrations, derived from this and previous investigation results, above ESLs in soil depths seven to 11 feet bgs.

In deeper soil, 18 feet to 25 feet bgs, TPH-g has not been reported above its current ESL of 4,200 mg/Kg for soils deeper than 3-meters, except in the soil in MW-1, while benzene concentrations above11 mg/Kg have been reported in the former UST location and MW-1. Plate 8 shows the approximate contours of TPH-g and benzene concentrations above ESLs in soil depths 18 feet to 25 feet bgs.

In groundwater, TPH-g and benzene concentrations above their ESLs of 5.0 mg/L and 540  $\mu$ g/L, respectively, have been documented north of the former UST location, in K-4, and as far south as K-17, and to the east and west as far as K-9 and K-6. Plate 9 presents a contour delineating the approximate area where TPH-g and benzene concentrations in groundwater have been reported above their respective ESLs.

#### Recommendations

Kleinfelder understands that both EOP and the ACHCSA are interested in accelerating the remediation process of the site, particularly the areas where the greatest concentrations of petroleum hydrocarbons have been reported. Kleinfelder recommends preparing a corrective action plan (CAP) that compares the potential costs and effectiveness of treating the subsurface with chemical agents. The effectiveness of the remediation method to be implemented can be assessed during the groundwater monitoring, and the results can be used to decide if more than one injection event is required. Afterwards, natural attenuation can be monitored. After petroleum hydrocarbon concentrations have been shown a significant and continuous decline, case closure request can be requested from the ACHCSA.

#### 6.0 LIMITATIONS

Kleinfelder prepared this report in accordance with generally accepted standards of care that exist in Alameda County at this time. This report may be used only by EOP and only for the purposes stated, within a reasonable time from its issuance, but in no event later than one (1) year from the date of the report. All information gathered by Kleinfelder is considered confidential and will be released only upon written authorization of EOP or as required by law. Non-compliance with any of these requirements by EOP or anyone else, unless specifically agreed to in advance by Kleinfelder in writing, will release Kleinfelder from any liability resulting from the use of this report by any unauthorized party and EOP agrees to defend, indemnify, and hold harmless Kleinfelder from any claim or liability associated with such unauthorized use of non-compliance.

Kleinfelder offers various levels of investigation and engineering services to suit the varying needs of different clients. It should be recognized that definition and evaluation of geologic and environmental conditions are a difficult and inexact science. Judgments leading to conclusions and recommendations are generally made with incomplete knowledge of the subsurface conditions present. Although risk can never be eliminated, more-detailed and extensive investigations yield more information, which may help understand and manage the level of risk. Since detailed investigation and analysis involves greater expense, our clients participate in determining levels of service that provide adequate information for their purposes at acceptable levels of risk. More extensive studies, including subsurface investigations or field tests, may be performed to reduce uncertainties. Acceptance of this report will indicate that EOP has reviewed the document and determined that it does not need or want a greater level of service than provided.

During the course of the performance of Kleinfelder's services, hazardous materials may be discovered. Kleinfelder will assume no responsibility or liability whatsoever for any claim, loss of property value, damage, or injury that results from pre-existing hazardous materials being encountered or present on the project site, or from the discovery of such hazardous materials. Nothing contained in this reports should be construed or interpreted as requiring Kleinfelder to assume the status of an owner, operator, generator, or person who arranges for disposal, transport, storage or

treatment of hazardous materials within the meaning of any governmental statute, regulation or order. EOP will be solely responsible for notifying all governmental agencies, and the public at large, of the existence, release, treatment or disposal of any hazardous materials observed at the project site, either before or during performance of Kleinfelder's services. EOP will be responsible for all arrangements to lawfully store, treat, recycle, dispose, or otherwise handle hazardous materials, including cuttings and samples resulting from Kleinfelder's services.

Regulations and professional standards applicable to Kleinfelder's services are continually evolving. Techniques are, by necessity, often new and relatively untried. Different professionals may reasonably adopt different approaches to similar problems. As such, our services are intended to provide EOP with a source of professional advice, opinions and recommendations. Our professional opinions and recommendations are/will be based on our limited number of field observations and tests, collected and performed in accordance with the generally accepted engineering practice that exists at the time and may depend on, and be qualified by, information gathered previously by others and provided to Kleinfelder by EOP. Consequently, no warranty or guarantee, expressed of implied, is intended or made.

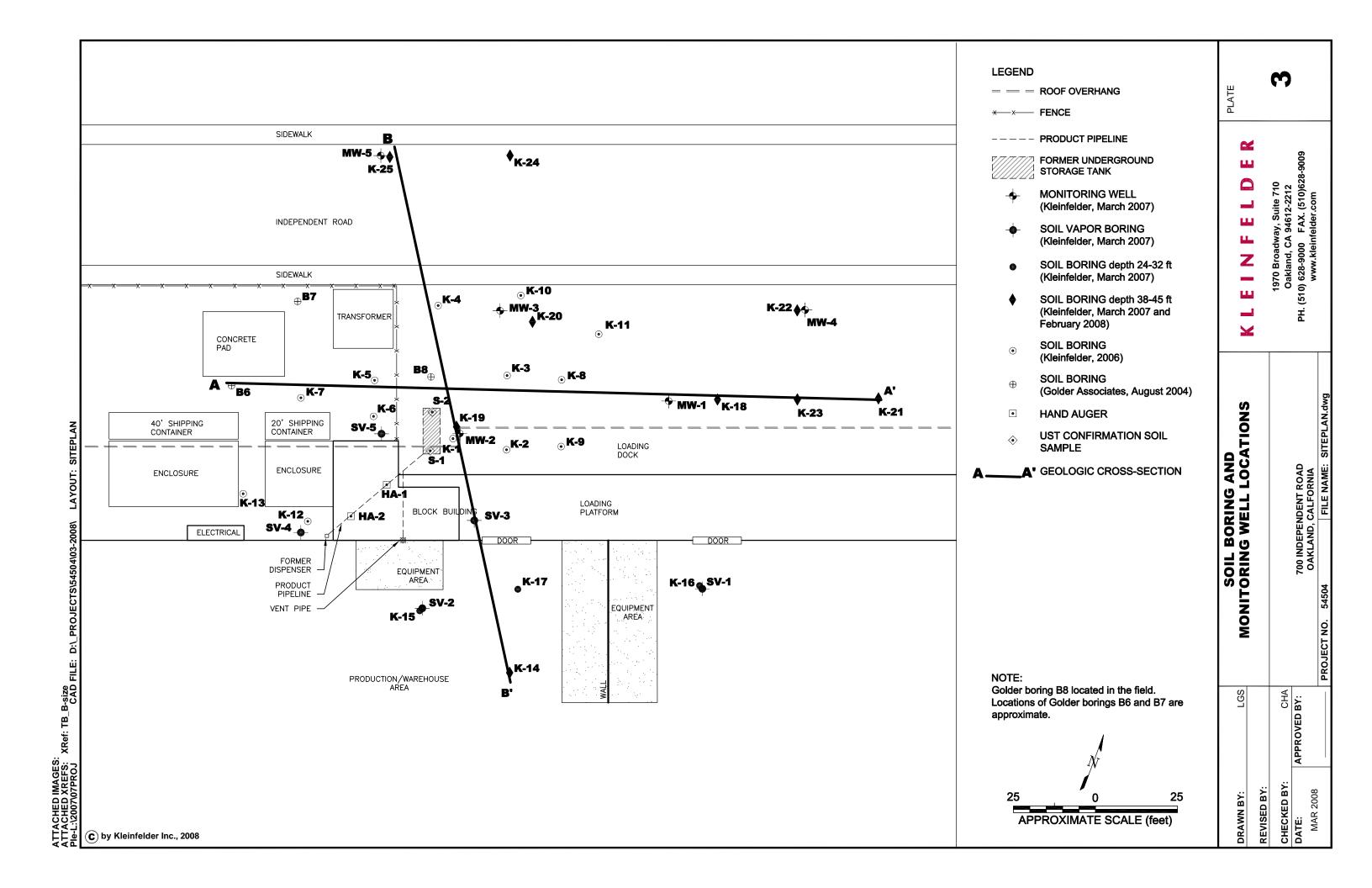
#### 7.0 REFERENCES

- Kleinfelder, 2005. Underground Storage Tank Report, 700 Independent Road, Oakland, California, November 1, 2005.
- Kleinfelder, 2006. Site Field Investigation, 700 Independent Road, Oakland, California, September 27, 2006.
- Kleinfelder, 2007a. Further Site Investigation, 700 Independent Road, Oakland, California, May 11, 2007.
- Kleinfelder, 2007b, Site Investigation Work Plan, 700 Independent Road, Oakland, California, September 26, 2007.
- Kleinfelder, 2008. Fourth Quarter 2007 Groundwater Monitoring Report, 700 Independent Road, Oakland, California, January 29, 2008.
- RWQCB, 2007a. Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Tables B and D, November 2007.

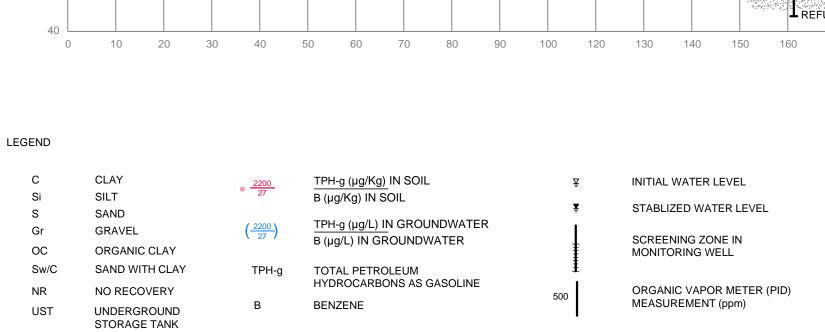
  (<a href="http://www.swrcb.ca.gov/rwqcb2/RBSL/esl1107/esl.pdf">http://www.swrcb.ca.gov/rwqcb2/RBSL/esl1107/esl.pdf</a>)
- RWQCB, 2007b. San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan) California Regional Water Quality Control Board San Francisco Bay Region (Updated January 18, 2007).

## **PLATES**

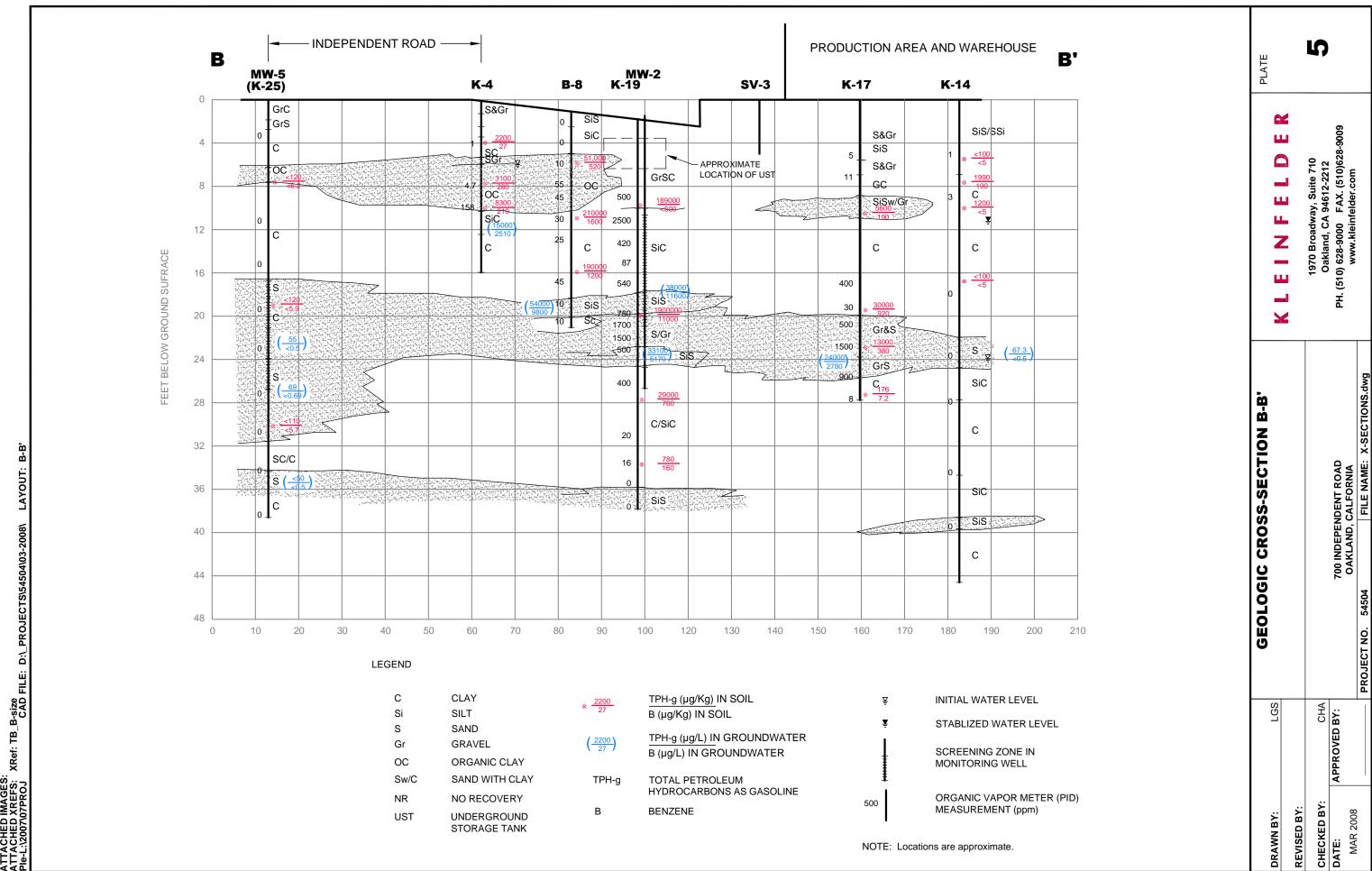
TACHED IMAGES: Images: VIC-MAP.jpg TACHED XREFS: XRef: TB\_A-port -L:\2007\07PROJ



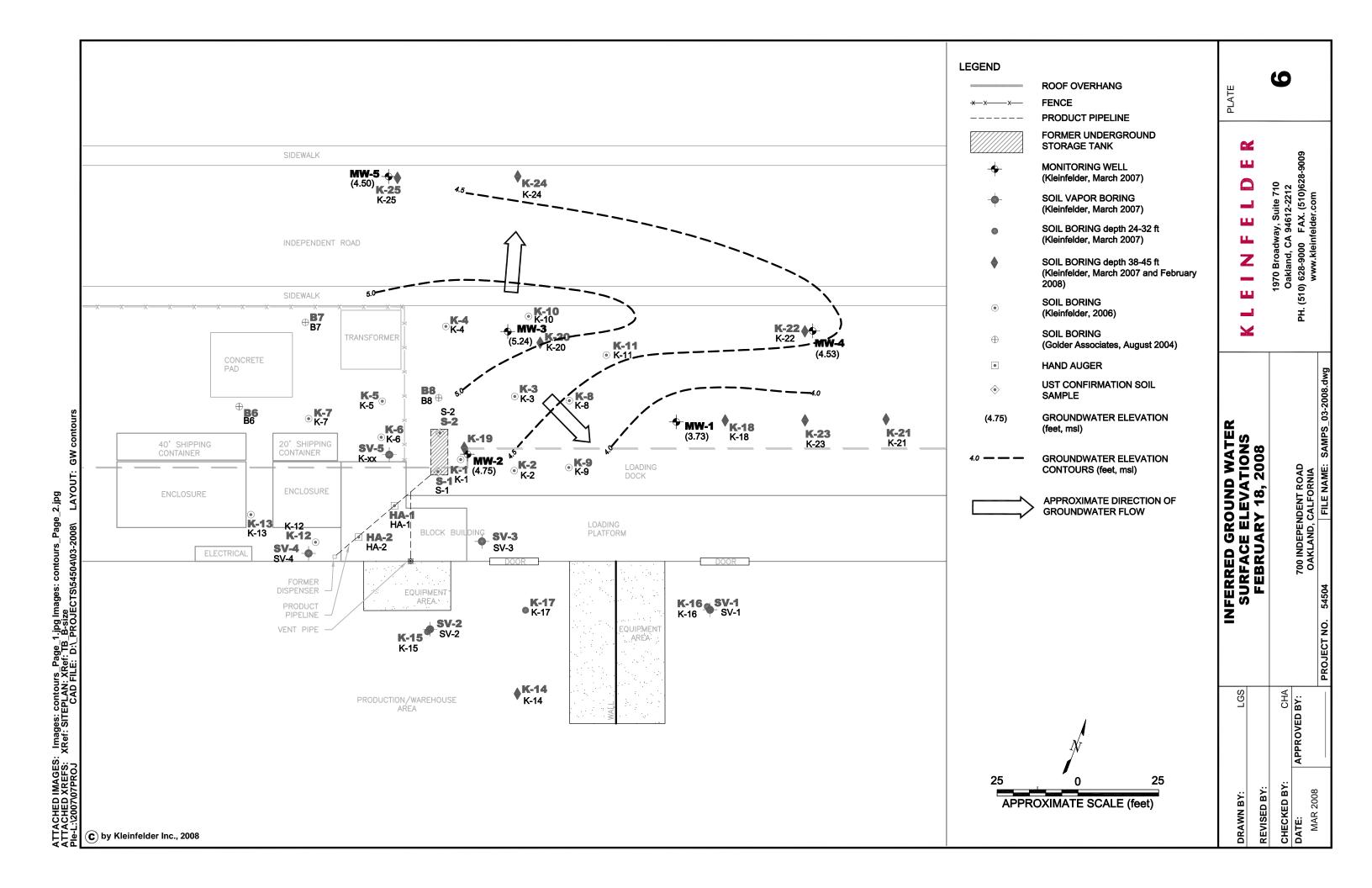
BELOW (

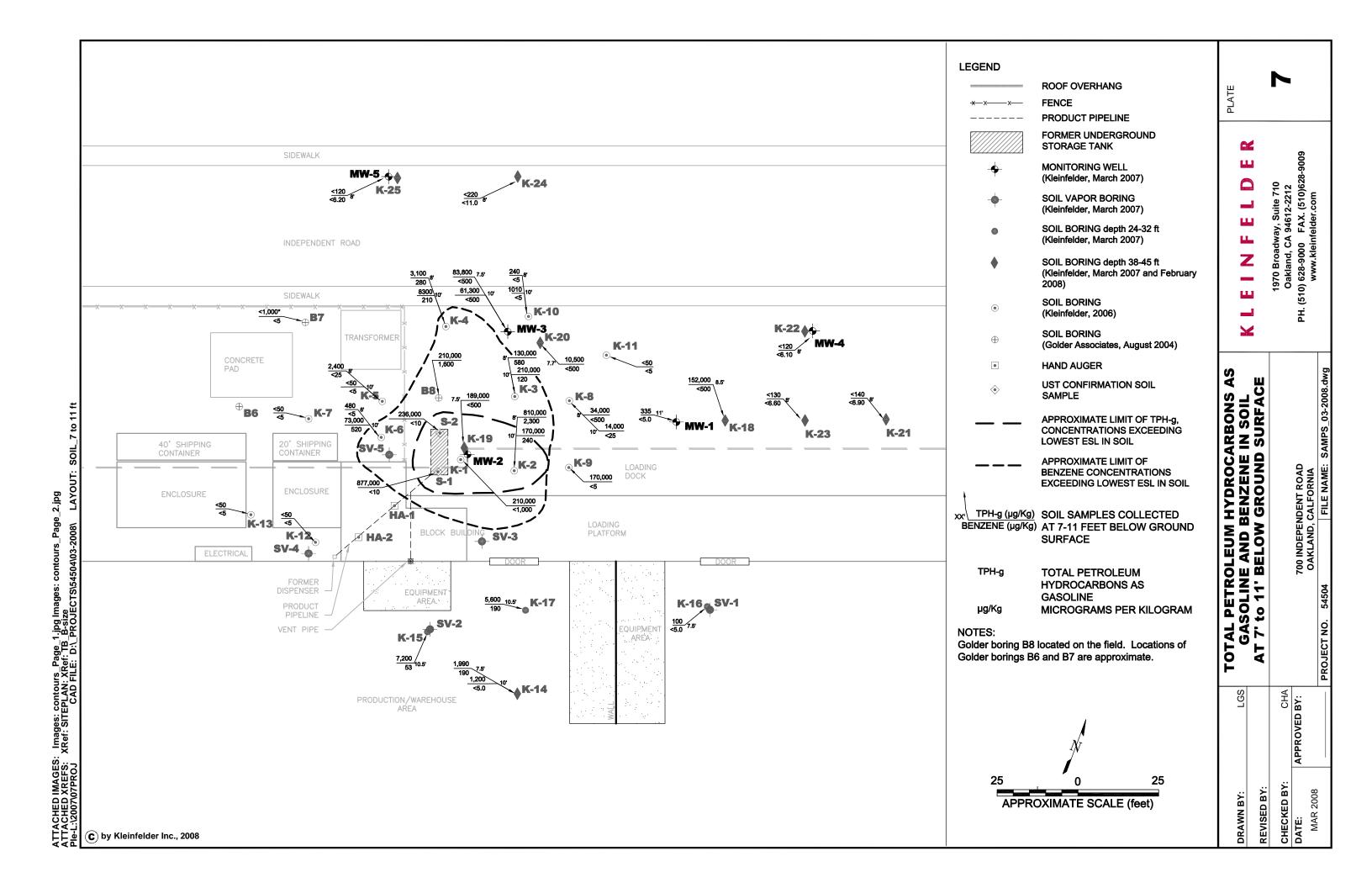


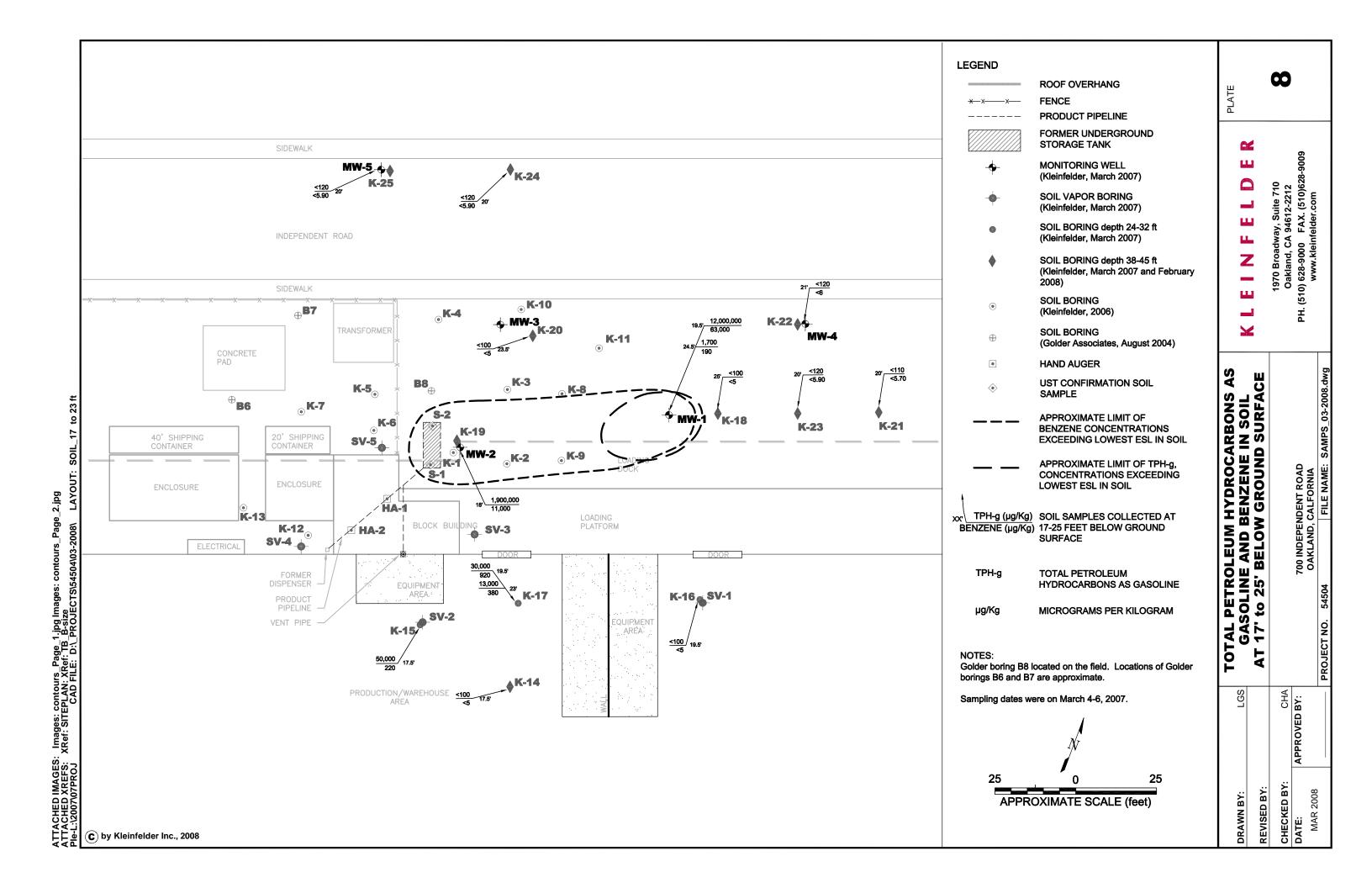
4 PLATE A' MW-1 K-23 **K-7** K-5 **B-8** K-3 K-8 K-18 **B-6** K-21 Si\$ Si\$ S&Gr -UST S&Gr S&Gr S&Gr S&Gr (projected) Si¢ SSiC С 1970 Broadway, Suite 710 Oakland, CA 94612-2212 1. (510) 628-9000 FAX. (510)628-90 www.kleinfelder.com CSi sc > <1000 <5 SiC 0.3 -0.4 23 ¢s SSiC Cw/Gr OC ₽Gr OC. 143 OC. 7 55/ SC 15200( <500 sd O¢ \_Q<sub>25</sub> 285 500 649 0.3 ¥s √OC <6.9 35 С NR 176 30 12 \$C 9.6 Cw/Si Cw/Si ₹FC 25 8 0.2 GROUND SUFRACE ₹ ( <210 ) 1 Čw/Si 540 268 16 L cs Z SC 30 45 0.4 ¢w/s SC SGr \$C 10 CSw/G 20 1500 0.6 10 上 SC 1500 Sw/C 2000 GrS. SC 24 cos 400 A-A Cw/Si 28 SCw/Si GrS 350 **CROSS-SECTION** Cw/Si С Si 32 700 INDEPENDENT ROAD
OAKLAND, CALFORNIA
| FILE NAME: 3 16 0.9 SiS 36 FS REFUSAL 230 170 180 190 200 210 220 GEOLOGIC CHA APPROVED BY: CHECKED BY: DATE: REVISED BY: DRAWN BY: NOTE: Locations are approximate.

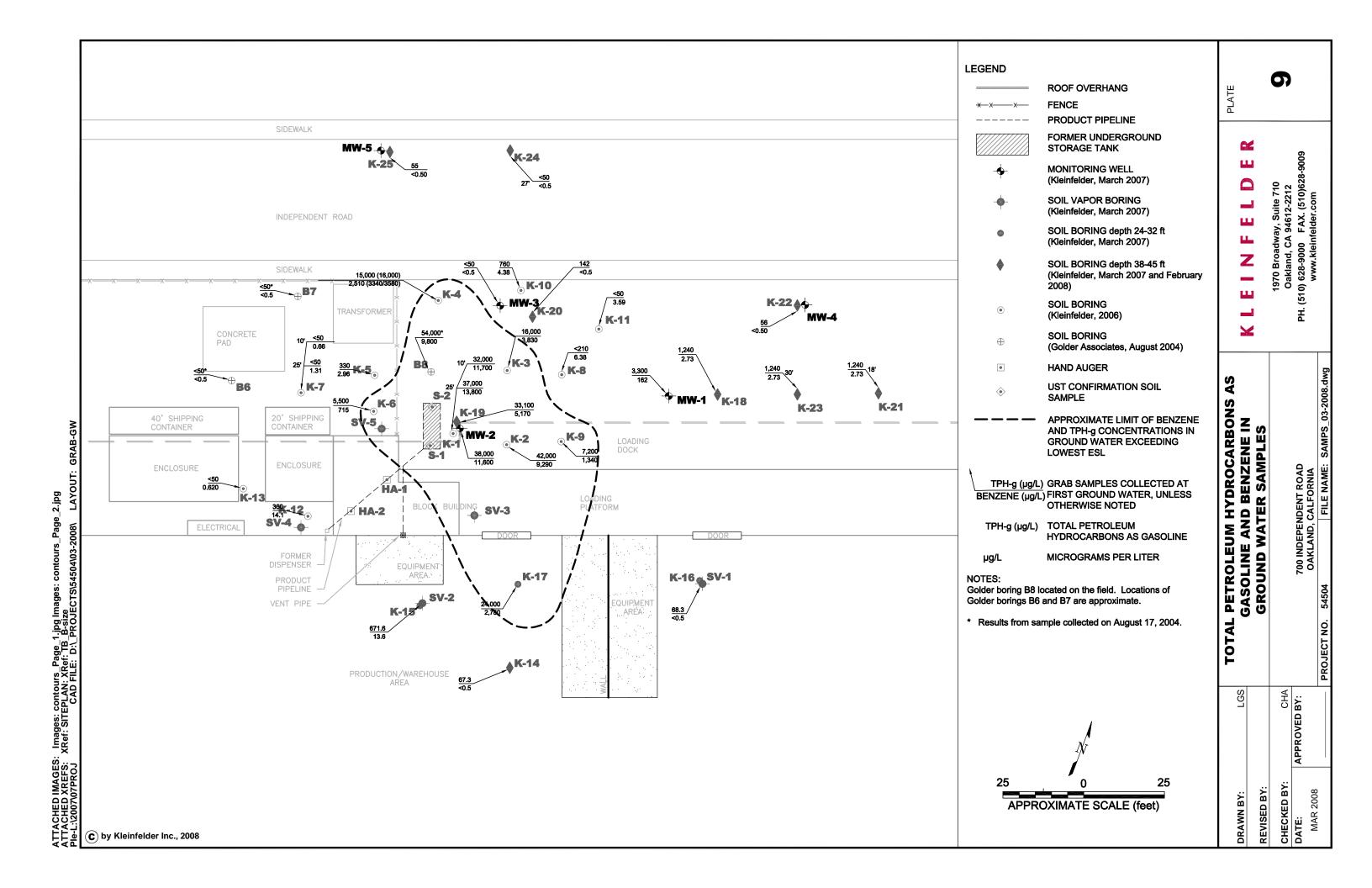


ATTACHED IMAGES: ATTACHED XREFS: PIe-L:\2007\07PROJ









## **TABLES**

## Table 1

# Monitoring Well Construction Details EOP - 700 Independent Road

Oakland, California

									Survey l			
	Top of	Vault										
Well Identification	Installation Date	Boring Depth	Solid Casing	Screen Interval	Sand Pack	Bentonite Seal	Grout Seal	Casing Elevation (Feet)	Elevation (Feet)	Lc		
MW-1	3/5/2007	25.0	0.25-15	15-25	13-25	11-13	0.75-11	9.64	9.96	-122		
MW-2	3/5/2007	25.0	0.25-10	10-20	8-20	6-8 / 20-25	0.75-6	9.53	9.85	-12;		
MW-3	3/5/2007	25.0	0.25-13	13-23	11-24	9-11	0.75-9	10.79	11.10	-12;		
MW-4	1/23/2008	25.0	0.25-15	15-25	14-25	13-14	0.75-13	9.61	10.35	-122		
MW-5	1/23/2008	28.0	0.25-18	18-28	17-28	16-17	0.75-16	9.75	10.06	-122		

#### Notes:

Survey elevations North American Vertical Datum of 1988 (NAVD88), horizontal NAD 83. Survey of MW-1, MW-2 and MW-3 by PLS Surveys, Inc., April 4, 2007 Survey of MW-4 and MW-5 by PLS Surveys, Inc., February 14, 2008

 Table 2

 Depth to Water Measurements and Ground Water Surface Elevations

EOP - 700 Independent Road Oakland, California

		April 13, 2007		September 10, 2007		December 17, 2007		February 18, 2008	
Well Number	Measuring Point Elevation (feet, msl)	Depth to Water (feet)	Ground Water Surface Elevation (feet, msl)	Depth to Water (feet)	Ground Water Surface Elevation (feet, msl)	Depth to Water (feet)	Ground Water Surface Elevation (feet, msl)	Depth to Water (feet)	Ground Water Surface Elevation (feet, msl)
MW-1	9.64	4.67	4.97	5.15	4.49	5.29	4.35	5.91	3.73
MW-2	9.53	4.61	4.92	5.42	4.11	5.02	4.51	4.78	4.75
MW-3	10.79	5.75	5.04	6.26	4.53	6.16	4.63	5.55	5.24
MW-4	9.61							5.08	4.53
MW-5	9.75							5.25	4.50

#### Notes:

Top of casing elevations for MW-1, MW-2 and MW-3 surveyed 4/4/07 by PLS Surveys, Inc.

Top of casing elevations for MW-4, and MW-5 surveyed 2/14/08 by PLS Surveys, Inc.

msl = Mean sea level

NM = Not measured

## Table 3

## Summary of Final Purge Parameters Data EOP - 700 Independent Road Oakland, California

Well No.	Date Sampled	Gallons Purged Final p		Final Specific Conductivity (µmhos/cm)	Final Temperature (degrees C)	
MW-1	9/10/2007	8.0	6.78	3999 <sup>a</sup>	18.7	
10100	12/17/2007	10.0	6.84	3999 <sup>a</sup>	17.2	
MW-2	9/10/2007	6.8	6.70	3999 <sup>a</sup>	19.4	
10100-2	12/17/2007	7.0	6.70	3999 <sup>a</sup>	17.8	
MW-3	9/10/2007	8.5	6.97	3999 <sup>a</sup>	22.3	
10100-3	12/17/2007	9.0	7.11	3999 <sup>a</sup>	20.9	
MW-4	1/31/2008	12.0	7.04	3999 <sup>a</sup>	18.7	
MW-5	1/31/2008	12.0	6.85	3999 <sup>a</sup>	19.2	

#### Acronyms:

a Exceeds equipment limits

C Celsius

µmhos/cm microsiemens per centimeter

# Table 4 Reported Volatile Organic Compounds and Total Petroleum Hydrocarbons in Soil EOP - 700 Independent Road Oakland, California

Sample	Depth (ft.			VO	C (µg/Kg)				TPH-g	TPH-d
ID.	bgs)	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	EDB	EDC	(µg/Kg)	(µg/Kg)
	8	< 1,000	< 1,000	5,400	4,500	< 2,000	< 1,000	< 1,000	210,000	9,800b
K-1	10.0	250	54.0	1,900	2,900	< 100	< 50.0	< 50.0	220,000	8,600b
	19.0	3,000	< 1,000	7,100	17,000	< 2,000	< 1,000	< 1,000	420,000	10,500b
	4.0	< 5.00	5,300	< 5.00	< 15.0	< 100	< 0.005	< 5.00	< 50.0	12,000b
K-2	8.0	2,300	2,400	17,000	33,000	< 4,000	< 2,000	< 2,000	810,000	18,000b
	10.0	240	< 25.0	510	560	< 50.0	< 25.0	< 25.0	170,000	5,700b
	8.0	580	< 500	2,600	3,400	< 1,000	< 500	< 500	130,000	6,300b
K-3	10.0	120	< 25.0	410	360	< 50.0	< 25.0	< 25.0	210,000	3,300b
	14.0	33.0	< 5.00	10.0	< 15.0	< 10.0	< 5.00	< 5.00	< 50.0	< 200
	4.0	27.0	< 25.0	< 25.0	< 75.0	< 50.0	< 25.0	< 25.0	2,200	< 200
K-4	8.0	280	< 25.0	28.0	< 75.0	< 50.0	< 25.0	< 25.0	3,100	< 200
	10.0	210	< 50.0	210	< 150	< 1,000	< 50.0	< 50.0	8,300	< 200
	4.0	< 5.00	< 5.00	< 5.00	< 15.0	< 10.0	< 5.00	< 5.00	< 50.0	< 200
K-5	8.0	< 25.0	< 25.0	< 25.0	< 75.0	< 50.0	< 25.0	< 25.0	2,400a	13,000c
	10.0	< 5.00	< 5.00	< 5.00	< 15.0	< 10.0	< 5.00	< 5.00	< 50.0	< 200
	4.0	< 5.00	< 5.00	< 5.00	< 15.0	< 10.0	< 5.00	< 5.00	< 50.0	< 200
K-6	8.0	< 5.00	< 5.00	< 5.00	< 15.0	< 10.0	< 5.00	< 5.00	480a	62,000c
	10.0	520	< 500	3,000	1,600	< 1,000	< 500	< 500	73,000	12,000b
	4.0	< 5.00	< 5.00	< 5.00	< 15.0	< 10.0	< 5.00	< 5.00	< 50.0	< 200
K-7	8.0	< 5.00	< 5.00	< 5.00	< 15.0	< 10.0	< 5.00	< 5.00	< 50.0	< 200
	12.0	< 5.00	< 5.00	< 5.00	< 15.0	< 10.0	< 5.00	< 5.00	< 50.0	< 200
	4.0	< 5.00	< 5.00	< 5.00	< 15.0	< 10.0	< 5.00	< 5.00	< 50.0	32,000d
K-8	8.0	< 500	< 500	< 500	<1,500	< 1,000	< 500	< 500	34,000a	8,400b
	10.0	< 25.0	< 25.0	85.0	< 75.0	< 50.0	< 25.0	< 25.0	14,000	< 200
K-9	4.0	7.20	< 5.00	< 5.00	24.0	< 10.0	< 5.00	< 5.00	270a	< 200
N-9	8.0	< 5.00	< 5.00	3,600	< 15.0	< 10.0	< 5.00	< 5.00	170,000a	7,900b
K-10	8.0	< 5.00	< 5.00	< 5.00	< 15.0	< 10.0	< 5.00	< 5.00	240a	< 200
K-10	10.0	< 5.00	< 5.00	10.0	< 15.0	< 10.0	< 5.00	< 5.00	1,010a	< 200
K-11	4.0	< 5.00	< 5.00	< 5.00	< 15.0	< 10.0	< 5.00	< 5.00	< 50.0	< 200
17-11	8.0	< 5.00	< 5.00	< 5.00	< 15.0	< 10.0	< 5.00	< 5.00	< 50.0	< 200
K-12	4.0	< 5.00	< 5.00	< 5.00	< 15.0	< 10.0	< 5.00	< 5.00	< 50.0	2,800b
11-12	8.0	< 5.00	< 5.00	< 5.00	< 15.0	< 10.0	< 5.00	< 5.00	< 50.0	< 200
K-13	4.0	< 5.00	< 5.00	< 5.00	< 15.0	< 10.0	< 5.00	< 5.00	< 50.0	< 200
11-13	8.0	< 5.00	< 5.00	< 5.00	< 15.0	< 10.0	< 5.00	< 5.00	< 50.0	< 200
HA-1		< 5.00	< 5.00	< 5.00	< 15.0	< 10.0	< 5.00	< 5.00	< 50.0	5,480
HA-2		< 5.00	< 5.00	< 5.00	< 15.0	< 10.0	< 5.00	< 5.00	< 50.0	3,400c
ESL-TB		260	29,000	33,000	100,000	8,400	42.0	480	450,000	150,000
ESL-TD		11,000	29,000	33,000	420,000	8,400	1,000	1,800	4,200,000	150,000

# Table 4 (cont.)

# Reported Volatile Organic Compounds and Total Petroleum Hydrocarbons In Soil EOP - 700 Independent Road Oakland, California

Commi- ID	Depth (ft.			V	OC (µg/Kg)				TPH-g	TPH-d
Sample ID	bgs)	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	EDB	EDC	(µg/Kg)	(µg/Kg)
	5.5	< 5.00	< 5.00	< 5.00	< 15.0	< 10.0	< 5.00	< 5.00	< 100	< 200
K-14	7.5	190	15.0	< 5.00	22.0	< 10.0	< 5.00	< 5.00	1,990b	18,000f
N-14	10.0	< 5.00	< 5.00	< 5.00	< 15.0	< 10.0	< 5.00	< 5.00	1,200	< 200
	17.5	< 5.00	< 5.00	< 5.00	70.0	< 10.0	< 5.00	< 5.00	< 100	< 200
	10.5	53.0	< 5.00	< 5.00	170	< 10.0	< 5.00	< 5.00	7,200	< 200
K-15	15.0	< 5.00	< 5.00	< 5.00	< 15.0	< 10.0	< 5.00	< 5.00	< 100	< 200
	17.5	220	< 25.0	910	1,100	< 10.0	< 25.0	< 25.0	50,000	4,800d
	7.5	< 5.00	< 5.00	< 5.00	< 15.0	< 10.0	< 5.00	< 5.00	< 100	3,700g
K-16	11.5	< 5.00	< 5.00	< 5.00	< 15.0	< 10.0	< 5.00	< 5.00	< 100	< 200
	19.5	< 5.00	< 5.00	< 5.00	< 15.0	< 10.0	< 5.00	< 5.00	< 100	< 200
	10.5	190	< 25.0	< 25.0	150	< 50.0	< 25.0	< 25.0	5,600	12,700d
K-17	19.5	920	< 500	3,600	2,000	< 100	< 500	< 500	30,000	7,300d
K-17	23.0	380	190	400	670	< 50.0	< 25.0	< 25.0	13,000	114,000d
	27.5	7.20	< 5.00	7.80	< 15.0	< 10.0	< 5.00	< 5.00	176	2,300d
	6.0	< 5.00	< 5.00	< 5.00	< 15.0	< 10.0	< 5.00	< 5.00	143	< 200
K-18	8.5	< 500	< 500	720	< 1,500	< 100	< 500	< 500	152,000h	18,700d
	25.0	< 5.00	< 5.00	< 5.00	< 15.0	< 10.0	< 5.00	< 5.00	< 100	2,300d
	7.5	< 500	< 500	4,600	5,800	< 100	< 500	< 500	189,000j	17400d
K-19	18.0	11,000	26,000	33,000	170,000	<10,000	< 5,000	< 5,000	1,900,000j	200,000d
K-19	25.5	760	140	400	1,900	< 50.0	< 25.0	78.0	29,000j	9,890d
	31.5	160	< 12.5	13.0	49.0	< 25.0	< 12.5	32.0	780	< 200
	7.7	< 500	< 500	< 500	< 1,500	< 100	< 500	< 500	10,500m	< 200
K-20	14.0	< 5.00	< 5.00	< 5.00	< 15.0	< 10.0	< 5.00	< 5.00	< 100	< 200
	23.5	< 5.00	< 5.00	< 5.00	< 15.0	< 10.0	< 5.00	< 5.00	< 100	< 200
	8.0	< 6.90	< 6.90	< 6.90	< 21.0	< 14.0	NA	NA	< 140	< 2,750
K-21	20.0	< 5.70	< 5.70	< 5.70	< 17.0	< 11.0	NA	NA	< 110	< 2,260
	31.0	< 6.60	< 6.60	< 6.60	< 20.0	< 13.0	NA	NA	< 130	< 2,650
	8.0	< 6.10	< 6.10	< 6.10	< 18.0	< 12.0	NA	NA	< 120	< 2,450
K-22	21.0	< 6.00	< 6.00	< 6.00	< 18.0	< 12.0	NA	NA	< 120	< 2,410
N-22	29.0	< 6.20	< 6.20	< 6.20	< 18.0	< 12.0	NA	NA	< 120	< 2,470
	40.0	< 5.90	< 5.90	< 5.90	< 18.0	< 12.0	NA	NA	< 120	< 2,360
	8.0	< 6.60	< 6.60	< 6.60	< 20.0	< 13.0	NA	NA	< 130	< 2,640
K-23	20.0	< 5.90	< 5.90	< 5.90	< 18.0	< 12.0	NA	NA	< 120	< 2,360
N-23	27.0	< 5.90	< 5.90	< 5.90	< 18.0	< 12.0	NA	NA	< 120	< 2,340
	40.0	< 6.50	< 6.50	< 6.50	< 20.0	< 13.0	NA	NA	< 130	< 2,620
	8.0	< 11.0	< 11.0	< 11.0	< 34.0	< 22.0	NA	NA	< 220	< 4,470
K-24	20.0	< 5.90	< 5.90	< 5.90	< 18.0	< 12.0	NA	NA	< 120	< 2,370
	30.0	< 5.60	< 5.60	< 5.60	< 17.0	< 11.0	NA	NA	< 110	< 2,240
	8.0	< 6.20	< 6.20	< 6.20	< 19.0	< 12.0	NA	NA	< 120	< 2,490
K-25	20.0	< 5.90	< 5.90	< 5.90	< 18.0	< 12.0	NA	NA	< 120	< 2,350
	31.0	< 5.70	< 5.70	< 5.70	< 17.0	< 11.0	NA	NA	< 110	< 2,290
	7.5	< 500	< 500	< 500	< 1,500	< 100	< 500	< 500	83,800m	< 200
MW-3	10.0	< 500	< 500	< 500	< 1,500	< 100	< 500	< 500	61,300m	10,600d
	15.5	< 5.00	< 500	< 5.00	< 15.0	< 10.0	< 5.00	< 5.00	< 100	< 200
ESL - 7	able B	260	29,000	33,000	100,000	8,400	42.0	480	450,000	150,000
ESL-T	able D	11,000	29,000	33,000	420,000	8,400	1,000	1,800	4,200,000	150,000

# Table 4 (cont.)

## Volatile Organic Compounds and Total Petroleum Hydrocarbons In Soil

EOP - 700 Independent Road Oakland, California

#### Notes:

- a Does not match typical gasoline pattern. TPH value due to presence of non-target compounds within the TPH-g quantitation range.
- b Although TPH-g compounds are present, the reported result is elevated due to the presence of non-target compounds within the TPH-g quantitation range.
- c While TPH-g compounds are present, the pattern does not match typical gasoline pattern. TPH value includes significant amount of non-target compounds.
- d Sample chromatogam does not resemble typical diesel pattern. Lighter end hydrocarbons within the diesel range quantitated as diesel.
- e Does not match typical pattern. TPH value due to presence of non-target compounds within the TPH-g quantitation range (light end).
- f Sample chromatogram does not resemble typical diesel pattern (discrete peaks). Unidentified hydrocarbon peaks within the diesel range quantitated as diesel.
- g Sample chromatogram does not resemble typical diesel pattern. Diesel result is carry over from TPH as motor oil quantitation range. Hydrocarbons and hydrocarbon peak within the diesel range quantitated as diesel.
- h Not typical gasoline. TPH value does not include typical gasoline compounds.
- j Although TPH-g compounds are present, the reported value is elevated due to significant amount of heavy end hydrocarbons not typical of gasoline but within the TPH-g quantitation range.
- k Two fuels present. The first fuel is lighter than diesel. The second is heavier than diesel but lighter than motor oil. Hydrocarbons within the diesel range quantitated as diesel.
- m Not typical gasoline. TPH value does not include any target compounds.
- \* ESL-Table B Environmental Screening Levels from San Francisco Regional Water Quality Control Board, November 2007, Table B. Shallow Soils (≤ 3 meters bgs), Commercial/Industrial land use only. Groundwater is NOT a current or potential source of drinking water.
- \* ESL-Table D Environmental Screening Levels from San Francisco Regional Water Quality Control Board, November 2007, Table D. Deep Soils (> 3 meters bgs), Commercial/Industrial land use only. Groundwater is NOT a current or potential source of drinking water.
  - Bold Corresponding ESL has been exceeded.

Samples from K-1 through K-13 collected: July 24, 25, and August 10, 2006 Samples from K-14 through K20, MW-1 and MW-3 collected March 4 - 6, 2007

#### Acronyms

bgs	below ground surface	MTBE	Methyl tert butyl ether
EDB	1,2 Dibromoethane (EDB)	TPH-g	Total Petroleum Hydrocarbons - gasoline
EDC	1,2 Dichloroethane (EDC)	TPH-d	Total Petroleum Hydrocarbons - diesel
ESL	Environmental screening level	mg/Kg	Milligrams per Kilogram
HA	Hand Auger sample collected along	μg/Kg	Micrograms per Kilogram
	former dispenser line	VOC	Volatile Organic Compound
NE	Not established	NA	Not analyzed

## Table 5

# Reported Volatile Organic Compounds and Total Petroleum Hydrocarbons in Ground Water

EOP - 700 Independent Road Oakland, California

Boring Number	K-1A	K-1B	K-2	K-3	K-4	K-4	K-5	K-6	K-7A	K-7B	K-8	K-9	K-10	K-11	K-12	K-13	K-14	K-15	
Total Boring Depth (feet)	16.0	32.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	32.0	16.0	16.0	20.0	16.0	24.0	24.0	45.0	24.0	ESL
Sample Depth (bgs)	10.0	25.0				(duplicate)			10.0	25.0									LOL
Date Sample Collected	7/25/2006	7/25/2006	7/24/2006	7/24/2006	7/24/2006	7/24/2006	7/25/2006	7/25/2006	7/25/2006	7/25/2006	7/25/2006	8/10/2006	8/10/2006	8/10/2006	8/10/2006	8/10/2006	3/4/2007	3/4/2007	
TPH-g (µg/L)	32,000	37,000	42,000	16,000	15,000	16,000	330	5,500	< 50.0	< 50.0	< 210	7,200	760	< 50.0	360	< 50.0	67.3a	671.6b	5,000
TPH-d (µg/L)	655b	4,190b	400b	<222	1,100b	670b	< 159	< 143	< 182	< 118	452b	371b	< 115	< 179	< 137	NA	< 100	< 100	2,500
TPH-mo (μg/L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 264	< 230	< 358	< 274	NA	NA	NA	2,500
Benzene (µg/L)	11,700	13,800	9,290	3,830	2,510	3,580 / 3,340	2.96	715	0.66	1.31	6.38	1,340	4.38	3.59	14.1	0.62	< 0.50	13.6	540
Toluene (μg/L)	88.0	584	929	148	62.4 / <105	< 42.0 / < 4.20	2.08	19.2	< 0.50	< 0.50	< 4.2	23.6	2.20	3.15	1.55	2.38	< 0.50	3.69	400
Ethylbenzene (µg/L)	1,230	757	2,810	620	1,050 / 346	597 / 580	< 1.00	389	< 0.50	< 0.50	39.6	355	22.8	1.28	19.7	0.88	< 0.50	7.43	300
Xylenes, total (μg/L)	788	2,500	3,140	305	59.6 / <315	< 126.0 / 26.6	< 3.00	34.7	< 1.50	< 1.50	< 12.6	130	3.70	4.35	21.1	2.79	< 1.50	21.4	5,300
MTBE (μg/L)	< 10.5	< 10.5	< 42.0	< 4.20	< 10.5 / <105	< 42.0 / 27.5	< 1.00	< 4.20	< 0.50	< 0.50	< 4.20	< 2.10	< 0.50	< 1.05	< 0.50	< 0.50	< 0.50	0.56	1,800
EDB (µg/L)	< 10.5	< 10.5	< 42.0	< 4.20	< 10.5 / <105	< 42.0 / < 4.20	< 1.00	< 4.20	< 0.50	< 0.50	< 4.20	< 2.10	< 0.50	< 1.05	< 0.50	< 0.50	< 0.50	< 0.50	150
EDC (μg/L)	206	586	71.4	< 4.20	< 10.5 / <105	< 42.0 / < 4.20	< 1.00	< 4.20	< 0.50	< 0.50	< 4.20	< 2.10	< 0.50	< 1.05	< 0.50	< 0.50	< 0.50	< 0.50	200
		·	·	-	<del>-</del>	<del>-</del>	·	·		·			-		-	-	·	-	·

Boring Number	K-16	K-17	K-18	K-19	K-20	K-21		K-22	K-23	K-	-24	K-	25	MW-1	MW-2	MW-3	MW-4	MW-5	
Total Boring Depth (feet)	24.0	32.0	38.0	38.0	38.0	40.0		40.0	40.0	40	0.0	40	0.0	25.0	25.0	25.0	25.0	28.0	ESL
Sample Depth (bgs)						18.0	40.0	24.0	30.0	27.0	35.0	28.0	36.0						LSL
Date Sample Collected	3/4/2007	3/4/2007	3/5/2007	3/6/2007	3/6/2007	1/22/2008	1/22/2008	1/22/2008	1/23/2008	1/23/2008	1/23/2008	1/23/2008	1/23/2008	3/19/2007	3/19/2007	3/19/2007	1/31/2008	1/31/2008	
TPH-g (μg/L)	68.3a	24,000	1,240c	33,100b	142e	< 60.0	< 50.0	< 50.0	< 63.0	< 50.0	< 50.0	< 69.0	< 50.0	3,300	38,000	< 50.0	56.0n	55.0n	5,000
TPH-d (μg/L)	< 112	530d	150	370d	< 100	< 123	< 109	< 111	< 116	< 111	< 115	< 130	< 115	390d	940d	< 100	< 100	544p	2,500
TPH-mo (µg/L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,500
Benzene (µg/L)	< 0.50	2,780	2.73	5,170	< 0.50	< 0.595	< 0.50	< 0.50	< 0.63	< 0.50	< 0.50	< 0.69	< 0.50	162	11,600	< 0.50	< 0.50	< 0.50	540
Toluene (μg/L)	< 0.50	150	1.15	235	< 0.50	< 0.595	< 0.50	< 0.50	< 0.63	< 0.50	< 0.50	< 0.69	< 0.50	205	274	< 0.50	< 0.50	< 0.50	400
Ethylbenzene (µg/L)	< 0.50	774	28.8	1,010	< 0.50	< 0.595	< 0.50	< 0.50	< 0.63	< 0.50	< 0.50	< 0.69	< 0.50	60.2	588	< 0.50	< 0.50	< 0.50	300
Xylenes, total (µg/L)	< 1.50	563	14.1	955	< 1.50	< 1.79	< 1.50	< 1.50	< 1.89	< 1.50	< 1.50	< 2.07	< 1.50	351	2,880	< 1.50	< 1.50	< 1.50	5,300
MTBE (μg/L)	1.03	< 0.50	< 0.50	< 4.40	< 0.50	< 0.595	< 0.50	< 0.50	< 0.63	< 0.50	< 0.50	< 0.69	< 0.50	< 1.10	< 4.40	< 0.50	< 0.50	< 0.50	1,800
EDB (µg/L)	< 0.50	< 0.50	< 0.50	< 4.40	< 0.50	NA	< 1.10	< 4.40	< 0.50	NA	NA	150							
EDC (µg/L)	< 0.50	< 0.50	< 0.50	37.8	< 0.50	NA	< 1.10	226	< 0.50	NA	NA	200							

#### Notes:

- a Does not match typical gasoline pattern. TPH value due to presence of non-target compounds within the TPH-g quantitation range.
- b Although TPH-g compounds are present, the reported result is elevated due to the presence of non-target compounds within the TPH-g quantitation range.
- c While TPH-g compounds are present, the pattern does not match typical gasoline pattern. TPH value includes significant amount of non-target compounds.
- d Sample chromatogam does not resemble typical diesel pattern. Lighter end hydrocarbons within the diesel range quantitated as diesel.
- e Does not match typical pattern. TPH value due to presence of non-target compounds within the TPH-g quantitation range (light end).
- f Sample chromatogram does not resemble typical diesel pattern (discrete peaks). Unidentified hydrocarbon peaks within the diesel range quantitated as diesel.
- g Sample chromatogram does not resemble typical diesel pattern. Diesel result is carry over from TPH as motor oil quantitation range. Hydrocarbons and hydrocarbon peak within the diesel range quantitated as diesel.
- h Not typical gasoline. TPH value does not include typical gasoline compounds.
- j Although TPH-g compounds are present, the reported value is elevated due to significant amount of heavy end hydrocarbons not typical of gasoline but within the TPH-g quantitation range.
- k Two fuels present. The first fuel is lighter than diesel. The second is heavier than diesel but lighter than motor oil. Hydrocarbons within the diesel range quantitated as diesel.
- m Not typical gasoline. TPH value does not include any target compounds.
- n Does not match typical gasoline pattern. Reported values are the result of presence of non-gasoline compounds within the gasoline quantitation range.
- p Sample chromatogram does not resemble typical diesel pattern. Hydrocarbons within the diesel range quantitated as diesel.
- \* ESL Environmental Screening Levels from San Francisco Regional Water Quality Control Board, November 2007,

Table D. Deep Soils (> 3 meters bgs), Groundwater is NOT a current or potential source of drinking water.

Bold: Reported concentration exceeds respective ESL

#### Acronyms

EDB 1,2 Dibromoethane
EDC 1,2 Dichloroethane

ESL Environmental Screening Level

mg/L Milligrams per Liter
MTBE Methyl tert butyl ether
bgs below ground surface

NA Not Analyzed

TPH-g Total Petroleum Hydrocarbons - gasoline
TPH-d Total Petroleum Hydrocarbons - diesel
TPH-mo Total Petroleum Hydrocarbons - motor oil

μg/L Micrograms per Liter

# APPENDIX A PERMITS

CITY OF OAKLAND . Community and Economic Development Agency

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

Applications for which no permit is issued within 180 days shall expire by limitation.

Appl# X0800066

Job Site

700 INDEPENDENT RD

Parcel# 041 -3910-013-00

Permit Issued 01/09/08

Descr Install well per ENMI07331 & two soil borings

encroachment for 1 (one) monitoring well. NOTE: No Creek

Protection permit reqd per E. Manasse, see 201 F24 comments

Work Type EXCAVATION-PRIVATE P

USA #

Accta#:

Owner SPK INDUSTRIATE

Contractor RESONANTSONIC Arch/Engr

Agent KLEINFELDER/ GABRI

540)628

Applic Addr 220 N EAST ST

TOTAL FEES PAID AT ISSUANCE

\$63.00 Applic

\$300.00 Permit

\$.00 Process

\$34.49 Rec Mgm

\$.00 Gen Plan

\$.00 Invstg

\$.00 Other

\$19.06 Tech Enh

JOB SITE



นักแค้งที่เก็บ เมษาก ประเทศสมาช (1855)

# EXCAVATION PERMIT

IO EXCANATIN STREETS OF CRIMEROSPECTRED WORLDS

CIVIL ENGINEEUWG

PAGE 2 of 2

. Peraid calls for de days may, dave so tregames:

PERMIT PURISHED X 0 8 00066
1 1994. 17 19 Б. У. 1. 1990. 1990. 1997. 1990. 1993. 1990. 1993. 1990.
СПОТО ПОВИТЕЛЬНИЕ СЕДЕ.  #802334 - C57A ***
- Lie we reduce the angendance of Andersonic Server viscous volumed which techniques the permit single for these importances the server of the
District Hold in the land manner from the Contractor's Lienes Lay for the following reason (Sec. 703); business and Procession (Lot), and goes and processing the processing of the Contractor's Lienes Lay for the instance, and reduced the applicant for such permits to first angles and processing the interested pursuant of the Contractor's Lienes for Contractor's Lienes for Contractor's Lienes for Contractor's Lienes for permits and applicant for a permit subject in applicant of the Contractor's Lienes for Contractor's Lienes for permits and applicant for a permit subject in a process and processions Lods for the first for such applicant for a permit subject in a process and processions Lods for the first for such applicant for a permit subject in a process and processions Lods for Contractor's Lieness Lay does not apply to the processions and interest for such lay apply to the processions and interest for such lay apply to the property and example for the contractor's apply for the purpose of such applying the first of the purpose for the purpose of the property and example for the lay monity permits and processions and processions in the contractor's lay requirements of the subject of the purpose of the property and example for the lay monity permits and the cost during any three-year period (Sec. 704) for monity period (Sec. 704). Such and processions and processions codes. The Contractor's Lieness Lay does not apply to a contract of property who build to improve, thereof, and who contracts for such projects and processions and processions.  BAPC for this reason.  BAPC for this reason.
WORITE'S COMPENSATION  Discreby affirm that I have a certificate of consens to self-insure, or a certificate of Worle's Compensation Insurance, or a certified copy thereof (Sec. 2702, Labor Code).  Policy # Company Name  I territy that in the performance, of the world for which this permit is assued, I shall not employ any person in any meaner as at to become subject to the Worker's Compensation Language of California (not required for world valued at one hundred dollars (\$100) or Jess).
NOTICE TO APPLICANT. If, after making this Cemificate of Examption, you should become subject to the Worker's Compensation provisions of the Labor Code, you must forfiswith comply with such provisions of this permit shall be deeped revolved. This permit is issued pursuant to all provisions of Tab. If Chapter 12.12 of the Outland Municipal Code. If it permits open to express condition than the permits shall be responsible for all chains and implicitly arising out of work performed under the permit of arising out of permitters to permit to obtain the international contents. The permitters and is acceptance of the permit agrees to detect, indemnify, save-and hold harmless the City, in officers and against any and all suits, twims, or solicins throught by person for or, a account of any holdly injuried, disease or tiless or damage to person and or properly sustained or unising in the construction of the work performed under the permit or in consequence of permitters of Planning and Pullding.
Thereby affirm that I am licensed under provisions of Chapter 9 of Division 3 of the Business and Professions Code and my License it in full force and effect (if contractor), that I have read this permit and agree to its requirements, and that the above information is true-and correct under penalty of law:    O
RESURFACED REQUIRED DAES SONO (NOVI-SANS) DYES DING STAN-SAN GARDADED DAES DING

#### CITY OF OAKLAND . Community and Economic Development Agency

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

Applications for which no permit is issued within 180 days shall expire by limitation.

Job Site

700 INDEPENDENT RD

Parcel# 041 -3910-013-00

Appl# ENMI07331

Descr encroachment for 1 (one) monitoring well.

Filed 12/11/07

.cense Classes--

ISSUANCE

Insurance Required? YES Carrier

Expires

Owner SPK INDUSTRIAL PORTFOLIO III

Contractor

Arch/Engr

Agent GABRIEL FUSQ

Applic Addr 1970 BROADWAY STE 710, OAKLAND CA, 94612

\$974.23 TOTAL FEES PAID AT EFLING

\$63.00 Applic

\$786.00 Process

\$.00 Gen Plan

\$.00 Gen Plan \$.00 Other \$ 00 Permi

\$80.66 Rec Mgmt \$.00 Invstq

\$44.57 Tech Enh

JOB SITE

ADDRESS:

Ė



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

Application Approved on: 12/24/2007 By suel

Permit Numbers: W2007-1242

Permits Valid from 01/09/2008 to 01/11/2008

Application Id:

1197329061219

Site Location:

700 Independent Road, Oakland, CA 94621

City of Project Site: Oakland

- 2 borings on Independent Rd right-of-way, 3 ft south of the north curb, appr. 335 to 400 ft from

Coliseum Wav.

3 borings on 700 Independent Rd property

**Project Start Date:** 

01/09/2008

Completion Date:01/11/2008

Applicant:

Kleinfelder - Gabriel Fuson

Phone: 510-628-9000

**Property Owner:** 

1970 Broadway, Suite 710, Oakland, CA 94612 Office Properties-Industrial Portfolio, LLC Equity

Office Properties-Industrial Portfolio, LLC

Phone: 408-346-4000

1740 Technology Drive, Suite 150, San Jose, CA 95110

\*\* same as Property Owner \*\*

Phone: 510-628-9000

Client: Contact:

Charlie Almestad

Cell: 925-876-9030

Total Due:

**Total Amount Paid:** 

\$200.00

Receipt Number: WR2007-0558

\$200.00

Payer Name: Kleinfelder Oakland

Paid By: MC

**PAID IN FULL** 

### Works Requesting Permits:

Borehole(s) for Investigation-Contamination Study - 5 Boreholes

Driller: Resonant Sonic International - Lic #: 802334 - Method: DP

Work Total: \$200.00

#### **Specifications**

Permit Issued Dt Expire Dt Hole Diam Max Depth Number **Boreholes** W2007-12/24/2007 04/08/2008 2.00 in. 40.00 ft

1242

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

- 1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.
- 2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.
- 3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to. properly damage, personal injury and wrongful death.
- 4. Applicant shall contact 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.

- 5. 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.
- 6. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.
- 7. Prior to any drilling activities onto any public rights-of-way, it shall be the applicant's responsibilities to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicant's responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.



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

Application Approved on: 12/24/2007 By suel

Permit Numbers: W2007-1243 to W2007-1244

Permits Valid from 01/09/2008 to 01/11/2008

Application Id:

1197332495159

Site Location:

700 Independent Road, Oakland, CA 94621

City of Project Site: Oakland

- 1 well location on Independent Rd right-of-way, 3 ft south of north curb, 335 to 400 ft from

Coliseum Wav

1 well location on 700 Independent Rd property

**Project Start Date:** 

01/09/2008

Completion Date:01/11/2008

Applicant:

Kleinfelder - Gabriel Fuson

Phone: 510-628-9000

**Property Owner:** 

1970 Broadway, Suite 710, Oakland, CA 94612 Equity Office Properties-Industrial Portfolio, LLC

Phone: 408-346-4000

Equity Office Properties-Industrial Portfolio, LLC

Client: Contact: 1740 Technology Drive, Suite 150, CA 95110 \*\* same as Property Owner \*\*

Charlie Almestad

Phone: 510-628-9000

Cell: 925-876-9030

**Total Due:** 

\$600.00

Receipt Number: WR2007-0559 Payer Name : Kleinfelder Oakland

**Total Amount Paid:** Paid By: MC

\$600.00 PAID IN FULL

Works Requesting Permits:

Well Construction-Monitoring-Monitoring - 2 Wells

Driller: Resonant Sonic International - Lic #: 802334 - Method: other

Work Total: \$600.00

#### **Specifications**

Permit #	Issued Date	Expire Date	Owner Well	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2007- 1243	12/24/2007	04/08/2008	MW-4	8.00 in.	2.00 in.	13.00 ft	25.00 ft
W2007- 1244	12/24/2007	04/08/2008	MW-5	8.00 in.	2.00 in.	13.00 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. Permitte, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled. properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no 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.
- 11. Prior to any drilling activities onto any public rights-of-way, it shall be the applicant's responsibilities to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicant's responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

# APPENDIX B SOIL BORING AND MONITORING WELL BORING LOGS

Date	e Complete	ed:_'	1/22/08				Drilling method: Direct Push	- Dual Tube probe 9630 PRO-D	
Log	ged By:	_,	J. Willia	ams			RSI Drilling	probe 9630 PRO-D	
			40.0 ft				Hammer Wt: None		
I Ota	al Depth:		40.0 IL				Notes:		
et)		/be	±	(%)	(1				
ι (fee	ole oer	le T	3/Foc	very	(ppr				
Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) PID/FID	nscs	Description	Domonico	M II O ( )
	0, 2	10)				20,000,000	ASPHALT- 4 inches thick	Remarks	Well Construction
1 -							FINE SAND with CLAY and GRAVEL (SP)-		-
2 -						77777	dark yellowish-brown (10YR 4/6), moist, loose,		-
3 -							CLAY (CL) - very dark gray (2.5Y 3/1), moist,		_
	K-21-4	V		75	0.4		soft		
4 -		$\square$					- blue mottles		-
5 —									_
6 -		$ \chi $					ORGANIC CLAY (OL) - very dark gray, wet,	-	-
7 -		$   \rangle   $				1/1 1/4	very soft, contains organic material		-
8 -	K-21-8	$\square$		50	0.3		CLAY (CL) aline area (EV 4/2) resist coff		-
9 -		$\mathbb{N}$					CLAY (CL) - olive-gray (5Y 4/2), moist, soft		_
		V							
10		$ \Lambda $							
11 -	14 04 40	$\ \cdot\ $		400	0.0				-
12 -	K-21-12	H		100	0.2		SANDY CLAY (CL) - light olive-brown (2.5Y	-	-
13 -		$\mathbb{N}$					5/4), moist, soft	-	-
14 -							CLAY (CH) - light olive-brown (2.5Y 5/4), moist, medium stiff		-
15 —							most, modam our		_
16 -	K-21-16			100	0.4				_
		$\backslash /$							
17 -		$  \rangle  $							-
18 -		$ \lambda $					MEDIUM SAND with CLAY (SW)- olive-brown	<u>V</u> K-21-GW-18	-
19 -						• •	(2.5Y 4/4), wet, loose, well graded		-
20	K-21-20	$\vdash$		75	0.6				_
21 -							COARSE SAND (SW) - olive-brown (2.5Y 4/4),	1	-
22 -		V					saturated, loose, well graded		_
		$ \Lambda $							
23 -	K-21-24	$  \rangle  $		63					-
24 -		$\square$							-
25 —		VΝ							
							LOG OF BORING NO	D. K-21	PLATE

EOP - INDEPENDENT ROAD 700 INDEPENDENT ROAD

OAKLAND, CALIFORNIA

L:\2008\08PROJECTS\54504\54504-5A.GPJ

PROJECT NO.

54504-5A

2/21/2008 8:31:15 AM

Date Completed: 1/22/08		Drilling method:	Direct Push - Dual Tube  AMS Powerprobe 9630 PRO-D	
Logged By: J. Willia	ams		RSI Drilling None	
Total Depth: 40.0 ft		Hammer Wt: Notes:	None	
Depth (feet) Sample Number Sample Type	Recovery (%) OVA (ppm) PID/FID USCS	escription	Remarks	Well Construction
26 - 27 - 28	100 0.9 - sample liner of CLAY (CL) - bit CLAY (CL) - bit soft SAND with CL (10YR 4/6), lo CLAY (CL) - oil CLAY (CL) - oil loose, poorly of loose, poorly of the control of	racked  rown (10YR 5/3), moistrown (10YR 5/3), sature and sature a	st, stiff  irated, very ish-brown aded wet, stiff	
	FELDER	EOP - INDEPENDENTO OAKLAND, CALIFO	ROAD	PLATE (cont'd)

L:\2008\08PROJECTS\54504\54504-5A.GPJ

Date	e Complete	ed:_1	/22/08				Drilling method: Direct Po		
Logg	ged By:		J. Willia	ams			AMS POURSI DE LE CONTROL DE LE	verprobe 9630 PRO- ing	<u>D</u>
	al Depth:	4	10.0 ft				Hammer Wt: None Notes:		
1018	и Берии.								
Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) PID/FID	nscs	Description	Remarks	Well Construction
		1/					ASPHALT- 4 inches thick	_	Traffic - rated well box
1 -		$ \cdot $					SAND (SP) - light olive-brown (2.5Y 5/6), dry, loose, poorly graded		-
2 -							CLAY with GRAVEL (CL)- dark olive-gray (5Y		
3 -		/					3/2), moist, soft	$\int$	= = = = = = = = = = = = = = = = = = =
4 -	K-22-4			75	0.6		FINE SAND (SP) - very dark grayish-green		<u> </u>
-		1					(5G 2.5/2), moist, loose, poorly graded  CLAY (CL) - very dark greenish-gray (5G 3/1),	_/	FI F
5 —		V					moist, soft		Blank 2" SCH40 PVC—
6 -		$ \lambda $					- concrete fragment		
7 -							ORGANIC CLAY (OL) - black, wet, very soft		Neat Cement Grout
8 -	K-22-8	$\vdash$		75	0.9		FAT CLAY (CH) - dark olive gray (5Y 3/2),		-
9 -		$\Lambda / I$					moist, soft		-
10		V							<u> </u>
		$ \Lambda $							
11 -	K-22-12	V		100	0.7				-
12 -	11-22-12	$\square$		100	0.7		CLAY (CL) - olive-brown (2.5Y 4/4), moist,		-
13 -		V					medium stiff		Bentonite Chips
14 -		$ \Lambda $							-
15 —	K-22-15			83	0.7		CLAY with CAND (CL) brown (40VD 5/2)		#— #3 Sand
16 -		$\mathbb{N}/\mathbb{I}$					CLAY with SAND (CL) - brown (10YR 5/3), moist, medium stiff		
17 -	K-22-18			100	0.7				
18 -	11 22-10	$\square$		100	0.1				- The state of the
19 -		V					MEDIUM SAND (SW) - dark yellowish-brown	$\overline{\Box}$	
20—							(10YR 4/4), saturated, loose, well graded		Screened 2" 0.020 Slot SCH40 PVC
21 -	K-22-21	$\square$		83	0.8		COARSE SAND (SW) - brown (10YR 4/3),		-
22 -		$\mathbb{N}/\mathbb{I}$				• •	saturated, loose, well graded		(A) -
23 -		X				• •			
	K-22-24			67	0.8				
24 -		$\square$		"	0.0			K-22-GW-24	- -
25 —		νV		<u>                                       </u>					
									1
							LOG OF BORING	NO. K-22	PLATE
		_							

EOP - INDEPENDENT ROAD 700 INDEPENDENT ROAD

OAKLAND, CALIFORNIA

L:\2008\08PROJECTS\54504\54504-5A.GPJ

PROJECT NO.

54504-5A

2/21/2008 8:31:16 AM

Date	e Complete	ed <u>:</u>	1/22/08				Drilling method: Direct Push	- Dual Tube	
Logo	ged By:	_,	J. Willia	ams			AMS Power RSI Drilling	probe 9630 PRO-D	<u>)                                    </u>
			40 O #4				Hammer Wt: None		
l ota	al Depth:		40.0 ft				Notes:		
ıt)		ф	<b>±</b>	(%)					
ee) ເ	er Ser	le T	3/F00	very	OI:	,,			
Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) PID/FID	nscs	Description	Remarks	Well Construction
		M					FINE SAND with FINES (SP)- light	romano	Woll Collection
26	_K-22-26	$\Theta$		100	0.8		olive-brown (2.5Y 5/6), saturated, loose, poorly		-
27	-	$ \cdot $					graded		
28	_	$ \lambda $					SAND with CLAY (SC) - light olive-brown		
29	K-22-29	V		87	0.9		(2.5Y 5/4), saturated, loose, poorly graded		
30-		$ \chi $					- coarse sand lens		
31	-	$   \rangle   $		100	0.9				-
32	_K-22-32	$\forall$		100	0.9				-
33	-	V					CLAY (CH) - light olive-brown (2.5Y 5/4), wet, stiff (expansive)		-
34	-	$ \Lambda $							-
35 -	_K-22-35	$\square$		100	0.8				_
36	_	V					FAT CLAY (CH) - olive-brown (2.5Y 4/3),		
37	_K-22-37			100	0.9		moist, hard (expansive)		
38	_	$\mathbb{N}$							
		X							
39	- K-22-40	$\mathbb{N}$		100	0.9				-
40-					0.0		Boring terminated at 40 feet below ground		_
41	_						surface. Backfilled with neat cement.		-
42	-						Set well MW-4 using 8" hollow stem auger on		
43	_						1/24/08.		
44	_								-
45 -	_								_
46	_								
47	_								
48	_								_
49	-								-
50		1 1		<u>ı                                      </u>		1		l	
							100 05 000000	2 1/ 22	T <b>-</b>
							LOG OF BORING NO	J. K-22	PLATE

EOP - INDEPENDENT ROAD 700 INDEPENDENT ROAD OAKLAND, CALIFORNIA

(cont'd)

2/21/2008 8:31:16 AM

Date	Complete	ed:	1/23/08					t Push - Dual Tube	
100	and Dur		J. Willia	ame			RSI D	Powerprobe 9630 PRO-	<u>U</u>
Logi	ged By:	_	<b></b>	u1110			Hammer Wt: None	ı illing	
Tota	l Depth:	_4	40.0 ft				Notes:		
_		ا يو		(%)					
eet)		\Z	oot	у (%	(mc				
th (f	iple iber	ble	Blows/Foot	ove	V (pr	က္			
Depth (feet)	Sample Number	Sample Type	Blov	Recovery (%)	OVA (ppm) PID/FID	nscs	Description	Remarks	Well Construction
							ASPHALT- 4 inches thick	Terrano	Well Collstituction
1 -		$\Lambda / I$				00	SANDY GRAVEL (GW) - light olive-brown		_
		V				000	(2.5Y 5/3), dry, loose, well graded		
2 -		$ \lambda $					SILTY CLAY (CL) - very dark gray (2.5Y 3/1	),	-
3 -		/					moist, soft		-
4 -	K-23-4			50	0.0				
7		\ /				111111	ORGANIC CLAY (OL) - dark olive brown (2.5)	5Y	
5 —						H <u>.</u>	3/3), wet, soft, organic material		_
6 -									
		$ \Lambda $				HJH			
7 -							SANDY CLAY (CL) - very dark gray (2.5Y 3/	<b>/1)</b> ,	-
8 -	K-23-8	$\square$		50	0.0		moist, soft		-
9 -		1 /							
9 ]		$  \rangle /  $							
10									
11 -		/							
	K-23-12	$V \setminus V$		100	0.0		SANDY CLAY (CL) - olive-brown (2.5Y 4/4),		
12 -		$\square$			0.0		moist, medium stiff		-
13 -									-
14 -		111							
		$ \Lambda $							
15 —		$   \rangle \langle   $					CLAY with SAND (CH) - yellowish-brown		_
16 -	K-23-16	Ш		100	0.0		(10YR 5/4), moist, stiff		-
1.7		1/							
17 -							- increasing sand content		
18 -							COARSE SAND with fines (SW)- dark		-
19 -		$ /\rangle $				• • •	yellowish-brown (10YR 4/4), wet, loose, we	ell	_
	K-23-20	$V \setminus V$		100	0.0		graded		
20-	1 20 20	$\square$		100	0.0		SANDY CLAY (CL) - light olive-brown (2.5Y		_
21 -		$ \cdot $					5/4), moist, soft, with oxidation		
22							CLAYEY SAND (SC) - light olive-brown (2.5)	Υ	
22 -	K 00 00			100			5/4), wet, loose, poorly graded		
23 -	K-23-23	$\mid \mid \mid$		100	0.0		FINE SAND with CLAY (SP) - light olive-brow	wn	-
24 -		$ \chi $					(2.5Y 5/4), wet, loose, poorly graded		
		$   \rangle   $		100	0.0	////	- increasing gravel content		
25 —		, 1		, .50	, 5.5	<u> </u>		I	

KLEINFELDER

PROJECT NO. 54504-5A

LOG OF BORING NO. K-23

PLATE

EOP - INDEPENDENT ROAD 700 INDEPENDENT ROAD OAKLAND, CALIFORNIA

Date Completed: 1/23/08							Drilling method: Direct Push - I	Dual Tube obe 9630 PRO-D	
Log	ged By:	_	J. Willi	ams			RSI Drilling	ODE 9630 PRO-D	
Tota	al Depth:		40.0 ft				Hammer Wt: None Notes:		
	-								
Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) PID/FID	nscs	Description	Remarks We	ell Construction
26 27 28 29 30— 31 32 33 34 35 - 36 37 38 39 40— 41 42 43 44 45 - 46 47 48	- K-23-27 - K-23-30 - K-23-33	8		100 100 100 100	0.0	SO OF THE PROPERTY OF THE PROP	SANDY CLAY (CL) - olive-brown (2.5Y 4/4), moist, medium stiff - increasing sand content  MEDIUM SAND with FINES (SW)- olive-brown (2.5Y 4/4), saturated, loose, well graded  SANDY CLAY (CL) - olive-brown (2.5Y 4/4), moist, stiff	Remarks We	ell Construction
49	_								-
50-	<u> </u>	ı	l .	<u>r l</u>		1		I	
							LOG OF BORING NO.	K 22	DIATE
							LOG OF BURING NO.	. N-23	PLATE
			<b>I</b>	-			3 E D		

EOP - INDEPENDENT ROAD 700 INDEPENDENT ROAD

OAKLAND, CALIFORNIA

L:\2008\08PROJECTS\54504\54504-5A.GPJ

PROJECT NO.

54504-5A

2/21/2008 8:31:16 AM

(cont'd)

Date Completed: 1/23/08				Drilling method: Direct Push - Dual Tube AMS Powerprobe 9630 PRO-D					
Logg	ged By:	_	J. Willia	ams			RSI Drilling	100e 9030 FRO-1	,
			1005				Hammer Wt: None		
Tota	al Depth:		40.0 ft				Notes:		
Depth (feet)	ole oer	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) PID/FID				
Dept	Sample Number	Samp	Blows	Reco	OVA PID/F	nscs	Description	Remarks	Well Construction
		I					ASPHALT- 4 inches thick	rtomanto	vvcii Construction
1 - 2 -							GRAVELLY SAND (SW) - dark  yellowish-brown (10YR 4/4), moist, loose, well graded		
3 -	K-24-4			50	0.0		CLAY (CL) - grayish green (5G 4/2), moist, stiff		
5 — 6 -							CLAY with SAND (CL) - very dark greenish-gray (5G 3/1), moist, soft		-
7 - 8 -	K-24-8			100	0.0	***	ORGANIC CLAY (OL) - black, moist, soft, organic material		
9 -							CLAY (CL) - olive-gray (5Y 4/2), moist, soft		_
11 -	K-24-12			100	0.0		SANDY CLAY (CL) - dark greenish-gray (10GY 4/1), moist, medium stiff		
13 - 14 -		A		100	0.0		CLAY (CL) - olive-brown (2.5Y 4/4), moist, stiff		
15 — 16 -	K-24-16	A		100	0.0		SANDY CLAY (CL) - olive-brown (2.5Y 4/4), moist, soft		-
17 - 18 -									
19 -	K-24-20	$\left\langle \cdot \right\rangle$		63	0.0	<u></u>	MEDIUM SAND with GRAVEL (SW)- yellowish-brown (10YR 5/6), wet, loose, well graded		_
21 - 22 -		X					SANDY CLAY (CL) - yellowish-brown (10YR 5/6), moist, medium soft		
23	K-24-23			100	0.0		SAND with CLAY (SC) - yellowish-brown (10YR 5/6), moist, loose, poorly graded		
24 -							MEDIUM SAND (SP) - yellowish-brown (10YR 5/4), saturated, loose, poorly graded	$ \nabla$	
25 —							LOC OF BODING NO		

KLEINFELDER

PROJECT NO. 54504-5A

LOG OF BOKING NO. K-2-

PLATE

EOP - INDEPENDENT ROAD 700 INDEPENDENT ROAD OAKLAND, CALIFORNIA

Date Completed: 1/23/08						Drilling method: Direct Pu	Drilling method: Direct Push - Dual Tube AMS Powerprobe 9630 PRO-D				
Logg	ged By:	_,	J. Willia	ams			RSI Drillii				
Tota	al Depth:	4	40.0 ft				Hammer Wt: None Notes:				
7010	Ворин.										
Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) PID/FID	nscs	Description	Remarks	Well Construction		
26		M									
26 27	_ _K-24-27	A		87	0.1			K-24-GW-27	-		
28	-	V					COADOS CAND (OM)		-		
29 30—	- _K-24-30			100	0.0		COARSE SAND (SW) - yellowish-brown (10YR 5/8), saturated, loose, well graded				
31	_	$\mathbb{N}$				000	GRAVEL (GW) - yellowish-brown (10YR 5/4),				
32	_	V				000	saturated, loose, well graded		-		
33	_						SANDY CLAY with GRAVEL (CL)- light		-		
34	_K-24-34			87	0.0		olive-brown (2.5Y 5/4), wet, soft		-		
35 -	_	$\mathbb{N}$					<b>FINE SAND (SP)</b> - light olive-brown (2.5Y 5/4), saturated, loose, poorly graded	K-24-GW-35	_		
36	_	$ \lambda $						10-24-GW-55	-		
37	-	$\square$		67	0.0	///	CLAY (CH) - light olive-brown (2.5Y 5/4),		-		
38	_	M					moist, stiff		-		
39	-	$ \Lambda $							-		
40	K-24-40	Н		100	0.0		Boring terminated at 40 feet below ground				
41	-						surface. Backfilled with neat cement.		-		
42	-						Backilled with fleat certient.		-		
43	_								-		
44	_								-		
45 -	_								_		
46	_								-		
47	-								-		
48	-								-		
49	_								-		
50	_										
							LOG OF BORING	I∩ K-24	PLATE		

EOP - INDEPENDENT ROAD 700 INDEPENDENT ROAD OAKLAND, CALIFORNIA

(cont'd)

2/21/2008 8:31:17 AM

Date Completed: 1/23/08							Drilling method:Direct Push - Dual TubeAMS Powerprobe 9630 PRO-D			
Loca	ged By:		J. Willia	ams			AMS Powers RSI Drilling	orobe 9630 PRO-I	)	
Logi	you by.						Hammer Wt: None			
Tota	al Depth:	_4	40.0 ft				Notes:			
		П								
		(n)		<u></u>						
eet)		Sample Type	oot	Recovery (%)	(mc					
Depth (feet)	Sample Number	nple	Blows/Foot	ove	OVA (ppm) PID/FID	တ္သ				
Dep	Sar Nur	Sar	Blo	Rec	OV, PID	USCS	Description	Remarks	Well Construction	
							ASPHALT- 4 inches thick		Traffic rated well box	
1 -		$   \rangle /  $					GRAVELLY CLAY (CL) - olive-brown (2.5Y		-	
2 -							4/3), moist, stiff	-	<u> </u>	
3 -		$ /\rangle $				• • •	GRAVELLY SAND with FINES (SW)- very dark gray (2.5Y 3/1), moist, loose, well graded			
	K-25-4	$V \setminus V$		75	0.0	,,,,,	CLAY (CL) - very dark greenish-gray (10Y	-		
4 -	11-25-4	$\square$		75	0.0		3/1), moist, medium soft		- H	
5 —		/							Blank 2" SCH40 PVC—	
6 -							CLAY (CL) - very dark gray (2.5Y 3/1), wet,			
7		$ \Lambda $					soft			
7 -	K-25-8	$  \rangle   \rangle$		75	0.0		- slight hydrocarbon odor	_		
8 -	N-20-0	$\square$		/5	0.0	$\prod_{i}$	ORGANIC CLAY (OL) - black, moist, soft		TITITITITITITITITITITITITITITITITITITI	
9 -		/					CLAY (CL) - dark greenish-gray (10GY 4/1),		<u> </u>	
10							moist, soft			
		$ \Lambda $								
11 -	K 05 40			400					-	
12 -	K-25-12	$\vdash$		100	0.0				-	
13 -		$\Lambda / I$							-	
14 -		111								
		$ \Lambda $					CLAY (CL) - brown (10YR 4/3), moist, medium	_		
15 —							stiff		- H	
16 -	K-25-16	$\left( \cdot \right)$		100	0.0				-	
17 -		$\Lambda / I$					00 1 DO F 0 1 1 D (0 1 D ) (1 D ) (1 D ) (1 D )	_	Bentonite Chips	
18 -		171				• • •	COARSE SAND (SW) - brown (10YR 4/3), wet, loose, well graded		# # 3 Sand	
		$ \Lambda $					,, ,			
19 -						• • •				
20	K-25-20	(-)		100	0.0	• • •				
21 -		$ \cdot $					CLAY with SAND (CL) - brown (10YR 4/3),			
22 -							moist, medium stiff			
	K-25-23			100	0.0		FINE SAND with FINES (SP) - brown (10YR			
23 -	11-20-20	$\bowtie$			0.0		4/3), moist, loose, poorly graded		Screened 2" 0.020 _ Slot SCH40 PVC	
24 -		$\Theta$		100					<b>周</b>	
25		M								
-										
							LOG OF BORING NO	). K-25	PLATE	

PROJECT NO.

R L E I N F E L D E K

54504-5A

LOG OF BURING NO. K-2

2/21/2008 8:31:17 AM

EOP - INDEPENDENT ROAD 700 INDEPENDENT ROAD OAKLAND, CALIFORNIA

Date	Date Completed: 1/23/08							Drilling method: Direct Push - Dual Tube  AMS Powerprobe 9630 PRO-D				
Log	ged By:	_,	J. Willia	ams			RSI	Drilling				
Tota	al Depth:		40.0 ft				Hammer Wt: Non	10				
	= 0,5											
Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) PID/FID	nscs	Description	Remarks	Well Construction			
41 42 43 44 45 - 46 47 48 49	- _K-25-28 - _K-25-31 - _K-25-34 - _K-25-37 - _K-25-40 - -			100 100 100	0.0 0.0 0.0		MEDIUM SAND with FINES (SW)- light olive-brown (2.5Y 5/6), saturated, loose, graded  SANDY CLAY (CL) - light olive-brown (2.5Y 5/3), saturated, soft  CLAY (CL) - light olive-brown (2.5Y 5/3), saturated, soft  MEDIUM SAND (SW) - light olive-brown (2.5/3), saturated, loose, well graded - increasing clay content  CLAY (CH) - olive-brown (2.5Y 4/4), moist  Boring terminated at 40 feet below ground surface.  Backfilled with neat cement.  Set well MW-5 using 8" hollow stem auger 1/24/08.	well  K-25-GW-28  K-25-GW-36  t, stiff				
50-												
							LOG OF BORIN	IG NO. K-25	PLATE			
			2.		_							
K	LE		N	F	E		DER EOP - INDEPENDENT RO	DAD				

700 INDEPENDENT ROAD

OAKLAND, CALIFORNIA

L:\2008\08PROJECTS\54504\54504-5A.GPJ

PROJECT NO.

54504-5A

2/21/2008 8:31:17 AM

(cont'd)

# APPENDIX C ANALYTICAL LABORATORY REPORTS



February 05, 2008

Charlie Almestad KLEINFELDER 1970 Broadway, Suite 710 Oakland, CA 94612

TEL: (510) 628-9000 FAX (510) 628-9009

RE: 54504

Dear Charlie Almestad:

Order No.: 0801147

Torrent Laboratory, Inc. received 27 samples on 1/22/2008 for the analyses presented in the following report.

All data for associated QC met EPA or laboratory specification(s) except where noted in the case narrative.

Reported data is applicable for only the samples received as part of the order number referenced above.

Torrent Laboratory, Inc, is certified by the State of California, ELAP #1991. If you have any questions regarding these tests results, please feel free to contact the Project Management Team at (408)263-5258;ext: 204.

Sincerely,

Patti Sandroc QA Officer



Torrent Laboratory, Inc.

CLIENT:

KLEINFELDER

Project:

54504

Lab Order:

0801147

**Date:** 05-Feb-08

**CASE NARRATIVE** 

Analytical Comment for TPHDOSG\_W and TPHDOSG\_S, Note: Silica gel clean-up procedures employed on all samples.



# TORRENT LABORATORY, INC.

483 Sinclair Frontage Road • Milpitas, CA • Phone: (408) 263-5258 • Fax: (408) 263-8293

Visit us at www.torrentlab.com email: analysis@torrentlab.com

Report prepared for: Charlie Almestad

KLEINFELDER

**Date Received:** 1/22/2008

**Date Reported:** 2/5/2008

Client Sample ID: K21-8

**Lab Sample ID:** 0801147-002

EOP-700 Independent Rd **Date Prepared:** 1/26/2008

Sample Matrix: SOIL

Sample Location:

**Date/Time Sampled** 1/22/2008 8:58:00 AM

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Percent Moisture	D2216	1/28/2008	0	1	0	27	wt%	R15200
TPH (Diesel)	SW8015B	1/28/2008	2	1	2.75	ND	mg/Kg-dry	R15209
Surr: Pentacosane	SW8015B	1/28/2008	0	1	28-125	93.0	%REC	R15209
Benzene	SW8260B	1/26/2008	5	1	6.9	ND	μg/Kg-dry	P15194
Ethylbenzene	SW8260B	1/26/2008	5	1	6.9	ND	μg/Kg-dry	P15194
Methyl tert-butyl ether (MTBE)	SW8260B	1/26/2008	10	1	14	ND	μg/Kg-dry	P15194
Toluene	SW8260B	1/26/2008	5	1	6.9	ND	μg/Kg-dry	P15194
Xylenes, Total	SW8260B	1/26/2008	15	1	21	ND	μg/Kg-dry	P15194
Surr: 4-Bromofluorobenzene	SW8260B	1/26/2008	0	1	55.8-141	134	%REC	P15194
Surr: Dibromofluoromethane	SW8260B	1/26/2008	0	1	59.8-148	141	%REC	P15194
Surr: Toluene-d8	SW8260B	1/26/2008	0	1	55.2-133	100	%REC	P15194
TPH (Gasoline)	SW8260B(TPH)	1/26/2008	100	1	140	ND	μg/Kg-dry	G15194
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	1/26/2008	0	1	56.9-133	28 S	%REC	G15194

**KLEINFELDER** 

**Date Received:** 1/22/2008 **Date Reported:** 2/5/2008

Client Sample ID: K21-20

EOP-700 Independent Rd

Sample Matrix:

**Sample Location:** 

SOIL

**Date/Time Sampled** 1/22/2008 9:31:00 AM

**Lab Sample ID:** 0801147-005 **Date Prepared:** 1/26/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Percent Moisture	D2216	1/28/2008	0	1	0	12	wt%	R15200
TPH (Diesel)	SW8015B	1/28/2008	2	1	2.26	ND	mg/Kg-dry	R15209
Surr: Pentacosane	SW8015B	1/28/2008	0	1	28-125	90.2	%REC	R15209
Benzene	SW8260B	1/26/2008	5	1	5.7	ND	μg/Kg-dry	P15194
Ethylbenzene	SW8260B	1/26/2008	5	1	5.7	ND	μg/Kg-dry	P15194
Methyl tert-butyl ether (MTBE)	SW8260B	1/26/2008	10	1	11	ND	μg/Kg-dry	P15194
Toluene	SW8260B	1/26/2008	5	1	5.7	ND	μg/Kg-dry	P15194
Xylenes, Total	SW8260B	1/26/2008	15	1	17	ND	μg/Kg-dry	P15194
Surr: 4-Bromofluorobenzene	SW8260B	1/26/2008	0	1	55.8-141	118	%REC	P15194
Surr: Dibromofluoromethane	SW8260B	1/26/2008	0	1	59.8-148	138	%REC	P15194
Surr: Toluene-d8	SW8260B	1/26/2008	0	1	55.2-133	126	%REC	P15194
TPH (Gasoline)	SW8260B(TPH)	1/26/2008	100	1	110	ND	μg/Kg-dry	G15194
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	1/26/2008	0	1	56.9-133	54 S	%REC	G15194

**KLEINFELDER** 

**Date Received:** 1/22/2008 **Date Reported:** 2/5/2008

Client Sample ID: K21-31

**Lab Sample ID:** 0801147-008

**Sample Location:** EOP-700 Independent Rd

**Date Prepared:** 1/26/2008

Sample Matrix: SOIL

**Date/Time Sampled** 1/22/2008 10:44:00 AM

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Percent Moisture	D2216	1/28/2008	0	1	0	24	wt%	R15200
TPH (Diesel)	SW8015B	1/28/2008	2	1	2.65	ND	mg/Kg-dry	R15209
Surr: Pentacosane	SW8015B	1/28/2008	0	1	28-125	91.0	%REC	R15209
Benzene	SW8260B	1/26/2008	5	1	6.6	ND	μg/Kg-dry	P15194
Ethylbenzene	SW8260B	1/26/2008	5	1	6.6	ND	μg/Kg-dry	P15194
Methyl tert-butyl ether (MTBE)	SW8260B	1/26/2008	10	1	13	ND	μg/Kg-dry	P15194
Toluene	SW8260B	1/26/2008	5	1	6.6	ND	μg/Kg-dry	P15194
Xylenes, Total	SW8260B	1/26/2008	15	1	20	ND	μg/Kg-dry	P15194
Surr: 4-Bromofluorobenzene	SW8260B	1/26/2008	0	1	55.8-141	132	%REC	P15194
Surr: Dibromofluoromethane	SW8260B	1/26/2008	0	1	59.8-148	140	%REC	P15194
Surr: Toluene-d8	SW8260B	1/26/2008	0	1	55.2-133	119	%REC	P15194
TPH (Gasoline)	SW8260B(TPH)	1/26/2008	100	1	130	ND	μg/Kg-dry	G15194
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	1/26/2008	0	1	56.9-133	28 S	%REC	G15194

**KLEINFELDER** 

**Date Received:** 1/22/2008 **Date Reported:** 2/5/2008

Client Sample ID: K22-8

EOP-700 Independent Rd

Sample Matrix: SOIL

**Sample Location:** 

**Date/Time Sampled** 1/22/2008 12:48:00 PM

**Lab Sample ID:** 0801147-013

**Date Prepared:** 1/26/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Percent Moisture	D2216	1/28/2008	0	1	0	18	wt%	R15200
TPH (Diesel)	SW8015B	1/28/2008	2	1	2.45	ND	mg/Kg-dry	R15209
Surr: Pentacosane	SW8015B	1/28/2008	0	1	28-125	90.9	%REC	R15209
Benzene	SW8260B	1/26/2008	5	1	6.1	ND	μg/Kg-dry	P15194
Ethylbenzene	SW8260B	1/26/2008	5	1	6.1	ND	μg/Kg-dry	P15194
Methyl tert-butyl ether (MTBE)	SW8260B	1/26/2008	10	1	12	ND	μg/Kg-dry	P15194
Toluene	SW8260B	1/26/2008	5	1	6.1	ND	μg/Kg-dry	P15194
Xylenes, Total	SW8260B	1/26/2008	15	1	18	ND	μg/Kg-dry	P15194
Surr: 4-Bromofluorobenzene	SW8260B	1/26/2008	0	1	55.8-141	132	%REC	P15194
Surr: Dibromofluoromethane	SW8260B	1/26/2008	0	1	59.8-148	133	%REC	P15194
Surr: Toluene-d8	SW8260B	1/26/2008	0	1	55.2-133	106	%REC	P15194
TPH (Gasoline)	SW8260B(TPH)	1/26/2008	100	1	120	ND	μg/Kg-dry	G15194
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	1/26/2008	0	1	56.9-133	12 S	%REC	G15194

**KLEINFELDER** 

**Date Received:** 1/22/2008

R Date Reported: 2/5/2008

Client Sample ID: K22-21

EOP-700 Independent Rd

Sample Matrix: SOIL

**Sample Location:** 

**Date/Time Sampled** 1/22/2008 1:36:00 PM

**Lab Sample ID:** 0801147-017 **Date Prepared:** 2/3/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Percent Moisture	D2216	1/28/2008	0	1	0	17	wt%	R15200
TPH (Diesel)	SW8015B	1/28/2008	2	1	2.41	ND	mg/Kg-dry	R15209
Surr: Pentacosane	SW8015B	1/28/2008	0	1	28-125	94.3	%REC	R15209
Benzene	SW8260B	2/3/2008	5	1	6.0	ND	μg/Kg-dry	R15274
Ethylbenzene	SW8260B	2/3/2008	5	1	6.0	ND	μg/Kg-dry	R15274
Methyl tert-butyl ether (MTBE)	SW8260B	2/3/2008	10	1	12	ND	μg/Kg-dry	R15274
Toluene	SW8260B	2/3/2008	5	1	6.0	ND	μg/Kg-dry	R15274
Xylenes, Total	SW8260B	2/3/2008	15	1	18	ND	μg/Kg-dry	R15274
Surr: 4-Bromofluorobenzene	SW8260B	2/3/2008	0	1	55.8-141	103	%REC	R15274
Surr: Dibromofluoromethane	SW8260B	2/3/2008	0	1	59.8-148	95.7	%REC	R15274
Surr: Toluene-d8	SW8260B	2/3/2008	0	1	55.2-133	95.4	%REC	R15274
TPH (Gasoline)	SW8260B(TPH)	2/3/2008	100	1	120	ND	μg/Kg-dry	G15274
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	2/3/2008	0	1	56.9-133	75.0	%REC	G15274

**KLEINFELDER** 

**Date Received:** 1/22/2008 **Date Reported:** 2/5/2008

**Client Sample ID:** K22-29

EOP-700 Independent Rd

Sample Location: Sample Matrix:

SOIL

**Date/Time Sampled** 

1/22/2008 2:42:00 PM

**Lab Sample ID:** 0801147-020

**Date Prepared:** 1/27/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Percent Moisture	D2216	1/28/2008	0	1	0	19	wt%	R15200
TPH (Diesel)	SW8015B	1/28/2008	2	1	2.47	ND	mg/Kg-dry	R15209
Surr: Pentacosane	SW8015B	1/28/2008	0	1	28-125	92.0	%REC	R15209
Benzene	SW8260B	1/27/2008	5	1	6.2	ND	μg/Kg-dry	P15194
Ethylbenzene	SW8260B	1/27/2008	5	1	6.2	ND	μg/Kg-dry	P15194
Methyl tert-butyl ether (MTBE)	SW8260B	1/27/2008	10	1	12	ND	μg/Kg-dry	P15194
Toluene	SW8260B	1/27/2008	5	1	6.2	ND	μg/Kg-dry	P15194
Xylenes, Total	SW8260B	1/27/2008	15	1	18	ND	μg/Kg-dry	P15194
Surr: 4-Bromofluorobenzene	SW8260B	1/27/2008	0	1	55.8-141	107	%REC	P15194
Surr: Dibromofluoromethane	SW8260B	1/27/2008	0	1	59.8-148	129	%REC	P15194
Surr: Toluene-d8	SW8260B	1/27/2008	0	1	55.2-133	103	%REC	P15194
TPH (Gasoline)	SW8260B(TPH)	1/27/2008	100	1	120	ND	μg/Kg-dry	G15194
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	1/27/2008	0	1	56.9-133	51 S	%REC	G15194

**KLEINFELDER** 

**Date Received:** 1/22/2008

**Date Reported:** 2/5/2008

Client Sample ID: K22-40

Sample Location: EOP-700 Independent Rd

Sample Matrix: SOIL

**Date/Time Sampled** 1/22/2008 3:04:00 PM

**Lab Sample ID:** 0801147-024 **Date Prepared:** 1/27/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Percent Moisture	D2216	1/28/2008	0	1	0	15	wt%	R15200
TPH (Diesel)	SW8015B	1/28/2008	2	1	2.36	ND	mg/Kg-dry	R15209
Surr: Pentacosane	SW8015B	1/28/2008	0	1	28-125	90.9	%REC	R15209
Benzene	SW8260B	1/27/2008	5	1	5.9	ND	μg/Kg-dry	P15194
Ethylbenzene	SW8260B	1/27/2008	5	1	5.9	ND	μg/Kg-dry	P15194
Methyl tert-butyl ether (MTBE)	SW8260B	1/27/2008	10	1	12	ND	μg/Kg-dry	P15194
Toluene	SW8260B	1/27/2008	5	1	5.9	ND	μg/Kg-dry	P15194
Xylenes, Total	SW8260B	1/27/2008	15	1	18	ND	μg/Kg-dry	P15194
Surr: 4-Bromofluorobenzene	SW8260B	1/27/2008	0	1	55.8-141	148 S	%REC	P15194
Surr: Dibromofluoromethane	SW8260B	1/27/2008	0	1	59.8-148	138	%REC	P15194
Surr: Toluene-d8	SW8260B	1/27/2008	0	1	55.2-133	92.2	%REC	P15194
TPH (Gasoline)	SW8260B(TPH)	1/27/2008	100	1	120	ND	μg/Kg-dry	G15194
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	1/27/2008	0	1	56.9-133	54 S	%REC	G15194

Note: S - Surrogate recovery out of acceptance limits due to matrix effect. Result confirmed by second run

**KLEINFELDER** 

**Date Received:** 1/22/2008

**Date Reported:** 2/5/2008

Client Sample ID: K21-GW-18

Sample Location: EOP-700 Independent Rd

**Sample Matrix:** WATER

**Date/Time Sampled** 1/22/2008 9:53:00 AM

**Lab Sample ID:** 0801147-025 **Date Prepared:** 2/1/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
TPH (Diesel)	SW8015B	1/27/2008	0.1	1	0.123	ND	mg/L	R15191
Surr: Pentacosane	SW8015B	1/27/2008	0	1	40-120	92.0	%REC	R15191
Note: Reporting limits increased due to	limited sample availab	le.						
Benzene	SW8260B	2/1/2008	0.5	1.19	0.595	ND	μg/L	R15269
Ethylbenzene	SW8260B	2/1/2008	0.5	1.19	0.595	ND	μg/L	R15269
Methyl tert-butyl ether (MTBE)	SW8260B	2/1/2008	0.5	1.19	0.595	ND	μg/L	R15269
Toluene	SW8260B	2/1/2008	0.5	1.19	0.595	ND	μg/L	R15269
Xylenes, Total	SW8260B	2/1/2008	1.5	1.19	1.79	ND	μg/L	R15269
Surr: Dibromofluoromethane	SW8260B	2/1/2008	0	1.19	61.2-131	96.7	%REC	R15269
Surr: 4-Bromofluorobenzene	SW8260B	2/1/2008	0	1.19	64.1-120	99.1	%REC	R15269
Surr: Toluene-d8	SW8260B	2/1/2008	0	1.19	75.1-127	96.9	%REC	R15269
Note: Sample diluted prior to the analysis	is due to high level of	sediment in all VC	OAs.					
TPH (Gasoline)	SW8260B(TPH)	2/1/2008	50	1.19	60	ND	μg/L	G15269
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	2/1/2008	0	1.19	58.4-133	109	%REC	G15269

Note: See comment for 8260B analysis.

**KLEINFELDER** 

**Date Received:** 1/22/2008

**Date Reported:** 2/5/2008

Client Sample ID: K21-GW-40

**Sample Location:** EOP-700 Independent Rd

**Sample Matrix:** WATER

**Date/Time Sampled** 1/22/2008 11:15:00 AM

**Lab Sample ID:** 0801147-026 **Date Prepared:** 2/1/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
TPH (Diesel)	SW8015B	1/27/2008	0.1	1	0.109	ND	mg/L	R15191
Surr: Pentacosane	SW8015B	1/27/2008	0	1	40-120	93.0	%REC	R15191
Note: Reporting limits increased due	to limited sample availab	le.						
Benzene	SW8260B	2/1/2008	0.5	1	0.500	ND	μg/L	R15269
Ethylbenzene	SW8260B	2/1/2008	0.5	1	0.500	ND	μg/L	R15269
Methyl tert-butyl ether (MTBE)	SW8260B	2/1/2008	0.5	1	0.500	ND	μg/L	R15269
Toluene	SW8260B	2/1/2008	0.5	1	0.500	ND	μg/L	R15269
Xylenes, Total	SW8260B	2/1/2008	1.5	1	1.50	ND	μg/L	R15269
Surr: Dibromofluoromethane	SW8260B	2/1/2008	0	1	61.2-131	95.1	%REC	R15269
Surr: 4-Bromofluorobenzene	SW8260B	2/1/2008	0	1	64.1-120	98.7	%REC	R15269
Surr: Toluene-d8	SW8260B	2/1/2008	0	1	75.1-127	95.2	%REC	R15269
<b>TD</b> (0 II )	0.0000000000000000000000000000000000000	2/1/2222						
TPH (Gasoline)	SW8260B(TPH)	2/1/2008	50	1	50	ND	μg/L	G15269
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	2/1/2008	0	1	58.4-133	98.3	%REC	G15269

**KLEINFELDER** 

**Date Received:** 1/22/2008

**Date Reported:** 2/5/2008

Client Sample ID: K22-GW-24

**Sample Location:** EOP-700 Independent Rd

**Sample Matrix:** WATER

**Date/Time Sampled** 1/22/2008 2:18:00 PM

**Lab Sample ID:** 0801147-027 **Date Prepared:** 2/1/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
TPH (Diesel)	SW8015B	1/27/2008	0.1	1	0.111	ND	mg/L	R15191
Surr: Pentacosane	SW8015B	1/27/2008	0	1	40-120	93.0	%REC	R15191
Note: Reporting limits increased due to	limited sample availab	le.						
Benzene	SW8260B	2/1/2008	0.5	1	0.500	ND	μg/L	R15269
Ethylbenzene	SW8260B	2/1/2008	0.5	1	0.500	ND	μg/L	R15269
Methyl tert-butyl ether (MTBE)	SW8260B	2/1/2008	0.5	1	0.500	ND	μg/L	R15269
Toluene	SW8260B	2/1/2008	0.5	1	0.500	ND	μg/L	R15269
Xylenes, Total	SW8260B	2/1/2008	1.5	1	1.50	ND	μg/L	R15269
Surr: Dibromofluoromethane	SW8260B	2/1/2008	0	1	61.2-131	87.4	%REC	R15269
Surr: 4-Bromofluorobenzene	SW8260B	2/1/2008	0	1	64.1-120	97.4	%REC	R15269
Surr: Toluene-d8	SW8260B	2/1/2008	0	1	75.1-127	86.6	%REC	R15269
TPH (Gasoline)	SW8260B(TPH)	2/1/2008	50	1	50	ND	μg/L	G15269
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	2/1/2008	0	1	58.4-133	69.8	%REC	G15269

#### **Definitions, legends and Notes**

Note	Description
ug/kg	Microgram per kilogram (ppb, part per billion).
ug/L	Microgram per liter (ppb, part per billion).
mg/kg	Milligram per kilogram (ppm, part per million).
mg/L	Milligram per liter (ppm, part per million).
LCS/LCSD	Laboratory control sample/laboratory control sample duplicate.
MDL	Method detection limit.
MRL	Modified reporting limit. When sample is subject to dilution, reporting limit times dilution factor yields MRL.
MS/MSD	Matrix spike/matrix spike duplicate.
N/A	Not applicable.
ND	Not detected at or above detection limit.
NR	Not reported.
QC	Quality Control.
RL	Reporting limit.
% RPD	Percent relative difference.
а	pH was measured immediately upon the receipt of the sample, but it was still done outside the holding time.
sub	Analyzed by subcontracting laboratory, Lab Certificate #

**Date:** 05-Feb-08

**CLIENT: KLEINFELDER** 

**Work Order:** 0801147 **Project:** 54504

# ANALYTICAL QC SUMMARY REPORT

BatchID: G15194

Sample ID MB-G Client ID: ZZZZZ	SampType: MBLK Batch ID: G15194	TestCode: TPH_GAS_S Units: μg/Kg TestNo: SW8260B(TP	Prep Date: 1/26/2008  Analysis Date: 1/26/2008	RunNo: <b>15194</b> SeqNo: <b>218900</b>
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
TPH (Gasoline) Surr: 4-Bromofllurobenzene	ND 44.60	100 0 50 0	89.2 56.9 133	
Sample ID LCS-G	SampType: LCS	TestCode: TPH_GAS_S Units: µg/Kg	Prep Date: 1/26/2008	RunNo: <b>15194</b>
Client ID: ZZZZZ	Batch ID: <b>G15194</b>	TestNo: SW8260B(TP	Analysis Date: 1/26/2008	SeqNo: <b>218901</b>
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
TPH (Gasoline) Surr: 4-Bromofllurobenzene	904.4 43.70	100 1000 0 0 50 0	90.4 48.2 132 87.4 56.9 133	
Sample ID LCSD-G Client ID: ZZZZZ	SampType: LCSD Batch ID: G15194	TestCode: TPH_GAS_S Units: µg/Kg TestNo: SW8260B(TP	Prep Date: 1/26/2008  Analysis Date: 1/26/2008	RunNo: <b>15194</b> SeqNo: <b>218902</b>
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
TPH (Gasoline) Surr: 4-Bromofllurobenzene	1053 47.00	100 1000 0 0 50 0	105     48.2     132     904.4       94.0     56.9     133     0	15.2 30 0 0

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits  $Page\ 1\ of\ 13$ 

**Work Order:** 0801147 54504 **Project:** 

## ANALYTICAL QC SUMMARY REPORT

BatchID: G15269

Sample ID MB-G	SampType: MBLK		TestCode: TPH_GAS_W Units: µg/L				te: <b>2/1/20</b> 0		RunNo: <b>15269</b>			
Client ID: ZZZZZ	Batch ID: <b>G15269</b>	Testi	TestNo: SW8260B(TP			Analysis Date: 2/1/2008				SeqNo: <b>219560</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
TPH (Gasoline)	ND	50										
Surr: 4-Bromofllurobenzene	10.50	0	11.36	0	92.4	58.4	133					
Sample ID LCS-G	SampType: LCS	TestCo	de: TPH_GAS	S_W Units: µg/L		Prep Dat	te: <b>2/1/20</b> 0	)8	RunNo: <b>15</b> 2	269		
Client ID: ZZZZZ	Batch ID: G15269	Test	TestNo: SW8260B(TP			Analysis Dat	te: <b>2/1/20</b> 0	08	SeqNo: 21	9561		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
TPH (Gasoline)	235.4	50	227	0	104	52.4	127					
Surr: 4-Bromofllurobenzene	10.20	0	11.36	0	89.8	58.4	133					
Sample ID LCSD-G	SampType: LCSD	TestCo	de: TPH_GAS	S_W Units: µg/L		Prep Dat	te: <b>2/1/20</b> 0	)8	RunNo: 15	269		
Client ID: ZZZZZ	Batch ID: <b>G15269</b>	Test	No: <b>SW8260B</b>	(ТР		Analysis Dat	te: <b>2/1/20</b> 0	)8	SeqNo: <b>219562</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
TPH (Gasoline)	234.7	50	227	0	103	52.4	127	235.4	0.298	20		
Surr: 4-Bromofllurobenzene	10.20	0	11.36	0	89.8	58.4	133	0	0	0		

Value above quantitation range Qualifiers:

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Spike Recovery outside accepted recovery limits Page~2~of~13

Analyte detected below quantitation limits

**Work Order:** 0801147 54504 **Project:** 

## ANALYTICAL QC SUMMARY REPORT

BatchID: G15274

Sample ID MB-G	SampType: MBLK	TestCode: TPH_GAS_S Units: μg/Kg	Prep Date: 2/3/2008	RunNo: <b>15274</b>		
Client ID: ZZZZZ	Batch ID: <b>G15274</b>	TestNo: SW8260B(TP	Analysis Date: 2/3/2008	SeqNo: <b>219786</b>		
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual		
TPH (Gasoline)	ND	100				
Surr: 4-Bromofllurobenzene	46.30	0 50 0	92.6 56.9 133			
Sample ID LCS-G	SampType: LCS	TestCode: TPH_GAS_S Units: µg/Kg	Prep Date: 2/3/2008	RunNo: <b>15274</b>		
Client ID: ZZZZZ	Batch ID: <b>G15274</b>	TestNo: SW8260B(TP	Analysis Date: 2/3/2008	SeqNo: <b>219794</b>		
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual		
TPH (Gasoline)	922.9	100 1000 0	92.3 48.2 132			
Surr: 4-Bromofllurobenzene	47.60	0 50 0	95.2 56.9 133			
Sample ID LCSD-G	SampType: LCSD	TestCode: TPH_GAS_S Units: µg/Kg	Prep Date: 2/3/2008	RunNo: <b>15274</b>		
Client ID: ZZZZZ	Batch ID: <b>G15274</b>	TestNo: SW8260B(TP	Analysis Date: 2/3/2008	SeqNo: <b>219795</b>		
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual		
TPH (Gasoline)	924.9	100 1000 0	92.5 48.2 132 922.9	0.216 30		
Surr: 4-Bromofllurobenzene	48.60	0 50 0	97.2 56.9 133 0	0 0		

Value above quantitation range Qualifiers:

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits Page~3~of~13

Work Order: 0801147 **Project:** 54504

# ANALYTICAL QC SUMMARY REPORT

BatchID: P15194

Sample ID MB-P	SampType: MBLK	TestCode: 8260B_S_	PE Units: μg/Kg		Prep Date	e: 1/26/2008	RunNo: <b>15194</b>	
Client ID: ZZZZZ	Batch ID: <b>P15194</b>	TestNo: SW8260B			Analysis Date	e: 1/26/2008	SeqNo: <b>219475</b>	
Analyte	Result	PQL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
1,2-Dibromoethane (EDB)	ND	5.0						
1,2-Dichloroethane (EDC)	ND	5.0						
Benzene	ND	5.0						
Ethanol	ND	100						
Ethyl tert-butyl ether (ETBE)	ND	5.0						
Ethylbenzene	ND	5.0						
Methyl tert-butyl ether (MTBE)	ND	10						
t-Butyl alcohol (t-Butanol)	ND	50						
tert-Amyl methyl ether (TAME)	ND	5.0						
Toluene	ND	5.0						
Xylenes, Total	ND	15						
Surr: 4-Bromofluorobenzene	50.51	0 50	0	101	55.8	141		
Surr: Dibromofluoromethane	60.69	0 50	0	121	59.8	148		
Surr: Toluene-d8	49.05	0 50	0	98.1	55.2	133		
Sample ID LCS-P	SampType: LCS	TestCode: 8260B_S_	PE Units: μg/Kg		Prep Date	e: 1/27/2008	RunNo: <b>15194</b>	
Client ID: ZZZZZ	Batch ID: <b>P15194</b>	TestNo: SW8260B			Analysis Date	e: 1/27/2008	SeqNo: 219476	
Analyte	Result	PQL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Benzene	58.09	5.0 50	0	116	66.5	135		
Toluene	56.63	5.0 50	0	113	56.8	134		
Surr: 4-Bromofluorobenzene	60.83	0 50	0	122	55.8	141		
Surr: Dibromofluoromethane	51.57	0 50	0	103	59.8	148		
Surr: Toluene-d8	61.99	0 50	0	124	55.2	133		
Sample ID LCSD-P	SampType: <b>LCSD</b>	TestCode: 8260B_S_	PE Units: μg/Kg		Prep Date	e: 1/26/2008	RunNo: <b>15194</b>	
Client ID: ZZZZZ	Batch ID: <b>P15194</b>	TestNo: SW8260B			Analysis Date	e: 1/26/2008	SeqNo: 219478	
Analyte	Result	PQL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Benzene	46.43	5.0 50	0	92.9	66.5	135		
Toluene	46.50	5.0 50	0	93.0	56.8	134		
	quantitation range I at the Reporting Limit		ng times for preparation outside accepted recover	-	is exceeded		below quantitation limits utside accepted recovery limits $Pa_{ij}$	ge 4 of

**Work Order:** 0801147 54504 **Project:** 

# ANALYTICAL QC SUMMARY REPORT

BatchID: P15194

Sample ID LCSD-P Client ID: ZZZZZ	SampType: LCSD  Batch ID: P15194	TestCode: <b>8260B_S_PE</b> Units: μg/Kg TestNo: <b>SW8260B</b>			Prep Date: 1/26/2008  Analysis Date: 1/26/2008				RunNo: <b>15194</b> SeqNo: <b>219478</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	29.52	0	50	0	59.0	55.8	141				
Surr: Dibromofluoromethane	62.59	0	50	0	125	59.8	148				
Surr: Toluene-d8	51.52	0	50	0	103	55.2	133				

Analyte detected below quantitation limits

**Work Order:** 0801147 54504 **Project:** 

## ANALYTICAL QC SUMMARY REPORT

BatchID: R15191

Sample ID WDSG080125A-MB	SampType: MBLK	TestCode: TPHDOS	G_ Units: mg/L		Prep Dat	e: <b>1/25/2008</b>	RunNo: <b>15191</b>	
Client ID: ZZZZZ	Batch ID: R15191	TestNo: SW8015	В	Analysis Date: 1/25/2008			SeqNo: <b>218255</b>	
Analyte	Result	PQL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
TPH (Diesel)	ND	0.100						
TPH (Motor Oil)	ND	0.200						
Surr: Pentacosane	0.08800	0 0.1	0	88.0	40	120		
Sample ID WDSG080125A-LCS	SampType: LCS	TestCode: TPHDOS	G_ Units: mg/L		Prep Date	e: <b>1/25/2008</b>	RunNo: <b>15191</b>	
Client ID: ZZZZZ	Batch ID: R15191	TestNo: SW8015	В		Analysis Date	e: <b>1/25/2008</b>	SeqNo: <b>218256</b>	
Analyte	Result	PQL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
TPH (Diesel)	0.5700	0.100 1	0	57.0	30	68.5		
Surr: Pentacosane	0.09900	0 0.1	0	99.0	46.8	104		
Sample ID WDSG080125A-LCS	SampType: <b>LCSD</b>	TestCode: TPHDOS	G_ Units: mg/L		Prep Date	e: <b>1/25/2008</b>	RunNo: <b>15191</b>	
Client ID: ZZZZZ	Batch ID: R15191	TestNo: SW8015	В		Analysis Date	e: <b>1/25/2008</b>	SeqNo: <b>218257</b>	
Analyte	Result	PQL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
TPH (Diesel)	0.5920	0.100 1	0	59.2	30	68.5 0.57	3.79 30	
Surr: Pentacosane	0.09400	0 0.1	0	94.0	46.8	104 0	0 0	

Value above quantitation range Qualifiers:

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits

Page 6 of 13

**Work Order:** 0801147 54504 **Project:** 

## ANALYTICAL QC SUMMARY REPORT

BatchID: R15209

Sample ID SDSG080128A-MB	SampType: MBLK	TestCode: TPI	HDSG_S Units: mg/Kg		Prep Date	e: 1/28/2008	RunNo: <b>15209</b>		
Client ID: ZZZZZ	Batch ID: R15209	TestNo: SW8015B			Analysis Date	e: 1/28/2008	SeqNo: <b>218618</b>		
Analyte	Result	PQL SPK	value SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual	
TPH (Diesel)	ND	2.00							
Surr: Pentacosane	2.944	0	3.3 0	89.2	28	125			
Sample ID SDSG080128A-LCS	SampType: LCS	TestCode: TPI	HDSG_S Units: mg/Kg		Prep Date	e: <b>1/28/2008</b>	RunNo: <b>15209</b>		
Client ID: ZZZZZ	Batch ID: <b>R15209</b>	TestNo: SW	8015B		Analysis Date	e: 1/28/2008	SeqNo: <b>218619</b>		
Analyte	Result	PQL SPK	value SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual	
TPH (Diesel)	23.69	2.00	33.33 0	71.1	26.6	128			
Surr: Pentacosane	2.991	0	3.3 0	90.6	28	125			
Sample ID SDSG080128A-LCS	SampType: LCSD	TestCode: TPI	HDSG_S Units: mg/Kg		Prep Date	e: 1/28/2008	RunNo: <b>15209</b>		
Client ID: ZZZZZ	Batch ID: R15209	TestNo: SW	8015B		Analysis Date	e: 1/28/2008	SeqNo: <b>218620</b>		
Analyte	Result	PQL SPK	value SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual	
TPH (Diesel)	24.36	2.00	33.33 0	73.1	26.6	128 23.69	2.80 30		
Surr: Pentacosane	2.947	0	3.3 0	89.3	28	125 0	0 0		

Value above quantitation range Qualifiers:

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits

Page 7 of 13

**Work Order:** 0801147 **Project:** 54504

# ANALYTICAL QC SUMMARY REPORT

BatchID: R15269

Sample ID MB	SampType: MBLK	TestCode:	8260B_W	Units: µg/L		Prep Da	te: <b>2/1/20</b>	08	RunNo: <b>15</b> 2	269	
Client ID: ZZZZZ	Batch ID: R15269	TestNo:	SW8260B			Analysis Da	te: <b>2/1/20</b>	08	SeqNo: <b>21</b>	9516	
Analyte	Result	PQL S	PK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	1.00									
1,1,1-Trichloroethane	ND	0.500									
1,1,2,2-Tetrachloroethane	ND	1.00									
1,1,2-Trichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,1-Dichloroethene	ND	1.00									
1,1-Dichloropropene	ND	0.500									
1,2,3-Trichlorobenzene	ND	0.500									
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	0.500									
1,2,4-Trimethylbenzene	ND	0.500									
1,2-Dibromo-3-chloropropane	ND	0.500									
1,2-Dibromoethane (EDB)	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dichloroethane (EDC)	ND	0.500									
1,2-Dichloropropane	ND	0.500									
1,3,5-Trimethylbenzene	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
1,4-Dioxane	ND	5.00									
2,2-Dichloropropane	ND	0.500									
2-Chloroethyl vinyl ether	ND	1.00									
2-Chlorotoluene	ND	0.500									
4-Chlorotoluene	ND	0.500									
4-Isopropyltoluene	ND	0.500									
Acetone	ND	10.0									
Benzene	ND	0.500									
Bromobenzene	ND	0.500									
Bromochloromethane	ND	0.500									
Bromodichloromethane	ND	0.500									
Bromoform	ND	1.00									

Qualifiers: Value above quantitation range

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits

Page 8 of 13

**Work Order:** 0801147 54504 **Project:** 

# ANALYTICAL QC SUMMARY REPORT

BatchID: R15269

Sample ID MB	SampType: MBLK	TestCode: 8260B_V	V Units: μg/L		Prep Da	ite: <b>2/1/20</b> 0	08	RunNo: <b>15</b>	269	
Client ID: ZZZZZ	Batch ID: R15269	TestNo: SW8260	В		Analysis Da	ite: <b>2/1/20</b>	08	SeqNo: 21	9516	
Analyte	Result	PQL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromomethane	ND	1.00								
Carbon tetrachloride	ND	0.500								
Chlorobenzene	ND	0.500								
Chloroform	ND	0.500								
Chloromethane	ND	0.500								
cis-1,2-Dichloroethene	ND	0.500								
cis-1,3-Dichloropropene	ND	0.500								
Dibromochloromethane	ND	0.500								
Dibromomethane	ND	0.500								
Dichlorodifluoromethane	ND	0.500								
Ethyl tert-butyl ether (ETBE)	ND	0.500								
Ethylbenzene	ND	0.500								
Freon-113	ND	1.00								
Hexachlorobutadiene	ND	0.500								
Isopropylbenzene	ND	1.00								
Methyl tert-butyl ether (MTBE)	ND	0.500								
Methylene chloride	ND	5.00								
Naphthalene	ND	0.500								
n-Butylbenzene	ND	0.500								
n-Propylbenzene	ND	0.500								
sec-Butylbenzene	ND	0.500								
Styrene	ND	0.500								
t-Butyl alcohol (t-Butanol)	ND	5.00								
tert-Amyl methyl ether (TAME)	ND	0.500								
tert-Butylbenzene	ND	0.500								
Tetrachloroethene	ND	0.500								
Toluene	ND	0.500								
trans-1,2-Dichloroethene	ND	0.500								
trans-1,3-Dichloropropene	ND	0.500								
Trichloroethene	ND	0.500								
Trichlorofluoromethane	ND	0.500								

Qualifiers: Value above quantitation range

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Spike Recovery outside accepted recovery limits

Page 9 of 13

Analyte detected below quantitation limits

**Work Order:** 0801147 **Project:** 54504

# ANALYTICAL QC SUMMARY REPORT

BatchID: R15269

Sample ID MB	SampType:	MBLK	TestCo	de: <b>8260B_W</b>	Units: µg/L		Prep Dat	te: <b>2/1/20</b> 0	08	RunNo: <b>15269</b>			
Client ID: ZZZZZ	Batch ID:	R15269	Test	lo: <b>SW8260B</b>			Analysis Da	te: <b>2/1/20</b> 0	08	SeqNo: <b>21</b> 9	9516		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Vinyl chloride		ND	0.500										
Xylenes, Total		ND	1.50										
Surr: Dibromofluoromethane		10.76	0	11.36	0	94.7	61.2	131					
Surr: 4-Bromofluorobenzene		11.07	0	11.36	0	97.4	64.1	120					
Surr: Toluene-d8		11.07	0	11.36	0	97.4	75.1	127					
Sample ID LCS	SampType:	LCS	TestCo	de: <b>8260B_W</b>	Units: µg/L		Prep Dat	te: <b>2/1/20</b> 0	08	RunNo: 152	269		
Client ID: ZZZZZ	Batch ID:	R15269	Test	lo: <b>SW8260B</b>			Analysis Da	te: <b>2/1/20</b> 0	08	SeqNo: <b>21</b> 9	9517		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
1,1-Dichloroethene		15.14	1.00	17.04	0	88.8	61.4	129					
Benzene		15.47	0.500	17.04	0	90.8	66.9	140					
Chlorobenzene		17.86	0.500	17.04	0	105	73.9	137					
Toluene		17.19	0.500	17.04	0	101	76.6	123					
Trichloroethene		16.73	0.500	17.04	0	98.2	69.3	144					
Surr: Dibromofluoromethane		10.03	0	11.36	0	88.3	61.2	131					
Surr: 4-Bromofluorobenzene		12.12	0	11.36	0	107	64.1	120					
Surr: Toluene-d8		10.98	0	11.36	0	96.7	75.1	127					
Sample ID LCSD	SampType:	LCSD	TestCo	de: <b>8260B_W</b>	Units: µg/L		Prep Dat	te: <b>2/1/20</b> 0	08	RunNo: 152	269		
Client ID: ZZZZZ	Batch ID:	R15269	Test	lo: <b>SW8260B</b>			Analysis Da	te: <b>2/1/20</b> 0	08	SeqNo: <b>21</b> 9	9518		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua	
1,1-Dichloroethene		13.97	1.00	17.04	0	82.0	61.4	129	15.14	8.04	20		
Benzene		13.53	0.500	17.04	0	79.4	66.9	140	15.47	13.4	20		
Chlorobenzene		15.18	0.500	17.04	0	89.1	73.9	137	17.86	16.2	20		
Toluene		14.15	0.500	17.04	0	83.0	76.6	123	17.19	19.4	20		
Trichloroethene		14.59	0.500	17.04	0	85.6	69.3	144	16.73	13.7	20		
Surr: Dibromofluoromethane		10.43	0	11.36	0	91.8	61.2	131	0	0	0		
Surr: 4-Bromofluorobenzene		11.28	0	11.36	0	99.3	64.1	120	0	0	0		
Surr: Toluene-d8		11.51	0	11.36	0	101	75.1	127	0	0	0		

Qualifiers: Value above quantitation range

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits Page~10~of~13

54504

**Work Order:** 0801147

**Project:** 

ANALYTICAL QC SUMMARY REPORT

BatchID: R15274

Sample ID <b>blk</b>	SampType: MBLK	TestCod	de: <b>8260B_S</b>	Units: µg/Kg		Prep Dat	te: <b>2/2/200</b>	)8	RunNo: <b>15274</b>			
Client ID: ZZZZZ	Batch ID: R15274	TestN	lo: <b>SW8260B</b>			Analysis Da	te: <b>2/2/20</b> 0	18	SeqNo: 219	9602		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
1,1,1,2-Tetrachloroethane	ND	10										
1,1,1-Trichloroethane	ND	10										
1,1,2,2-Tetrachloroethane	ND	10										
1,1,2-Trichloroethane	ND	10										
1,1-Dichloroethane	ND	10										
1,1-Dichloroethene	ND	10										
1,1-Dichloropropene	ND	10										
1,2,3-Trichlorobenzene	ND	10										
1,2,3-Trichloropropane	ND	10										
1,2,4-Trichlorobenzene	ND	10										
1,2,4-Trimethylbenzene	ND	10										
1,2-Dibromo-3-chloropropane	ND	10										
1,2-Dibromoethane (EDB)	ND	10										
1,2-Dichlorobenzene	ND	10										
1,2-Dichloroethane (EDC)	ND	10										
1,2-Dichloropropane	ND	10										
1,3,5-Trimethylbenzene	ND	10										
1,3-Dichlorobenzene	ND	10										
1,3-Dichloropropene	ND	10										
1,4-Dichlorobenzene	ND	10										
2,2-Dichloropropane	ND	10										
2-Chloroethyl vinyl ether	ND	10										
2-Chlorotoluene	ND	10										
4-Chlorotoluene	ND	10										
4-Isopropyltoluene	ND	10										
Benzene	ND	10										
Bromobenzene	ND	10										
Bromochloromethane	ND	10										
Bromodichloromethane	ND	10										
Bromoform	ND	10										
Bromomethane	ND	10										

Value above quantitation range Qualifiers:

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Spike Recovery outside accepted recovery limits Page~11~of~13

Analyte detected below quantitation limits

**Work Order:** 0801147 **Project:** 54504

# ANALYTICAL QC SUMMARY REPORT

BatchID: R15274

Sample ID <b>blk</b>	SampType: MBLK	TestCode: 8260E	_S Units: μg/Kg				)8	RunNo: 15	274	
Client ID: ZZZZZ	Batch ID: R15274	TestNo: SW82	60B		Analysis Da	te: <b>2/2/20</b> 0	<b>)</b> 8	SeqNo: 21	9602	
Analyte	Result	PQL SPK va	ue SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon tetrachloride	ND	10								
Chlorobenzene	ND	10								
Chloroform	ND	10								
Chloromethane	ND	10								
cis-1,2-Dichloroethene	ND	10								
cis-1,3-Dichloropropene	ND	10								
Dibromochloromethane	ND	10								
Dibromomethane	ND	10								
Dichlorodifluoromethane	ND	10								
Ethyl tert-butyl ether (ETBE)	ND	10								
Ethylbenzene	ND	10								
Freon-113	ND	10								
Hexachlorobutadiene	ND	10								
Isopropylbenzene	ND	10								
Methyl tert-butyl ether (MTBE)	ND	10								
Methylene chloride	ND	50								
Naphthalene	ND	20								
n-Butylbenzene	ND	10								
n-Propylbenzene	ND	10								
sec-Butylbenzene	ND	10								
Styrene	ND	10								
t-Butyl alcohol (t-Butanol)	ND	50								
tert-Amyl methyl ether (TAME)	ND	10								
tert-Butylbenzene	ND	10								
Tetrachloroethene	ND	10								
Toluene	ND	10								
trans-1,2-Dichloroethene	ND	10								
trans-1,3-Dichloropropene	ND	10								
Trichloroethene	ND	10								
Trichlorofluoromethane	ND	10								
Vinyl chloride	ND	10								

Value above quantitation range Qualifiers:

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits Page~12~of~13

**Work Order:** 0801147 **Project:** 54504

# ANALYTICAL QC SUMMARY REPORT

BatchID: R15274

Sample ID <b>blk</b>	SampType:	MBLK	TestCod	de: <b>8260B_S</b>	Units: µg/Kg		Prep Dat	e: <b>2/2/20</b> 0	)8	RunNo: <b>15</b> 2	274	
Client ID: ZZZZZ	Batch ID:	R15274	TestN	lo: <b>SW8260B</b>			Analysis Dat	e: <b>2/2/20</b> 0	08	SeqNo: 219	9602	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Xylenes, Total		ND	20									
Surr: 4-Bromofluorobenzene		51.32	0	50	0	103	55.8	141				
Surr: Dibromofluoromethane		57.48	0	50	0	115	59.8	148				
Surr: Toluene-d8		47.75	0	50	0	95.5	55.2	133				
Sample ID Ics	SampType:	LCS	TestCod	de: <b>8260B_S</b>	Units: µg/Kg		Prep Dat	e: <b>2/2/20</b> 0	)8	RunNo: 152	274	
Client ID: ZZZZZ	Batch ID:	R15274	TestN	lo: <b>SW8260B</b>			Analysis Dat	e: <b>2/2/20</b> 0	08	SeqNo: <b>21</b> 9	9603	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene		49.25	10	50	0	98.5	53.7	139				
Benzene		52.89	10	50	0	106	66.5	135				
Chlorobenzene		42.62	10	50	0	85.2	57.5	150				
Toluene		59.40	10	50	0	119	56.8	134				
Trichloroethene		54.65	10	50	0	109	57.4	134				
Surr: 4-Bromofluorobenzene		50.12	0	50	0	100	55.8	141				
Surr: Dibromofluoromethane		46.30	0	50	0	92.6	59.8	148				
Surr: Toluene-d8		57.55	0	50	0	115	55.2	133				
Sample ID Icsd	SampType:	LCSD	TestCod	de: <b>8260B_S</b>	Units: µg/Kg		Prep Dat	e: <b>2/2/20</b> 0	)8	RunNo: 152	274	
Client ID: ZZZZZ	Batch ID:	R15274	TestN	No: <b>SW8260B</b>			Analysis Dat	e: <b>2/2/20</b> 0	08	SeqNo: <b>21</b>	9604	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene		49.41	10	50	0	98.8	53.7	139	49.25	0.324	30	
Benzene		51.41	10	50	0	103	66.5	135	52.89	2.84	30	
Chlorobenzene		32.21	10	50	0	64.4	57.5	150	42.62	27.8	30	
Toluene		58.16	10	50	0	116	56.8	134	59.4	2.11	30	
Trichloroethene		59.76	10	50	0	120	57.4	134	54.65	8.93	30	
Surr: 4-Bromofluorobenzene		55.77	0	50	0	112	55.8	141	0	0	0	
Surr: Dibromofluoromethane		49.35	0	50	0	98.7	59.8	148	0	0	0	
Surr: Toluene-d8		58.02	0	50	0	116	55.2	133	0	0	0	

Value above quantitation range Qualifiers:

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits Page~13~of~13

1		KLEINFI	ELDER							(8)	1.00	<u>^</u>	Mex	<del>ر</del> خ خ				0 % 01147
Ī	PROJECT NO.	<b></b> -	PROJECT NAME EOP-700 Indepen	dont Rd.		<b>5</b> ,50			/2		3/3		<b>%</b>	$\mathcal{Y}$	X		/	RECEIVING LAB:
	5450	74			NO.	TYPE		/			N.		S)	//	'	$\langle \ /$	/ /	// Torrent
	L.P. NO. (P.O. NO.	SAMPLERS: (SI	gnature/Number)		OF	OF	4 X				$\frac{y}{3}$	Ø\\$	7	/ ,	/	Χ		- report soil as dry weight
}	DATE	<del></del>		MATRIX	CON- TAINERS	CON- TAINERS	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	¥.		Ŋ.	X.	<b>3</b> /			$\sqrt{}$		$\sum$	/- report soil as ary weight
1	MM/DD/YY	SAMPLE I.D. TIME HH-MM-SS	SAMPLE I.D.			POİY	<u> </u>	760	75	<b>Y</b>		7		4	4),	<u> </u>	XX	
	01/22/08	14-48-00	K22-32	S	1_	poly liner					$\langle \cdot \rangle$			$-\mathcal{A}$		101		DIA
2		14-62-190	) K22-35								$\Diamond$		{	$\neg$	14	<u> </u>		22 A
3		114-59-00	KAX-3T						V		$\Delta$		}	-}	4			24A
4		115-04-00	1 K2スー40		4	UVOA	$\langle \rangle$	$\bigcirc$	$\bigcirc$	$\diamondsuit$		$\dashv$	-}	4	$\dashv$			220
5		09-53-00	1 K21-GW-18	W		4VOA 2Am <b>hr</b>	$\Diamond$	$\bigotimes$	$\diamondsuit$	$\Diamond$		<del>-}</del>	4	┥	_			2 6 A
6		11-15-00	K21-GW-18 K21-GW-40 K22-GW-24		6	-	$\Theta$		$\bigcirc$	$\Diamond$		$\leftarrow$			_	_	-	27 A
7		14-18-00	) K22-GW-29	<u> </u>	6	1		M	$\triangleright$	$\triangle$		$\dashv$						2/1/
8						<del> </del>	<del> </del>						┪	$\dashv$	$\dashv$	_		
9							-	$\vdash$		_	$\dashv$		$\dashv$	$\dashv$	$\dashv$			Temp. Blance - 5°C
10					<del> </del> -	1	<del> </del>			-		-+	一十	+	7	-		7 2100 3 2
11	<u> </u>			Kr	1	<del>\                                    </del>	05				$\dashv$	-	_	寸				
12				1	<del> \</del>	4/1	1				$\vdash$	-	$\dashv$	_	_			
13	<b>-</b>			-		<u> </u>	╁					_	$\dashv$	7	_		-	
14	<del>\</del>			<del> </del>	<del>                                     </del>	-		$\Box$					$\neg \dagger$	$\dashv$	$\dashv$		_	
15	<u> </u>				<del> </del>		<del>                                     </del>		/				1	7	$\neg$			
11	<u> </u>			<u> </u>	<del>                                     </del>	1	<b>†</b>			1	7			$\dashv$				
1	7	_		<u> </u>	<del>                                     </del>	<del> </del>	<u> </u>	T				7	J					
1	8			<del>                                     </del>	+		1							7				
ŀ	9						1									1		
2	Relinquis le	ed by: (Signature)	بحبيلي ا	ceived by: (Signatu	іге)	.d	Instru	uctions/	Remar	ks:		` »	-					Send Results To: Charlie Almestad colmestade kleinfelder, com KLEINFELDER
	6/	~	0/22/08 610	er 7	<u> </u>		<b>]</b> -:	Sta Lev & EC	ud	ard	- l1	47						1970 Broadway
	pelliquishe	ed by: (Signature)	, Date, Time	ceived by: (Signatu	ure) Ital	17.10	-	Lev	rel :	II.	dat	a I	ac	:ka	ge	-		SUITE 710 Oakland, CA 94612
	ta	ad by: (Signature)	7-72-08   Date/Time   Rec	ceived for Laborate			10	EC	QL	lI	S	EŻ	E	D	)			and (510) 628-9000 Attn: Patricia Walters
6	Helinquish	ed by: (Signature)																phalters@kleinfelder.com
	M-60		White - Sampler			CH		anary -										Pink - Lab Copy Nº 1150
			March 1/27															



February 05, 2008

Charlie Almestad KLEINFELDER 1970 Broadway, Suite 710 Oakland, CA 94612

TEL: (510) 628-9000 FAX (510) 628-9009

RE: 54504

Dear Charlie Almestad:

Order No.: 0801160

Torrent Laboratory, Inc. received 23 samples on 1/23/2008 for the analyses presented in the following report.

All data for associated QC met EPA or laboratory specification(s) except where noted in the case narrative.

Reported data is applicable for only the samples received as part of the order number referenced above.

Torrent Laboratory, Inc, is certified by the State of California, ELAP #1991. If you have any questions regarding these tests results, please feel free to contact the Project Management Team at (408)263-5258;ext: 204.

Sincerely,

Patti Sandrock

OA Officer



Torrent Laboratory, Inc.

**Date:** 05-Feb-08

**CLIENT:** 

**KLEINFELDER** 

Project:

54504

Lab Order:

0801160

**CASE NARRATIVE** 

Analytical Comment for TPHDOSG\_W and TPHDOSG\_S, Note: Silica gel clean-up procedures employed on all samples.



# TORRENT LABORATORY, INC.

483 Sinclair Frontage Road • Milpitas, CA • Phone: (408) 263-5258 • Fax: (408) 263-8293

Visit us at www.torrentlab.com email: analysis@torrentlab.com

Report prepared for: Charlie Almestad

**KLEINFELDER** 

**Date Received:** 1/23/2008

Date Reported: 2/5/2008

**Lab Sample ID:** 0801160-002

**Client Sample ID:** K23-8

EOP-700 Independent Rd

Sample Matrix: **SOIL** 

Sample Location:

Date/Time Sampled 1/23/2008 8:27:00 AM

Date Prepared: 2/5/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Percent Moisture	D2216	1/29/2008	0	1	0	24	wt%	R15231
TPH (Diesel)	SW8015B	1/30/2008	2	1	2.64	ND	mg/Kg-dry	R15209
Surr: Pentacosane	SW8015B	1/30/2008	0	1	28-125	85.5	%REC	R15209
Benzene	SW8260B	2/5/2008	5	1	6.6	ND	μg/Kg-dry	R15306
Ethylbenzene	SW8260B	2/5/2008	5	1	6.6	ND	μg/Kg-dry	R15306
Methyl tert-butyl ether (MTBE)	SW8260B	2/5/2008	10	1	13	ND	μg/Kg-dry	R15306
Toluene	SW8260B	2/5/2008	5	1	6.6	ND	μg/Kg-dry	R15306
Xylenes, Total	SW8260B	2/5/2008	15	1	20	ND	μg/Kg-dry	R15306
Surr: 4-Bromofluorobenzene	SW8260B	2/5/2008	0	1	55.8-141	94.8	%REC	R15306
Surr: Dibromofluoromethane	SW8260B	2/5/2008	0	1	59.8-148	75.2	%REC	R15306
Surr: Toluene-d8	SW8260B	2/5/2008	0	1	55.2-133	93.9	%REC	R15306
TPH (Gasoline)	SW8260B(TPH)	2/5/2008	100	1	130	ND	μg/Kg-dry	G15306
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	2/5/2008	0	1	56.9-133	43 S	%REC	G15306

Note: S - Outlying surrogate recovery was observed in this sample. Duplicate analysis yielded similar results indicating a matrix effect.

**KLEINFELDER** 

**Date Received:** 1/23/2008 **Date Reported:** 2/5/2008

**Client Sample ID:** K23-20

EOP-700 Independent Rd

Sample Matrix:

**Sample Location:** 

SOIL

**Date/Time Sampled** 1/23/2008 8:37:00 AM

**Lab Sample ID:** 0801160-005

**Date Prepared:** 2/3/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Percent Moisture	D2216	1/29/2008	0	1	0	15	wt%	R15231
TPH (Diesel)	SW8015B	1/30/2008	2	1	2.36	ND	mg/Kg-dry	R15209
Surr: Pentacosane	SW8015B	1/30/2008	0	1	28-125	89.7	%REC	R15209
Benzene	SW8260B	2/3/2008	5	1	5.9	ND	μg/Kg-dry	R15292
Ethylbenzene	SW8260B	2/3/2008	5	1	5.9	ND	μg/Kg-dry	R15292
Methyl tert-butyl ether (MTBE)	SW8260B	2/3/2008	10	1	12	ND	μg/Kg-dry	R15292
Toluene	SW8260B	2/3/2008	5	1	5.9	ND	μg/Kg-dry	R15292
Xylenes, Total	SW8260B	2/3/2008	15	1	18	ND	μg/Kg-dry	R15292
Surr: 4-Bromofluorobenzene	SW8260B	2/3/2008	0	1	55.8-141	120	%REC	R15292
Surr: Dibromofluoromethane	SW8260B	2/3/2008	0	1	59.8-148	98.3	%REC	R15292
Surr: Toluene-d8	SW8260B	2/3/2008	0	1	55.2-133	94.7	%REC	R15292
TPH (Gasoline)	SW8260B(TPH)	2/3/2008	100	1	120	ND	μg/Kg-dry	G15292
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	2/3/2008	0	1	56.9-133	75.6	%REC	G15292

**KLEINFELDER** 

**Date Received:** 1/23/2008 **Date Reported:** 2/5/2008

K23-27 **Client Sample ID:** 

EOP-700 Independent Rd

**Sample Matrix:** 

**Sample Location:** 

**SOIL** 

**Date/Time Sampled** 1/23/2008 9:31:00 AM **Lab Sample ID:** 0801160-007

**Date Prepared: 2/3/2008** 

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Percent Moisture	D2216	1/29/2008	0	1	0	15	wt%	R15231
TPH (Diesel)	SW8015B	1/30/2008	2	1	2.34	ND	mg/Kg-dry	R15209
Surr: Pentacosane	SW8015B	1/30/2008	0	1	28-125	97.6	%REC	R15209
Benzene	SW8260B	2/3/2008	5	1	5.9	ND	μg/Kg-dry	R15292
Ethylbenzene	SW8260B	2/3/2008	5	1	5.9	ND	μg/Kg-dry	R15292
Methyl tert-butyl ether (MTBE)	SW8260B	2/3/2008	10	1	12	ND	μg/Kg-dry	R15292
Toluene	SW8260B	2/3/2008	5	1	5.9	ND	μg/Kg-dry	R15292
Xylenes, Total	SW8260B	2/3/2008	15	1	18	ND	μg/Kg-dry	R15292
Surr: 4-Bromofluorobenzene	SW8260B	2/3/2008	0	1	55.8-141	121	%REC	R15292
Surr: Dibromofluoromethane	SW8260B	2/3/2008	0	1	59.8-148	131	%REC	R15292
Surr: Toluene-d8	SW8260B	2/3/2008	0	1	55.2-133	90.4	%REC	R15292
TPH (Gasoline)	SW8260B(TPH)	2/3/2008	100	1	120	ND	μg/Kg-dry	G15292
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	2/3/2008	0	1	56.9-133	55 S	%REC	G15292

Note: S - Low surrogate recovery due to possible matrix effect.

**KLEINFELDER** 

**Date Received:** 1/23/2008 **Date Reported:** 2/5/2008

Client Sample ID: K23-40

\_\_\_\_

**Sample Location:** EOP-700 Independent Rd

Sample Matrix: SOIL

**Date/Time Sampled** 1/23/2008 11:05:00 AM

**Lab Sample ID:** 0801160-010

**Date Prepared:** 2/3/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Percent Moisture	D2216	1/29/2008	0	1	0	24	wt%	R15231
TPH (Diesel)	SW8015B	1/30/2008	2	1	2.62	ND	mg/Kg-dry	R15209
Surr: Pentacosane	SW8015B	1/30/2008	0	1	28-125	83.1	%REC	R15209
Benzene	SW8260B	2/3/2008	5	1	6.5	ND	μg/Kg-dry	R15292
Ethylbenzene	SW8260B	2/3/2008	5	1	6.5	ND	μg/Kg-dry	R15292
Methyl tert-butyl ether (MTBE)	SW8260B	2/3/2008	10	1	13	ND	μg/Kg-dry	R15292
Toluene	SW8260B	2/3/2008	5	1	6.5	ND	μg/Kg-dry	R15292
Xylenes, Total	SW8260B	2/3/2008	15	1	20	ND	μg/Kg-dry	R15292
Surr: 4-Bromofluorobenzene	SW8260B	2/3/2008	0	1	55.8-141	120	%REC	R15292
Surr: Dibromofluoromethane	SW8260B	2/3/2008	0	1	59.8-148	108	%REC	R15292
Surr: Toluene-d8	SW8260B	2/3/2008	0	1	55.2-133	90.6	%REC	R15292
TPH (Gasoline)	SW8260B(TPH)	2/3/2008	100	1	130	ND	μg/Kg-dry	G15292
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	2/3/2008	0	1	56.9-133	71.8	%REC	G15292

**KLEINFELDER** 

**Date Received:** 1/23/2008

**Date Reported:** 2/5/2008

Client Sample ID: K23-GW-30

Sample Location: EOP-700 Independent Rd

**Sample Matrix:** WATER

**Date/Time Sampled** 1/23/2008 10:25:00 AM

**Lab Sample ID:** 0801160-011 **Date Prepared:** 1/30/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
TPH (Diesel)	SW8015B	1/30/2008	0.1	1	0.116	ND	mg/L	R15235
Surr: Pentacosane	SW8015B	1/30/2008	0	1	40-120	81.0	%REC	R15235
Note: Reporting limits increased due to	limited sample availab	le (sediment pres	ent).					
Benzene	SW8260B	1/30/2008	0.5	1.26	0.630	ND	μg/L	R15242
Ethylbenzene	SW8260B	1/30/2008	0.5	1.26	0.630	ND	μg/L	R15242
Methyl tert-butyl ether (MTBE)	SW8260B	1/30/2008	0.5	1.26	0.630	ND	μg/L	R15242
Toluene	SW8260B	1/30/2008	0.5	1.26	0.630	ND	μg/L	R15242
Xylenes, Total	SW8260B	1/30/2008	1.5	1.26	1.89	ND	μg/L	R15242
Surr: Dibromofluoromethane	SW8260B	1/30/2008	0	1.26	61.2-131	84.7	%REC	R15242
Surr: 4-Bromofluorobenzene	SW8260B	1/30/2008	0	1.26	64.1-120	92.4	%REC	R15242
Surr: Toluene-d8	SW8260B	1/30/2008	0	1.26	75.1-127	98.1	%REC	R15242
Note: Sample diluted prior to the analyst	sis due to high level of	sediment in all VC	As.					
TPH (Gasoline)	SW8260B(TPH)	1/30/2008	50	1.26	63	ND	μg/L	G15242
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	1/30/2008	0	1.26	58.4-133	111	%REC	G15242

**Date Received:** 1/23/2008

**KLEINFELDER Date Reported:** 2/5/2008

K24-8 **Client Sample ID:** 

EOP-700 Independent Rd **Sample Location:** 

**Sample Matrix: SOIL** 

**Date/Time Sampled** 1/23/2008 12:22:00 PM **Lab Sample ID:** 0801160-013 **Date Prepared:** 2/5/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Percent Moisture	D2216	1/29/2008	0	1	0	55	wt%	R15231
TPH (Diesel)	SW8015B	1/30/2008	2	1	4.47	ND	mg/Kg-dry	R15209
Surr: Pentacosane	SW8015B	1/30/2008	0	1	28-125	86.3	%REC	R15209
Benzene	SW8260B	2/5/2008	5	1	11	ND	μg/Kg-dry	R15305
Ethylbenzene	SW8260B	2/5/2008	5	1	11	ND	μg/Kg-dry	R15305
Methyl tert-butyl ether (MTBE)	SW8260B	2/5/2008	10	1	22	ND	μg/Kg-dry	R15305
Toluene	SW8260B	2/5/2008	5	1	11	ND	μg/Kg-dry	R15305
Xylenes, Total	SW8260B	2/5/2008	15	1	34	ND	μg/Kg-dry	R15305
Surr: 4-Bromofluorobenzene	SW8260B	2/5/2008	0	1	55.8-141	109	%REC	R15305
Surr: Dibromofluoromethane	SW8260B	2/5/2008	0	1	59.8-148	115	%REC	R15305
Surr: Toluene-d8	SW8260B	2/5/2008	0	1	55.2-133	104	%REC	R15305
TPH (Gasoline)	SW8260B(TPH)	2/5/2008	100	1	220	ND	μg/Kg-dry	G15305
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	2/5/2008	0	1	56.9-133	11 S	%REC	G15305

Note: S - Low surrogate recovery due to possible matrix effect. Sample analyzed twice with similar results

**KLEINFELDER** 

**Date Received:** 1/23/2008 **Date Reported:** 2/5/2008

K24-20 **Client Sample ID:** 

EOP-700 Independent Rd

**Sample Matrix:** 

**Sample Location:** 

**SOIL** 

**Date/Time Sampled** 1/23/2008 12:46:00 PM **Lab Sample ID:** 0801160-016 **Date Prepared:** 2/3/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Percent Moisture	D2216	1/29/2008	0	1	0	16	wt%	R15231
TPH (Diesel)	SW8015B	1/30/2008	2	1	2.37	ND	mg/Kg-dry	R15209
Surr: Pentacosane	SW8015B	1/30/2008	0	1	28-125	97.5	%REC	R15209
Benzene	SW8260B	2/3/2008	5	1	5.9	ND	μg/Kg-dry	R15292
Ethylbenzene	SW8260B	2/3/2008	5	1	5.9	ND	μg/Kg-dry	R15292
Methyl tert-butyl ether (MTBE)	SW8260B	2/3/2008	10	1	12	ND	μg/Kg-dry	R15292
Toluene	SW8260B	2/3/2008	5	1	5.9	ND	μg/Kg-dry	R15292
Xylenes, Total	SW8260B	2/3/2008	15	1	18	ND	μg/Kg-dry	R15292
Surr: 4-Bromofluorobenzene	SW8260B	2/3/2008	0	1	55.8-141	118	%REC	R15292
Surr: Dibromofluoromethane	SW8260B	2/3/2008	0	1	59.8-148	91.8	%REC	R15292
Surr: Toluene-d8	SW8260B	2/3/2008	0	1	55.2-133	91.8	%REC	R15292
TPH (Gasoline)	SW8260B(TPH)	2/3/2008	100	1	120	ND	μg/Kg-dry	G15292
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	2/3/2008	0	1	56.9-133	48 S	%REC	G15292

Note: S - Low surrogate recovery due to possible matrix effect.

**KLEINFELDER** 

**Date Received:** 1/23/2008 **Date Reported:** 2/5/2008

**Client Sample ID:** K24-30

EOP-700 Independent Rd **Sample Location:** 

**Sample Matrix: SOIL** 

**Date/Time Sampled** 1/23/2008 2:01:00 PM **Lab Sample ID:** 0801160-019 **Date Prepared:** 2/3/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Percent Moisture	D2216	1/29/2008	0	1	0	11	wt%	R15231
TPH (Diesel)	SW8015B	1/30/2008	2	1	2.24	ND	mg/Kg-dry	R15209
Surr: Pentacosane	SW8015B	1/30/2008	0	1	28-125	90.6	%REC	R15209
Benzene	SW8260B	2/3/2008	5	1	5.6	ND	μg/Kg-dry	R15292
Ethylbenzene	SW8260B	2/3/2008	5	1	5.6	ND	μg/Kg-dry	R15292
Methyl tert-butyl ether (MTBE)	SW8260B	2/3/2008	10	1	11	ND	μg/Kg-dry	R15292
Toluene	SW8260B	2/3/2008	5	1	5.6	ND	μg/Kg-dry	R15292
Xylenes, Total	SW8260B	2/3/2008	15	1	17	ND	μg/Kg-dry	R15292
Surr: 4-Bromofluorobenzene	SW8260B	2/3/2008	0	1	55.8-141	116	%REC	R15292
Surr: Dibromofluoromethane	SW8260B	2/3/2008	0	1	59.8-148	126	%REC	R15292
Surr: Toluene-d8	SW8260B	2/3/2008	0	1	55.2-133	92.1	%REC	R15292
TPH (Gasoline)	SW8260B(TPH)	2/3/2008	100	1	110	ND	μg/Kg-dry	G15292
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	2/3/2008	0	1	56.9-133	60.4	%REC	G15292

**KLEINFELDER** 

**Date Received:** 1/23/2008

**Date Reported:** 2/5/2008

Client Sample ID: K24-GW-27

**Sample Location:** EOP-700 Independent Rd

**Sample Matrix:** WATER

**Date/Time Sampled** 1/23/2008 1:44:00 PM

**Lab Sample ID:** 0801160-022 **Date Prepared:** 1/30/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
TPH (Diesel)	SW8015B	1/30/2008	0.1	1	0.111	ND	mg/L	R15235
Surr: Pentacosane	SW8015B	1/30/2008	0	1	40-120	79.0	%REC	R15235
Note: Reporting limits increased due to	o limited sample availab	le (sediment pres	ent).					
Benzene	SW8260B	1/30/2008	0.5	1	0.500	ND	μg/L	R15242
Ethylbenzene	SW8260B	1/30/2008	0.5	1	0.500	ND	μg/L	R15242
Methyl tert-butyl ether (MTBE)	SW8260B	1/30/2008	0.5	1	0.500	ND	μg/L	R15242
Toluene	SW8260B	1/30/2008	0.5	1	0.500	ND	μg/L	R15242
Xylenes, Total	SW8260B	1/30/2008	1.5	1	1.50	ND	μg/L	R15242
Surr: Dibromofluoromethane	SW8260B	1/30/2008	0	1	61.2-131	91.8	%REC	R15242
Surr: 4-Bromofluorobenzene	SW8260B	1/30/2008	0	1	64.1-120	93.0	%REC	R15242
Surr: Toluene-d8	SW8260B	1/30/2008	0	1	75.1-127	99.6	%REC	R15242
TPH (Gasoline)	SW8260B(TPH)	1/30/2008	50	1	50	ND	μg/L	G15242
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	1/30/2008	0	1	58.4-133	78.4	%REC	G15242

**KLEINFELDER** 

**Date Received:** 1/23/2008

**Date Reported:** 2/5/2008

Client Sample ID: K24-GW-35

**Sample Location:** EOP-700 Independent Rd

**Sample Matrix:** WATER

**Date/Time Sampled** 1/23/2008 2:35:00 PM

**Lab Sample ID:** 0801160-023 **Date Prepared:** 1/30/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
TPH (Diesel)	SW8015B	1/30/2008	0.1	1	0.115	ND	mg/L	R15235
Surr: Pentacosane	SW8015B	1/30/2008	0	1	40-120	85.0	%REC	R15235
Note: Reporting limits increased due	to limited sample availab	le (sediment pres	ent).					
Benzene	SW8260B	1/30/2008	0.5	1	0.500	ND	μg/L	R15242
Ethylbenzene	SW8260B	1/30/2008	0.5	1	0.500	ND	μg/L	R15242
Methyl tert-butyl ether (MTBE)	SW8260B	1/30/2008	0.5	1	0.500	ND	μg/L	R15242
Toluene	SW8260B	1/30/2008	0.5	1	0.500	ND	μg/L	R15242
Xylenes, Total	SW8260B	1/30/2008	1.5	1	1.50	ND	μg/L	R15242
Surr: Dibromofluoromethane	SW8260B	1/30/2008	0	1	61.2-131	97.0	%REC	R15242
Surr: 4-Bromofluorobenzene	SW8260B	1/30/2008	0	1	64.1-120	95.3	%REC	R15242
Surr: Toluene-d8	SW8260B	1/30/2008	0	1	75.1-127	102	%REC	R15242
TPH (Gasoline)	SW8260B(TPH)	1/30/2008	50	1	50	ND	μg/L	G15242
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	1/30/2008	0	1	58.4-133	99.1	%REC	G15242

#### **Definitions, legends and Notes**

Note	Description
ug/kg	Microgram per kilogram (ppb, part per billion).
ug/L	Microgram per liter (ppb, part per billion).
mg/kg	Milligram per kilogram (ppm, part per million).
mg/L	Milligram per liter (ppm, part per million).
LCS/LCSD	Laboratory control sample/laboratory control sample duplicate.
MDL	Method detection limit.
MRL	Modified reporting limit. When sample is subject to dilution, reporting limit times dilution factor yields MRL.
MS/MSD	Matrix spike/matrix spike duplicate.
N/A	Not applicable.
ND	Not detected at or above detection limit.
NR	Not reported.
QC	Quality Control.
RL	Reporting limit.
% RPD	Percent relative difference.
а	pH was measured immediately upon the receipt of the sample, but it was still done outside the holding time.
sub	Analyzed by subcontracting laboratory, Lab Certificate #

**Date:** 05-Feb-08

**CLIENT: KLEINFELDER** 

**Work Order:** 0801160 **Project:** 54504

# ANALYTICAL QC SUMMARY REPORT

BatchID: G15242

Sample ID MB-G Client ID: ZZZZZ	SampType: MBLK Batch ID: G15242	_	TestCode: TPH_GAS_W Units: µg/L TestNo: SW8260B(TP			e: 1/30/2008 e: 1/30/2008		RunNo: <b>15242</b> SeqNo: <b>219229</b>		
Analyte	Result		SPK Ref Val	%REC	Analysis Dat LowLimit	HighLimit RPD Ref Val	·	PDLimit Qual		
TPH (Gasoline) Surr: 4-Bromofllurobenzene	ND 9.600	50 0 11.36	0	84.5	58.4	133				
Sample ID LCS-G	SampType: LCS	TestCode: TPH_GAS	S_W Units: µg/L		Prep Dat	e: <b>1/30/2008</b>	RunNo: <b>15242</b>			
Client ID: ZZZZZ	Batch ID: <b>G15242</b>	TestNo: SW8260E	З(ТР		Analysis Dat	e: <b>1/30/2008</b>	SeqNo: <b>21923</b>	0		
Analyte	Result	PQL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD R	PDLimit Qual		
TPH (Gasoline) Surr: 4-Bromofllurobenzene	193.8 10.60	50 227 0 11.36	0 0	85.4 93.3	52.4 58.4	127 133				
Sample ID LCSD-G Client ID: ZZZZZ	SampType: LCSD  Batch ID: G15242	TestCode: TPH_GAS			Prep Dat Analysis Dat		RunNo: <b>15242</b> SeqNo: <b>21923</b>			
Analyte	Result	PQL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD R	PDLimit Qual		
TPH (Gasoline) Surr: 4-Bromofllurobenzene	189.8 9.500	50 227 0 11.36	0 0	83.6 83.6	52.4 58.4	127 193.8 133 0		20 0		

RPD outside accepted recovery limits

Analyte detected below quantitation limits

**Work Order:** 0801160 54504 **Project:** 

## ANALYTICAL QC SUMMARY REPORT

BatchID: G15292

Sample ID BLK-G Client ID: ZZZZZ	SampType: MBLK Batch ID: G15292	TestCode: TPH_GAS_S Units: µg/Kg TestNo: SW8260B(TP	Prep Date: <b>2/3/2008</b> Analysis Date: <b>2/3/2008</b>	RunNo: <b>15292</b> SeqNo: <b>219955</b>		
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual		
TPH (Gasoline) Surr: 4-Bromofllurobenzene	ND 48.00	100 0 50 0	96.0 56.9 133			
Sample ID LCS-G	SampType: LCS	TestCode: TPH_GAS_S Units: µg/Kg	Prep Date: 2/3/2008	RunNo: <b>15292</b>		
Client ID: ZZZZZ	Batch ID: <b>G15292</b>	TestNo: SW8260B(TP	Analysis Date: 2/3/2008	SeqNo: <b>219956</b>		
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual		
TPH (Gasoline) Surr: 4-Bromofllurobenzene	896.2 47.70	100 1000 22.4 0 50 0	87.4 48.2 132 95.4 56.9 133			
Sample ID LCSD-G Client ID: ZZZZZ	SampType: LCSD Batch ID: G15292	TestCode: TPH_GAS_S Units: µg/Kg TestNo: SW8260B(TP	Prep Date: <b>2/3/2008</b> Analysis Date: <b>2/3/2008</b>	RunNo: <b>15292</b> SeqNo: <b>219957</b>		
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual		
TPH (Gasoline) Surr: 4-Bromofllurobenzene	851.8 46.10	100 1000 22.4 0 50 0	82.9     48.2     132     896.2       92.2     56.9     133     0	5.08 30 0 0		

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

**Work Order:** 0801160 54504 **Project:** 

## ANALYTICAL QC SUMMARY REPORT

BatchID: G15305

Sample ID MB-G	SampType: MBLK	TestCode: <b>TPH_GAS_S</b> Units: μ <b>g</b>	Kg Prep Date: 2/5/2008	RunNo: <b>15305</b>			
Client ID: ZZZZZ	Batch ID: <b>G15305</b>	TestNo: SW8260B(TP	Analysis Date: <b>2/5/2008</b>	SeqNo: <b>220144</b>			
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual			
TPH (Gasoline)	ND	100					
Surr: 4-Bromofllurobenzene	54.40	0 50 0	109 56.9 133				
Sample ID LCS-G	SampType: LCS	TestCode: <b>TPH_GAS_S</b> Units: μο	Kg Prep Date: 2/5/2008	RunNo: <b>15305</b>			
Client ID: ZZZZZ	Batch ID: <b>G15305</b>	TestNo: SW8260B(TP	Analysis Date: <b>2/5/2008</b>	SeqNo: <b>220145</b>			
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual			
TPH (Gasoline)	1113	100 1000 50	106 48.2 132				
Surr: 4-Bromofllurobenzene	56.90	0 50 0	114 56.9 133				
Sample ID LCSD-G	SampType: LCSD	TestCode: <b>TPH_GAS_S</b> Units: μς	Kg Prep Date: 2/5/2008	RunNo: <b>15305</b>			
Client ID: ZZZZZ	Batch ID: <b>G15305</b>	TestNo: SW8260B(TP	Analysis Date: <b>2/5/2008</b>	SeqNo: <b>220146</b>			
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual			
TPH (Gasoline)	1220	100 1000 50	117 48.2 132 1113	9.22 30			
Surr: 4-Bromofllurobenzene	53.80	0 50 0	108 56.9 133 0	0 0			

Value above quantitation range Qualifiers:

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits Page~3~of~17

**Work Order:** 0801160 54504 **Project:** 

## ANALYTICAL QC SUMMARY REPORT

BatchID: G15306

Sample ID MB-G	SampType: MBLK	TestCode: TPH_GAS_	S Units: µg/Kg		Prep Date	e: <b>2/4/2008</b>	}	RunNo: 153	306		
Client ID: ZZZZZ	Batch ID: <b>G15306</b>	TestNo: <b>SW8260B(T</b>	TestNo: SW8260B(TP			e: <b>2/4/2008</b>	}	SeqNo: <b>220148</b>			
Analyte	Result	PQL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit I	RPD Ref Val	%RPD	RPDLimit	Qual	
TPH (Gasoline)	ND	100									
Surr: 4-Bromofllurobenzene	52.40	0 50	0	105	56.9	133					
Sample ID LCS-G	SampType: LCS	TestCode: TPH_GAS_S Units: µg/Kg			Prep Date	e: <b>2/4/2008</b>	}	RunNo: <b>15306</b>			
Client ID: ZZZZZ	Batch ID: <b>G15306</b>	TestNo: <b>SW8260B(T</b>	<b>SW8260B(TP</b> Analysis Date: <b>2/4/2008</b>			}	SeqNo: <b>220149</b>				
Analyte	Result	PQL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit I	RPD Ref Val	%RPD	RPDLimit	Qual	
TPH (Gasoline)	1066	100 1000	51.5	101	48.2	132					
Surr: 4-Bromofllurobenzene	55.40	0 50	0	111	56.9	133					
Sample ID LCSD-G	SampType: LCSD	TestCode: TPH_GAS_	S Units: µg/Kg		Prep Date	e: <b>2/5/2008</b>		RunNo: 15	306		
Client ID: ZZZZZ	Batch ID: G15306	TestNo: <b>SW8260B(1</b>	Ъ		Analysis Date	e: <b>2/5/2008</b>	}	SeqNo: <b>22</b> 0	SeqNo: <b>220150</b>		
Analyte	Result	PQL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit I	RPD Ref Val	%RPD	RPDLimit	Qual	
TPH (Gasoline)	1080	100 1000	51.5	103	48.2	132	1066	1.33	30		
Surr: 4-Bromofllurobenzene	53.10	0 50	0	106	56.9	133	0	0	0		

Value above quantitation range Qualifiers:

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits

Page 4 of 17

**Work Order:** 0801160 54504 **Project:** 

## ANALYTICAL QC SUMMARY REPORT

BatchID: R15209

Sample ID SDSG( Client ID: ZZZZZ		SampType: Batch ID:			le: TPHDSG <sub>_</sub> lo: SW8015B	•	g	Prep Dat Analysis Dat	e: <b>1/28/20</b> e: <b>1/28/20</b>		RunNo: <b>152</b> SeqNo: <b>218</b>		
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	•		RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Diesel)			ND	2.00									
Surr: Pentacosar	ne		2.944	0	3.3	0	89.2	28	125				
Sample ID SDSG0	)80128A-LCS	SampType:	LCS	TestCod	le: TPHDSG	S Units: mg/K	g	Prep Dat	e: <b>1/28/2</b> 0	008	RunNo: 152	209	
Client ID: ZZZZZ		Batch ID:	R15209	TestN	lo: <b>SW8015B</b>			Analysis Dat	e: <b>1/28/2</b> 0	008	SeqNo: <b>218</b>	3619	
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Diesel)			23.69	2.00	33.33	0	71.1	26.6	128				
Surr: Pentacosar	ne		2.991	0	3.3	0	90.6	28	125				
Sample ID SDSG0	)80128A-LCS	SampType:	LCSD	TestCod	le: TPHDSG	S Units: mg/K	g	Prep Dat	e: <b>1/28/2</b> 0	008	RunNo: 152	209	
Client ID: ZZZZZ		Batch ID:	R15209	TestN	lo: <b>SW8015B</b>			Analysis Dat	e: <b>1/28/2</b> 0	008	SeqNo: <b>218</b>	3620	
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Diesel)			24.36	2.00	33.33	0	73.1	26.6	128	23.69	2.80	30	
Surr: Pentacosar	ne		2.947	0	3.3	0	89.3	28	125	0	0	0	
Sample ID <b>080116</b>	0-007A MS	SampType:	MS	TestCoo	le: TPHDSG	S Units: mg/K	g-dry	Prep Dat	e: <b>1/28/2</b> 0	008	RunNo: 152	209	
Client ID: K23-27	,	Batch ID:	R15209	TestN	lo: <b>SW8015B</b>			Analysis Dat	e: <b>1/30/2</b> 0	008	SeqNo: <b>21</b> 9	9034	
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Diesel)			28.17	2.34	39.05	0	72.1	26.6	128				
Surr: Pentacosar	ne		3.199	0	3.866	0	82.8	28	125				
Sample ID <b>080116</b>	0-007A MSD	SampType:	MSD	TestCod	le: TPHDSG	S Units: mg/K	g-dry	Prep Dat	e: <b>1/28/2</b> 0	008	RunNo: 152	209	
Client ID: K23-27	•	Batch ID:	R15209	TestN	lo: <b>SW8015B</b>			Analysis Dat	e: <b>1/30/2</b> 0	008	SeqNo: <b>21</b> 9	9040	
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Diesel)			27.55	2.34	39.05	0	70.6	26.6	128	28.17	2.21	30	,
Surr: Pentacosar	ne		3.370	0	3.866	0	87.2	28	125	0	0	0	

Qualifiers: Value above quantitation range

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits

Page 5 of 17

**Work Order:** 0801160 54504 **Project:** 

## ANALYTICAL QC SUMMARY REPORT

BatchID: R15235

Sample ID WDSG080128A-ME	SampType: MBLK	TestCode: TPHD	SG_W Units: mg/L		Prep Da	te: <b>1/28/2008</b>	RunNo: <b>15235</b>			
Client ID: ZZZZZ	Batch ID: <b>R15235</b>	TestNo: SW8015B			Analysis Da	te: 1/30/2008	SeqNo: <b>219041</b>	SeqNo: <b>219041</b>		
Analyte	Result	PQL SPK va	lue SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual		
TPH (Diesel) Surr: Pentacosane	ND 0.08500	0.100 0	0.1 0	85.0	53.3	124				
Sample ID WDSG080128A-LC	S SampType: LCS	TestCode: TPHD	SG_W Units: mg/L		Prep Dat	te: <b>1/28/2008</b>	RunNo: <b>15235</b>			
Client ID: ZZZZZ	Batch ID: <b>R15235</b>	TestNo: SW80	15B	Analysis Date: 1/30/2008			SeqNo: <b>219042</b>			
Analyte	Result	PQL SPK va	lue SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual		
TPH (Diesel)	0.3130	0.100	1 0	31.3	30	68.5				
Surr: Pentacosane	0.08300	0	0.1 0	83.0	46.8	104				
Sample ID WDSG080128A-LC	S SampType: LCSD	TestCode: TPHD	SG_W Units: mg/L		Prep Dat	te: 1/28/2008	RunNo: <b>15235</b>			
Client ID: ZZZZZ	Batch ID: <b>R15235</b>	TestNo: SW80	15B		Analysis Da	te: 1/30/2008	SeqNo: <b>219043</b>			
Analyte	Result	PQL SPK va	lue SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual		
TPH (Diesel)	0.3410	0.100	1 0	34.1	30	68.5 0.313	8.56 30			
Surr: Pentacosane	0.08500	0	0.1 0	85.0	46.8	104 0	0 0			

Value above quantitation range Qualifiers:

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits  $Page\ 6\ of\ 17$ 

**Work Order:** 0801160 54504 **Project:** 

# ANALYTICAL QC SUMMARY REPORT

BatchID: R15242

Sample ID mb	SampType: MBLK	TestCode:	8260B_W	Units: µg/L		Prep Da	te: 1/30/20	008	RunNo: <b>15</b> 2	242	
Client ID: ZZZZZ	Batch ID: R15242	TestNo:	SW8260B			Analysis Da	te: <b>1/30/2</b> 0	008	SeqNo: <b>21</b>	9131	
Analyte	Result	PQL S	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	1.00									
1,1,1-Trichloroethane	ND	0.500									
1,1,2,2-Tetrachloroethane	ND	1.00									
1,1,2-Trichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,1-Dichloroethene	ND	1.00									
1,1-Dichloropropene	ND	0.500									
1,2,3-Trichlorobenzene	ND	0.500									
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	0.500									
1,2,4-Trimethylbenzene	ND	0.500									
1,2-Dibromo-3-chloropropane	ND	0.500									
1,2-Dibromoethane (EDB)	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dichloroethane (EDC)	ND	0.500									
1,2-Dichloropropane	ND	0.500									
1,3,5-Trimethylbenzene	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
1,4-Dioxane	ND	5.00									
2,2-Dichloropropane	ND	0.500									
2-Chloroethyl vinyl ether	ND	1.00									
2-Chlorotoluene	ND	0.500									
4-Chlorotoluene	ND	0.500									
4-Isopropyltoluene	ND	0.500									
Acetone	ND	10.0									
Benzene	ND	0.500									
Bromobenzene	ND	0.500									
Bromochloromethane	ND	0.500									
Bromodichloromethane	ND	0.500									
Bromoform	ND	1.00									

Qualifiers: Value above quantitation range

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits

Page 7 of 17

**Work Order:** 0801160 54504 **Project:** 

# ANALYTICAL QC SUMMARY REPORT

BatchID: R15242

Sample ID <b>mb</b>	SampType: MBLK	TestCode: 82	260B_W	Units: µg/L		Prep Da	te: <b>1/30/2</b> 0	108	RunNo: 152	242	
Client ID: ZZZZZ	Batch ID: R15242	TestNo: S	W8260B			Analysis Da	te: 1/30/20	008	SeqNo: <b>21</b> 9	9131	
Analyte	Result	PQL SP	'K value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromomethane	ND	1.00									
Carbon tetrachloride	ND	0.500									
Chlorobenzene	ND	0.500									
Chloroform	ND	0.500									
Chloromethane	ND	0.500									
cis-1,2-Dichloroethene	ND	0.500									
cis-1,3-Dichloropropene	ND	0.500									
Dibromochloromethane	ND	0.500									
Dibromomethane	ND	0.500									
Dichlorodifluoromethane	ND	0.500									
Ethyl tert-butyl ether (ETBE)	ND	0.500									
Ethylbenzene	ND	0.500									
Freon-113	ND	1.00									
Hexachlorobutadiene	ND	0.500									
Isopropylbenzene	ND	1.00									
Methyl tert-butyl ether (MTBE)	ND	0.500									
Methylene chloride	ND	5.00									
Naphthalene	ND	0.500									
n-Butylbenzene	ND	0.500									
n-Propylbenzene	ND	0.500									
sec-Butylbenzene	ND	0.500									
Styrene	ND	0.500									
t-Butyl alcohol (t-Butanol)	ND	5.00									
tert-Amyl methyl ether (TAME)	ND	0.500									
tert-Butylbenzene	ND	0.500									
Tetrachloroethene	ND	0.500									
Toluene	ND	0.500									
trans-1,2-Dichloroethene	ND	0.500									
trans-1,3-Dichloropropene	ND	0.500									
Trichloroethene	ND	0.500									
Trichlorofluoromethane	ND	0.500									

Qualifiers: Value above quantitation range

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits

Page 8 of 17

**Work Order:** 0801160 **Project:** 54504

# ANALYTICAL QC SUMMARY REPORT

BatchID: R15242

Sample ID mb	SampType: MBLK	TestCo	de: <b>8260B_W</b>	Units: µg/L		Prep Da	te: 1/30/20	800	RunNo: <b>15</b> 2	242	
Client ID: ZZZZZ	Batch ID: <b>R15242</b>	Testi	No: <b>SW8260B</b>			Analysis Da	te: 1/30/20	008	SeqNo: 219	9131	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.500									
Xylenes, Total	ND	1.50									
Surr: Dibromofluoromethane	11.39	0	11.36	0	100	61.2	131				
Surr: 4-Bromofluorobenzene	10.64	0	11.36	0	93.7	64.1	120				
Surr: Toluene-d8	13.09	0	11.36	0	115	75.1	127				
Sample ID LCS	SampType: LCS	TestCo	de: <b>8260B_W</b>	Units: µg/L		Prep Da	te: <b>1/30/2</b> 0	008	RunNo: 152	242	
Client ID: ZZZZZ	Batch ID: R15242	Testi	No: <b>SW8260B</b>			Analysis Da	te: 1/30/20	008	SeqNo: <b>21</b> 9	9132	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	17.03	1.00	17.04	0	99.9	61.4	129				
Benzene	15.63	0.500	17.04	0	91.7	66.9	140				
Chlorobenzene	17.29	0.500	17.04	0	101	73.9	137				
Toluene	16.84	0.500	17.04	0	98.8	76.6	123				
Trichloroethene	15.91	0.500	17.04	0	93.4	69.3	144				
Surr: Dibromofluoromethane	10.03	0	11.36	0	88.3	61.2	131				
Surr: 4-Bromofluorobenzene	11.02	0	11.36	0	97.0	64.1	120				
Surr: Toluene-d8	11.81	0	11.36	0	104	75.1	127				
Sample ID LCSD	SampType: LCSD	TestCo	de: <b>8260B_W</b>	Units: µg/L		Prep Da	te: <b>1/30/2</b> 0	008	RunNo: 15	242	
Client ID: ZZZZZ	Batch ID: R15242	Testi	No: <b>SW8260B</b>			Analysis Da	te: <b>1/30/2</b> 0	800	SeqNo: <b>21</b> 9	9133	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	16.41	1.00	17.04	0	96.3	61.4	129	17.03	3.71	20	
Benzene	17.54	0.500	17.04	0	103	66.9	140	15.63	11.5	20	
Chlorobenzene	17.70	0.500	17.04	0	104	73.9	137	17.29	2.34	20	
Toluene	17.25	0.500	17.04	0	101	76.6	123	16.84	2.41	20	
Trichloroethene	18.06	0.500	17.04	0	106	69.3	144	15.91	12.7	20	
Surr: Dibromofluoromethane	9.590	0	11.36	0	84.4	61.2	131	0	0	0	
Surr: 4-Bromofluorobenzene	11.06	0	11.36	0	97.4	64.1	120	0	0	0	
Surr: Toluene-d8	10.54	0	11.36	0	92.8	75.1	127	0	0	0	

Qualifiers: Value above quantitation range

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits

Page 9 of 17

**Work Order:** 0801160 54504 **Project:** 

# ANALYTICAL QC SUMMARY REPORT

BatchID: R15292

Sample ID MB	SampType: MBLK	TestCod	de: <b>8260B_S</b>	Units: µg/Kg					RunNo: <b>15</b> 2	292	
Client ID: ZZZZZ	Batch ID: R15292	TestN	lo: <b>SW8260B</b>			Analysis Da	te: <b>2/3/20</b> 0	08	SeqNo: 219	9910	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	10									
1,1,1-Trichloroethane	ND	10									
1,1,2,2-Tetrachloroethane	ND	10									
1,1,2-Trichloroethane	ND	10									
1,1-Dichloroethane	ND	10									
1,1-Dichloroethene	ND	10									
1,1-Dichloropropene	ND	10									
1,2,3-Trichlorobenzene	ND	10									
1,2,3-Trichloropropane	ND	10									
1,2,4-Trichlorobenzene	ND	10									
1,2,4-Trimethylbenzene	ND	10									
1,2-Dibromo-3-chloropropane	ND	10									
1,2-Dibromoethane (EDB)	ND	10									
1,2-Dichlorobenzene	ND	10									
1,2-Dichloroethane (EDC)	ND	10									
1,2-Dichloropropane	ND	10									
1,3,5-Trimethylbenzene	ND	10									
1,3-Dichlorobenzene	ND	10									
1,3-Dichloropropene	ND	10									
1,4-Dichlorobenzene	ND	10									
2,2-Dichloropropane	ND	10									
2-Chloroethyl vinyl ether	ND	10									
2-Chlorotoluene	ND	10									
4-Chlorotoluene	ND	10									
4-Isopropyltoluene	ND	10									
Benzene	ND	10									
Bromobenzene	ND	10									
Bromochloromethane	ND	10									
Bromodichloromethane	ND	10									
Bromoform	ND	10									
Bromomethane	ND	10									

Value above quantitation range Qualifiers:

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits Page~10~of~17

**Work Order:** 0801160 54504 **Project:** 

# ANALYTICAL QC SUMMARY REPORT

BatchID: R15292

Sample ID MB	SampType: MBLK	TestCode	e: 8260B_S	Units: µg/Kg		Prep Da	ite: <b>2/3/20</b>	08	RunNo: <b>15</b>	292	
Client ID: ZZZZZ	Batch ID: R15292	TestNo	: <b>SW8260B</b>			Analysis Da	ite: <b>2/3/20</b> 0	08	SeqNo: 21	9910	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon tetrachloride	ND	10									
Chlorobenzene	ND	10									
Chloroform	ND	10									
Chloromethane	ND	10									
cis-1,2-Dichloroethene	ND	10									
cis-1,3-Dichloropropene	ND	10									
Dibromochloromethane	ND	10									
Dibromomethane	ND	10									
Dichlorodifluoromethane	ND	10									
Ethyl tert-butyl ether (ETBE)	ND	10									
Ethylbenzene	ND	10									
Freon-113	ND	10									
Hexachlorobutadiene	ND	10									
Isopropylbenzene	ND	10									
Methyl tert-butyl ether (MTBE)	ND	10									
Methylene chloride	ND	50									
Naphthalene	ND	20									
n-Butylbenzene	ND	10									
n-Propylbenzene	ND	10									
sec-Butylbenzene	ND	10									
Styrene	ND	10									
t-Butyl alcohol (t-Butanol)	ND	50									
tert-Amyl methyl ether (TAME)	ND	10									
tert-Butylbenzene	ND	10									
Tetrachloroethene	ND	10									
Toluene	ND	10									
trans-1,2-Dichloroethene	ND	10									
trans-1,3-Dichloropropene	ND	10									
Trichloroethene	ND	10									
Trichlorofluoromethane	ND	10									
Vinyl chloride	ND	10									

Value above quantitation range Qualifiers:

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits Page~11~of~17

**Work Order:** 0801160 **Project:** 54504

# ANALYTICAL QC SUMMARY REPORT

BatchID: R15292

Client ID:         ZZZZZZ         Batch ID:         R15292         TestNo:         SW8260B         Analysis Date:         2/3/2008           Analyte         Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val           Xylenes, Total         ND         20           Surr: 4-Bromofluorobenzene         55.89         0         50         0         112         55.8         141           Surr: Dibromofluoromethane         56.19         0         50         0         112         59.8         148           Surr: Toluene-d8         45.43         0         50         0         90.9         55.2         133           Sample ID         LCS         SampType:         LCS         TestCode:         8260B_S         Units:         μg/Kg         Prep Date:         2/3/2008           Client ID:         ZZZZZZ         Batch ID:         R15292         TestNo:         SW8260B         Analysis Date:         2/3/2008           Analyte         Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val           1,1-Dichloroethene         42.89         10         50	RunNo: 15 SeqNo: 21	RPDLimit 5292 19911	Qual
Xylenes, Total         ND         20           Surr: 4-Bromofluorobenzene         55.89         0         50         0         112         55.8         141           Surr: Dibromofluoromethane         56.19         0         50         0         112         59.8         148           Surr: Toluene-d8         45.43         0         50         0         90.9         55.2         133           Sample ID LCS         SampType: LCS         TestCode: 8260B_S         Units: μg/Kg         Prep Date: 2/3/2008           Client ID: ZZZZZZ         Batch ID: R15292         TestNo: SW8260B         Analysis Date: 2/3/2008           Analyte         Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val           1,1-Dichloroethene         42.89         10         50         0         85.8         53.7         139	RunNo: 15 SeqNo: 21	5292 19911	
Surr: 4-Bromofluorobenzene         55.89         0         50         0         112         55.8         141           Surr: Dibromofluoromethane         56.19         0         50         0         112         59.8         148           Surr: Toluene-d8         45.43         0         50         0         90.9         55.2         133           Sample ID         LCS         SampType: LCS         TestCode: 8260B_S         Units: μg/Kg         Prep Date: 2/3/2008           Client ID: ZZZZZ         Batch ID: R15292         TestNo: SW8260B         Analysis Date: 2/3/2008           Analyte         Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val           1,1-Dichloroethene         42.89         10         50         0         85.8         53.7         139	SeqNo: 21	19911	Qual
Surr: Dibromofluoromethane         56.19         0         50         0         112         59.8         148           Surr: Toluene-d8         45.43         0         50         0         90.9         55.2         133           Sample ID LCS         SampType: LCS         TestCode: 8260B_S         Units: μg/Kg         Prep Date: 2/3/2008           Client ID: ZZZZZ         Batch ID: R15292         TestNo: SW8260B         Analysis Date: 2/3/2008           Analyte         Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val           1,1-Dichloroethene         42.89         10         50         0         85.8         53.7         139	SeqNo: 21	19911	Qual
Surr: Toluene-d8         45.43         0         50         0         90.9         55.2         133           Sample ID LCS         SampType: LCS         TestCode: 8260B_S         Units: μg/Kg         Prep Date: 2/3/2008           Client ID: ZZZZZ         Batch ID: R15292         TestNo: SW8260B         Analysis Date: 2/3/2008           Analyte         Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val           1,1-Dichloroethene         42.89         10         50         0         85.8         53.7         139	SeqNo: 21	19911	Qual
Sample ID LCS         SampType: LCS         TestCode: 8260B_S         Units: μg/Kg         Prep Date: 2/3/2008         2/3/2008           Client ID: ZZZZZ         Batch ID: R15292         TestNo: SW8260B         Analysis Date: 2/3/2008         2/3/2008           Analyte         Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val           1,1-Dichloroethene         42.89         10         50         0         85.8         53.7         139	SeqNo: 21	19911	Qual
Client ID:         ZZZZZ         Batch ID:         R15292         TestNo:         SW8260B         Analysis Date:         2/3/2008           Analyte         Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val           1,1-Dichloroethene         42.89         10         50         0         85.8         53.7         139	SeqNo: 21	19911	Qual
Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val 1,1-Dichloroethene 42.89 10 50 0 85.8 53.7 139	•		Qual
1,1-Dichloroethene 42.89 10 50 0 85.8 53.7 139	ıl %RPD	RPDLimit	Qual
Benzene 51.21 10 50 0 102 66.5 135			
Chlorobenzene 45.04 10 50 0 90.1 57.5 150			
Toluene 42.82 10 50 0 85.6 56.8 134			
Trichloroethene 45.81 10 50 0 91.6 57.4 134			
Surr: 4-Bromofluorobenzene 57.22 0 50 0 114 55.8 141			
Surr: Dibromofluoromethane 44.07 0 50 0 88.1 59.8 148			
Surr: Toluene-d8 53.82 0 50 0 108 55.2 133			
Sample ID LCSD SampType: LCSD TestCode: 8260B_S Units: µg/Kg Prep Date: 2/3/2008	RunNo: 15	5292	
Client ID: ZZZZZ Batch ID: R15292 TestNo: SW8260B Analysis Date: 2/3/2008	SeqNo: 21	19912	
Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val	ıl %RPD	RPDLimit	Qual
1,1-Dichloroethene 41.87 10 50 0 83.7 53.7 139 42.89	9 2.41	30	
Benzene 52.32 10 50 0 105 66.5 135 51.21	1 2.14	30	
Chlorobenzene 45.46 10 50 0 90.9 57.5 150 45.04	4 0.928	30	
Toluene 41.81 10 50 0 83.6 56.8 134 42.82	2 2.39	30	
Trichloroethene 51.87 10 50 0 104 57.4 134 45.81	1 12.4	30	
Surr: 4-Bromofluorobenzene 58.26 0 50 0 117 55.8 141 0	0 0	0	
Surr: Dibromofluoromethane 66.08 0 50 0 132 59.8 148 0	0 0	0	
Surr: Toluene-d8 51.42 0 50 0 103 55.2 133 0	0 0	0	

Value above quantitation range Qualifiers:

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits Page~12~of~17

**Work Order:** 0801160 54504 **Project:** 

# ANALYTICAL QC SUMMARY REPORT

BatchID: R15305

Sample ID mb	SampType: MBLK	TestCoo	le: <b>8260B_S</b>	Units: µg/Kg		Prep Da	te: <b>2/5/20</b>	08	RunNo: 15	305	
Client ID: ZZZZZ	Batch ID: <b>R15305</b>	TestN	o: <b>SW8260B</b>			Analysis Da	te: <b>2/5/20</b>	08	SeqNo: 22	0133	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	10									
1,1,1-Trichloroethane	ND	10									
1,1,2,2-Tetrachloroethane	ND	10									
1,1,2-Trichloroethane	ND	10									
1,1-Dichloroethane	ND	10									
1,1-Dichloroethene	ND	10									
1,1-Dichloropropene	ND	10									
1,2,3-Trichlorobenzene	ND	10									
1,2,3-Trichloropropane	ND	10									
1,2,4-Trichlorobenzene	ND	10									
1,2,4-Trimethylbenzene	ND	10									
1,2-Dibromo-3-chloropropane	ND	10									
1,2-Dibromoethane (EDB)	ND	10									
1,2-Dichlorobenzene	ND	10									
1,2-Dichloroethane (EDC)	ND	10									
1,2-Dichloropropane	ND	10									
1,3,5-Trimethylbenzene	ND	10									
1,3-Dichlorobenzene	ND	10									
1,3-Dichloropropene	ND	10									
1,4-Dichlorobenzene	ND	10									
2,2-Dichloropropane	ND	10									
2-Chloroethyl vinyl ether	ND	10									
2-Chlorotoluene	ND	10									
4-Chlorotoluene	ND	10									
4-Isopropyltoluene	ND	10									
Benzene	ND	10									
Bromobenzene	ND	10									
Bromochloromethane	ND	10									
Bromodichloromethane	ND	10									
Bromoform	ND	10									
Bromomethane	ND	10									

Value above quantitation range Qualifiers:

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits Page~13~of~17

**Work Order:** 0801160 54504 **Project:** 

# ANALYTICAL QC SUMMARY REPORT

BatchID: R15305

Sample ID mb	SampType: MBLK	TestCod	e: <b>8260B_S</b>	Units: µg/Kg		Prep Da	te: <b>2/5/20</b> 0	18	RunNo: 15	305	
Client ID: ZZZZZ	Batch ID: R15305	TestN	o: <b>SW8260B</b>			Analysis Da	te: <b>2/5/20</b> 0	)8	SeqNo: 22	0133	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon tetrachloride	ND	10									
Chlorobenzene	ND	10									
Chloroform	ND	10									
Chloromethane	ND	10									
cis-1,2-Dichloroethene	ND	10									
cis-1,3-Dichloropropene	ND	10									
Dibromochloromethane	ND	10									
Dibromomethane	ND	10									
Dichlorodifluoromethane	ND	10									
Ethyl tert-butyl ether (ETBE)	ND	10									
Ethylbenzene	ND	10									
Freon-113	ND	10									
Hexachlorobutadiene	ND	10									
Isopropylbenzene	ND	10									
Methyl tert-butyl ether (MTBE)	ND	10									
Methylene chloride	ND	50									
Naphthalene	ND	20									
n-Butylbenzene	ND	10									
n-Propylbenzene	ND	10									
sec-Butylbenzene	ND	10									
Styrene	ND	10									
t-Butyl alcohol (t-Butanol)	ND	50									
tert-Amyl methyl ether (TAME)	ND	10									
tert-Butylbenzene	ND	10									
Tetrachloroethene	ND	10									
Toluene	ND	10									
trans-1,2-Dichloroethene	ND	10									
trans-1,3-Dichloropropene	ND	10									
Trichloroethene	ND	10									
Trichlorofluoromethane	ND	10									
Vinyl chloride	ND	10									

Qualifiers: Value above quantitation range

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits
Page 14 of 17

**Work Order:** 0801160 **Project:** 54504

# ANALYTICAL QC SUMMARY REPORT

BatchID: R15305

Sample ID mb	SampType: MBLK TestCode: 8260B_S U  Batch ID: R15305 TestNo: SW8260B			Units: µg/Kg		Prep Dat	te: <b>2/5/20</b> 0	)8	RunNo: 15	305		
Client ID: ZZZZZ	Batch ID:	R15305	TestN	lo: <b>SW8260B</b>			Analysis Dat	te: <b>2/5/20</b> 0	08	SeqNo: 220	0133	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Xylenes, Total		ND	20									
Surr: 4-Bromofluorobenzene		48.42	0	50	0	96.8	55.8	141				
Surr: Dibromofluoromethane		51.76	0	50	0	104	59.8	148				
Surr: Toluene-d8		45.45	0	50	0	90.9	55.2	133				
Sample ID Ics	SampType:	LCS	TestCod	de: <b>8260B_S</b>	Units: µg/Kg		Prep Dat	te: <b>2/5/20</b> 0	)8	RunNo: 15	305	
Client ID: ZZZZZ	Batch ID:	R15305	TestN	lo: <b>SW8260B</b>			Analysis Dat	te: <b>2/5/20</b> 0	)8	SeqNo: 220	0134	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene		31.96	10	50	0	63.9	53.7	139				
Benzene		39.13	10	50	0	78.3	66.5	135				
Chlorobenzene		42.65	10	50	0	85.3	57.5	150				
Toluene		43.27	10	50	0	86.5	56.8	134				
Trichloroethene		45.87	10	50	0	91.7	57.4	134				
Surr: 4-Bromofluorobenzene		43.81	0	50	0	87.6	55.8	141				
Surr: Dibromofluoromethane		44.28	0	50	0	88.6	59.8	148				
Surr: Toluene-d8		49.12	0	50	0	98.2	55.2	133				
Sample ID Icsd	SampType:	LCSD	TestCod	de: <b>8260B_S</b>	Units: µg/Kg		Prep Dat	te: <b>2/5/20</b> 0	)8	RunNo: 15	305	
Client ID: ZZZZZ	Batch ID:	R15305	TestN	lo: <b>SW8260B</b>			Analysis Dat	te: <b>2/5/20</b> 0	08	SeqNo: 220	0135	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene		32.17	10	50	0	64.3	53.7	139	31.96	0.655	30	
Benzene		40.41	10	50	0	80.8	66.5	135	39.13	3.22	30	
Chlorobenzene		38.29	10	50	0	76.6	57.5	150	42.65	10.8	30	
Toluene		38.10	10	50	0	76.2	56.8	134	43.27	12.7	30	
Trichloroethene		41.92	10	50	0	83.8	57.4	134	45.87	9.00	30	
Surr: 4-Bromofluorobenzene		38.40	0	50	0	76.8	55.8	141	0	0	0	
Surr: Dibromofluoromethane		43.38	0	50	0	86.8	59.8	148	0	0	0	
Surr: Toluene-d8		42.49	0	50	0	85.0	55.2	133	0	0	0	

Qualifiers: Value above quantitation range

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Spike Recovery outside accepted recovery limits Page~15~of~17

Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

**Work Order:** 0801160 **Project:** 54504

# ANALYTICAL QC SUMMARY REPORT

BatchID: R15306

Spike Recovery outside accepted recovery limits Page~16~of~17

Sample ID mb Client ID: ZZZZZ	SampType: N			e: <b>8260B_S_</b> o: <b>SW8260B</b>	PE Units: μg/Kg		Prep Date Analysis Date	2/4/2008 2/4/2008		RunNo: <b>153</b> SeqNo: <b>220</b>		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit R	PD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromoethane (EDB)		ND	5.0									
1,2-Dichloroethane (EDC)		ND	5.0									
Benzene		ND	5.0									
Ethanol		ND	100									
Ethyl tert-butyl ether (ETBE)		ND	5.0									
Ethylbenzene		ND	5.0									
Methyl tert-butyl ether (MTBE)		ND	10									
-Butyl alcohol (t-Butanol)		ND	50									
tert-Amyl methyl ether (TAME)		ND	5.0									
Toluene		ND	5.0									
Xylenes, Total		ND	15									
Surr: 4-Bromofluorobenzene		55.86	0	50	0	112	55.8	141				
Surr: Dibromofluoromethane		62.81	0	50	0	126	59.8	148				
Surr: Toluene-d8		50.14	0	50	0	100	55.2	133				
Sample ID Ics	SampType: L	LCS	TestCod	le: <b>8260B_S</b> _	PE Units: µg/Kg		Prep Date	2/4/2008		RunNo: <b>153</b>	806	
Client ID: ZZZZZ	Batch ID: F	R15306	TestN	o: <b>SW8260B</b>			Analysis Date	2/4/2008		SeqNo: 220	153	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit R	PD Ref Val	%RPD	RPDLimit	Qual
Benzene		44.35	5.0	50	0	88.7	66.5	135				
		38.85	5.0	50	0	77.7	56.8	134				
		38.85 49.88	5.0 0	50 50	0 0		56.8 55.8	134 141				
Toluene					_	77.7						
Foluene Surr: 4-Bromofluorobenzene		49.88	0	50	0	77.7 99.8	55.8	141				
Toluene Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane Surr: Toluene-d8	SampType: <b>I</b>	49.88 67.43 53.38	0 0 0	50 50 50	0	77.7 99.8 135	55.8 59.8	141 148 133		RunNo: <b>153</b>		
Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane Surr: Toluene-d8  Sample ID Icsd	SampType: L Batch ID: F	49.88 67.43 53.38	0 0 0 TestCod	50 50 50	0 0 0	77.7 99.8 135 107	55.8 59.8 55.2	141 148 133 : <b>2/4/2008</b>		RunNo: <b>153</b> SeqNo: <b>220</b>		
Toluene Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane Surr: Toluene-d8 Sample ID lcsd	Batch ID: F	49.88 67.43 53.38	0 0 0 TestCod	50 50 50	0 0 0	77.7 99.8 135 107	55.8 59.8 55.2 Prep Date Analysis Date	141 148 133 : <b>2/4/2008</b>	PD Ref Val			Qual
Toluene Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane Surr: Toluene-d8  Sample ID Icsd Client ID: ZZZZZ	Batch ID: F	49.88 67.43 53.38 LCSD R15306	0 0 0 TestCod	50 50 50 de: <b>8260B_S_</b> o: <b>SW8260B</b>	0 0 0 PE Units: μg/Kg	77.7 99.8 135 107	55.8 59.8 55.2 Prep Date Analysis Date	141 148 133 : <b>2/4/2008</b> : <b>2/4/2008</b>	PD Ref Val 44.35	SeqNo: <b>220</b>	154	Qual

RPD outside accepted recovery limits

**Work Order:** 0801160 54504 **Project:** 

#### ANALYTICAL QC SUMMARY REPORT

BatchID: R15306

Sample ID lcsd	SampType: LCSD	TestCoo	de: <b>8260B_S</b> _	PE Units: μg/Kg		Prep Da	te: <b>2/4/200</b>	8	RunNo: 153	306	
Client ID: ZZZZZ	Batch ID: R15306	TestN	lo: <b>SW8260B</b>			Analysis Da	te: <b>2/4/200</b>	8	SeqNo: <b>22</b> 0	0154	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	40.32	0	50	0	80.6	55.8	141	0	0	0	
Surr: Dibromofluoromethane	54.24	0	50	0	108	59.8	148	0	0	0	
Surr: Toluene-d8	52.90	0	50	0	106	55.2	133	0	0	0	

Analyte detected below quantitation limits

		LDFR						-								01160
PROJECT NO.	LEINFE	ROJECT NAME OF INDEP	ëndent S	NO.	TYPE		100	NA STATES	5/0		$X_{/}$				PRECEIVING LAB	
L.P. NO. (P.O. NO.	SAMPLERS: (Sign	nature/Number)		OF CON-	OF CON-	Rich Maries		/\/		\$\\\	//	/	b		- ZZPORT SO	CTIONS/REMARKS IN AS DRY WE
DATE	SAMPLE I.D. TIME	SAMPLE I.D.	MATRIX	TAINERS	TAINERS	(C)		<b>3</b> 23		1	7	<u>/</u>	_/	/		J TAT
MM/DD/YY	нн-мм-ss	K24-40	SAIL	11	TUBE	. اعرد	-1.		<u> </u>	+-		$\rightarrow$	4	-	21/2	
1/23/08	1344	K24-6W-27	WATER	16	Ablos	X)		X			1	7	<u></u>	╁~	230	
1/23/08	1435	K24-6W-27 K24-6W-35	WATER	6	M/102	^	+	12		1	H	-	十	-		
				-	-	$\vdash$		†-		+-	1 1	7	+	<del>                                     </del>		<del></del>
5				+	+	† †	_	1								
6			+	+												
7	<u> </u>	-						1_	<b> </b>	_		_		<del>- </del>		·
8					_	1						$\dashv$	_	<del>:                                    </del>		
9							+	_}_	├┼	+-	$\dashv$	-		-	<del></del>	<del></del>
11	+					#	$\mathcal{H}$	$\Rightarrow$		+	$\vdash$	$\dashv$	$\dashv$	+-	<del> </del>	<del></del>
12						+	$\dashv$	+		$\uparrow$	1	$\operatorname{\triangleleft}$	$\neg \uparrow$	1-	<del></del>	
13					+	1-1	十	╁╴		1				$ \leftarrow$		· · · · · · · · · · · · · · · · · · ·
14			-			+-1										
15			_													
16									$\perp \perp$		1	$\rightarrow$				
17							-	+	$\downarrow \downarrow$			_		-		
18	_						$\vdash$		++	-	+{		-	+		
20	_		Received by: (Signature)	gnature) 🦡		Instr	uctions/R	emaŗkș:	<del></del> _	<del></del> _		1		Se	end Results To:	<del></del>
Relinquish Relinquish	ed by: (Signature)  ned by: (Signature)  hed by: (Signature)	Date/Time  /23/03  5 + 9  -23-08  735		ignature)	Signature)		VEL EQ MAIL		DATI EZE SULT		14×6	PE -		At	KLEINFELDE 7433 KOLL C SUITE TOD PLEASANT O (925) 484-170 (925) 484-170 (HAILLIE ALM PATRICIA M	ne stad
M-60	(DS	White - Sampler	1		CI	HAIN	Canary - F	CU	py To Shipp STOI	OY					Pink – Lab Copy NO	4483



February 05, 2008

Charlie Almestad KLEINFELDER 1970 Broadway, Suite 710 Oakland, CA 94612

TEL: (510) 628-9000 FAX (510) 628-9009

RE: 54504

Dear Charlie Almestad:

Order No.: 0801163

Torrent Laboratory, Inc. received 13 samples on 1/24/2008 for the analyses presented in the following report.

All data for associated QC met EPA or laboratory specification(s) except where noted in the case narrative.

Reported data is applicable for only the samples received as part of the order number referenced above.

Torrent Laboratory, Inc, is certified by the State of California, ELAP #1991. If you have any questions regarding these tests results, please feel free to contact the Project Management Team at (408)263-5258;ext: 204.

Sincerely,

Patti Sandrock

QA Officer



Torrent Laboratory, Inc.

**Date:** 05-Feb-08

CLIENT:

**KLEINFELDER** 

Project:

54504

Lab Order:

0801163

**CASE NARRATIVE** 

Analytical Comment for TPHDOSG\_W and TPHDOSG\_S, Note: Silica gel clean-up procedures employed on all samples.



# TORRENT LABORATORY, INC.

483 Sinclair Frontage Road • Milpitas, CA • Phone: (408) 263-5258 • Fax: (408) 263-8293

Visit us at www.torrentlab.com email: analysis@torrentlab.com

Report prepared for: Charlie Almestad

**Date Received:** 1/24/2008 **Date Reported:** 

KLEINFELDER

and reported.

Client Sample ID: K25-8

**Lab Sample ID:** 0801163-002

Sample Location: EOP-700 Independent Rd

**Date Prepared:** 

**Sample Matrix:** SOIL

**Date/Time Sampled** 1/23/2008 3:33:00 PM

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Percent Moisture	D2216	1/29/2008	0	1	0	20	wt%	R15231
TPH (Diesel)	SW8015B	1/30/2008	2	1	2.49	ND	mg/Kg-dry	R15209
Surr: Pentacosane	SW8015B	1/30/2008	0	1	28-125	85.0	%REC	R15209
Benzene	SW8260B	2/3/2008	5	1	6.2	ND	μg/Kg-dry	R15292
Ethylbenzene	SW8260B	2/3/2008	5	1	6.2	ND	μg/Kg-dry	R15292
Methyl tert-butyl ether (MTBE)	SW8260B	2/3/2008	10	1	12	ND	μg/Kg-dry	R15292
Toluene	SW8260B	2/3/2008	5	1	6.2	ND	μg/Kg-dry	R15292
Xylenes, Total	SW8260B	2/3/2008	15	1	19	ND	μg/Kg-dry	R15292
Surr: 4-Bromofluorobenzene	SW8260B	2/3/2008	0	1	55.8-141	130	%REC	R15292
Surr: Dibromofluoromethane	SW8260B	2/3/2008	0	1	59.8-148	106	%REC	R15292
Surr: Toluene-d8	SW8260B	2/3/2008	0	1	55.2-133	92.1	%REC	R15292
TPH (Gasoline)	SW8260B(TPH)	2/3/2008	100	1	120	ND	μg/Kg-dry	G15292
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	2/3/2008	0	1	56.9-133	42 S	%REC	G15292

Note: S - Low surrogate recovery due to possible matrix effect.

**KLEINFELDER** 

**Date Received:** 1/24/2008

**Date Reported:** 

Client Sample ID: K25-20

EOP-700 Independent Rd

Sample Location: Sample Matrix:

SOIL

**Date/Time Sampled** 

1/23/2008 3:43:00 PM

**Lab Sample ID:** 0801163-005

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Percent Moisture	D2216	1/29/2008	0	1	0	15	wt%	R15231
TPH (Diesel)	SW8015B	1/30/2008	2	1	2.35	ND	mg/Kg-dry	R15209
Surr: Pentacosane	SW8015B	1/30/2008	0	1	28-125	89.8	%REC	R15209
Benzene	SW8260B	2/3/2008	5	1	5.9	ND	μg/Kg-dry	R15292
Ethylbenzene	SW8260B	2/3/2008	5	1	5.9	ND	μg/Kg-dry	R15292
Methyl tert-butyl ether (MTBE)	SW8260B	2/3/2008	10	1	12	ND	μg/Kg-dry	R15292
Toluene	SW8260B	2/3/2008	5	1	5.9	ND	μg/Kg-dry	R15292
Xylenes, Total	SW8260B	2/3/2008	15	1	18	ND	μg/Kg-dry	R15292
Surr: 4-Bromofluorobenzene	SW8260B	2/3/2008	0	1	55.8-141	117	%REC	R15292
Surr: Dibromofluoromethane	SW8260B	2/3/2008	0	1	59.8-148	105	%REC	R15292
Surr: Toluene-d8	SW8260B	2/3/2008	0	1	55.2-133	93.9	%REC	R15292
TPH (Gasoline)	SW8260B(TPH)	2/3/2008	100	1	120	ND	μg/Kg-dry	G15292
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	2/3/2008	0	1	56.9-133	73.4	%REC	G15292

**KLEINFELDER** 

**Date Received:** 1/24/2008

**Date Reported:** 

Client Sample ID: K25-31

**Sample Location:** EOP-700 Independent Rd

Sample Matrix: SOIL

**Date/Time Sampled** 1/23/2008 4:40:00 PM

**Lab Sample ID:** 0801163-008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Percent Moisture	D2216	1/29/2008	0	1	0	12	wt%	R15231
TPH (Diesel)	SW8015B	1/30/2008	2	1	2.29	ND	mg/Kg-dry	R15209
Surr: Pentacosane	SW8015B	1/30/2008	0	1	28-125	83.8	%REC	R15209
Benzene	SW8260B	2/3/2008	5	1	5.7	ND	μg/Kg-dry	R15292
Ethylbenzene	SW8260B	2/3/2008	5	1	5.7	ND	μg/Kg-dry	R15292
Methyl tert-butyl ether (MTBE)	SW8260B	2/3/2008	10	1	11	ND	μg/Kg-dry	R15292
Toluene	SW8260B	2/3/2008	5	1	5.7	ND	μg/Kg-dry	R15292
Xylenes, Total	SW8260B	2/3/2008	15	1	17	ND	μg/Kg-dry	R15292
Surr: 4-Bromofluorobenzene	SW8260B	2/3/2008	0	1	55.8-141	111	%REC	R15292
Surr: Dibromofluoromethane	SW8260B	2/3/2008	0	1	59.8-148	93.3	%REC	R15292
Surr: Toluene-d8	SW8260B	2/3/2008	0	1	55.2-133	93.6	%REC	R15292
TPH (Gasoline)	SW8260B(TPH)	2/3/2008	100	1	110	ND	μg/Kg-dry	G15292
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	2/3/2008	0	1	56.9-133	61.8	%REC	G15292

**KLEINFELDER** 

**Date Received:** 1/24/2008

**Date Reported:** 

Client Sample ID: K25-GW-28

EOP-700 Independent Rd

Sample Location:
Sample Matrix:

GROUNDWATER

**Date/Time Sampled** 

1/23/2008 5:00:00 PM

**Lab Sample ID:** 0801163-012

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
TPH (Diesel)	SW8015B	1/30/2008	0.1	1	0.130	ND	mg/L	R15235
Surr: Pentacosane	SW8015B	1/30/2008	0	1	40-120	85.0	%REC	R15235
Note: Reporting limits increased du	ue to limited sample availa	able (sediment pre	esent).					
Benzene	SW8260B	1/31/2008	0.5	1.38	0.690	ND	μg/L	R15242
Ethylbenzene	SW8260B	1/31/2008	0.5	1.38	0.690	ND	μg/L	R15242
Methyl tert-butyl ether (MTBE)	SW8260B	1/31/2008	0.5	1.38	0.690	ND	μg/L	R15242
Toluene	SW8260B	1/31/2008	0.5	1.38	0.690	ND	μg/L	R15242
Xylenes, Total	SW8260B	1/31/2008	1.5	1.38	2.07	ND	μg/L	R15242
Surr: Dibromofluoromethane	SW8260B	1/31/2008	0	1.38	61.2-131	109	%REC	R15242
Surr: 4-Bromofluorobenzene	SW8260B	1/31/2008	0	1.38	64.1-120	96.0	%REC	R15242
Surr: Toluene-d8	SW8260B	1/31/2008	0	1.38	75.1-127	107	%REC	R15242
Note: Sample diluted prior to the a	nalysis due to high level o	f sediment in all \	/OAs.					
TPH (Gasoline)	SW8260B(TPH)	1/31/2008	50	1.38	69	ND	μg/L	G15242
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	1/31/2008	0	1.38	58.4-133	89.7	%REC	G15242

**KLEINFELDER** 

**Date Received:** 1/24/2008

**Date Reported:** 

Client Sample ID: K25-GW-36

EOP-700 Independent Rd

Sample Location: Sample Matrix:

**Date/Time Sampled** 

1/23/2008 5:55:00 PM

**Lab Sample ID:** 0801163-013

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
TPH (Diesel)	SW8015B	1/30/2008	0.1	1	0.115	ND	mg/L	R15235
Surr: Pentacosane	SW8015B	1/30/2008	0	1	40-120	63.0	%REC	R15235
Note: Reporting limits increased due to lir	mited sample availa	able (sediment pr	esent).					
Benzene	SW8260B	1/31/2008	0.5	1	0.500	ND	μg/L	R15242
Ethylbenzene	SW8260B	1/31/2008	0.5	1	0.500	ND	μg/L	R15242
Methyl tert-butyl ether (MTBE)	SW8260B	1/31/2008	0.5	1	0.500	ND	μg/L	R15242
Toluene	SW8260B	1/31/2008	0.5	1	0.500	ND	μg/L	R15242
Xylenes, Total	SW8260B	1/31/2008	1.5	1	1.50	ND	μg/L	R15242
Surr: Dibromofluoromethane	SW8260B	1/31/2008	0	1	61.2-131	113	%REC	R15242
Surr: 4-Bromofluorobenzene	SW8260B	1/31/2008	0	1	64.1-120	101	%REC	R15242
Surr: Toluene-d8	SW8260B	1/31/2008	0	1	75.1-127	109	%REC	R15242
TPH (Gasoline)	SW8260B(TPH)	1/31/2008	50	1	50	ND	μg/L	G15242
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	1/31/2008	0	1	58.4-133	88.8	%REC	G15242

#### **Definitions, legends and Notes**

Note	Description
ug/kg	Microgram per kilogram (ppb, part per billion).
ug/L	Microgram per liter (ppb, part per billion).
mg/kg	Milligram per kilogram (ppm, part per million).
mg/L	Milligram per liter (ppm, part per million).
LCS/LCSD	Laboratory control sample/laboratory control sample duplicate.
MDL	Method detection limit.
MRL	Modified reporting limit. When sample is subject to dilution, reporting limit times dilution factor yields MRL.
MS/MSD	Matrix spike/matrix spike duplicate.
N/A	Not applicable.
ND	Not detected at or above detection limit.
NR	Not reported.
QC	Quality Control.
RL	Reporting limit.
% RPD	Percent relative difference.
а	pH was measured immediately upon the receipt of the sample, but it was still done outside the holding time.
sub	Analyzed by subcontracting laboratory, Lab Certificate #

**Date:** 05-Feb-08

**CLIENT: KLEINFELDER** 

**Work Order:** 0801163 **Project:** 54504

# ANALYTICAL QC SUMMARY REPORT

BatchID: G15242

Sample ID MB-G Client ID: ZZZZZ	SampType: MI Batch ID: G			: TPH_GAS	i_W Units: μg/L (TP		Prep Da			RunNo: <b>15</b> 2 SeqNo: <b>21</b> 9		
Analyte	R	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline) Surr: 4-Bromofllurobenzene	g	ND 9.600	50 0	11.36	0	84.5	58.4	133				
Sample ID LCS-G	SampType: L0	cs	TestCode	: TPH_GAS	s_W Units: μg/L		Prep Da	te: <b>1/30/2</b> 0	008	RunNo: 152	242	
Client ID: ZZZZZ	Batch ID: G	15242	TestNo	: SW8260B	(TP		Analysis Da	te: 1/30/20	008	SeqNo: <b>21</b> !	9230	
Analyte	R	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	1	193.8	50	227	0	85.4	52.4	127				
Surr: 4-Bromofllurobenzene	1	10.60	0	11.36	0	93.3	58.4	133				
Sample ID LCSD-G	SampType: L0	CSD	TestCode	: TPH_GAS	s_W Units: μg/L		Prep Da	te: <b>1/30/2</b> 0	008	RunNo: 152	242	
Client ID: ZZZZZ	Batch ID: G	15242	TestNo	: SW8260B	(TP		Analysis Da	te: 1/30/20	008	SeqNo: <b>21</b> 9	9231	
Analyte	R	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	1	189.8	50	227	0	83.6	52.4	127	193.8	2.09	20	
Surr: 4-Bromofllurobenzene	9	9.500	0	11.36	0	83.6	58.4	133	0	0	0	

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

**Work Order:** 0801163 54504 **Project:** 

#### ANALYTICAL QC SUMMARY REPORT

BatchID: G15292

Sample ID BLK-G	SampType: MBLK	TestCode: TPH_GAS_S Units: μg/Kg	Prep Date: 2/3/2008	RunNo: <b>15292</b>
Client ID: ZZZZZ	Batch ID: <b>G15292</b>	TestNo: SW8260B(TP	Analysis Date: 2/3/2008	SeqNo: <b>219955</b>
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
TPH (Gasoline)	ND	100		
Surr: 4-Bromofllurobenzene	48.00	0 50 0	96.0 56.9 133	
Sample ID LCS-G	SampType: LCS	TestCode: TPH_GAS_S Units: μg/Kg	Prep Date: 2/3/2008	RunNo: <b>15292</b>
Client ID: ZZZZZ	Batch ID: <b>G15292</b>	TestNo: SW8260B(TP	Analysis Date: 2/3/2008	SeqNo: <b>219956</b>
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
TPH (Gasoline)	896.2	100 1000 22.4	87.4 48.2 132	
Surr: 4-Bromofllurobenzene	47.70	0 50 0	95.4 56.9 133	
Sample ID LCSD-G	SampType: LCSD	TestCode: TPH_GAS_S Units: μg/Kg	Prep Date: 2/3/2008	RunNo: <b>15292</b>
Client ID: ZZZZZ	Batch ID: <b>G15292</b>	TestNo: SW8260B(TP	Analysis Date: 2/3/2008	SeqNo: <b>219957</b>
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
TPH (Gasoline)	851.8	100 1000 22.4	82.9 48.2 132 896.2	5.08 30
Surr: 4-Bromofllurobenzene	46.10	0 50 0	92.2 56.9 133 0	0 0

Value above quantitation range Qualifiers:

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Spike Recovery outside accepted recovery limits Page~2~of~11

Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

**Work Order:** 0801163 **Project:** 54504

# ANALYTICAL QC SUMMARY REPORT

BatchID: R15209

Spike Recovery outside accepted recovery limits

Page 3 of 11

Sample ID SDSG080128A-MB Client ID: ZZZZZ	SampType: Batch ID:			e: <b>TPHDSG_</b> o: <b>SW8015B</b>	S Units: mg/Kg		Prep Date	te: 1/28/2 te: 1/28/2		RunNo: 15		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
ΓPH (Diesel)		ND	2.00									
Surr: Pentacosane		2.944	0	3.3	0	89.2	28	125				
Sample ID SDSG080128A-LCS	SampType:	LCS	TestCod	e: TPHDSG_	S Units: mg/Kg		Prep Da	te: <b>1/28/2</b>	008	RunNo: <b>15</b>	209	
Client ID: ZZZZZ	Batch ID:	R15209	TestN	o: <b>SW8015B</b>			Analysis Da	te: <b>1/28/2</b>	008	SeqNo: 21	8619	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
ΓPH (Diesel)		23.69	2.00	33.33	0	71.1	26.6	128				
Surr: Pentacosane		2.991	0	3.3	0	90.6	28	125				
Sample ID SDSG080128A-LCS	SampType:	LCSD	TestCod	e: <b>TPHDSG</b> _	S Units: mg/Kg		Prep Dat	te: <b>1/28/2</b>	008	RunNo: 15	209	
Client ID: ZZZZZ	Batch ID:	R15209	TestN	o: <b>SW8015B</b>			Analysis Da	te: <b>1/28/2</b>	800	SeqNo: 21	8620	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
ΓPH (Diesel)		24.36	2.00	33.33	0	73.1	26.6	128	23.69	2.80	30	
Surr: Pentacosane		2.947	0	3.3	0	89.3	28	125	0	0	0	
Sample ID <b>0801160-007A MS</b>	SampType:	MS	TestCod	e: <b>TPHDSG</b> _	S Units: mg/Kg-	dry	Prep Dat	te: <b>1/28/2</b>	008	RunNo: <b>15</b>	209	
Client ID: ZZZZZ	Batch ID:	R15209	TestN	o: <b>SW8015B</b>			Analysis Da	te: <b>1/30/2</b>	008	SeqNo: 21	9034	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
ΓPH (Diesel)		28.17	2.34	39.05	0	72.1	26.6	128				
Surr: Pentacosane		3.199	0	3.866	0	82.8	28	125				
Sample ID <b>0801160-007A MSD</b>	SampType:	MSD	TestCod	e: <b>TPHDSG</b> _	S Units: mg/Kg-	dry	Prep Dat	te: <b>1/28/2</b>	008	RunNo: 15	209	
Client ID: ZZZZZ	Batch ID:	R15209	TestN	o: <b>SW8015B</b>			Analysis Da	te: <b>1/30/2</b>	800	SeqNo: 21	9040	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
ΓPH (Diesel)		27.55	2.34	39.05	0	70.6	26.6	128	28.17	2.21	30	
Surr: Pentacosane		3.370	0	3.866	0	87.2	28	125	0	0	0	

RPD outside accepted recovery limits

**Work Order:** 0801163 54504 **Project:** 

#### ANALYTICAL QC SUMMARY REPORT

BatchID: R15235

Sample ID WDSG080128A-MB	SampType: MBLK	TestCode:	TPHDSG_\	V Units: mg/L		Prep Dat	te: <b>1/28/20</b>	08	RunNo: 152	235	
Client ID: ZZZZZ	Batch ID: R15235	TestNo:	SW8015B			Analysis Dat	te: <b>1/30/20</b>	08	SeqNo: 219	9041	
Analyte	Result	PQL S	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Diesel)	ND	0.100									
Surr: Pentacosane	0.08500	0	0.1	0	85.0	53.3	124				
Sample ID WDSG080128A-LC	S SampType: LCS	TestCode:	TPHDSG_\	V Units: mg/L		Prep Dat	te: <b>1/28/20</b>	08	RunNo: 152	235	
Client ID: ZZZZZ	Batch ID: <b>R15235</b>	TestNo:	SW8015B			Analysis Dat	te: <b>1/30/20</b>	08	SeqNo: <b>21</b> 9	9042	
Analyte	Result	PQL S	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Diesel)	0.3130	0.100	1	0	31.3	30	68.5				
Surr: Pentacosane	0.08300	0	0.1	0	83.0	46.8	104				
Sample ID WDSG080128A-LC	S SampType: LCSD	TestCode:	TPHDSG_\	V Units: mg/L		Prep Dat	te: <b>1/28/20</b>	08	RunNo: 152	235	
Client ID: ZZZZZ	Batch ID: <b>R15235</b>	TestNo:	SW8015B			Analysis Dat	te: <b>1/30/20</b>	08	SeqNo: <b>21</b> 9	9043	
Analyte	Result	PQL S	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Diesel)	0.3410	0.100	1	0	34.1	30	68.5	0.313	8.56	30	
Surr: Pentacosane	0.08500	0	0.1	0	85.0	46.8	104	0	0	0	

Value above quantitation range Qualifiers:

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits

Page 4 of 11

**Work Order:** 0801163 54504 **Project:** 

# ANALYTICAL QC SUMMARY REPORT

BatchID: R15242

Sample ID mb	SampType: MBLK	TestCode: 82	260B_W	Units: µg/L		Prep Da	te: <b>1/30/2</b> 0	008	RunNo: 15	242	
Client ID: ZZZZZ	Batch ID: R15242	TestNo: S	W8260B			Analysis Da	te: <b>1/30/2</b> 0	008	SeqNo: <b>21</b> 9	9131	
Analyte	Result	PQL SPI	K value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	1.00									
1,1,1-Trichloroethane	ND	0.500									
1,1,2,2-Tetrachloroethane	ND	1.00									
1,1,2-Trichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,1-Dichloroethene	ND	1.00									
1,1-Dichloropropene	ND	0.500									
1,2,3-Trichlorobenzene	ND	0.500									
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	0.500									
1,2,4-Trimethylbenzene	ND	0.500									
1,2-Dibromo-3-chloropropane	ND	0.500									
1,2-Dibromoethane (EDB)	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dichloroethane (EDC)	ND	0.500									
1,2-Dichloropropane	ND	0.500									
1,3,5-Trimethylbenzene	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
1,4-Dioxane	ND	5.00									
2,2-Dichloropropane	ND	0.500									
2-Chloroethyl vinyl ether	ND	1.00									
2-Chlorotoluene	ND	0.500									
4-Chlorotoluene	ND	0.500									
4-Isopropyltoluene	ND	0.500									
Acetone	ND	10.0									
Benzene	ND	0.500									
Bromobenzene	ND	0.500									
Bromochloromethane	ND	0.500									
Bromodichloromethane	ND	0.500									
Bromoform	ND	1.00									

Qualifiers: Value above quantitation range

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Spike Recovery outside accepted recovery limits

Page 5 of 11

Analyte detected below quantitation limits

**Work Order:** 0801163 54504 **Project:** 

# ANALYTICAL QC SUMMARY REPORT

BatchID: R15242

Sample ID <b>mb</b>	SampType: MBLK	TestCode: 82	260B_W	Units: µg/L		Prep Da	te: <b>1/30/2</b> 0	108	RunNo: 152	242	
Client ID: ZZZZZ	Batch ID: R15242	TestNo: S	W8260B			Analysis Da	te: 1/30/20	008	SeqNo: <b>21</b> 9	9131	
Analyte	Result	PQL SP	'K value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromomethane	ND	1.00									
Carbon tetrachloride	ND	0.500									
Chlorobenzene	ND	0.500									
Chloroform	ND	0.500									
Chloromethane	ND	0.500									
cis-1,2-Dichloroethene	ND	0.500									
cis-1,3-Dichloropropene	ND	0.500									
Dibromochloromethane	ND	0.500									
Dibromomethane	ND	0.500									
Dichlorodifluoromethane	ND	0.500									
Ethyl tert-butyl ether (ETBE)	ND	0.500									
Ethylbenzene	ND	0.500									
Freon-113	ND	1.00									
Hexachlorobutadiene	ND	0.500									
Isopropylbenzene	ND	1.00									
Methyl tert-butyl ether (MTBE)	ND	0.500									
Methylene chloride	ND	5.00									
Naphthalene	ND	0.500									
n-Butylbenzene	ND	0.500									
n-Propylbenzene	ND	0.500									
sec-Butylbenzene	ND	0.500									
Styrene	ND	0.500									
t-Butyl alcohol (t-Butanol)	ND	5.00									
tert-Amyl methyl ether (TAME)	ND	0.500									
tert-Butylbenzene	ND	0.500									
Tetrachloroethene	ND	0.500									
Toluene	ND	0.500									
trans-1,2-Dichloroethene	ND	0.500									
trans-1,3-Dichloropropene	ND	0.500									
Trichloroethene	ND	0.500									
Trichlorofluoromethane	ND	0.500									

Qualifiers: Value above quantitation range

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits

Page 6 of 11

Work Order: 0801163 54504 **Project:** 

#### ANALYTICAL QC SUMMARY REPORT

BatchID: R15242

Sample ID mb	SampType: N	IBLK	TestCod	de: <b>8260B_W</b>	Units: µg/L		Prep Dat	e: <b>1/30/2</b> 0	008	RunNo: <b>15</b> 2	242	
Client ID: ZZZZZ	Batch ID: R	15242	TestN	lo: <b>SW8260B</b>			Analysis Dat	e: <b>1/30/2</b> 0	008	SeqNo: <b>21</b> 9	9131	
Analyte	F	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride		ND	0.500									
Xylenes, Total		ND	1.50									
Pentafluorobenzene		11.36	0	11.36	0	100	50	200				
1,4-Difluorobenzene		11.36	0	11.36	0	100	50	200				
Chlorobenzene-d5		11.36	0	11.36	0	100	50	200				
1,4-Dichlorobenzene-d4		11.36	0	11.36	0	100	50	200				
Surr: Dibromofluoromethane		11.39	0	11.36	0	100	61.2	131				
Surr: 4-Bromofluorobenzene		10.64	0	11.36	0	93.7	64.1	120				
Surr: Toluene-d8		13.09	0	11.36	0	115	75.1	127				
Sample ID LCS	SampType: L	.cs	TestCode: 8260B_W Units: μg/L		Prep Date: 1/30/2008			008	RunNo: <b>15242</b>			
Client ID: ZZZZZ	Batch ID: R	15242	TestN	lo: <b>SW8260B</b>			Analysis Dat	e: <b>1/30/2</b> 0	008	SeqNo: <b>21</b> 9	9132	
Analyte	F	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
1,1-Dichloroethene		17.03	1.00	17.04	0	99.9	61.4	129				
Benzene		15.63	0.500	17.04	0	91.7	66.9	140				
Chlorobenzene		17.29	0.500	17.04	0	101	73.9	137				
Toluene		16.84	0.500	17.04	0	98.8	76.6	123				
Trichloroethene		15.91	0.500	17.04	0	93.4	69.3	144				
Surr: Dibromofluoromethane		10.03	0	11.36	0	88.3	61.2	131				
Surr: 4-Bromofluorobenzene		11.02	0	11.36	0	97.0	64.1	120				
Surr: Toluene-d8		11.81	0	11.36	0	104	75.1	127				
Sample ID LCSD	SampType: L	.CSD	TestCod	de: <b>8260B_W</b>	Units: µg/L		Prep Dat	e: <b>1/30/2</b> 0	008	RunNo: 152	242	
Client ID: ZZZZZ	Batch ID: R	15242	TestN	lo: <b>SW8260B</b>			Analysis Dat	e: <b>1/30/2</b> 0	008	SeqNo: <b>21</b> 9	9133	
Analyte	F	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
1,1-Dichloroethene		16.41	1.00	17.04	0	96.3	61.4	129	17.03	3.71	20	
Benzene		17.54	0.500	17.04	0	103	66.9	140	15.63	11.5	20	
Chlorobenzene		17.70	0.500	17.04	0	104	73.9	137	17.29	2.34	20	
Toluene		17.25	0.500	17.04	0	101	76.6	123	16.84	2.41	20	

Qualifiers: Value above quantitation range

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits

Page 7 of 11

Work Order: 0801163 54504 **Project:** 

#### ANALYTICAL QC SUMMARY REPORT

BatchID: R15242

Sample ID LCSD Client ID: ZZZZZ	SampType: LCSD Batch ID: R15242		de: <b>8260B_W</b> No: <b>SW8260B</b>		Prep Date: 1/30/2008  Analysis Date: 1/30/2008				RunNo: <b>152</b> SeqNo: <b>219</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene	18.06	0.500	17.04	0	106	69.3	144	15.91	12.7	20	
Surr: Dibromofluoromethane	9.590	0	11.36	0	84.4	61.2	131	0	0	0	
Surr: 4-Bromofluorobenzene	11.06	0	11.36	0	97.4	64.1	120	0	0	0	
Surr: Toluene-d8	10.54	0	11.36	0	92.8	75.1	127	0	0	0	

Analyte detected below quantitation limits

Work Order: 0801163 54504 **Project:** 

# ANALYTICAL QC SUMMARY REPORT

BatchID: R15292

Sample ID MB	SampType: MBLK	TestCod	e: <b>8260B_S</b>	Units: µg/Kg		Prep Da	te: <b>2/3/20</b> 0	)8	RunNo: <b>15</b> 2	292	
Client ID: ZZZZZ	Batch ID: R15292	TestN	o: <b>SW8260B</b>			Analysis Da	te: <b>2/3/20</b> 0	08	SeqNo: <b>21</b> 9	9910	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	10									
1,1,1-Trichloroethane	ND	10									
1,1,2,2-Tetrachloroethane	ND	10									
1,1,2-Trichloroethane	ND	10									
1,1-Dichloroethane	ND	10									
1,1-Dichloroethene	ND	10									
1,1-Dichloropropene	ND	10									
1,2,3-Trichlorobenzene	ND	10									
1,2,3-Trichloropropane	ND	10									
1,2,4-Trichlorobenzene	ND	10									
1,2,4-Trimethylbenzene	ND	10									
1,2-Dibromo-3-chloropropane	ND	10									
1,2-Dibromoethane (EDB)	ND	10									
1,2-Dichlorobenzene	ND	10									
1,2-Dichloroethane (EDC)	ND	10									
1,2-Dichloropropane	ND	10									
1,3,5-Trimethylbenzene	ND	10									
1,3-Dichlorobenzene	ND	10									
1,3-Dichloropropene	ND	10									
1,4-Dichlorobenzene	ND	10									
2,2-Dichloropropane	ND	10									
2-Chloroethyl vinyl ether	ND	10									
2-Chlorotoluene	ND	10									
4-Chlorotoluene	ND	10									
4-Isopropyltoluene	ND	10									
Benzene	ND	10									
Bromobenzene	ND	10									
Bromochloromethane	ND	10									
Bromodichloromethane	ND	10									
Bromoform	ND	10									
Bromomethane	ND	10									

Qualifiers: Value above quantitation range

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Spike Recovery outside accepted recovery limits

Page 9 of 11

Analyte detected below quantitation limits

Work Order: 0801163 54504 **Project:** 

# ANALYTICAL QC SUMMARY REPORT

BatchID: R15292

Sample ID MB	SampType: MBLK	TestCode: 8260B_S	Units: µg/Kg	Prep Date: 2/3/2008	RunNo: <b>15292</b>
Client ID: ZZZZZ	Batch ID: R15292	TestNo: SW8260E	3	Analysis Date: 2/3/2008	SeqNo: <b>219910</b>
Analyte	Result	PQL SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Carbon tetrachloride	ND	10			
Chlorobenzene	ND	10			
Chloroform	ND	10			
Chloromethane	ND	10			
cis-1,2-Dichloroethene	ND	10			
cis-1,3-Dichloropropene	ND	10			
Dibromochloromethane	ND	10			
Dibromomethane	ND	10			
Dichlorodifluoromethane	ND	10			
Ethyl tert-butyl ether (ETBE)	ND	10			
Ethylbenzene	ND	10			
Freon-113	ND	10			
Hexachlorobutadiene	ND	10			
Isopropylbenzene	ND	10			
Methyl tert-butyl ether (MTBE)	ND	10			
Methylene chloride	ND	50			
Naphthalene	ND	20			
n-Butylbenzene	ND	10			
n-Propylbenzene	ND	10			
sec-Butylbenzene	ND	10			
Styrene	ND	10			
t-Butyl alcohol (t-Butanol)	ND	50			
tert-Amyl methyl ether (TAME)	ND	10			
tert-Butylbenzene	ND	10			
Tetrachloroethene	ND	10			
Toluene	ND	10			
trans-1,2-Dichloroethene	ND	10			
trans-1,3-Dichloropropene	ND	10			
Trichloroethene	ND	10			
Trichlorofluoromethane	ND	10			
Vinyl chloride	ND	10			

Value above quantitation range Qualifiers:

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits Page~10~of~11

Work Order: 0801163 54504 **Project:** 

#### ANALYTICAL QC SUMMARY REPORT

BatchID: R15292

Sample ID MB	SampType: MBLK	SampType: MBLK TestCode: 8260B_S				Prep Dat	te: <b>2/3/20</b> 0	08	RunNo: <b>15292</b>			
Client ID: ZZZZZ	Batch ID: R15292	Test	No: <b>SW8260B</b>	¥		Analysis Dat	te: <b>2/3/20</b> 0	08	SeqNo: 21	9910		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Xylenes, Total	ND	20										
Surr: 4-Bromofluorobenzene	55.89	0	50	0	112	55.8	141					
Surr: Dibromofluoromethane	56.19	0	50	0	112	59.8	148					
Surr: Toluene-d8	45.43	0	50	0	90.9	55.2	133					
Sample ID LCS	SampType: LCS	TestCo	de: <b>8260B_S</b>	Units: µg/Kg		Prep Dat	te: <b>2/3/20</b> 0	08	RunNo: 15	292		
Client ID: ZZZZZ	Batch ID: R15292	Test	No: <b>SW8260B</b>	ı	Analysis Date: 2/3/2008			08	SeqNo: <b>21</b> 9	9911		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
1,1-Dichloroethene	42.89	10	50	0	85.8	53.7	139					
Benzene	51.21	10	50	0	102	66.5	135					
Chlorobenzene	45.04	10	50	0	90.1	57.5	150					
Toluene	42.82	10	50	0	85.6	56.8	134					
Trichloroethene	45.81	10	50	0	91.6	57.4	134					
Surr: 4-Bromofluorobenzene	57.22	0	50	0	114	55.8	141					
Surr: Dibromofluoromethane	44.07	0	50	0	88.1	59.8	148					
Surr: Toluene-d8	53.82	0	50	0	108	55.2	133					
Sample ID LCSD	SampType: LCSD	TestCo	de: <b>8260B_S</b>	Units: µg/Kg		Prep Dat	te: <b>2/3/20</b> 0	08	RunNo: 15	292		
Client ID: ZZZZZ	Batch ID: R15292	Test	No: <b>SW8260B</b>	i e		Analysis Dat	te: <b>2/3/20</b> 0	08	SeqNo: 21	9912		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
1,1-Dichloroethene	41.87	10	50	0	83.7	53.7	139	42.89	2.41	30		
Benzene	52.32	10	50	0	105	66.5	135	51.21	2.14	30		
Chlorobenzene	45.46	10	50	0	90.9	57.5	150	45.04	0.928	30		
Toluene	41.81	10	50	0	83.6	56.8	134	42.82	2.39	30		
Trichloroethene	51.87	10	50	0	104	57.4	134	45.81	12.4	30		
Surr: 4-Bromofluorobenzene	58.26	0	50	0	117	55.8	141	0	0	0		
Surr: Dibromofluoromethane	66.08	0	50	0	132	59.8	148	0	0	0		
Surr: Toluene-d8	51.42	0	50	0	103	55.2	133	0	0	0		

Value above quantitation range Qualifiers:

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits Page~11~of~11

**CHAIN OF CUSTODY** 

M-60

White - Sampler



February 11, 2008

Charlie Almestad KLEINFELDER 1970 Broadway, Suite 710 Oakland, CA 94612

TEL: (510) 628-9000 FAX (510) 628-9009

RE: 08-555

Dear Charlie Almestad:

Order No.: 0802003

Torrent Laboratory, Inc. received 4 samples on 2/1/2008 for the analyses presented in the following report.

All data for associated QC met EPA or laboratory specification(s) except where noted in the case narrative.

Reported data is applicable for only the samples received as part of the order number referenced above.

Torrent Laboratory, Inc, is certified by the State of California, ELAP #1991. If you have any questions regarding these tests results, please feel free to contact the Project Management Team at (408)263-5258;ext: 204.

Sincerely,

Patti Sandroo



# TORRENT LABORATORY, INC.

483 Sinclair Frontage Road • Milpitas, CA • Phone: (408) 263-5258 • Fax: (408) 263-8293

Visit us at www.torrentlab.com email: analysis@torrentlab.com

**Date Received:** 2/1/2008

**Lab Sample ID:** 0802003-001

Date Prepared: 2/6/2008

Report prepared for: Charlie Almestad

KLEINFELDER Date Reported: 2/11/2008

Client Sample ID: MW-5

Sample Location:700 Independent RoadSample Matrix:GROUNDWATERDate/Time Sampled1/31/2008 2:18:00 PM

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Benzene	SW8260B	2/6/2008	0.5	1	0.500	ND	μg/L	R15310
Ethylbenzene	SW8260B	2/6/2008	0.5	1	0.500	ND	μg/L	R15310
Methyl tert-butyl ether (MTBE)	SW8260B	2/6/2008	0.5	1	0.500	ND	μg/L	R15310
Toluene	SW8260B	2/6/2008	0.5	1	0.500	ND	μg/L	R15310
Xylenes, Total	SW8260B	2/6/2008	1.5	1	1.50	ND	μg/L	R15310
Surr: Dibromofluoromethane	SW8260B	2/6/2008	0	1	61.2-131	95.0	%REC	R15310
Surr: 4-Bromofluorobenzene	SW8260B	2/6/2008	0	1	64.1-120	103	%REC	R15310
Surr: Toluene-d8	SW8260B	2/6/2008	0	1	75.1-127	103	%REC	R15310
TPH (Gasoline)	SW8260B(TPH)	2/8/2008	50	1	50	55x	μg/L	G15360
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	2/8/2008	0	1	58.4-133	117	%REC	G15360

Note: x - Does not match typical gasoline pattern. Reported values are the result of presence of non-gasoline compounds within the gasoline quantitative range.

Client Sample ID: MW-5 Lab Sample ID: 0802003-002

Sample Location: 00 Independent Road Date Prepared:

Sample Matrix: GROUNDWATER

Date/Time Sampled 1/31/2008 2:18:00 PM

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
TPH (Diesel-SG)	SW8015B	2/5/2008	0.1	1	0.100	0.544x	mg/L	R15318
Surr: Pentacosane	SW8015B	2/5/2008	0	1	40-120	64.0	%REC	R15318

Note: x- Sample chromatogram does not resemble typical diesel pattern. Hydrocarbons within the diesel range quantitated as diesel.

**KLEINFELDER** 

Date Received: 2/1/2008 **Date Reported: 2/11/2008** 

**Date Prepared: 2/6/2008** 

**Client Sample ID:** MW-4

**Lab Sample ID:** 0802003-003

**Lab Sample ID:** 0802003-004

**Date Prepared:** 

Sample Location: Sample Matrix:

00 Independent Road **GROUNDWATER** 

**Date/Time Sampled** 

1/31/2008 5:20:00 PM

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Benzene	SW8260B	2/6/2008	0.5	1	0.500	ND	μg/L	R15310
Ethylbenzene	SW8260B	2/6/2008	0.5	1	0.500	ND	μg/L	R15310
Methyl tert-butyl ether (MTBE)	SW8260B	2/6/2008	0.5	1	0.500	ND	μg/L	R15310
Toluene	SW8260B	2/6/2008	0.5	1	0.500	ND	μg/L	R15310
Xylenes, Total	SW8260B	2/6/2008	1.5	1	1.50	ND	μg/L	R15310
Surr: Dibromofluoromethane	SW8260B	2/6/2008	0	1	61.2-131	97.8	%REC	R15310
Surr: 4-Bromofluorobenzene	SW8260B	2/6/2008	0	1	64.1-120	105	%REC	R15310
Surr: Toluene-d8	SW8260B	2/6/2008	0	1	75.1-127	96.9	%REC	R15310
TPH (Gasoline)	SW8260B(TPH)	2/8/2008	50	1	50	56x	μg/L	G15360
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	2/8/2008	0	1	58.4-133	111	%REC	G15360

Note: x - Does not match typical gasoline pattern. Reported values are the result of presence of non-gasoline compounds within the gasoline quantitative range.

**Client Sample ID:** MW-4

00 Independent Road

Sample Matrix:

Sample Location:

**GROUNDWATER** 

**Date/Time Sampled** 1/31/2008 5:20:00 PM

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
TPH (Diesel-SG)	SW8015B	2/5/2008	0.1	1	0.100	ND	mg/L	R15318
Surr: Pentacosane	SW8015B	2/5/2008	0	1	40-120	71.0	%REC	R15318

#### **Definitions, legends and Notes**

Note	Description
ug/kg	Microgram per kilogram (ppb, part per billion).
ug/L	Microgram per liter (ppb, part per billion).
mg/kg	Milligram per kilogram (ppm, part per million).
mg/L	Milligram per liter (ppm, part per million).
LCS/LCSD	Laboratory control sample/laboratory control sample duplicate.
MDL	Method detection limit.
MRL	Modified reporting limit. When sample is subject to dilution, reporting limit times dilution factor yields MRL.
MS/MSD	Matrix spike/matrix spike duplicate.
N/A	Not applicable.
ND	Not detected at or above detection limit.
NR	Not reported.
QC	Quality Control.
RL	Reporting limit.
% RPD	Percent relative difference.
а	pH was measured immediately upon the receipt of the sample, but it was still done outside the holding time.
sub	Analyzed by subcontracting laboratory, Lab Certificate #

**Date:** 11-Feb-08

**CLIENT: KLEINFELDER** 

**Work Order:** 0802003 **Project:** 08-555

# ANALYTICAL QC SUMMARY REPORT

BatchID: G15360

Sample ID BLK-G Client ID: ZZZZZ	SampType: MBLK Batch ID: G1536		de: <b>TPH_GAS</b> No: <b>SW8260B</b>	S_W Units: µg/L		Prep Da			RunNo: 15		
Ciletti ID. LLLLL	Balcili ID. G1536	u resu	NO. 3440200E	P(IF		Allalysis Da	.e. <b>2/0/20</b> (	JO	Seqivo. 22	0000	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	ND	50									
Surr: 4-Bromofllurobenzene	9.000	0	11.36	0	79.2	58.4	133				
Sample ID LCS-G	SampType: LCS	TestCo	de: TPH_GAS	S_W Units: μg/L	<u> </u>	Prep Da	te: <b>2/7/20</b> 0	08	RunNo: 15	360	<u>'</u>
Client ID: ZZZZZ	Batch ID: G1536	0 Test	No: <b>SW8260</b> E	В(ТР		Analysis Da	te: <b>2/7/20</b> 0	08	SeqNo: 22	0887	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	189.5	50	227	0	83.5	52.4	127				
Surr: 4-Bromofllurobenzene	9.900	0	11.36	0	87.1	58.4	133				
Sample ID LCSD-G	SampType: LCSD	TestCo	de: TPH_GAS	S_W Units: µg/L		Prep Da	te: <b>2/7/20</b> 0	08	RunNo: 15	360	
Client ID: ZZZZZ	Batch ID: G1536	0 Test	No: <b>SW8260</b> B	В(ТР		Analysis Da	te: <b>2/7/20</b> 0	08	SeqNo: 22	0888	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	219.0	50	227	0	96.5	52.4	127	189.5	14.4	20	
Surr: 4-Bromofllurobenzene	11.30	0	11.36	0	99.5	58.4	133	0	0	0	

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits

Page 1 of 3

Work Order: 0802003 **Project:** 08-555

# ANALYTICAL QC SUMMARY REPORT

BatchID: R15310

Sample ID mb	SampType:	MRIK	TestCoo	le: <b>8260B W</b>	Units: µg/L		Pren Date	e: <b>2/5/200</b>	18	RunNo: 15	310	
· '				_	. 0							
Client ID: ZZZZZ	Batch ID:	K15310	ı estiN	lo: <b>SW8260B</b>			Analysis Date	e: 2/5/200	Ø	SeqNo: 220	שמוע	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		ND	0.340									
Ethylbenzene		ND	0.250									
Methyl tert-butyl ether (MTBE)		ND	0.390									
Toluene		ND	0.300									
Xylenes, Total		ND	0.770									
Surr: Dibromofluoromethane		11.17	0.395	11.36	0	98.3	61.2	131				
Surr: 4-Bromofluorobenzene		11.98	0.498	11.36	0	105	64.1	120				
Surr: Toluene-d8		10.25	0.531	11.36	0	90.2	75.1	127				
Sample ID LCS	SampType:	LCS	TestCod	le: <b>8260B_W</b>	Units: µg/L		Prep Date	e: <b>2/5/200</b>	8	RunNo: 15	310	
Client ID: ZZZZZ	Batch ID:	R15310	TestN	lo: <b>SW8260B</b>			Analysis Date	e: <b>2/5/200</b>	8	SeqNo: 220	0187	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		19.47	0.500	17.04	0	114	66.9	140				
Toluene		19.60	0.500	17.04	0	115	76.6	123				
Surr: Dibromofluoromethane		10.60	0	11.36	0	93.3	61.2	131				
Surr: 4-Bromofluorobenzene		11.27	0	11.36	0	99.2	64.1	120				
Surr: Toluene-d8		11.14	0	11.36	0	98.1	75.1	127				
Sample ID LCSD	SampType:	LCSD	TestCod	le: <b>8260B_W</b>	Units: µg/L		Prep Date	e: <b>2/5/200</b>	8	RunNo: 153	310	
Client ID: ZZZZZ	Batch ID:	R15310	TestN	lo: <b>SW8260B</b>			Analysis Date	e: <b>2/5/200</b>	8	SeqNo: <b>22</b> 0	0188	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		16.16	0.500	17.04	0	94.8	66.9	140	19.47	18.6	20	
Toluene		16.31	0.500	17.04	0	95.7	76.6	123	19.6	18.3	20	
Surr: Dibromofluoromethane		10.71	0	11.36	0	94.3	61.2	131	0	0	0	
Surr: 4-Bromofluorobenzene		11.48	0	11.36	0	101	64.1	120	0	0	0	
Surr: Toluene-d8		10.66	0	11.36	0	93.8	75.1	127	0	0	0	

Value above quantitation range Qualifiers:

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits

Page 2 of 3

Work Order: 0802003 08-555 **Project:** 

#### ANALYTICAL QC SUMMARY REPORT

BatchID: R15318

Sample ID WDSG080204-MB	SampType: MBLK	TestCode: TF	PHDOSG_ Units: mg/L		Prep Date	: 2/4/2008	RunNo: <b>15318</b>		
Client ID: ZZZZZ	Batch ID: R15318	TestNo: SV	W8015B		Analysis Date	2/5/2008	SeqNo: <b>220243</b>		
Analyte	Result	PQL SP	K value SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual	
TPH (Diesel-SG) Surr: Pentacosane	ND 0.07700	0.100 0	0.1 0	77.0	40	120			
Sample ID WDSG080204-LCS	SampType: LCS	TestCode: TF	PHDOSG_ Units: mg/L		Prep Date	: <b>2/4/2008</b>	RunNo: <b>15318</b>		
Client ID: ZZZZZ	Batch ID: R15318	TestNo: SV	W8015B		Analysis Date	e: <b>2/5/2008</b>	SeqNo: <b>220244</b>		
Analyte	Result	PQL SP	K value SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual	
TPH (Diesel-SG)	0.3610	0.100	0.5 0	72.2	46.8	104			
Surr: Pentacosane	0.07900	0	0.1 0	79.0	46.8	104			
Sample ID WDSG080204-LCSD	SampType: LCSD	TestCode: TF	PHDOSG_ Units: mg/L		Prep Date	2/4/2008	RunNo: <b>15318</b>		
Client ID: ZZZZZ	Batch ID: R15318	TestNo: SV	W8015B		Analysis Date	2/5/2008	SeqNo: <b>220245</b>		
Analyte	Result	PQL SP	K value SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual	
TPH (Diesel-SG)	0.4290	0.100	0.5 0	85.8	46.8	104 0.361	17.2 0	_	
Surr: Pentacosane	0.09300	0	0.1 0	93.0	46.8	104 0	0 0		

Value above quantitation range Qualifiers:

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits

Page 3 of 3

0802003 KLEINFELDER 1700 Independent Rd. 54504 TYPE NO. Torrent 08-555 CON-CON-SAMPLE I.D. DATE TAINERS TAINERS SAMPLE I.D. MATRIX TIME MM/DD/YY HH-MM-SS \* HCI comoiled the to effervescence 1/31/08/14:18 X1 42 42 AOV for yoks 002A 11 Ames Liquid planse remove sediment in Amber jers AEDO 17:20 40U 004/2 1 Amber 17:20 Analysis for factoxygenests + 1911 9 Send Results To: Relinquished by: (Signature) Instructions/Remarks: KLEINFELDER 2/1/08/10:42 1970 Broadway SUITE 710 Oakland, CA 94612 (510) 628-9000 Received by: (Signature) #108
Received for Laboratory by: (Signature) 108 Attn: Charlie Almestad (Kleinfelder.com Relinquished by: (Signature) Date/Time Pink - Lab Copy 1165 Canary - Return Copy To Shipper
CHAIN OF CUSTODY Νō M-60 rogen: om orfoilo7