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March 18, 2009

Jerry Wickham
Alameda County Health Care Services Agency
Environmental Health Services, Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: In Situ Chemical Oxidation Pilot Test Report, 700 Independent Road, Oakland, California, Fuel Leak Case No. RO0002900

Dear Mr. Wickham,

Enclosed is an In Situ Chemical Oxidation Pilot Test Report for the property located at 700 Independent Road, Oakland, California. The report was prepared by Kleinfelder Inc. on behalf of Equity Office Properties – Industrial Portfolio, LLC. This report documents pilot test activities including injection of chemical oxidants and sampling and analysis to assess the effectiveness of in situ treatment at the site. The field work was performed in December 2008 and January 2009. This report was prepared and is being submitted to Alameda Health Care Services Agency, Environmental Health Services pursuant to your request in a letter to Mr. James Soutter dated September 10, 2008.

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

Sincerely,
EOP – Industrial Portfolio, LLC.

James Soutter
Director – Engineering

Enclosure: In Situ Chemical Oxidation Pilot Test Report, 700 Independent Road, Oakland, California

IN SITU CHEMICAL OXIDATION
PILOT TEST REPORT
700 INDEPENDENT ROAD
OAKLAND, CALIFORNIA

March 18, 2009

A Report Prepared for:

Mr. James Soutter
EOP – Industrial Portfolio, LLC
2655 Campus Drive, Suite 100
San Mateo, CA 94403

***IN SITU* CHEMICAL OXIDATION PILOT TEST REPORT**
700 INDEPENDENT ROAD
OAKLAND, CALIFORNIA

Kleinfelder Job No: 54504/7

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for:
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March 18, 2008

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1.0 INTRODUCTION

Kleinfelder has prepared this report on behalf of EOP – Industrial Portfolio, L.L.C. (EOP) to document the activities and results related to the *in situ* chemical oxidation (ISCO) pilot test conducted at the former EOP property located at 700 Independent Road in Oakland, Alameda County, California (the site, Plate 1). Plate 2 presents a site plan for the site. Alameda County Health Care Services Agency (ACHCSA) is the lead agency providing regulatory oversight for the site and has assigned the site fuel leak case number RO0002900. The ISCO pilot test activities were performed as approved by ACHCSA in a letter to Mr. James Soutter of EOP dated September 10, 2008, in order to initiate site clean up and remediate petroleum hydrocarbons in soil and groundwater at the site.

The ISCO pilot test activities were performed by Kleinfelder for the Client in general accordance with Kleinfelder's *Pilot Test Work Plan* dated August 6, 2008 (Kleinfelder 2008c) and *Proposal for Pilot Test Work Plan Implementation* dated October 8, 2008 (Kleinfelder 2008d).

This report summarizes the ISCO pilot test activities and remedial activities for the petroleum hydrocarbons in soil and groundwater at the site; and presents the results and comparative analysis of pre-and post-treatment petroleum hydrocarbon concentrations and physical parameters in soil and groundwater at the site. This report is organized as follows:

- Site Description and Background (Section 2.0),
- ISCO Pilot Test Objective (Section 3.0),
- In-Situ Oxidative Technologies, Inc.'s (ISOTEC) ISCO Process (Section 4.0),
- ISCO Pilot Test Activities (Section 5.0),
- ISCO Pilot Test Results and Discussions (Section 6.0),
- Conclusions and Recommendations (Section 7.0),
- Limitations (Section 8.0), and
- References (Section 9.0).

2.0 SITE DESCRIPTION AND BACKGROUND

2.1 SITE DESCRIPTION

The 700 Independent Road property is located in an industrial area of Oakland, California. 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. Previous subsurface investigations indicate that near surface soils at the site are predominantly clay and silty clay in texture, and that groundwater is generally first 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 in 2004. 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* dated November 1, 2005 (Kleinfelder 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 13 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 about 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 (Kleinfelder 2006a). In brief, benzene, toluene, ethylbenzene, and xylenes (BTEX) in soil were reported at concentrations up to 3,000 micrograms per kilogram (µg/kg), 2,400 µg/kg, 17,000 µg/kg, and 33,000 µg/kg, respectively. TPH-g was detected as high as 810 milligrams per kilogram (mg/kg). In groundwater, BTEX was reported as high as 13,800 micrograms per liter (µg/L), 929 µg/L, 2,810 µg/L, and 3,140 µg/L, respectively. TPH-g and TPH-d were reported at concentrations up to 42 milligrams per liter (mg/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 (Kleinfelder 2006b).

The work plan was approved by the ACHCSA in a letter dated December 26, 2006. 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* (Kleinfelder 2007a).

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 µg/Kg, 588,000 µg/Kg, 63,000 µg/Kg, 250,000 µg/Kg, 310,000 µg/Kg, and 1,200,000 µg/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-µg/Kg, 200,000-µg/Kg, 11,000-µg/Kg, 26,000-µg/Kg, 33,000-µg/Kg, and 170,000-µg/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 µg/L, 940 µg/L, 11,600 µg/L, 274 µg/L, 588 µg/L, and 2,880 µg/L, respectively. In K-19, TPH-g, TPH-d, and BTEX concentrations were reported at 33,100 µg/L, 370 µg/L, 5,170 µg/L, 235 µg/L, 1,010 µg/L, and 955 µg/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-µg/L, 530-µg/L, 2,780-µg/L, 150-µg/L, 774-µg/L, and 563-µg/L, respectively. Together, the groundwater samples chemical results suggest that the 18 to 24 foot bgs groundwater bearing zone is a more significant preferential pathway for contaminant migration.

Well survey data and water level measurements made on April 13, 2007 indicate groundwater 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 groundwater 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 and that quarterly groundwater monitoring be implemented at the site.

Kleinfelder prepared a *Site Investigation 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 work plan, two additional soil borings and one monitoring well were requested. These additional borings and well were incorporated into the scope of work. The work performed and results of the additional investigation are described in a report prepared by Kleinfelder titled *Additional Site-Characterization Report* dated March 31, 2008 (Kleinfelder 2008b).

On May 13, 2008, after reviewing the March 31, 2008 *Additional Site-Characterization Report*, the ACHCSA in a letter to Mr. James Soutter of EOP concurred that the extent of petroleum contamination has been defined and concluded that no further investigation is required at this time. In addition, the ACHCSA requested that a pilot test work plan be prepared to initiate site cleanup.

On August 6, 2008 Kleinfelder produced a *Pilot Test Work Plan*, which laid out the general methods for the pilot test study (Kleinfelder, 2008c)**.** On September 10, 2008, after reviewing the *Pilot Test Work Plan*, the ACHCSA in a letter to Mr. James Soutter of EOP concluded that the proposed pilot test implementation is generally acceptable; however ACHCSA requested that additional monitoring be performed to evaluate the effectiveness of ISCO.

3.0 ISCO PILOT TEST OBJECTIVE

The ISCO pilot test study was implemented to assess ISCO technology effectiveness and to initiate the remediation activities related to petroleum hydrocarbons in soil and groundwater at the site. This pilot test was intended to collect information to determine if ISCO can be used as a final remedial action at the site (i.e., successful reduction in petroleum hydrocarbons concentrations and an examination of reaction byproducts, and hydraulic and geochemical changes in the injection zone). Through this pilot test study, additional information was obtained regarding such items as dosage rates (injection volume), injection pressures, radius of influence (ROI), injection location (depth and screen interval) and oxidant reagent ratios.

The ISCO pilot test was implemented at locations where the concentrations of petroleum hydrocarbons, chemicals of concern (COCs [i.e., benzene and total petroleum hydrocarbons]), exceed 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 2007, revised 2008). Based on these ESLs Plate 4 presents the ISCO pilot test treatment area.

The ESLs used in this report were obtained from Table B from the RWQCB ESL document (for shallow, less than 3 meters deep soils) and Table D (for greater than 3 meters bgs soils). These tables were developed assuming that groundwater is not a current or potential source of drinking water. For this report, 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 2008a) for the site, making the groundwater unsuitable as a drinking water resource.

4.0 ISOTEC'S ISCO PROCESS

In-Situ Oxidative Technologies, Inc. (ISOTEC) was selected to provide chemical oxidants and perform ISCO injections at the site. ISOTEC's ISCO process destroys organic contamination in situ using Fenton's reagent-based oxidation chemistry. It is characterized by the combination of soluble iron with low concentrations of hydrogen peroxide to produce hydroxyl radicals (OH•), which are injected into contaminated aquifers or vadose zones. The hydroxyl radicals attack the carbon double bonds of hydrocarbon molecules. The summary equation for Fenton's chemistry is shown below.

$$Fe^{+2} + H_2O_2 \rightarrow Fe^{+3} + OH^- + OH\bullet$$

Where H_2O_2 is hydrogen peroxide, Fe^{+2} is ferrous iron, Fe^{+3} is ferric iron, OH• is hydroxyl free radical and OH^- is hydroxide ion.

Iron is used to catalyze the reaction. Maintaining iron in solution is important for the process to be successful in an *in situ* application. To eliminate the necessity of performing the reaction under low pH conditions, as is the case with traditional Fenton's chemistry, complexed iron is used in *in situ* applications via ISOTEC's process. The hydrogen peroxide and dissolved iron solutions are injected through a site-specific delivery system providing sufficient distribution to selectively treat the area of concern. Reaction time is very fast, with oxidation capacity of the reagent being used up in a matter of a few days. Hydrogen peroxide breaks down into water and oxygen and the iron catalyst is oxidized and precipitates out of solution.

Fenton-based oxidation processes have been shown to effectively treat a wide range of contaminants including hard-to-treat compounds such as chlorinated solvents, petroleum hydrocarbons, gasoline additives including BTEX, and pesticides.

The stoichiometric relationship between benzene oxidation and hydrogen peroxide consumption can be predicted from the oxidative reaction:

$$C_6H_6 + 15H_2O_2 \rightarrow 6CO_2 + 18H_2O$$

Where C_6H_6 is benzene, H_2O_2 is hydrogen peroxide, CO_2 is carbon dioxide, and H_2O^+ is water. Hydrogen peroxide not consumed in the above reaction will continue to oxidize the groundwater contaminants and will naturally degrade along with the contaminant to oxygen and water (ISOTEC 2009, Attachment D).

4.1 AQUEOUS CONTACT

The overwhelming portion of the oxidation process occurs in the aqueous phase. Contaminant dissolved in water contacts oxidant dissolved in water and the oxidation reactions occur. This is, for all practical purposes, an instantaneous process. The same is not true for contaminant mass that is present adsorbed to soil or found as liquid phase hydrocarbon (LPH). These two phases must be moved into the aqueous (dissolved) phase in order to be treated in a practical manner (ISOTEC 2009, Attachment D).

4.2 MASS PHASE CHANGES

Modified Fenton's with neutral pH catalyst actively transfers mass into the dissolved phase thereby greatly disrupting the mass equilibrium between the phases. The hydroxyl radical oxidizes contamination in the dissolved phase while the superoxide radical desorbs mass from the adsorbed phase by interfering with the electrical (molecular) forces that cause molecules of solvent to "stick" to grains of soil and organic carbon. In addition to these chemical processes, the reaction produces oxygen gas. As the peroxide decomposes it generates oxygen. This gas is produced within the individual pore spaces where the two reagents are mixed. As the gas bubbles are generated and then migrate vertically up through soil pores, a physical action occurs that mixes groundwater, disturbs soil "fines" (increasing turbidity) and dislodges residual non-aqueous phase liquid (NAPL). Mass is transferred from the adsorbed and NAPL phases into the dissolved phase through this physical agitation. Mass is also transferred from the NAPL phase to the adsorbed phase as the NAPL is mixed within the pore space and contacts more soil surface area.

These chemical and physical processes upset the phase equilibrium and can be observed as temporary increases in dissolved and sorbed concentrations, especially early in the treatment program when the total mass is still at levels near the original mass. However, given that such a small percentage of the total mass exists in the

dissolved phase, even an order of magnitude increase in the dissolved phase mass is still only a fraction of the total mass. As the total mass decreases with multiple injections, the post-injection increases in dissolved concentrations also decrease. Post injection dissolved concentrations will remain elevated and out of equilibrium with the total mass even as the total mass approaches minimal levels. Only time will allow the dissolved mass and total mass to reequilibrate through dilution, dispersion, re-adsorption and degradation. This time period varies depending on specific site conditions but has been observed to take from months up to quarters.

For the modified Fenton's process, this means that the oxidant is injected and treatment occurs almost instantly. The oxidant is consumed and the treatment process is complete within several days if not hours. The modified Fenton's process actively transfers mass from the adsorbed and NAPL phases into the aqueous phase where oxidation can occur. This process allows for significant mass destruction in a short period of time (ISOTEC 2009, Attachment D).

5.0 ISCO PILOT TEST ACTIVITIES

This section describes the activities related to the ISCO pilot test implementation.

5.1 PRE-ISCO ACTIVITIES

This section describes the pre-ISCO activities that were conducted in order to prepare for the ISCO reagent injection, including surveying for underground utilities, obtaining a subsurface drilling permit and coordinating inspection activities with a regulatory inspector, as required, and updating the existing site-specific health and safety plan (HASP).

5.1.1 Underground Utility Surveying

Kleinfelder marked the proposed injection areas with marking paint prior to initiation of drilling activities. Underground Service Alert (USA) was notified shortly after the borings were marked, within a minimum of 48 hours prior to initiation of the drilling activities. The USA ticket number for the December 2008 drilling and the injection events was 0592439-000. The USA ticket number for the January 2009 drilling event was 0006242-000. In addition, Cruz Brothers, a private utility surveying company, was contracted to survey the injection areas for subsurface utilities. Kleinfelder personnel provided oversight for private utility locating activities.

5.1.2 Permitting

Kleinfelder submitted a permit application and permit associated fees to the Alameda County Public Works Agency (ACPWA) for drilling activities at the site. The drilling was performed in accordance with State and County requirements. A copy of the permit is included in Appendix A. Ms. Vicky Hamlin, an ACPWA inspector, was occasionally onsite to observe the ISCO reagent injection and borehole grouting activities.

5.1.3 Health and Safety

The existing site-specific HASP was amended to provide guidelines for worker and public safety during the planned ISCO pilot test implementation. A copy of the HASP is included in Appendix B.

5.2 ISCO ACTIVITIES

This section describes the ISCO activities that were conducted at the site. These activities include injection point installation, preparation and injection of treatment reagent, injection point abandonment, soil, groundwater and air monitoring, equipment decontamination, and waste characterization, handling and disposal.

5.2.1 Injection Point Installation

The ISCO reagents were injected at 13 injection locations (1I-01 through 1I-13) between December 9 and 12, 2008. Plate 4 presents the ISCO injection points locations. ISOTEC utilized direct-push technology (DPT) to introduce reagents into the subsurface at the site. The drilling was performed by Resonant Sonic Inc. (RSI) in accordance with State and County requirements. Kleinfelder oversaw and documented drilling and injection activities, monitored field activities during the injection, and provided technical guidance to the contractor. The field notes related to the ISCO activities are included in Appendix C.

The proposed spacing of the injection locations was based upon an anticipated 12.5-foot reagent distribution radius. Specifically, the temporary injection points were to be spaced approximately 25 feet apart and advanced to a depth of either 17 or 25 feet bgs. ISOTEC injected reagents at each point through ISOTEC's specially designed injection screens positioned from approximately 9 to 17 feet bgs and 17 to 25 feet bgs. This method of selective vertical injection was designed to deliver reagent across the entire vertical extent of the target saturated treatment interval. A direct-push injection schematic is included in Appendix D.

5.2.2 Treatment Reagent Preparation and Injection

In situ chemical injection technology was applied at the site using a proprietary modified Fenton's reagent, supplied by ISOTEC. The modified Fenton's technology involves a catalyzed chemical oxidation reaction with hydrogen peroxide (H_2O_2) as the oxidant. The methodology is described in the *Pilot Test Work Plan* (Kleinfelder, 2008c). The use of a modified Fenton's reagent was selected because of its general effectiveness in the

remediation of petroleum hydrocarbon contamination and the relatively low changes in groundwater temperature and pH as compared to a standard Fenton's reagent.

ISOTEC technicians prepared stabilized 12% hydrogen peroxide (H_2O_2) from 35% hydrogen peroxide. The 35% hydrogen peroxide was delivered to the site and stored onsite in Department of Transportation (DOT) approved 55-gallon drums. To mix hydrogen peroxide, a 300-gallon polyethylene tank was filled with onsite water and dry stabilizer to a predetermined volume. The 35% hydrogen peroxide was then transferred with a drum pump into the 300-gallon polyethylene tank to the desired concentration. The technicians wore proper personal protective equipment and used appropriate safety procedures during the transfer. Iron (Fe) catalyst was also mixed in 300-gallon polyethylene tanks using onsite water, dry ISOTEC chemicals, and an electric mixing motor with attached mixing blade. The injections were accomplished using air-operated diaphragm pumps, flow meters, polyvinyl chloride (PVC) flexible tubing and steel wellhead assemblies. The wellheads, with pressure gauges and relief valves, were attached to the direct-push injection rods. The wellhead assemblies were attached with PVC tubing to an air-operated diaphragm pump and from the pump to either the peroxide, catalyst or water tanks with PVC tubing. The peroxide, catalyst and water were injected through the PVC tubing using the pump. An injection method schematic is included in Appendix D.

In general, the injection process was similar for each injection screen. First, water was injected, followed by chelated Fe catalyst, a water flush, 12% stabilized hydrogen peroxide, and a final water flush. The pilot test work plan proposed injection of 150 to 300 gallons of reagent (Fe catalyst and hydrogen peroxide) at each screening depth for each boring location (Kleinfelder 2008c). Actual reagent volume at each injection point varied depending onsite conditions, including soil saturation and observed surfacing of the treatment reagent. Fe catalyst and hydrogen peroxide injection volumes for each screened interval at each injection location varied between 0 and 150 gallons per reagent. Combined reagent volume per screened interval varied between 50 and 300 gallons. Volumes of reagent injected for each location and screening interval are presented in Table 1.

Thirteen locations (1I-01 through 1I-13) were used across the ISCO treatment area during the pilot test injection event. The number and spacing of the locations was based

upon an anticipated 12.5-foot reagent distribution radius. At each location, ISOTEC attempted to inject into two separate screens targeting the intervals from 9 to 17 feet bgs (1I-01U through 1I-13U) and from 17 to 25 feet bgs (1I-01L through 1I-13L). The "U" designates an upper screen. The "L" designates a lower injection screen.

A total of 26 injection screens (13 upper screens and 13 lower screens) were used to deliver reagent into the subsurface across the treatment area. Total volumes of reagent injected are as follows:

- Upper screen – H_2O_2 reagent – 931 gallons
- Upper screen – Fe catalyst – 1,150 gallons
- Lower screen – H_2O_2 reagent – 1,035 gallons
- Lower screen – Fe catalyst – 1,330 gallons

ISOTEC injected a total of 4,446 gallons of reagent through 26 injection screens during the pilot test injection event.

5.2.3 Injection Point Abandonment

The temporary injection locations were abandoned by the DPT subcontractor, RSI, by plugging the holes to water level with 3/8 inch bentonite chips and then pressure grouting the remaining feet to surface with Portland grout in a pressurized vessel. Specifically, bentonite chips were slowly poured into the temporary injection hole until the chips were above the water level which was roughly 5 feet or less. Portland cement was then mixed in a bucket with a drill and poured into a vessel. The vessel then was pressurized up to 80 pounds per square-inch (psi) with compressed air and attached to the rod by a steel well head with reinforced PVC tubing. The Portland cement was then pumped to the bottom of the hole through the rod while the direct-push rod was slowly being retracted to surface. Finally asphalt patch or cement was then added to patch the remaining hole to match. A total of 26 temporary injection locations were abandoned during the pilot test injection event at the site between December 9 and 12, 2008.

5.2.4 Soil and Groundwater Monitoring

Soil sampling was performed at the site before (baseline) and one month after the ISCO injection pilot test. Groundwater sampling was performed at the site monitoring wells

MW-1 through MW-5 before (baseline) and MW-1 through MW-3 one month after the ISCO injection pilot test. The baseline groundwater sampling event was performed in conjunction with the fourth quarter 2008 monitoring event. Physical and chemical parameters monitoring in groundwater was conducted at the site monitoring wells MW-1, MW-2 and MW-3 before (baseline), during (at beginning and at end of each injection event day), one week post, two weeks post, and one month post ISCO injection pilot test.

5.2.4.1 Soil Sampling Activities

Soil samples were collected from two soil boring locations (PS-1/PS-1A and PS-2/PS-2A) at two depths (a total of four samples per event) on December 1, 2008 and January 12, 2009, respectively. Boring locations to be compared were located within 1 foot of each other. Plate 4 presents the soil boring sampling locations. Table 2 presents the pilot test sampling schedule and analyses. The field notes related to the soil sampling activities are included in Appendix C.

Fisch Drilling provided drilling services for four boring locations using a truck-mounted direct-push (Geoprobe 6600) drill rig. The drilling was performed by Fisch Drilling in accordance with State and County requirements. Soil borings were advanced to depths of 24 feet bgs. The direct push rig advanced four-foot long steel tubes using a hydraulic cylinder (and a vibratory hammer when necessary). The steel tubes have an inside diameter of approximately two inches and interchangeable acrylic liners, to allow for a continuous sample through the entire depth of the borehole.

Soil samples were collected approximately 10 feet north-northwest of injection point 1I-10 (PS-1 & PS-1A) at depths of 8 feet and 10 feet (shallow samples) during the December 2008 and January 2009 sampling events, respectively, and at depths of 20 feet (deep samples) during the two sampling events. Soil samples were collected approximately 12.5 feet south of injection point 1I-13 (PS-2 & PS-2A) at depths of 16 feet and 10 feet (shallow samples) and at depths of 19 and 20 feet (deep samples) during the December 2008 and January 2009 sampling events, respectively. Boring locations to be compared (PS-1 vs. PS-1A and PS-2 vs. PS-2A) were located within 1 foot of each other.

A Kleinfelder representative observed the sampling activities, and prepared a log of the soils encountered in each boring. The soil borings were logged in the field using the Unified Soil Classification System. The soil boring logs are included in Appendix C. Soil samples were retained in acrylic liners and inspected for indications of staining and/or odors. The soil samples were screened in the field using a photoionization detector (PID) to measure volatile organic compounds. In the event that signs of impacted soils were observed (i.e., visual staining, odor, elevated PID readings, etc.), samples from the impacted soil interval were collected. A total of eight soil samples were collected for chemical analyses at approximately 8 through 20 feet bgs. The soil samples were analyzed following analytical methods:

- TPH-d using U.S. Environmental Protection Agency (USEPA) Method 8015M following silica gel cleanup;
- TPH-g using USEPA Method 8015M; and
- BTEX using USEPA Method 8021B;

The soil samples were labeled and transferred on ice to Torrent Laboratories, Inc., a state-certified analytical laboratory, under chain-of-custody protocol for analyses. Soil sampling equipment was decontaminated between sample intervals and locations, as described below. The soil sampling analyses and results are presented in Table 3. The laboratory analytical reports and chain-of-custody documents are included in Appendix E. The soil samples results are discussed in Section 6.

5.2.4.2 Groundwater Monitoring Activities

Groundwater samples were collected from monitoring wells MW-1 through MW-5 on December 1 and 2, 2008 (baseline) and from monitoring wells MW-1 through MW-3 on January 12, 2008 (one month after the ISCO injection pilot test). The baseline groundwater sampling event was performed in conjunction with the fourth quarter 2008 monitoring event. Table 2 presents the pilot test sampling schedule and analyses. The field notes related to the groundwater monitoring activities are included in Appendix C.

Groundwater physical and chemical parameters monitoring was conducted at the site monitoring wells MW-1, MW-2 and MW-3 before (baseline), during (at beginning and at

end of each injection event day), one week post, two weeks post, and one month post ISCO injection pilot test. Using down-hole field equipment, the well groundwater from monitoring wells MW-1, MW-2 and MW-3 was monitored in the field for the following parameters:

- pH;
- Dissolved oxygen (DO);
- Oxidation-reduction potential (ORP);
- Temperature;
- Conductivity;
- Turbidity; and
- Dissolved iron.

The groundwater field parameters are presented in Table 4. The groundwater samples results are discussed in Section 6.

Groundwater monitoring wells were sampled in accordance with quarterly sampling protocols using a clean disposable bailer or dedicated polyethylene tubing; a groundwater sample was retrieved from each monitoring well, and decanted into clean laboratory-supplied containers. The monitoring well groundwater samples were analyzed using the following analytical methods:

- TPH-d using USEPA Method 8015B following silica gel cleanup;
- TPH-g using USEPA Method 8260B;
- BTEX using USEPA Method 8260B;
- Selected metals (arsenic, barium, cadmium, chromium, copper, iron, lead, and selenium) using USEPA Method 200.7;
- Hexavalent Chromium using USEPA Method 7199;
- Major ions (sodium, potassium, calcium, magnesium, iron) using USEPA Method 200.7;
- Dissolved ferrous iron, using EPA Method 3500-FE

- Alkalinity as calcium carbonate, using EPA Method SM2320B;
- Total dissolved solids (TDS) using USEPA 160.1; and
- Total organic carbon (TOC) using USEPA 415.1.

The monitoring well groundwater samples collected in December 2008 were analyzed for additional volatile organic compounds (VOCs) as part of the pre-established periodic groundwater monitoring at the site. For completeness these results are presented in Table 5 and Appendix E, but are not further discussed in the text of this report.1

The groundwater samples were labeled and transferred on ice to Torrent Laboratories, Inc., a state-certified analytical laboratory, under chain-of-custody protocol for analysis. The groundwater sampling analyses and results are presented in Tables 5 and 6. The laboratory analytical reports and chain-of-custody documents are included in Appendix E. The groundwater samples results are discussed in Section 6.

5.2.5 Air Monitoring

While overseeing the subcontractor during the ISCO pilot test implementation, Kleinfelder performed air (VOC vapor) monitoring. Kleinfelder monitored potential VOC vapor entry points within the building such as joints and openings around pipes and prepared a log of the recordings. Air monitoring was conducted using a part per billion-range photoionization detector (PID) to verify that the remedial work is not causing indoor vapor intrusion. PIDs provide a non-specific measure of volatile organic compounds in air. The air monitoring was conducted in any areas of the building that potentially may have been affected by the ISCO pilot test. Background monitoring was performed before the ISCO injection event and these results were compared with the monitoring results obtained during the ISCO injection. VOCs in ambient indoor air were also tested for with the PID to assess background conditions. Air monitoring was performed at six locations throughout the site, including both indoor and outdoor locations, as summarized below.

Location 1	Outside background on street ~ 3 feet above ground surface
Location 2	~ 15 feet inside first roll-up door closest to Coliseum Way

[1] Results of the December 2008 monitoring activities are summarized in a report prepared by Kleinfelder titled *Fourth Quarter 2008 Groundwater Monitoring Report* (Kleinfelder 2009).

Location 3	~ 15 feet to 25 feet inside, 2" - 3" off ground over large cracks
Location 4	Background inside building against brick wall
Location 5	~ 2 " off exposed vent pipe
Location 6	~ 2.5 feet off ground inside concrete building

Plate 5 shows the air monitoring locations. Air monitoring results are presented in Table 7. The groundwater air monitoring results are discussed in Section 6.

5.2.6 Equipment Decontamination

Drilling and sampling equipment was properly decontaminated prior to use and between each location. The down-hole drilling equipment was decontaminated by steam cleaning at a designated wash pad or within a portable containment unit. Sampling equipment was decontaminated by washing the equipment with a soap and water solution, and two rinses, tap water followed by deionized water. Disposable equipment, including bailers, was discarded after each use.

5.2.7 Waste Characterization, Handling, and Disposal

Investigative derived waste (IDW) that was generated during the ISCO pilot test included soil cuttings, equipment decontamination fluids, and used personal protective equipment. Soil cutting and decontamination rinse water were collected and stored on site in Department of Transportation (DOT) approved 55-gallon steel drums with covers, which were labeled to identify the IDW source location, date collected, and generator's name. All used personal protective equipment (PPE) was double plastic-bagged and placed in the soil cuttings drums. The containers storing the generated wastes will be temporarily stored at a centralized location until the waste characterization results are received. An adhesive label will be affixed to each container noting the following: container number, waste type, location that the IDW was generated, and date of waste generation. Six drums of IDW were generated during the ISCO pilot test event. Following receipt of analytical data from the laboratory, the waste will be profiled, disposal options identified, and the waste transported and disposed of at a permitted facility under the required disposal manifest.

6.0 ISCO PILOT TEST RESULTS AND DISCUSSIONS

6.1 SUMMARY OF SOIL AND GROUNDWATER MONITORING RESULTS

6.1.1 Soil Analytical Results

A summary of the soil sampling analyses and results are presented in Table 3. The laboratory analytical reports and chain-of-custody documents are included in Appendix E. Boring locations to be compared (PS-1 vs. PS-1A and PS-2 vs. PS-2A) were located within 1 foot of each other. The following is a summary of the soil results at the site.

TPHg was detected at a concentration of 330 milligrams per kilogram (mg/kg) in the shallow soil sample of PS-1-8 (baseline) and below the laboratory reporting limit in the shallow soil sample of PS-1A-10 (post ISCO). This represents a reduction of 100% when comparing the post ISCO to the baseline results.

TPHg was below the laboratory reporting limit in the deep soil sample of PS-1-20 (baseline) and detected at a concentration of 0.12 mg/kg in the deep soil sample of PS-1A-20 (post ISCO).

TPHg was detected at a concentration of 1,500 mg/kg in the shallow soil sample of PS-2-16 (baseline) and at a concentration of 260 mg/kg in the shallow soil sample of PS-2A-10 (post ISCO). This represents a reduction of 83% when comparing the post ISCO to the baseline results.

TPHg was detected at a concentration of 430 mg/kg in the deep soil sample of PS-2-19 (baseline) and at a concentration of 10 mg/kg in the shallow soil sample of PS-2A-20 (post ISCO). This represents a reduction of 98% when comparing the post ISCO to the baseline results.

Benzene was below the laboratory reporting limit in the shallow and deep soil samples of PS-1-8 and PS-1-20 (baseline), and in the shallow and deep soil sample of PS-1A-10 PS-1A-20 (post ISCO).

Benzene was detected at a concentration of 16 mg/kg in the shallow soil sample of PS-2-16 (baseline) and at a concentration of 2.2 mg/kg in the shallow soil sample of PS-2A-10 (post ISCO). This represents a reduction of 86% when comparing the post ISCO to the baseline results.

Benzene was detected at a concentration of 2.5 mg/kg in the deep soil sample of PS-2-19 (baseline) and at a concentration of 0.16 mg/kg in the shallow soil sample of PS-2A-20 (post ISCO). This represents a reduction of 94% when comparing the post ISCO to the baseline results.

No other compounds in the soil sample of PS-1-8, PS-1-20, PS-1A-10 and PS-1A-20 were present at or above the laboratory reporting limit.

Toluene was below the laboratory reporting limit in the shallow soil samples of PS-2-16 (baseline) and PS-2A-10 (post ISCO).

Toluene was detected at a concentration of 1.0 mg/kg in the deep soil sample of PS-2-19 (baseline) and below the laboratory reporting limit in the deep soil samples PS-2A-20 (post ISCO). This represents a reduction of 100% when comparing the post ISCO to the baseline results.

Concentrations of TPHd, ethylbenzene and total xylenes decreased in the shallow sample of PS-2A-10 (post ISCO) compared to PS-2-16 (baseline) by 79%, 90% and 90%, respectively.

Concentrations of TPHd, ethylbenzene and total xylenes decreased in the deep sample of PS-2A-20 (post ISCO) compared to PS-2-19 (baseline) by 100%, 94% and 91%, respectively.

6.1.2 Groundwater Field Monitoring Results

The groundwater field parameters are presented in Table 4. The field notes related to the groundwater monitoring activities are included in Appendix C.

Review of the pilot test event field monitoring data indicated that relatively no changes occurred in groundwater pH and temperature. Temperature ranged from 13.50 to 20.40 degrees Celsius in monitoring wells MW-1, MW-2, and MW-3; pH ranged from 6.09 to 7.88 in monitoring wells MW-1, MW-2, and MW-3.

The dissolved oxygen (DO) concentration in groundwater increased during and post ISCO injection when compared with the baseline concentration. The DO concentration usually reflects the site's organic contaminant load (the lower the DO, the greater the contaminant concentrations). One month post ISCO injections, the DO concentrations remained elevated in MW-2 and returned to their pre-injection levels in MW-1 and MW-3. DO ranged from 4.34 to 28.24 mg/L in monitoring wells MW-1, MW-2, and MW-3.

Review field monitoring data indicated ORP values decreased during and post ISCO injection when compared with the baseline ORP values. One month post ISCO injections, the ORP values returned to near pre-injection levels in MW-1, MW-2, and MW-3. The ORP values remained positive all throughout the ISCO pilot test period. Positive values of ORP indicate oxidizing conditions. ORP ranged from 107.0 to 390.2 millivolts (mV) in monitoring wells MW-1, MW-2, and MW-3.

The conductivity of groundwater increased following injections. This increase reflects the oxidant dispersion during the injections. One month post ISCO injections, the conductivity values returned to near pre-injection levels in MW-1, MW-2, and MW-3. Conductivity ranged from 7.71 to 23.50 millisiemens per centimeter (mS/cm) in monitoring wells MW-1, MW-2, and MW-3.

Generally turbidity increased during and post ISCO injections. Turbidity ranged from 2.69 to 399 nephelometric turbidity unit (NTU) in monitoring wells MW-1, MW-2, and MW-3.

Review of the pilot test event field monitoring data indicated that little changes occurred in groundwater concentrations of dissolved iron in monitoring wells MW-1, MW-2 and MW-3 during the ISCO injections. The dissolved iron levels in monitoring wells MW-1, MW-2 and MW-3 ranged from 0.0 mg/L to 9.0 mg/L. The concentrations of dissolved iron in monitoring wells MW-1 and MW-2 slightly increased post ISCO injections and remained elevated one month post ISCO injections. The concentrations of dissolved

iron in monitoring wells MW-3 slightly increased post ISCO injections and returned to near pre-injection level one month post ISCO injections.

6.1.3 Groundwater Analytical Results

A summary of the current and historical groundwater sampling at the site is presented in Tables 5 and 6. Table 5 presents the chemicals of concern (COCs) (i.e., benzene and total petroleum hydrocarbons) and TDS in groundwater at the site; Table 6 presents other organic and inorganic compounds in groundwater at the site. The field notes related to the groundwater monitoring activities are included in Appendix C. The laboratory analytical reports and chain-of-custody documents are included in Appendix E.

6.1.3.1 Chemicals of Concern in Groundwater

The following section presents a summary of the groundwater COC results, including percentage reduction for TPHg and benzene, in monitoring wells MW-1, MW-2, and MW-3 at the site. Table 5 presets the COCs in groundwater at the site.

MW-1

TPHg was detected at a concentration of 2,900 µg/L in the December 2008 sampling event (baseline) and a concentration of 3,300 µg/L in the January 2009 sampling event (one month post ISCO injections). This represents an increase of 14% when comparing the post ISCO to the baseline results. These results are consistent with historical data.

Benzene was detected at a concentration of 295 µg/L in the December 2008 sampling event (baseline) and a concentration of 380 µg/L in the January 2009 sampling event (one month post ISCO injections). This represents an increase of 29% when comparing the post ISCO to the baseline results. These results are consistent with historical data.

Ethylbenzene was detected at a concentration of 137 µg/L in the December 2008 sampling event (baseline) and a concentration of 91 µg/L in the January 2009 sampling event (one month post ISCO injections). These results are consistent with historical data.

Toluene was detected at a concentration of 27.1 µg/L in the December 2008 sampling event (baseline) and a concentration of 84.3 µg/L in the January 2009 sampling event (one month post ISCO injections). These results are consistent with historical data.

Total xylenes were detected at a concentration of 218 µg/L in the December 2008 sampling event (baseline) and a concentration of 174 µg/L in the January 2009 sampling event (one month post ISCO injections). These results are consistent with historical data.

TPHd were detected at a concentration of 484 µg/L in the December 2008 sampling event (baseline) and a concentration of 264 µg/L in the January 2009 sampling event (one month post ISCO injections). These results are consistent with historical data.

MW-2

TPHg was detected at a concentration of 53,000 µg/L in the December 2008 sampling event (baseline) and a concentration of 35,000 µg/L in the January 2009 sampling event (one month post ISCO injections). This represents a reduction of 34% when comparing the post ISCO to the baseline results. These results are consistent with historical data.

Benzene was detected at a concentration of 20,500 µg/L in the December 2008 sampling event (baseline) and a concentration of 15,300 µg/L in the January 2009 sampling event (one month post ISCO injections). This represents a reduction of 25% when comparing the post ISCO to the baseline results. These results are consistent with historical data.

Ethylbenzene was detected at a concentration of 1,240 µg/L in the December 2008 sampling event (baseline) and a concentration of 1,030 µg/L in the January 2009 sampling event (one month post ISCO injections). These results are consistent with historical data.

Toluene was below the laboratory reporting limit in the December 2008 sampling event (baseline) and a concentration of 62.5 µg/L in the January 2009 sampling event (one month post ISCO injections). These results are consistent with historical data.

Total xylenes were detected at a concentration of 1,180 µg/L in the December 2008 sampling event (baseline) and a concentration of 1,050 µg/L in the January 2009 sampling event (one month post ISCO injections). These results are consistent with historical data.

TPHd were detected at a concentration of 965 µg/L in the December 2008 sampling event (baseline) and a concentration of 2,500 µg/L in the January 2009 sampling event (one month post ISCO injections). These results are consistent with historical data.

MW-3

TPHs and BTEX were below the laboratory reporting limits in groundwater monitoring well MW-3 during the baseline and one month post ISCO injections.

6.1.3.2 Other Organic and Inorganic Compounds

This section presents a summary of the groundwater other organic and inorganic compounds, and TDS results in monitoring wells MW-1, MW-2, and MW-3 at the site. Table 5 presets the TDS in groundwater at the site; Table 6 presents other organic and inorganic compounds in groundwater at the site.

ISCO processes can oxidize some metals, such as iron, chromium, and selenium, to more soluble forms, thereby increasing their mobilization potential. Therefore, the baseline and post ISCO characterization included analyzing arsenic, barium, cadmium, chromium, hexavalent chromium, copper, iron, lead, and selenium. Metals concentrations in groundwater monitoring wells MW-1, MW-2, and MW-3 during the baseline and one month post ISCO injections events were below the laboratory reporting limits, remained stable, slightly increased, or slightly decreased; all metals analyzed during the baseline and one month post ISCO injections events were below their respective ESLs (Table 6). Increased dissolved metal concentrations can result from oxidizing conditions, however that did not appear to be significant during the ISCO pilot test.

The concentration of ferrous iron was measured as a baseline and post ISCO and the results were used to determine future iron dosages and if overdosing of iron is observed with ISCO application at the site; overdosing of iron may result in reduction of aquifer

permeability (due to formation of iron oxides) and thereby reduce the overall distribution of the oxidant. The baseline and post ISCO iron concentrations in groundwater monitoring wells MW-1, MW-2, and MW-3 ranged between below the laboratory reporting limits and 2.9 µg/L. These results demonstrate that no iron overdosing was performed at the site.

Alkalinity is a measure of the carbonate concentrations in water. Measurement of alkalinity normally is important because it helps determine the amount of acid required to reduce the pH level for Fenton's injections, as hydroxyl radicals are scavenged in the presence of highly alkaline water. As compared to conventional Fenton's Reagent, which requires acidic conditions (pH ≤ 3), the ISOTEC process is effective at neutral (pH = 7) conditions. Alkalinity concentrations in groundwater monitoring wells MW-1, MW-2, and MW-3 during the baseline and one month post ISCO injections events ranged between 1,100 and 2,000 µg/L and remained stable.

The baseline and post ISCO TDS concentrations in groundwater monitoring wells MW-1, MW-2, and MW-3 ranged between 7,700 and 17,000 mg/L and remained stable. These results are consistent with historical data.

The baseline TOC concentrations in groundwater monitoring wells MW-1, MW-2, and MW-3 were 8.7, 540, and 16 and µg/L, respectively. The post ISCO TOC concentrations in groundwater monitoring wells MW-1, MW-2, and MW-3 were 11, 55, and 8.3 and µg/L, respectively. For groundwater monitoring well MW-2, this represents a reduction of 90% when comparing the post ISCO to the baseline TOC results. TOC is a measurement of the organic content of the groundwater and basically represents the natural organic matter (NOM) present; therefore the ISCO process seemed to also reduce, as expected, the TOC concentrations present at the site.

Major ions (i.e., sodium, potassium, calcium, magnesium) concentrations in groundwater monitoring wells MW-1, MW-2, and MW-3 during the baseline and one month post ISCO injections events were below the laboratory reporting limits, remained stable, slightly increased, or slightly decreased; increased ion concentrations can result from oxidizing conditions, however that did not appear to be significant during the ISCO pilot test.

6.2 SUMMARY OF AIR MONITORING RESULTS

This section presents a summary of the air monitoring results obtained during the pilot test ISCO reagent injection activities at the site. Table 7 presets the air monitoring results at the site.

PIDs provide a non-specific measure of volatile organic compounds in air. At Location 1 (outside background on street) no VOCs were recorded by the PID during the air monitoring event. The maximum concentration detected was 384 parts per billion (ppb), which was recorded at Location 4, an indoor location selected as a background sampling point based on distance from ISCO activities. This indoor background elevated reading is suspected to be due to the on-going tenant operations (i.e., operation of fork lifts and other motorized equipment inside the building), in particular the exhaust fumes from the motorized equipment operated inside the building. Sample locations (Location 2, 3, 5 and 6), located inside the building, expected to be influenced by the ISCO injections had readings below this inside background level. VOC vapors produced as a result of the ISCO injection activities do not seem to migrate from the subsurface to the indoor air at levels that exceed the indoor background levels.

6.3 DISCUSSION OF OTHER ISCO DESIGN PARAMETERS

A total of 26 injection screens (13 upper screens and 13 lower screens) were used to deliver reagent into the subsurface across the treatment area. Surfacing occurred during injections into 12 of the 26 screens. However, ISOTEC was able to inject a minimum of 150 gallons of reagent into 17 of the 26 screens (Table 1); which corresponds to the initial design proposed in the *Pilot Test Work Plan* (Kleinfelder 2008c). The remaining screens received between 3 and 145 gallons of reagent. Reagent injection challenges were observed at the injection locations north and northwest at the site. However, overall the injection locations (depth and screen interval) were positioned appropriately. Pressures at the wellheads of the 26 injection screens ranged from 0 to 45 psi and the injection rates ranged from 0.8 to 3.6 gallons per minute (gpm) during injection activities. The injection ratios, including the volume of iron catalyst, seemed to be appropriately rationed. Also, the soil sampling results demonstrated that a radius of influence (ROI) of at least 10 to 12.5 feet was attained at the site, as COC reductions were observed as follows:

- at the soil sampling locations PS-1 & PS-1A; which is located approximately 10 feet north-northwest of injection point 1I-10;
- at the soil sampling locations PS-2 & PS-2A; which is located approximately 12.5 feet south of injection point 1I-13.

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 CONCLUSIONS

The objectives of the ISCO remediation program using ISOTEC's modified Fenton's based oxidation process was to reduce the soil and groundwater concentrations to below specific project goals.

The effectiveness of the ISCO can be evaluated by:

- Reduction in contaminant concentrations in treatment area saturated soils and/or
- Changes in dissolved phase contaminant concentrations within treatment area monitoring wells.

As explained in the Mass Phase Changes section (Section 4.2), the ISOTEC process liberates contaminant mass within the adsorbed phase (saturated soil) and transfers this mass to the dissolved phase for oxidation. This phenomenon is clearly illustrated by comparing the baseline and post ISCO injection saturated soil and groundwater results. Benzene was reduced in saturated soil by 86% to 94%. TPH-g was reduced in saturated soil by 83% to 100%. Based on these adsorbed phase concentration reductions, the ISOTEC process was effective at removing contaminant mass from the adsorbed phase during the pilot test injection event of the ISCO remediation program. The soil samples collected and analyzed currently meet the project goals, except at one soil sampling location where concentrations detected post ISCO still slightly exceed the ESL value for benzene.

Reductions in the dissolved phase concentrations are dependent on the amount of mass in the adsorbed phase. As evident by the large reduction in saturated soil contamination concentrations, a significant adsorbed mass was transferred into the dissolved phase prior to oxidation. As a result, a small portion of that mass may remain untreated in the dissolved phase following only one injection event.

Dissolved phase concentrations were observed to both decrease and slightly increase in monitoring well MW-1 and MW-2. Dissolved concentration fluctuations are a good indication that the ISOTEC process is working.

Consistent and permanent reductions in dissolved concentrations will only occur following complete adsorbed contaminant mass removal and a period of equilibration. Equilibration allows dissolved concentrations to reduce naturally over time due to readsorption, dispersion, dilution and degradation until final dissolved concentration is reached.

The ISOTEC process was very effective at reducing contaminant mass after pilot test injection application. This suggests that the quantity of reagent injected and the reagent concentrations were sufficient to achieve significant mass reduction; and that the reagent distribution radius generated by the injection flow rates and pressures were sufficient to distribute reagent across the treatment area.

7.2 RECOMMENDATIONS

Based on review of the soil and groundwater analytical data, Kleinfelder recommends performing an additional ISCO treatment event using ISOTEC's modified Fenton's based oxidation process in order to achieve the overall project objectives. Kleinfelder recommends modifying the approximate limit of the ISCO full scale treatment area to the area where the soil and groundwater concentrations exceed ESLs as described in Section 3.0. The proposed approximate limit of the ISCO full scale treatment area is presented on Plate 4. In addition, Kleinfelder recommends that the ISCO full scale spacing of the injection locations be approximately 12.5 feet apart (this represents a reduction by half when compared to the ISCO pilot test spacing). Kleinfelder does not recommend a change in the injection screens positions (approximately 9 to 17 feet bgs and 17 to 25 feet bgs). Finally, Kleinfelder recommends against modifying the overall target reagent volume for the subsequent injection event. Kleinfelder recommends injecting 35 to 75 gallons of reagent (Fe catalyst and hydrogen peroxide) at each screening depth for each boring location. These new injection volumes are consistent with pilot test work plan which proposed injection of 150 to 300 gallons of reagent (Fe catalyst and hydrogen peroxide) at each screening depth for each boring location (Kleinfelder 2008c) and take in consideration the reduction by half of the spacing of the injection locations for the ISCO full scale event, when compared to the ISCO pilot test.

As discussed in previous environmental reports for the site by Kleinfelder, the pre-treatment horizontal extent of the hydrocarbon plume was limited to a distance about 100 feet or less from the former UST and the plume is stable with no evidence of offsite migration (Kleinfelder 2006a, 2007a, 2008b). No sensitive receptors have been found in the immediate vicinity of the site nor have any been impacted (Kleinfelder 2007a). The groundwater has been found to be brackish and not suitable for drinking water by RWQCB policy (Kleinfelder 2008a). Also, no significant vapor intrusion has been detected nor is significant vapor intrusion likely to be occurring given the low permeability of the clays present in the subsurface (Kleinfelder 2007a). Given the effectiveness of ISCO treatment at the site as demonstrated during the pilot test, it is anticipated that following the proposed second ISCO treatment, the hydrocarbon mass removal will achieve or nearly achieve objectives. Given all of the findings noted above, if certain pockets of residual hydrocarbons are found at concentrations exceeding ESLs following the proposed second ISCO treatment, Kleinfelder nonetheless anticipates that it will recommend that no further treatment be performed. The limited extent, stability of the existing plume, lack of complete route to potential receptors, and naturally poor quality of the groundwater (i.e., no one will seek to drink or otherwise use it) indicate that this is a low risk site. Natural attenuation processes should be adequate to reduce any residual mass of petroleum hydrocarbons in the future.

8.0 LIMITATIONS

This work was performed in a manner consistent with that level of care and skill ordinarily exercised by other members of Kleinfelder's profession practicing in Alameda County, under similar conditions and at the date the services are provided. Our conclusions, opinions and recommendations are based on a limited number of observations and data. It is possible that conditions could vary between or beyond the data evaluated. It should be recognized that remediation is a trial and enhancement process where future activities are directed based on performance monitoring of previous steps. 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 based on a limited number of field observations and tests, collected and performed in accordance with the generally accepted 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. Kleinfelder makes no other representation, guarantee or warranty, express or implied, regarding the services, communication (oral or written), report, opinion, or instrument of service provided.

Kleinfelder offers various levels of investigative 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 due to the limitations of data from field studies. Although risk can never be eliminated, more-detailed and extensive studies yield more information, which may help understand and manage the level of risk. Since detailed study 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 studies or field tests, should 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 have been discovered. Kleinfelder assumes 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 report should be construed or interpreted as requiring Kleinfelder to assume the status of an owner, operator, or 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 is solely responsible for directing notification of 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 is responsible for directing all arrangements to lawfully store, treat, recycle, dispose, or otherwise handle hazardous materials, including cuttings and samples resulting from Kleinfelder's services.

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9.0 REFERENCES

Alameda County Health Care Services Agency. 2008a. Letter to Mr. James Soutter, Fuel Leak Case No. RO0002900 and Geotracker Global ID T0600165110, SPK Industrial Property, 700 Independent Road, Oakland, California 94621. May 13.

———. 2008b. Letter to Mr. James Soutter, Fuel Leak Case No. RO0002900 and Geotracker Global ID T0600165110, SPK Industrial Property, 700 Independent Road, Oakland, California 94621. September 10.

ACHCSA. *See* Alameda County Health Care Services Agency

In-Situ Oxidative Technologies, Inc. 2009. *In-Situ Chemical Oxidation Remediation Program Report*. January.

ISOTEC *See* In-Situ Oxidative Technologies, Inc.

Kleinfelder. 2005. *Underground Storage Tank Report*, 700 Independent Road, Oakland, California. November 1.

———. 2006a. *Site Field Investigation Report*, 700 Independent Road, Oakland, California. September 27.

———. 2006b. *Work Plan for Further Site Investigation*, 700 Independent Road, Oakland, California. December 12.

———. 2007a. *Further Site Investigation Report*, 700 Independent Road, Oakland, California. May 11.

———. 2007b. *Site Investigation Work Plan*, 700 Independent Road, Oakland, California. September 26.

———. 2008a. *Fourth Quarter 2007 Groundwater Monitoring Report*, 700 Independent Road, Oakland, California. January 29.

———. 2008b. *Additional Site-Characterization Report*, 700 Independent Road, Oakland, California. March 31.

———. 2008c. *Pilot Test Work Plan*, 700 Independent Road, Oakland, California. August 6.

———. 2009. *Fourth Quarter 2008 Groundwater Monitoring Report*, 700 Independent Road, Oakland, California. February 20.

RWQCB. *See* San Francisco Bay Region Regional Water Quality Control Board

San Francisco Bay Region Regional Water Quality Control Board. 2007 [2008]. Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Tables B and D. Revised May 2008. (http://www.swrcb.ca.gov/rwqcb2/RBSL/esl1107/esl.pdf)

TABLES

Table 1
ISCO Reagent Injection Volumes
EOP - 700 Independent Road, Oakland, California

Injection ID	Date	Injection Volume					
		Upper Screen			Lower Screen		
		H_2O_2 (gal)	Fe Catalyst (gal)	Total Reagent (gal)	H_2O_2 (gal)	Fe Catalyst (gal)	Total Reagent (gal)
1I-01	12/11/2008	0	50	50	0	50	50
1I-02	12/10/2008	10	100	110	100	100	200
1I-03	12/12/2008	18	0	18	15	50	65
1I-04	12/9/2008	45	150	195	15	150	165
1I-05	12/11/2008	185	100	285	85	80	165
1I-06	12/10/2008	25	150	175	105	150	255
1I-07	12/12/2008	95	50	145	100	100	200
1I-08	12/9/2008	150	150	300	150	150	300
1I-09	12/11/2008	100	100	200	100	100	200
1I-10	12/10/2008	100	100	200	100	100	200
1I-11	12/9/2008	150	150	300	150	150	300
1I-12	12/11/2008	50	50	100	95	100	195
1I-13	12/12/2008	3	0	3	20	50	70
Total		931	1,150	2,081	1,035	1,330	2,365

Acronyms:

gal	gallons
H_2O_2	Hydrogen Peroxide
Fe	Iron

Table 2
ISCO Pilot Test Sampling Schedule and Analyses
EOP - 700 Independent Road, Oakland, California

Analyte	Method	Scheduled Sampling	PS-1/PS-1A (approximately 10 feet)	PS-1/PS-1A (approximately 20 feet)	PS-2/PS-2A (approximately 10 feet)	PS-2/PS-2A (approximately 20 feet)	MW-1	MW-2	MW-3
pH	field measurement	baseline (prior injection)					x	x	x
		Injection day 1 (start of day)					x	x	x
		Injection day 1 (end of day)					x	x	x
		Injection day 2 (start of day)					x	x	x
		Injection day 2 (end of day)					x	x	x
		Injection day 3 (start of day)					x	x	x
		Injection day 3 (end of day)					x	x	x
		Injection day 4 (start of day)					x	x	x
		Injection day 4 (end of day)					x	x	x
		one week post injection					x	x	x
		two weeks post injection					x	x	x
		one month post injection					x	x	x
DO	field measurement	baseline (prior injection)					x	x	x
		Injection day 1 (start of day)					x	x	x
		Injection day 1 (end of day)					x	x	x
		Injection day 2 (start of day)					x	x	x
		Injection day 2 (end of day)					x	x	x
		Injection day 3 (start of day)					x	x	x
		Injection day 3 (end of day)					x	x	x
		Injection day 4 (start of day)					x	x	x
		Injection day 4 (end of day)					x	x	x
		one week post injection					x	x	x
		two weeks post injection					x	x	x
		one month post injection					x	x	x
ORP	field measurement	baseline (prior injection)					x	x	x
		Injection day 1 (start of day)					x	x	x
		Injection day 1 (end of day)					x	x	x
		Injection day 2 (start of day)					x	x	x
		Injection day 2 (end of day)					x	x	x
		Injection day 3 (start of day)					x	x	x
		Injection day 3 (end of day)					x	x	x
		Injection day 4 (start of day)					x	x	x
		Injection day 4 (end of day)					x	x	x
		one week post injection					x	x	x
		two weeks post injection					x	x	x
		one month post injection					x	x	x

Table 2
ISCO Pilot Test Sampling Schedule and Analyses
EOP - 700 Independent Road, Oakland, California

Analyte	Method	Scheduled Sampling	PS-1/PS-1A (approximately 10 feet)	PS-1/PS-1A (approximately 20 feet)	PS-2/PS-2A (approximately 10 feet)	PS-2/PS-2A (approximately 20 feet)	MW-1	MW-2	MW-3
temperature	field measurement	baseline (prior injection)					x	x	x
		Injection day 1 (start of day)					x	x	x
		Injection day 1 (end of day)					x	x	x
		Injection day 2 (start of day)					x	x	x
		Injection day 2 (end of day)					x	x	x
		Injection day 3 (start of day)					x	x	x
		Injection day 3 (end of day)					x	x	x
		Injection day 4 (start of day)					x	x	x
		Injection day 4 (end of day)					x	x	x
		one week post injection					x	x	x
		two weeks post injection					x	x	x
		one month post injection					x	x	x
conductivity	field measurement	baseline (prior injection)					x	x	x
		Injection day 1 (start of day)					x	x	x
		Injection day 1 (end of day)					x	x	x
		Injection day 2 (start of day)					x	x	x
		Injection day 2 (end of day)					x	x	x
		Injection day 3 (start of day)					x	x	x
		Injection day 3 (end of day)					x	x	x
		Injection day 4 (start of day)					x	x	x
		Injection day 4 (end of day)					x	x	x
		one week post injection					x	x	x
		two weeks post injection					x	x	x
		one month post injection					x	x	x
turbidity	field measurement	baseline (prior injection)					x	x	x
		Injection day 1 (start of day)					x	x	x
		Injection day 1 (end of day)					x	x	x
		Injection day 2 (start of day)					x	x	x
		Injection day 2 (end of day)					x	x	x
		Injection day 3 (start of day)					x	x	x
		Injection day 3 (end of day)					x	x	x
		Injection day 4 (start of day)					x	x	x
		Injection day 4 (end of day)					x	x	x
		one week post injection					x	x	x
		two weeks post injection					x	x	x
		one month post injection					x	x	x

Table 2
ISCO Pilot Test Sampling Schedule and Analyses
EOP - 700 Independent Road, Oakland, California

Analyte	Method	Scheduled Sampling	PS-1/PS-1A (approximately 10 feet)	PS-1/PS-1A (approximately 20 feet)	PS-2/PS-2A (approximately 10 feet)	PS-2/PS-2A (approximately 20 feet)	MW-1	MW-2	MW-3
dissolved iron	field measurement	baseline (prior injection)					x	x	x
		Injection day 1 (start of day)					x	x	x
		Injection day 1 (end of day)					x	x	x
		Injection day 2 (start of day)					x	x	x
		Injection day 2 (end of day)					x	x	x
		Injection day 3 (start of day)					x	x	x
		Injection day 3 (end of day)					x	x	x
		Injection day 4 (start of day)					x	x	x
		Injection day 4 (end of day)					x	x	x
		one week post injection					x	x	x
		two weeks post injection					x	x	x
		one month post injection					x	x	x
TPH-d	EPA 8015M	baseline (prior injection)	x	x	x	x	x	x	x
		one month post injection	x	x	x	x	x	x	x
TPH-g	EPA 8021B	baseline (prior injection)	x	x	x	x	x	x	x
		one month post injection	x	x	x	x	x	x	x
BTEX	EPA 8015M	baseline (prior injection)	x	x	x	x	x	x	x
		one month post injection	x	x	x	x	x	x	x
Metals	EPA 200.7	baseline (prior injection)					x	x	x
arsenic		one month post injection					x	x	x
barium									
cadmium									
total chromium									
chromium VI									
copper									
iron									
lead									
selenium									
Major ions	EPA 200.7	baseline (prior injection)					x	x	x
sodium		one month post injection					x	x	x
potassium									
calcium									
magnesium									
iron									
Dissolved ferrous iron	EPA 200.7	baseline (prior injection)					x	x	x
		one month post injection					x	x	x
Alkalinity as calcium carbor	EPA SM2320B	baseline (prior injection)					x	x	x
		one month post injection					x	x	x
TDS	EPA 106.1	baseline (prior injection)					x	x	x
		one month post injection					x	x	x

Table 2
ISCO Pilot Test Sampling Schedule and Analyses
EOP - 700 Independent Road, Oakland, California

Analyte	Method	Scheduled Sampling	PS-1/PS-1A (approximately 10 feet)	PS-1/PS-1A (approximately 20 feet)	PS-2/PS-2A (approximately 10 feet)	PS-2/PS-2A (approximately 20 feet)	MW-1	MW-2	MW-3
TOC	EPA 415.3	baseline (prior injection)					x	x	x
		one month post injection					x	x	x

Notes:
PS - point of sampling
MW- monitoring well
DO - dissolved oxygen
ORP - oxidation-reduction potential
TDS - total dissolved solids
TOC - total organic carbon
BTEX - benzene, toluene, ethylbenzene, and xylenes
TPH-d - total petroleum hydrocarbons as diesel
TPH-g - total petroleum hydrocarbons as gasoline

Table 3
Volatile Organic Compounds and Total Petroleum Hydrocarbons in Soil
EOP - 700 Independent Road, Oakland, California

Sample Location	PS-1/1A				PS2/2A				ESL	
Sample ID	**PS-1-8**	**PS-1A-10**	**PS-1-20**	**PS-1A-20**	**PS-2-16**	**PS-2A-10**	**PS-2-19**	**PS-2A-20**	Commercial/ Industrial (Shallow Soil)*	Commercial/ Industrial (Deep Soil)**
Date Sampled	12/1/2008	1/12/2009	12/1/2008	1/12/2009	12/1/2008	1/12/2009	12/1/2008	1/12/2009		
TPH-d	<2.00	<2.00	<2.00	<2.00	78.1 a	16.1 b	143 a	<2.00	2,500	5,000
TPH-g	330 a	<0.100	<0.100	0.120 a	**1,500**	260 bc	430	10 b	**450**	4,200
Benzene	<1	<0.001	<0.001	<0.001	**16**	**2.2**	**2.5**	0.16	**0.26**	**11**
Ethylbenzene	<1	<0.001	<0.001	<0.001	**46**	4.5	5.6	0.64	**33**	**33**
Toluene	<1	<0.001	<0.001	<0.001	<10	<1	1.0	<0.050	29	29
Xylenes, total	<1.5	<0.0015	<0.0015	<0.0015	40	4.1	9.4	0.80	100	420

Notes:

All results in milligrams per kilogram (mg/kg). Values in bold exceed corresponding ESLs.

a - Sample chromatogram does not resemble gasoline standard pattern.

b - Although TPH as Gasoline are present, reported value is significantly elevated due to the presence of heavy end hydrocarbons within C5-C12 quantitation range for Gasoline (possibly aged gasoline or carry over from fuel heavier than gasoline)

c - Estimated value

NE - Not established

NA - Not analyzed

* ESL - Environmental Screening Levels from San Francisco Regional Water Quality Control Board, Interim Final - November 2007 (revised May 2008). Lowest level reported from: Table B. Environmental Screening Levels. Shallow Soils (less or equal to 3 meters below ground surface). Groundwater IS NOT a current or potential drinking water source.

** ESL - Environmental Screening Levels from San Francisco Regional Water Quality Control Board, Interim Final - November 2007 (revised May 2008). Lowest level reported from: Table D. Environmental Screening Levels. Deep Soils (greater than 3 meters below ground surface). Groundwater IS NOT a current or potential drinking water source.

Acronyms:

TPH-d - Total Petroleum Hydrocarbons - diesel

TPH-g - Total Petroleum Hydrocarbons - gasoline

Table 4
Field Parameters in Groundwater
EOP - 700 Independent Road, Oakland, California

Well ID	Date	Time	Temperature (degrees C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	Oxidation Reduction Potential (mV)	Turbidity (NTU)	Iron (mg/L)	Peroxide (mg/L)
MW-1	12/9/2008	AM	16.27	9.12	5.49	6.49	390.20	5.35	0.00	0.00
	12/9/2008	1702	14.74	16.74	9.44	6.40	357.00	20.10	0.80	0.00
	12/10/2008	805	15.06	20.72	4.54	6.28	130.20	16.20	0.10	NM
	12/10/2008	1518	15.06	20.65	7.21	6.61	146.00	9.30	0.00	0.00
	12/11/2008	840	13.70	19.45	14.22	6.34	146.00	7.73	0.00	NM
	12/11/2008	1636	14.92	19.92	12.63	7.32	131.60	5.12	0.00	0.00
	12/12/2008	800	13.51	19.08	10.21	6.91	133.40	4.21	0.00	NM
	12/12/2008	1520	14.20	19.10	11.40	7.68	118.90	2.96	0.00	0.00
	12/19/2008	AM	15.15	12.10	28.14	7.44	130.10	50.80	4.10	NM
	12/26/2008	AM	14.19	19.21	24.37	7.19	204.10	60.30	6.40	NM
	1/12/2009	1540	17.54	13.87	9.45	6.82	344.70	74.70	9.00	NM
MW-2	12/9/2008	AM	15.21	15.48	4.66	6.52	388.80	9.76	1.00	0.00
	12/9/2008	1706	NM	NM	NM	NM	NM	NM	NM	NM
	12/10/2008	730	14.72	20.92	12.25	6.09	130.90	20.40	0.00	0.00
	12/10/2008	1523	14.30	23.50	22.88	6.92	154.90	30.90	0.00	0.00
	12/11/2008	752	14.67	22.70	22.15	7.20	145.50	16.00	0.10	NM
	12/11/2008	1642	14.04	22.11	28.24	6.72	143.70	28.40	0.20	0.20
	12/12/2008	745	13.50	21.40	27.08	7.88	133.70	27.30	0.10	NA
	12/12/2008	1531	14.13	20.90	26.24	6.91	140.60	31.00	0.10	0.30
	12/19/2008	AM	16.28	11.28	27.11	7.13	118.80	48.10	1.50	NM
	12/26/2008	AM	17.06	13.43	23.24	7.55	199.40	58.40	2.30	NM
	1/12/2009	1630	17.30	9.26	54 (1)	6.83	240.00	301.00	2.50	NM
MW-3	12/9/2008	AM	19.45	7.71	4.34	6.99	370.20	2.69	0.00	0.00
	12/9/2008	1700	NM	NM	NM	NM	NM	NM	NM	NM
	12/10/2008	748	18.49	11.93	11.55	6.92	114.80	4.48	0.20	0.00
	12/10/2008	1515	17.67	11.72	19.51	7.33	129.60	28.50	0.00	0.00
	12/11/2008	759	18.17	11.81	17.80	7.26	130.00	12.00	0.00	NA
	12/11/2008	1638	18.12	11.65	24.14	7.45	114.80	32.00	0.00	0.00
	12/12/2008	753	16.02	11.30	25.02	7.85	118.50	11.20	0.00	NM
	12/12/2008	1525	17.10	11.58	24.16	7.74	107.00	29.10	0.00	0.00
	12/19/2008	AM	17.97	16.41	25.50	7.68	130.00	79.60	0.80	NM
	12/26/2008	AM	18.23	12.66	24.18	7.77	188.50	80.70	1.10	NM
	1/12/2009	1700	20.40	8.82	7.10	7.10	319.00	399.00	0.10	NM

Acronyms:

ISCO *in situ* chemical oxydation
NM not measured
C Celsius
mS/cm millisiemens per centimeter
mg/L miligrams per liter
mV millivolts
NTU nephelometric turbidity unit
(1) the dissolved oxygen meter suspected to be malfunctioning.

Table 5
Volatile Organic Compounds, Total Petroleum Hydrocarbons, and Total Dissolved Solids in Groundwater
EOP - 700 Independent Road, Oakland, California

Sample Location	MW-1							MW-2							ESL*
Date Sampled	3/19/2007	9/10/2007	12/17/2007	3/28/2008	6/11/2008	12/1&2/2008	1/12/2009g	3/19/2007	9/10/2007	12/17/2007	3/28/2008	6/11/2008	12/1&2/2008	1/12/2009g	
TPH-d	390a	315a	186a	<100	235a	484f	264f	940a	1,690a	3,770a	300c	1,030a	965f	**2,500f**	**2,500**
TPH-g	3,300	1,700b	1,510b	**12,000**	4,700	2,900	3,300	**38,000**	**52,100b**	**30,900b**	**47,000**	**31,000**	**53,000**	**35,000**	**5,000**
Benzene	162	145	204	**1,020**	**721**	295	380	**11,600**	**15,800**	**13,300**	**12,600**	**19,700**	**20,500**	**15,300**	**540**
Butylbenzene (sec-)	NA	1	2	NA	<4.40	<4.40	NA	NA	<22.0	<22.0	NA	<44.0	<44.0	NA	NE
1,2 Dichloroethane (EDC)	<1.1	<0.500	<0.500	NA	<4.40	<4.40	NA	**226**	**611**	**568**	NA	**542**	**468**	NA	200
Ethylbenzene	60	72	79	161	160	137	91	**588**	**1,120**	**1,350**	**619**	**1,090**	**1,240**	**1,030**	**300**
Isopropylbenzene	NA	12	10	NA	19	37	NA	NA	69	73	NA	<88.0	<88.0	NA	NE
Isopropyltoluene (4-)	NA	2	2	NA	NA	NA	NA	NA	<22.0	<22.0	NA	NA	NA	NA	NE
Naphthalene	NA	8	4	NA	<52.8	**298**	NA	NA	**231**	**227**	NA	**<528**	196	NA	**210**
Propylbenzene (n-)	NA	21	19	NA	<4.40	88	NA	NA	143	118	NA	<44.0	125	NA	NE
Toluene	205	56	15	19	85	27	84	274	**552**	172	67	81	<44.0	63	**400**
Trimethylbenzene (1,2,4-)	NA	95	67	NA	132	501	NA	NA	1,270	1,230	NA	154	1,200	NA	NE
Trimethylbenzene (1,3,5-)	NA	17	6	NA	11	35	NA	NA	650	352	NA	731	67	NA	NE
Xylenes, total	351	197	57	60	126	218	174	2,880	**5,420**	2,330	1,040	1,410	1,180	1,050	**5,300**
Methyl tert butyl ether (MTBE)	<1.1	<0.500	<0.500	<1.10	<4.40	<4.40	NA	<13.2	<22.0	<22.0	<22.0	<44.0	<44.0	NA	1,800
Total Dissolved Solids (TDS)	NA	NA	14,000,000	NA	NA	14,000,000	14,000,000	NA	NA	17,000,000	NA	NA	17,000,000	13,000,000	NE

Notes:

All results in micrograms per liter (ug/l). Values in bold exceed corresponding ESLs.

a - Sample chromatogram does not resemble typical diesel pattern (possibly fuel lighter than diesel). Lighter end hydrocarbons and hydrocarbon peaks within the diesel range quantified as diesel.

b - Although TPH as gasoline is present, result is elevated due to the presence of non-target compounds within the gasoline quantitative range.

c - Although TPH as Gasoline constituents are present, results are elevated due to the presence of non-target compounds within range of C5-C12 quantified as Gasoline.

d - Does not match typical gasoline pattern. TPH value contains only non-target compounds within gasoline quantitative range.

e - Does not match typical gasoline pattern. Reported values are the result of presence of non-gasoline compounds within the gasoline quantitation range.

f - Sample chromatogram does not resemble typical diesel pattern (possibly fuel lighter than diesel). Hydrocarbons within the diesel range quantitated as diesel.

g - data one month post *in situ* chemical oxydation pilot test event

NE - Not established

NA - Not analyzed

* ESL - Environmental Screening Levels from San Francisco Regional Water Quality Control Board, Interim Final - November 2007 (revised May 2008). Lowest level reported from:
Table B. Environmental Screening Levels. Groundwater IS NOT a current or potential drinking water source.

Acronyms:

TPH-d - Total Petroleum Hydrocarbons - diesel

TPH-g - Total Petroleum Hydrocarbons - gasoline

Table 5

Volatile Organic Compounds, Total Petroleum Hydrocarbons, and Total Dissolved Solids in Groundwater

EOP - 700 Independent Road, Oakland, California

Sample Location	MW-3							MW-4				MW-5				ESL*
Date Sampled	3/19/2007	9/10/2007	12/17/2007	3/28/2008	6/11/2008	12/1&2/2008	1/12/2009g	1/31/2008	3/28/2008	6/11/2008	12/1&2/2008	1/31/2008	3/28/2008	6/11/2008	12/1&2/2008	
TPH-d	<100	<100	<100	<100	<100	<100	<100	< 100	<100	<100	<100	544f	<100	<100	<100	2,500
TPH-g	<50	<50	<50	<50	<50	<50	<50	56.0e	61d	<50	<50	55.0e	57d	<50	<50	5,000
Benzene	<0.500	<0.500	<0.500	<0.500	<0.50	<0.50	<0.50	< 0.500	<0.500	<0.50	<0.50	<0.500	<0.500	<0.50	<0.50	540
Butylbenzene (sec-)	NA	<0.500	<0.500	NA	<0.50	<0.50	NA	NA	NA	<0.50	<0.50	NA	NA	<0.50	<0.50	NE
1,2 Dichloroethane (EDC)	<0.500	<0.500	<0.500	NA	<0.50	<0.50	NA	NA	NA	<0.50	<0.50	NA	NA	<0.50	<0.50	200
Ethylbenzene	<0.500	<0.500	<0.500	<0.500	<0.50	<0.50	<0.50	< 0.500	<0.500	<0.50	<0.50	<0.500	<0.500	<0.50	<0.50	300
Isopropylbenzene	NA	<1.0	<1.0	NA	<1.00	<1.00	NA	NA	NA	<1.00	<1.00	NA	NA	<1.00	<1.00	NE
Isopropyltoluene (4-)	NA	<0.500	<0.500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE
Naphthalene	NA	<0.500	<0.500	NA	<6.00	<1.00	NA	NA	NA	<6.00	<1.00	NA	NA	<6.00	<1.00	210
Propylbenzene (n-)	NA	<0.500	<0.500	NA	<0.50	<0.50	NA	NA	NA	<0.50	<0.50	NA	NA	<0.50	<0.50	NE
Toluene	<0.500	<0.500	<0.500	<0.500	<0.50	<0.50	<0.50	<0.500	<0.500	<0.50	<0.50	<0.500	<0.500	<0.50	<0.50	400
Trimethylbenzene (1,2,4-)	NA	<0.500	<0.500	NA	<0.50	<0.50	NA	NA	NA	<0.50	<0.50	NA	NA	<0.50	<0.50	NE
Trimethylbenzene (1,3,5-)	NA	<0.500	<0.500	NA	<0.50	<0.50	NA	NA	NA	<0.50	<0.50	NA	NA	<0.50	<0.50	NE
Xylenes, total	<1.5	<1.5	<1.5	<1.50	<1.50	<1.50	<1.50	<1.50	<1.50	<1.50	<1.50	< 1.50	<1.50	<1.50	<1.50	5,300
Methyl tert butyl ether (MTBE)	<0.500	<0.500	<0.500	<0.500	<0.50	<0.50	NA	<0.500	<0.500	<0.50	<0.50	<0.500	<0.500	<0.50	<0.50	1,800
Total Dissolved Solids (TDS)	NA	NA	8,600,000	NA	NA	7,700,000	8,800,000	NA	NA	NA	NA	NA	NA	NA	NA	NE

Notes:

All results in micrograms per liter (ug/l). Values in bold exceed corresponding ESLs.

a - Sample chromatogram does not resemble typical diesel pattern (possibly fuel lighter than diesel). Lighter end hydrocarbons and hydrocarbon peaks within the diesel range quantified as diesel.

b - Although TPH as gasoline is present, result is elevated due to the presence of non-target compounds within the gasoline quantitative range.

c - Although TPH as Gasoline constituents are present, results are elevated due to the presence of non-target compounds within range of C5-C12 quantified as Gasoline.

d - Does not match typical gasoline pattern. TPH value contains only non-target compounds within gasoline quantitative range.

e - Does not match typical gasoline pattern. Reported values are the result of presence of non-gasoline compounds within the gasoline quantitation range.

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

g - data one month post *in situ* chemical oxydation pilot test event

NE - Not established

NA - Not analyzed

* ESL - Environmental Screening Levels from San Francisco Regional Water Quality Control Board, Interim Final - November 2007 (revised May 2008). Lowest level reported from:
Table B. Environmental Screening Levels. Groundwater IS NOT a current or potential drinking water source.

Acronyms:

TPH-d - Total Petroleum Hydrocarbons - diesel

TPH-g - Total Petroleum Hydrocarbons - gasoline

Table 6
Other Organic and Inorganic Compounds in Groundwater
EOP - 700 Independent Road, Oakland, California

Sample Location	MW-1		MW-2		MW-3		ESL*
Date Sampled	12/1/2008	1/12/2009g	12/2/2008	1/12/2009g	12/2/2008	1/12/2009g	
Arsenic	<0.010	<0.5	0.031	<0.5	<0.010	<0.5	50,000
Barium	0.098	<0.5	0.130	<0.5	0.140	<0.5	50,000
Cadmium	<0.0050	<0.25	<0.0050	<0.25	<0.0050	<0.25	50,000
Calcium	100	190	220	240	110	120	NE
Chromium (Total)	<0.0050	<0.25	0.045	<0.25	0.057	<0.25	NE
Copper	<0.010	<0.5	0.13	<0.5	0.11	<0.5	50,000
Iron	2.2	9.4	29	24	39	15	NE
Lead	<0.0050	<0.25	0.02	<0.25	0.006	<0.25	50,000
Magnesium	210	350	300	320	120	130	NE
Potassium	34	<50	18	<50	10	<50	NE
Selenium	<0.010	<0.5	<0.010	<0.5	<0.010	<0.5	50,000
Sodium	5,700	4,700	7,100	4,000	3,300	2,700	NE
Total Organic Carbon	8.7	11	540	55	16	8.3	NE
Alkalinity as CaCO3	1,100	1,400	1,800	1,800	2,000	2,000	NE
Ferrous Iron	<0.10	0.29	2.9	<0.10	<0.10	<0.10	NE
Hexavalent Chromium	<2.5	<5.0	<2.5	<5.0	<2.5	<5.0	50,000

Notes:

All results in micrograms per liter (ug/l). Values in bold exceed corresponding ESLs.

NE - Not established

NA - Not analyzed

* ESL - Environmental Screening Levels from San Francisco Regional Water Quality Control Board, Interim Final - November 2007 (revised May 2008). Lowest level reported from: Table B. Environmental Screening Levels. Groundwater IS NOT a current or potential drinking water source.

Acronyms:

TPH-d - Total Petroleum Hydrocarbons - diesel

TPH-g - Total Petroleum Hydrocarbons - gasoline

Table 7
Air Monitoring Results
EOP - 700 Independent Road, Oakland, California

Date	Location 1		Location 2		Location 3		Location 4		Location 5		Location 6	
	Time	Reading (ppb)	Time	Reading (ppb)	Time	Reading (ppb)	Time	Reading (ppb)	Time	Reading (ppb)	Time	Reading (ppb)
12/11/2009	1354	0.0	1355	0.0-30	1359	0.0 - 5.0	1403	45 - 151	1406	71 - 144	1407	0.0
12/11/2009	1448	0.0	1448	0.0	1449	0.0	1451	0 - 26	1452	19 - 60	1553	0.0
12/11/2009	1544	0.0	1545	0.0	1547	40 - 125	1549	70 - 87	1552	150 - 226	1533	0.0
12/11/2009	1704	0.0	1705	0.0	1707	0.0	1709	57 - 72	1711	79 - 226	1712	0.0
12/12/2008	708	0.0	711	0.0	712	0.0	715	15 - 30	717	0.0	718	0.0
12/12/2008	953	0.0	955	7 - 12	957	0 - 30	1000	117 - 384	1002	0.0 - 3.0	1003	0.0
12/12/2008	1240	0.0	1241	0.0	1243	0.0	1245	0 - 54	1242	0.0	1248	0.0
12/12/2008	1324	0.0	1326	0.0	1338	0.0	1330	19 - 138	1332	0.0 - 2.0	1333	0.0

Acronyms:

ppb parts per billion

Notes:

Location 1 Outside background on street ~ 3 feet above ground surface
Location 2 ~ 15 feet inside first roll-up door closest to Coliseum Way
Location 3 ~ 15 feet to 25 feet inside, 2" - 3" off ground over large cracks
Location 4 Background inside building against brick wall
Location 5 ~ 2 " off exposed vent pipe
Location 6 ~ 2.5 feet off ground inside concrete building

PLATES

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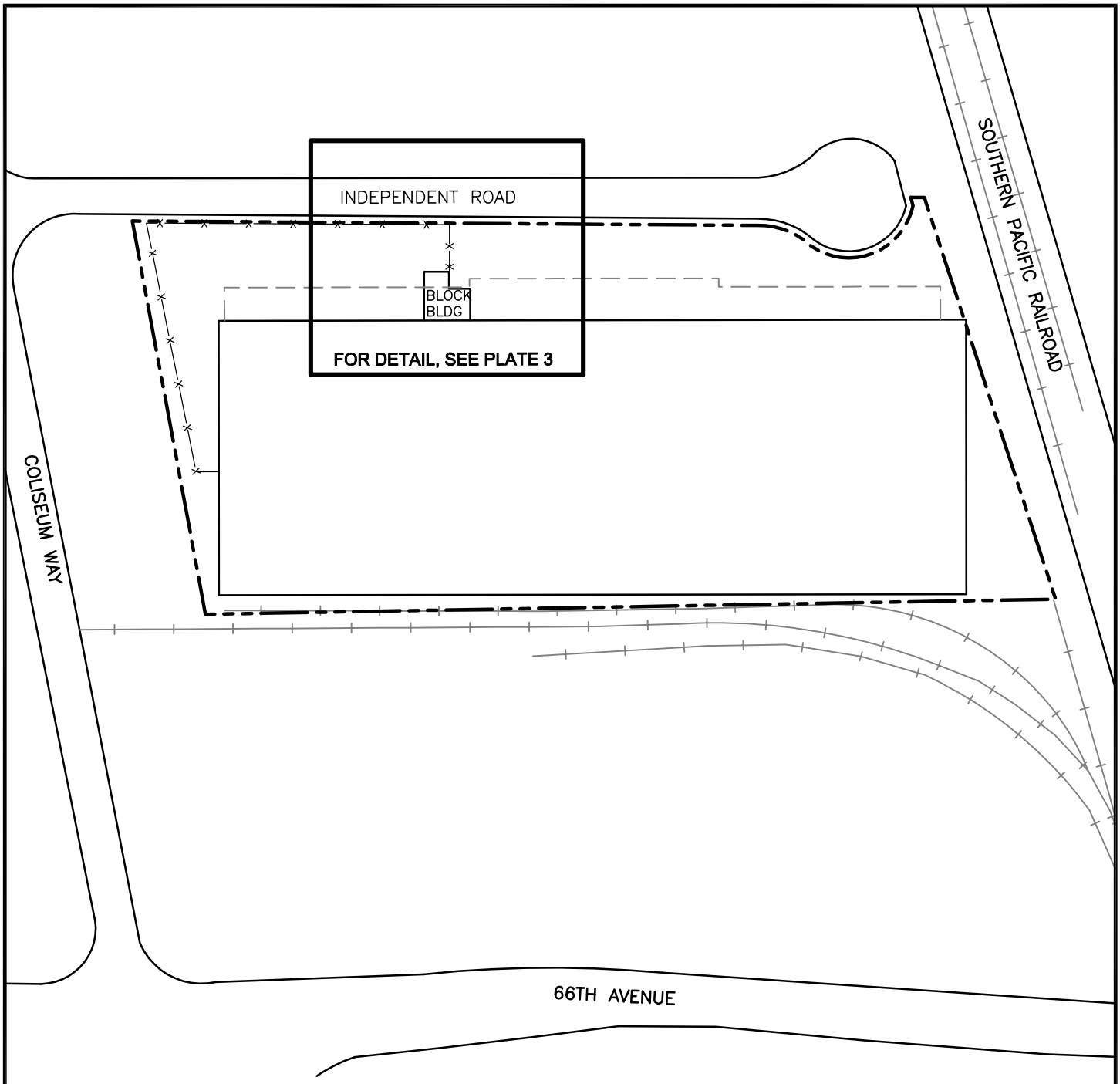
PROJECT NO.	54504
DRAWN:	JUL 2008
DRAWN BY:	LGS
CHECKED BY:	SD
FILE NAME:	Task6_P-01.dwg

SITE VICINITY MAP

700 INDEPENDENT ROAD
OAKLAND, CALIFORNIA

PLATE
1

PLOTTED: 24 Jul 2008, 9:00am, Isue
LAYOUT: Layout1
CAD FILE: L:\2008\08Projects\54504\GRAPHICs\6\07-2008\
XRef: Eng-B_08x11_P_StyleA.dwg
ATTACHED IMAGES: Images: VIC-MAP.jpg
ATTACHED XREFS:
PLEASANTON, CA



N

120 60 0 120

APPROXIMATE SCALE (feet)

LEGEND

PROPERTY BOUNDARY

FENCE LINE

LIMITS OF BUILDING OVERHANG

NOTE: Locations are approximate.

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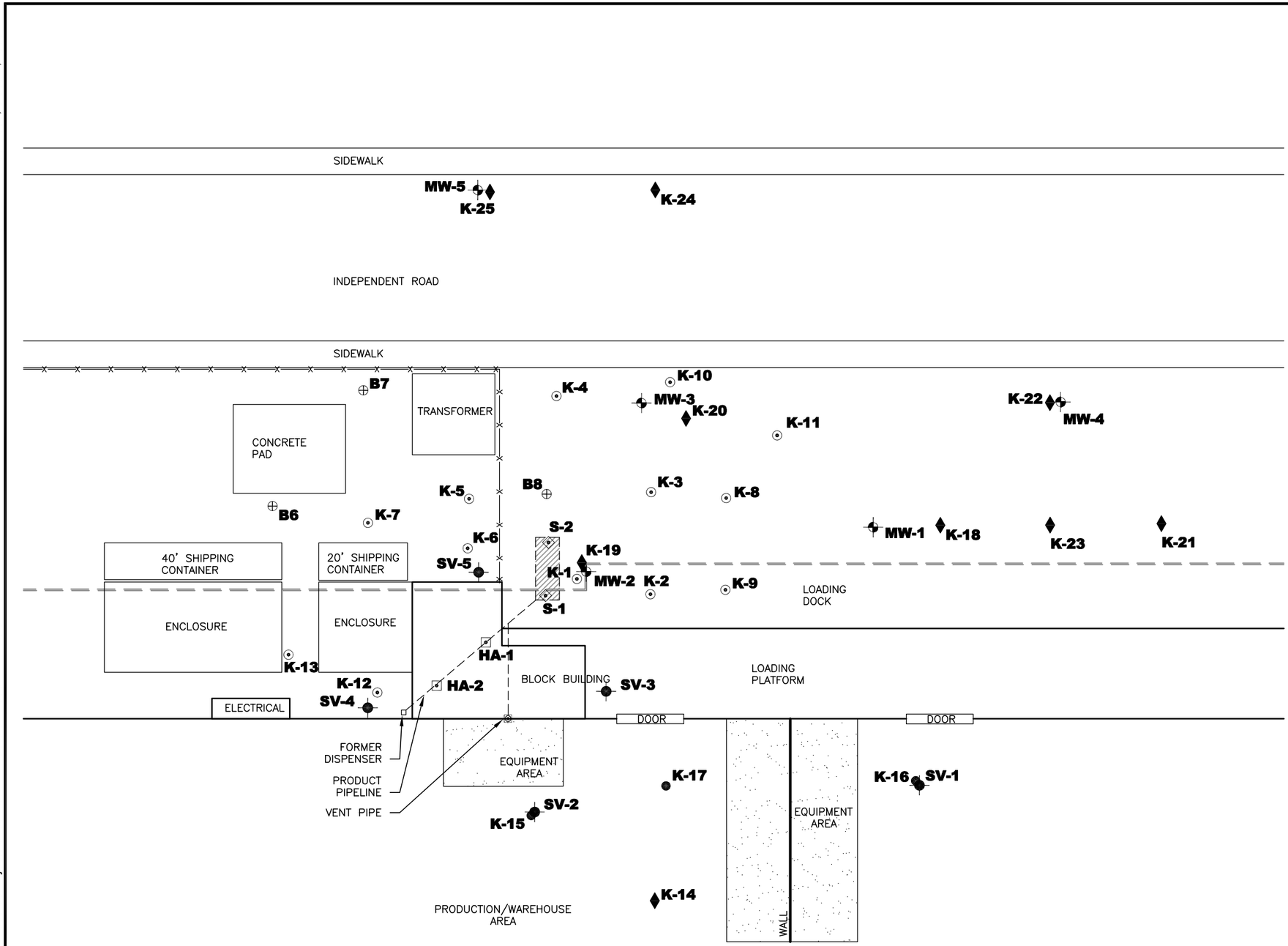
PROJECT NO.	54504
DRAWN:	JUL 2008
DRAWN BY:	LGS
CHECKED BY:	SD
FILE NAME:	Task6_P-02.dwg

SITE PLAN: OVERALL

700 INDEPENDENT ROAD
OAKLAND, CALIFORNIA

PLATE **2**

PLOTTED: 24 Jul 2008, 8:59am, Isue
LAYOUT: PLATE 2
CAD FILE: L:\2008\08Projects\54504\GRAPHICs\6\07-2008\
XRef: Eng-B 08x11_P_StyleA.dwg
ATTACHED XREFS:
ATTACHED IMAGES:
PLEASANTON, CA



LEGEND

- ROOF OVERHANG
- FENCE
- PRODUCT PIPELINE
- FORMER UNDERGROUND STORAGE TANK
- MONITORING WELL (Kleinfelder, March 2007)
- SOIL VAPOR BORING (Kleinfelder, March 2007)
- SOIL BORING depth 24-32 ft (Kleinfelder, March 2007)
- SOIL BORING depth 38-45 ft (Kleinfelder, March 2007 and February 2008)
- SOIL BORING (Kleinfelder, 2006)
- SOIL BORING (Golder Associates, August 2004)
- HAND AUGER
- UST CONFIRMATION SOIL SAMPLE

NOTE:
Golder boring B8 located in the field.
Locations of Golder borings B6 and B7 are approximate.

N

25 0 25
APPROXIMATE SCALE (feet)

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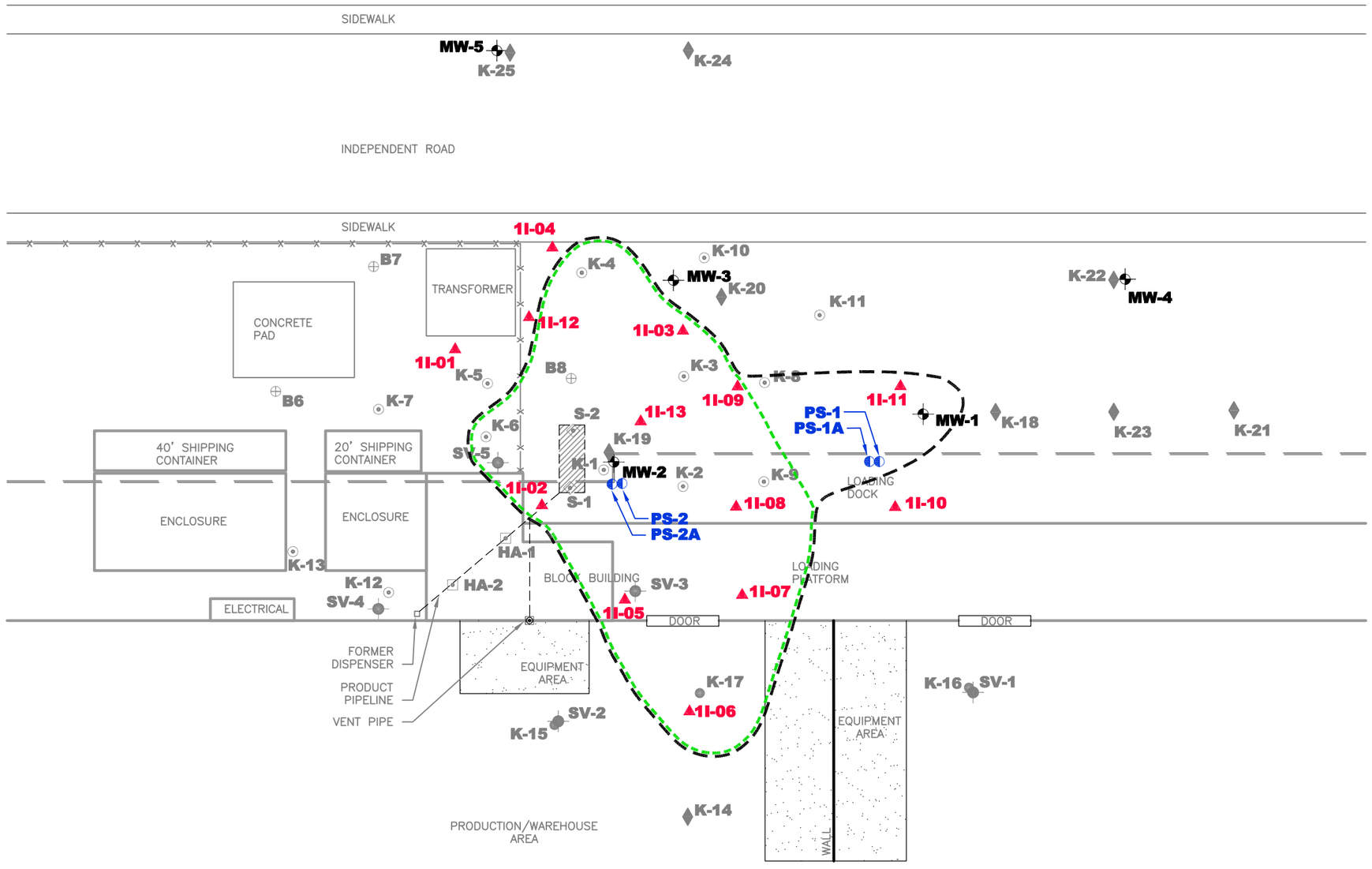
PROJECT NO.	54504
DRAWN:	JUL 2008
DRAWN BY:	LGS
CHECKED BY:	SD
FILE NAME:	Task6_P-03.dwg

SOIL BORING AND MONITORING WELL LOCATIONS

700 INDEPENDENT ROAD
OAKLAND, CALIFORNIA

PLATE
3



LEGEND

- ROOF OVERHANG
- FENCE
- PRODUCT PIPELINE
- FORMER UNDERGROUND STORAGE TANK
- MONITORING WELL (Kleinfelder, March 2007)
- SOIL BORING (Kleinfelder, December 2008 and January 2009)
- SOIL VAPOR BORING (Kleinfelder, March 2007)
- SOIL BORING depth 24-32 ft (Kleinfelder, March 2007)
- SOIL BORING depth 38-45 ft (Kleinfelder, March 2007 and February 2008)
- SOIL BORING (Kleinfelder, 2006)
- SOIL BORING (Golder Associates, August 2004)
- HAND AUGER
- UST CONFIRMATION SOIL SAMPLE
- IN SITU CHEMICAL OXIDATION (ISCO) INJECTION LOCATION
- APPROXIMATE PROPOSED LIMIT OF ISCO PILOT TEST TREATMENT AREA
- APPROXIMATE PROPOSED LIMIT OF ISCO FULL SCALE TREATMENT AREA

NOTES: Locations are approximate.

N

25 0 25

APPROXIMATE SCALE (feet)

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PROJECT NO.	54504
DRAWN:	FEB 2009
DRAWN BY:	JDS
CHECKED BY:	SD
FILE NAME:	Task7_P-04.dwg

ISCO PILOT TEST AND FULL SCALE TREATMENT AREAS, ISCO INJECTION LOCATIONS AND SOIL BORING SAMPLING LOCATIONS

700 INDEPENDENT ROAD
OAKLAND, CALIFORNIA

PLATE 4

SIDEWALK

MW-5 K-25 K-24

INDEPENDENT ROAD

1

SIDEWALK

B7 TRANSFORMER K-4 K-10 MW-3 K-20 K-11 K-22 MW-4

CONCRETE PAD

K-5 B8 K-3 K-8

B6 K-7

S-2 K-6 K-19 SV-5 K-1 MW-2 K-2 K-9 MW-1 K-18 K-23

40' SHIPPING CONTAINER

20' SHIPPING CONTAINER

LOADING DOCK

S-1

ENCLOSURE

ENCLOSURE

6 HA-1

K-13

K-12 HA-2 BLOCK BUILDING SV-3

LOADING PLATFORM

SV-4

ELECTRICAL

DOOR 2

DOOR 3

DOOR

5

FORMER DISPENSER

PRODUCT PIPELINE

VENT PIPE

EQUIPMENT AREA

K-17 K-16 SV-1

SV-2 K-15

EQUIPMENT AREA

WALL

K-14

PRODUCTION/WAREHOUSE AREA

WALL

4

LEGEND

- ROOF OVERHANG
- FENCE
- PRODUCT PIPELINE
- FORMER UNDERGROUND STORAGE TANK
- MONITORING WELL (Kleinfelder, March 2007)
- SOIL VAPOR BORING (Kleinfelder, March 2007)
- SOIL BORING depth 24-32 ft (Kleinfelder, March 2007)
- SOIL BORING depth 38-45 ft (Kleinfelder, March 2007 and February 2008)
- SOIL BORING (Kleinfelder, 2006)
- SOIL BORING (Golder Associates, August 2004)
- HAND AUGER
- UST CONFIRMATION SOIL SAMPLE
- AIR SAMPLE LOCATIONS

NOTE:
Golder boring B8 located in the field.
Locations of Golder borings B6 and B7 are approximate.

N

25 0 25
APPROXIMATE SCALE (feet)

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PROJECT NO.	54504
DRAWN:	FEB 2009
DRAWN BY:	JDS
CHECKED BY:	SD
FILE NAME:	Task7_P-05.dwg

AIR MONITORING LOCATIONS

700 INDEPENDENT ROAD
OAKLAND, CALIFORNIA

PLATE 5

APPENDIX A

ALAMEDA COUNTY PUBLIC WORKS AGENCY
DRILLING PERMIT

Alameda County Public Works Agency - Water Resources Well Permit

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

Application Approved on: 11/18/2008 By jamesy

Permit Numbers: W2008-0873
Permits Valid from 12/01/2008 to 02/28/2009

Application Id: 1226446509678
City of Project Site: Oakland
Site Location: 700 Independent Road Oakland California
Project Start Date: 12/01/2008
Completion Date: 02/28/2009
Requested Inspection: 12/01/2008
Scheduled Inspection: 12/01/2008 at 2:30 PM (Contact your inspector, Vicky Hamlin at (510) 670-5443, to confirm.)

Applicant:	Kleinfelder - Sophia Drugan 7133 Koll Center Parkway, Suite 100, Pleasanton, CA 94566	**Phone:** 925-484-1700
Property Owner:	Francis J Meyard (Manager) 700 Independent Road,LP 104 Caledonia Street Ste. C, Sausalito, CA 94965	**Phone:** 415-331-3838
Client:	James Soutter P.E. (Director of Engineering)	**Phone:** 650-372-3553
Contact:	Equity Office Properties-Industrial Portfolio LLC 2655 Campus Drive, Suite 100, San Mateo, CA 94403 Sophia Drugan	**Phone:** 925-484-1700 **Cell:** 925-766-5623

Total Due: $230.00
Receipt Number: WR2008-0417 **Total Amount Paid:** $230.00
Payer Name : Kleinfelder Pleasanton Paid By: MC **PAID IN FULL**

Works Requesting Permits:

Borehole(s) for Geo Probes-Sampling 24 to 72 hours only - 15 Boreholes
Driller: Fisch Drilling - Lic #: 683865 - Method: DP **Work Total: $230.00**

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2008-0873	11/18/2008	03/01/2009	15	3.00 in.	25.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.

2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

4. Applicant shall contact 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. 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.

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

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

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

PROGRAMS AND SERVICES

Well Standards Program

The Alameda County Public Works Agency, Water Resources is located at:
399 Elmhurst Street
Hayward, CA 94544
For Driving Directions or General Info, Please Contact 510-670-5480 or wells@acpwa.org
For Drilling Permit information and process contact James Yoo at
Phone: 510-670-6633
FAX: 510-782-1939
Email: Jamesy@acpwa.org

Alameda County Public Works is the administering agency of General Ordinance Code, Chapter 6.88 . The purpose of this chapter is to provide for the regulation of groundwater wells and exploratory holes as required by California Water Code. The provisions of these laws are administered and enforced by Alameda County Public Works Agency through its Well Standards Program.

Drilling Permit Jurisdictions in Alameda County: There are four jurisdictions in Alameda County.

Location: Agency with Jurisdiction Contact Number

Berkeley City of Berkeley Ph: 510-981-7460
Fax: 510-540-5672

Fremont, Newark, Union City Alameda County Water District Ph: 510-668-4460
Fax: 510-651-1760

Pleasanton, Dublin, Livermore, Sunol Zone 7 Water Agency Ph: 925-454-5000
Fax: 510-454-5728

The Alameda County Public Works Agency, Water Resources has the responsibility and authority to issue drilling permits and to enforce the County Water Well Ordinance 73-68. This jurisdiction covers the western Alameda County area of **Oakland**, **Alameda**,**Piedmont**, **Emeryville**, **Albany**, **San Leandro**, **San Lorenzo**, **Castro Valley**, and **Hayward** . The purpose of the drilling permits are to ensure that any new well or the destruction of wells, including geotechnical investigations and environmental sampling within the above jurisdiction and within Alameda County will not cause pollution or contamination of ground water or otherwise jeopardize the health, safety or welfare of the people of Alameda County.

Permits are required for all work pertaining to wells and exploratory holes at any depth within the jurisdiction of the Well Standards Program. A completed permit application *(30 Kb)** , along with a site map, should be submitted at least **ten (10) working days prior to the planned start of work**. Submittals should be sent to the address or fax number provided on the application form. When submitting an application via fax, please use a high resolution scan to retain legibility.

Fees
Beginning April 11, 2005 , the following fees shall apply:

A permit to construct, rehabilitate, or destroy wells, including cathodic protection wells, but excluding dewatering wells (*Horizontal hillside dewatering and dewatering for construction period only), shall cost $300.00 per well.

A permit to bore exploratory holes, including temporary test wells, shall cost $200 per site. A site includes the project parcel as well as any adjoining parcels.

Please make checks payable to: **Treasurer, County of Alameda**

Permit Fees are exempt to State & Federal Projects
Applicants shall submit a letter from the agency requesting the fee exemption.

Scheduling Work/Inspections:
Alameda County Public Works Agency (ACPWA), Water Resources Section requires scheduling and inspection of permitted work. All drilling activities must be scheduled in advance. Availability of inspections will vary from week to week and will come on a first come, first served bases. To ensure inspection availability on your desired or driller scheduled date, the following procedures are required:

Please contact **James Yoo at 510-670-6633** to schedule the inspection date and time (You must have drilling permit approved prior to scheduling).

Schedule the work as far in advance as possible (at least 5 days in advance); and confirm the scheduled drilling date(s) at least 24 hours prior to drilling.

Once the work has been scheduled, an ACPWA Inspector will coordinate the inspection requirements as well as how the Inspector can be reached if they are not at the site when Inspection is required. Expect for special circumstances given, all work will require the inspection to be conducted during the working hours of 8:30am to 2:30pm., Monday to Friday, excluding holidays.

Request for Permit Extension:
Permits are only valid from the start date to the completion date as stated on the drilling permit application and Conditions of Approval. To request an extension of a drilling permit application, applicants must request in writing prior to the completion date as set forth in the Conditions of Approval of the drilling permit application. Please send fax or email to Water Resources Section, Fax 510-782-1939 or email at wells@acpwa.org. There are no additional fees for permit extensions or for re-scheduling inspection dates. You may not extend your drilling permit dates beyond 90 days from the approval date of the permit application. **NO refunds** shall be given back after 90 days and the permit shall be deemed voided.

Cancel a Drilling Permit:
Applicants may cancel a drilling permit only in writing by mail, fax or email to Water Resources Section, Fax 510-782-1939 or email at wells@acpwa.org. If you do not cancel your drilling permit application before the drilling completion date or notify in writing within 90 days, Alameda County Public Works Agency, Water Resources Section may void the permit and No refunds may be given back.

Refunds/Service Charge:
A service charge of $25.00 dollars for the first check returned and $35.00 dollars for each subsequent check returned.

Applicants who cancel a drilling permit application **before** we issue the approved permit(s), will receive a **FULL** refund (at any amount) and will be mailed back within two weeks.

Applicants who cancel a drilling permit application **after** a permit has been issued will then be charged a service fee of $50.00 (fifty Dollars).

To collect the remaining funds will be determined by the amount of the refund to be refunded (see process below).

Board of Supervisors Minute Order, File No. 9763, dated January 9, 1996, gives blanket authority to the Auditor-Controller to process claims, from all County departments for the refund of fees which do not exceed $500 (Five Hundred Dollars)(with the exception of the County Clerk whose limit is $1,500).

Refunds over the amounts must be authorized by the Board of Supervisors Minute Order, File No. 9763 require specific approval by the Board of Supervisors. The forms to request for refunds under $500.00 (Five Hundred Dollars) are available at this office or any County Offices. If the amount is exceeded, a Board letter and Minute Order must accompany the claim. Applicant shall fill out the request form and the County Fiscal department will process the request.

Enforcement
Penalty. Any person who does any work for which a permit is required by this chapter and who fails to obtain a permit shall be guilty of a misdemeanor punishable by fine not exceeding Five Hundred Dollars ($500.00) or by imprisonment not exceeding six months, or by both such fine and imprisonment, and such person shall be deemed guilty of a separate offense for each and every day or portion thereof during which any such

violation is committed, continued, or permitted, and shall be subject to the same punishment as for the original offense. (Prior gen. code §3-160.6)

Enforcement actions will be determined by this office on a case-by-case basis
Drilling without a permit shall be the cost of the permit(s) and a fine of $500.00 (Five Hundred Dollars).

Well Completion Reports (State DWR-188 forms) must be filed with the Well Standards Program within 60 days of completing work. Staff will review the report, assign a state well number, and then forward it to the California Department of Water Resources (DWR). Drillers should not send completed reports to DWR directly. Failure to file a Well Completion Report or deliberate falsification of the information is a misdemeanor; it is also grounds for disciplinary action by the Contractors' State License Board. Also note that filed Well Completion Reports are considered private record protected by state law and can only be released to the well owner or those specifically authorized by government agencies.

See our website (www.acgov.org/pwa/wells/index.shtml) for links to additional forms.

APPENDIX B

HEALTH AND SAFETY PLAN

SITE-SPECIFIC HEALTH AND SAFETY PLAN

Project No.54503/7 **Date** November 13, 2008

Client Equity Office Properties Industrial Portfolio, L.L.C. **Address** 2655 Campus Drive, Suite 100 San Mateo, CA 94403

Site Contact James Soutter P.E. **Site Phone No.** (650) 372-3553

Job Location 700 Independent Road, Oakland, California

Work Objectives Advance two soil borings to 25 feet and sample soil using direct push (DPT) drill rig. Then eleven injection points will also be advanced to a maximum 25 feet below ground surface using a direct-push drill rig across the treatment area. The boreholes will then be chemically treated using the direct push injection points to deliver the *in situ* chemical oxidation (ISCO) reagent into the subsurface. Finally two additional soils boring's will be advanced to 25 feet and sampled.

Key Individuals: **Project Manager** Charles Almestad

Site Health and Safety John Williams

Prepared by William Uchiyama **Reviewer/Approver** Charles Almestad

Hospital/Clinic Alameda County Medical Center – Highland Hospital

Phone No. (510) 437-4140

Address: 1411 E. 31st Street, Oakland, CA

Paramedic. 911 **Fire Dept.** 911 **Police Dept.** 911

Emergency/Contingency Plans: Stop work and evaluate situation and stabilize victim(s). Notify health and safety officer and site project manager. Apply first aid and/or seek medical aid as necessary. Move injured personnel only if injuries permit. If necessary call Ambulance and/or Medical Personnel to transport injured to hospital. Refer to attached maps for location of nearest medical facility site. Health and Safety Officer to notify Client and appropriate personnel of situation.

15 Minute Eyewash required **Fire Extinguisher** required **First Aid Kit** required

Site Control Measures: Do not allow unauthorized personnel into the work area. Install barricade tape to define the work zone as necessary.

Personal Decontamination Procedures: Disposable gloves will be utilized for soil and water sampling, and when in contact with the ISCO reagent. Skin that comes in contact with soil, groundwater, or reagent will be washed immediately with soap and water. Safety glasses with side shields should be worn during sampling and while the chemical injections are taking place to protect eyes. Hands and face shall be thoroughly washed prior to eating, drinking, smoking, or other hand to mouth contact and prior to leaving the site.

CHEMICAL HAZARDS

The primary chemicals of concern at the site are petroleum hydrocarbons acute/chronic health effect associated with petroleum hydrocarbons and other chemicals are listed in the table below.

Chemical Name	PEL	Expected Concentration	Health Hazards
Fuel Hydrocarbons (i.e. gasoline); TPH-gasoline	300 ppm	Soil: low-level, if any Groundwater: 10,000 ppb	Acute: Headache, nausea, dizziness, skin/eye irritation, blurred vision, abdominal pains, vertigo, diarrhea, convulsions Chronic: n/a
Total Petroleum Hydrocarbons (Diesel and other petroleum hydrocarbons): TPH-diesel	n/a	Soil: low-level, if any Groundwater: 10,000 ppb	Acute: Skin, eye, and respiratory irritation; headache, dizziness Chronic: n/a
Benzene	1 ppm	Soil: low-level, if any Groundwater: 1,000 ppb	Acute: Irritation eyes, skin, nose, respiratory system; dizziness; headache, nausea, staggered gait; anorexia, lassitude (weakness, exhaustion); dermatitis Chronic: Potential carcinogen
Toluene	200 ppm	Soil: low-level, if any Groundwater: 1,000 ppb	Acute: Irritation eyes, nose; lassitude (weakness, exhaustion), confusion, euphoria, dizziness, headache; dilated pupils, lacrimation (discharge of tears) Chronic: anxiety, muscle fatigue, insomnia; paresthesia; dermatitis; liver, kidney damage

Ethylbenzene	100 ppm	Soil: low-level, if any Groundwater: 1,000 ppb	Acute: Irritation eyes, skin, mucous membrane; headache; dermatitis; narcosis, coma Chronic: n/a
Xylenes	100 ppm	Soil: low-level, if any Groundwater: 1,000 ppb	Acute: Irritation eyes, skin, nose, throat; dizziness, excitement, drowsiness, incoordination, staggering gait; corneal vacuolization; anorexia, nausea, vomiting, abdominal pain; dermatitis Chronic: n/a

Notes: μg/ m^3 = Micrograms per cubic meter of air.
mg/kg = milligrams per kilogram, approximately equivalent to parts per million (ppm)
n/a = Not Applicable

Respiratory Protection

The principal routes of potential exposure are inhalation and ingestion during field activities. However, at this time, Level D personal protective equipment without respiratory protection is anticipated. Kleinfelder site activities are not expected to generate significant quantities of dust. If site conditions are different or change, the need for respiratory protection will be reevaluated.

PHYSICAL HAZARDS

Physical hazards during sampling and during the chemical injections consist of accidents that can occur during handling of sharp tools and injuries resulting form trips and falls working around powered equipment. In general, these types of accidents will be minimized by the use of proper safety equipment (hard hat, safety glasses, and steel-toed boots), good communication among all on-site personnel, and being alert to potential hazards such as pinch points and splash hazards. Safety hazards associated with this site requiring specific precautions are summarized below.

PHYSICAL HAZARDS

X	Heat	X	Slip, Trip, Fall	X	Excavations/Trench
X	Cold		Electrical Hazards	X	Moving Equipment
X	Wet	X	Underground Hazards		Confined Space
X	Noise	X	Overhead Hazards		
X	Other	Drill Rig			

PERSONAL PROTECTIVE EQUIPMENT

R = Required *A = As Needed*

R	Hard Hat	R	Safety Eye gear: glasses w/ side protection
R	Safety Boots	A	Respirator (Type): Full-face _____ Half-face A
R	Orange Vest		Filter Type: Organic vapor A Acid gas ___ HEPA
A	Hearing Protection	R	Gloves (Type): Neoprene ___ PVC ___ Nitrile A
A	Tyvek Coveralls	R	Other Mobile phone
	5 Minute Escape Respirator		

AIR MONITORING REQUIREMENTS

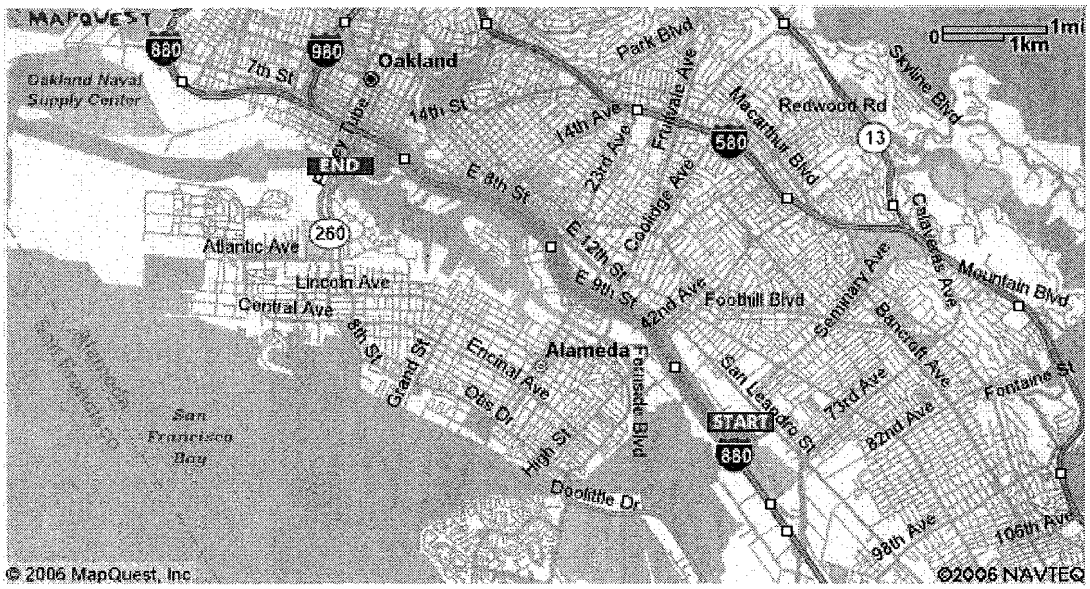
In general, if air monitoring readings in workers' breathing zone exceed 5 ppm for 60 seconds or longer, upgrade to Level C (respirator, etc.) or vacate the immediate area.

	Organic Vapor Analyzer (FID)	R	PID with lamp of 10.6 eV, (in PPM)
	Oxygen Meter		Detector Tube (specify)
	Combustible Gas Meter		Passive Dosimeter
	H_2S Meter		Air Sampling Pump
	W. B. G. T.		Filter Media

ONSITE SAFETY MEETING ATTENDEES

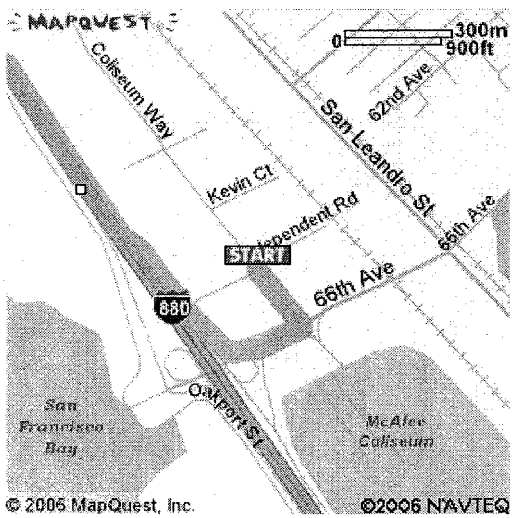
Signature	Name (Printed)/Title	Date

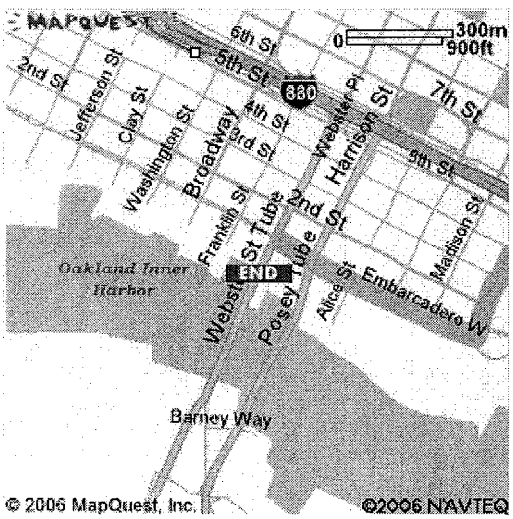
Directions		Distance
Total Est. Time: 8 minutes	**Total Est. Distance:** 5.39 miles	
START	**1:** Start out going SOUTHWEST on INDEPENDENT RD toward COLISEUM WAY.	<0.1 miles
	2: Turn LEFT onto COLISEUM WAY.	0.1 miles
	3: Turn RIGHT onto 66TH AVE.	<0.1 miles
NORTH 880	**4:** Merge onto I-880 N toward DOWNTOWN OAKLAND.	4.3 miles
EXIT	**5:** Take the OAK STREET exit toward LAKESIDE DR.	0.1 miles
	6: Turn LEFT onto OAK ST.	0.2 miles
	7: Turn RIGHT onto EMBARCADERO W.	0.3 miles
END	**8:** End at **3 Webster St** Oakland, CA 94607-3720, US	



Start:
700 Independent Rd
Oakland, CA 94621-3726, US

End:
3 Webster St
Oakland, CA 94607-3720, US





APPENDIX C

FIELD NOTES
AND BORING LOGS

KLEINFELDER

WELL DEVELOPMENT AND SAMPLING LOG

Date: 01/12/09 Well No.: MW-1 Sheet 1 of 1

Project: Independent Road

Project No.: 54054 Sampled by: E. Blivas

Weather Sunny/Clr

Purpose of Log: ☐ Development ☑ Sampling

EQUIPMENT & DECONTAMINATION

Purging Eqpt:	☐ Bailer	☐ Disposable Bailer	☐ Suction Pump	☐ Submersible Pump	☐ Dedicated Pump	☐ Other
Sampling Eqpt	☐ Bailer	☐ Disposable Bailer	☐ Suction Pump	☐ Submersible Pump	☐ Dedicated Pump	☐ Other

Test Equipment	Water Level	pH	Conductivity	Tubidity
Meter No.				
Calibration Date/Time				

Decontamination Methods	Wash	Rinse 1	Rinse 2	Rinse 3
☐ TSP ☐ Alconox ☐ Other	☐ DI ☐ Tap ☐ Other ☐ Steam ☐ Hot ☐ Cool	☐ DI ☐ Tap ☐ Other ☐ Steam ☐ Hot ☐ Cool	☐ DI ☐ Tap ☐ Other ☐ Steam ☐ Hot ☐ Cool	☐ DI ☐ Tap ☐ Other ☐ Steam ☐ Hot ☐ Cool
Volume (gal)				
Source				
Decon. Notes				

WELL DEVELOPMENT & PURGE RECORD

Well Development

Well Security ☑ Good ☐ Fair ☐ Poor **Well Integrity** ☑ Good ☐ Fair ☐ Poor **Locked?** ☐ Yes ☑ No

Purge Volume (CV): TD − DTW X Factor = 1 CV ___ CV

Well Diameter (2" / 4" / 6"): 25.18 ft − 5.38 ft X 0.175 / 0.663 / 1.469 = 3.47 ____ gallon(s)

Product? ☐ None ☐ Free ☐ Floating ☐ Sheen ☐ Film ____ **Thickness (ft)** **Odor?**

Purge Record

Reference: ☐ Top of Casing ☐ Other ____

Time (24 hours)	3.47	6.94	10.41					REPLICATE
Gallons Purged	1525	1530	1537					GOALS
pH	6.69	6.80	6.82					±0.10
Temperature (°C) 17.58	~~6.69~~	~~17.55 6.80~~	17.54					±1°C
Cond. (µS)	12.82	13.17	13.87					±10%
Turbidity (NTU)	8.45	~~48.1~~	74.7					<50 NTUs
00 9.45 ORP	344.7	345.9	344.7					
Color	clear	clear	clear					COLORLESS
Depth to Water (feet)								±0.01'

SAMPLE LOG

Sample No.	Time	Quantitiy	Volume	Type	Preserv.	Filtration	Analysis	Lab
MW-1	1540							

MISC

Other Observations: -DO Reading failed

- Fe reading 9.0 mg/L

Final Check: VOAs free of bubbles? ☐ Yes ☐ No ☐ NA Well Locked? ☐ Yes ☑ No ☐ NA

KLEINFELDER

WELL DEVELOPMENT AND SAMPLING LOG

Date: 01/12/09 Well No.: MW-2 Sheet 1 of

Project: 54504

Project No.: Ind. Rd. Sampled by: E. Blevins

Weather

Purpose of Log: ☐ Development ☐ Sampling

EQUIPMENT & DECONTAMINATION

Purging Eqpt:	☐ Bailer	☐ Disposable Bailer	☐ Suction Pump	☐ Submersible Pump	☐ Dedicated Pump ☐ Other
Sampling Eqpt	☐ Bailer	☐ Disposable Bailer	☐ Suction Pump	☐ Submersible Pump	☐ Dedicated Pump ☐ Other

Test Equipment	Water Level	pH	Conductivity	Tubidity
Meter No.				
Calibration Date/Time				

Decontamination Methods	Wash	Rinse 1	Rinse 2	Rinse 3
☐ TSP ☐ Alconox ☐ Other	☐ DI ☐ Steam ☐ Tap ☐ Hot ☐ Other ☐ Cool	☐ DI ☐ Steam ☐ Tap ☐ Hot ☐ Other ☐ Cool	☐ DI ☐ Steam ☐ Tap ☐ Hot ☐ Other ☐ Cool	☐ DI ☐ Steam ☐ Tap ☐ Hot ☐ Other ☐ Cool
Volume (gal)				
Source				
Decon. Notes				

WELL DEVELOPMENT & PURGE RECORD

Well Development

Well Security ☑ Good ☐ Fair ☐ Poor **Well Integrity** ☑ Good ☐ Fair ☐ Poor **Locked?** ☐ Yes ☑ No

Purge Volume (CV): TD − DTW X Factor = 1 CV → 3 CV

Well Diameter: (2") 4" 6" — 18.79 ft − 5.18 ft X 0.175 / 0.663 / 1.469 = 2.37 → 7.11 gallon(s)

Product? ☐ None ☐ Free ☐ Floating ☐ Sheen ☐ Film _____ **Thickness (ft)** **Odor?**

Purge Record

Reference: ☑ Top of Casing ☐ Other _____

Time (24 hours)	1610	1618	1625					REPLICATE
Gallons Purged	2.37	4.74	7.11					GOALS
pH	6.95	6.91	6.83					±0.10
Temperature (°C)	17.20	17.09	17.30					±1°C
Cond. (µS) mS	7.354	7.606	9.256					±10%
Turbidity (NTU)	129	161	301					<50 NTUs
DO / ORP	69 / 244	-54 / 246	240					
Color	gry	grey	gray					COLORLESS
Depth to Water (feet)								±0.01'

SAMPLE LOG

Sample No.	Time	Quantitiy	Volume	Type	Preserv.	Filtration	Analysis	Lab
MW-2	1630							

MISC

Other Observations: - Fe reading 2.5 mg/L

Final Check: VOAs free of bubbles? ☑ Yes ☐ No ☐ NA Well Locked? ☐ Yes ☑ No ☐ NA

KLEINFELDER

WELL DEVELOPMENT AND SAMPLING LOG

Date: 6/12/09 **Well No.:** MW-3 **Sheet** 1 **of** 1

Project: Ind. Rd.

Project No.: 54504 **Sampled by:** E. Blivas

Weather Sunny/Clr

Purpose of Log: ☐ Development ☐ Sampling

EQUIPMENT & DECONTAMINATION

Purging Eqpt: ☐ Bailer ☐ Disposable Bailer ☐ Suction Pump ☐ Submersible Pump ☐ Dedicated Pump ☐ Other

Sampling Eqpt ☐ Bailer ☐ Disposable Bailer ☐ Suction Pump ☐ Submersible Pump ☐ Dedicated Pump ☐ Other

Test Equipment	Water Level	pH	Conductivity	Tubidity
Meter No.				
Calibration Date/Time				

Decontamination Methods	Wash	Rinse 1	Rinse 2	Rinse 3
☐ TSP ☐ Alconox ☐ Other	☐ DI ☐ Steam ☐ Tap ☐ Hot ☐ Other ☐ Cool	☐ DI ☐ Steam ☐ Tap ☐ Hot ☐ Other ☐ Cool	☐ DI ☐ Steam ☐ Tap ☐ Hot ☐ Other ☐ Cool	☐ DI ☐ Steam ☐ Tap ☐ Hot ☐ Other ☐ Cool
Volume (gal)				
Source				
Decon. Notes				

WELL DEVELOPMENT & PURGE RECORD

Well Development

Well Security ☑ Good ☐ Fair ☐ Poor **Well Integrity** ☑ Good ☐ Fair ☐ Poor **Locked?** ☐ Yes ☑ No

Purge Volume (CV) TD – DTW X Factor = 1 CV 3 CV

Well Diameter (2") 4" 6" 23.05 ft – 6.38 ft X 0.175 0.663 1.469 = 3 9 gallon(s)

Product? ☐ None ☐ Free ☐ Floating ☐ Sheen ☐ Film _____ **Thickness (ft)** **Odor?**

Purge Record

Reference: ☐ Top of Casing ☐ Other _____

Time (24 hours)	1640	1645	1650					REPLICATE
Gallons Purged	3	6	9					GOALS
pH	7.20	7.08	7.10					±0.10
Temperature (°C)	20.16	20.48	20.40					±1°C
Cond. ~~(µS)~~ mS	7.634	8.598	8.815					±10%
Turbidity (NTU)	2101	393	399					<50 NTUs
DO / ORP	4.62/305	4.56/314	7.16/319					
Color	tan	tan	tan					COLORLESS
Depth to Water (feet)								±0.01'

SAMPLE LOG

Sample No.	Time	Quantitiy	Volume	Type	Preserv.	Filtration	Analysis	Lab
MW-3	1700							

MISC

Other Observations: - Fe reading 0.1 mg/L

Final Check: VOAs free of bubbles? ☑ Yes ☐ No ☐ NA Well Locked? ☐ Yes ☑ No ☐ NA

Date Completed: 12/1/08 | Drilling method: Direct Push - Dual Tube

Logged By: J. Williams | Hammer Wt: None

Total Depth: 24.0 ft | Notes:

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) PID	USCS	Description	Remarks
0							**ASPHALT CONCRETE** - approximately 6-inches thick	
1							**AGGREGATE BASEROCK** - olive brown (2.5Y 4/3), loose, moist, well graded	
2							**POORLY GRADED (CL)** - very dark yellowish brown (10YR 4/6), moist, loose, fine sand	
3								
4	PS-1-4			100			**GRAVELLY CLAY (CL)** - very dark grayish brown (2.5Y 3/2), moist, soft, low plasticity, petrolum hydrocarbon odor	
5							**ORGANIC SILT with CLAY (OL)** - black, wet, soft, trace organic material	
6								
7								
8	PS-1-8			75			**SANDY CLAY with SILT (CL)** - dark greenish gray (5G 4/1), wet, soft	
9							**FAT CLAY (CH)** - olive brown (2.5Y 4/4), moist, soft, high plasticity	
10								
11								
12				100				
13								
14								
15							**WELL GRADDED MEDIUM SAND (SW)** - brown (10YR 4/3), moist, medium dense	
16	PS-1-16			100				▽
17							- wet	
18								
19								
20	PS-1-20			100			- incresing fines	
21								
22								
23								
24				50				
25							Boring terminated at approximately 24 feet below ground surface.	

KLEINFELDER
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PROJECT NO. 54504-5A

LOG OF BORING NO. PS-1

EOP - INDEPENDENT ROAD
700 INDEPENDENT ROAD
OAKLAND, CALIFORNIA

PLATE

2

L:\2009\09PROJECTS\54504\54504-5A.GPJ

Date Completed: 1/12/09 | Drilling method: Direct Push - Dual Tube

Logged By: J. Gravesen

Hammer Wt: None

Total Depth: 24.0 ft | Notes:

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) PID	USCS	Description	Remarks
1							**ASPHALT CONCRETE** - approximately 3-inches thick	
							AGGREGATE BASEROCK - approximately 3-inches thick	
2							**WELL GRADED SAND with GRAVEL (SW)** - olive brown, dry, dense	
3							**CLAY with COARSE SAND (CL)** - very dark gray, moist, stiff, well graded	
4				100			**CLAY with GRAVEL (CL)** - very dark gray, moist, medium stiff	
5							**CLAY (CH)** - dark grayish brown & dark olive brown, moist, stiff, petrolum hydrocarbon odor, calcification with coarse sand & gravel	
6								
7							**CLAY (CH)** - dark grayish brown, wet, soft, with coarse sand & gravel, petrolum hydrocarbon odor	
8				75			**CLAY (CH)** - dark olive brown, moist, stiff, with coarse sand and grave, strong petrolum hydrocarbon odor	
9							**CLAY with COASRE SAND (CL)** - olive, moist, medium stiff	
10	PS-1A-10						**CLAY (CH)** - brown, moist, stiff	
11								
12				100				
13							**CLAY with GRAVEL (CL)** - yellowish brown, moist, stiff, with dark brown nodules	
14								
15							**WELL GRADDED with CALCITE SAND with GRAVEL (SC)** - yellowish brown, moist, stiff	
16				100				
17							- wet	
18								
19							**WELL GRADDED SAND with CLAY and GRAVEL (SW-SC)** - yellowish brown, wet, loose	
20	PS-1A-20			100			**WELL GRADDED CLAYEY SAND with GRAVEL (SC)** moist, dense	
21							**WELL GRADDED SAND with CLAY (SC)** - dark reddish brown (5YR 3/3)	
22							**WELL GRADED CLAYEY SAND with GRAVEL (SC)** reddish brown (5YR 4/3), moist, stiff	
23							**CLAY (CL)** - brown (7.5YR 5/3), moist, stiff	
24				100			Boring terminated at approximately 24 feet below ground surface.	
25								

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PROJECT NO. 54504-5A

LOG OF BORING NO. PS-1A

EOP - INDEPENDENT ROAD
700 INDEPENDENT ROAD
OAKLAND, CALIFORNIA

PLATE 3

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Date Completed: 12/1/08 | Drilling method: Direct Push - Dual Tube

Logged By: J. Williams

Hammer Wt: None

Total Depth: 24.0 ft | Notes:

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) PID	USCS	Description	Remarks
							ASPHALT CONCRETE- approximately 3-inches thick	
1							**AGGREGATE BASEROCK**- olive brown (2.5Y 4/3), slightly moist, well graded	
2							**POORLY GRADED FINE SAND (SP)**- dark yellowish brown (10YR 4/6) dry, loose	
3							**CLAY with SILT (CL)** - very dark grayish brown (2.5Y 3/2), moist, soft, low plasticity	
4				87			**ORGANIC MATERIAL (OL)**- black	
5							**FAT CLAY (CH)** - very dark gray (2.5Y 3/1), moist, medium stiff	
6							**ORGANIC CLAY with SILT and SAND (OL)**- black, wet, soft	
7								
8	PS-2-8			75			**CLAY (CH)** - very dark greenish gray (10Y 3/1), moist, soft - heavy petrolum hydrocarbon odor	
9								
10				100			**CLAY (CH)** - olive brown, moist, medium soft	
11							**CLAY with SILT (CH)** - olive gray (5Y 4/2), moist, medium stiff, petrolum hydrocarbon odor	
12								
13							**CLAY (CH)** - olive brown (2.5Y 4/4), moist, stiff	
14								
15							**CLAY (CH)** - greenish black (10GY 2.5/1), moist, soft	
16	PS-2-16			100				
17							**POORLY GRADED FINE SAND (SP)**- olive brown (2.5Y 4/3), wet, loose	▽
18								
19	PS-2-19							
20							**CLAY (CH)** - light olive brown (2.5Y 5/3), moist, stiff, high plasticity	
21								
22								
23								
24							Boring terminated at approximately 24 feet below ground surface.	
25								

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PROJECT NO. 54504-5A

LOG OF BORING NO. PS-2

EOP - INDEPENDENT ROAD
700 INDEPENDENT ROAD
OAKLAND, CALIFORNIA

PLATE

4

L:\2009\09PROJECTS\54504\54504-5A.GPJ

Date Completed: 1/12/09 | Drilling method: Direct Push - Dual Tube

Logged By: J. Gravesen

Hammer Wt: None

Total Depth: 24.0 ft | Notes:

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) PID	USCS	Description	Remarks
0							**ASPHALT CONCRETE**- approximately 3-inches thick	
1							**AGGREGATE BASEROCK**- approximately 3-inches thick	
2							**WELL GRADED SAND with GRAVEL (SW)**- olive brown, dry, dense	
3							**SANDY CLAY with GRAVEL (CL)**- brown (7.5YR 4/3), moist, stiff, gravel up to 1/2 inch, well graded	
4				100			**CLAY with COARSE SAND (CL)**- very dark gray (7.5Y 3/1), moist, medium stiff	
5							- organic material soft, petrolum hydrocarbon odor	
6							**CLAY with FIBROUS ORGANIC MATERIAL (OH)** black, wet, soft, 5% organic material, petrolum hydrocarbon odor	
7							**CLAY (CH)** - olive gray, with organic material ~10%, petrolum hydrocarbon odor	
8				75				
9								
10	PS-2A-10							
11							**CLAY (CH)** - brown (10YR 4/3), moist, stiff, no petrolum hydrocarbon odor	
12				100				
13								
14								
15							- with calcification	
16				100				▽
17							**POORLY GRADED FINE SAND with CLAY (SP)**- dark yellowish brown, loose, petrolum hydrocarbon odor	
18								
19							- dark yellowish brown & olive green, strong petrolum hydrocarbon odor	
20	PS-2A-20			100			**CLAY (CH)** - dark yellowish brown, moist, soft, petrolum hydrocarbon odor	
21								
22								
23								
24				100			Boring terminated at approx. approximately 24 feet below ground surface.	
25								

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PROJECT NO. 54504-5A

LOG OF BORING NO. PS-2A

EOP - INDEPENDENT ROAD
700 INDEPENDENT ROAD
OAKLAND, CALIFORNIA

PLATE

5

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APPENDIX D

ISOTEC'S IN-SITU CHEMICAL OXIDATION REMEDIATION REPORT

IN-SITU CHEMICAL OXIDATION REMEDIATION PROGRAM REPORT

SITE:

700 INDEPENDENT ROAD
OAKLAND, CALIFORNIA

JANUARY 2009

PREPARED FOR

KLEINFELDER
1970 BROADWAY, SUITE 710
OAKLAND, CALIFORNIA 94612

PROJECT # 900949

PREPARED BY:

IN-SITU OXIDATIVE TECHNOLOGIES, INC.
6452 FIG STREET, SUITE C
ARVADA, COLORADO 80004

WWW.INSITUOXIDATION.COM

TABLE OF CONTENTS

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1.0 INTRODUCTION

In-Situ Oxidative Technologies, Inc. (ISOTEC) was retained by Kleinfelder to conduct an in-situ chemical oxidation (ISCO) remediation program using modified Fenton's Reagent (ISOTEC Process) on saturated soil and groundwater contamination at a warehouse located as 700 Independent Road (the Site), Oakland, California.

This ISCO Remediation Program Report contains details of ISOTEC's field activities associated with the injection of ISOTEC reagents. Reagents were injected in order to treat benzene, toluene, ethylbenzene, xylene (BTEX) and total petroleum hydrocarbons as gasoline (TPH-g) through the use of in-situ chemical oxidation. The field activities conducted by ISOTEC to date occurred during one injection event conducted from December 9 through 12, 2008.

1.1 PROJECT BACKGROUND AND SITE CONDITIONS

According to information provided by Kleinfelder, petroleum hydrocarbons impacted soil and groundwater are present at the Site. Maximum saturated soil concentrations at the Site prior to initiating the ISCO remediation program were reported at 16 milligram per kilogram (mg/kg) for benzene and 1,500 mg/kg for TPH-g. Recent maximum dissolved phase concentrations at the Site were reported at 20,500 micrograms per liter (µg/L) for benzene and 53,000 µg/L for TPH-g.

The treatment area at the Site is located northwest of the Site building and covers approximately 5,500 square feet encompassing monitoring wells MW-1, MW-2, and MW-3 (**Figure 1)**. The depth to groundwater at the Site is approximately 4 to 5 feet below ground surface (bgs). The subsurface soils are described as predominantly interbedded sand, silt, clay, and gravel. The target treatment interval for the saturated zone is from approximately 9 feet bgs to a depth of approximately 25 feet bgs.

1.2 ISCO REMEDIATION PROGRAM OBJECTIVES

According to Kleinfelder, the objective of the ISCO remediation program is to reduce the soil and groundwater concentrations to specific project goals. The Kleinfelder project goals for groundwater are 540 µg/L for benzene and 5,000 µg/L for TPH-g. The Kleinfelder project goals for benzene in soil are 260 mg/kg in the 7 to 11 foot bgs interval and 11 mg/kg in the 18 to 25 foot bgs interval. The Kleinfelder project goals for TPH-g in soil are 450 mg/kg in the 7 to 11 foot bgs interval and 4,200 mg/kg in the 18 to 25 foot bgs interval.

To achieve these specific goals, ISOTEC estimated that three separate injection applications, with one possible "hot spot" event, would be required to reduce the COCs to the Kleinfelder project goals.

2.0 THE ISOTEC PROCESS

The ISOTEC process is an in-situ remedial technology that destroys organic contamination using Fenton's reagent-based oxidation chemistry. Fenton's chemistry was first documented by H.J.H. Fenton in 1894. It is characterized by the combination of soluble iron with low concentrations of hydrogen peroxide to produce hydroxyl radicals ($OH^{\bullet}$). These hydroxyl radicals are very powerful and short-lived oxidizers. Similar to the reaction of other oxidizers, the hydroxyl radicals attack the carbon double bonds of the chlorinated hydrocarbon molecule. Under certain conditions reductive species can also be formed by Fenton's chemistry. This gives Fenton's reagent two separate pathways to attack a wide range of contaminants. The summary equation for Fenton's chemistry is shown below.

$$\mathbf{Fe^{+2} + H_2O_2 \rightarrow Fe^{+3} + OH^- + OH^{\bullet}}$$

Where H_2O_2 is hydrogen peroxide, Fe^{+2} is ferrous iron, Fe^{+3} is ferric iron, $OH^{\bullet}$ is hydroxyl free radical and OH^- is hydroxide ion.

Iron is used to catalyze the reaction. Maintaining iron in solution is important for the process to be successful in an in-situ application. To eliminate the necessity of performing the reaction under low pH conditions, as is the case with traditional Fenton's chemistry, complexed iron is used in in-situ applications via the ISOTEC process. The hydrogen peroxide and dissolved iron solutions are injected through a site-specific delivery system providing sufficient distribution to selectively treat the area of concern. Reaction time is very fast, with oxidation capacity of the reagent being used up in a matter of a few days. Hydrogen peroxide breaks down into water and oxygen and the iron catalyst is oxidized and precipitates out of solution. It is important to note that the concentration of hydrogen peroxide will be relatively dilute, generally less than 17%, which eliminates the potential for significant exothermic reactions that are associated with higher concentrations of hydrogen peroxide. Experience with this process using low hydrogen peroxide concentrations and complexed iron has resulted in less than a 25^{o} F temperature increase in field applications.

Fenton-based oxidation processes have been shown to effectively treat a wide range of contaminants including hard-to-treat compounds such as chlorinated solvents, petroleum hydrocarbons, gasoline additives including benzene, toluene, ethylbenzene and xylene (BTEX), and pesticides. Hydroxyl radicals and reductive species generated by the Fenton-based reagent will treat nearly all contaminants with carbon/carbon double bonds (i.e., dichloroethene and tetrachloroethene) and single bonded contaminants with extractable hydrogen (i.e., trichloroethane).

The stoichiometric relationship between benzene oxidation and hydrogen peroxide consumption can be predicted from the oxidative reaction:

$$\mathbf{C_6H_6 + 15H_2O_2 \rightarrow 6CO_2 + 18H_2O}$$

Where C_6H_6 is benzene, H_2O_2 is hydrogen peroxide, CO_2 is carbon dioxide, and H^+ is hydrogen ion. Hydrogen peroxide not consumed in the above reaction will continue to oxidize the groundwater contaminants and will naturally degrade along with the contaminant to oxygen and water.

The ISOTEC process consists of injecting stabilized hydrogen peroxide and complexed iron catalysts into contaminated aquifers or vadose zones. As compared to conventional Fenton's Reagent, which requires acidic conditions (pH ≤ 3), the ISOTEC process is effective at neutral (pH = 7) conditions. This is an important consideration in full-scale application since acidifying an aquifer is typically impractical. ISOTEC's oxidation method utilizes a site-specific delivery system(s) designed to treat organic contaminants within an area of concern. ISOTEC oxidants and catalysts generate hydroxyl radicals, which react with the organic contaminants within the subsurface producing innocuous by-products such as carbon dioxide and water (and chloride ions if chlorinated compounds are being treated).

2.1 AQUEOUS CONTACT

The overwhelming portion of the oxidation process occurs in the aqueous phase. Contaminant dissolved in water contacts oxidant dissolved in water and the oxidation reactions occur. This is, for all practical purposes, an instantaneous process. The same is not true for contaminant mass that is present adsorbed to soil or found as liquid phase hydrocarbon (LPH). These two phases must be moved into the aqueous phase in order to be treated in a practical manner.

2.2 MASS PHASE CHANGES

Modified Fenton's with neutral pH catalyst actively transfers mass into the dissolved phase thereby greatly disrupting the mass equilibrium between the phases. The hydroxyl radical oxidizes contamination in the dissolved phase while the superoxide radical desorbs mass from the adsorbed phase by interfering with the electrical (molecular) forces that cause molecules of solvent to "stick" to grains of soil and organic carbon. In addition to these chemical processes, the reaction produces oxygen gas. As the peroxide decomposes it generates oxygen. This gas is produced within the individual pore spaces where the two reagents are mixed. As the gas bubbles are generated and then migrate vertically up through soil pores, a physical action occurs that mixes groundwater, disturbs soil "fines" (increasing turbidity) and dislodges residual non-aqueous phase liquid (NAPL). Mass is transferred from the adsorbed and NAPL phases into the dissolved phase through this physical agitation. Mass is also transferred from the NAPL phase to the adsorbed phase as the NAPL is mixed within the pore space and contacts more soil surface area.

These chemical and physical processes upset the phase equilibrium and can be observed as temporary increases in dissolved and sorbed concentrations, especially early in the treatment program when the total mass is still at levels near the original mass. However, given that such a small percentage of the total mass exists in the dissolved phase, even an

order of magnitude increase in the dissolved phase mass is still only a fraction of the total mass. As the total mass decreases with multiple injections, the post-injection increases in dissolved concentrations also decrease. Post injection dissolved concentrations will remain elevated and out of equilibrium with the total mass even as the total mass approaches minimal levels. Only time will allow the dissolved mass and total mass to re-equilibrate through dilution, dispersion, re-adsorption and degradation. This time period varies depending on specific site conditions but has been observed to take from months up to quarters.

For the modified Fenton's process, this means that the oxidant is injected and treatment occurs almost instantly. The oxidant is consumed and the treatment process is complete within several days if not hours. The modified Fenton's process actively transfers mass from the adsorbed and NAPL phases into the aqueous phase where oxidation can occur. This process allows for significant mass destruction in a short period of time.

3.0 ISCO REMEDIATION PROGRAM

The ISCO remediation program consisted of injecting ISOTEC's patented neutral pH catalyst and stabilized 12% hydrogen peroxide at the Site. ISOTEC injected reagents at the Site during one injection event conducted from December 9 through 12, 2008.

ISOTEC utilized direct-push technology (DPT) to introduce reagents into the subsurface at the Site. The proposed spacing of the injection locations was based upon an anticipated 12.5-foot reagent distribution radius. Specifically, the temporary injection points were to be spaced approximately 25 feet apart and advanced to a depth of either 17 or 25 feet bgs. ISOTEC injected reagents at each point through ISOTEC's specially designed injection screens positioned from approximately 9 to 17 feet bgs and 17 to 25 feet bgs. This method of selective vertical injection was designed to deliver reagent across the entire vertical extent of the target saturated treatment interval. A direct-push injection screen schematic is shown in **Figure 2**.

During the first injection event, ISOTEC injected at thirteen injection locations with two screen intervals at the Site.

3.1 ISCO REMEDIATION PROGRAM FIELD METHODS

ISOTEC technicians prepared stabilized 12% hydrogen peroxide from 35% hydrogen peroxide. The 35% hydrogen peroxide was delivered to the Site and stored on-site in Department of Transportation (DOT) approved 55-gallon drums. To mix peroxide, a 300-gallon polyethylene tank was filled with on-site water and dry stabilizer to a predetermined volume. The 35% hydrogen peroxide was then transferred with a drum pump into the 300-gallon polyethylene tank to the desired concentration. The technicians wore proper personal protective equipment and used appropriate safety procedures during the transfer. Iron catalyst was also mixed in 300-gallon polyethylene tanks using on-site water, dry ISOTEC chemicals, and an electric mixing motor with attached mixing blade.

The injections were accomplished using air-operated diaphragm pumps, flow meters, polyvinyl chloride (PVC) flexible tubing and steel wellhead assemblies. The wellheads, with pressure gauges and relief valves, were attached to the direct-push injection rods. The wellhead assemblies were attached with PVC tubing to an air-operated diaphragm pump and from the pump to either the peroxide, catalyst or water tanks with PVC tubing. The peroxide, catalyst and water were injected through the PVC tubing using the pump. An injection method schematic is included as **Figure 3**.

In general, the injection process was similar for each injection screen. First, water was injected, followed by chelated iron catalyst (catalyst), a water flush, 12% stabilized hydrogen peroxide (oxidizer), and a final water flush.

The temporary injection locations were abandoned by the DPT subcontractor, Resonant Sonic Inc. (RSI), by plugging the holes to water level with 3/8" bentonite chips and then pressure grouting the remaining feet to surface with Portland grout in a pressurized vessel. Specifically, bentonite chips were slowly poured into the temporary injection

hole until the chips were above the water level which was roughly 5 feet or less. Portland cement was then mixed in a bucket with a drill and poured into a vessel. The vessel then was pressurized up to 80 pounds per square-inch (psi) with compressed air and attached to the rod by a steel well head with reinforced PVC tubing. The Portland cement was then pumped to the bottom of the hole through the rod while the direct-push rod was slowly being retracted to surface. Finally asphalt patch or cement was then added to patch the remaining hole to match. A total of 26 temporary injection locations were abandoned during the first injection event at the Site on December 9 through 12, 2008.

3.2 FIRST INJECTION EVENT FIELD ACTIVITIES

The first injection of ISOTEC's Fenton-based reagent was conducted at the Site on December 9 through 12, 2008. The injected reagent volumes and injection pressures and rates for the injection event are discussed below and presented in **Table 1**. The injection event locations are shown in **Figure 4**.

13 locations (1I-1 through 1I-13) were used across the ISCO treatment area during the first injection event. At each location, ISOTEC attempted to inject into two separate screens targeting the intervals from 9 to 17 feet bgs (1I-1U through 1I-13U) and from 17 to 25 feet bgs (1I-1L through 1I-13L). The "U" designates an upper screen. The "L" designates a lower injection screen.

A total of 26 injection screens (13 upper screens and 13 lower screens) were used to deliver reagent into the subsurface across the treatment area. Surfacing occurred during injections into 12 of the 26 screens. However, ISOTEC was able to inject a minimum of 150 gallons of reagent into 15 of the 26 screens (**Table 1**). The remaining screens received between 3 and 145 gallons of reagent. Pressures at the wellheads of the 26 injection screens ranged from 0 to 45 psi and the injection rates ranged from 0.8 to 3.6 gallons per minute (gpm) during injection activities.

ISOTEC injected a total of 4,423 gallons of reagent through 26 injection screens during the first injection event.

3.3 FIELD MONITORING DATA

Field monitoring was conducted by ISOTEC at Site monitoring wells MW-1, MW-2 and MW-3 during the injection event. Groundwater measurements for hydrogen peroxide and iron were obtained from these monitoring wells prior to initiating activities (baseline) and at the completion of each day. Hydrogen peroxide and iron were measured in the field using colorimetric test kits. First event field monitoring data is presented in **Table 2**.

Review of the first event field monitoring data indicated that relatively no changes occurred in groundwater concentrations of hydrogen peroxide and iron in monitoring wells MW-1, MW-2 and MW-3. The hydrogen peroxide ranged from 0.0 mg/L to 0.3 mg/L and the iron levels ranged from 0.0 mg/L to 0.8 mg/L.

3.4 FIELD ACTIVITIES SUMMARY

The remediation program to date has consisted of injecting ISOTEC reagents into the subsurface using direct-push injection screens at multiple locations across the treatment area at the Site over one injection event to treat the saturated soil and groundwater.

A total of 4,423 gallons of ISOTEC reagents were injected into the subsurface through 26 direct-push injection screens over the course of the one event.

4.0 ISCO REMEDIATION PROGRAM ANALYTICAL RESULTS

Kleinfelder collected soil and groundwater samples at specific intervals during the remediation program. Soil and groundwater samples were collected prior to the injection event (baseline) and after the injection event (post-first). Groundwater samples were collected from monitoring wells MW-1, MW-2 and MW-3 on December 1, 2008 (baseline) and on January 12, 2008 (post- first).

Kleinfelder collected four soil samples at two sample locations (PS-1 and PS-2) on December 1, 2008 (baseline) and on January 12, 2008 (post-first). Specifically, two soil samples were collected at boring location PS-1; one from the 8 to 10 foot bgs interval and one from the 20 foot bgs interval. Additionally, two soil samples was collected at boring location PS-2; one from the 10 to 16 foot bgs interval and one from the 19 to 20 foot bgs interval.

The groundwater and soil samples were analyzed for TPH-g and BTEX. The groundwater analytical data is presented in **Section 4.1**. The soil analytical data is presented in **Section 4.2.**

4.1 GROUNDWATER

Kleinfelder collected baseline and post-first groundwater samples from treatment area wells MW-1, MW-2 and MW-3.

The groundwater sample collection dates and analytical data with percentage reduction calculations for benzene and TPH-g are included in **Table 3** and **Table 4**, respectively.

In the subsequent section, when discussing analytical data, ISOTEC will refer to a groundwater sample collected from an individual well by the well name. Additionally, monitoring well MW-3 is not included in the subsequent discussion because the baseline and post-injection benzene and TPH-g concentrations were below the detection limit.

4.1.1 Total Petroleum Hydrocarbons As Gasoline

The average baseline TPH-g concentration in MW-1 and MW-2 was 27,950 µg/L. The maximum TPH-g concentration was observed in MW-2 at 53,000 µg/L.

Following the first injection event, the average TPH-g concentration in wells MW-1 and MW-2 was 19,150 µg/L, a reduction of 31% compared to baseline. The maximum post-first concentration for TPH-g was observed in MW-2 at 35,000 µg/L, a reduction of 34% compared to baseline.

4.1.2 Benzene

The average baseline benzene concentration in MW-1 and MW-2 was 10,398 µg/L. The maximum benzene concentration was observed in MW-2 at 20,500 µg/L.

Following the first injection event, the average benzene concentration in wells MW-1 and MW-2 was 7,840 µg/L, a reduction of 25% compared to baseline. The maximum post-

first concentration for benzene was observed in MW-2 at 15,300 µg/L, a reduction of 25% compared to baseline.

4.2 SOIL

Kleinfelder collected baseline and post-first soil samples from treatment area location PS-1 and PS-2. As discussed in **Section 4.0**, soil samples were collected at PS-1 from 8 to 10 feet bgs and 20 feet bgs. Soil samples were collected at PS-2 from 10 to 16 feet bgs and from 19 to 20 feet bgs.

The soil sample collection dates and analytical data with percentage reduction calculations for benzene and TPH-g are included in **Table 5** and **Table 6**, respectively.

In the subsequent section, when discussing analytical data, ISOTEC will refer to a soil sample collected from an individual location by the soil location name.

It important to note that sample collected at PS-1 from the 20-foot bgs interval is not included in the subsequent TPH-g discussion (**Section 4.2.1**) because the baseline TPH-g concentration below the method detection limit (MDL). Additionally, the samples collected from PS-1 are not included in the subsequent benzene discussion (**Section 4.2.2**) because the baseline benzene concentrations were below MDLs.

4.2.1 Total Petroleum Hydrocarbons As Gasoline

The average baseline TPH-g concentration of the samples collected at PS-1 in the 8 to 10 foot bgs interval and at PS-2 in the 10 to 16 foot bgs and 19 to 20 foot bgs intervals was 753 mg/kg. The maximum TPH-g concentration was observed in PS-2 in the 10 to 16 foot bgs interval at 1,500 mg/kg.

Following the first injection event, the average TPH-g concentration was 90 mg/kg, a reduction of 88% compared to baseline. The most significant concentration reduction was observed at PS-2 in the 10 to 16 foot bgs interval, which was reduced from a baseline concentration of 1,500 mg/kg to a post-first concentration of 260 mg/kg, a reduction of 83%.

4.2.2 Benzene

The average baseline benzene concentration in the soil samples collected at PS-2 in the 10 to 16 foot bgs and 19 to 20 foot bgs intervals was 9.3 mg/kg. The maximum benzene concentration was observed in PS-2 in the 10 to 16 foot bgs interval at 16 mg/kg.

Following the first injection event, the average benzene concentration was 1.2 mg/kg, a reduction of 87% compared to baseline. The most significant concentration reduction was observed at PS-2 at the 10 to 16 foot bgs interval, which was reduced from a baseline concentration of 16 mg/kg to a post-first concentration of 2.2 mg/kg, a reduction of 86%.

5.0 CONCLUSIONS

The objectives of the ISCO remediation program using ISOTEC's modified Fenton's-based oxidation process was to reduce the soil and groundwater concentrations to below Kleinfelder specific project goals. The Kleinfelder groundwater project goals are 540 µg/L for benzene and 5,000 ug/L for TPH-g. The Kleinfelder project goals for benzene in soil are 260 mg/kg in the 7 to 11 foot bgs interval and 11 mg/kg in the 18 to 25 foot bgs interval. The Kleinfelder project goals for TPH-g in soil are 450 mg/kg in the 7 to 11 foot bgs interval and 4,200 mg/kg in the 18 to 25 foot bgs interval.

5.1 EFFECTIVENESS OF THE ISOTEC PROCESS

The effectiveness of the ISOTEC process can be evaluated by:

- Reduction in contaminant concentrations in treatment area saturated soils and/or
- Changes in dissolved phase contaminant concentrations within treatment area monitoring wells.

As explained in the Mass Phase Changes section (**Section 2.2**), the ISOTEC process liberates contaminant mass within the adsorbed phase (saturated soil) and transfers this mass to the dissolved phase for oxidation. This phenomenon is clearly illustrated by comparing the baseline and post-first saturated soil and groundwater results. Benzene was reduced in saturated soil from an average baseline concentration of 9.3 mg/kg to an average post-first concentration of 1.2 mg/kg, an 87% reduction. TPH-g was reduced in saturated soil from an average baseline concentration of 753 mg/Kg to an average post-first of 90 mg/Kg, an 88% reduction. Based on these adsorbed phase concentration reductions, the ISOTEC process was effective at removing contaminant mass from the adsorbed phase during the first injection event of the ISCO remediation program. The soil samples collected and analyzed currently meet the Kleinfelder project goals.

Reductions in the dissolved phase concentrations are dependent on the amount of mass in the adsorbed phase. As evident by the large reduction in saturated soil contamination concentrations, a significant adsorbed mass was transferred into the dissolved phase prior to oxidation. As a result, a small portion of that mass may remain untreated in the dissolved phase following only one injection event.

Dissolved phase concentrations were observed to both decrease and slightly increase in monitoring well MW-1 and MW-2. Dissolved benzene concentrations increased from a baseline concentration of 295 µg/L to 380 µg/L at MW-1, but were reduced from 20,500 µg/L to 15,300 µg/L at MW-2. Dissolved concentration fluctuations are a good indication that the ISOTEC process is working.

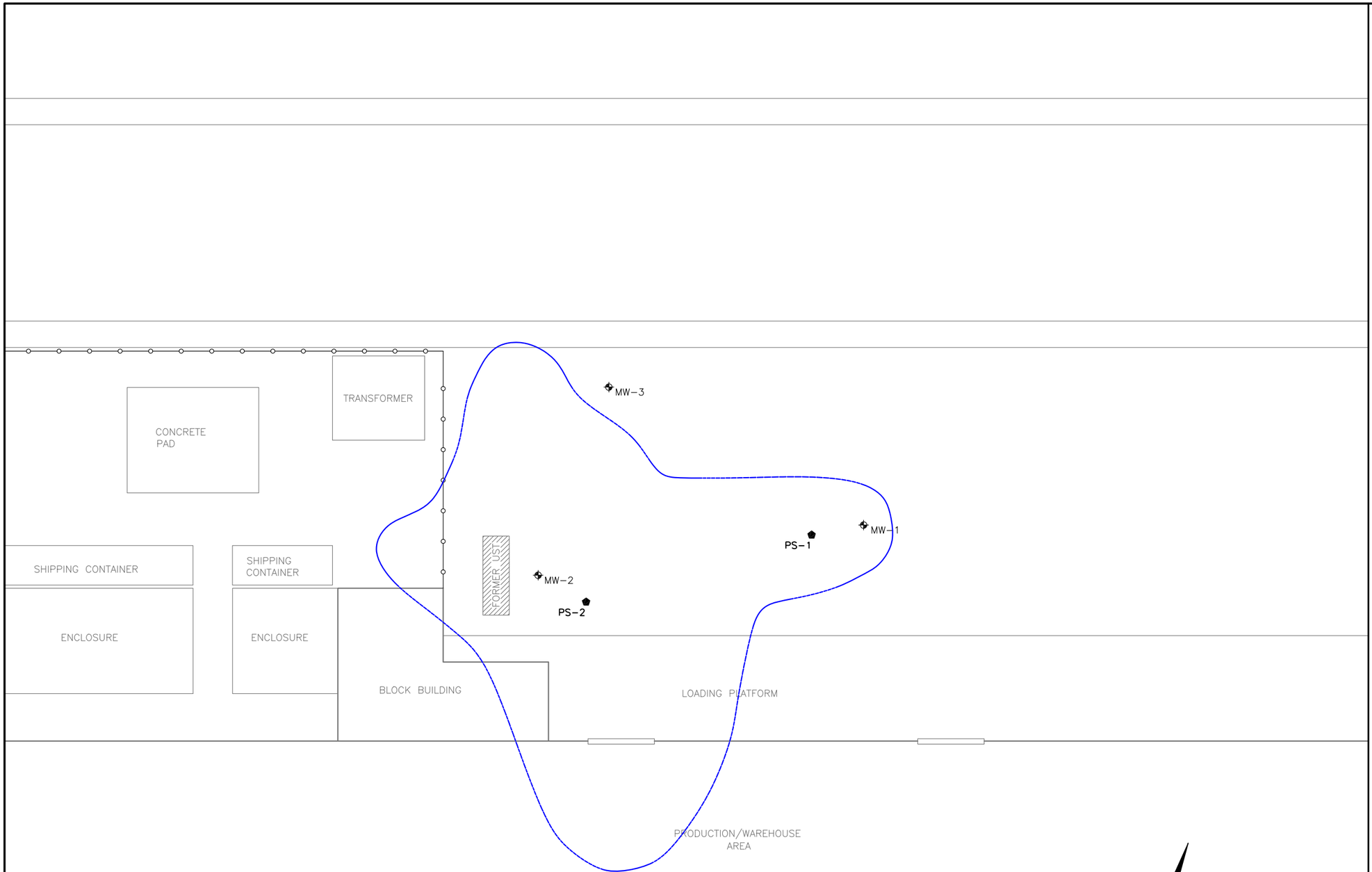
Consistent and permanent reductions in dissolved concentrations will only occur following complete adsorbed contaminant mass removal and a period of equilibration. Equilibration allows dissolved concentrations to reduce naturally over time due to re-adsorption, dispersion, dilution and degradation until final dissolved concentration is reached.

The ISOTEC process was very effective at reducing contaminant mass after only one injection application. This suggests that the quantity of reagent injected and the reagent concentrations were sufficient to achieve significant mass reduction; and that the reagent distribution radius generated by the injection flow rates and pressures were sufficient to distribute reagent across the treatment area.

5.2 RECOMMENDATIONS

Based on review of the post-first soil and groundwater analytical data, ISOTEC recommends at least one more injection event in order to achieve the overall project objectives. ISOTEC does not recommend any changes to the injection location spacing or target reagent volume for subsequent injection event(s).

FIGURES



LEGEND

- Fence
- ISCO Treatment Area
- Groundwater Monitoring Well
- Soil Boring – ISCO Remediation Program

0 10 20

1 INCH = 20 FEET

In-Situ Oxidative Technologies, Inc.
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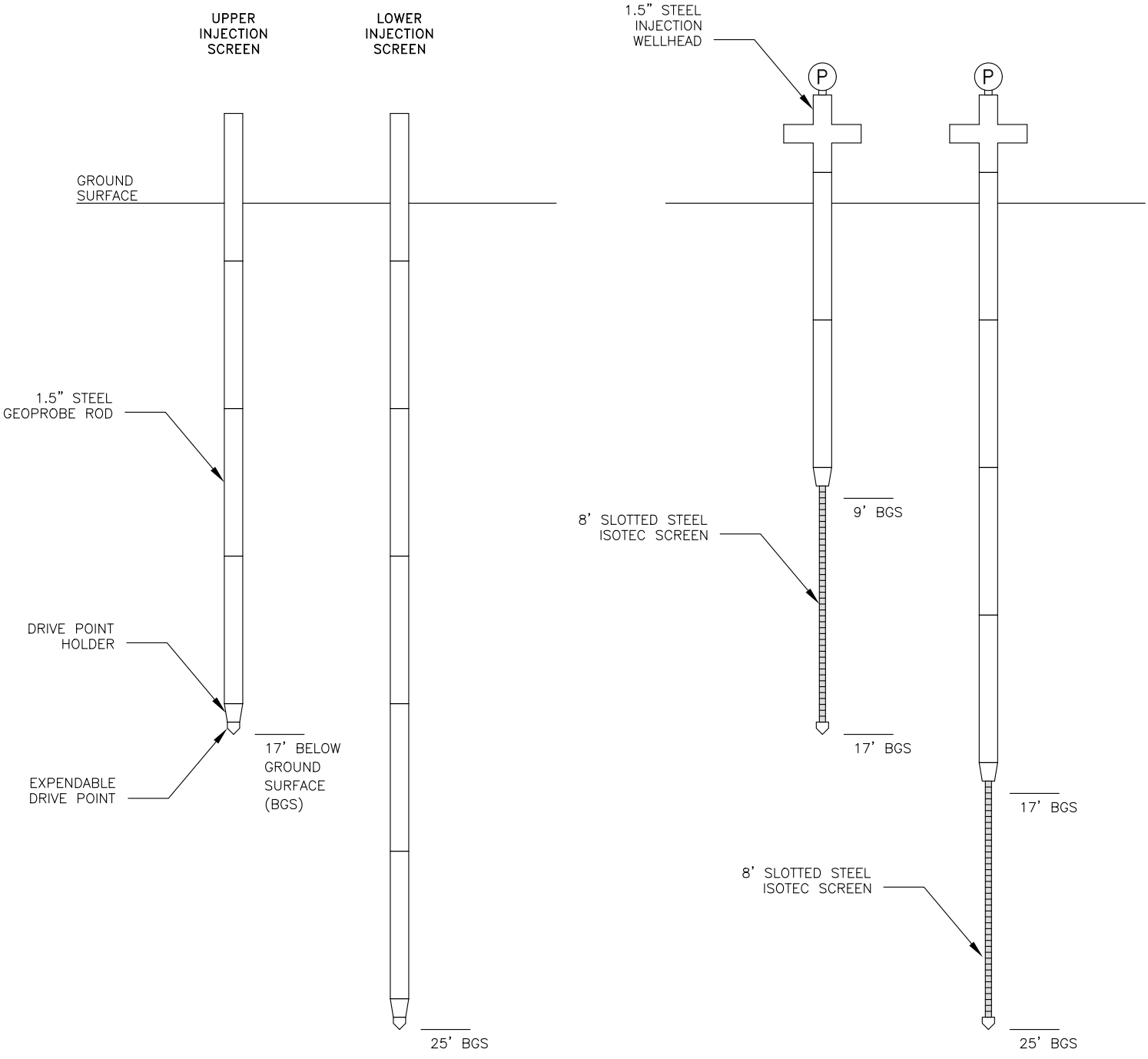
SITE MAP
ISCO REMEDIATION PROGRAM
700 Independent Road
Oakland, California

DRAWN BY: TE	DATE: 1/27/09	FIGURE 1
CHECKED BY: SH	PROJECT NO: 900949	

BEFORE SCREEN PLACEMENT

AFTER SCREEN PLACEMENT



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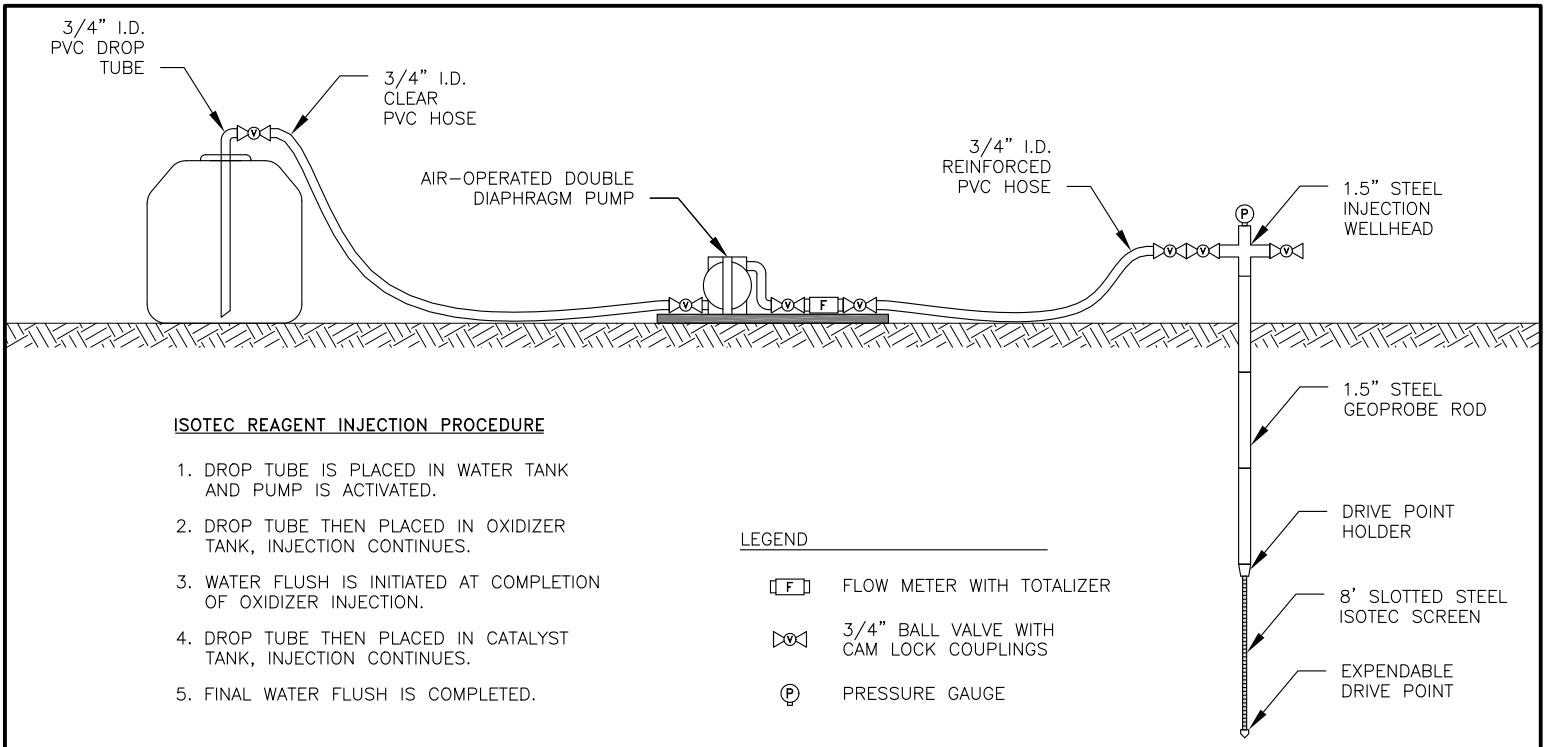
DIRECT-PUSH INJECTION SCHEMATIC
700 Independent Road
Oakland, California

FIGURE 2

DATE: 7/2/08	SCALE: N/A	PROPOSAL 900949
DRAWN BY: KH	CHECKED BY: SH	



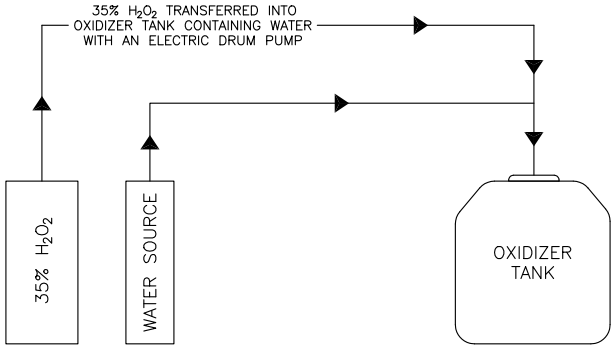
ISOTEC REAGENT INJECTION PROCEDURE

1. DROP TUBE IS PLACED IN WATER TANK AND PUMP IS ACTIVATED.
2. DROP TUBE THEN PLACED IN OXIDIZER TANK, INJECTION CONTINUES.
3. WATER FLUSH IS INITIATED AT COMPLETION OF OXIDIZER INJECTION.
4. DROP TUBE THEN PLACED IN CATALYST TANK, INJECTION CONTINUES.
5. FINAL WATER FLUSH IS COMPLETED.

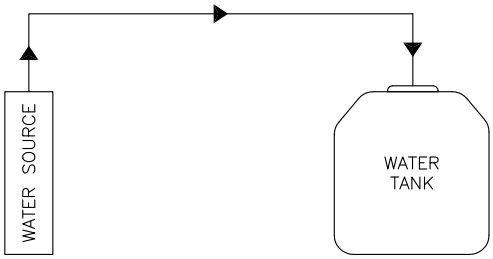
LEGEND

- F — FLOW METER WITH TOTALIZER
- 3/4" BALL VALVE WITH CAM LOCK COUPLINGS
- P — PRESSURE GAUGE

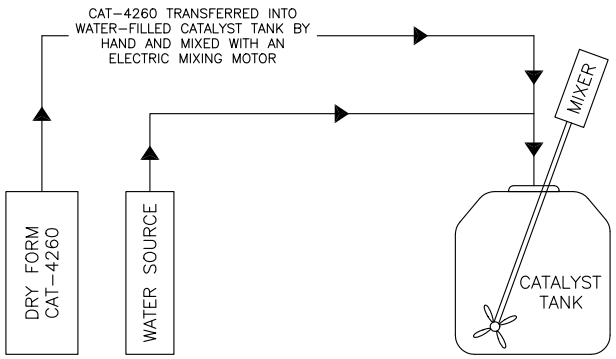
OXIDIZER TANK POCEDURES



WATER TANK PROCEDURES



CATALYST TANK PROCEDURES



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INJECTION METHOD SCHEMATIC 700 Independent Road Oakland, California		FIGURE 3
DATE: 7/2/08	SCALE: N/A	PROPOSAL 900949
DRAWN BY: KH	CHECKED BY: SH	

0 10 20

1 INCH = 20 FEET

LEGEND

- Fence
- ISCO Treatment Area
- Groundwater Monitoring Well
- Soil Boring – ISCO Remediation Program
- 1st Event Injection Location (December 2008)

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INJECTION LOCATION MAP
ISCO REMEDIATION PROGRAM
700 Independent Road
Oakland, California

DRAWN BY: TE	DATE: 1/27/09	FIGURE 4
CHECKED BY: SH	PROJECT NO: 900949	

TABLES

TABLE 1
FIRST EVENT INJECTION LOG

700 Independent Road
Oakland, California

Injection Date	Injection Point	Injection Interval (feet bgs)	ISOTEC REAGENT			FIELD OBSERVATIONS		
			12% H2O2 (gallons)	Catalyst (gallons)	Total (gallons)	Flow Rate (gpm)	Pressure (psi)	Notes (surfacing, refusal, pressure or flow rate changes, etc.)
12/9/08	1I-4U	9'-17'	45	150	195	2.0-3.5	5-15	Surfaced 3' South of 1I-3
	1I-4L	17'-25'	15	150	165	1.5-3.5	5-20	Surfaced 3' South of 1I-3
	1I-11L	17'-25'	150	150	300	1.5-3.5	20-35	
	1I-8U	9'-17'	150	150	300	1.6-3.6	0-25	
	1I-11U	9'-17'	150	150	300	1.5-3.6	0-20	
	1I-8L	17'-25'	150	150	300	1.5-3.6	0-45	
12/10/08	1I-10U	9'-17'	100	100	200	0.9-3.6	0-30	
	1I-2L	17'-25'	100	100	200	1.5-3.5	15-35	
	1I-10L	17'-25'	100	100	200	1.6-3.4	0-25	
	1I-2U	9'-17'	10	100	110	1.6-3.6	0-20	Surfaced up seam in asphalt 9' W
	1I-6U	9'-17'	25	150	175	1.4-3.6	10-20	Surface 16' S of point through concrete seam in building
	1I-6L	17'-25'	105	150	255	2.0-3.5	15-35	Surface 16' S of point through concrete seam in building
12/11/08	1I-1L	17'-25'	0	50	50	3.5	5-35	Surfaced immediately w/ H202 in seam in asphalt 9' West of 1I-2U
	1I-1U	9'-17'	0	50	50	3.5	10-30	Surfaced immediately w/ H202 in seam in asphalt 9' West of 1I-2U
	1I-9U	9'-17'	100	100	200	1.5-3.5	0-30	50 plus another 50
	1I-9L	17'-25'	100	100	200	1.4-3.5	20-35	50 plus another 50
	1I-12L	17'-25'	95	100	195	0.8-3.0	5-15	50 plus another 50; Surfaced 5' SE through asphalt seam
	1I-12U	9'-17'	50	50	100	1.5-3.0	5-15	
	1I-5U	12'-20'	100	100	200	1.3-3.0	10-25	50 plus another 50
	1I-5L	20'-28'	50	80	130	1.5-3.1	5-45	Stopped during CAT, surface out of B8, redo on 12/12
12/12/08	1I-7L	20'-28'	100	100	200	1.5-3.0	5-45	50 plus another 50
	1I-3L	17'-25'	15	50	65	1.5-3.4	0-45	Catalyst came out of cracks in sidewalk
	1I-7U	12'-20'	95	50	145	1.5-3.0	10-30	
	1I-13L	17'-25'	20	50	70	1.8-3.2	10-45	Surfaced 5' SE through asphalt seam

TABLE 1
FIRST EVENT INJECTION LOG

700 Independent Road
Oakland, California

Injection Date	Injection Point	Injection Interval (feet bgs)	ISOTEC REAGENT			FIELD OBSERVATIONS		
			12% H2O2 (gallons)	Catalyst (gallons)	Total (gallons)	Flow Rate (gpm)	Pressure (psi)	Notes (surfacing, refusal, pressure or flow rate changes, etc.)
	1I-13U	9'-17'	3	0	3	1.0-1.5	0-5	Began to surface in same area as 1I-2U (hill)
	1I-3U	9'-17'	18	0	18	0.9-1.4	30-35	
	1I-5L	20'-28'	35	0	35	1.1	10-15	
	1I-5U	12'-20'	85	0	85	0.9-1.4	30-35	
FIRST EVENT REAGENT TOTAL			**1,966**	**2,480**	**4,446**			

TABLE 2
FIRST EVENT MONITORING DATA

700 Independent Road
Oakland, CA 94621

Monitoring Well	Sample Date	FIELD OBSERVATIONS			
		Sample Time	Iron (mg/l)	Hydrogen Peroxide (mg/l)	Notes
MW-1	Baseline 12/09/2008	8:17	0.0	0.0	
	12/9/2008		0.8	0.0	Water level 1.5' from top of well
	12/10/2008	15:22	0.0	0.0	
	12/11/2008	16:36	0.0	0.0	
	12/12/2008	15:25	0.0	0.0	
MW-2	Baseline 12/09/2008	8:08	1.0	0.0	
	12/9/2008		NS	NS	
	12/10/2008	7:33	0.0	0.0	
	12/10/2008	15:27	0.0	0.3	
	12/11/2008	16:46	0.2	0.2	
	12/12/2008	15:35	0.1	0.3	
MW-3	Baseline 12/09/2008	8:21	0.0	0.0	
	12/9/2008		NS	NS	
	12/10/2008	7:50	0.2	0.0	
	12/10/2008	15:18	0.0	0.0	
	12/11/2008	16:41	0.0	0.0	
	12/12/2008	16:36	0.0	0.0	

NOTES

NS: Not sampled (monitoring well under pressure)

Table 3
BENZENE IN GROUNDWATER CONCENTRATIONS
WITH PERCENTAGE REDUCTIONS

700 Independent Road
Oakland, California

Monitoring Well	Baseline (µg/L)	Post-First Injection (µg/L)	
	12/1/2008	1/12/2009	vs Baseline
MW-1	295	380	-29%
MW-2	**20,500**	**15,300**	25%
MW-3	<10	<10	-
***Average**	**10,398**	**7,840**	**25%**

NOTES

µg/L = Micrograms per liter

<10 = Method detection limit

Concentration in **BOLD** exceeds Kleinfelder remediation goals

***Average** - Average does not include MW-3 because Baseline and Post-Injection concentrations are below the detection limit.

Table 4
TPH-G IN GROUNDWATER CONCENTRATIONS
WITH PERCENTAGE REDUCTIONS

700 Independent Road
Oakland, California

Monitoring Well	Baseline (µg/L)	Post-First Injection (µg/L)	
	12/1/2008	1/12/2009	vs Baseline
MW-1	2,900	3,300	-14%
MW-2	**53,000**	**35,000**	34%
MW-3	<10	<10	-
***Average**	**27,950**	**19,150**	**31%**

NOTES

µg/L = Micrograms per liter

<10 = Method detection limit

Concentration in **BOLD** exceeds Kleinfelder remediation goals

***Average** - Average does not include MW-3 because Baseline and Post-Injection concentrations are below the detection limit.

Table 5
BENZENE IN SOIL CONCENTRATIONS
WITH PERCENTAGE REDUCTIONS

700 Independent Road
Oakland, California

Soil Boring	Sample Depth (feet bgs)	Baseline (mg/kg)	Post-First Injection (mg/kg)	
		12/1/2008	1/12/2009	vs Baseline
PS-1	8-10	<1.0	<0.01	-
	20	<0.01	<0.01	-
PS-2	10-16	16	2.2	86%
	19-20	2.5	0.16	94%
***Average**		**9.3**	**1.2**	**87%**

NOTES

mg/kg = Milligrams per Kilogram

<0.01 = Method detection limit

Concentration in **BOLD** exceeds Kleinfelder remediation goals

***Average** - Average does not include PS-1@10' and PS-1-20' because Baseline and Post-Injection concentrations are below the detection limit.

Table 6
TPH-G IN SOIL CONCENTRATIONS
WITH PERCENTAGE REDUCTIONS

700 Independent Road
Oakland, California

Soil Boring	Sample Depth (feet bgs)	Baseline (mg/kg)	Post-First Injection (mg/kg)	
		12/1/2008	1/12/2009	vs Baseline
PS-1	8-10	330	0.05	100%
	20	<0.1	0.12	-
PS-2	10-16	**1,500**	260	83%
	19-20	430	10	98%
***Average**		**753**	**90**	**88%**

NOTES

mg/kg = Milligrams per Kilogram

<0.1 = Method detection limit

Concentration in **BOLD** exceeds Kleinfelder remediation goals

For averaging purposes, the concentration in **BLUE** is half of the detection limit.

***Average** - Average does not include PS-1-20' because Baseline concentration is below the detection limit.

APPENDIX E

LABORATORY ANALYTICAL REPORTS
AND
CHAIN OF CUSTODY FORMS

Torrent
LABORATORY, INC.

January 20, 2009

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

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

RE: 54504

Order No.: 0901038

Dear Charlie Almestad:

Torrent Laboratory, Inc. received 7 samples on 1/13/2009 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,

Laboratory Director 1/20/09
Date

Patti Sandrock
QA Officer

Torrent Laboratory, Inc.

Date: *20-Jan-09*

CLIENT: KLEINFELDER
Project: 54504
Lab Order: 0901038

CASE NARRATIVE

Analytical Comment for METHOD TPH As Gasoline in Soil, Note:The % recoveries in the MS/MSD are outside of laboratory control limits but within % RPD limits and % recovery limits for the LCS/LCSD. No corrective action is required.

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: 1/13/2009
Date Reported: 1/20/2009

Client Sample ID: MW-1
Sample Location: Ind.Rd
Sample Matrix: WATER
Date/Time Sampled 1/12/2009 3:40:00 PM

Lab Sample ID: 0901038-001
Date Prepared: 1/13/2009-1/16/2009

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Total Dissolved Solids (Residue, Filterable)	E160.1	1/13/2009	10	1	10	14000	mg/L	R18432
Arsenic	E200.7	1/19/2009	0.01	50	0.50	ND	mg/L	4877
Barium	E200.7	1/19/2009	0.01	50	0.50	ND	mg/L	4877
Cadmium	E200.7	1/19/2009	0.005	50	0.25	ND	mg/L	4877
Calcium	E200.7	1/19/2009	0.1	50	5.0	190	mg/L	4877
Chromium	E200.7	1/19/2009	0.005	50	0.25	ND	mg/L	4877
Copper	E200.7	1/19/2009	0.01	50	0.50	ND	mg/L	4877
Iron	E200.7	1/19/2009	0.05	50	2.5	9.4	mg/L	4877
Lead	E200.7	1/19/2009	0.005	50	0.25	ND	mg/L	4877
Magnesium	E200.7	1/19/2009	0.05	50	2.5	350	mg/L	4877
Potassium	E200.7	1/19/2009	1	50	50	ND	mg/L	4877
Selenium	E200.7	1/19/2009	0.01	50	0.50	ND	mg/L	4877
Sodium	E200.7	1/19/2009	0.2	50	10	4700	mg/L	4877
Total Organic Carbon	E415.1	1/16/2009	0.5	1	0.50	11	mg/L	R18444
Alkalinity, Bicarbonate	SM2320 B	1/15/2009	2	1	2.0	1400	mg/L CaCO3	R18445
Alkalinity, Carbonate	SM2320 B	1/15/2009	2	1	2.0	ND	mg/L CaCO3	R18445
Alkalinity, Hydroxide	SM2320 B	1/15/2009	2	1	2.0	ND	mg/L CaCO3	R18445
Alkalinity, Total as CaCO3	SM2320 B	1/15/2009	2	1	2.0	1400	mg/L CaCO3	R18445
Iron, Ferrous	SM3500-FE B	1/13/2009	0.1	1	0.10	0.29	mg/L	R18437
Chromium, Hexavalent	SW7199	1/13/2009	0.5	10	5.0	ND	µg/L	R18446

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 1/13/2009
Date Reported: 1/20/2009

Client Sample ID: MW-1
Sample Location: Ind.Rd
Sample Matrix: WATER
Date/Time Sampled 1/12/2009 3:40:00 PM

Lab Sample ID: 0901038-001
Date Prepared: 1/13/2009-1/16/2009

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
TPH (Diesel)	SW8015B	1/16/2009	0.1	1	0.100	0.264x	mg/L	R18458
Surr: Pentacosane	SW8015B	1/16/2009	0	1	57.9-125	72.0	%REC	R18458
Note:x-Sample chromatogram does not resemble typical diesel pattern (possibly fuel lighter than diesel). Hydrocarbons within the diesel range quantitated as diesel.								
Benzene	SW8260B	1/15/2009	0.5	8.8	4.40	380	µg/L	R18436
Toluene	SW8260B	1/15/2009	0.5	8.8	4.40	84.3	µg/L	R18436
Ethylbenzene	SW8260B	1/15/2009	0.5	8.8	4.40	90.9	µg/L	R18436
Xylenes, Total	SW8260B	1/15/2009	1.5	8.8	13.2	174	µg/L	R18436
Surr: Dibromofluoromethane	SW8260B	1/15/2009	0	8.8	61.2-131	108	%REC	R18436
Surr: 4-Bromofluorobenzene	SW8260B	1/15/2009	0	8.8	64.1-120	93.7	%REC	R18436
Surr: Toluene-d8	SW8260B	1/15/2009	0	8.8	75.1-127	114	%REC	R18436
TPH (Gasoline)	SW8260B(TPH)	1/15/2009	50	8.8	440	3300	µg/L	G18436
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	1/15/2009	0	8.8	58.4-133	87.8	%REC	G18436

Note: Although TPH as gasoline compounds are present, reported TPH value is elevated due to the presence of light-end non-target hydrocarbons within range of C5-C12 quantified as gasoline.

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 1/13/2009
Date Reported: 1/20/2009

Client Sample ID: MW-2
Sample Location:
Sample Matrix: WATER
Date/Time Sampled 1/12/2009 4:30:00 PM

Lab Sample ID: 0901038-002
Date Prepared: 1/13/2009-1/16/2009

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Total Dissolved Solids (Residue, Filterable)	E160.1	1/13/2009	10	1	10	13000	mg/L	R18432
Arsenic	E200.7	1/19/2009	0.01	50	0.50	ND	mg/L	4877
Barium	E200.7	1/19/2009	0.01	50	0.50	ND	mg/L	4877
Cadmium	E200.7	1/19/2009	0.005	50	0.25	ND	mg/L	4877
Calcium	E200.7	1/19/2009	0.1	50	5.0	240	mg/L	4877
Chromium	E200.7	1/19/2009	0.005	50	0.25	ND	mg/L	4877
Copper	E200.7	1/19/2009	0.01	50	0.50	ND	mg/L	4877
Iron	E200.7	1/19/2009	0.05	50	2.5	24	mg/L	4877
Lead	E200.7	1/19/2009	0.005	50	0.25	ND	mg/L	4877
Magnesium	E200.7	1/19/2009	0.05	50	2.5	320	mg/L	4877
Potassium	E200.7	1/19/2009	1	50	50	ND	mg/L	4877
Selenium	E200.7	1/19/2009	0.01	50	0.50	ND	mg/L	4877
Sodium	E200.7	1/19/2009	0.2	50	10	4000	mg/L	4877
Total Organic Carbon	E415.1	1/16/2009	0.5	1	0.50	55	mg/L	R18444
Alkalinity, Bicarbonate	SM2320 B	1/15/2009	2	1	2.0	1800	mg/L CaCO3	R18445
Alkalinity, Carbonate	SM2320 B	1/15/2009	2	1	2.0	ND	mg/L CaCO3	R18445
Alkalinity, Hydroxide	SM2320 B	1/15/2009	2	1	2.0	ND	mg/L CaCO3	R18445
Alkalinity, Total as CaCO3	SM2320 B	1/15/2009	2	1	2.0	1800	mg/L CaCO3	R18445
Iron, Ferrous	SM3500-FE B	1/13/2009	0.1	1	0.10	ND	mg/L	R18437
Chromium, Hexavalent	SW7199	1/13/2009	0.5	10	5.0	ND	µg/L	R18446
TPH (Diesel)	SW8015B	1/19/2009	0.1	2	0.200	2.50x	mg/L	R18458
Surr: Pentacosane	SW8015B	1/19/2009	0	2	57.9-125	76.0	%REC	R18458

Note:x-Sample chromatogram does not resemble typical diesel pattern (possibly fuel lighter than diesel). Hydrocarbons within the diesel range quantitated as diesel.

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 1/13/2009
Date Reported: 1/20/2009

Client Sample ID: MW-2
Sample Location:
Sample Matrix: WATER
Date/Time Sampled 1/12/2009 4:30:00 PM

Lab Sample ID: 0901038-002
Date Prepared: 1/13/2009-1/16/2009

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Benzene	SW8260B	1/15/2009	0.5	220	110	15300	µg/L	R18436
Toluene	SW8260B	1/15/2009	0.5	88	44.0	62.5	µg/L	R18436
Ethylbenzene	SW8260B	1/15/2009	0.5	88	44.0	1030	µg/L	R18436
Xylenes, Total	SW8260B	1/15/2009	1.5	88	132	1050	µg/L	R18436
Surr: Dibromofluoromethane	SW8260B	1/15/2009	0	88	61.2-131	105	%REC	R18436
Surr: Dibromofluoromethane	SW8260B	1/15/2009	0	220	61.2-131	113	%REC	R18436
Surr: 4-Bromofluorobenzene	SW8260B	1/15/2009	0	88	64.1-120	89.1	%REC	R18436
Surr: 4-Bromofluorobenzene	SW8260B	1/15/2009	0	220	64.1-120	98.8	%REC	R18436
Surr: Toluene-d8	SW8260B	1/15/2009	0	88	75.1-127	109	%REC	R18436
Surr: Toluene-d8	SW8260B	1/15/2009	0	220	75.1-127	108	%REC	R18436
TPH (Gasoline)	SW8260B(TPH)	1/15/2009	50	88	4400	35000	µg/L	G18436
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	1/15/2009	0	88	58.4-133	81.5	%REC	G18436

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 1/13/2009
Date Reported: 1/20/2009

Client Sample ID: MW-3
Sample Location:
Sample Matrix: WATER
Date/Time Sampled 1/12/2009 5:00:00 PM

Lab Sample ID: 0901038-003
Date Prepared: 1/13/2009-1/16/2009

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Total Dissolved Solids (Residue, Filterable)	E160.1	1/13/2009	10	1	10	8800	mg/L	R18432
Arsenic	E200.7	1/19/2009	0.01	50	0.50	ND	mg/L	4877
Barium	E200.7	1/19/2009	0.01	50	0.50	ND	mg/L	4877
Cadmium	E200.7	1/19/2009	0.005	50	0.25	ND	mg/L	4877
Calcium	E200.7	1/19/2009	0.1	50	5.0	120	mg/L	4877
Chromium	E200.7	1/19/2009	0.005	50	0.25	ND	mg/L	4877
Copper	E200.7	1/19/2009	0.01	50	0.50	ND	mg/L	4877
Iron	E200.7	1/19/2009	0.05	50	2.5	15	mg/L	4877
Lead	E200.7	1/19/2009	0.005	50	0.25	ND	mg/L	4877
Magnesium	E200.7	1/19/2009	0.05	50	2.5	130	mg/L	4877
Potassium	E200.7	1/19/2009	1	50	50	ND	mg/L	4877
Selenium	E200.7	1/19/2009	0.01	50	0.50	ND	mg/L	4877
Sodium	E200.7	1/19/2009	0.2	50	10	2700	mg/L	4877
Total Organic Carbon	E415.1	1/16/2009	0.5	1	0.50	8.3	mg/L	R18444
Alkalinity, Bicarbonate	SM2320 B	1/15/2009	2	1	2.0	2000	mg/L CaCO3	R18445
Alkalinity, Carbonate	SM2320 B	1/15/2009	2	1	2.0	60	mg/L CaCO3	R18445
Alkalinity, Hydroxide	SM2320 B	1/15/2009	2	1	2.0	ND	mg/L CaCO3	R18445
Alkalinity, Total as CaCO3	SM2320 B	1/15/2009	2	1	2.0	2000	mg/L CaCO3	R18445
Iron, Ferrous	SM3500-FE B	1/13/2009	0.1	1	0.10	ND	mg/L	R18437
Chromium, Hexavalent	SW7199	1/13/2009	0.5	10	5.0	ND	µg/L	R18446
TPH (Diesel)	SW8015B	1/16/2009	0.1	1	0.100	ND	mg/L	R18458
Surr: Pentacosane	SW8015B	1/16/2009	0	1	57.9-125	79.0	%REC	R18458

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 1/13/2009
Date Reported: 1/20/2009

Client Sample ID: MW-3
Sample Location:
Sample Matrix: WATER
Date/Time Sampled 1/12/2009 5:00:00 PM

Lab Sample ID: 0901038-003
Date Prepared: 1/13/2009-1/16/2009

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Benzene	SW8260B	1/15/2009	0.5	1	0.500	ND	µg/L	R18436
Toluene	SW8260B	1/15/2009	0.5	1	0.500	ND	µg/L	R18436
Ethylbenzene	SW8260B	1/15/2009	0.5	1	0.500	ND	µg/L	R18436
Xylenes, Total	SW8260B	1/15/2009	1.5	1	1.50	ND	µg/L	R18436
Surr: Dibromofluoromethane	SW8260B	1/15/2009	0	1	61.2-131	98.9	%REC	R18436
Surr: 4-Bromofluorobenzene	SW8260B	1/15/2009	0	1	64.1-120	102	%REC	R18436
Surr: Toluene-d8	SW8260B	1/15/2009	0	1	75.1-127	113	%REC	R18436
TPH (Gasoline)	SW8260B(TPH)	1/15/2009	50	1	50	ND	µg/L	G18436
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	1/15/2009	0	1	58.4-133	88.4	%REC	G18436

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 1/13/2009
Date Reported: 1/20/2009

Client Sample ID: PS-2A-10
Sample Location: Ind.Rd
Sample Matrix: SOIL
Date/Time Sampled 1/12/2009 12:45:00 PM

Lab Sample ID: 0901038-004
Date Prepared: 1/14/2009-1/19/2009

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
TPH (Diesel)	SW8015B	1/15/2009	2	1	2.00	16.1x	mg/Kg	R18435
Surr: Pentacosane	SW8015B	1/15/2009	0	1	59.7-129	96.8	%REC	R18435
Note:x-Sample chromatogram does not resemble typical diesel pattern (possibly fuel lighter than diesel). Hydrocarbons within the diesel range quantitated as diesel.								
Benzene	SW8260B	1/19/2009	10	100	1000	2200	µg/Kg	R18463
Ethylbenzene	SW8260B	1/19/2009	10	100	1000	4500	µg/Kg	R18463
Toluene	SW8260B	1/19/2009	10	100	1000	ND	µg/Kg	R18463
Xylenes, Total	SW8260B	1/19/2009	15	100	1500	4100	µg/Kg	R18463
Surr: 4-Bromofluorobenzene	SW8260B	1/19/2009	0	100	55.8-141	90.3	%REC	R18463
Surr: Dibromofluoromethane	SW8260B	1/19/2009	0	100	59.8-148	77.4	%REC	R18463
Surr: Toluene-d8	SW8260B	1/19/2009	0	100	55.2-133	93.7	%REC	R18463
Note:Sample required methanol extraction due to high concentration of non-target analytes co-eluting with target compounds.								
TPH (Gasoline)	SW8260B(TPH)	1/19/2009	100	100	10000	260000Ex	µg/Kg	G18463
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	1/19/2009	0	100	56.9-133	64.0	%REC	G18463

Note: E -Estimated value. The amount exceeds the calibration limits but are within linear working range of the instrument. x - Although TPH as Gasoline constituents are present, reported value is significantly elevated due to the presence of heavy end hydrocarbons within C5-C12 quantitation range for Gasoline (possibly aged gasoline or carry over from fuel heavier than gasoline)

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 1/13/2009
Date Reported: 1/20/2009

Client Sample ID: PS-2A-20
Sample Location: Ind.Rd
Sample Matrix: SOIL
Date/Time Sampled 1/12/2009 1:10:00 PM

Lab Sample ID: 0901038-005
Date Prepared: 1/14/2009-1/19/2009

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
TPH (Diesel)	SW8015B	1/15/2009	2	1	2.00	ND	mg/Kg	R18435
Surr: Pentacosane	SW8015B	1/15/2009	0	1	59.7-129	89.5	%REC	R18435
Benzene	SW8260B	1/19/2009	10	5	50	160	µg/Kg	R18463
Ethylbenzene	SW8260B	1/19/2009	10	5	50	640	µg/Kg	R18463
Toluene	SW8260B	1/19/2009	10	5	50	ND	µg/Kg	R18463
Xylenes, Total	SW8260B	1/19/2009	15	5	75	800	µg/Kg	R18463
Surr: 4-Bromofluorobenzene	SW8260B	1/19/2009	0	5	55.8-141	102	%REC	R18463
Surr: Dibromofluoromethane	SW8260B	1/19/2009	0	5	59.8-148	94.7	%REC	R18463
Surr: Toluene-d8	SW8260B	1/19/2009	0	5	55.2-133	90.0	%REC	R18463
TPH (Gasoline)	SW8260B(TPH)	1/19/2009	100	100	10000	10000x	µg/Kg	G18463
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	1/19/2009	0	100	56.9-133	66.0	%REC	G18463

Note: Although TPH as Gasoline constituents are present, result is elevated due to the presence of heavy end compounds within C5 - C12 quantitation range of Gasoline (possibly aged gasoline).

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 1/13/2009
Date Reported: 1/20/2009

Client Sample ID: PS-1A-10
Sample Location: Ind.Rd
Sample Matrix: SOIL
Date/Time Sampled 1/12/2009 2:15:00 PM

Lab Sample ID: 0901038-006
Date Prepared: 1/14/2009-1/16/2009

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
TPH (Diesel)	SW8015B	1/15/2009	2	1	2.00	ND	mg/Kg	R18435
Surr: Pentacosane	SW8015B	1/15/2009	0	1	59.7-129	89.2	%REC	R18435
Benzene	SW8260B	1/16/2009	10	1	10	ND	µg/Kg	R18438
Ethylbenzene	SW8260B	1/16/2009	10	1	10	ND	µg/Kg	R18438
Toluene	SW8260B	1/16/2009	10	1	10	ND	µg/Kg	R18438
Xylenes, Total	SW8260B	1/16/2009	15	1	15	ND	µg/Kg	R18438
Surr: 4-Bromofluorobenzene	SW8260B	1/16/2009	0	1	55.8-141	116	%REC	R18438
Surr: Dibromofluoromethane	SW8260B	1/16/2009	0	1	59.8-148	110	%REC	R18438
Surr: Toluene-d8	SW8260B	1/16/2009	0	1	55.2-133	97.9	%REC	R18438
TPH (Gasoline)	SW8260B(TPH)	1/16/2009	100	1	100	ND	µg/Kg	G18438
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	1/16/2009	0	1	56.9-133	66.0	%REC	G18438

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 1/13/2009
Date Reported: 1/20/2009

Client Sample ID: PS-1A-20
Sample Location: Ind.Rd
Sample Matrix: SOIL
Date/Time Sampled 1/12/2009 2:45:00 PM

Lab Sample ID: 0901038-007
Date Prepared: 1/14/2009-1/15/2009

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
TPH (Diesel)	SW8015B	1/15/2009	2	1	2.00	ND	mg/Kg	R18435
Surr: Pentacosane	SW8015B	1/15/2009	0	1	59.7-129	99.7	%REC	R18435
Benzene	SW8260B	1/15/2009	10	1	10	ND	µg/Kg	R18438
Ethylbenzene	SW8260B	1/15/2009	10	1	10	ND	µg/Kg	R18438
Toluene	SW8260B	1/15/2009	10	1	10	ND	µg/Kg	R18438
Xylenes, Total	SW8260B	1/15/2009	15	1	15	ND	µg/Kg	R18438
Surr: 4-Bromofluorobenzene	SW8260B	1/15/2009	0	1	55.8-141	105	%REC	R18438
Surr: Dibromofluoromethane	SW8260B	1/15/2009	0	1	59.8-148	122	%REC	R18438
Surr: Toluene-d8	SW8260B	1/15/2009	0	1	55.2-133	101	%REC	R18438
TPH (Gasoline)	SW8260B(TPH)	1/15/2009	100	1	100	120x	µg/Kg	G18438
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	1/15/2009	0	1	56.9-133	82.0	%REC	G18438

Note: x- Sample chromatogram does not resemble gasoline standard pattern. Reported TPH value due to the presence of non-target gasoline compounds (heavy end) within range of C5-C12 quantified as gasoline.

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

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.
a	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 #

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

CLIENT: KLEINFELDER
Work Order: 0901038
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: 4877

Sample ID **MB-4877**	SampType: **MBLK**	TestCode: **200.7**	Units: **mg/L**	Prep Date: **1/16/2009**	RunNo: **18460**
Client ID: **ZZZZZ**	Batch ID: **4877**	TestNo: **E200.7**	**(E200.7/SW3**	Analysis Date: **1/19/2009**	SeqNo: **265573**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.010									
Barium	ND	0.010									
Cadmium	ND	0.0050									
Calcium	ND	0.10									
Chromium	ND	0.0050									
Copper	ND	0.010									
Iron	ND	0.050									
Lead	ND	0.0050									
Magnesium	ND	0.050									
Potassium	ND	1.0									
Selenium	ND	0.010									
Sodium	ND	0.20									

Sample ID **LCS-4877**	SampType: **LCS**	TestCode: **200.7**	Units: **mg/L**	Prep Date: **1/16/2009**	RunNo: **18460**
Client ID: **ZZZZZ**	Batch ID: **4877**	TestNo: **E200.7**	**(E200.7/SW3**	Analysis Date: **1/19/2009**	SeqNo: **265571**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.036	0.010	1	0	104	80	120				
Barium	0.9830	0.010	1	0	98.3	80	120				
Cadmium	0.9620	0.0050	1	0	96.2	80	120				
Calcium	9.872	0.10	10	0.06	98.1	80	120				
Chromium	0.9690	0.0050	1	0	96.9	80	120				
Copper	0.9670	0.010	1	0	96.7	80	120				
Iron	10.36	0.050	10	0.045	103	80	120				
Lead	0.9710	0.0050	1	0	97.1	80	120				
Magnesium	9.908	0.050	10	0.04	98.7	80	120				
Potassium	9.437	1.0	10	0.018	94.2	80	120				
Selenium	0.9790	0.010	1	0	97.9	80	120				
Sodium	9.042	0.20	10	0.021	90.2	80	120				

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0901038
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: 4877

Sample ID **LCSD-4877**	SampType: **LCSD**	TestCode: **200.7**	Units: **mg/L**	Prep Date: **1/16/2009**	RunNo: **18460**
Client ID: **ZZZZZ**	Batch ID: **4877**	TestNo: **E200.7**	**(E200.7/SW3**	Analysis Date: **1/19/2009**	SeqNo: **265572**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.039	0.010	1	0	104	80	120	1.036	0.289	20	
Barium	1.005	0.010	1	0	101	80	120	0.983	2.21	20	
Cadmium	0.9900	0.0050	1	0	99.0	80	120	0.962	2.87	20	
Calcium	9.900	0.10	10	0.06	98.4	80	120	9.872	0.283	20	
Chromium	0.9630	0.0050	1	0	96.3	80	120	0.969	0.621	20	
Copper	0.9800	0.010	1	0	98.0	80	120	0.967	1.34	20	
Iron	10.29	0.050	10	0.045	102	80	120	10.36	0.678	20	
Lead	0.9700	0.0050	1	0	97.0	80	120	0.971	0.103	20	
Magnesium	9.951	0.050	10	0.04	99.1	80	120	9.908	0.433	20	
Potassium	9.429	1.0	10	0.018	94.1	80	120	9.437	0.0848	20	
Selenium	0.9740	0.010	1	0	97.4	80	120	0.979	0.512	20	
Sodium	8.975	0.20	10	0.021	89.5	80	120	9.042	0.744	20	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0901038
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: G18436

Sample ID **MB_G18436**	SampType: **MBLK**	TestCode: **TPH_GAS_W**	Units: **µg/L**	Prep Date: **1/15/2009**	RunNo: **18436**
Client ID: **ZZZZZ**	Batch ID: **G18436**	TestNo: **SW8260B(TP**		Analysis Date: **1/15/2009**	SeqNo: **265227**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	ND	50									
Surr: 4-Bromofllurobenzene	8.730	0	11.36	0	76.8	58.4	133				

Sample ID **LCS_G18436**	SampType: **LCS**	TestCode: **TPH_GAS_W**	Units: **µg/L**	Prep Date: **1/15/2009**	RunNo: **18436**
Client ID: **ZZZZZ**	Batch ID: **G18436**	TestNo: **SW8260B(TP**		Analysis Date: **1/15/2009**	SeqNo: **265228**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	223.0	50	227	0	98.2	52.4	127				
Surr: 4-Bromofllurobenzene	11.75	0	11.36	0	103	58.4	133				

Sample ID **LCSD_G18436**	SampType: **LCSD**	TestCode: **TPH_GAS_W**	Units: **µg/L**	Prep Date: **1/15/2009**	RunNo: **18436**
Client ID: **ZZZZZ**	Batch ID: **G18436**	TestNo: **SW8260B(TP**		Analysis Date: **1/15/2009**	SeqNo: **265229**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	184.0	50	227	0	81.1	52.4	127	223	19.2	20	
Surr: 4-Bromofllurobenzene	8.350	0	11.36	0	73.5	58.4	133	0	0	0	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0901038
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: G18438

Sample ID **MB_G18438**	SampType: **MBLK**	TestCode: **TPH_GAS_S**	Units: **µg/Kg**	Prep Date: **1/15/2009**	RunNo: **18438**
Client ID: **ZZZZZ**	Batch ID: **G18438**	TestNo: **SW8260B(TP**		Analysis Date: **1/15/2009**	SeqNo: **265296**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	ND	100									
Surr: 4-Bromofllurobenzene	49.00	0	50	0	98.0	56.9	133				

Sample ID **LCS_G18438**	SampType: **LCS**	TestCode: **TPH_GAS_S**	Units: **µg/Kg**	Prep Date: **1/15/2009**	RunNo: **18438**
Client ID: **ZZZZZ**	Batch ID: **G18438**	TestNo: **SW8260B(TP**		Analysis Date: **1/15/2009**	SeqNo: **265297**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	1007	100	1000	0	101	48.2	132				
Surr: 4-Bromofllurobenzene	49.00	0	50	0	98.0	56.9	133				

Sample ID **LCSD_G18438**	SampType: **LCSD**	TestCode: **TPH_GAS_S**	Units: **µg/Kg**	Prep Date: **1/15/2009**	RunNo: **18438**
Client ID: **ZZZZZ**	Batch ID: **G18438**	TestNo: **SW8260B(TP**		Analysis Date: **1/15/2009**	SeqNo: **265298**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	970.0	100	1000	0	97.0	48.2	132	1007	3.74	30	
Surr: 4-Bromofllurobenzene	53.00	0	50	0	106	56.9	133	0	0	0	

Sample ID **0901038-007A MSG**	SampType: **MS**	TestCode: **TPH_GAS_S**	Units: **µg/Kg**	Prep Date: **1/16/2009**	RunNo: **18438**
Client ID: **PS-1A-20**	Batch ID: **G18438**	TestNo: **SW8260B(TP**		Analysis Date: **1/16/2009**	SeqNo: **265385**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	565.0	100	1000	119	44.6	48.2	132				S
Surr: 4-Bromofllurobenzene	40.00	0	50	0	80.0	56.9	133				

Sample ID **0901038-007A MSD**	SampType: **MSD**	TestCode: **TPH_GAS_S**	Units: **µg/Kg**	Prep Date: **1/16/2009**	RunNo: **18438**
Client ID: **PS-1A-20**	Batch ID: **G18438**	TestNo: **SW8260B(TP**		Analysis Date: **1/16/2009**	SeqNo: **265386**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	568.0	100	1000	119	44.9	48.2	132	565	0.530	30	S
Surr: 4-Bromofllurobenzene	42.00	0	50	0	84.0	56.9	133	0	0	0	

Qualifiers:
E Value above quantitation range
H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0901038
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: G18463

Sample ID **MB_G18463**	SampType: **MBLK**	TestCode: **TPPH_S_GC**	Units: **µg/Kg**	Prep Date: **1/19/2009**	RunNo: **18463**
Client ID: **ZZZZZ**	Batch ID: **G18463**	TestNo: **SW8260B(TP**		Analysis Date: **1/19/2009**	SeqNo: **265617**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	ND	100									
Surr: 4-Bromofllurobenzene	47.00	0	50	0	94.0	57	127				

Sample ID **LCS_G18463**	SampType: **LCS**	TestCode: **TPPH_S_GC**	Units: **µg/Kg**	Prep Date: **1/19/2009**	RunNo: **18463**
Client ID: **ZZZZZ**	Batch ID: **G18463**	TestNo: **SW8260B(TP**		Analysis Date: **1/19/2009**	SeqNo: **265618**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	937.0	100	1000	0	93.7	48.2	132				
Surr: 4-Bromofllurobenzene	48.00	0	50	0	96.0	57	127				

Sample ID **LCSD_G18463**	SampType: **LCSD**	TestCode: **TPPH_S_GC**	Units: **µg/Kg**	Prep Date: **1/19/2009**	RunNo: **18463**
Client ID: **ZZZZZ**	Batch ID: **G18463**	TestNo: **SW8260B(TP**		Analysis Date: **1/19/2009**	SeqNo: **265619**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	897.0	100	1000	0	89.7	48.2	132	937	4.36	35	
Surr: 4-Bromofllurobenzene	44.00	0	50	0	88.0	57	127	0	0	0	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0901038
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: R18432

Sample ID **MBLK**	SampType: **MBLK**	TestCode: **TDS_W**	Units: **mg/L**	Prep Date:	RunNo: **18432**
Client ID: **ZZZZZ**	Batch ID: **R18432**	TestNo: **E160.1**		Analysis Date: **1/13/2009**	SeqNo: **265149**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	ND	10									

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0901038
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: R18435

Sample ID	SD090114A-MB	SampType:	MBLK	TestCode:	TPHD_S	Units:	mg/Kg	Prep Date:	1/14/2009	RunNo:	18435
Client ID:	ZZZZZ	Batch ID:	R18435	TestNo:	SW8015B			Analysis Date:	1/14/2009	SeqNo:	265204

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Diesel)	ND	2.00									
Surr: Pentacosane	3.045	0	3.3	0	92.3	59.7	129				

Sample ID	SD090114A-LCS	SampType:	LCS	TestCode:	TPHD_S	Units:	mg/Kg	Prep Date:	1/14/2009	RunNo:	18435
Client ID:	ZZZZZ	Batch ID:	R18435	TestNo:	SW8015B			Analysis Date:	1/14/2009	SeqNo:	265205

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Diesel)	30.74	2.00	33.33	0	92.2	52.7	115				
Surr: Pentacosane	3.418	0	3.3	0	104	59.7	129				

Sample ID	SD090114A-LCSD	SampType:	LCSD	TestCode:	TPHD_S	Units:	mg/Kg	Prep Date:	1/14/2009	RunNo:	18435
Client ID:	ZZZZZ	Batch ID:	R18435	TestNo:	SW8015B			Analysis Date:	1/14/2009	SeqNo:	265206

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Diesel)	30.83	2.00	33.33	0	92.5	52.7	115	30.74	0.286	30	
Surr: Pentacosane	3.366	0	3.3	0	102	59.7	129	0	0	0	

Sample ID	0901038-006A MS	SampType:	MS	TestCode:	TPHD_S	Units:	mg/Kg	Prep Date:	1/14/2009	RunNo:	18435
Client ID:	PS-1A-10	Batch ID:	R18435	TestNo:	SW8015B			Analysis Date:	1/15/2009	SeqNo:	265347

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Diesel)	29.42	2.00	33.33	0	88.3	52.7	115				
Surr: Pentacosane	2.933	0	3.3	0	88.9	59.7	129				

Sample ID	0901038-006A MSD	SampType:	MSD	TestCode:	TPHD_S	Units:	mg/Kg	Prep Date:	1/14/2009	RunNo:	18435
Client ID:	PS-1A-10	Batch ID:	R18435	TestNo:	SW8015B			Analysis Date:	1/15/2009	SeqNo:	265348

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Diesel)	29.35	2.00	33.33	0	88.1	52.7	115	29.42	0.214	30	
Surr: Pentacosane	2.183	0	3.3	0	66.2	59.7	129	0	0	0	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0901038
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: R18436

Sample ID **MB_R18436**	SampType: **MBLK**	TestCode: **8260B_W**	Units: **µg/L**	Prep Date: **1/15/2009**	RunNo: **18436**
Client ID: **ZZZZZ**	Batch ID: **R18436**	TestNo: **SW8260B**		Analysis Date: **1/15/2009**	SeqNo: **265214**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.500									
Ethylbenzene	ND	0.500									
Toluene	ND	0.500									
Xylenes, Total	ND	1.50									
Surr: Dibromofluoromethane	12.28	0	11.36	0	108	61.2	131				
Surr: 4-Bromofluorobenzene	11.06	0	11.36	0	97.4	64.1	120				
Surr: Toluene-d8	12.65	0	11.36	0	111	75.1	127				

Sample ID **LCS_R18436**	SampType: **LCS**	TestCode: **8260B_W**	Units: **µg/L**	Prep Date: **1/15/2009**	RunNo: **18436**
Client ID: **ZZZZZ**	Batch ID: **R18436**	TestNo: **SW8260B**		Analysis Date: **1/15/2009**	SeqNo: **265215**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	17.90	0.500	17.04	0	105	66.9	140				
Toluene	19.99	0.500	17.04	0	117	76.6	123				
Surr: Dibromofluoromethane	10.86	0	11.36	0	95.6	61.2	131				
Surr: 4-Bromofluorobenzene	11.10	0	11.36	0	97.7	64.1	120				
Surr: Toluene-d8	12.40	0	11.36	0	109	75.1	127				

Sample ID **LCSD_R18436**	SampType: **LCSD**	TestCode: **8260B_W**	Units: **µg/L**	Prep Date: **1/15/2009**	RunNo: **18436**
Client ID: **ZZZZZ**	Batch ID: **R18436**	TestNo: **SW8260B**		Analysis Date: **1/15/2009**	SeqNo: **265216**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	17.33	0.500	17.04	0	102	66.9	140	17.9	3.24	20	
Toluene	18.53	0.500	17.04	0	109	76.6	123	19.99	7.58	20	
Surr: Dibromofluoromethane	12.16	0	11.36	0	107	61.2	131	0	0	0	
Surr: 4-Bromofluorobenzene	11.54	0	11.36	0	102	64.1	120	0	0	0	
Surr: Toluene-d8	12.35	0	11.36	0	109	75.1	127	0	0	0	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0901038
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: R18437

Sample ID **MBLK**	SampType: **MBLK**	TestCode: **FERROUS IR**	Units: **mg/L**	Prep Date:		RunNo: **18437**						
Client ID: **ZZZZZ**	Batch ID: **R18437**	TestNo: **SM3500-FE B**		Analysis Date: **1/13/2009**		SeqNo: **265213**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Iron, Ferrous	ND	0.10										

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0901038
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: R18438

Sample ID **MB_R18438**	SampType: **MBLK**	TestCode: **8260B_S**	Units: **µg/Kg**	Prep Date: **1/15/2009**	RunNo: **18438**
Client ID: **ZZZZZ**	Batch ID: **R18438**	TestNo: **SW8260B**		Analysis Date: **1/15/2009**	SeqNo: **265286**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	10									
Ethylbenzene	ND	10									
Toluene	ND	10									
Xylenes, Total	ND	15									
Surr: 4-Bromofluorobenzene	48.96	0	50	0	97.9	55.8	141				
Surr: Dibromofluoromethane	48.61	0	50	0	97.2	59.8	148				
Surr: Toluene-d8	48.58	0	50	0	97.2	55.2	133				

Sample ID **LCS_R18438**	SampType: **LCS**	TestCode: **8260B_S**	Units: **µg/Kg**	Prep Date: **1/15/2009**	RunNo: **18438**
Client ID: **ZZZZZ**	Batch ID: **R18438**	TestNo: **SW8260B**		Analysis Date: **1/15/2009**	SeqNo: **265287**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	50.05	10	50	0	100	66.5	135				
Toluene	48.17	10	50	0	96.3	56.8	134				
Surr: 4-Bromofluorobenzene	49.40	0	50	0	98.8	55.8	141				
Surr: Dibromofluoromethane	48.77	0	50	0	97.5	59.8	148				
Surr: Toluene-d8	44.79	0	50	0	89.6	55.2	133				

Sample ID **LCSD_R18438**	SampType: **LCSD**	TestCode: **8260B_S**	Units: **µg/Kg**	Prep Date: **1/15/2009**	RunNo: **18438**
Client ID: **ZZZZZ**	Batch ID: **R18438**	TestNo: **SW8260B**		Analysis Date: **1/15/2009**	SeqNo: **265288**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	52.64	10	50	0	105	66.5	135	50.05	5.04	30	
Toluene	52.88	10	50	0	106	56.8	134	48.17	9.32	30	
Surr: 4-Bromofluorobenzene	50.61	0	50	0	101	55.8	141	0	0	0	
Surr: Dibromofluoromethane	49.75	0	50	0	99.5	59.8	148	0	0	0	
Surr: Toluene-d8	46.87	0	50	0	93.7	55.2	133	0	0	0	

Qualifiers:
E Value above quantitation range
H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0901038
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: R18438

Sample ID **0901038-006A MS**	SampType: **MS**	TestCode: **8260B_S_PE**	Units: **µg/Kg**	Prep Date: **1/16/2009**	RunNo: **18438**
Client ID: **PS-1A-10**	Batch ID: **R18438**	TestNo: **SW8260B**		Analysis Date: **1/16/2009**	SeqNo: **265372**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.28	10	50	0	80.6	66.5	135				
Toluene	38.78	10	50	0	77.6	56.8	134				
Surr: 4-Bromofluorobenzene	56.26	0	50	0	113	55.8	141				
Surr: Dibromofluoromethane	53.25	0	50	0	106	59.8	148				
Surr: Toluene-d8	44.41	0	50	0	88.8	55.2	133				

Sample ID **0901038-006A MSD**	SampType: **MSD**	TestCode: **8260B_S_PE**	Units: **µg/Kg**	Prep Date: **1/16/2009**	RunNo: **18438**
Client ID: **PS-1A-10**	Batch ID: **R18438**	TestNo: **SW8260B**		Analysis Date: **1/16/2009**	SeqNo: **265373**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	42.16	10	50	0	84.3	66.5	135	40.28	4.56	30	
Toluene	41.69	10	50	0	83.4	56.8	134	38.78	7.23	30	
Surr: 4-Bromofluorobenzene	56.20	0	50	0	112	55.8	141	0	0	0	
Surr: Dibromofluoromethane	54.98	0	50	0	110	59.8	148	0	0	0	
Surr: Toluene-d8	45.32	0	50	0	90.6	55.2	133	0	0	0	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0901038
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: R18444

Sample ID **MBLK**	SampType: **MBLK**	TestCode: **TOC_W**	Units: **mg/L**	Prep Date:	RunNo: **18444**
Client ID: **ZZZZZ**	Batch ID: **R18444**	TestNo: **E415.1**		Analysis Date: **1/16/2009**	SeqNo: **265382**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	0.50									

Sample ID **LCS**	SampType: **LCS**	TestCode: **TOC_W**	Units: **mg/L**	Prep Date:	RunNo: **18444**
Client ID: **ZZZZZ**	Batch ID: **R18444**	TestNo: **E415.1**		Analysis Date: **1/16/2009**	SeqNo: **265380**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	10.49	0.50	10	0.032	105	80	120				

Sample ID **LCSD**	SampType: **LCSD**	TestCode: **TOC_W**	Units: **mg/L**	Prep Date:	RunNo: **18444**
Client ID: **ZZZZZ**	Batch ID: **R18444**	TestNo: **E415.1**		Analysis Date: **1/16/2009**	SeqNo: **265381**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	10.86	0.50	10	0.032	108	80	120	10.49	3.47	20	

Sample ID **0901038-001AMS**	SampType: **MS**	TestCode: **TOC_W**	Units: **mg/L**	Prep Date:	RunNo: **18444**
Client ID: **MW-1**	Batch ID: **R18444**	TestNo: **E415.1**		Analysis Date: **1/16/2009**	SeqNo: **265376**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	20.65	0.50	10	10.73	99.2	75	125				

Sample ID **0901038-001AMSD**	SampType: **MSD**	TestCode: **TOC_W**	Units: **mg/L**	Prep Date:	RunNo: **18444**
Client ID: **MW-1**	Batch ID: **R18444**	TestNo: **E415.1**		Analysis Date: **1/16/2009**	SeqNo: **265377**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	21.34	0.50	10	10.73	106	75	125	20.65	3.29	20	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0901038
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: R18445

Sample ID **MBLK** SampType: **MBLK** TestCode: **Alk_ (SM2320** Units: **mg/L CaCO3** Prep Date: RunNo: **18445**
Client ID: **ZZZZZ** Batch ID: **R18445** TestNo: **SM2320 B** Analysis Date: **1/15/2009** SeqNo: **265399**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate	2.000	2.0									
Alkalinity, Carbonate	ND	2.0									
Alkalinity, Hydroxide	ND	2.0									
Alkalinity, Total as CaCO3	2.000	2.0									

Qualifiers:
E Value above quantitation range
H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0901038
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: R18446

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
MBLK	**MBLK**	**CR(VI)_W_LL**	**µg/L**	**1/13/2009**	**18446**
Client ID: **ZZZZZ**	Batch ID: **R18446**	TestNo: **SW7199**		Analysis Date: **1/13/2009**	SeqNo: **265411**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	0.50									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
LCS	**LCS**	**CR(VI)_W_LL**	**µg/L**	**1/13/2009**	**18446**
Client ID: **ZZZZZ**	Batch ID: **R18446**	TestNo: **SW7199**		Analysis Date: **1/13/2009**	SeqNo: **265409**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	10.06	0.50	10	0	101	85	115				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
LCSD	**LCSD**	**CR(VI)_W_LL**	**µg/L**	**1/13/2009**	**18446**
Client ID: **ZZZZZ**	Batch ID: **R18446**	TestNo: **SW7199**		Analysis Date: **1/13/2009**	SeqNo: **265410**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	10.07	0.50	10	0	101	85	115	10.06	0.0695	20	

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
0901038-001AMS	**MS**	**CR(VI)_W_LL**	**µg/L**	**1/13/2009**	**18446**
Client ID: **MW-1**	Batch ID: **R18446**	TestNo: **SW7199**		Analysis Date: **1/13/2009**	SeqNo: **265401**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	96.52	5.0	100	0	96.5	85	115				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
0901038-001AMSD	**MSD**	**CR(VI)_W_LL**	**µg/L**	**1/13/2009**	**18446**
Client ID: **MW-1**	Batch ID: **R18446**	TestNo: **SW7199**		Analysis Date: **1/13/2009**	SeqNo: **265402**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	95.21	5.0	100	0	95.2	85	115	96.52	1.37	20	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0901038
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: R18458

Sample ID	WD090114A-MB	SampType:	MBLK	TestCode:	TPHD_W	Units:	mg/L	Prep Date:	1/14/2009	RunNo:	18458
Client ID:	ZZZZZ	Batch ID:	R18458	TestNo:	SW8015B			Analysis Date:	1/16/2009	SeqNo:	265545

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Diesel)	ND	0.100									
Surr: Pentacosane	0.1230	0	0.1	0	123	57.9	125				

Sample ID	WD090114A-LCS	SampType:	LCS	TestCode:	TPHD_W	Units:	mg/L	Prep Date:	1/14/2009	RunNo:	18458
Client ID:	ZZZZZ	Batch ID:	R18458	TestNo:	SW8015B			Analysis Date:	1/16/2009	SeqNo:	265546

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Diesel)	0.6820	0.100	1	0	68.2	50.3	125				
Surr: Pentacosane	0.1640	0	0.2	0	82.0	57.9	125				

Sample ID	WD090114A-LCSD	SampType:	LCSD	TestCode:	TPHD_W	Units:	mg/L	Prep Date:	1/14/2009	RunNo:	18458
Client ID:	ZZZZZ	Batch ID:	R18458	TestNo:	SW8015B			Analysis Date:	1/16/2009	SeqNo:	265547

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Diesel)	0.6260	0.100	1	0	62.6	50.3	125	0.682	8.56	30	
Surr: Pentacosane	0.07800	0	0.1	0	78.0	57.9	125	0	0	0	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0901038
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: R18463

Sample ID **MB_R18463**	SampType: **MBLK**	TestCode: **8260B_S**	Units: **µg/Kg**	Prep Date: **1/19/2009**	RunNo: **18463**
Client ID: **ZZZZZ**	Batch ID: **R18463**	TestNo: **SW8260B**		Analysis Date: **1/19/2009**	SeqNo: **265606**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	10									
Ethylbenzene	ND	10									
Toluene	ND	10									
Xylenes, Total	ND	15									
Surr: 4-Bromofluorobenzene	52.34	0	50	0	105	55.8	141				
Surr: Dibromofluoromethane	51.26	0	50	0	103	59.8	148				
Surr: Toluene-d8	44.68	0	50	0	89.4	55.2	133				

Sample ID **LCS_R18463**	SampType: **LCS**	TestCode: **8260B_S**	Units: **µg/Kg**	Prep Date: **1/19/2009**	RunNo: **18463**
Client ID: **ZZZZZ**	Batch ID: **R18463**	TestNo: **SW8260B**		Analysis Date: **1/19/2009**	SeqNo: **265607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	48.65	10	50	0	97.3	66.5	135				
Toluene	47.94	10	50	0	95.9	56.8	134				
Surr: 4-Bromofluorobenzene	50.56	0	50	0	101	55.8	141				
Surr: Dibromofluoromethane	50.55	0	50	0	101	59.8	148				
Surr: Toluene-d8	43.01	0	50	0	86.0	55.2	133				

Sample ID **LCSD_R18463**	SampType: **LCSD**	TestCode: **8260B_S**	Units: **µg/Kg**	Prep Date: **1/19/2009**	RunNo: **18463**
Client ID: **ZZZZZ**	Batch ID: **R18463**	TestNo: **SW8260B**		Analysis Date: **1/19/2009**	SeqNo: **265608**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	47.59	10	50	0	95.2	66.5	135	48.65	2.20	30	
Toluene	49.94	10	50	0	99.9	56.8	134	47.94	4.09	30	
Surr: 4-Bromofluorobenzene	49.00	0	50	0	98.0	55.8	141	0	0	0	
Surr: Dibromofluoromethane	49.82	0	50	0	99.6	59.8	148	0	0	0	
Surr: Toluene-d8	47.05	0	50	0	94.1	55.2	133	0	0	0	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

KLEINFELDER
Bright People. Right Solutions.

0901038

PROJECT NO.	PROJECT NAME
54504	Ind Rd

L.P. NO. (PO. NO.)	SAMPLERS: (Signature/Number)
	JGravesen

RECEIVING LAB: Torrent

INSTRUCTIONS/REMARKS: Std TAT

		DATE MM/DD/YY	SAMPLE I.D. TIME HH-MM-SS	SAMPLE I.D.	MATRIX	NO. OF CON-TAINERS	TYPE OF CON-TAINERS	TPH g 8021B	BTEX 8015M	TPH d 8015M	Metals 200.7 see list*	Ions 200.7 see list*	Dissolved ferrous Iron 200.7	Alkalinity as Calcium Carbonate SM2320B	TDS 160.1	TOC 415.3
001A	1	1/12/09	1540	MW-1	Wtr	9	assorted	X	X	X	X	X	X	X	X	X
002A	2		1630	MW-2				X	X	X	X	X	X	X	X	X
003A	3		1700	MW-3				X	X	X	X	X	X	X	X	X
004A	4		1245	PS-2A-10	Soil	1	tube	X	X	X						
005A	5		1310	PS-2A-20				X	X	X						
006A	6		1415	PS-1A-10				X	X	X						
007A	7		1445	PS-1A-20				X	X	X						
	8															
	9															
	10															
	11															
	12															
	13															
	14															
	15															
	16															
	17															
	18															
	19															
	20															

*metals: Arsenic, barium, cadmium, total Chrom, Chrom IV, Copper, Iron, lead, selenium

*Ions: sodium, potassium, calcium, magnesium, iron

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	1/13 | 11:52	
	1/13 | 12:18	12:18pm 1/13/09
		Received for Laboratory by: (Signature)

Instructions/Remarks: email to
SDrugan@kleinfelder.com
CAlmestad@kleinfelder.com

Send Results To:
Kleinfelder
1970 Broadway Suite # 710
Oakland Ca 94612
Attn: ~~Courtney~~ Charlie Almestad

ENV-02 REV 05/08) Hispeed

White – Sampler | Canary – Return Copy To Shipper | Pink – Lab Copy

CHAIN OF CUSTODY

COC № 11537

Torrent
LABORATORY, INC.

December 10, 2008

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

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

RE: 54504

Order No.: 0812012

Dear Charlie Almestad:

Torrent Laboratory, Inc. received 6 samples on 12/2/2008 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,

Laboratory Director

12/10/08
Date

Patti Sandrock
QA Officer

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: 12/2/2008
Date Reported: 12/10/2008

Client Sample ID: MW-1
Sample Location: Independent Road
Sample Matrix: WATER
Date/Time Sampled 12/1/2008 3:50:00 PM

Lab Sample ID: 0812012-001
Date Prepared: 11/3/2008-12/4/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Total Dissolved Solids (Residue, Filterable)	E160.1	12/4/2008	10	1	10	14000	mg/L	R18068
Arsenic	E200.7	12/5/2008	0.01	1	0.010	ND	mg/L	4792
Barium	E200.7	12/5/2008	0.01	1	0.010	0.098	mg/L	4792
Cadmium	E200.7	12/5/2008	0.005	1	0.0050	ND	mg/L	4792
Calcium	E200.7	12/5/2008	0.1	1	0.10	100	mg/L	4792
Chromium	E200.7	12/5/2008	0.005	1	0.0050	ND	mg/L	4792
Copper	E200.7	12/5/2008	0.01	1	0.010	ND	mg/L	4792
Iron	E200.7	12/5/2008	0.05	1	0.050	2.2	mg/L	4792
Lead	E200.7	12/5/2008	0.005	1	0.0050	ND	mg/L	4792
Magnesium	E200.7	12/5/2008	0.05	1	0.050	210	mg/L	4792
Potassium	E200.7	12/5/2008	1	1	1.0	34	mg/L	4792
Selenium	E200.7	12/5/2008	0.01	1	0.010	ND	mg/L	4792
Sodium	E200.7	12/5/2008	0.2	100	20	5700	mg/L	4792
Total Organic Carbon	E415.1	12/3/2008	0.5	1	0.50	8.7	mg/L	R18050
Alkalinity, Total as CaCO3	SM2320 B	12/8/2008	2	1	2.0	1100	mg/L CaCO3	R18083
Iron, Ferrous	SM3500-FE B	12/3/2008	0.1	1	0.10	ND	mg/L	R18066
Chromium, Hexavalent	SW7199	12/3/2008	0.5	5	2.5	ND	µg/L	R18075
TPH (Diesel-SG)	SW8015B	12/8/2008	0.1	1	0.100	0.484x	mg/L	R18092
Surr: Pentacosane	SW8015B	12/8/2008	0	1	64.2-123	110	%REC	R18092

Note:x-Sample chromatogram does not resemble typical diesel pattern (possibly fuel lighter than diesel). Hydrocarbons within the diesel range quantitated as diesel.

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 12/2/2008
Date Reported: 12/10/2008

Client Sample ID: MW-1
Sample Location: Independent Road
Sample Matrix: WATER
Date/Time Sampled 12/1/2008 3:50:00 PM

Lab Sample ID: 0812012-001
Date Prepared: 11/3/2008-12/4/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
1,1,1,2-Tetrachloroethane	SW8260B	12/5/2008	1	8.8	8.80	ND	µg/L	R18076
1,1,1-Trichloroethane	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
1,1,2,2-Tetrachloroethane	SW8260B	12/5/2008	1	8.8	8.80	ND	µg/L	R18076
1,1,2-Trichloroethane	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
1,1-Dichloroethane	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
1,1-Dichloroethene	SW8260B	12/5/2008	1	8.8	8.80	ND	µg/L	R18076
1,1-Dichloropropene	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
1,2,3-Trichlorobenzene	SW8260B	12/5/2008	1	8.8	8.80	ND	µg/L	R18076
1,2,3-Trichloropropane	SW8260B	12/5/2008	1	8.8	8.80	ND	µg/L	R18076
1,2,4-Trichlorobenzene	SW8260B	12/5/2008	1	8.8	8.80	ND	µg/L	R18076
1,2,4-Trimethylbenzene	SW8260B	12/5/2008	0.5	8.8	4.40	501	µg/L	R18076
1,2-Dibromo-3-chloropropane	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
1,2-Dibromoethane (EDB)	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
1,2-Dichlorobenzene	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
1,2-Dichloroethane (EDC)	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
1,2-Dichloropropane	SW8260B	12/5/2008	1	8.8	8.80	ND	µg/L	R18076
1,3,5-Trimethylbenzene	SW8260B	12/5/2008	0.5	8.8	4.40	35.1	µg/L	R18076
1,3-Dichlorobenzene	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
1,3-Dichloropropene	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
1,4-Dichlorobenzene	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
2,2-Dichloropropane	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
2-Chloroethyl vinyl ether	SW8260B	12/5/2008	1	8.8	8.80	ND	µg/L	R18076
2-Chlorotoluene	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
4-Chlorotoluene	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
4-Isopropyltoluene	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
Acetone	SW8260B	12/5/2008	10	8.8	88.0	ND	µg/L	R18076
Benzene	SW8260B	12/5/2008	0.5	8.8	4.40	295	µg/L	R18076
Bromobenzene	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
Bromochloromethane	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
Bromodichloromethane	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
Bromoform	SW8260B	12/5/2008	1	8.8	8.80	ND	µg/L	R18076
Bromomethane	SW8260B	12/5/2008	1	8.8	8.80	ND	µg/L	R18076
Carbon tetrachloride	SW8260B	12/5/2008	1	8.8	8.80	ND	µg/L	R18076
Chlorobenzene	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
Chloroform	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
Chloromethane	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
cis-1,2-Dichloroethene	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
cis-1,3-Dichloropropene	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
Dibromochloromethane	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
Dibromomethane	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
Dichlorodifluoromethane	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
Diisopropyl ether (DIPE)	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
Ethyl tert-butyl ether (ETBE)	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 12/2/2008
Date Reported: 12/10/2008

Client Sample ID: MW-1
Sample Location: Independent Road
Sample Matrix: WATER
Date/Time Sampled 12/1/2008 3:50:00 PM

Lab Sample ID: 0812012-001
Date Prepared: 11/3/2008-12/4/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Ethylbenzene	SW8260B	12/5/2008	0.5	8.8	4.40	137	µg/L	R18076
Freon-113	SW8260B	12/5/2008	1	8.8	8.80	ND	µg/L	R18076
Hexachlorobutadiene	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
Isopropylbenzene	SW8260B	12/5/2008	1	8.8	8.80	36.7	µg/L	R18076
Methyl tert-butyl ether (MTBE)	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
Methylene chloride	SW8260B	12/5/2008	5	8.8	44.0	ND	µg/L	R18076
Naphthalene	SW8260B	12/5/2008	1	8.8	8.80	298	µg/L	R18076
n-Butylbenzene	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
n-Propylbenzene	SW8260B	12/5/2008	0.5	8.8	4.40	88.4	µg/L	R18076
sec-Butylbenzene	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
Styrene	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
t-Butyl alcohol (t-Butanol)	SW8260B	12/5/2008	5	8.8	44.0	ND	µg/L	R18076
tert-Amyl methyl ether (TAME)	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
tert-Butylbenzene	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
Tetrachloroethene	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
Toluene	SW8260B	12/5/2008	0.5	8.8	4.40	27.1	µg/L	R18076
trans-1,2-Dichloroethene	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
trans-1,3-Dichloropropene	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
Trichloroethene	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
Trichlorofluoromethane	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
Vinyl chloride	SW8260B	12/5/2008	0.5	8.8	4.40	ND	µg/L	R18076
Xylenes, Total	SW8260B	12/5/2008	1.5	8.8	13.2	218	µg/L	R18076
Surr: Dibromofluoromethane	SW8260B	12/5/2008	0	8.8	61.2-131	90.0	%REC	R18076
Surr: 4-Bromofluorobenzene	SW8260B	12/5/2008	0	8.8	64.1-120	101	%REC	R18076
Surr: Toluene-d8	SW8260B	12/5/2008	0	8.8	75.1-127	95.4	%REC	R18076
TPH (Gasoline)	SW8260B(TPH)	12/5/2008	50	8.8	440	2900	µg/L	G18076
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	12/5/2008	0	8.8	58.4-133	58.7	%REC	G18076

Note: Although TPH as Gasoline is present, result is elevated due to presence of non-target compounds within range of C5-C12 quantified as Gasoline.

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 12/2/2008
Date Reported: 12/10/2008

Client Sample ID: MW-2
Sample Location: Independent Road
Sample Matrix: WATER
Date/Time Sampled 12/2/2008 1:30:00 PM

Lab Sample ID: 0812012-002
Date Prepared: 11/3/2008-12/4/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Total Dissolved Solids (Residue, Filterable)	E160.1	12/4/2008	10	1	10	17000	mg/L	R18068
Arsenic	E200.7	12/5/2008	0.01	1	0.010	0.031	mg/L	4792
Barium	E200.7	12/5/2008	0.01	1	0.010	0.13	mg/L	4792
Cadmium	E200.7	12/5/2008	0.005	1	0.0050	ND	mg/L	4792
Calcium	E200.7	12/5/2008	0.1	1	0.10	220	mg/L	4792
Chromium	E200.7	12/5/2008	0.005	1	0.0050	0.045	mg/L	4792
Copper	E200.7	12/5/2008	0.01	1	0.010	0.13	mg/L	4792
Iron	E200.7	12/5/2008	0.05	1	0.050	29	mg/L	4792
Lead	E200.7	12/5/2008	0.005	1	0.0050	0.020	mg/L	4792
Magnesium	E200.7	12/5/2008	0.05	1	0.050	300	mg/L	4792
Potassium	E200.7	12/5/2008	1	1	1.0	18	mg/L	4792
Selenium	E200.7	12/5/2008	0.01	1	0.010	ND	mg/L	4792
Sodium	E200.7	12/5/2008	0.2	100	20	7100	mg/L	4792
Total Organic Carbon	E415.1	12/3/2008	0.5	10	5.0	540	mg/L	R18050
Alkalinity, Total as CaCO3	SM2320 B	12/8/2008	2	1	2.0	1800	mg/L CaCO3	R18083
Iron, Ferrous	SM3500-FE B	12/3/2008	0.1	1	0.10	2.9	mg/L	R18066
Chromium, Hexavalent	SW7199	12/3/2008	0.5	5	2.5	ND	µg/L	R18075
TPH (Diesel-SG)	SW8015B	12/8/2008	0.1	1	0.100	0.965x	mg/L	R18092
Surr: Pentacosane	SW8015B	12/8/2008	0	1	64.2-123	87.0	%REC	R18092

Note:x-Sample chromatogram does not resemble typical diesel pattern (possibly fuel lighter than diesel). Hydrocarbons within the diesel range quantitated as diesel.

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 12/2/2008
Date Reported: 12/10/2008

Client Sample ID: MW-2
Sample Location: Independent Road
Sample Matrix: WATER
Date/Time Sampled 12/2/2008 1:30:00 PM

Lab Sample ID: 0812012-002
Date Prepared: 11/3/2008-12/4/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
1,1,1,2-Tetrachloroethane	SW8260B	12/5/2008	1	88	88.0	ND	µg/L	R18076
1,1,1-Trichloroethane	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
1,1,2,2-Tetrachloroethane	SW8260B	12/5/2008	1	88	88.0	ND	µg/L	R18076
1,1,2-Trichloroethane	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
1,1-Dichloroethane	SW8260B	12/5/2008	0.5	88	44.0	46.6	µg/L	R18076
1,1-Dichloroethene	SW8260B	12/5/2008	1	88	88.0	ND	µg/L	R18076
1,1-Dichloropropene	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
1,2,3-Trichlorobenzene	SW8260B	12/5/2008	1	88	88.0	ND	µg/L	R18076
1,2,3-Trichloropropane	SW8260B	12/5/2008	1	88	88.0	ND	µg/L	R18076
1,2,4-Trichlorobenzene	SW8260B	12/5/2008	1	88	88.0	ND	µg/L	R18076
1,2,4-Trimethylbenzene	SW8260B	12/5/2008	0.5	88	44.0	1200	µg/L	R18076
1,2-Dibromo-3-chloropropane	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
1,2-Dibromoethane (EDB)	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
1,2-Dichlorobenzene	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
1,2-Dichloroethane (EDC)	SW8260B	12/5/2008	0.5	88	44.0	468	µg/L	R18076
1,2-Dichloropropane	SW8260B	12/5/2008	1	88	88.0	ND	µg/L	R18076
1,3,5-Trimethylbenzene	SW8260B	12/5/2008	0.5	88	44.0	66.9	µg/L	R18076
1,3-Dichlorobenzene	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
1,3-Dichloropropene	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
1,4-Dichlorobenzene	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
2,2-Dichloropropane	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
2-Chloroethyl vinyl ether	SW8260B	12/5/2008	1	88	88.0	ND	µg/L	R18076
2-Chlorotoluene	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
4-Chlorotoluene	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
4-Isopropyltoluene	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
Acetone	SW8260B	12/5/2008	10	88	880	ND	µg/L	R18076
Benzene	SW8260B	12/5/2008	0.5	220	110	20500	µg/L	R18076
Bromobenzene	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
Bromochloromethane	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
Bromodichloromethane	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
Bromoform	SW8260B	12/5/2008	1	88	88.0	ND	µg/L	R18076
Bromomethane	SW8260B	12/5/2008	1	88	88.0	ND	µg/L	R18076
Carbon tetrachloride	SW8260B	12/5/2008	1	88	88.0	ND	µg/L	R18076
Chlorobenzene	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
Chloroform	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
Chloromethane	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
cis-1,2-Dichloroethene	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
cis-1,3-Dichloropropene	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
Dibromochloromethane	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
Dibromomethane	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
Dichlorodifluoromethane	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
Diisopropyl ether (DIPE)	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
Ethyl tert-butyl ether (ETBE)	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 12/2/2008
Date Reported: 12/10/2008

Client Sample ID: MW-2
Sample Location: Independent Road
Sample Matrix: WATER
Date/Time Sampled 12/2/2008 1:30:00 PM

Lab Sample ID: 0812012-002
Date Prepared: 11/3/2008-12/4/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Ethylbenzene	SW8260B	12/5/2008	0.5	88	44.0	1240	µg/L	R18076
Freon-113	SW8260B	12/5/2008	1	88	88.0	ND	µg/L	R18076
Hexachlorobutadiene	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
Isopropylbenzene	SW8260B	12/5/2008	1	88	88.0	ND	µg/L	R18076
Methyl tert-butyl ether (MTBE)	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
Methylene chloride	SW8260B	12/5/2008	5	88	440	ND	µg/L	R18076
Naphthalene	SW8260B	12/5/2008	1	88	88.0	196	µg/L	R18076
n-Butylbenzene	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
n-Propylbenzene	SW8260B	12/5/2008	0.5	88	44.0	125	µg/L	R18076
sec-Butylbenzene	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
Styrene	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
t-Butyl alcohol (t-Butanol)	SW8260B	12/5/2008	5	88	440	ND	µg/L	R18076
tert-Amyl methyl ether (TAME)	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
tert-Butylbenzene	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
Tetrachloroethene	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
Toluene	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
trans-1,2-Dichloroethene	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
trans-1,3-Dichloropropene	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
Trichloroethene	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
Trichlorofluoromethane	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
Vinyl chloride	SW8260B	12/5/2008	0.5	88	44.0	ND	µg/L	R18076
Xylenes, Total	SW8260B	12/5/2008	1.5	88	132	1180	µg/L	R18076
Surr: Dibromofluoromethane	SW8260B	12/5/2008	0	88	61.2-131	99.3	%REC	R18076
Surr: Dibromofluoromethane	SW8260B	12/5/2008	0	220	61.2-131	102	%REC	R18076
Surr: 4-Bromofluorobenzene	SW8260B	12/5/2008	0	88	64.1-120	97.0	%REC	R18076
Surr: 4-Bromofluorobenzene	SW8260B	12/5/2008	0	220	64.1-120	98.6	%REC	R18076
Surr: Toluene-d8	SW8260B	12/5/2008	0	88	75.1-127	83.3	%REC	R18076
Surr: Toluene-d8	SW8260B	12/5/2008	0	220	75.1-127	96.7	%REC	R18076
TPH (Gasoline)	SW8260B(TPH)	12/5/2008	50	88	4400	53000	µg/L	G18076
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	12/5/2008	0	88	58.4-133	93.4	%REC	G18076

Note: Although TPH as gasoline compounds are present, TPH value mostly due to a individiual peak (benzene) within range of C5-C12 quantified as gasoline.

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 12/2/2008
Date Reported: 12/10/2008

Client Sample ID: MW-3
Sample Location: Independent Road
Sample Matrix: WATER
Date/Time Sampled 12/2/2008 12:10:00 PM

Lab Sample ID: 0812012-003
Date Prepared: 11/3/2008-12/4/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Total Dissolved Solids (Residue, Filterable)	E160.1	12/4/2008	10	1	10	7700	mg/L	R18068
Arsenic	E200.7	12/5/2008	0.01	1	0.010	ND	mg/L	4792
Barium	E200.7	12/5/2008	0.01	1	0.010	0.14	mg/L	4792
Cadmium	E200.7	12/5/2008	0.005	1	0.0050	ND	mg/L	4792
Calcium	E200.7	12/5/2008	0.1	1	0.10	110	mg/L	4792
Chromium	E200.7	12/5/2008	0.005	1	0.0050	0.057	mg/L	4792
Copper	E200.7	12/5/2008	0.01	1	0.010	0.11	mg/L	4792
Iron	E200.7	12/5/2008	0.05	1	0.050	39	mg/L	4792
Lead	E200.7	12/5/2008	0.005	1	0.0050	0.0060	mg/L	4792
Magnesium	E200.7	12/5/2008	0.05	1	0.050	120	mg/L	4792
Potassium	E200.7	12/5/2008	1	1	1.0	10	mg/L	4792
Selenium	E200.7	12/5/2008	0.01	1	0.010	ND	mg/L	4792
Sodium	E200.7	12/5/2008	0.2	100	20	3300	mg/L	4792
Total Organic Carbon	E415.1	12/3/2008	0.5	1	0.50	16	mg/L	R18050
Alkalinity, Total as CaCO3	SM2320 B	12/8/2008	2	1	2.0	2000	mg/L CaCO3	R18083
Iron, Ferrous	SM3500-FE B	12/3/2008	0.1	1	0.10	ND	mg/L	R18066
Chromium, Hexavalent	SW7199	12/3/2008	0.5	5	2.5	ND	µg/L	R18075
TPH (Diesel-SG)	SW8015B	12/8/2008	0.1	1	0.100	ND	mg/L	R18092
Surr: Pentacosane	SW8015B	12/8/2008	0	1	64.2-123	107	%REC	R18092

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 12/2/2008
Date Reported: 12/10/2008

Client Sample ID: MW-3
Sample Location: Independent Road
Sample Matrix: WATER
Date/Time Sampled 12/2/2008 12:10:00 PM

Lab Sample ID: 0812012-003
Date Prepared: 11/3/2008-12/4/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
1,1,1,2-Tetrachloroethane	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
1,1,1-Trichloroethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,1,2,2-Tetrachloroethane	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
1,1,2-Trichloroethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,1-Dichloroethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,1-Dichloroethene	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
1,1-Dichloropropene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,2,3-Trichlorobenzene	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
1,2,3-Trichloropropane	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
1,2,4-Trichlorobenzene	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
1,2,4-Trimethylbenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,2-Dibromo-3-chloropropane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,2-Dibromoethane (EDB)	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,2-Dichlorobenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,2-Dichloroethane (EDC)	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,2-Dichloropropane	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
1,3,5-Trimethylbenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,3-Dichlorobenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,3-Dichloropropene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,4-Dichlorobenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
2,2-Dichloropropane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
2-Chloroethyl vinyl ether	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
2-Chlorotoluene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
4-Chlorotoluene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
4-Isopropyltoluene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Acetone	SW8260B	12/5/2008	10	1	10.0	ND	µg/L	R18076
Benzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Bromobenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Bromochloromethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Bromodichloromethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Bromoform	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
Bromomethane	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
Carbon tetrachloride	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
Chlorobenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Chloroform	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Chloromethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
cis-1,2-Dichloroethene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
cis-1,3-Dichloropropene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Dibromochloromethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Dibromomethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Dichlorodifluoromethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Diisopropyl ether (DIPE)	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Ethyl tert-butyl ether (ETBE)	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 12/2/2008
Date Reported: 12/10/2008

Client Sample ID: MW-3
Sample Location: Independent Road
Sample Matrix: WATER
Date/Time Sampled 12/2/2008 12:10:00 PM

Lab Sample ID: 0812012-003
Date Prepared: 11/3/2008-12/4/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Ethylbenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Freon-113	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
Hexachlorobutadiene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Isopropylbenzene	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
Methyl tert-butyl ether (MTBE)	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Methylene chloride	SW8260B	12/5/2008	5	1	5.00	ND	µg/L	R18076
Naphthalene	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
n-Butylbenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
n-Propylbenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
sec-Butylbenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Styrene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
t-Butyl alcohol (t-Butanol)	SW8260B	12/5/2008	5	1	5.00	ND	µg/L	R18076
tert-Amyl methyl ether (TAME)	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
tert-Butylbenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Tetrachloroethene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Toluene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
trans-1,2-Dichloroethene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
trans-1,3-Dichloropropene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Trichloroethene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Trichlorofluoromethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Vinyl chloride	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Xylenes, Total	SW8260B	12/5/2008	1.5	1	1.50	ND	µg/L	R18076
Surr: Dibromofluoromethane	SW8260B	12/5/2008	0	1	61.2-131	98.3	%REC	R18076
Surr: 4-Bromofluorobenzene	SW8260B	12/5/2008	0	1	64.1-120	93.5	%REC	R18076
Surr: Toluene-d8	SW8260B	12/5/2008	0	1	75.1-127	88.9	%REC	R18076
TPH (Gasoline)	SW8260B(TPH)	12/5/2008	50	1	50	ND	µg/L	G18076
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	12/5/2008	0	1	58.4-133	73.7	%REC	G18076

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 12/2/2008
Date Reported: 12/10/2008

Client Sample ID: MW-4
Sample Location: Independent Road
Sample Matrix: WATER
Date/Time Sampled 12/1/2008 2:30:00 PM

Lab Sample ID: 0812012-004
Date Prepared: 12/5/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
TPH (Diesel-SG)	SW8015B	12/8/2008	0.1	1	0.100	ND	mg/L	R18092
Surr: Pentacosane	SW8015B	12/8/2008	0	1	64.2-123	105	%REC	R18092

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 12/2/2008
Date Reported: 12/10/2008

Client Sample ID: MW-4
Sample Location: Independent Road
Sample Matrix: WATER
Date/Time Sampled 12/1/2008 2:30:00 PM

Lab Sample ID: 0812012-004
Date Prepared: 12/5/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
1,1,1,2-Tetrachloroethane	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
1,1,1-Trichloroethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,1,2,2-Tetrachloroethane	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
1,1,2-Trichloroethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,1-Dichloroethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,1-Dichloroethene	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
1,1-Dichloropropene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,2,3-Trichlorobenzene	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
1,2,3-Trichloropropane	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
1,2,4-Trichlorobenzene	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
1,2,4-Trimethylbenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,2-Dibromo-3-chloropropane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,2-Dibromoethane (EDB)	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,2-Dichlorobenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,2-Dichloroethane (EDC)	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,2-Dichloropropane	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
1,3,5-Trimethylbenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,3-Dichlorobenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,3-Dichloropropene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,4-Dichlorobenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
2,2-Dichloropropane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
2-Chloroethyl vinyl ether	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
2-Chlorotoluene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
4-Chlorotoluene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
4-Isopropyltoluene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Acetone	SW8260B	12/5/2008	10	1	10.0	ND	µg/L	R18076
Benzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Bromobenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Bromochloromethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Bromodichloromethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Bromoform	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
Bromomethane	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
Carbon tetrachloride	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
Chlorobenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Chloroform	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Chloromethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
cis-1,2-Dichloroethene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
cis-1,3-Dichloropropene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Dibromochloromethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Dibromomethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Dichlorodifluoromethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Diisopropyl ether (DIPE)	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Ethyl tert-butyl ether (ETBE)	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 12/2/2008
Date Reported: 12/10/2008

Client Sample ID: MW-4
Sample Location: Independent Road
Sample Matrix: WATER
Date/Time Sampled 12/1/2008 2:30:00 PM

Lab Sample ID: 0812012-004
Date Prepared: 12/5/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Ethylbenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Freon-113	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
Hexachlorobutadiene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Isopropylbenzene	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
Methyl tert-butyl ether (MTBE)	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Methylene chloride	SW8260B	12/5/2008	5	1	5.00	ND	µg/L	R18076
Naphthalene	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
n-Butylbenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
n-Propylbenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
sec-Butylbenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Styrene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
t-Butyl alcohol (t-Butanol)	SW8260B	12/5/2008	5	1	5.00	ND	µg/L	R18076
tert-Amyl methyl ether (TAME)	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
tert-Butylbenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Tetrachloroethene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Toluene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
trans-1,2-Dichloroethene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
trans-1,3-Dichloropropene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Trichloroethene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Trichlorofluoromethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Vinyl chloride	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Xylenes, Total	SW8260B	12/5/2008	1.5	1	1.50	ND	µg/L	R18076
Surr: Dibromofluoromethane	SW8260B	12/5/2008	0	1	61.2-131	104	%REC	R18076
Surr: 4-Bromofluorobenzene	SW8260B	12/5/2008	0	1	64.1-120	89.8	%REC	R18076
Surr: Toluene-d8	SW8260B	12/5/2008	0	1	75.1-127	88.7	%REC	R18076
TPH (Gasoline)	SW8260B(TPH)	12/5/2008	50	1	50	ND	µg/L	G18076
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	12/5/2008	0	1	58.4-133	90.7	%REC	G18076

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 12/2/2008
Date Reported: 12/10/2008

Client Sample ID: MW-5
Sample Location: Independent Road
Sample Matrix: WATER
Date/Time Sampled 12/1/2008 1:00:00 PM

Lab Sample ID: 0812012-005
Date Prepared: 12/5/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
TPH (Diesel-SG)	SW8015B	12/8/2008	0.1	1	0.100	ND	mg/L	R18092
Surr: Pentacosane	SW8015B	12/8/2008	0	1	64.2-123	116	%REC	R18092

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 12/2/2008
Date Reported: 12/10/2008

Client Sample ID: MW-5
Sample Location: Independent Road
Sample Matrix: WATER
Date/Time Sampled 12/1/2008 1:00:00 PM

Lab Sample ID: 0812012-005
Date Prepared: 12/5/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
1,1,1,2-Tetrachloroethane	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
1,1,1-Trichloroethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,1,2,2-Tetrachloroethane	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
1,1,2-Trichloroethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,1-Dichloroethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,1-Dichloroethene	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
1,1-Dichloropropene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,2,3-Trichlorobenzene	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
1,2,3-Trichloropropane	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
1,2,4-Trichlorobenzene	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
1,2,4-Trimethylbenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,2-Dibromo-3-chloropropane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,2-Dibromoethane (EDB)	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,2-Dichlorobenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,2-Dichloroethane (EDC)	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,2-Dichloropropane	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
1,3,5-Trimethylbenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,3-Dichlorobenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,3-Dichloropropene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
1,4-Dichlorobenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
2,2-Dichloropropane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
2-Chloroethyl vinyl ether	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
2-Chlorotoluene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
4-Chlorotoluene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
4-Isopropyltoluene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Acetone	SW8260B	12/5/2008	10	1	10.0	ND	µg/L	R18076
Benzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Bromobenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Bromochloromethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Bromodichloromethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Bromoform	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
Bromomethane	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
Carbon tetrachloride	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
Chlorobenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Chloroform	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Chloromethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
cis-1,2-Dichloroethene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
cis-1,3-Dichloropropene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Dibromochloromethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Dibromomethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Dichlorodifluoromethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Diisopropyl ether (DIPE)	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Ethyl tert-butyl ether (ETBE)	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 12/2/2008
Date Reported: 12/10/2008

Client Sample ID: MW-5
Sample Location: Independent Road
Sample Matrix: WATER
Date/Time Sampled 12/1/2008 1:00:00 PM

Lab Sample ID: 0812012-005
Date Prepared: 12/5/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Ethylbenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Freon-113	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
Hexachlorobutadiene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Isopropylbenzene	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
Methyl tert-butyl ether (MTBE)	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Methylene chloride	SW8260B	12/5/2008	5	1	5.00	ND	µg/L	R18076
Naphthalene	SW8260B	12/5/2008	1	1	1.00	ND	µg/L	R18076
n-Butylbenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
n-Propylbenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
sec-Butylbenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Styrene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
t-Butyl alcohol (t-Butanol)	SW8260B	12/5/2008	5	1	5.00	ND	µg/L	R18076
tert-Amyl methyl ether (TAME)	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
tert-Butylbenzene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Tetrachloroethene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Toluene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
trans-1,2-Dichloroethene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
trans-1,3-Dichloropropene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Trichloroethene	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Trichlorofluoromethane	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Vinyl chloride	SW8260B	12/5/2008	0.5	1	0.50	ND	µg/L	R18076
Xylenes, Total	SW8260B	12/5/2008	1.5	1	1.50	ND	µg/L	R18076
Surr: Dibromofluoromethane	SW8260B	12/5/2008	0	1	61.2-131	97.9	%REC	R18076
Surr: 4-Bromofluorobenzene	SW8260B	12/5/2008	0	1	64.1-120	87.3	%REC	R18076
Surr: Toluene-d8	SW8260B	12/5/2008	0	1	75.1-127	92.3	%REC	R18076
TPH (Gasoline)	SW8260B(TPH)	12/5/2008	50	1	50	ND	µg/L	G18076
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	12/5/2008	0	1	58.4-133	92.1	%REC	G18076

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 12/2/2008
Date Reported: 12/10/2008

Client Sample ID: MW-DUP
Sample Location: Independent Road
Sample Matrix: WATER
Date/Time Sampled 12/2/2008 1:45:00 PM

Lab Sample ID: 0812012-006
Date Prepared: 12/7/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
TPH (Diesel-SG)	SW8015B	12/8/2008	0.1	1	0.100	0.696x	mg/L	R18092
Surr: Pentacosane	SW8015B	12/8/2008	0	1	64.2-123	68.0	%REC	R18092

Note:x-Sample chromatogram does not resemble typical diesel pattern (possibly fuel lighter than diesel). Hydrocarbons within the diesel range quantitated as diesel.

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 12/2/2008
Date Reported: 12/10/2008

Client Sample ID: MW-DUP
Sample Location: Independent Road
Sample Matrix: WATER
Date/Time Sampled 12/2/2008 1:45:00 PM

Lab Sample ID: 0812012-006
Date Prepared: 12/7/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
1,1,1,2-Tetrachloroethane	SW8260B	12/7/2008	1	88	88.0	ND	µg/L	R18078
1,1,1-Trichloroethane	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
1,1,2,2-Tetrachloroethane	SW8260B	12/7/2008	1	88	88.0	ND	µg/L	R18078
1,1,2-Trichloroethane	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
1,1-Dichloroethane	SW8260B	12/7/2008	0.5	88	44.0	63.4	µg/L	R18078
1,1-Dichloroethene	SW8260B	12/7/2008	1	88	88.0	ND	µg/L	R18078
1,1-Dichloropropene	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
1,2,3-Trichlorobenzene	SW8260B	12/7/2008	1	88	88.0	ND	µg/L	R18078
1,2,3-Trichloropropane	SW8260B	12/7/2008	1	88	88.0	ND	µg/L	R18078
1,2,4-Trichlorobenzene	SW8260B	12/7/2008	1	88	88.0	ND	µg/L	R18078
1,2,4-Trimethylbenzene	SW8260B	12/7/2008	0.5	88	44.0	1280	µg/L	R18078
1,2-Dibromo-3-chloropropane	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
1,2-Dibromoethane (EDB)	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
1,2-Dichlorobenzene	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
1,2-Dichloroethane (EDC)	SW8260B	12/7/2008	0.5	88	44.0	611	µg/L	R18078
1,2-Dichloropropane	SW8260B	12/7/2008	1	88	88.0	ND	µg/L	R18078
1,3,5-Trimethylbenzene	SW8260B	12/7/2008	0.5	88	44.0	77.4	µg/L	R18078
1,3-Dichlorobenzene	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
1,3-Dichloropropene	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
1,4-Dichlorobenzene	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
2,2-Dichloropropane	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
2-Chloroethyl vinyl ether	SW8260B	12/7/2008	1	88	88.0	ND	µg/L	R18078
2-Chlorotoluene	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
4-Chlorotoluene	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
4-Isopropyltoluene	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
Acetone	SW8260B	12/7/2008	10	88	880	ND	µg/L	R18078
Benzene	SW8260B	12/7/2008	0.5	220	110	10300	µg/L	R18078
Bromobenzene	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
Bromochloromethane	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
Bromodichloromethane	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
Bromoform	SW8260B	12/7/2008	1	88	88.0	ND	µg/L	R18078
Bromomethane	SW8260B	12/7/2008	1	88	88.0	ND	µg/L	R18078
Carbon tetrachloride	SW8260B	12/7/2008	1	88	88.0	ND	µg/L	R18078
Chlorobenzene	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
Chloroform	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
Chloromethane	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
cis-1,2-Dichloroethene	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
cis-1,3-Dichloropropene	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
Dibromochloromethane	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
Dibromomethane	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
Dichlorodifluoromethane	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
Diisopropyl ether (DIPE)	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
Ethyl tert-butyl ether (ETBE)	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 12/2/2008
Date Reported: 12/10/2008

Client Sample ID: MW-DUP
Sample Location: Independent Road
Sample Matrix: WATER
Date/Time Sampled 12/2/2008 1:45:00 PM

Lab Sample ID: 0812012-006
Date Prepared: 12/7/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Ethylbenzene	SW8260B	12/7/2008	0.5	88	44.0	1330	µg/L	R18078
Freon-113	SW8260B	12/7/2008	1	88	88.0	ND	µg/L	R18078
Hexachlorobutadiene	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
Isopropylbenzene	SW8260B	12/7/2008	1	88	88.0	ND	µg/L	R18078
Methyl tert-butyl ether (MTBE)	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
Methylene chloride	SW8260B	12/7/2008	5	88	440	ND	µg/L	R18078
Naphthalene	SW8260B	12/7/2008	1	88	88.0	ND	µg/L	R18078
n-Butylbenzene	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
n-Propylbenzene	SW8260B	12/7/2008	0.5	88	44.0	136	µg/L	R18078
sec-Butylbenzene	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
Styrene	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
t-Butyl alcohol (t-Butanol)	SW8260B	12/7/2008	5	88	440	ND	µg/L	R18078
tert-Amyl methyl ether (TAME)	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
tert-Butylbenzene	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
Tetrachloroethene	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
Toluene	SW8260B	12/7/2008	0.5	88	44.0	55.4	µg/L	R18078
trans-1,2-Dichloroethene	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
trans-1,3-Dichloropropene	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
Trichloroethene	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
Trichlorofluoromethane	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
Vinyl chloride	SW8260B	12/7/2008	0.5	88	44.0	ND	µg/L	R18078
Xylenes, Total	SW8260B	12/7/2008	1.5	88	132	1550	µg/L	R18078
Surr: Dibromofluoromethane	SW8260B	12/7/2008	0	88	61.2-131	107	%REC	R18078
Surr: Dibromofluoromethane	SW8260B	12/7/2008	0	220	61.2-131	114	%REC	R18078
Surr: 4-Bromofluorobenzene	SW8260B	12/7/2008	0	88	64.1-120	105	%REC	R18078
Surr: 4-Bromofluorobenzene	SW8260B	12/7/2008	0	220	64.1-120	118	%REC	R18078
Surr: Toluene-d8	SW8260B	12/7/2008	0	88	75.1-127	95.0	%REC	R18078
Surr: Toluene-d8	SW8260B	12/7/2008	0	220	75.1-127	92.7	%REC	R18078
TPH (Gasoline)	SW8260B(TPH)	12/8/2008	50	88	4400	44000	µg/L	G18078
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	12/8/2008	0	88	58.4-133	82.4	%REC	G18078

Note: Although TPH as gasoline compounds are present, TPH value mostly due to a individiual peak (benzene) within range of C5-C12 quantified as gasoline.

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

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.
a	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 #

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

CLIENT: KLEINFELDER
Work Order: 0812012
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: 4792

Sample ID **MB-4792**	SampType: **MBLK**	TestCode: **200.7**	Units: **mg/L**	Prep Date: **12/4/2008**	RunNo: **18069**
Client ID: **ZZZZZ**	Batch ID: **4792**	TestNo: **E200.7**	**(E200.7/SW3**	Analysis Date: **12/5/2008**	SeqNo: **259693**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.010									
Barium	ND	0.010									
Cadmium	ND	0.0050									
Calcium	ND	0.10									
Chromium	ND	0.0050									
Copper	ND	0.010									
Iron	ND	0.050									
Lead	ND	0.0050									
Magnesium	ND	0.050									
Potassium	ND	1.0									
Selenium	ND	0.010									
Sodium	ND	0.20									

Sample ID **LCS-4792**	SampType: **LCS**	TestCode: **200.7**	Units: **mg/L**	Prep Date: **12/4/2008**	RunNo: **18069**
Client ID: **ZZZZZ**	Batch ID: **4792**	TestNo: **E200.7**	**(E200.7/SW3**	Analysis Date: **12/5/2008**	SeqNo: **259691**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.060	0.010	1	0	106	80	120				
Barium	1.039	0.010	1	0	104	80	120				
Cadmium	1.019	0.0050	1	0	102	80	120				
Calcium	10.66	0.10	10	0.0193	106	80	120				
Chromium	1.038	0.0050	1	0	104	80	120				
Copper	1.036	0.010	1	0	104	80	120				
Iron	10.15	0.050	10	0.0067	101	80	120				
Lead	1.016	0.0050	1	0	102	80	120				
Magnesium	10.56	0.050	10	0.0074	106	80	120				
Potassium	10.86	1.0	10	0.0029	109	80	120				
Selenium	0.9750	0.010	1	0	97.5	80	120				
Sodium	10.79	0.20	10	0.018	108	80	120				

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0812012
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: 4792

Sample ID **LCSD-4792**	SampType: **LCSD**	TestCode: **200.7**	Units: **mg/L**	Prep Date: **12/4/2008**	RunNo: **18069**
Client ID: **ZZZZZ**	Batch ID: **4792**	TestNo: **E200.7**	**(E200.7/SW3**	Analysis Date: **12/5/2008**	SeqNo: **259692**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.049	0.010	1	0	105	80	120	1.06	1.04	20	
Barium	1.022	0.010	1	0	102	80	120	1.039	1.65	20	
Cadmium	1.008	0.0050	1	0	101	80	120	1.019	1.09	20	
Calcium	10.24	0.10	10	0.0193	102	80	120	10.66	4.02	20	
Chromium	1.024	0.0050	1	0	102	80	120	1.038	1.36	20	
Copper	1.026	0.010	1	0	103	80	120	1.036	0.970	20	
Iron	10.08	0.050	10	0.0067	101	80	120	10.15	0.692	20	
Lead	1.009	0.0050	1	0	101	80	120	1.016	0.691	20	
Magnesium	10.18	0.050	10	0.0074	102	80	120	10.56	3.66	20	
Potassium	9.985	1.0	10	0.0029	99.8	80	120	10.86	8.40	20	
Selenium	0.9710	0.010	1	0	97.1	80	120	0.975	0.411	20	
Sodium	10.22	0.20	10	0.018	102	80	120	10.79	5.43	20	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0812012
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: G18076

Sample ID **MB_G18076**	SampType: **MBLK**	TestCode: **TPH_GAS_W**	Units: **µg/L**	Prep Date: **12/5/2008**	RunNo: **18076**
Client ID: **ZZZZZ**	Batch ID: **G18076**	TestNo: **SW8260B(TP**		Analysis Date: **12/5/2008**	SeqNo: **259805**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	ND	50									
Surr: 4-Bromofllurobenzene	7.300	0	11.36	0	64.3	58.4	133				

Sample ID **LCS_G18076**	SampType: **LCS**	TestCode: **TPH_GAS_W**	Units: **µg/L**	Prep Date: **12/5/2008**	RunNo: **18076**
Client ID: **ZZZZZ**	Batch ID: **G18076**	TestNo: **SW8260B(TP**		Analysis Date: **12/5/2008**	SeqNo: **259806**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	194.0	50	227	0	85.5	52.4	127				
Surr: 4-Bromofllurobenzene	8.850	0	11.36	0	77.9	58.4	133				

Sample ID **LCSD_G18076**	SampType: **LCSD**	TestCode: **TPH_GAS_W**	Units: **µg/L**	Prep Date: **12/6/2008**	RunNo: **18076**
Client ID: **ZZZZZ**	Batch ID: **G18076**	TestNo: **SW8260B(TP**		Analysis Date: **12/6/2008**	SeqNo: **259807**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	188.0	50	227	0	82.8	52.4	127	194	3.14	20	
Surr: 4-Bromofllurobenzene	11.02	0	11.36	0	97.0	58.4	133	0	0	0	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0812012
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: G18078

Sample ID **MB_G18078**	SampType: **MBLK**	TestCode: **TPH_GAS_W**	Units: **µg/L**	Prep Date: **12/8/2008**	RunNo: **18078**
Client ID: **ZZZZZ**	Batch ID: **G18078**	TestNo: **SW8260B(TP**		Analysis Date: **12/8/2008**	SeqNo: **259828**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	ND	50									
Surr: 4-Bromofllurobenzene	8.940	0	11.36	0	78.7	58.4	133				

Sample ID **LCS_G18078**	SampType: **LCS**	TestCode: **TPH_GAS_W**	Units: **µg/L**	Prep Date: **12/8/2008**	RunNo: **18078**
Client ID: **ZZZZZ**	Batch ID: **G18078**	TestNo: **SW8260B(TP**		Analysis Date: **12/8/2008**	SeqNo: **259829**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	192.0	50	227	23	74.4	52.4	127				
Surr: 4-Bromofllurobenzene	8.530	0	11.36	0	75.1	58.4	133				

Sample ID **LCSD_G18078**	SampType: **LCSD**	TestCode: **TPH_GAS_W**	Units: **µg/L**	Prep Date: **12/8/2008**	RunNo: **18078**
Client ID: **ZZZZZ**	Batch ID: **G18078**	TestNo: **SW8260B(TP**		Analysis Date: **12/8/2008**	SeqNo: **259830**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	229.0	50	227	23	90.7	52.4	127	192	17.6	20	
Surr: 4-Bromofllurobenzene	11.65	0	11.36	0	103	58.4	133	0	0	0	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0812012
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: R18050

Sample ID **MBLK**	SampType: **MBLK**	TestCode: **TOC_W**	Units: **mg/L**	Prep Date:	RunNo: **18050**
Client ID: **ZZZZZ**	Batch ID: **R18050**	TestNo: **E415.1**		Analysis Date: **12/3/2008**	SeqNo: **259441**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	0.50									

Sample ID **LCS**	SampType: **LCS**	TestCode: **TOC_W**	Units: **mg/L**	Prep Date:	RunNo: **18050**
Client ID: **ZZZZZ**	Batch ID: **R18050**	TestNo: **E415.1**		Analysis Date: **12/3/2008**	SeqNo: **259439**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	10.35	0.50	10	0	104	80	120				

Sample ID **LCSD**	SampType: **LCSD**	TestCode: **TOC_W**	Units: **mg/L**	Prep Date:	RunNo: **18050**
Client ID: **ZZZZZ**	Batch ID: **R18050**	TestNo: **E415.1**		Analysis Date: **12/3/2008**	SeqNo: **259440**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	10.75	0.50	10	0	108	80	120	10.35	3.79	20	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0812012
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: R18066

Sample ID **MBLK** SampType: **MBLK** TestCode: **FERROUS IR** Units: **mg/L** Prep Date: RunNo: **18066**
Client ID: **ZZZZZ** Batch ID: **R18066** TestNo: **SM3500-FE B** Analysis Date: **12/3/2008** SeqNo: **259679**

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0812012
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: R18068

Sample ID **MBLK** SampType: **MBLK** TestCode: **TDS_W** Units: **mg/L** Prep Date: RunNo: **18068**
Client ID: **ZZZZZ** Batch ID: **R18068** TestNo: **E160.1** Analysis Date: **12/4/2008** SeqNo: **259683**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	ND	10									

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0812012
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: R18075

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
MBLK	**MBLK**	**CR(VI)_W_LL**	**µg/L**	**11/3/2008**	**18075**
Client ID: **ZZZZZ**	Batch ID: **R18075**	TestNo: **SW7199**		Analysis Date: **12/3/2008**	SeqNo: **259771**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	0.50									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
LCS	**LCS**	**CR(VI)_W_LL**	**µg/L**	**11/3/2008**	**18075**
Client ID: **ZZZZZ**	Batch ID: **R18075**	TestNo: **SW7199**		Analysis Date: **12/3/2008**	SeqNo: **259769**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	10.09	0.50	10	0	101	85	115				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
LCSD	**LCSD**	**CR(VI)_W_LL**	**µg/L**	**11/3/2008**	**18075**
Client ID: **ZZZZZ**	Batch ID: **R18075**	TestNo: **SW7199**		Analysis Date: **12/3/2008**	SeqNo: **259770**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	10.18	0.50	10	0	102	85	115	10.09	0.918	20	

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
0812012-001AMS	**MS**	**CR(VI)_W_LL**	**µg/L**	**11/3/2008**	**18075**
Client ID: **MW-1**	Batch ID: **R18075**	TestNo: **SW7199**		Analysis Date: **12/3/2008**	SeqNo: **259765**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	46.52	2.5	50	0	93.0	85	115				

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
0812012-001AMSD	**MSD**	**CR(VI)_W_LL**	**µg/L**	**11/3/2008**	**18075**
Client ID: **MW-1**	Batch ID: **R18075**	TestNo: **SW7199**		Analysis Date: **12/3/2008**	SeqNo: **259766**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	49.84	2.5	50	0	99.7	85	115	46.52	6.91	20	

Qualifiers:
E Value above quantitation range
H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0812012
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: R18076

Sample ID **MB_R18076**	SampType: **MBLK**	TestCode: **8260B_W**	Units: **µg/L**	Prep Date: **12/5/2008**	RunNo: **18076**
Client ID: **ZZZZZ**	Batch ID: **R18076**	TestNo: **SW8260B**		Analysis Date: **12/5/2008**	SeqNo: **259792**

Analyte	Result	PQL	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	1.00									
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	1.00									
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	1.00									
1,3,5-Trimethylbenzene	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
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									
Bromomethane	ND	1.00									

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0812012
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: R18076

Sample ID **MB_R18076** SampType: **MBLK** TestCode: **8260B_W** Units: **µg/L** Prep Date: **12/5/2008** RunNo: **18076**
Client ID: **ZZZZZ** Batch ID: **R18076** TestNo: **SW8260B** Analysis Date: **12/5/2008** SeqNo: **259792**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon tetrachloride	ND	1.00									
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									
Diisopropyl ether (DIPE)	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	1.00									
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:
E Value above quantitation range
H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0812012
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: R18076

Sample ID **MB_R18076**	SampType: **MBLK**	TestCode: **8260B_W**	Units: **µg/L**	Prep Date: **12/5/2008**	RunNo: **18076**
Client ID: **ZZZZZ**	Batch ID: **R18076**	TestNo: **SW8260B**		Analysis Date: **12/5/2008**	SeqNo: **259792**

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	12.58	0	11.36	0	111	61.2	131				
Surr: 4-Bromofluorobenzene	10.97	0	11.36	0	96.6	64.1	120				
Surr: Toluene-d8	9.980	0	11.36	0	87.9	75.1	127				

Sample ID **LCS_R18076**	SampType: **LCS**	TestCode: **8260B_W**	Units: **µg/L**	Prep Date: **12/5/2008**	RunNo: **18076**
Client ID: **ZZZZZ**	Batch ID: **R18076**	TestNo: **SW8260B**		Analysis Date: **12/5/2008**	SeqNo: **259793**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	16.48	1.00	17.04	0	96.7	61.4	129				
Benzene	16.37	0.500	17.04	0	96.1	66.9	140				
Chlorobenzene	19.78	0.500	17.04	0	116	73.9	137				
Toluene	16.34	0.500	17.04	0	95.9	76.6	123				
Trichloroethene	16.02	0.500	17.04	0	94.0	69.3	144				
Surr: Dibromofluoromethane	11.54	0	11.36	0	102	61.2	131				
Surr: 4-Bromofluorobenzene	11.44	0	11.36	0	101	64.1	120				
Surr: Toluene-d8	10.27	0	11.36	0	90.4	75.1	127				

Sample ID **LCSD_R18076**	SampType: **LCSD**	TestCode: **8260B_W**	Units: **µg/L**	Prep Date: **12/6/2008**	RunNo: **18076**
Client ID: **ZZZZZ**	Batch ID: **R18076**	TestNo: **SW8260B**		Analysis Date: **12/6/2008**	SeqNo: **259794**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	17.51	1.00	17.04	0	103	61.4	129	16.48	6.06	20	
Benzene	18.75	0.500	17.04	0	110	66.9	140	16.37	13.6	20	
Chlorobenzene	19.39	0.500	17.04	0	114	73.9	137	19.78	1.99	20	
Toluene	15.09	0.500	17.04	0	88.6	76.6	123	16.34	7.95	20	
Trichloroethene	17.56	0.500	17.04	0	103	69.3	144	16.02	9.17	20	
Surr: Dibromofluoromethane	11.79	0	11.36	0	104	61.2	131	0	0	0	
Surr: 4-Bromofluorobenzene	12.06	0	11.36	0	106	64.1	120	0	0	0	
Surr: Toluene-d8	10.33	0	11.36	0	90.9	75.1	127	0	0	0	

Qualifiers:
E Value above quantitation range
H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0812012
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: R18078

Sample ID **MB_R18078**	SampType: **MBLK**	TestCode: **8260B_W**	Units: **µg/L**	Prep Date: **12/7/2008**	RunNo: **18078**
Client ID: **ZZZZZ**	Batch ID: **R18078**	TestNo: **SW8260B**		Analysis Date: **12/7/2008**	SeqNo: **259823**

Analyte	Result	PQL	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	1.00									
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	1.00									
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	1.00									
1,3,5-Trimethylbenzene	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
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									
Bromomethane	ND	1.00									

Qualifiers:
E Value above quantitation range
H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0812012
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: R18078

Sample ID **MB_R18078** SampType: **MBLK** TestCode: **8260B_W** Units: **µg/L** Prep Date: **12/7/2008** RunNo: **18078**
Client ID: **ZZZZZ** Batch ID: **R18078** TestNo: **SW8260B** Analysis Date: **12/7/2008** SeqNo: **259823**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon tetrachloride	ND	1.00									
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									
Diisopropyl ether (DIPE)	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	1.00									
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:
E Value above quantitation range
H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0812012
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: R18078

Sample ID **MB_R18078**	SampType: **MBLK**	TestCode: **8260B_W**	Units: **µg/L**	Prep Date: **12/7/2008**	RunNo: **18078**
Client ID: **ZZZZZ**	Batch ID: **R18078**	TestNo: **SW8260B**		Analysis Date: **12/7/2008**	SeqNo: **259823**

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	10.55	0	11.36	0	92.9	61.2	131				
Surr: 4-Bromofluorobenzene	11.96	0	11.36	0	105	64.1	120				
Surr: Toluene-d8	10.47	0	11.36	0	92.2	75.1	127				

Sample ID **LCS_R18078**	SampType: **LCS**	TestCode: **8260B_W**	Units: **µg/L**	Prep Date: **12/7/2008**	RunNo: **18078**
Client ID: **ZZZZZ**	Batch ID: **R18078**	TestNo: **SW8260B**		Analysis Date: **12/7/2008**	SeqNo: **259824**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	18.67	1.00	17.04	0	110	61.4	129				
Benzene	19.30	0.500	17.04	0	113	66.9	140				
Chlorobenzene	16.23	0.500	17.04	0	95.2	73.9	137				
Toluene	18.04	0.500	17.04	0	106	76.6	123				
Trichloroethene	18.95	0.500	17.04	0	111	69.3	144				
Surr: Dibromofluoromethane	11.13	0	11.36	0	98.0	61.2	131				
Surr: 4-Bromofluorobenzene	10.19	0	11.36	0	89.7	64.1	120				
Surr: Toluene-d8	10.05	0	11.36	0	88.5	75.1	127				

Sample ID **LCSD_R18078**	SampType: **LCSD**	TestCode: **8260B_W**	Units: **µg/L**	Prep Date: **12/7/2008**	RunNo: **18078**
Client ID: **ZZZZZ**	Batch ID: **R18078**	TestNo: **SW8260B**		Analysis Date: **12/7/2008**	SeqNo: **259825**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	16.97	1.00	17.04	0	99.6	61.4	129	18.67	9.54	20	
Benzene	17.27	0.500	17.04	0	101	66.9	140	19.3	11.1	20	
Chlorobenzene	18.25	0.500	17.04	0	107	73.9	137	16.23	11.7	20	
Toluene	15.53	0.500	17.04	0	91.1	76.6	123	18.04	15.0	20	
Trichloroethene	16.55	0.500	17.04	0	97.1	69.3	144	18.95	13.5	20	
Surr: Dibromofluoromethane	11.01	0	11.36	0	96.9	61.2	131	0	0	0	
Surr: 4-Bromofluorobenzene	13.18	0	11.36	0	116	64.1	120	0	0	0	
Surr: Toluene-d8	10.92	0	11.36	0	96.1	75.1	127	0	0	0	

Qualifiers:
E Value above quantitation range
H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0812012
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: R18083

Sample ID **MBLK** SampType: **MBLK** TestCode: **Alk_ (SM2320** Units: **mg/L CaCO3** Prep Date: RunNo: **18083**
Client ID: **ZZZZZ** Batch ID: **R18083** TestNo: **SM2320 B** Analysis Date: **12/8/2008** SeqNo: **259866**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	2.000	2.0									

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0812012
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: R18092

Sample ID **WDSG081205A-MB** SampType: **MBLK** TestCode: **TPHDSG_W** Units: **mg/L** Prep Date: **12/5/2008** RunNo: **18092**
Client ID: **ZZZZZ** Batch ID: **R18092** TestNo: **SW8015B** Analysis Date: **12/8/2008** SeqNo: **259943**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Diesel-SG)	ND	0.100									
Surr: Pentacosane	0.09700	0	0.1	0	97.0	64.2	123				

Sample ID **WDSG081205A-LCS** SampType: **LCS** TestCode: **TPHDSG_W** Units: **mg/L** Prep Date: **12/5/2008** RunNo: **18092**
Client ID: **ZZZZZ** Batch ID: **R18092** TestNo: **SW8015B** Analysis Date: **12/8/2008** SeqNo: **259944**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Diesel-SG)	0.5670	0.100	1	0	56.7	34.5	95.6				
Surr: Pentacosane	0.09700	0	0.1	0	97.0	64.2	123				

Sample ID **WDSG081205A-LCS** SampType: **LCSD** TestCode: **TPHDSG_W** Units: **mg/L** Prep Date: **12/5/2008** RunNo: **18092**
Client ID: **ZZZZZ** Batch ID: **R18092** TestNo: **SW8015B** Analysis Date: **12/8/2008** SeqNo: **259945**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Diesel-SG)	0.5700	0.100	1	0	57.0	34.5	95.6	0.567	0.528	30	
Surr: Pentacosane	0.09800	0	0.1	0	98.0	64.2	123	0	0	0	

Qualifiers:
E Value above quantitation range
H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

KLEINFELDER
Bright People. Right Solutions.

0812012

PROJECT NO.	PROJECT NAME	NO. OF CON-TAINERS	TYPE OF CON-TAINERS	ANALYSIS: VOCs + OXYs	TPHd + Silicagel CLNP (8015)	METALS * (200.7)	HEXAVALENT CHROMIUM (218.6)	MAJOR IONS ** (200.7)	DISS. FERROUS IRON (200.7)	ALKALINITY AS $CaCO_3$	TDS (160.1)	TOC (415.3)	RECEIVING LAB: TORRENT
54504	INDEPENDENT ROAD												INSTRUCTIONS/REMARKS: STD TAT
L.P. NO. (PO. NO.)	SAMPLERS (Signature/Number)												

	DATE MM/DD/YY	SAMPLE I.D. TIME HH-MM-SS	SAMPLE I.D.	MATRIX												
-001A	1	12/1/08	15:50	MW-1	W	11	VOA/AG/POLY	X	X	X	X	X	X	X	X	X		
-002A	2	12/2/08	13:30	MW-2	W	11	↓	X	X	X	X	X	X	X	X	X		MW-2 VOAs are unpreserved
-003A	3	12/2/08	12:10	MW-3	W	11	↓	X	X	X	X	X	X	X	X	X		
-004A	4	12/1/08	14:30	MW-4	W	10	VOA/AG	X	X									
-005A	5	12/1/08	13:00	MW-5	W	10	↓	X	X									
-006A	6	12/2/08	13:45	MW-Dup	W	7	↓	X	X									*METALS MW-Dup VOAs are unpreserved
	7																	ARSENIC
	8																	BARIUM
	9																	CADMIUM
	10																	CHROMIUM
	11																	COPPER
	12																	LEAD
	13																	SELENIUM
	14																	
	15																	**MAJOR IONS
	16																	SODIUM
	17																	POTASSIUM
	18																	CALCIUM
	19																	MAGNESIUM
	20																	IRON

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Instructions/Remarks:	Send Results To:
	12/2/08 17:02	D. L. Ghodasara	EMAIL RESULTS TO: CAlmestad@kleinfelder.com SDrugan@kleinfelder.com	KLEINFELDER-OAKLAND Attn: CHARLIE ALMESTAD
Relinquished by: (Signature)	Date/Time	Received by: (Signature)		
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)		

ENV-02 REV. 05/08)

White – Sampler Canary – Return Copy To Shipper Pink – Lab Copy

Drop-off.

CHAIN OF CUSTODY

COC № 11644

Torrent
LABORATORY, INC.

December 09, 2008

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

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

RE: 54504

Order No.: 0812013

Dear Charlie Almestad:

Torrent Laboratory, Inc. received 5 samples on 12/2/2008 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,

Laboratory Director

12/09/08
Date

Patti Sandrock
QA Officer

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: 12/2/2008
Date Reported: 12/9/2008

Client Sample ID: PS-1-8
Sample Location: Independent Road
Sample Matrix: SOIL
Date/Time Sampled 12/1/2008 11:15:00 AM

Lab Sample ID: 0812013-001
Date Prepared: 12/8/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
TPH (Diesel-SG)	SW8015B	12/8/2008	2	1	2.00	ND	mg/Kg	R18096
Surr: Pentacosane	SW8015B	12/8/2008	0	1	61.5-133	102	%REC	R18096
Benzene	SW8260B	12/8/2008	10	100	1000	ND	µg/Kg	R18085
Ethylbenzene	SW8260B	12/8/2008	10	100	1000	ND	µg/Kg	R18085
Toluene	SW8260B	12/8/2008	10	100	1000	ND	µg/Kg	R18085
Xylenes, Total	SW8260B	12/8/2008	15	100	1500	ND	µg/Kg	R18085
Surr: 4-Bromofluorobenzene	SW8260B	12/8/2008	0	100	55.8-141	85.3	%REC	R18085
Surr: Dibromofluoromethane	SW8260B	12/8/2008	0	100	59.8-148	93.6	%REC	R18085
Surr: Toluene-d8	SW8260B	12/8/2008	0	100	55.2-133	62.2	%REC	R18085

Note: Reporting limit raised due to the presence of significant amount of heavy hydrocarbons.

TPH (Gasoline)	SW8260B(TPH)	12/9/2008	100	200	20000	330000x	µg/Kg	G18085
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	12/9/2008	0	200	56.9-133	94.0	%REC	G18085

Note: x- Sample chromatogram does not resemble gasoline standard pattern. Reported TPH value due to presence of significant amount of heavy hydrocarbons within range of C5-C12 quantified as gasoline.

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 12/2/2008
Date Reported: 12/9/2008

Client Sample ID: PS-1-20
Sample Location: Independent Road
Sample Matrix: SOIL
Date/Time Sampled 12/1/2008 11:40:00 AM

Lab Sample ID: 0812013-002
Date Prepared: 12/8/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
TPH (Diesel-SG)	SW8015B	12/9/2008	2	1	2.00	ND	mg/Kg	R18096
Surr: Pentacosane	SW8015B	12/9/2008	0	1	61.5-133	99.4	%REC	R18096
Benzene	SW8260B	12/8/2008	10	1	10	ND	µg/Kg	R18085
Ethylbenzene	SW8260B	12/8/2008	10	1	10	ND	µg/Kg	R18085
Toluene	SW8260B	12/8/2008	10	1	10	ND	µg/Kg	R18085
Xylenes, Total	SW8260B	12/8/2008	15	1	15	ND	µg/Kg	R18085
Surr: 4-Bromofluorobenzene	SW8260B	12/8/2008	0	1	55.8-141	82.9	%REC	R18085
Surr: Dibromofluoromethane	SW8260B	12/8/2008	0	1	59.8-148	84.8	%REC	R18085
Surr: Toluene-d8	SW8260B	12/8/2008	0	1	55.2-133	70.5	%REC	R18085
TPH (Gasoline)	SW8260B(TPH)	12/8/2008	100	1	100	ND	µg/Kg	G18085
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	12/8/2008	0	1	56.9-133	90.0	%REC	G18085

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 12/2/2008
Date Reported: 12/9/2008

Client Sample ID: PS-2-16
Sample Location: Independent Road
Sample Matrix: SOIL
Date/Time Sampled 12/1/2008 1:10:00 PM

Lab Sample ID: 0812013-004
Date Prepared: 12/9/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
TPH (Diesel-SG)	SW8015B	12/9/2008	2	2	4.00	78.1x	mg/Kg	R18096
Surr: Pentacosane	SW8015B	12/9/2008	0	2	61.5-133	108	%REC	R18096
Note:x-Sample chromatogram does not resemble typical diesel pattern (possibly fuel lighter than diesel). Lighter end hydrocarbons within the diesel range quantitated as diesel.								
Benzene	SW8260B	12/9/2008	10	1000	10000	16000	µg/Kg	R18085
Ethylbenzene	SW8260B	12/9/2008	10	1000	10000	46000	µg/Kg	R18085
Toluene	SW8260B	12/9/2008	10	1000	10000	ND	µg/Kg	R18085
Xylenes, Total	SW8260B	12/9/2008	15	1000	15000	40000	µg/Kg	R18085
Surr: 4-Bromofluorobenzene	SW8260B	12/9/2008	0	1000	55.8-141	100	%REC	R18085
Surr: Dibromofluoromethane	SW8260B	12/9/2008	0	1000	59.8-148	97.8	%REC	R18085
Surr: Toluene-d8	SW8260B	12/9/2008	0	1000	55.2-133	86.9	%REC	R18085
TPH (Gasoline)	SW8260B(TPH)	12/9/2008	100	1000	100000	1500000	µg/Kg	G18085
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	12/9/2008	0	1000	56.9-133	86.0	%REC	G18085
Note: Sample chromatogram does not resemble gasoline standard pattern. Although TPH as gasoline compounds are present, TPH value elevated due to the presence of significant amount of non-gasoline hydrocarbons within range of C5-C12 quantified as gasoline.								

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Charlie Almestad
KLEINFELDER

Date Received: 12/2/2008
Date Reported: 12/9/2008

Client Sample ID: PS-2-19
Sample Location: Independent Road
Sample Matrix: SOIL
Date/Time Sampled 12/1/2008 1:18:00 PM

Lab Sample ID: 0812013-005
Date Prepared: 12/8/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
TPH (Diesel-SG)	SW8015B	12/9/2008	2	4	8.00	143x	mg/Kg	R18096
Surr: Pentacosane	SW8015B	12/9/2008	0	4	61.5-133	97.8	%REC	R18096
Note:x-Sample chromatogram does not resemble typical diesel pattern (possibly fuel lighter than diesel). Lighter end hydrocarbons within the diesel range quantitated as diesel.								
Benzene	SW8260B	12/8/2008	10	100	1000	2500	µg/Kg	R18085
Ethylbenzene	SW8260B	12/8/2008	10	100	1000	5600	µg/Kg	R18085
Toluene	SW8260B	12/8/2008	10	100	1000	1000	µg/Kg	R18085
Xylenes, Total	SW8260B	12/8/2008	15	100	1500	9400	µg/Kg	R18085
Surr: 4-Bromofluorobenzene	SW8260B	12/8/2008	0	100	55.8-141	87.0	%REC	R18085
Surr: Dibromofluoromethane	SW8260B	12/8/2008	0	100	59.8-148	88.9	%REC	R18085
Surr: Toluene-d8	SW8260B	12/8/2008	0	100	55.2-133	84.9	%REC	R18085
TPH (Gasoline)	SW8260B(TPH)	12/8/2008	100	400	40000	430000	µg/Kg	G18085
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	12/8/2008	0	400	56.9-133	90.0	%REC	G18085
Note: Sample chromatogram does not resemble gasoline standard pattern. Although TPH as gasoline compounds are present, TPH value elevated due to the presence of significant amount of non-gasoline hydrocarbons within range of C5-C12 quantified as gasoline.								

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

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.
a	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 #

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

CLIENT: KLEINFELDER
Work Order: 0812013
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: G18085

Sample ID **MB_G18085**	SampType: **MBLK**	TestCode: **TPH_GAS_S**	Units: **µg/Kg**	Prep Date: **12/8/2008**	RunNo: **18085**
Client ID: **ZZZZZ**	Batch ID: **G18085**	TestNo: **SW8260B(TP**		Analysis Date: **12/8/2008**	SeqNo: **259901**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	ND	100									
Surr: 4-Bromofllurobenzene	49.00	0	50	0	98.0	56.9	133				

Sample ID **LCS_G18085**	SampType: **LCS**	TestCode: **TPH_GAS_S**	Units: **µg/Kg**	Prep Date: **12/8/2008**	RunNo: **18085**
Client ID: **ZZZZZ**	Batch ID: **G18085**	TestNo: **SW8260B(TP**		Analysis Date: **12/8/2008**	SeqNo: **259902**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	928.0	100	1000	0	92.8	48.2	132				
Surr: 4-Bromofllurobenzene	48.00	0	50	0	96.0	56.9	133				

Sample ID **LCSD_G18085**	SampType: **LCSD**	TestCode: **TPH_GAS_S**	Units: **µg/Kg**	Prep Date: **12/9/2008**	RunNo: **18085**
Client ID: **ZZZZZ**	Batch ID: **G18085**	TestNo: **SW8260B(TP**		Analysis Date: **12/9/2008**	SeqNo: **259903**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	900.0	100	1000	0	90.0	48.2	132	928	3.06	30	
Surr: 4-Bromofllurobenzene	44.00	0	50	0	88.0	56.9	133	0	0	0	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0812013
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: R18085

Sample ID **MB_R18085**	SampType: **MBLK**	TestCode: **8260B_S**	Units: **µg/Kg**	Prep Date: **12/8/2008**	RunNo: **18085**
Client ID: **ZZZZZ**	Batch ID: **R18085**	TestNo: **SW8260B**		Analysis Date: **12/8/2008**	SeqNo: **259873**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	10									
Ethylbenzene	ND	10									
Toluene	ND	10									
Xylenes, Total	ND	15									
Surr: 4-Bromofluorobenzene	43.60	0	50	0	87.2	55.8	141				
Surr: Dibromofluoromethane	55.38	0	50	0	111	59.8	148				
Surr: Toluene-d8	35.90	0	50	0	71.8	55.2	133				

Sample ID **LCS_R18085**	SampType: **LCS**	TestCode: **8260B_S**	Units: **µg/Kg**	Prep Date: **12/8/2008**	RunNo: **18085**
Client ID: **ZZZZZ**	Batch ID: **R18085**	TestNo: **SW8260B**		Analysis Date: **12/8/2008**	SeqNo: **259874**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	54.70	10	50	0	109	66.5	135				
Toluene	42.59	10	50	0	85.2	56.8	134				
Surr: 4-Bromofluorobenzene	42.39	0	50	0	84.8	55.8	141				
Surr: Dibromofluoromethane	43.23	0	50	0	86.5	59.8	148				
Surr: Toluene-d8	43.64	0	50	0	87.3	55.2	133				

Sample ID **LCSD_R18085**	SampType: **LCSD**	TestCode: **8260B_S**	Units: **µg/Kg**	Prep Date: **12/8/2008**	RunNo: **18085**
Client ID: **ZZZZZ**	Batch ID: **R18085**	TestNo: **SW8260B**		Analysis Date: **12/8/2008**	SeqNo: **259881**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	52.97	10	50	0	106	66.5	135	54.7	3.21	30	
Toluene	40.59	10	50	0	81.2	56.8	134	42.59	4.81	30	
Surr: 4-Bromofluorobenzene	41.70	0	50	0	83.4	55.8	141	0	0	0	
Surr: Dibromofluoromethane	45.72	0	50	0	91.4	59.8	148	0	0	0	
Surr: Toluene-d8	42.91	0	50	0	85.8	55.2	133	0	0	0	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: KLEINFELDER
Work Order: 0812013
Project: 54504

ANALYTICAL QC SUMMARY REPORT

BatchID: R18096

Sample ID	SDSG081208A-MB	SampType:	MBLK	TestCode:	TPHDSG_S	Units:	mg/Kg	Prep Date:	12/8/2008	RunNo:	18096
Client ID:	ZZZZZ	Batch ID:	R18096	TestNo:	SW8015B			Analysis Date:	12/9/2008	SeqNo:	259996

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Diesel-SG)	ND	2.00									
Surr: Pentacosane	3.666	0	3.3	0	111	61.5	133				

Sample ID	SDSG081208A-LCS	SampType:	LCS	TestCode:	TPHDSG_S	Units:	mg/Kg	Prep Date:	12/8/2008	RunNo:	18096
Client ID:	ZZZZZ	Batch ID:	R18096	TestNo:	SW8015B			Analysis Date:	12/9/2008	SeqNo:	259997

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Diesel-SG)	28.44	2.00	33.33	0	85.3	50.8	111				
Surr: Pentacosane	3.481	0	3.3	0	105	61.5	133				

Sample ID	SDSG081208A-LCS	SampType:	LCSD	TestCode:	TPHDSG_S	Units:	mg/Kg	Prep Date:	12/8/2008	RunNo:	18096
Client ID:	ZZZZZ	Batch ID:	R18096	TestNo:	SW8015B			Analysis Date:	12/9/2008	SeqNo:	259998

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Diesel-SG)	29.22	2.00	33.33	0	87.7	50.8	111	28.44	2.69	30	
Surr: Pentacosane	3.510	0	3.3	0	106	61.5	133	0	0	0	

Sample ID	0812013-002A MS	SampType:	MS	TestCode:	TPHDSG_S	Units:	mg/Kg	Prep Date:	12/8/2008	RunNo:	18096
Client ID:	PS-1-20	Batch ID:	R18096	TestNo:	SW8015B			Analysis Date:	12/9/2008	SeqNo:	260003

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Diesel-SG)	31.09	2.00	33.33	0	93.3	50.8	111				
Surr: Pentacosane	3.459	0	3.3	0	105	61.5	133				

Sample ID	0812013-002A MSD	SampType:	MSD	TestCode:	TPHDSG_S	Units:	mg/Kg	Prep Date:	12/8/2008	RunNo:	18096
Client ID:	PS-1-20	Batch ID:	R18096	TestNo:	SW8015B			Analysis Date:	12/9/2008	SeqNo:	260004

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Diesel-SG)	30.59	2.00	33.33	0	91.8	50.8	111	31.09	1.63	30	
Surr: Pentacosane	3.422	0	3.3	0	104	61.5	133	0	0	0	

Qualifiers:

E Value above quantitation range
H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

Torrent Laboratory, Inc.

WORK ORDER Summary

03-Dec-08

Work Order 0812013

Client ID: KLEINFELDER (OAKLAND)

Project: 54504 **QC Level:**

Comments: 5 day TAT!Received 5 soils sample ID PS-2-8 ON HOLD.

Sample ID	Client Sample ID	Collection Date	Date Received	Date Due	Matrix	Test Code	Hld	MS	SEL	Sub	Storage
0812013-001A	PS-1-8	12/1/2008 11:15:00 AM	12/2/2008	12/8/2008	Soil	8260B_S_PETROLEUM	☐	☐	☑	☐	SR
				12/8/2008		TPH_GAS_S_GCMS	☐	☐	☐	☐	SR
				12/8/2008		TPHDSG_S	☐	☐	☐	☐	SR
0812013-002A	PS-1-20	12/1/2008 11:40:00 AM		12/8/2008		8260B_S_PETROLEUM	☐	☐	☑	☐	SR
				12/8/2008		TPH_GAS_S_GCMS	☐	☐	☐	☐	SR
				12/8/2008		TPHDSG_S	☐	☐	☐	☐	SR
0812013-003A	PS-2-8	12/1/2008 1:04:00 PM					☐	☐	☐	☐	SR
0812013-004A	PS-2-16	12/1/2008 1:10:00 PM		12/8/2008		8260B_S_PETROLEUM	☐	☐	☑	☐	SR
				12/8/2008		TPH_GAS_S_GCMS	☐	☐	☐	☐	SR
				12/8/2008		TPHDSG_S	☐	☐	☐	☐	SR
0812013-005A	PS-2-19	12/1/2008 1:18:00 PM		12/8/2008		8260B_S_PETROLEUM	☐	☐	☑	☐	SR
				12/8/2008		TPH_GAS_S_GCMS	☐	☐	☐	☐	SR
				12/8/2008		TPHDSG_S	☐	☐	☐	☐	SR

KLEINFELDER
Bright People. Right Solutions.

0812013

PROJECT NO.	PROJECT NAME	RECEIVING LAB:
54504	INDEPENDENT ROAD	TORRENT
L.P. NO. (PO. NO.)	SAMPLERS: (Signature/Number)	
	J. WILLIAMS	

	DATE MM/DD/YY	SAMPLE I.D. TIME HH-MM-SS	SAMPLE I.D.	MATRIX	NO. OF CON-TAINERS	TYPE OF CON-TAINERS	ANALYSIS: TPH-g & d (8015)	BTEX (8021)	SILICA GEL CLEANUP	HOLD (NO ANALYSIS)							INSTRUCTIONS/REMARKS
1	12/1/08	1115	PS-1-8	S	1	TUBE	X	X	X				-001A				
2	12/1/08	1140	PS-1-20	S	1	JAR	X	X	X				-002A				
3	12/1/08	1304	PS-2-8	S	1	TUBE	X	X	X	X			-003A				ARCHIVE - DO NOT ANALYZE
4	12/1/08	1310	PS-2-16	S	1	JAR	X	X	X				-004A				
5	12/1/08	1318	PS-2-19	S	1	TUBE	X	X	X				-005A				
6																	
7																	
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STD TAT

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Instructions/Remarks:	Send Results To:
	12/1/08 1440		EMAIL RESULTS TO:	KLEINFELDER - OAKLAND
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	CAlmostad@kleinfelder.com	
	12/2/08 17:02		SDrugan@kleinfelder.com	
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)		Attn: CHARLIE ALMESTAD

ENV-02 REV 05/08)

Drop-off

White – Sampler Canary – Return Copy To Shipper Pink – Lab Copy

CHAIN OF CUSTODY

COC № 11637