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March 27, 2006

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By lopprojectop at 10:57 am, Mar 28, 2006

Mr. Barney Chan Alameda County Department of Environmental Health 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502

SUBJECT:

DOCUMENT CERTIFICATION

Case Number RO 337

California Linen Rental Company

989 41st Street Oakland, CA

Dear Mr. Chan:

You will find enclosed one copy of the following report prepared by RGA Environmental, Inc.

Subsurface Investigation Report (B13 Through B17) dated March 24, 2006 (document 0304.R4) for drilling soil borings B13 through B17.

I declare, under penalty of perjury, that the information and/or recommendations contained in the above-mentioned report for the subject site is true and correct to the best of my knowledge.

Should you have any questions, please do not hesitate to call me at (510) 653-6300.

Cordially,

California Linen Supply Co

Joel C. Pitney General Manager

Cc:

Donald J. Miller, California Linen Supply Co.

LeRoy Griffin, Oakland Fire Department, Office of Emergency Services, 250

Frank Ogawa Plaza, Suite 3341, Oakland, CA 94612

0304.L23

March 27, 2006 Letter 0304.L24 ENVIRONMENTAL INC.

Mr. Joel Pitney California Linen Rental Company 989 41<sup>st</sup> Street Oakland, CA 94608

SUBJECT: REPORT TRANSMITTAL

California Linen Rental Company

989 41<sup>st</sup> Street Oakland, California

Dear Mr. Pitney:

You will find enclosed two copies of the following document.

• Subsurface Investigation Report (B13 Through B17) dated March 24, 2006 (Report 0304.R4).

One copy of the above report is enclosed for your use to include in a reimbursement request submittal to the California State Water Resources Control Board Underground Storage Tank Cleanup Fund. A second copy is for your records.

Effective January 31, 2006, the Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's FTP site. Paper copies of reports will no longer be accepted.

Submission of reports to the Alameda county FTP site is in addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) GeoTracker website. Submission of reports to the GeoTracker website does not fulfill the requirement to submit documents to the Alameda County FTP site.

The Alameda County Environmental Cleanup Oversight Program still requires a certification letter to accompany the submittal of the report. A copy of the suggested transmittal letter was sent to you by e-mail for your convenience (Letter 0304.L23).

RGA Environmental, Inc. will upload a PDF copy of Report 0304.R4 with your certification letter to both the Alameda County FTP site as well as the SWRCB GeoTracker website within the next few business days.

March 27, 2006 Letter 0304.L24

Should you have any questions, please do not hesitate to contact us at (510) 658-4363.

Sincerely,

RGA Environmental, Inc.

Paul H. King

Professional Geologist #5901

Zaul W. King

Expires 12/31/07

**Enclosures** 

PHK

0304.L24

March 24, 2006 Report 0304.R4 RGA Job # CLR12293

Mr. Joel Pitney California Linen Rental Company 989 41<sup>st</sup> Street Oakland, CA 94608



SUBJECT: SUBSURFACE INVESTIGATION REPORT (B13 THROUGH B17)

Fuel Leak Case RO0000337 California Linen Rental Company 989 41st Street

989 41<sup>st</sup> Stree Oakland, CA

Dear Mr. Pitney:

RGA Environmental, Inc. (RGA) is pleased to present this report documenting the drilling of five boreholes designated as B13 through B17 at the subject site. Soil and groundwater samples were collected from the boreholes in an effort to define the subsurface extent of petroleum hydrocarbons at the subject site. A Site Location Map (Figure 1), and a Site Vicinity Map showing the borehole locations (Figure 2) are attached with this report.

This work was performed in accordance with a request from the Alameda County Department of Environmental Health (ACDEH) dated December 5, 2005. RGA proposed boreholes B13 through B16 in the report titled Subsurface Investigation (B4 through B12), dated November 22, 2005 (document 0304.R3). The proposed boring locations, methods, sampling frequency and sample analysis were conditionally approved by the ACDEH in the December 5, 2005 letter with the provision that one additional boring (B17) be located approximately 30 feet south of well MW1. This boring was to be drilled and sampled using the same methods and procedures as the other proposed boreholes.

All work was performed under the direct supervision of an appropriately registered professional. This investigation was performed in accordance with guidelines set forth in the document "Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites" dated August 10, 1990 and "Appendix A - Workplan for Initial Subsurface Investigation" dated August 20, 1991.

### BACKGROUND

The site is currently used as a linen cleaning facility. Review of available documents for the site show that on February 6 through 8, 1989 three Underground Storage Tanks (USTs) were removed from the site by Miller Environmental Company (MEC). The tanks consisted of one 10,000 gallon tank containing gasoline, one 550 gallon tank containing gasoline, and one 2,500 gallon capacity tank containing #5 fuel oil. Each tank was in a separate pit. Petroleum hydrocarbons were detected in each of the pits at the time of tank removal. Figure 2 shows the tank locations at the site. A UST Unauthorized Release Site Report was completed by Mr. Gil Wistar of the ACDEH dated February 9, 1989. In a letter dated February 23, 1989 the ACDEH requested a preliminary assessment of the site. In a letter dated July 7, 1989 the ACDEH

approved a revised work plan for subsurface investigation at the site that included installation of three groundwater monitoring wells.

Three monitoring wells, designated as MW1, MW2, and MW3 were installed at the site by MEC on September 25, 1989. One well was installed adjacent to each of the tank pits. Soil samples were collected for laboratory analysis from the boreholes for the monitoring wells at depths of 4 and 8 feet below the ground surface. The samples were analyzed for Total Petroleum Hydrocarbons as Gasoline (TPH-G), Total Petroleum Hydrocarbons as Diesel (TPH-D), Total Petroleum Hydrocarbons as Motor Oil (TPH-MO) and for benzene, toluene, ethylbenzene, and xylenes (BTEX). All target analytes were detected in the soil sample from the borehole for MW1 at a depth of 4 feet below the ground surface. None of the analytes were detected in the other soil samples from the monitoring well boreholes, except for 190 mg/kg oil in the sample from MW2 collected at a depth of 4 feet.

On October 2, 1989, the three monitoring wells at the subject site were sampled by MEC personnel, and the water samples were analyzed for the same compounds as the borehole soil samples. All analytes except oil were detected in the groundwater sample from MW1. None of the analytes were detected in the groundwater samples from the other two monitoring wells. Groundwater was encountered in the wells at depths ranging from 7.00 to 9.25 feet, and the groundwater flow direction at the site was calculated to be to the north-northwest. Documentation of the installation of the three monitoring wells, and soil and groundwater sample results from the well installation and subsequent well sampling is presented in MEC's Preliminary Subsurface Investigation Report dated November 3, 1989. Due to earthquake-related issues, the Regional Water Quality Control Board (RWQCB) was unavailable to comment on the report.

Following five quarterly monitoring and sampling events for the three wells, MEC recommended that well MW3 be destroyed. MEC concluded that petroleum hydrocarbons had not been detected in wells MW2 and MW3, and had only been detected in well MW1. MEC identified the petroleum hydrocarbons in well MW1 as gasoline, and stated that MW1 is downgradient of a former gasoline tank. MEC also stated that the groundwater flow direction was consistently to the north-northwest at the site, and that the three wells were located downgradient from each of the tank pits. MEC stated that well MW2 is downgradient of well MW1 and would effectively detect any migration of petroleum hydrocarbons from the vicinity of well MW1. Documentation of the quarterly monitoring and sampling results and associated recommendations is presented in a letter report from MEC dated March 7, 1991.

In a letter dated April 15, 1991 the ACDEH approved destruction of well MW3, and required continuation of the quarterly monitoring and sampling of wells MW1 and MW2. On July 19, 1991, well MW3 was destroyed by overdrilling. Quarterly reports documenting monitoring and sampling of the two wells were subsequently prepared by MEC.

In a November 6, 1992 letter report, MEC presented the results for quarterly monitoring and sampling through October 17, 1992. The results show that no petroleum hydrocarbons were detected in well MW2 with the exception of 0.05 mg/L TPH-D on August 15, 1991 and 1.1 ug/L toluene and 3.3 ug/L xylenes on March 18, 1992. In well MW1, TPH and BTEX concentrations

appear relatively unchanged with the exception of the March 18 and October 17, 1992 sampling events, which showed increases in benzene and toluene concentrations.

Sample results for samples collected on June 10, 1993 by the Grow Group as part of a cooperative monitoring event for investigation of nearby sites showed no detectable concentrations of EPA Method 8240 compounds in well MW2, and BTEX concentrations in MW1 consistent with concentrations encountered in well MW1 prior to the March 18 and October 17, 1992 sampling events. Review of 1998 correspondence suggests that additional cooperative sampling of the wells was performed, however the sample results were not available for review.

In a letter dated January 2, 2003, the ACDEH requested a work plan for investigation of contamination at the subject site. Following receipt of the ACDEH work plan request letter, the two existing wells, designated as MW1 and MW2 were monitored and sampled on April 2, 2003 by RGA personnel. No sheen or free product was detected in either of the wells. Ether oxygenates and lead scavengers were not detected in either of the wells. TPH-G and BTEX were detected in well MW1, and no analytes were detected in well MW2 with the exception of 0.00074 ppm xylenes. The measured depths to water and the sample results were consistent with historical results obtained for the wells. The relative absence of petroleum hydrocarbons in well MW2 suggests that petroleum hydrocarbons had not migrated beyond well MW2 as of April 2, 2003. Monitoring and sampling of well MW1 and MW2 are reported in RGA's Groundwater Monitoring and Sampling Report (document 0304.R1) dated May 1, 2003. Historical water quality for the wells is summarized in Table 1 of this report.

RGA submitted an On- and Off-Site Utilities Investigation and Off-Site Groundwater Investigation Work Plan (0304.W1) dated May 1, 2003, which the ACDEH commented upon in a letter dated May 9, 2003. In response, RGA submitted a Work Plan Addendum (document 0304.L3) dated June 9, 2003. The ACDEH approved the work plan and work plan addendum in a letter dated June 19, 2003.

From July 20 through 23, 2004 groundwater grab samples were collected from boreholes B1 through B3 and soil gas samples were collected from boreholes SG1 through SG3. In addition, RGA evaluated the locations of buried utilities in the vicinity of the subject site. The results are presented in RGA's Subsurface Investigation (B1 to B3, SG1 to SG3) and Preferential Pathway Evaluation Report dated February 22, 2005 (document 0304.R2). The groundwater grab sample results from boreholes B1 through B3 are summarized in Table 3 of this report.

Following review of the subsurface investigation report, the ACDEH requested that a work plan for further investigation be submitted. RGA subsequently submitted Subsurface Investigation Work Plan (B4 to B9) dated May 25, 2005 (document 0304.W2). The work plan included documentation and results for monitoring wells MW1 and MW2 and sampling of well MW1 on May 17, 2005. The work plan was approved in a letter from the ACDEH dated July 18, 2005. The July 18, 2005 ACDEH letter requested that the proposed borehole locations be adjusted in consideration of the narrow plumes encountered at neighboring sites. Samples were collected from adjusted locations for boreholes B4 through B6 on September 13 and 14, 2005.

During the drilling of boreholes B4 through B6 at the adjusted locations strong solvent odors were encountered in borehole B6. Laboratory results for the groundwater sample collected from borehole B6 identified the presence of Stoddard solvent in the sample. In an effort to identify potential sources for the Stoddard solvent, RGA submitted a Subsurface Investigation Work Plan Addendum dated October 5, 2005 (document 0304.W2A) for the drilling of boreholes B7 through B12. The locations of boreholes B7 through B9 in the Work Plan Addendum superseded the respective borehole locations in the May 25, 2005 Work Plan. Samples were collected from boreholes B7 through B12 on October 10 through 12, 2005. Documentation of the drilling of borings B4 through B12 is presented in RGA's report titled Subsurface Investigation (B4 through B12), dated November 22, 2005 (document 0304.R3).

Two subsurface investigations are presently ongoing in the vicinity of the site, with groundwater monitoring wells located approximately 250 feet to the west and slightly north of the subject site. The investigations are for the Kozel property (located to the north of 41<sup>st</sup> Street) and the Dunne Paints property (located to the south of 41<sup>st</sup> Street).

### **FIELD ACTIVITIES**

Prior to drilling, a permit was obtained from the Alameda County Public Works Agency. In addition, the drilling locations were marked with white paint, Underground Service Alert (USA) was notified for underground utility location, and a health and safety plan was prepared.

### **Borehole Drilling**

On January 11 and 12, 2006 RGA personnel oversaw the drilling and collection of samples from boreholes B13 through B17. The boreholes were continuously cored by Vironex, Inc. of San Leandro, California (Vironex) using Geoprobe direct-push technology. Boreholes B14, B16 and B17 were continuously cored to total depths of 18.0 feet below the ground surface. Boreholes B13 and B15 were continuously cored to total depths of 9.0 and 12.0 feet below the ground surface, respectively. In addition, in borehole B15 a Hydropunch was pushed through the bottom of the borehole and the Hydropunch screen was exposed for the interval extending from 15.0 to 19.0 feet below the ground surface. The locations of the boreholes are shown on the attached Site Vicinity Map, Figure 2.

Soil from all of the boreholes was logged in the field in accordance with standard geologic field techniques and the Unified Soil Classification System. All soil from boreholes B13 through B17 was evaluated with a Photoionization Detector (PID). No odors were detected in any of the boreholes with the exception of boreholes B13 and B17. In borehole B13 slight petroleum hydrocarbon odors were detected between the depths of approximately 6.5 and 8.0 feet below the ground surface, and strong petroleum hydrocarbon odors were detected between the depths of 8.0 and 9.0 feet below the ground surface. In borehole B17, moderate oily odors were detected between the depths of 6.9 and 10.5 feet below the ground surface, strong gasoline odors were detected between the depths of 10.5 and 11.8 feet below the ground surface, and moderate gasoline odors were detected between the depths of 11.8 and 14.0 feet below the ground surface.

Organic vapors were not detected with the PID, except in boreholes B13 and B17. In borehole B13, PID values ranging from 7 to 35 ppm were recorded between the depths of approximately 5.5 and 8.0 feet below the ground surface. In borehole B17, PID values ranging from 3 to 25 ppm were recorded between the depths of approximately 4.5 and 11.0 feet below the ground surface. Copies of the boring logs are attached with this report.

Groundwater was initially encountered in boreholes B13 through B17 at depths ranging from 5.2 to 15.1 feet below the ground surface. Groundwater was subsequently measured in boreholes B13 through B17 at depths ranging from 5.3 to 15.3 feet below the ground surface. Initial and subsequent water levels measured in the boreholes were recorded on the boring logs.

All drilling and sampling equipment was either previously unused clean material, or was cleaned with an Alconox solution followed by a clean water rinse prior to use in each borehole. Following completion of sample collection activities, the boreholes were filled with neat cement grout. Soil generated during drilling was stored in drums at the site pending characterization and disposal.

### Soil and Groundwater Sample Collection

The boreholes were continuously cored using a 3-foot long, 2-inch outside diameter Geoprobe Macrocore barrel sampler lined with cellulose acetate tubes. The rationale for the depths at which soil samples were retained for laboratory analysis was to collect soil samples from above, below, and within petroleum-impacted soil zones to define the vertical extent and degree of impact. When no evidence of petroleum or solvents was present in a borehole, soil samples were retained for laboratory analysis at depths of approximately 5.0 and 10.0 feet below the ground surface. Soil samples were retained for laboratory analysis by cutting the desired section from the cellulose acetate core tube and covering the ends of the tube sequentially with aluminum foil and plastic endcaps. The section of tube was then labeled and placed in a cooler with ice pending delivery to a State-accredited hazardous waste testing laboratory. Each core section retained for laboratory analysis measured approximately 6-inches in length.

Groundwater samples were collected from all of the boreholes in the following manner. One groundwater grab sample was collected from each borehole for laboratory analysis by placing new, temporary 1-inch diameter slotted PVC pipe into each borehole and using polyethylene tubing and a stainless steel foot valve to remove groundwater from the PVC pipe. No sheen or separate phase layers of petroleum hydrocarbons were observed on any of the water from any of the boreholes. All water samples were transferred to one-liter amber bottles and 40-milliliter glass Volatile Organic Analysis (VOA) vials containing hydrochloric acid preservative, which were sealed with Teflon-lined screw caps. The VOAs were overturned and tapped to ensure that air bubbles were not present. The samples were labeled and then placed into a cooler with ice pending delivery to the laboratory. Chain of custody procedures were observed for all sample handling.

On January 11, 2006, after borehole B15 had been continuously cored to a depth of 12.0 feet, a Hydropunch was driven through the open borehole, and the screen was exposed for the interval of 15.0 to 19.0 feet below the ground surface. No water was in the Hydropunch at 5:00 PM. At

8:52 AM on January 12, 2006, water was measured in the Hydropunch rods at 3.3 feet below the ground surface. A groundwater sample was collected from the Hydropunch using polyethylene tubing and a stainless steel footvalve.

### GEOLOGY AND HYDROGEOLOGY

Based on review of regional geologic maps from U. S. Geological Survey Professional Paper 943, "Flatland Deposits - Their Geology and Engineering Properties and Their Importance to Comprehensive Planning," by E. J. Helley and K. R. Lajoie, 1979, the subject site is at the interface of underlying materials consisting of Late Pleistocene alluvium (Qpa) and Medium-Grained Alluvium (Qham). Late Pleistocene alluvium is described as weakly consolidated, slightly weathered, poorly sorted, irregularly interbedded clay, silt, sand, and gravel. Medium-Grained Alluvium is described as unconsolidated, moderately sorted, permeable fine sand, silt, and clayey silt with a few thin beds of coarse sand.

The surface cover materials encountered in boreholes B13 through B17 consisted of concrete to a depth of between 4 and 22 inches. In borehole B13, the concrete was underlain by fine sand to a depth of 3.4 feet below the ground surface. In boreholes B14 through B17, the concrete was underlain by baserock fill to depths between 1.0 and 3.0 feet below the ground surface. Beneath the fill and baserock, silt and clay were encountered in boreholes B14 through B16 to depths ranging from 10.0 to 12.8 feet below the ground surface. In boreholes B13 and B17 the fill was underlain by silt to depths of 4.3 and 6.9 feet, respectively. The silt and clay layers in all of the boreholes were underlain by coarse-grained materials consisting of sand, clayey or silty sand, or gravel layers ranging in thickness from 1.0 to 4.7 feet. Copies of the boring logs for boreholes B13 through B17 are attached with this report. Coarse-grained materials were encountered in boreholes B13 through B17 as follows.

- Borehole B13 between the depths of 4.3 to 5.2 (gravelly sand) and 5.2 to 9.0 (gravelly silty sand) feet below the ground surface,
- Borehole B14 between the depths of 12.8 to 15.1 (silty sand) and 15.1 to 15.8 (clayey sand) feet below the ground surface,
- Borehole B15 between the depths of 10.5 to 11.5 (sandy gravel) feet below the ground surface,
- Borehole B16 between the depths of 10.0 to 11.5 (silty sand) and 14.0 to 18.0 (silty sand) feet below the ground surface,
- Borehole B17 between the depths of 6.9 to 10.5 (gravelly silty sand) feet below the ground surface.

The locations of geologic cross sections A-A', B-B', and C-C' are shown on Figure 2. Geologic cross sections A-A' and B-B' are shown on Figure 3, and geologic cross section C-C' is shown on Figure 4. Review of Figure 3 shows that on geologic cross section A-A' coarse-grained materials are encountered in boreholes B5a and B6 at depths of approximately 7 to 10 feet below the ground surface, and 15 to 17 feet below the ground surface. In boreholes B4, B5a and B6 coarse-grained materials are encountered between the depths of approximately 23 to 27 feet below the ground surface and extending to the total depths explored in each of these borings. In

adjacent boreholes B1, B2 and B3 silt and clay were encountered to the total depths explored. Similarly, the materials encountered in boreholes B7 and B8 consist predominantly of silt, with some coarse-grained materials encountered in borehole B7 below the depth of approximately 27 feet.

Review of Figure 4 shows that coarse-grained materials were encountered in borehole B13 at shallower depths than in boreholes B14 and B15, and that the depth at which groundwater was first encountered during drilling is approximately coincident with the presence of coarse-grained materials.

Groundwater was initially encountered in boreholes B13 through B17 at depths ranging from 5.2 to 15.1 feet below the ground surface. Groundwater was subsequently measured in boreholes B13 through B17 at depths ranging from 5.3 to 15.3 feet below the ground surface. Initial and subsequent water levels measured in the boreholes were recorded on the boring logs.

The depths to water in the groundwater monitoring wells MW1 and MW2 at the site were measured on April 2, 2003 and reported in RGA's Groundwater Monitoring and Sampling Report (0304.R1) dated May 1, 2003. The measured depth to water in the groundwater monitoring wells at the site on April 2, 2003 was 7.00 feet in MW1 and 9.09 feet in MW2. Similar depth to water measurements were obtained in wells MW1 and MW2 on May 17, 2005, which is consistent with water levels historically measured in these wells. It is not possible to calculate groundwater flow direction at the site with only the two existing wells. Prior to destruction of well MW3 at the site in 1991, the groundwater flow direction was reported to have been consistently to the north-northwest by MEC. MEC did not report the gradient.

The surface elevation at the site is between 40 and 60 feet above Mean Sea Level. Review of Figure 1 shows that the topography in the site vicinity gently slopes to the west, and that San Francisco Bay is located approximately one mile west of the site. Based on the surface topography, the regional groundwater flow direction is assumed to be westerly.

Review of an August 11, 2004 Quarterly Groundwater Monitoring Report prepared by Aqua Science Engineers, Inc. for the Kozel property located at 1001 42<sup>nd</sup> Street in Oakland (located across Linden Street and immediately to the northwest of the subject site) shows that the June 2004 groundwater flow direction was calculated to be to the southwest, based on water level information from 10 groundwater monitoring wells located at and near the Kozel property. This reported southwesterly groundwater flow direction is shown on Figures 5 and 6.

### LABORATORY RESULTS

All of the soil and groundwater samples were analyzed at McCampbell Analytical, Inc. (McCampbell) of Pacheco, California. McCampbell is a state-accredited hazardous waste testing laboratory. All of the soil and groundwater samples were analyzed for Total Petroleum Hydrocarbons as Gasoline (TPH-G) using EPA Method 5030B in conjunction with modified EPA Method 8015C, and for MTBE and BTEX using EPA Method 8021B. In addition, the groundwater sample collected from borehole B13 at a depth of 9.0 feet below the ground surface,

and the groundwater samples collected from borehole B15 at depths of 9.0 and 19.0 feet below the ground surface were analyzed for Total Petroleum Hydrocarbons as Diesel (TPH-D) and Total Petroleum Hydrocarbons as Motor Oil (TPH-MO) using EPA Method 3510C in conjunction with EPA Method 8015C. The soil sample results are summarized in Table 4, and the groundwater sample results are summarized in Table 5. Copies of the laboratory analytical reports and chain of custody documentation are attached with this report.

Review of the soil sample results in Table 4 shows that TPH-G was detected only in boreholes B13 and B17 at a depth of 5.0 feet at concentrations of 1.5 and 5.1 mg/kg respectively, and at a depth of 8.5 feet at concentrations of 62 and 1.2 mg/kg respectively. Review of the laboratory analytical reports shows that the results for all of these samples were identified as having no recognizable pattern. MTBE and benzene were not detected in any of the soil samples from any of the boreholes with the exception of 0.021 mg/kg benzene in sample B13-8.5.

Review of the water sample results in Table 5 shows that MTBE was not detected in any of the water samples, and that TPH-G and benzene were not detected in samples B14-18.0, B15-9.0, and B16-18.0. However, TPH-D and TPH-MO were detected in sample B15-9.0 at concentrations of 4,100 and 35,000 ug/L, respectively. TPH-G was detected in samples B13-9.0, B15019.0 and B17-18.0 at concentrations of 16,000, 160 and 220 ug/L, respectively, and benzene was detected in samples B13-9.0 and B17-18.0 at concentrations of 21 and 2.5 ug/L, respectively. In samples B15-9.0 and B15-9.0 TPH-D was detected at concentrations of 4,100 and 170,000 ug/L, respectively and TPH-MO was detected at concentrations of 35,000 and 1,300,000 ug/L, respectively. Review of the laboratory analytical reports for all of the detected TPH-D results shows that the laboratory identified the TPH-D as consisting of oil-range compounds, and that sample B13-9.0 also consisted of gasoline-range compounds.

### DISCUSSION AND RECOMMENDATIONS

Figure 5 shows TPH-G concentrations in soil at depths of 5.0, 7.5 or 8.5 feet below the ground surface. Review of Figure 5 shows that the extent of TPH-G in shallow soil appears to be defined to the southeast by boreholes B14, B15 and B16. The high concentrations of oil-range compounds detected in the water samples collected from borehole B15 (see Table 5) in conjunction with the identification in the boring log of oily odors at shallow depths suggests that a localized impact of oil to groundwater has occurred in the vicinity of borehole B15.

Figure 6 shows TPH-G concentrations in groundwater, and includes TPH-G isoconcentration contours for values of 1,000 ug/L and Not Detected. Based on the TPH-G concentration at borehole B13 and the assumed groundwater flow direction at the site, the suspected source for the TPH-G is the former UST adjacent to MW3 and 41<sup>st</sup> Street. Although Table 1 shows that samples from well MW3 historically did not have any detectable concentrations of petroleum hydrocarbons, it appears that well MW3 is located upgradient of the UST.

Review of Figure 6 shows that the extent of TPH-G in groundwater appears to have largely been defined with the exception of the area to the east of the former UST located adjacent to 41<sup>st</sup> Street near well MW3 and the area to the southeast of boring B15. The sinuous shape of the area

on Figure 6 with TPH-G concentrations exceeding 1,000 ug/L suggests that the TPH-G may be moving in a buried meandering higher permeability zone. Review of the higher permeability areas encountered in geologic cross section A-A' at borings B5 and B6 is consistent with this interpretation.

Comparison of historic and current investigation groundwater sample results with the residential land use Environmental Screening Levels (ESLs) set forth by the San Francisco Bay Regional Water Quality Control Board (SF-RWQCB) (updated February 2005, Table A – Shallow Soils, Groundwater is a current or potential source of drinking water) shows that site TPH-G concentrations exceed the ESL of 100 ug/L. Similarly, benzene concentrations in well MW1 exceed the residential ESL of 1.0.

Based on the general absence of benzene in the groundwater samples from the boreholes, the extent of benzene in the subsurface appears to be limited. However, benzene concentrations exceeding 2,000 ug/L have consistently been encountered in well MW1. Figure 6 shows the approximate extent of the area with TPH-G concentrations exceeding 1,000 ug/L. RGA recommends that a feasibility test be performed to evaluate remedial technologies for reduction of petroleum hydrocarbon concentrations exceeding ESL values.

### DISTRIBUTION

A copy of this report will be uploaded to the ACDEH website, in accordance with ACDEH requirements. In addition, a copy of this report will be uploaded to the GeoTracker database. In addition, a copy of this report should be sent to Mr. LeRoy Griffin at the City of Oakland Fire Department.

### **LIMITATIONS**

This report was prepared solely for the use of California Linen Rental Company. The content and conclusions provided by RGA in this assessment are based on information collected during our investigation, which may include, but not be limited to, visual site inspections; interviews with the site owner, regulatory agencies and other pertinent individuals; review of available public documents; subsurface exploration and our professional judgment based on said information at the time of preparation of this document. Any subsurface sample results and observations presented herein are considered to be representative of the area of investigation; however, geological conditions may vary between borings and may not necessarily apply to the general site as a whole. If future subsurface or other conditions are revealed which vary from these findings, the newly revealed conditions must be evaluated and may invalidate the findings of this report.

This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information contained herein is brought to the attention of the appropriate regulatory agencies, where required by law. Additionally, it is the sole responsibility of the owner to properly dispose of any hazardous materials or hazardous wastes left onsite, in accordance with existing laws and regulations.

This report has been prepared in accordance with generally accepted practices using standards of care and diligence normally practiced by recognized consulting firms performing services of a similar nature. RGA is not responsible for the accuracy or completeness of information provided by other individuals or entities which is used in this report. This report presents our professional judgment based upon data and findings identified in this report and interpretation of such data based upon our experience and background, and no warranty, either express or implied, is made. The conclusions presented are based upon the current regulatory climate and may require revision if future regulatory changes occur.

Should you have any questions or comments, please do not hesitate to contact us at (510) 547-7771.

Sincerely,

RGA Environmental, Inc.

-- . . . . .

Karin Schroeter Project Manager

Paul H. King

Professional Geologist #5901

Expires: 12/31/07

Attachments: Table 1- Summary of Historical Groundwater Monitoring Well Sample Results

Table 2- Summary of Historical Borehole Soil Sample Results

Table 3- Summary of Historical Borehole Groundwater Sample Results

Table 4- Summary of Current Borehole Soil Sample Results

Table 5- Summary of Current Borehole Groundwater Sample Results

Figure 1- Site Location Map

Figure 2- Site Vicinity Map Showing Borehole and Geologic Cross Section Locations

Figure 3 - Geologic Cross Sections A-A' and B-B'

Figure 4 - Geologic Cross Section C-C'

Figure 4 - Site Vicinity Map Showing TPH-G in Soil at 5.0, 7.5 or 8.5 Foot Depth (mg/kg)

Figure 5 - Site Vicinity Map Showing TPH-G in Groundwater (ug/L)

Boring Logs (B13 through B17)

Laboratory Analytical Reports and Chain of Custody Documentation

PHK/efo 0304.R4

# Tables

TABLE 1 SUMMARY OF HISTORICAL GROUNDWATER MONITORING WELL SAMPLE RESULTS

Well No.	Date	TPH-D	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	Fuel Oxygenates and Lead Scavengers
MW1	05/17/05	NA	13,000	2,400	230	490	240	NA, except MTBE = ND<120
	04/02/03	NA	24,000	4,000	1,600	2,300	1,400	ND<50, except $TBA = ND$ <500
	03/18/92	14,000	77,000	17,000	18,000	2,300	1,300	NA
	11/21/91	9,800	47,000	6,000	7,200	2,200	1,000	NA
	08/15/91	3,500	59,000	3,800	5,500	1,100	4,800	NA
	06/05/91	560	23,000	2,000	1,200	640	2,500	NA
	01/28/91	1,700	99,000	4,400	7,400	1,800	8,600	NA
	10/23/90	1,100	50,000	3,300	4,000	4,200	4,700	NA
	07/25/90	ND	34,000	2,000	670	120	1,500	NA
	02/20/90	2,200	73,000	7,500	5,900	680	5,300	NA
	10/02/89	610	70,000	2,800	2,400	2,300	4,800	NA

### Notes:

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

ND = Not Detected.

NA = Not Analyzed.

Results are in micrograms per liter (ug/L), unless otherwise indicated.

TABLE 1 (Contd.) SUMMARY OF HISTORICAL GROUNDWATER MONITORING WELL SAMPLE RESULTS

Well No.	Date	TPH-D	трн-G	Benzene	Toluene	Ethyl- benzene	Xylenes	Fuel Oxygenates and Lead Scavengers
MW2	04/02/03	NA	ND<50	ND<0.5	ND<0.5	ND<0.5	0.74	ND<0.5, except
111112	0 1, 02, 02	1 11 2	1,2					TBA = ND < 5
	03/18/92	ND	ND	ND	1.1	ND	3.3	NA
	11/21/91	ND	ND	ND	ND	ND	ND	NA
	08/15/91	ND	ND	ND	ND	ND	ND	NA
	06/05/91	ND	ND	ND	ND	ND	ND	NA
	01/28/91	ND	ND	ND	ND	ND	ND	NA
	10/23/90	ND	ND	ND	ND	ND	ND	NA
	07/25/90	ND	ND	ND	ND	ND	ND	NA
	02/20/90	ND	ND	ND	ND	ND	ND	NA
	10/02/89	ND	ND	ND	ND	ND	ND	NA

### Notes:

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

ND = Not Detected.

NA = Not Analyzed.

Results are in micrograms per liter (ug/L), unless otherwise indicated.

# TABLE 1 (Contd.) SUMMARY OF HISTORICAL GROUNDWATER MONITORING WELL SAMPLE RESULTS

Well No.	Date	TPH-D	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	Fuel Oxygenates and Lead Scavengers
MW3	02/20/90	ND	ND	ND	ND	ND	ND	NA
	10/02/89	ND	ND	ND	ND	ND	ND	NA

### Notes:

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

ND = Not Detected.

NA = Not Analyzed.

Well MW3 was destroyed on July 19, 1991.

### TABLE 2 SUMMARY OF HISTORICAL BOREHOLE SOIL SAMPLE RESULTS (Samples Collected September 13, 2005)

Sample	TPH-G/					MTBE and
No.	TPH-SS	Benzene	Toluene	Ethylbenzene	Xylenes	Other VOCs
B4-5.0	ND<1.0/	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
	NA					
B4-7.5	ND<1.0/	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
	NA					
<b>B4-10.0</b>	ND<1.0/	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
	NA					
B4-21.5	ND<1.0/	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
	NA					
D5 5 0	ND<1.0/	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B5-5.0	ND~1.0/ NA	ND~0.003	ND~0.003	ND~0.003	ND <0.003	14D 40.03/14/1
B5-7.5	590,c,d/	ND<0.20	0.20	0.66	4.0	ND<2.0/NA
<b>B</b> 5 7.5	NA	110 0.20	0.20			
B5-11.0	ND<1.0/	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
	NA					
B5-19.5	ND<1.0/	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
	NA					

### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-SS = Total Petroleum Hydrocarbons as Stoddard solvent.

ND = Not Detected.

NA = Not Analyzed.

c = Laboratory analytical report note: strongly aged gasoline or diesel range compounds are significant.

d = Laboratory analytical report note: no recognizable pattern.

### TABLE 2 (Contd.) SUMMARY OF HISTORICAL BOREHOLE SOIL SAMPLE RESULTS

(Samples Collected September 13, 2005)

Sample	TPH-G/	Danzana	Taluana	Ethulhanzana	Xylenes	MTBE/Other VOCs
No.	TPH-SS	Benzene	Toluene	Ethylbenzene	<u> </u>	
B6-5	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B6-7	240,b,d/ NA	ND<0.20	ND<0.20	1.7	9.2	ND<2.0/NA
B6-10	ND<1.0/ ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B6-12.5	4.9/ 5.1	ND<0.005	0.020	0.040	0.23	ND<0.05/ND<0.005, except n Butyl benzene = 0.0097, Ethylbenzene = 0.021, 1,2,4-Trimethylbenzene = 0.085, Naphthalene = 0.0085, n-Propyl benzene = 0.018, 1,3,5-Trimethylbenzene = 0.026, xylenes = 0.093
B6-13.5	ND<1.0/ ND<1.0	ND<0.005	ND<0.005	ND<0.005	0.019	ND<0.05/NA
B6-17.0	15/ 12	0.0085	ND<0.005	0.17	0.84	ND<0.05/ND<0.005, except n Butyl benzene = 0.045, Ethylbenzene = 0.081, Isopropylbenzene = 0.021, 1,2,4-Trimethylbenzene = 0.41, sec-Butyl benzene = 0.011, 4-Isopropyl toluene = 0.013, Naphthalene = 0.042, n-Propyl benzene = 0.078, 1,3,5-Trimethylbenzene = 0.11, xylenes = 0.38
B6-19.0	ND<1.0/ ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/ND<0.005

### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-SS = Total Petroleum Hydrocarbons as Stoddard Solvent.

ND = Not Detected.

NA = Not Analyzed.

b = Laboratory analytical report note: heavier gasoline range compounds are significant (aged gasoline?).

d = Laboratory analytical report note: no recognizable pattern.

# TABLE 2 (Contd.) SUMMARY OF HISTORICAL BOREHOLE SOIL SAMPLE RESULTS (Samples Collected October 10 and October 11, 2005)

Sample	TPH-G/				** 1	MTBE/
No.	TPH-SS	Benzene	Toluene	Ethylbenzene	Xylenes	Other VOCs
B7-5.0	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
<b>B7-7</b> .0	36,c,d/ NA	ND<0.25	ND<0.25	ND<0.25	0.049	ND<0.25/NA
<b>B7-17</b> .0	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B7-19.0	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B8-5.0	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B8-7.5	230,c/ NA	ND<5.0	ND<0.50	ND<0.50	0.81	ND<0.50/NA
<b>B8-</b> 10.0	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B8-12.5	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B8-19.5	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B9-5.0	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
<b>B</b> 9-10.0	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B9-19.5	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA

### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-SS = Total Petroleum Hydrocarbons as Stoddard Solvent.

ND = Not Detected.

NA = Not Analyzed.

c = Laboratory analytical report note: strongly aged gasoline or diesel range compounds are significant.

d = Laboratory analytical report note: no recognizable pattern.

# TABLE 2 (Contd.) SUMMARY OF HISTORICAL BOREHOLE SOIL SAMPLE RESULTS (Samples Collected October 10 and October 11, 2005)

Sample	TPH-G/					MTBE/
No.	TPH-SS	Benzene	Toluene	Ethylbenzene	Xylenes	Other VOCs
B10-5.0	ND<1.0/	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
	NA					
B10-10.0	ND<1.0/	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
	NA					
B10-19.5	ND<1.0/	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
	NA					
B11-5.0	ND<1.0/	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
	NA					
B11-19.5	ND<1.0/	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
	NA					
B12-5.0	ND<1.0/	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
<b>B12</b> -3.0	NA	110 10.003	110 10.003	112 10.005	112 0.000	1,20 0,00,1,12
B12-10.0	ND<1.0/	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
	NA					
B12-19.5	ND<1.0/	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
	NA					

### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-SS = Total Petroleum Hydrocarbons as Stoddard Solvent.

ND = Not Detected.

NA = Not Analyzed.

### TABLE 3 SUMMARY OF HISTORICAL BOREHOLE GROUNDWATER SAMPLE RESULTS (Samples Collected July 21, 2004)

Sample No.	TPH-D	TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes
B1	81	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
B2	ND<50	ND<50	ND<0.5	0.56	ND<0.5	0.6
В3	180,a	500,b	ND<0.5	0.55	18	44

### Notes:

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

ND = Not Detected.

a = Laboratory analytical report note: gasoline range compounds are significant.

b = Laboratory analytical report note: heavier gasoline range compounds are significant, possibly aged gasoline.

Results are in micrograms per liter (ug/L), unless otherwise indicated.

### TABLE 3 (Contd.) SUMMARY OF

## HISTORICAL BOREHOLE GROUNDWATER SAMPLE RESULTS (Samples Collected September 13, October 10, October 11, and October 12, 2005)

Sample No.	TPH-G/ TPH-SS	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE/ Other VOCs
B4-28.0, Water	120/NA	ND<0.5	1.6	ND<0.5	0.79	ND<5.0/NA
B5-28.0, Water	120/NA	1.0	1.0	1.1	5.0	ND<5.0/NA
B6-24.0, Water	1,900/ 1,400	23	0.95	62	240	ND<5.0, except benzene = 26, n Butyl benzene = 20, Ethylbenzene = 82, Isopropylbenzene = 17, 1,2,4-Trimethylbenzene = 200, sec-Butyl benzene = 0.011, Naphthalene = 24, n-Propyl benzene = 50, 1,3,5-Trimethylbenzene = 65, xylenes = 320
B7-32.0, Water	ND<50/ NA	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0/NA
B8-32.0, Water	ND<50/ NA	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0/NA
B9-32.0, Water	ND<50/ NA	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0/NA
B10-32.0, Water	ND<50/ NA	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0/NA
B11-32.0, Water	ND<50/ NA	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0/NA
B12-32.0, Water	ND<50/ NA	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0/NA

### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-SS = Total Petroleum Hydrocarbons as Stoddard Solvent.

ND = Not Detected.

NA = Not Analyzed.

Results are in micrograms per Liter (ug/L), unless otherwise indicated.

TABLE 4
SUMMARY OF
CURRENT BOREHOLE SOIL SAMPLE RESULTS
(Samples Collected January 11 and January 12, 2006)

Sample						
No.	TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
B13-	1.5,d	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
5.0						
B13-	62,b,d	0.021	0.064	ND<0.017	0.15	ND<0.17
8.5						
B14-	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
5.0						
B14-	ND < 1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND < 0.05
10.0						
B15-	ND < 1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
5.0						
B15-	ND < 1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
10.0						3.FD +0.05
B16-	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
5.0				3.775	NED 10.005	NID 40.05
B16-	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
10.0	1	3 FD +0 005	0.000	ND <0.005	0.021	NTD <0.05
B17-	5.1,d	ND<0.005	0.022	ND<0.005	0.021	ND<0.05
5.0		ND 40 005	0.0076	NID <0.005	NID <0.005	NID <0.05
B17-	1.2,d	ND<0.005	0.0076	ND<0.005	ND<0.005	ND<0.05
8.5	<b>NID</b> <1.0	NID <0.005	NID <0.005	NID <0.005	NID <0.005	NID < 0.05
B17-	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
17.5						

### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

ND = Not Detected.

NA = Not Analyzed.

b = Laboratory analytical report note: heavier gasoline range compounds are significant (aged gasoline?).

d = Laboratory analytical report note: no recognizable pattern.

# TABLE 5 SUMMARY OF CURRENT BOREHOLE GROUNDWATER SAMPLE RESULTS (Samples Collected January 11 and January 12, 2006)

Sample						Ethyl-		
No.	TPH-D	TPH-MO	TPH-G	Benzene	Toluene	benzene	Xylenes	MTBE
B13-9.0	3,900,a,f,e	2,700	16,000,e	21	4.6	250	27	ND<25
B14- 18.0	NA	NA	ND<50	ND<0.5	1.7	ND<0.5	1.2	ND<5.0
B15-9.0	4,100,f	35,000	ND<50	ND<0.5	1.8	ND<0.5	0.52	ND<5.0
B15- 19.0	170,000,f,e	1,300,000	160,b,e	ND<0.5	9.0	0.55	3.6	ND<5.0
B16- 18.0	NA	NA	ND<50,e	ND<0.5	3.4	ND<0.5	1.6	ND<5.0
B17- 18.0	NA	NA	220,a,e	2.5	12	7.4	3.3	ND<5.0

### Notes:

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

ND = Not Detected.

NA = Not Analyzed.

a = Laboratory analytical report note: gasoline range compounds are significant.

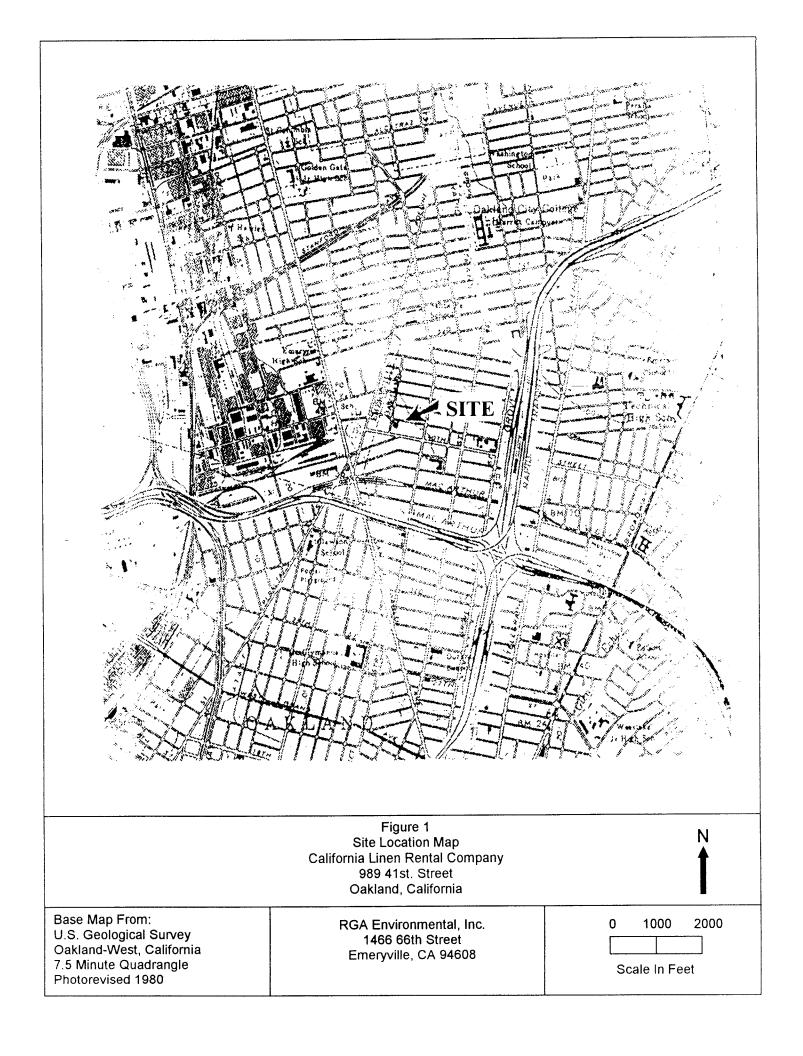
b = Laboratory analytical report note: heavier gasoline range compounds are significant (aged gasoline?).

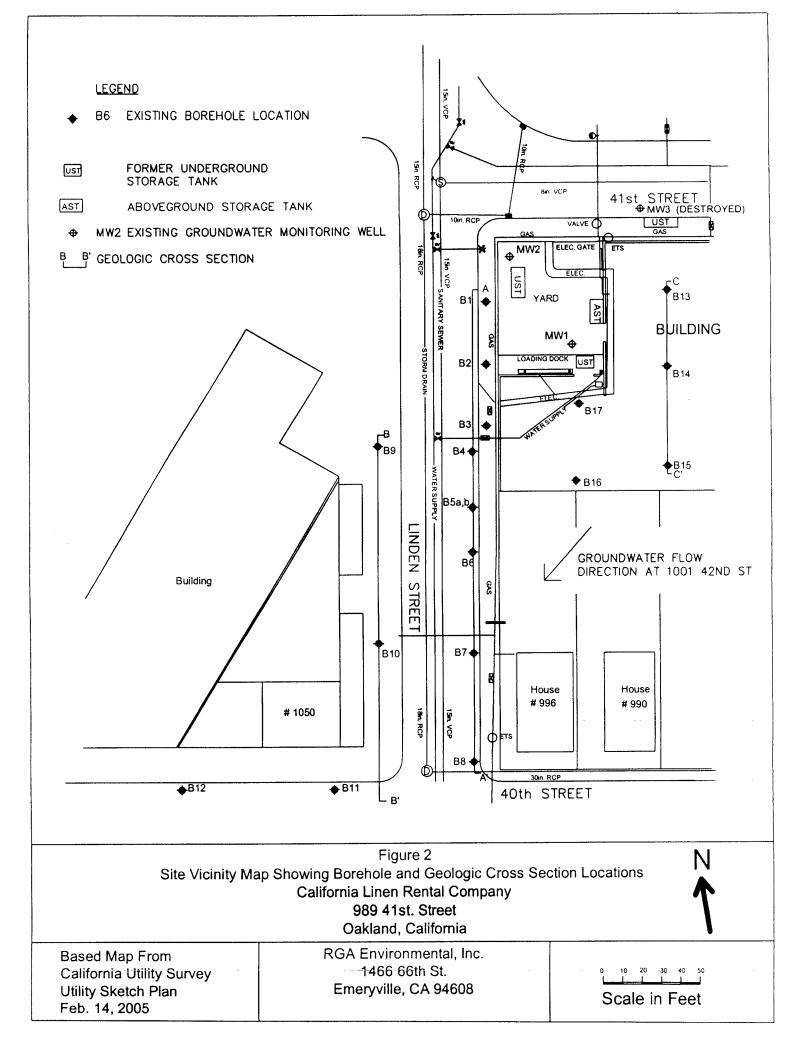
e = Laboratory analytical report note: lighter than water immiscible sheen/product is present.

f = Laboratory analytical report note: oil range compounds are significant.

Results are in micrograms per Liter (ug/L), unless otherwise indicated.

## Figures





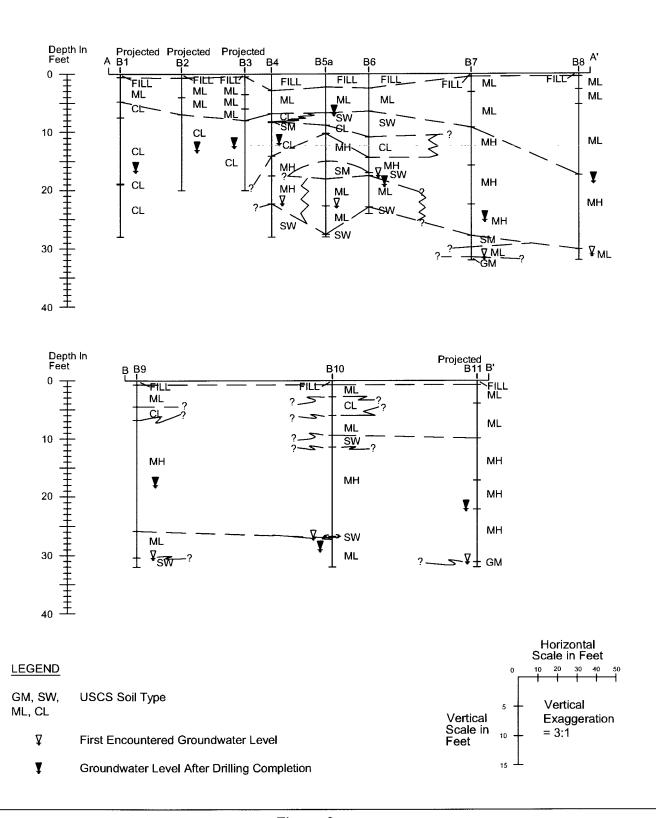
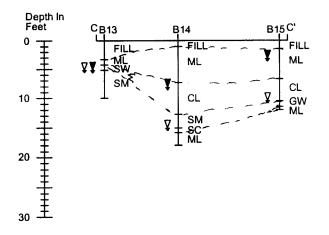


Figure 3 Geologic Cross Sections A-A' and B-B' California Linen Rental Company 989 41st Street Oakland, California

RGA Environmental, Inc. 1466 66th St. Emeryville, CA 94608



### **LEGEND**

SW, SM, GW USCS Soil Type ML, CL

▼ Groundwater Level After Drilling Completion

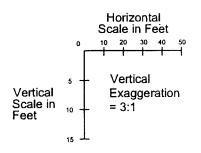
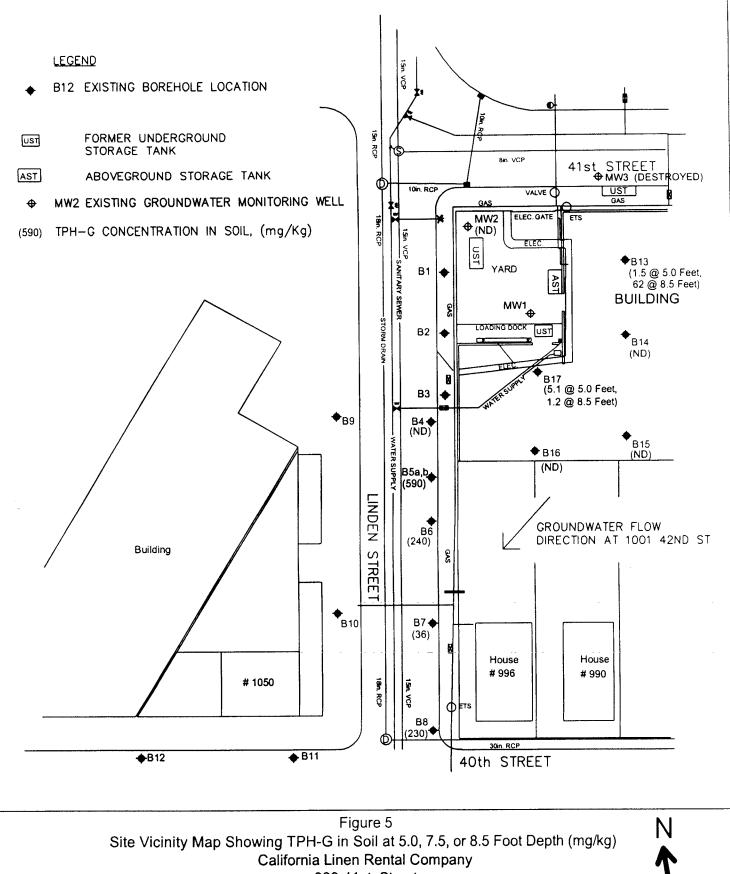


Figure 4
Geologic Cross Section C-C'
California Linen Rental Company
989 41st Street
Oakland, California

RGA Environmental, Inc. 1466 66th St. Emeryville, CA 94608

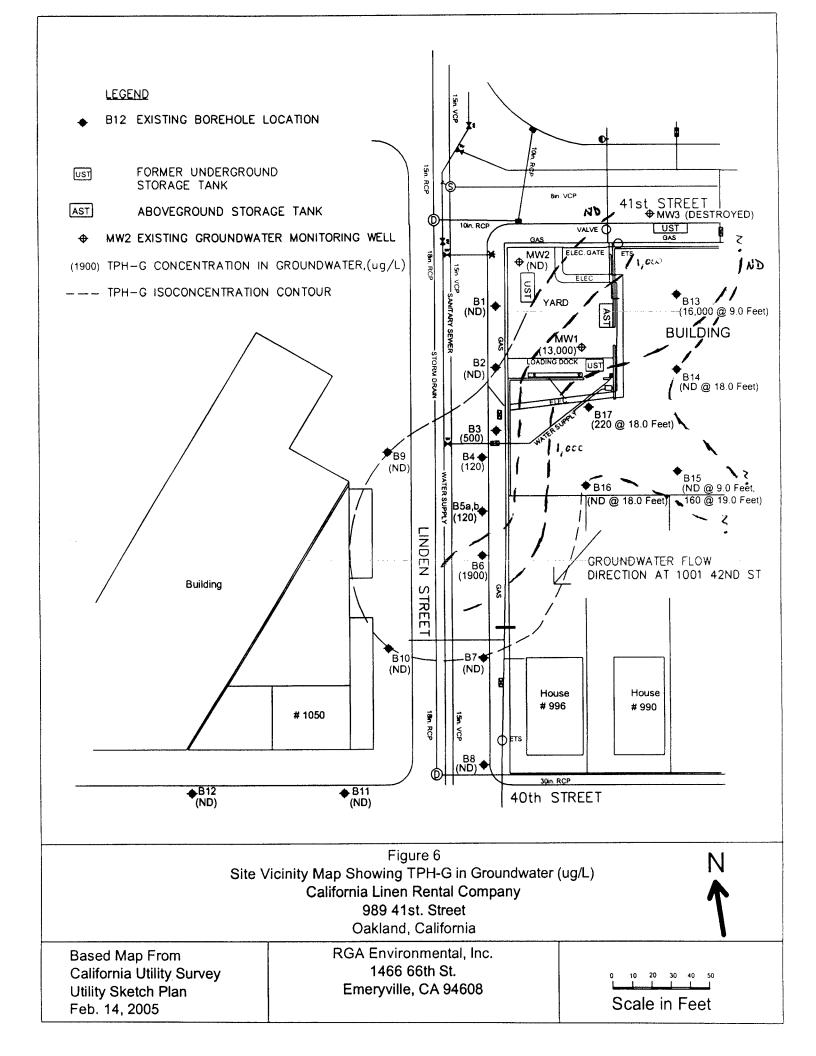


989 41st. Street Oakland, California

RGA Environmental, Inc. 1466 66th St. Emeryville, CA 94608



Based Map From California Utility Survey Utility Sketch Plan Feb. 14, 2005



## **Boring Logs**

BORIN	G NO.:	B13 PROJECT NO.: CLR12818 PROJECT	NAME: C	alifornia Linen, Oakl	and, C	Α					
BORING LOCATION: Northeast of Former UST ELEVATION AND DATUM: NONE											
DRILLI	NG AG	ENCY: Vironex, Inc. DRILLER: Sayphone/h	yle		DAT	E & TIME	STARTED:	DATE & TIME FINISHED:			
DRILLI	NG EQ	UIPMENT: Badger limited-access rig				1/12/06		1/12/06			
COMPLETION DEPTH: 9.0 FEET BEDROCK DEPTH: None encountered LOGGED BY: CHECK											
<u></u>		R DEPTH: 5.2 FEET NO. OF SAMPLES: 2.5	oil, 1 Water			WR	w				
DEPTH (FT.)	(, , )	DESCRIPTION	GRAPHIC	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID		REMARKS			
10 		0 to 22 in. Concrete. 22 in. to 3.4 ft. Brownish gray fine sand (FILL)  3.4 to 4.3 ft. Dark gray sandy, gravelly silt (ML); soft, wet. No Petroleum Hydrocarbon (PHC) odor. 4.3 to 5.2 ft. Light brown gravelly sand (SW); gravel<1 in. diam., loose, very moist. No PHC odor.  5.2 to 9.0 ft. Greenish gray gravelly, silty sand (SM); gravel<1 in. diam., medium dense, moist. Orange and white mottling. No PHC odor from 5.2 to 6.5 ft. Slight PHC odor from 6.5 to 8.0 ft. Strong PHC odor from 8.0 to 9.0 ft.	ML SW SM	No Well Constructed  ▼ ▼	BLOW PER	0 0 0 7 21 35	cored usinch O.I. rocore E Sample foot inte was line 1 3/4 in. acetate  First wa 5.2 ft. d 1/12/06  Borehol ft., 1/12 1-in. dia casing   Water n in PVC 1/12/06 after rer from bo ously co depth. Strong   sheen co Borehol neat cel	ter encountered at uring drilling,  e terminated at 9.0 /06. Im. slotted PVC placed in borehole. neasured at 5.3 ft. casing, 10:40 AM, approx. 5 min. moving drilling rods rehole continuoring to 9.0 ft.  PHC odor, but no on water sample. le grouted with ment and a 4 in. seal of concrete,			
25											

BORING NO.: B14 PROJECT NO.: CLR12818 PROJECT NAME: California Linen, Oakland, CA												
BORING LOCATION: East of Former UST ELEVATION AND DATUM: NONE												
DRILLING AGENCY: Vironex, Inc. DRILLER: Sayphone/Kyle								DATE & TIME STARTED:			DATE & TIME FINISHED:	
DRILLING EQUIPMENT: Badger limited-access rig								1/11/06			1/11/06	
COMPLETION DEPTH: 18.0 FEET BEDROCK DEPTH: None encountered								LOGGED BY:			CHECKED BY:	
FIRST WATER DEPTH: 15.1 FEET NO.				NO. OF SAMPLES:	OF SAMPLES: 2 Soil, 1 Water			EFO				
DЕРТН (FT.)			DESCRIPTION			GRAPHIC	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID		REMARKS	
E		$\exists$		0 to 6 in. Concre		J	FILL	No Well		0		e continuously
E			1.0 to 7.3 ft. E	in, to 1 ft. baser Black sandy silt (l eum Hydrocarbon	ML); soft, moist		ML	Constructed		0	inch O.I rocore E	sing a 3-ft. long 2- D. Geoprobe Mac- Barrel Sampler. s collected in 3-
E	5					X				0	was line	ervals. The sampler ed with 2.8-ft. long O.D. cellulose
E			7.3 to 12	.8 ft. Brownish gr	rav sand silt		V			0		.5 ft. recovery
E	10		clay (CL); stiff, dry. Orange mottling. No PHC odor.				¥ CL			0	3-6 ft. 2	ft. recovery
										0	Water measured at 8.2 10:28 AM, 1/11/06, approx. 5 min. after corpletion of drilling.	M, 1/11/06, 5 min. after com-
	15			Orangish brown n stiff, moist. No l			SM	 <u>∇</u>		0		-
	10		sand (	.1 to 15.8 ft. Orangish brown clayey sand (SC); very soft, saturated. No PHC odor.  .8 to 18.0 ft. Orangish brown sandy			SC ML	=		0		
	20		silt (ML)	); stiff, moist. No	PHC odor.	7					18.0 ft.	le terminated at
	25						-	-	cas Wa usi wit val she Wa ft., mo		casing   Water s using p with a s valve. N sheen c Water r ft., 8:50 more V lected 1	g placed in borehole. r sample collected polyethylene tubing a stainless steel foot . No PHC odor or n on water sample. r measured at 14.0 50 AM, 1/12/06. Four VOAs of water col- d 1/12/06. Borehole ed with neat cement
	30										and a 4 in. surface seal of concrete, 1/12/06.	

BORING NO.: B15 PROJECT NO.: CLR12818 PROJECT NAME: California Linen, Oakland, CA										
BORING LOCATION: Southeast of Former UST ELEVATION AND DATUM: NONE										
DRILLING AGENCY: Vironex, Inc. DRILLER: Sayphone/Kyle							E & TIME	STARTED:	DATE & TIME FINISHED:	
DR	ILLING	EQ	UIPMENT: Badger limited-access rig	1/11/06			1/12/06			
COMPLETION DEPTH: 12.0 FEET BEDROCK DEPTH: None encountered							LOGGED BY:		CHECKED BY:	
FIRST WATER DEPTH: 10.5 FEET NO. OF SAMPLES: 2 Soil						EFO			WRW	
	БЕРТН (FT.)		DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID		REMARKS	
E		П	0 to 6 in. Concrete — 6 in. to 1.5 ft. baserock (FILL)	FILL	No Well Constructed		0		e continuously sing a 3-ft. long 2-	
			1.5 to 6.8 ft. Black silt (ML);  medium stiff, moist.  No Petroleum Hydrocarbon (PHC) odor.	ML	¥		0	inch O.I rocore E Sample	D. Geoprobe Mac- Barrel Sampler. s collected in 3- ervals. The sampler	
	5		<u>×</u>				0	1 3/4 in. acetate Borehol	e continuously 0 9.0 ft. A tempo- nch diameter slot- C pipe was placed orehole for water collection. neasured at 5.5 ft.,	
			6.8 to 10.5 ft. Silty clay (CL); medium stiff, moist. — No PHC odor. — —	CL			0	rary 1-ir ted PV0 in the b		
E	10		10.5 to 11.5 ft. Black sandy gravel (GW);	GW	<u> </u>		0	Water n 1/12/06 On 1/11		
	15		11.5 to 12.0 ft. Orangish brown sandy silt (ML); medium stiff, dry. No PHC odor.	-			-	ing a powith a significant with a significant with a significant properties of the significant with a signif		
	20							Hydropucnch set from 15.0 to 19.0 ft. No water Hydropunch 5:00 PM, 1/11/06. Water measured at 3.3 ft., 8:52 AM, 1/12/0 in Hydropunch. Water sample collected from 9:05 AM, 1/12/06. Model ate PHC odor, but no sheen on water sample. Potential shallow water infiltration into Hydropunch, as shown by shallow water level in Hydropunch on 1/12/06, and b standing water at 4.0 ft. after removing Hydropunch on the standing by the standin		
	25			-						
E	30	Ξ						punch r	ods from borehole.	

во	RING I	NO.:	B16 PROJECT NO.: CLR12818 PROJECT N	AME: C	California Linen, Oakl	and, C	A				
во	RING I	LOC	ATION: Southeast of Former UST ELEVATION	AND DAT	UM: NONE						
DR	ILLING	AG	ENCY: Vironex, Inc. DRILLER: Sayphone/Ky	/le		DAT	E & TIME	STARTED:	DATE & TIME FINISHED:		
DR	ILLING	EQ	UIPMENT: Badger limited-access rig				1/11/06		1/11/06		
СО	MPLE	TION	DEPTH: 18.0 FEET BEDROCK DEPTH: Nor	e encount	tered		LOGGE	D BY:	CHECKED BY:		
FIR	ST W	ATER	R DEPTH: 12.5 FEET NO. OF SAMPLES: 2 Sc	il, 1 Water			EF	o	WRW		
	DEРТН (FT.)		DESCRIPTION	GRAPHIC	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	۵Iط	REMARKS			
			0 to 4 in. Concrete 4 in. to 3.0 ft. Sandy gravel Baserock (FILL)  3.0 to 6.8 ft. Black sandy silt (ML);	FILL	No Well Constructed		0	cored us inch O.I rocore E Samples	e continuously sing a 3-ft. long 2- D. Geoprobe Mac- Barrel Sampler. s collected in 3- ervals. The sampler		
	5		soft, moist. No Petroleum Hydrocarbon (PHC) odor.	-	-		0	-was-line 1 3/4 in. acetate	ed with-2.8-ft. long O.D. cellulose		
	10		6.8 to approx. 10.0 ft. Gray sandy silty clay (CL); stiff, dry. No PHC odor.	CL	₹		0	Water m 12:40 P	neasured at 7.8 ft., M, approx. 10 min. mpletion of drilling.		
			10.0 to 11.5 ft. Orangish brown silty sand (SM); medium stiff, moist.  No PHC odor.  11.5 to 12.5 ft. Gravelly sandy silt (ML); medium stiff, dry. No PHC odor.	SM ML	₫		0		ter encountered at during drilling,		
	15		12.5 to 14.0 ft. Gravelly sandy silt (ML); very soft, saturated. No PHC odor.  14.0 to 18.0 ft. Orangish brown silty sand (SM); very stiff, moist. No PHC odor.	SM			0				
	20			-				18.0 ft. 1 in. PV borehold collected	e terminated at C casing placed in e water sample d using polyethyl- ing with a stainless of valve.		
	30										

во	RING	NO.:	B17 PROJECT NO.: CLR12818 PROJECT	NAME:	California Linen, Oak	land, C	A					
ВС	BORING LOCATION: Southeast of Former UST ELEVATION AND DATUM: NONE											
DR	ILLING	3 AG	ENCY: Vironex, Inc. DRILLER: Sayphone/	yle		DAT	E & TIME	STARTED:	DATE & TIME FINISHED:			
DR	ILLING	3 EQ	UIPMENT: Badger limited-access rig				1/12/06		1/12/06			
СС	MPLE	TION	DEPTH: 18.0 FEET BEDROCK DEPTH: N	ne enco	ntered		LOGGE		CHECKED BY:			
FIF	ST W	ATEF	R DEPTH: 15.3 FEET NO. OF SAMPLES: 3	oil, 1 Wa	er		WR	W				
	БЕРТН (FT.)		DESCRIPTION	GRAPHIC	WELL CONSTRUCTION LOG	BLOW COUNT PER 6"	PID		REMARKS			
		=	0 to 6 in. Concrete 6 in. to 2.5 ft. Medium brown silty gravel (GM); gravel < 2 in. diam. moist. No Petroleum Hydrocarbon (PHC) odor.	FILI GN			0	cored u	e continuously sing a 3-ft. long 2- D. Geoprobe Mac- Barrel Sampler.			
	5		2.5 to 6.9 ft. Black silt (ML); medium stiff, moist. Moderate oily odor.	ML			3 12 8	foot inte was line 1 3/4 in.	s collected in 3- ervals. The sampler ed with 2.8-ft. long O.D. cellulose tubes.			
			6.9 to approx. 10.5 ft. Greenish gray gravelly silty sand (SW); gravel < 1 in. diam. medium dense, moist. Orange mottling. Slight PHC odor.	sw			0 25	No recovery from 9 to 11 ft.				
E	10		10.5 to 11.8 ft. Gray sandy silt (ML); soft, saturated. Strong gasoline odor.	ML			8 24					
E			11.8 to 14.0 ft. Gray sandy silt (ML); medium stiff, moist. Orange mottling. Strong to moderate gasoline odor.	ML			0					
E	15		14.0 to 18.0 ft. Orangish brown silt (MH); medium stiff, moist. No PHC odor.	МН			0					
E			•				0					
	25 30				-			18.0 ft. PVC pip hole. Water n ft., 12:4 approx. coring to Water s using po and a st valve. M odor, bu water sa grouted and a 4	te terminated at 1-in diam. slotted be placed in bore-neasured at 15.3 5 PM, 1/12/06, 5 min. after cont. of 18.0 ft. ample collected objectly lene tubing ainless steel foot loderate PHC at no sheen on ample. Borehole with neat cement Din. Surface seal ete, 1/12/06.			

Reports And
Chain of Custody
Documentation



110 2nd Avenue South, #D7, Pacheco, CA 94553-5560 Telephone : 925-798-1620 Fax : 925-798-1622 Website: www.niccampbell.com E-mail: main@mccampbell.com

RGA Environmental	Client Project ID: #CLR12818; California	Date Sampled: 01/11/06-01/12/06
1466 66th Street	Linen, Oakland	Date Received: 01/13/06
Emeryville, CA 94608	Client Contact: Wilhelm Welzenbach	Date Extracted: 01/13/06
Emeryvine, CA 74000	Client P.O.:	Date Analyzed: 01/14/06-01/18/06

### Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE\*

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0601200

Extraction meth	od. 3W3030B	Analytical methods: Sw8021B/8013Cm work Ordi								
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% S
001A	B13-5.0	S	1.5,m	ND	ND	ND	ND	ND	1	89
002A	B13-8.5	S	62,b,m	ND<0.17	0.021	0.064	ND<0.017	0.15	3.3	116
003A	B14-5.0	s	ND	ND	ND	ND	ND	ND	1	93
004A	B14-10.0	s	ND	ND	ND	ND	ND	ND	1	87
005A	B15-5.0	S	ND	ND	ND	ND	ND	ND	1	90
006A	B15-10.0	S	ND	ND	ND	ND	ND	ND	1	87
007A	B16-5.0	s	ND	ND	ND	ND	ND	ND	1	93
008A	B16-10.0	s	ND	ND	ND	ND	ND	ND	1	10
009A	B17-5.0	s	5.1,m	ND	ND	0.022	ND	0.021	1	10:
010A	B17-8.5	s	1.2,m	ND	ND	0.0076	ND	ND	1	98
011A	B17-17.5	s	ND	ND	ND	ND	ND	ND	1	10
								***		:
						: :				
									:	
		-	· · · · · · · · · · · · · · · · · · ·						:	
	ng Limit for DF =1;	W	NA	NA	NA	NA	NA	NA	1	ug/

Reporting Limit for DF =1; ND means not detected at or	W	NA	NA	NA	NA	NA	NA		l ug/L
above the reporting limit	S	1.0	0.05	0.005	0.005	0.005	0.005	. !	1 mg/Kg

<sup>\*</sup> water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

Angela Rydelius, Lab Manager

<sup>#</sup> cluttered chromatogram; sample peak coelutes with surrogate peak.

<sup>+</sup>The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) range non-target isolated peaks subtracted out of the TPH(g) concentration at the client's request; o) results are reported on a dry weight basis.



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### QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0601200

EPA Method: SW8021B/	/8015Cm E	xtraction:	SW5030	В	BatchID: 19873			Spiked Sample ID: 0601200-011A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (		
Analyte	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD	
TPH(btex) <sup>£</sup>	ND	0.60	111	111	0	111	110	0.939	70 - 130	70 - 130	
МТВЕ	ND	0.10	101	105	3.81	101	108	6.17	70 - 130	70 - 130	
Benzene	ND	0.10	93.2	95.8	2.72	98.5	92.4	6.41	70 - 130	70 - 130	
Toluene	ND	0.10	91.7	94.8	3.37	97.5	91.1	_6.71	70 - 130	70 - 130	
Ethylbenzene	ND	0.10	95.7	99.5	3.87	99.9	94.9	5.16	70 - 130	70 - 130	
Xylenes	ND	0.30	99	100	1.01	100	95.7	4.43	70 - 130	70 - 130	
%SS:	108	0.10	108	110	1.83	112	105	6.45	70 - 130	70 - 130	

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

#### BATCH 19873 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0601200-001A	1/12/06	1/13/06	1/14/06 10:48 AM	0601200-002A	1/12/06	1/13/06	1/18/06 3:12 PM
0601200-003A	1/11/06	1/13/06	1/14/06 11:20 AM	0601200-004A	1/11/06	1/13/06	1/14/06 11:53 AM
0601200-005A	1/11/06	1/13/06	1/14/06 12:26 PM	0601200-006A	1/11/06	1/13/06	1/14/06 12:59 PM
0601200-007A	1/11/06	1/13/06	1/14/06 1:31 PM	0601200-008A	1/11/06	1/13/06	1/14/06 9:08 AM
0601200-009A	1/12/06	1/13/06	1/14/06 9:41 AM	0601200-010A	1/12/06	1/13/06	1/14/06 10:13 AM
0601200-011A	1/12/06	1/13/06	1/14/06 11:18 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

<sup>%</sup> Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

<sup>£</sup> TPH(btex) = sum of BTEX areas from the FID

<sup>#</sup> cluttered chromatogram; sample peak coelutes with surrogate peak

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



110 Second Avenue South, #D7 Pacheco, CA 94553-5560 (925) 798-1620

# **CHAIN-OF-CUSTODY RECORD**

Page 1 of 1

WorkOrder: 0601200

ClientID: RGAE

EDF: NO

Wilhelm Welzenbach RGA Environmental

Emeryville, CA 94608

1466 66th Street

TEL: FAX: (510) 547-7771 (510) 547-1983

ProjectNo: #CLR12818; California Linen, Oakland PO:

Accounts Payable

RGA Environmental 1466 66th Street

Emeryville, CA 94608

Requested TAT: Date Received:

01/13/2006

5 days

Emeryville, CA 9460	08 PO:				Emeryville, CA 94608							Date Printed:				01/13/200			
									Re	quest	d Test	s (Sec	lege	nd b	low)				
Sample ID	ClientSampID	Matrix	Collection Date	Hold	1	2	3		4	5	6		7	8	8		10	11	12
0601200-001	B13-5.0	Soil	1/12/06		Α	T	<del></del>			1	Ţ	_			7			Τ	T
0601200-002	B13-8.5	Soil	1/12/06		Α	1	†	Ť		<del>}</del>	1	1			1	-	<del></del>	<del>                                     </del>	+
0601200-003	B14-5.0	Soil	1/11/06		A	1	† · · ·	Ť		1	+-	+-			+	1		+	<del></del>
0601200-004	B14-10.0	Soil	1/11/06		A	1		1		1		+			+	+			·
0601200-005	B15-5.0	Soil	1/11/06		Α	1		+		<del> </del>	1	+	-+		+	+		<del> </del>	+
0601200-006	B15-10.0	Soil	1/11/06	ini	A	1-	†	Ť		ļ -	+-	+	Ť		+	+		<del> </del>	+
0601200-007	B16-5.0	Soil	1/11/06	<del>       </del>	A	†	†	+		i	<del> </del>				+			<del>}</del>	-f
0601200-008	B16-10.0	Soil	1/11/06	1 1 1	Α	İ	<del>†</del>	Ť		1	<del> </del>	+	1		+	+		-	<del></del>
0601200-009	B17-5.0	Şoil	1/12/06	171	A	<del> </del>	† —	+		-	+	+	-		<del>-</del>	-		<del>                                     </del>	+
0601200-010	B17-8.5	Soil	1/12/06	╅┪	A		<del> </del>			· · · · · · ·	-1		-+		+				+
0601200-011	B17-17.5	Soil	1/12/06	17	A	<del></del>	<del> </del>	÷		<del></del>	<del></del>	+-	-		+	+		┼	<del></del> -

#### Test Legend:

1 G-MBTEX_S	2	3	4	5
6	7	. 8	9	10
11	12		Note that the second se	11

Prepared by: Kathleen Owen

#### Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.



1466 66<sup>th</sup> Street Emeryville, CA 94608 510-658-4363 510-834-0152 fax QUO 1200 RGAE

CHAIN OF CUSTODY RECORD OF \_ paul.king@rgaenv.com PROJECT NUMBER: PROJECT NAME: CLA 12818 California Linen NUMBER OF CONTAINERS SAMPLED BY: (PRINTED AND SIGNATURE) REMARKS Wilhelm Welzenbach SAMPLE LOCATION TIME SAMPLE NUMBER DATE TYPE 1/12/06 Normal Jurnama B13-5,0 FCE <u>Soi</u> B13-85 BIY - 5.0 1/11/06 B14-10,0 4 2 B15-10.0 <u> 316-5,0</u> B16-10,0 17-5.0 1/12/06 817-8.5 B17-17.5 OMO DETALS OTHER RELINGUISHED BY (SIGNATURE)

RELINGUISHED BY (SIGNATURE) RECEIVED BY (SIGNATURE) LABORATORY: TIME McCampbell Analyton LABORATORY CONTACT: LABORATORY PHONE NUMBER:
Angela Lydelhs (725) 798 -1620 Kathlein Oven RELINGUISHED BY: (SIGNATURE) SAMPLE ANALYSIS REQUEST SHEET RECEIVED FOR LABORATORY BY: (SIGNATURE) ATTACHED: ( )YES ( NO REMARKS:



110 2nd Avenue South, #D7, Pacheco, CA 94553-5560 Telephone: 925-798-1620 Fax: 925-798-1622 Website: www.mccampbell.com E-mail: main@mccampbell.com

RGA Environmental	Client Project ID: #CLR12818; California	Date Sampled: 01/11/06-01/12/06
1466 66th Street	Linen, Oakland	Date Received: 01/13/06
Emeryville, CA 94608	Client Contact: Wilhelm Welzenbach	Date Extracted: 01/18/06-01/19/06
Linely vine, CA 94000	Client P.O.:	Date Analyzed: 01/18/06-01/19/06

### Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE\*

Analytical methods: SW8021B/8015Cm Extraction method: SW5030B Work Order: 0601201

Extraction met	thod: SW5030B		Analyt	ical methods: SV	V8021B/8015Cm			Work O	rder: 06	501201	
Lab ID	Client ID	Matrix	TPH(g)	МТВЕ	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	
001A	B13-9.0	W	16,000,a,h,i	ND<25	21	4.6	250	27	5	86	
002A	B14-18.0	w	ND,i	ND	ND	1.7	ND	1.2	1	102	
003A	B15-9.0	w	ND,i	ND	ND	1.8	ND	0.52	1	99	
004A	B15-19.0	w	160,b,h,i	ND	ND	9.0	0.55	3.6	1	101	
005A	B16-18.0	w	ND,h,i	ND	ND	3.4	ND	1.6	1	103	
006A	B17-18.0	w	220,a,h,i	ND	2.5	12	7.4	3.3	1	95	
	Your allocated states in the second										
	ing Limit for DF =1;	W	50	5.0	0.5	0.5	0.5	0.5	1	μg/L	
	e the reporting limit	S	NA	NA	NA	NA	NA	NA	1	mg/K	

ND means not detected at or	. **	50	3.0	0.5	0.5	0.5	0.5	1	μg/L
above the reporting limit	S	NA	NA	NA	NA	NA	NA	1	mg/Kg
* water and vapor samples and all TCLP	& SDI D	vtracte are report	ed in ug/L coil/	sludge/solid samr	oles in ma/ka . w	ina comples in u	Juno product/o	.:1/m.o.m	

water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/nonaqueous liquid samples in mg/L.

Angela Rydelius, Lab Manager

<sup>#</sup> cluttered chromatogram; sample peak coelutes with surrogate peak.

<sup>+</sup>The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) range nontarget isolated peaks subtracted out of the TPH(g) concentration at the client's request.



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RGA Environmental	Client Project ID: #CLR12818;	Date Sampled: 01/11/06-01/12/06
1466 66th Street	California Linen, Oakland	Date Received: 01/13/06
Emeryville, CA 94608	Client Contact: Wilhelm Welzenbach	Date Extracted: 01/13/06
Emeryvine, CA 74000	Client P.O.:	Date Analyzed: 01/14/06-01/17/06

#### Diesel (C10-23) and Oil (C18+) Range Extractable Hydrocarbons as Diesel and Motor Oil\*

Extraction method: SW3510C	Analytical methods: SW8015C	Work Order: 0601201
----------------------------	-----------------------------	---------------------

Extraction method: S	SW3510C	A	nalytical methods: SW8015C		Work Or	der: 0601201
Lab ID	Client ID	Matrix	TPH(d)	TPH(mo)	DF	% SS
0601201-001B	B13-9.0	w	3900,d,g,h,i	2700	1	91
0601201-003B	B15-9.0	w	4100,g,b,i	35,000	10	84
0601201-004B	B15-19.0	w	170,000,g,b,h,i	1,300,000	200	128
	-					
			·· · · · · · · · · · · · · · · · · · ·			
	• • • • • • • • • • • • • • • • • • • •					
ļ						

Reporting Limit for DF =1; ND means not detected at or	W	50	250	μg/L
above the reporting limit	S	NA	NA	mg/Kg

<sup>\*</sup> water samples are reported in  $\mu$ g/L, wipe samples in  $\mu$ g/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / SPLP / TCLP extracts are reported in  $\mu$ g/L.

<sup>+</sup>The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; k) kerosene/kerosene range; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirits; p) see Case Narrative.



<sup>#</sup> cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

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### QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0601201

EPA Method: SW8021B/	8015Cm E	xtraction:	SW5030	В	Batch	hID: 19866	6 Spiked Sample ID: 0601198-001						
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance	e Criteria (%)			
Analyto	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD			
TPH(btex) <sup>£</sup>	ND	60	109	107	1.03	108	104	3.50	70 - 130	70 - 130			
мтве	ND	10	99.5	100	0.580	92.9	93.6	0.800	70 - 130	70 - 130			
Benzene	ND	10	96.4	94.6	1.85	99.1	91.6	7.83	70 - 130	70 - 130			
Toluene	ND	10	95.9	95	1.00	93.7	91.8	2.09	70 - 130	70 - 130			
Ethylbenzene	ND	10	98.1	96.3	1.79	102	92.4	10.0	70 - 130	70 - 130			
Xylenes	ND	30	100	99.3	0.669	91	94.3	3.60	70 - 130	70 - 130			
%SS:	103	10	100	99	0.689	102	100	2.89	70 - 130	70 - 130			

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

#### BATCH 19866 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0601201-001A	1/12/06	1/18/06	1/18/06 3:33 PM	0601201-002A	1/12/06	1/18/06	1/18/06 5:24 AM
0601201-003A	1/11/06	1/18/06	1/18/06 6:29 AM	0601201-004A	1/12/06	1/19/06	1/19/06 4:14 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

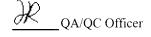
MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not applicable or not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



<sup>%</sup> Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560 Telephone : 925-798-1620 Fax : 925-798-1622 Website: www.mccampbell.com E-mail: main@mccampbell.com

### QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0601201

EPA Method: SW8021B/	8015Cm E	xtraction	SW5030	В	Batc	hID: 19877	,	Spiked Sample ID: 0601207-001				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance	e Criteria (%)		
	µg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSE		
TPH(btex) <sup>£</sup>	ND	60	104	105	0.647	110	108	1.59	70 - 130	70 - 130		
МТВЕ	ND	10	88	86.5	1.81	90.5	100	10.1	70 - 130	70 - 130		
Benzene	ND	10	83.1	90.9	9.07	92.7	96.2	3.69	70 - 130	70 - 130		
Toluene	ND	10	83	93.2	11.6	94	95.1	1.24	70 130	70 - 130		
Ethylbenzene	ND	10	90.8	93.4	2.81	95.7	97	1.28	70 - 130	70 - 130		
Xylenes	ND	30	94.3	95	0.704	99.3	99.7	0.335	70 - 130	70 - 130		
%SS:	99	10	96	99	3.23	98	100	1.61	70 - 130	70 - 130		

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

### BATCH 19877 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0601201-005A	1/11/0	5 1/18/06	1/18/06 7:02 AM	0601201-006A	1/12/06	1/19/06	1/19/06 6:51 AM

MS = Matrix Spike, MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not applicable or not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

QA/QC Officer



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### QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0601201

EPA Method: SW8015C	E	xtraction	: SW3510C	;	Batcl	hID: 19867	,	Spiked Sample ID: N/A					
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance	e Criteria (%)			
•	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS/MSD	LCS / LCSD			
TPH(d)	N/A	1000	N/A	N/A	N/A	102	105	2.80	N/A	70 - 130			
%SS:	N/A	2500	N/A	N/A	N/A	106	111	4.18	N/A	70 - 130			

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

### BATCH 19867 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0601201-001B	1/12/06	1/13/06	1/14/06 1:54 AM	0601201-003B	1/11/06	1/13/06	1/14/06 3:02 AM
0601201-004B	1/12/06	1/13/06	1/17/06 8:41 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content

QA/QC Officer

0601201 RUPE 1466 66th Street Emeryville, CA 94608 510-658-4363 CHAIN OF CUSTODY RECORD 510-834-0152 fax RGA paul.king@rgaenv.com PAGE \_\_ OF \_ PROJECT HAME: California Lynen, Oakland PROJECT NUMBER: SAMPLED BY: (PRINTED AND SIGNATURE)
Wilhelm Welzenbach NUMBER OF CONTAINERS REMARKS SAMPLE NUMBER DATE TIME SAMPLE LOCATION TYPE ,20 613-9.0, water 1/12/06 were Normal Jurnamous FCE +10-B14-18.0, water V12/06 6747 B13-9.0, water VIVO6 +20. B15-19.0 water VII+12/06 617-18.0, who VIZIO + 40-Y 4 APPROPRIATE V
CONTAINERS
PRESERVED IN LAI RECEIVED BY ISICHATORE RELINQUISHED BY: (SIGNATURE) TOTAL NO. OF SAMPLES
(THIS SHIPMENT)
TOTAL NO. OF CONTAINERS
(THIS SHIPMENT) BME LABORATORY: Mc Campbell RELINQUISHED BY: (SIGNATURE) REPEIVED BY: (SIGNATURE) LABORATORY CONTACT: LABORATORY PHONE NUMBER:
Angela Fydelms (725) 798 -/620
SAMPLE ANALYSIS REQUEST SHEET Cathleen (ben RELINGUISHED BY: (SIGNATURE) TIME RECEIVED FOR LABORATORY BY: (SIGNATURE) ATTACHED: ( )YES (-QNO

REMARKS:

UOAs preserved To HCL.



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# **CHAIN-OF-CUSTODY RECORD**

Page I of I

WorkOrder: 0601201

ClientID: RGAE

EDF: NO

Report to:

Wilhelm Welzenbach RGA Environmental 1466 66th Street

TEL: FAX:

(510) 547-7771 (510) 547-1983

ProjectNo: #CLR12818; California Linen, Oakland

Accounts Payable

BALL to:

RGA Environmental

1466 66th Street

Date Received:

Requested TAT:

5 days 01/13/2006

Emeryville, CA 94	608	PO:	Emeryville, CA 94608				Da	te P	01/13/2006												
				ſ						Req	uest	ed T	ests	(See	lege	nd be	low)				
Sample ID	ClientSampID	Matrix	Collection Date	Hold	1	2		3		4	5	I	6	7		8		9	10	11	12
0601201-001	B13-9.0	Water	1/12/06		A	В	7		Γ			Т		T	<b>-</b> T		7	-		1	
0601201-002	814-18.0	Water	1/12/06		Α		7		-	Ì		Ť		1-	†		Ť			†	<del></del>
0601201-003	B15-9.0	Water	1/11/06		A	В	$\top$					$\top$		<del> </del>	_		_			-	<del></del>
0601201-004	B15-19.0	Water	1/12/06		A	В	1			1		1		1			+			<b>†</b>	+
0601201-005	B16-18.0	Water	1/11/06		Α		1					$\neg$		$\dagger$	_		$\top$			1	+-
0601201-006	B17-18.0	Water	1/12/06	171	Α	1	Ť		_	$-\dagger$		+		1	-		+-			+	

### Test Legend:

1     G-MBTEX_W     2     TPH(DMO)_V       6     7       11     12	8	9	5 10
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Prepared by: Kathleen Owen

### Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.