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Alameda County Environmental Health

September 1, 2009

Mr. Paresh Khatri **Alameda County Environmental Health Services**1131 Harbor Bay Parkway, Suite 250

Alameda, California 94502-6577

Subject: Third Quarter 2009 Groundwater Monitoring Report

Former AutoPro

5200 Telegraph Avenue Oakland, California

Case Number RO0000323 GeoTracker Global ID T0600100131

PSI Project No. 575-8G012

Dear Mr. Khatri:

Tri Star Partnership is pleased to submit the subject Quarterly Groundwater Monitoring Report for the subject site. Please refer to the attached report for details.

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached Groundwater Monitoring Report are true and correct to the best of my knowledge, without independently investigating or verifying the information contained therein.

If you have any questions regarding this report or any aspect of the project, please call Mr. Frank Poss with PSI at 510-434-9200.

Sincerely.

George Tuma General Partner Tri Star Partnership

cc: Mr. Frank Poss, PSI



# THIRD QUARTER 2009 GROUNDWATER MONITORING REPORT

TEST ONLY SMOG STATION (FORMER AUTOPRO) 5200 TELEGRAPH AVENUE OAKLAND, CALIFORNIA

# THIRD QUARTER 2009 GROUNDWATER MONITORING REPORT

TEST ONLY SMOG STATION (FORMER AUTOPRO) 5200 TELEGRAPH AVENUE OAKLAND, CALIFORNIA

prepared for

**Tri Star Partnership** 30 Arjang Court Alamo, California 94507

prepared by

Professional Service Industries, Inc. 4703 Tidewater Avenue, Suite B Oakland, California 94601 (510) 434-9200

> August 31, 2009 575-8G012

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#### STATEMENT OF LIMITATIONS AND PROFESSIONAL CERTIFICATION

The information provided in this Groundwater Monitoring Report prepared by PSI, Project Number 575-8G012, is intended exclusively for Tri Star Partnership for the evaluation of groundwater contamination as it pertains to the subject site in Oakland, California at the time the activities were conducted. The professional services provided have been performed in accordance with practices generally accepted by other environmental professionals, geologists, hydrologists, hydrogeologists, engineers, and environmental scientists practicing in this field. No other warranty, either expressed or implied, is made. As with all subsurface soil and groundwater sampling, there is no guarantee that the work conducted has identified any and all sources or locations of petroleum hydrocarbons or hazardous substances or chemicals in the soil or groundwater.

This report is issued with the understanding that Tri Star Partnership is responsible for ensuring that the information contained in this report is brought to the attention of the appropriate regulatory agency. This report has been reviewed by a geologist who is registered in the State of California and whose signature and license number appear below.

Professional Service Industries, Inc.

Frank R. Poss

Principal Consultant

Brand Burfield, PG 6986

BRAND W. BURFIELD

NO. 6986

Project Geologist

#### 1.0 INTRODUCTION

The Subject Property is an approximately 9,100 square foot, triangular-shaped parcel located at 5200 Telegraph Avenue, on the northeastern corner of Telegraph Avenue and Claremont Avenue in Oakland, Alameda County, California (see Figure 1 – Site Location Map). The site is currently asphalt-paved and is a smog testing facility ("Test Only SMOG Station") but was formerly an auto repair facility ("Autopro Inc.") and a Shell gasoline service station. The subject site includes five former Underground Storage Tanks (USTs) located in three separate excavation areas. The three excavations include an approximately 140 square-foot former waste oil UST excavation on the northeastern portion of the property, a 750 square-foot excavation which contained three former gasoline or diesel USTs near the center of the property, and a 450 square-foot former gasoline UST (and associated piping) excavation on the southern portion of the property. Locations of the existing site improvements and the former UST excavations are depicted on Figure 2.

This report summarizes the Third Quarter 2009 groundwater monitoring activities conducted on July 20, 2009, at the former UST site. The purpose of this project is to monitor petroleum hydrocarbon concentrations in groundwater to comply with the quarterly sampling requirements of the Alameda County Environmental Health Department (ACEH).

### 2.0 SITE BACKGROUND

Previous reports and investigations have been completed at the former UST site at 5200 Telegraph Avenue, Oakland, California, while the site was operated as Autopro, an automotive repair facility. The site is currently under the regulatory oversight of the ACEH and is identified by County Fuel Leak Case Number RO0000323 and State Geotracker Global ID T0600100131.

#### 2.1 HISTORICAL SITE USE

The property is currently developed with an active automotive smog testing station. According to regulatory documents reviewed, the Subject Property has been developed as an automotive service station since at least 1973. Information obtained at the Alameda County Department of Environmental Health indicates that the Subject Property was developed as a Shell gasoline service station until 1978 and has operated as an automotive service or smog testing station until the present.

The following table summarizes the historic use of the Subject Property.

Summary								
Year(s)	Interpreted Property Use							
1973, 1978	According to Street Directories the subject property is listed as Jordan Shell Service Station.							
1984, 1989, 1990, 1994	According to Street Directories the subject property is listed as Auto Pro Inc 2. In December 1990, five underground storage tanks (USTs) were removed from the site.							
1999, 2003	According to Street Directories the subject property is listed as Auto Pro Inc.							
2008	The subject property is Test Only SMOG Station.							

#### 2.2 PREVIOUS ENVIRONMENTAL SITE ACTIVITIES

This section summarizes the findings and conclusions of select previous environmental investigations and other pertinent documents (see references; Section 5) made available to PSI.

# 2.2.1 Underground Storage Tank Removal - 1990

Five USTs were removed from three different excavations at the subject site in December 1990 by Pacific Excavators (Pacific, 1991). Soil and groundwater samples collected from the UST fuel excavations contained levels of total petroleum hydrocarbons as gasoline (TPH-G), total petroleum hydrocarbons as diesel (TPH-D), benzene, toluene, ethylbenzene, total xylenes (BTEX), and total lead. In addition soil samples collected from the waste oil tank excavation contained concentrations of oil and grease (O&G). In addition, in 1991 soil was sampled and a small amount of contaminated soil was excavated and removed from the site (ESE, 1994).

#### 2.2.2 Limited Soil and Groundwater Investigation - 1993

In April 1993, Environmental Science & Engineering Inc. (ESE) conducted a limited soil and groundwater investigation at the site. Two soil borings were drilled in the area of two former UST excavations through the backfill into native material, with soil and groundwater samples collected from the borings. Results of the investigation indicated concentrations of total semi-volatile petroleum hydrocarbons (TSVPH); these hydrocarbons were reported not to consist of diesel or gasoline (ESE, 1993).

#### 2.2.3 Preliminary Site Assessment and Groundwater Monitoring - 1994

ESE conducted a preliminary site assessment (PSA) of the property in April 1994. The investigation consisted of drilling four soil borings, installation of four monitoring wells (MW-1 through MW-4), and collection of soil and groundwater samples. According to the investigation, soil beneath the site consisted of silty clay to between approximately 10 and

13 feet below ground surface (bgs) and groundwater was found to be approximately 11 to 13 feet bgs. Soil and groundwater samples collected during the investigation were found to contain petroleum hydrocarbons (ESE, 1994).

According to the Second Quarter 1994 Groundwater Monitoring Report, groundwater flow direction at the site is bimodal and flows both to the southwest and east, dependant upon the location at the site. According to ESE this may have been a result of the high permeability of the backfill material in the former UST excavations. The data presented in the Second Quarter 1994 monitoring report indicated that petroleum hydrocarbons are migrating off-site to the southwest and concluded that the existing monitoring well network is not sufficient to determine the extent off-site migration (ESE, 1994).

#### <u>2.2.4 Site Assessment and Groundwater Monitoring - 1996</u>

ESE conducted an additional soil and water investigation (in addition to quarterly groundwater sampling) to determine the on and off-site extent of the soil and groundwater contamination. The 1996 study included seven geoprobe soil borings which were drilled and sampled; a total of 14 soil and seven groundwater samples were collected during the investigation. A concentration of 1.5 mg/kg TPH-G was detected in the sample collected from boring AP-2 at 10 feet. The remaining soil samples were non-detect for all constituents of concern. TPH-D was detected at concentrations ranging from 190 and 74,000  $\mu$ g/l in groundwater samples from AP-1, AP-2, AP-3, and AP-6. TPH-G was detected at concentrations ranging between 1,400 and 14,000  $\mu$ g/l in groundwater samples from AP-1, AP-2 and AP-3. TPH-MO was detected at a concentration of 1,900  $\mu$ g/l in the groundwater sample from AP-6. In addition BTEX constituents were detected in groundwater samples from AP-1, AP-2, and AP-3. MTBE was detected at concentrations of 60  $\mu$ g/l and 100  $\mu$ g/l in groundwater samples from AP-2 and AP-3 (ESE, 1996).

Second Quarter 1996 groundwater monitoring activities at the site included sampling of monitoring wells MW-1 through MW-4. TPH-G and TPH-D were detected in MW-1, MW-3, and MW-4. BTEX constituents and MTBE were detected in MW-3 and MW-4 (ESE, 1996).

#### 2.2.5 Remediation and Site Closure Report - 1999

In 1998, with approval from the ACEH, it was determined that oxygen release compounds (ORCs) would be introduced into MW-3 and MW-4 to enhance the biodegradation of the contaminant plume at the site. ORCs were placed in MW-3 and MW-4 on March 23, 1998 by QST Environmental (QST). This resulted in a slight increase of BTEX and TPH immediately after the installation of the ORCs. According to QST, the increase in hydrocarbons may have been a result of the increase in the groundwater table elevation; the increased elevation may have caused a mobilization of additional petroleum hydrocarbon constituents from the capillary fringe thus increasing concentrations. Constituents have declined or stabilized since the removal of the

ORCs, and as such, QST determined that constituent reduction and degradation was enhanced by the ORC (QST, 1999).

QST conducted a risk assessment as part of their site closure report. The evaluation focused on MW-1 through MW-4, the closest wells to the source. Concentrations of constituents in MW-5 (a nearby off-site Chevron well) indicate that the plume has stabilized in the downgradient (southwest) direction. The risk assessment was tied to the identification of the constituents of concern, potential pathways in environmental media, and potential receptors of exposure. According to the report the objectives of the site conceptual model have been realized through the identification of soil and groundwater as the environmental media for remedial action via soil vapor extraction and water entrainment. Receptors of potential exposure were based on residential land use and groundwater as a drinking water resource (QST, 1999).

Based on the 1996 ESE site investigation report, off-site soil between the Chevron Station and the subject property did not appear to be impacted by hydrocarbon contamination. Groundwater samples collected at the time of the 1996 investigation indicated concentrations of TPH-G, TPH-D, BTEX, and MTBE. Based on a 1996 soil vapor study, the Autopro plume and the Chevron plume are intermingled and the downgradient concentrations could not be accurately ascertained.

Based on exposure and toxicity assessments as part of the risk assessment, and since the site is surfaced with asphalt and concrete, repeat exposure to the constituents of concern is unlikely. The Environmental Protection Agency (EPA) Preliminary Remediation Goal (PRG) for industrial properties for benzene was exceeded in one soil sample collected in 1996. According to QST, the absence of benzene in groundwater at the site eliminates the possibility of vertical migration upward into soil vapor (QST, 1999).

#### 2.2.6 Quarterly Monitoring and Utility Backfill Sampling – 2004

According to Second Quarter 2004 sampling data TPH-G was detected at concentrations of 530, 33,000, and 1,700  $\mu$ g/l in MW-1, MW-3, and MW-4 respectively. TPH-D was detected at concentrations between 56 and 1,200  $\mu$ g/l in MW-1 through MW-4. Ethylbenzene was detected at concentrations of 0.67  $\mu$ g/l in MW-4 and total xylenes were detected at concentrations of 5.6 and 1.22  $\mu$ g/l in MW-3 and MW-4. Total petroleum hydrocarbons as motor oil (TPH-MO), benzene, toluene and fuel oxygenates were not detected during the sampling event. Monitoring well MW-5, was damaged at the time of sampling, thus was not sampled (MACTEC, 2004).

According to Third Quarter 2004 sampling data TPH-G was detected at concentrations of 260, 13,000, and 1,800  $\mu$ g/l in MW-1, MW-3, and MW-4 respectively. TPH-D was detected at concentrations between 74 and 2,500  $\mu$ g/l in MW-1 through MW-4. TPH-MO, BTEX, and fuel oxygenates were not detected during the Third Quarter Sampling event (MACTEC, 2004).

In August 2004, two borings were advanced to approximately 16 feet bgs adjacent to the sanitary sewer line and storm drain line to investigate if the utility corridor was a conduit for contamination migration. This investigation was performed at the request of the ACEH in a letter dated December 24, 2002. The intent of the investigation was to obtain grab groundwater samples from each of the utility trench backfills. However, the boring adjacent to the sanitary sewer line was dry. Therefore, samples were obtained only from the storm drain backfill. The samples collected from the storm drain backfill were tested for TPH-G, TPH-D, benzene, toluene, ethylbenzene and xylenes were detected at concentrations of 57,000, 29,000, 9.5, 36, 11, and 29  $\mu$ g/l respectively. Concentrations of contaminants of concern in the areas explored suggest that the release from the site has migrated to the utility trenches, which have acted as a preferential pathway for the contaminants (MACTEC, 2004).

According to the Second and Third Quarter 2004 Monitoring Report (MACTEC, 2004) the slotted casing in each of the wells (MW-1 through MW-4) is below the groundwater level. Since the interval of slotted casing in a well should span the surface of the groundwater aquifer being monitored, the slotted casing in these wells is considered to have been improperly placed at construction. The report indicates that, while these improperly placed slotted intervals will likely have little impact in the monitoring of groundwater levels and contaminant trends, they may adversely affect the ability to determine the presence of free floating product in groundwater at the site.

According to Fourth Quarter 2004 sampling data TPH-G was detected at concentrations of 710, 5,100, and 2,300  $\mu$ g/l in monitoring wells MW-1, MW-3, and MW-4 respectively. TPH-D was detected at concentrations between 53 and 3,300  $\mu$ g/l in all wells except Chevron well MW-2. TPH-MO was detected at concentrations of 450 and 1,400  $\mu$ g/l in MW-1 and MW-4. Benzene concentrations in MW-3 exceeded the California State Drinking Water Standard Maximum Contaminant Level (MCL) of 1.0  $\mu$ g/l; the remaining BTEX concentrations did not exceed MCLs for this sampling event. Groundwater flow at the time of sampling was to the northeast which is inconsistent with historical flow to the south/southwest; the reason for the change was unknown and was thought to be a result of heavy rainfall (MACTEC, 2005).

#### 2.2.7 Site Recommendations From the ACEH - 2008

According to a letter from the Alameda County Environmental Health Services Department, dated March 28, 2008, analytical data from the Fourth Quarter 2004 Groundwater Monitoring Report was determined to be insufficient since all monitoring wells at the site have their slotted casing below groundwater. Depth to groundwater at the site ranges between 8 and 13 feet bgs; however MW-1 is screened from 15-30 feet and MW-2, MW-3, and MW-4 are screened between 15-25 feet. As a result, concentrations of contaminants detected in the groundwater samples may not be representative of actual site conditions. In addition, grab groundwater samples collected at a nearby cross-gradient site in 2007 indicated concentrations of TPH-G in all three

samples. The ACEH stated that further evaluation of preferential pathways and additional off-site plume delineation is warranted at the site and that hydrocarbon concentrations in downgradient well MW-3 warranted further characterization of the onsite plume. Since groundwater monitoring at the site has not been conducted since Fourth Quarter 2004, the ACEH recommended that quarterly monitoring be initiated and the wells be re-developed at the site. In addition it was recommended that a new site conceptual model be developed for the subject property and that all analytical data from 2001 onward be submitted via the SWRCB Geotracker website, with all reports from July 1, 2005 onward be submitted to the website as well (ACEH, 2008).

#### 2.2.8 Monitoring Well Redevelopment

On December 16, 2008, all four monitoring wells (MW-1 through MW-4) were redeveloped via the surge-block method to remove silt or clay from the surrounding formation that were caught in the filter pack, and to improve groundwater flow into the monitoring well. After the surge, the wells were purged to remove suspended sediment from the well and to encourage new water to flow into the well from the surrounding soil formation. This series of procedures was repeated three times to each of the monitoring wells with the exception of MW-1.

In monitoring well MW-1, the block was only able to be lowered approximately 14 feet into the well before it became lodged. Several attempts were made to get past the blockage with no success. Fortunately, the well recharged easily during purging, suggesting that the filter pack and screen are in good working order.

#### 2.2.9 Monitoring Well Evaluation

In a letter from the Alameda County Environmental Health Services (ACEH) dated March 28, 2008, they expressed concern that the wells were constructed incorrectly such that groundwater levels were above the slotted casing interval of the wells. ACEH is concerned that the "drowned wells" are affecting the detected contaminant concentrations in the wells. On December 22, 2008, the groundwater level was at approximately 8 feet below ground surface (bgs). The references reviewed indicate that the wells are screened from 15-25 feet bgs, with the exception of MW-1 which is screened from 15-30 feet bgs. Based on this data, the top of the screens remain below groundwater levels.

During groundwater sampling, the bottom of each well was sounded to determine the total depth. It was determined that the sounded depths below the top of casing are 26.07, 24.69, 14.54, and 15.69 feet for MW-1 through MW-4 respectively. With the exception of MW-2, these measured depths do not agree with the installation data for the wells; the depths of MW-1, MW-3, and MW-4 all measure to be about 5 to 10 feet less than their stated depth at installation.

There are several possible causes for the discrepancy between the installed and sounded depths of these wells;

- 1. Incorrect installation data.
- 2. Blockage (with a bailer for example).
- 3. Filling of the well casing (by siltation or man-made fill)

Sometime between the ESE 1996 report and the MACTEC 2004 monitoring report, wells MW-3 and MW-4 have "lost" 10 feet of depth. Since the sounded depths of MW-3 and MW-4 would put the current bottom of the well at or above the installed slotted casing, and since both of these wells had no problems producing groundwater, the most likely causes of the discrepancy are either incorrect installation data of a partial blockage of the wells.

#### 2.2.10 Revised Groundwater Elevations And Chemical Results

Revised groundwater elevation maps for the Fourth Quarter 2008 and First Quarter 2009 Groundwater Monitoring Events were submitted with the Second Quarter 2009 Groundwater Monitoring Report due to an inaccurate Top of Casing (TOC) Elevation of monitoring well MW-3 and a clerical error which resulted in the switching of MW-3 and MW-4 on the Groundwater Elevation Maps. The clerical error that resulted in the labeling switch of monitoring wells MW-3 and MW-4 also resulted in the mis-labeling of the groundwater samples collected during the First and Second Quarters of 2009. The analytical results for the First and Second Quarter Monitoring Events were also revised in Second Quarter 2009 Groundwater Monitoring Report. The revised analytical results were consistent with historical trends.

#### 3.0 GROUNDWATER MONITORING ACTIVITIES

#### 3.1 GROUNDWATER ELEVATION AND HYDRAULIC GRADIENT

Prior to sampling, the depth to groundwater in each monitoring well was measured in accordance with the field procedures outlined in Section 3.2 using an electric water level indicator. Water levels are read from the top of the monitoring well casing (TOC) to an accuracy of 0.01 foot. This is performed in order to calculate the groundwater elevations and to determine the groundwater gradient. Before and after each use, the water level indicator was decontaminated to prevent cross-contamination of the wells.

Depth to groundwater, measured on July 20, 2009, and calculated groundwater elevations are presented in Table 1. Groundwater elevations representing July 20, 2009, water levels beneath the site are shown on Figure 2. Historically the groundwater flow direction at the subject property has been generally toward the southwest. Southwestern groundwater flow is consistent with data obtained from groundwater monitoring reports for three nearby monitoring sites within 1,000 feet of the subject property. Based on the data from the nearby sites, from historic subject property reports, and from review of the USGS topographic map, it is expected that the groundwater flow is to the southwest, towards the San Francisco Bay. The groundwater level from MW-4 was not used for this gradient and direction calculation because the level conflicted with the other three monitoring wells and produced an improbable flow direction. Based on the water level measurements obtained, the groundwater flow direction at the subject site is generally toward the southwest with a hydraulic gradient of approximately 0.003.

#### 3.2 GROUNDWATER SAMPLING

On July 20, 2009, groundwater samples were collected from monitoring wells MW-1 through MW-4 at the project site. The following procedures for well monitoring, well purging and water sampling were implemented while sampling the wells:

- 1. All non-dedicated equipment was washed prior to entering the well with an Alconox solution, followed by a deionized water rinse.
- 2. Prior to purging the wells, depth to water was measured using a groundwater interface probe to an accuracy of 0.01 foot. The measurements were made to the top of the well casing on the north side.
- 3. The monitoring wells were purged of a minimum of three well volumes of water until pH, conductivity, and temperature stabilized. The wells were purged with a new, single-use dedicated bailer.
- 4. Water samples were collected with a single-use disposable bailer after the well had been purged. The water collected was immediately decanted into laboratory-

- supplied vials and bottles. The containers were filled, capped, labeled, and placed in a chilled cooler prior to delivery at the laboratory for analysis.
- 5. Chain of custody procedures, including chain of custody forms, were used to document water sample handling and transport from collection to delivery at the laboratory for analyses.
- 6. Purged water was contained in a DOT approved 55-gallon drum and left on site for proper disposal. The drum was labeled with the contents, date, well number, client name, and project number.

The purge logs are presented in Appendix A.

#### 3.3 LABORATORY ANALYSIS, RESULTS, AND DISCUSSION

Four groundwater samples were submitted for analysis to SunStar Laboratories, Inc of Lake Forest, California, a State of California certified environmental analytical laboratory. The samples were analyzed for the following:

- Total Petroleum Hydrocarbons as Gasoline (TPH-G) using EPA Method 8015M
- Total Petroleum Hydrocarbons as Diesel (TPH-D) using EPA Method 8015M
- Total Petroleum Hydrocarbons as Motor Oil (TPH-MO) using EPA Method 8015M
- Volatile Organic Compounds (VOCs) and fuel oxygenates using EPA Method 8260B

The following are the results of the groundwater analysis:

- TPH-G was detected above the laboratory reporting limit of 50 micrograms per liter (μg/L) in the groundwater samples from MW-3 (2,100 μg/L) and MW-4 (440 μg/L).
- TPH-D was detected above the laboratory reporting limit of 50  $\mu$ g/L in the groundwater samples from MW-1 (110  $\mu$ g/L), MW-2 (59  $\mu$ g/L), MW-3 (1,400  $\mu$ g/L), and MW-4 (260  $\mu$ g/L).
- TPH-MO was detected above the laboratory reporting limit of 100 micrograms per liter (µg/L) in the groundwater sample from MW-1 (330 µg/L)

- VOCs associated with hydrocarbon contamination were detected above their respective laboratory reporting limit in the groundwater samples collected from three of the four wells, including;
  - Ethylbenzene at 1.5 μg/L in MW-3
  - Naphthalene at 1.0 μg/L in MW-3
  - Toluene at 1.1 μg/L in MW-3
  - Total Xylenes at 4.5 μg/L in MW-3

A summary of the laboratory results for groundwater samples is presented in Table 2. Copies of the laboratory report and chain of custody records are presented in Appendix B.

The groundwater analytical results were compared to their respective San Francisco Bay Regional Water Quality Control Board (RWQCB) Environmental Screening Levels (ESLs) for Residential Land Use where and groundwater is a drinking water resource. Groundwater samples MW-1, MW-3, and MW-4 had the following constituents greater then their respective ESL;

- TPH-G in MW-3 at 2,100 μg/L and MW-4 at 440 μg/L (ESL of 100 μg/L)
- TPH-D in MW-1 at 110  $\mu$ g/L, MW-3 at 1,400  $\mu$ g/L, and MW-4 at 260  $\mu$ g/L (ESL of 100  $\mu$ g/L)

#### 4.0 CONCLUSIONS AND RECOMMENDATIONS

PSI conducted groundwater monitoring activities on July 20, 2009. The results of the monitoring event are summarized below.

- Based on our field measurements, groundwater at the site flows generally toward the southwest under a hydraulic gradient of 0.003.
- TPH-G was detected in the groundwater samples from monitoring wells MW-3 and MW-4.
- TPH-D was detected in the groundwater samples from all the monitoring wells.
- TPH-MO was only detected in the groundwater sample from monitoring well MW-1.
- VOCs were detected in all the groundwater samples with the exception of monitoring well MW-2.
- The groundwater samples from MW-1, MW-3, and MW-4 had TPH-G and/or TPH-D above their respective ESL.
- None of the groundwater samples had VOCs above their respective ESL.

Based on the soil and groundwater analytical results, it appears that TPH-G, TPH-D and VOC impacted groundwater is present in the area of the former UST excavations. The groundwater flow direction has primarily been to the southwest.

On June 8,2009, PSI submitted the "Workplan for Site Investigation" in response to the ACEH letter dated March 28, 2008, addressing the following concerns:

- 1. Monitoring Wells and Hydrologic Setting
- 2. Preferential Pathway Study
- 3. Groundwater Contaminant Plume Definition
- 4. Contaminant Source Area Characterization
- 5. Groundwater Contaminant Plume Monitoring
- 6. Site Conceptual Model
- 7. GeoTracker Compliance

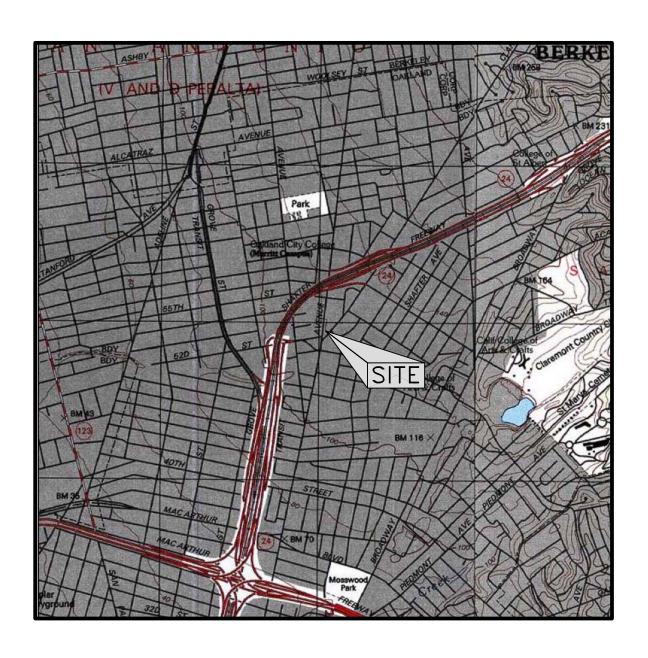
In a letter dated June 26, 2009, the ACEH generally concurred with PSI's findings and scope of work outlined in the Workplan and requested that the proposed work and associated reports be undertaken. Additionally, the letter states that semi annual monitoring frequency is appropriate for the site.

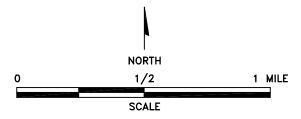
PSI recommends that semi-annual groundwater monitoring at the site continue until case closure has been granted.

#### 5.0 REFERENCES

- 1. Pacific Excavators, January 24, 1991, "Autopro soils report, 5200 Telegraph Avenue, Oakland, California."
- 2. Environmental Science & Engineering, Inc, April 19, 1993, "Auto Pro 5200 Telegraph Avenue, Oakland, California."
- 3. Environmental Science & Engineering, Inc, August 16, 1994, "Second Quarter Groundwater Monitoring Report, Remedial Investigation, 5200 Telegraph Avenue, Oakland, California."
- 4. Environmental Science & Engineering, Inc, September 5, 1996, "Additional Soil and Groundwater Investigation and Second Quarter 1996 Groundwater Monitoring Report, 5200 Telegraph Avenue, Oakland, California
- 5. US Geological Survey (USGS), 1997 Oakland West Quadrangle, California, 7.5 Minute Series (topographic), United States Department of the Interior, Scale: 1:24,000.
- 6. QST, Inc, July 8, 1999, "Site Closure Report Auto Pro, 5200 Telegraph Avenue, Oakland, California."
- 7. MACTEC, November 30, 2004, "Quarterly Monitoring Second and Third Quarters and Backfill Sampling Summary, Auto Pro Site 5200 Telegraph Avenue, Oakland, California"
- 8. MACTEC, February 10, 2005, "Quarterly Monitoring Fourth Quarter, Auto Pro Site 5200 Telegraph Avenue, Oakland, California"
- 9. Alameda County Health Care Services Agency, Environmental Health Services Department (ACEH), March 28, 2008, "Fuel Leak Case No. RO0000323 and Geotracker ID T0600100131, Auto Pro 5200 Telegraph Avenue, Oakland, California.
- 10. PSI, Inc., June 8, 2009, "Workplan for Site Investigation, Test Only Smog Station (Former Autopro), 5200 Telegraph Avenue, Oakland, California, Fuel Leak Case No. RO0000323, Geotracker ID T0600100131, PSI Project No. 575-8G012."
- 11. ACEH, March 28, 2008, "Fuel Leak Case No. RO0000323 and Geotracker ID T0600100131, Auto Pro, 5200 Telegraph Avenue, Oakland, CA 94609.
- 12. ACEH, June 26, 2009, "Fuel Leak Case No. RO0000323 and Geotracker ID T0600100131, Auto Pro, 5200 Telegraph Avenue, Oakland, CA 94609.







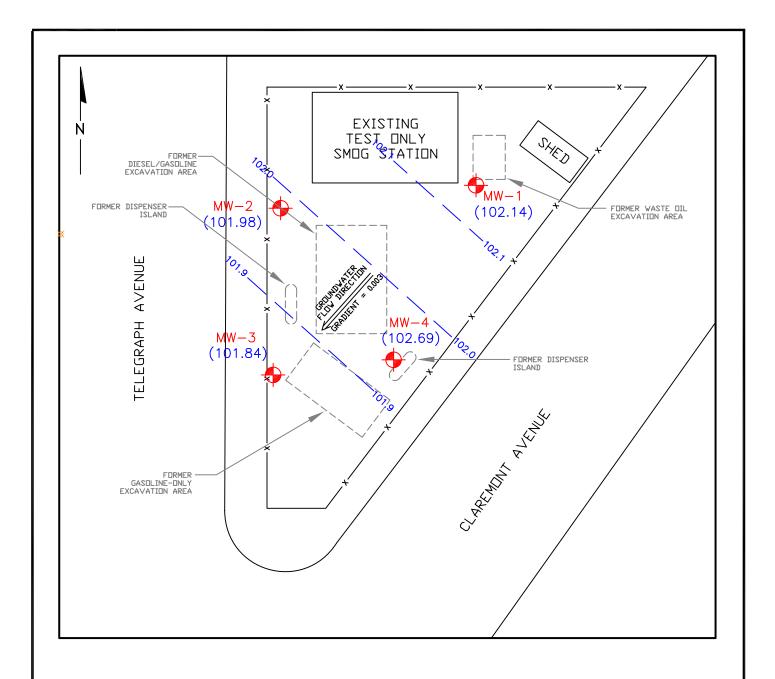
#### **REFERENCE:**

U.S.G.S. OAKLAND WEST, CALIFORNIA, 7.5 MINUTE SERIES TOPOGRAPHIC MAP, DATED 1997.

	Information
	To $Build$ $On$
$Engineering \circ Co$	nsulting • Testing

4703 Tidewater Avenue, Suite B Oakland, California 94601 (510) 434-9200

Project Name: SMOG ONLY TEST STATION (FORMERLY AUTOPRO) 5200 TELEGRAPH AVENUE, OAKLAND, CALIFORNIA	Drawn By: E.R.	l	File No.: 9G012-01	Figure No.:
SITE LOCATION MAP	Approved By: F.P.		8G012	

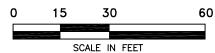


# **LEGEND**



 GROUNDWATER MONITORING WELL LOCATION (GROUNDWATER ELEVATION GIVEN IN FEET MSL)

- INTERPRETED LINE OF EQUAL GROUNDWATER ELEVATION
(INDICATED IN FEET MSL)



ンメ — FENCE

NOTES:

1. MW-4 WAS NOT USED IN GRADIENT CALCULATION.

2. BASE MAP TAKEN FROM MACTEC, GROUNDWATER CONTOUR MAP - 12/14/04, PLATE 3, AUTOPRO INC., PROJECT NO: 4095041620 03.

<b>DS</b> I	In	format Build	ion
$Engineering \circ C$			
Brighteer trig	J . UC W	overeg 10.	000.09

4703 Tidewater Avenue, Suite B Oakland, California 94601 (510) 434-9200

Project Name: AUTOPRO 5200 TELEGRAPH AVENUE, OAKLAND, CALIFORNIA	Drawn By: E.R.	Date: 08/09	Mie No.: 8G012-3Q09	Figure No.:
GROUNDWATER ELEVATION MAP JULY 20, 2009	Approved By: B.B.	1 *	-8G012	~



# TABLE 1 SUMMARY OF GROUNDWATER ELEVATIONS Test Only SMOG Station (Former Autopro) 5200 Telegraph Avenue, Oakland, CA

Well Number	TOC Elevation (ft msl)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft msl)
MW-1	115.44	12/22/08	11.67	103.77
		3/4/09	8.50	106.94
		5/1/09	12.58	102.86
		7/20/09	13.30	102.14
MW-2	114.62	12/22/08	10.96	103.66
		3/4/09	7.83	106.79
		5/1/09	11.91	102.71
		7/20/09	12.64	101.98
MW-3	113.77	12/22/08	10.30	103.47
		3/4/09	7.22	106.55
		5/1/09	11.30	102.47
		7/20/09	11.93	101.84
MW-4	114.25	12/22/08	10.36	103.89
		3/4/09	7.47	106.78
		5/1/09	10.97	103.28
		7/20/09	11.56	102.69

#### Notes:

ft msl = feet with respect to mean sea level

**TABLE 2** 

#### SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

Test Only SMOG Station (Former Autopro) 5200 Telegraph Avenue, Oakland, CA

Sample Number	Date	TPH-G	TPH-D	трн-мо	Benzene	n-Butyl- benzene	sec-Butyl- benzene	tert-Butyl- benzene	Isopropyl- benzene	Ethyl- benzene	p- Isopropyl- toluene	Naph- thalene	n-Propyl- benzene	Toluene	1,2,4- Trimethyl- benzene	1,3,5- Trimethyl- benzene	Total Xylenes
MW-1	12/22/08	390	150	<100	<0.5	5.5	3.9	<1.0	3.2	<0.5	<1.0	2.0	7.3	<0.5	<1.0	<1.0	<1.5
	3/4/09	360	64	<100	<0.5	1.8	1.8	<1.0	1.3	0.63	<1.0	1.3	2.8	<0.5	<1.0	<1.0	1.1
	5/1/09	120	130	<100	<0.5	1.5	2.0	<1.0	1.3	<0.5	<1.0	<1.0	2.8	<0.5	<1.0	<1.0	<1.5
	7/20/09	<50	110	330	<0.5	<1.0	<1.0	<1.0	<1.0	<0.5	<1.0	<1.0	1.3	<0.5	<1.0	<1.0	<1.5
MW-2	12/22/08	<50	<50	<100	<0.5	<1.0	<1.0	<1.0	<1.0	<0.5	<1.0	<1.0	<1.0	<0.5	<1.0	<1.0	<1.5
	3/4/09	<50	<50	<100	<0.5	<1.0	<1.0	<1.0	<1.0	0.76	<1.0	1.4	<1.0	<0.5	1.1	<1.0	1.7
	5/1/09	<50	<50	<100	<0.5	<1.0	<1.0	<1.0	<1.0	<0.5	<1.0	<1.0	<1.0	<0.5	<1.0	<1.0	<1.5
	7/20/09	<50	59	<100	<0.5	<1.0	<1.0	<1.0	<1.0	<0.5	<1.0	<1.0	<1.0	<0.5	<1.0	<1.0	<1.5
MW-3	12/22/08	3,600	1,400	<100	<0.5	<1.0	<1.0	<1.0	39	<0.5	14	<1.0	60	<0.5	<1.0	23	9.8
	3/4/09	3,400	1,000	<100	2.2	17	7.4	<1.0	34	3.9	8.3	2.5	67	3.1	<1.0	1.8	8.68
	5/1/09	2,700	1,700	<100	<0.5	20	7.2	<1.0	21	2.2	7.5	<1.0	44	1.2	<1.0	<1.0	3.9
	7/20/09	2,100	1,400	<100	<0.5	19	9.8	<1.0	25	1.5	5.6	1.0	57	1.1	<1.0	<1.0	4.5
MW-4	12/22/08	1,200	700	<100	<0.5	18	9.3	<1.0	10	<0.5	9.0	<1.0	21	<0.5	<1.0	<1.0	<1.5
	3/4/09	1,300	410	<100	<0.5	8.4	6.2	1.0	11	1.1	3.6	1.7	22	<0.5	<1.0	<1.0	1.2
	5/1/09	590	400	<100	2.6	6.4	4.8	<1.0	5.8	9.4	2.1	21	13	<0.5	<1.0	<1.0	<1.5
	7/20/09	440	260	<100	<0.5	4.4	3.5	<1.0	3.8	<0.5	1.6	<1.0	7.9	<0.5	<1.0	<1.0	<1.5

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline

TPH-D = Total Petroleum Hydrocarbons as Diesel

The units for all presented values are µg/L = Micrograms per liter < = The "less than" symbol indicates not detected above the laboratory reporting limit shown.

All VOCs not listed were below laboratory reporting limit.

# APPENDIX A

GROUNDWATER PURGE LOGS AND WATER LEVEL DATA

		FLU	ID MEAS	UREMEN	T FIELD D	ATA		
							SHEET: 1	OF 1
DATE:	7/20/2009	PROJECT NAME:	Tristar			PROJECT NO: 57	'5-8G012	
WATER LEVEL	MEASUREMENT INS	TRUMENT:	SOLINST		•	SERIAL NO:	12080	
PRODUCT DET	ECTION INSTRUMEN	NT:			-	SERIAL NO:	· ·	
EQUIP. DECON	: ALCONO	KWASH X DIST	T/DEION 1 RINSE	☐ ISOPROPANOL	. ANALYTE	FREE FINAL RINSE	☐ TAP WATER F	INAL RINSE
☐ TAP W	ATER WASH	IQUINOX WASH	☐ DiST/DEI	ON 2 RINSE	OTHER SOLVENT	☑ DIST/DEION	FINAL RINSE	☐ AIR DRY
WELL NUMBER	GROUND SURFACE ELEVATION	TOP OF CASING ELEVATION	DEPTH TO PRODUCT BELOW TOC	DEPTH TO WATER BELOW TOC	WELL DEPTH BELOW TOC	PRODUCT THICKNESS	WATER TABLE ELEVATION	ACTUAL TIME
MW-1		115.44		13.30	26. <del>97</del>			11:54
MW-2		114.62		12,64	24.69			12:03
MW-3		113.9		11,93	14.37			12:18
MW-4		114.25		11,56	15,69			12:13
	Wells Of	ened	11:15-	11 (25				
	Bailer 5	uck in	MW-2	. Could		more w	ill try	again
	next	time.	Depth	to top	of Buile	n 21.03	F+	
	On Site	drum C	ull. Har	e it re	Moved.			
	Bring	a nev	drum fo	or next	Sampling			
REMEMBER TO CO	RRECT PRODUCT THICK	NESS FOR DENSITY BE	FORE CALCULATING V	NATER TABLE ELEVATI	ION	PREPARED BY:	EZEKIEL ROBLES	3

	14 .111							· · · · · · · · · · · · · · · · · · ·	4 91 54	
		\	NELL P	URGIN	IG AN	D SAM	PLING	DATA		
	···		٠,,				WELL N	IO: MW-1	1-	
DATE:	7/20/2009	PROJE	CT NAME: T	RISTAR			PROJEC	CT NO: 575-8	G012	
WEATHE	R CONDIT	IONS:	Sunny						<del>-</del> "	
WELL DIA	AMETER (II	N.)	1	X 2	<u> </u>	□ 6	OTHER			
SAMPLE	TYPE: [	X GROUN	DWATER	WAS	TEWATER	SURF	ACE WATE	R OTHE	R	
WELL DE	PTH (TOC	) -2	0.07 26	.03 FT	. DEPTH	TO WATER	BEFORE PU	JRGING (TOC)	13.30	FT.
LENGTH	OF WATER	112.73	MANAL	<b>%</b> FT	CALC	JLATED ON	E WELL VO	DLUME¹: 6	2.2	GAL.
PURGING	DEVICE:	PC	OLY BAILER		X DED	CATED X	] DISPOSA	BLE DECC	NTAMINATED	
SAMPLIN	G DEVICE	; P(	OLY BAILER		X DED	ICATED X	] DISPOSA	BLE DECC	NTAMINATED	
EQUIP. D			AP WATER W			ISOPROPA	_		E FINAL RINSE	
	CONOX WA		DIST/DE			_		DIST/DEION F		
			I: X LAB	ON 2 RINSE		D PRESERV	R FINAL RI	NSE LAIF	DHY	
			SERIAL NO			D PRESERV	ED	<del>.</del>	<del> </del>	
					SI 556 MP	S Serial # M	61171 AN			
ACTUAL	CUMUL.	TEMP	SPECIFIC	рН	DEPTH		WATER	(f) up =	REMARKS	
TIME (MIN)	VOLUME PURGED	<b>⊠</b> °C	CONDUCT.		TO GROUN WATER	D	APPEAR CL=CLEAR	(EVIDE	NT ODOR, COLOR, PID)	
	(GAL)						CO=CLOUDY			
12:35	INITIAL	19.84	416 MS	6.34			TU=TURBID	No Odor	/ Clear	
12:41	2.5	19.42	<del> </del>	6.59			1/	10	11	
12:46	5.0	19.39	-	6.61		-	//	//	11	
12:50	7.5	19, 34		6,58		1	40	11 /	Brownish	
		, ,								-
				1						
									-	
									·	
							. Ai			
DEPTH T	O WATER	AFTER P	URGING (TO	DC)	FT.	SAMPLE F	ILTERED	YES XN	O SIZE	
NOTES:					SAMPLE	TIME: /	2:54	/ ID#	MW-1	
ľ					DUPLICA		TIME:	ID#:		
					EQUIP. E	BLANK:	TIME:	ID#:		
					PREPAR	ED BY:	EZEKIE	L ROBLES		

A 1 FOOT LENGTH OF WATER = 0.05 GAL IN 1" DIA. PIPE 0.17 GAL IN 2" DIA PIPE 0.65 GAL IN 4" DIA PIPE 1.5 GAL IN 6" DIA PIPE

		1	VELL F	URGII	VG ANI	SAN	<b>IPLING</b>	DATA		
							WELL	IO: MV	V-2	ě
DATE:	7/20/2009	PROJE	CT NAME: T	RISTAR			PROJEC	OT NO: 575	5-8G012	
WEATHE	R CONDIT	IONS:	Sunny	/			•			
WELL DIA	AMETER (I	N.)		X 2	<u> </u>	<u> </u>	OTHER			
SAMPLE	TYPE: [	X GROUN	DWATER	□was	TEWATER	SUR	FACE WATE	R OT	HER	
WELL DE	PTH (TOC	) 2	4.69	F <sup>-</sup>	r. DEPTH	TO WATER	R BEFORE PL	JRGING (TO	c) 12.64	FT
LENGTH	OF WATE	٦	2.05	F	T. CALCUI	LATED ON	NE WELL VO	DLUME <sup>1</sup> :	2.1	GAL
PURGING	G DEVICE:	PC	DLY BAILER		X DEDIC	CATED [	X DISPOSA	BLE DE	CONTAMINATED	
SAMPLIN	IG DEVICE	: PC	DLY BAILER		X DEDIC	CATED [	X DISPOSA	BLE DE	CONTAMINATED	
EQUIP. D		_	P WATER W			ISOPROP.			REE FINAL RINSE	
=	W XONOO. W XONIUG		X DIST/DEI	ON 1 RINSE ON 2 RINSE	_		OLVENT 🗓 ER FINAL RII	_	I FINAL RINSE AIR DRY	
			: X LAB			PRESER		vo⊑	AIR URT	
L			SERIAL NO	D:	<u> </u>					
				Υ.	SI 556 MPS	Serial # I	M61171 AN			
ACTUAL TIME (MIN)	CUMUL. VOLUME PURGED (GAL)	TEMP □ °F ☑ °C	SPECIFIC CONDUCT.	pН	DEPTH TO GROUND WATER		WATER APPEAR CL=CLEAR CO=CLOUDY TU=TURBID	(EVI	REMARKS DENT ODOR, COLOR, PID	))
13:13	INITIAL	20.24	34145	6.85			CL	No Odo	/ Clear	
13:18	2.5	19.78	<i>352</i>	6,68			10	11	/ Clear / Brown	
13; 23	5.0	19,58	349	6.64			11	11	W.	
13:30	7,5	19.62	348	6.59			11	11	11	
						, <u>.</u>				
						4.			-	
DEPTH T	O WATER	AFTER P	JRGING (TO	DC)	FT.	SAMPLE	FILTERED	☐ YES 🗵	NO SIZE	
NOTES:					SAMPLE 1	TIME:	13:35	ID#	MW-I	2
					DUPLICAT	TE 🗌	TIME:	ID#:		`
					EQUIP. BI	ANK:	TIME:	ID#:		
					PREPARE	D BY:	EZEKIE	L ROBLES		

<sup>1</sup> A 1 FOOT LENGTH OF WATER = 0.05 GAL IN 1" DIA. PIPE 0.17 GAL IN 2" DIA PIPE 0.65 GAL IN 4" DIA PIPE 1.5 GAL IN 6" DIA PIPE

		V	WELL P	URGIN	IG ANI	SAN	IPLING	DATA		
							WELL N	IO: MW-	3	
DATE:	7/20/2009	PROJE	CT NAME: T	RISTAR		***	PROJE	CT NO: 575-	8G012	
WEATHER	CONDIT	IONS:	Sunn	V						
WELL DIA	METER (I	N.)	1 ′	X 2	<u> </u>	<u> </u>	OTHER			
SAMPLE T	YPE: [	X GROUN	DWATER	☐ WAS	TEWATER	SUR	FACE WATE	R OTH	ER	
WELL DEF	тн (тос	)	14.3	7 FT	DEPTH 1	TO WATER	BEFORE PL	JRGING (TOC	11.93	FT.
LENGTH C	OF WATER	3	2,4	<i>4</i> FT	CALCUL	ATED ON	IE WELL VO	DLUME <sup>1</sup> : 0	7, 5	GAL.
PURGING	DEVICE:	PC	DLY BAILER		X DEDIC	ATED [	X DISPOSA	BLE DEC	ONTAMINATED	
SAMPLING	DEVICE	: PC	DLY BAILER		X DEDIC	ATED [	DISPOSA	BLE DEC	ONTAMINATED	
EQUIP. DE			P WATER W		=	ISOPROPA			EE FINAL RINSE	
	CONOX WA		X DIST/DE	ON 1 RINSE ON 2 RINSE			OLVENT <u>[X]</u> ER FINAL RII	DIST/DEION I	FINAL RINSE R DRY	
			I: X LAB			PRESER		ASE N	H DHY	
			SERIAL NO			/ T TILOLIT	***			
				YS	SI 556 MPS	Serial # N	M61171 AN	_		
ACTUAL TIME	CUMUL. VOLUME	TEMP □ °F	SPECIFIC CONDUCT.	pН	DEPTH TO GROUND		WATER APPEAR	(EVID	REMARKS ENT ODOR, COLOR, PID	,
(MIN)	PURGED	⊠ °c			WATER		CL=CLEAR	(2	,,	,
	(GAL)						CO=CLOUDY TU=TURBID			
14:21	INITIAL	21.16	156 ms	6.75			CL	Hydrocarbo.	Odor/ Cle	Qr
14:25	1.0	20.89	152	6.78			TU	11	16re	$\succ$
14:28	2,0	20,99	151	6.81			11	//	10	100
1432	3.0	20.86	152	6.72			//	//	11	
DEPTH TO	WATER	AFTER P	JRGING (TO	OC)	FT.	SAMPLE	FILTERED	☐ YES 🗵 I	NO SIZE	
NOTES:					SAMPLE T	IME: /	4:36	ID#	MW-3	3
					DUPLICAT	E	TIME:	ID#:	<u> </u>	
					EQUIP. BI	ANK: 🔲	TIME:	ID#:		
					PREPARE	D BY:	EZEKIE	L ROBLES		

<sup>&</sup>lt;sup>1</sup> A 1 FOOT LENGTH OF WATER = 0.05 GAL IN 1" DIA. PIPE | 0.17 GAL IN 2" DIA PIPE | 0.65 GAL IN 4" DIA PIPE | 1.5 GAL IN 6" DIA PIPE

WELL PURGI	ING AND SAMPLING DATA	
	WELL NO: MW-4	
DATE: 7/20/2009 PROJECT NAME: TRISTAR	PROJECT NO: 575-8G012	٦
WEATHER CONDITIONS: Sunny		
WELL DIAMETER (IN.) 1 X 2	46OTHER	
SAMPLE TYPE: X GROUNDWATER WAS	ASTEWATER SURFACE WATER OTHER	
WELL DEPTH (TOC) 15,69 F	FT. DEPTH TO WATER BEFORE PURGING (TOC) // 56	FT.
LENGTH OF WATER 4.13 F	FT. CALCULATED ONE WELL VOLUME 1: 0, 7 G	AL.
PURGING DEVICE: POLY BAILER	▼ DEDICATED ▼ DISPOSABLE □ DECONTAMINATED	
SAMPLING DEVICE: POLY BAILER	■ DEDICATED	
EQUIP. DECON. TAP WATER WASH	☐ ISOPROPANOL ☐ ANALYTE FREE FINAL RINSE	
ALCONOX WASH X DIST/DEION 1 RINS		-
CONTAINER PRESERVATION: X LAB PRESERVI		_
WATER ANALYZER MODEL & SERIAL NO:	YSI 556 MPS Serial # M61171 AN	_
ACTUAL CUMUL. TEMP SPECIFIC pH TIME VOLUME □ °F CONDUCT.	DEPTH WATER REMARKS	_
(MIN) PURGED ☑ ℃	TO GROUND APPEAR (EVIDENT ODOR, COLOR, PID) WATER CL=CLEAR	
(GAL)	CO=CLOUDY TU=TURBID	
13:52 INITIAL 20.93 74ms 7.40	CL Hydrocarbon Odor / Clear	
13:55 1.0 20,55 74,5 7.12	1/ 11 //	
13:58 2.0 20.75 75 7.08	11 (1 /1	
14:00 3.0 20.80 77 6.93		
14:03 4.0 20.62 77 6.85	9 4 11	
DEPTH TO WATER AFTER PURGING (TOC)	FT. SAMPLE FILTERED ☐ YES ☒ NO SIZE	
NOTES:	SAMPLE TIME: 14:07 ID# 10W-4	
	DUPLICATE TIME: ID#:	
	EQUIP. BLANK: TIME: ID#:  PREPARED BY: FZEKIEL BOBLES	

<sup>&</sup>lt;sup>1</sup> A 1 FOOT LENGTH OF WATER = 0.05 GAL IN 1" DIA. PIPE 0.17 GAL IN 2" DIA PIPE 0.65 GAL IN 4" DIA PIPE 1.5 GAL IN 6" DIA PIPE

# APPENDIX B

LABORATORY REPORT AND CHAIN-OF-CUSTODY RECORD





17 August 2009

Ezekiel Robles PSI -- Oakland 4703 Tidewater Ave Ste B Oakland, CA 94601

RE: Corte Madera

Enclosed are the results of analyses for samples received by the laboratory on 07/24/09 08:20. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

John Shepler

**Laboratory Director** 



PSI -- Oakland Project: Corte Madera 4703 Tidewater Ave Ste B Project Number: 575-8G001 Oakland CA, 94601 Project Manager: Ezekiel Robles

**Reported:** 08/17/09 15:07

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	T900682-01	Water	07/21/09 16:05	07/24/09 08:20
MW-2	T900682-02	Water	07/21/09 16:25	07/24/09 08:20
MW-3	T900682-03	Water	07/21/09 15:55	07/24/09 08:20
MW-4	T900682-04	Water	07/21/09 15:20	07/24/09 08:20

SunStar Laboratories, Inc.



PSI -- Oakland Project: Corte Madera
4703 Tidewater Ave Ste B Project Number: 575-8G001 Reported:
Oakland CA, 94601 Project Manager: Ezekiel Robles 08/17/09 15:07

# MW-1 T900682-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
		SunStar La	aborato	ries, Inc.					
Purgeable Petroleum Hydrocarbo	ns by EPA 8015C	l ·							
C6-C12 (GRO)	ND	50	ug/l	1	9072402	07/24/09	07/24/09	EPA 8015C	
Surrogate: 4-Bromofluorobenzene		110 %	72.6	-146	"	"	"	"	
Extractable Petroleum Hydrocarb	ons by 8015C								
Hydraulic Oil	ND	0.10	mg/l	1	9072404	07/24/09	07/29/09	EPA 8015C	
Surrogate: p-Terphenyl		96.2 %	65-	135	"	"	"	"	
Volatile Organic Compounds by E	PA Method 8260	В							
Bromobenzene	ND	1.0	ug/l	1	9072401	07/24/09	07/28/09	EPA 8260B	
Bromochloromethane	ND	1.0	"	"	"	"	"	"	
Bromodichloromethane	ND	1.0	"	"	"	"	"	"	
Bromoform	ND	1.0	"	"	"	"	"	"	
Bromomethane	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	1.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	1.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	1.0	"	"	"	"	"	"	
Chloroethane	ND	1.0	"	"	"	"	"	"	
Chloroform	ND	1.0	"	"	"	"	"	"	
Chloromethane	ND	1.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	"	"	"	"	"	"	
Dibromomethane	ND	1.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.



PSI -- Oakland Project: Corte Madera

4703 Tidewater Ave Ste BProject Number: 575-8G001Reported:Oakland CA, 94601Project Manager: Ezekiel Robles08/17/09 15:07

# MW-1 T900682-01 (Water)

	Rep	orting							
Analyte Resi	ılt	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

#### SunStar Laboratories, Inc.

,2-Dichloroethane	ND	0.50	ug/l	1	9072401	07/24/09	07/28/09	EPA 8260B
,1-Dichloroethene	ND	1.0	"	"	"	"	"	"
is-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"
rans-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"
,2-Dichloropropane	ND	1.0	"	"	"	"	"	"
,3-Dichloropropane	ND	1.0	"	"	"	"	"	"
,2-Dichloropropane	ND	1.0	"	"	"	"	"	"
,1-Dichloropropene	ND	1.0	"	"	"	"	"	"
is-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"
rans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"
Iexachlorobutadiene	ND	1.0	"	"	"	"	"	"
sopropylbenzene	ND	1.0	"	"	"	"	"	"
-Isopropyltoluene	ND	1.0	"	"	"	"	"	"
Methylene chloride	ND	1.0	"	"	"	"	"	"
Iaphthalene	ND	1.0	"	"	"	"	"	"
-Propylbenzene	ND	1.0	"	"	"	"	"	"
tyrene	ND	1.0	"	"	"	"	"	"
,1,2,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"
,1,1,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"
etrachloroethene	ND	1.0	"	"	"	"	"	"
,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"
,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"
,1,2-Trichloroethane	ND	1.0	"	"	"	"	"	"
,1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"
richloroethene	ND	1.0	"	"	"	"	"	"
richlorofluoromethane	ND	1.0	"	"	"	"	"	"
,2,3-Trichloropropane	ND	1.0	"	"	"	"	"	"
,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"
,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"
inyl chloride	ND	1.0	"	"	"	"	"	"
enzene	ND	0.50	"	"	"	"	"	"
oluene	ND	0.50	"	"	"	"	"	"

SunStar Laboratories, Inc.



PSI -- Oakland Project: Corte Madera 4703 Tidewater Ave Ste B Project Number: 575-8G001

Oakland CA, 94601 Project Manager: Ezekiel Robles

**Reported:** 08/17/09 15:07

# MW-1 T900682-01 (Water)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

#### SunStar Laboratories, Inc.

Volatile Organic Compounds by	y EPA Method 8260B							
Ethylbenzene	ND	0.50	ug/l	1	9072401	07/24/09	07/28/09	EPA 8260B
m,p-Xylene	ND	1.0	"	"	"	"	"	"
o-Xylene	ND	0.50	"	"	"	"	"	"
Tert-amyl methyl ether	ND	2.0	"	"	"	"	"	m .
Tert-butyl alcohol	ND	10	"	"	"	"	"	m .
Di-isopropyl ether	ND	2.0	"	"	"	"	"	m .
Ethyl tert-butyl ether	ND	2.0	"	"	"	"	"	m .

Methyl tert-butyl ether	ND	1.0	" "	"	"	"	"
Surrogate: 4-Bromofluorobenzene		102 %	77.1-110	"	"	"	"
Surrogate: Dibromofluoromethane		111 %	66.3-111	"	"	"	"
Surrogate: Toluene-d8		106 %	84.7-109	"	"	"	"

SunStar Laboratories, Inc.



PSI -- Oakland Project: Corte Madera
4703 Tidewater Ave Ste B Project Number: 575-8G001 Reported:
Oakland CA, 94601 Project Manager: Ezekiel Robles 08/17/09 15:07

# MW-2 T900682-02 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar La	aboratoi	ries, Inc.					
Purgeable Petroleum Hydrocarbo	ns by EPA 80150	C							
C6-C12 (GRO)	ND	50	ug/l	1	9072402	07/24/09	07/24/09	EPA 8015C	
Surrogate: 4-Bromofluorobenzene		99.2 %	72.6	-146	"	"	"	"	
Extractable Petroleum Hydrocarb	oons by 8015C								
Hydraulic Oil	0.17	0.10	mg/l	1	9072404	07/24/09	07/29/09	EPA 8015C	
Surrogate: p-Terphenyl		85.3 %	65-	135	"	"	"	"	
<b>Volatile Organic Compounds by I</b>	EPA Method 8260	)B							
Bromobenzene	ND	1.0	ug/l	1	9072401	07/24/09	07/28/09	EPA 8260B	
Bromochloromethane	ND	1.0	"	"	"	"	"	"	
Bromodichloromethane	ND	1.0	"	"	"	"	"	"	
Bromoform	ND	1.0	"	"	"	"	"	"	
Bromomethane	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	1.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	1.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	1.0	"	"	"	"	"	"	
Chloroethane	ND	1.0	"	"	"	"	"	"	
Chloroform	ND	1.0	"	"	"	"	"	"	
Chloromethane	ND	1.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	"	"	"	"	"	"	
Dibromomethane	ND	1.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	

SunStar Laboratories, Inc.



PSI -- Oakland Project: Corte Madera

4703 Tidewater Ave Ste BProject Number: 575-8G001Reported:Oakland CA, 94601Project Manager: Ezekiel Robles08/17/09 15:07

## MW-2 T900682-02 (Water)

	Reporting							
Analyte Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

#### SunStar Laboratories, Inc.

	S	unStar La	iboratori	es, Inc.					
Volatile Organic Compounds by I	EPA Method 8260B								
1,1-Dichloroethene	ND	1.0	ug/l	1	9072401	07/24/09	07/28/09	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	n .	
trans-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	1.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0	"	"	"	"	"	"	
Isopropylbenzene	ND	1.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.0	"	"	"	"	"	"	
Methylene chloride	ND	1.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
n-Propylbenzene	ND	1.0	"	"	"	"	"	"	
Styrene	ND	1.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	
Tetrachloroethene	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	1.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"	
Trichloroethene	ND	1.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
Vinyl chloride	ND	1.0	"	"	"	"	"	"	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	

SunStar Laboratories, Inc.



PSI -- Oakland Project: Corte Madera

4703 Tidewater Ave Ste BProject Number: 575-8G001Reported:Oakland CA, 94601Project Manager: Ezekiel Robles08/17/09 15:07

## MW-2 T900682-02 (Water)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

		SunStar La	boratori	es, Inc.					
<b>Volatile Organic Compounds by El</b>	PA Method 8260	В							
m,p-Xylene	ND	1.0	ug/l	1	9072401	07/24/09	07/28/09	EPA 8260B	
o-Xylene	ND	0.50	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	2.0	"	"	"	"	"	n n	
Tert-butyl alcohol	ND	10	"	"	"	"	"	n n	
Di-isopropyl ether	ND	2.0	"	"	"	"	"	n n	
Ethyl tert-butyl ether	ND	2.0	"	"	"	"	"	n n	
Methyl tert-butyl ether	ND	1.0	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.5 %	77.1-	110	"	"	"	"	_
Surrogate: Dibromofluoromethane		112 %	66.3-	111	"	"	"	"	S-GC
Surrogate: Toluene-d8		104 %	84.7-	109	"	"	"	"	

SunStar Laboratories, Inc.



PSI -- Oakland Project: Corte Madera
4703 Tidewater Ave Ste B Project Number: 575-8G001 Reported:
Oakland CA, 94601 Project Manager: Ezekiel Robles 08/17/09 15:07

## MW-3 T900682-03 (Water)

Stractable Petroleum Hydrocarbons by 8015C   Hydraulic Oil	Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C-C12 (GRO)			SunStar La	aborato	ries, Inc.					
Surrogate: 4-Bromofluorobenzee   92.3 %   72.6-14   " " " " " " " " " "   "   "   "   "		ons by EPA 80150	C							
Extractable Petroleum Hydrocarbons by 8015C   Hydraulic Oil   ND   0.10   mg/l   1   9072404   07/24/09   07/29/09   EPA 8015C   3070762622 p.7 Erphenyl   104 %   65-135   " " " " " " " " " " " " " " " " "   " "   " "   "	C6-C12 (GRO)	ND	50	ug/l	1	9072402	07/24/09	07/24/09	EPA 8015C	
Mydraulic Oil	Surrogate: 4-Bromofluorobenzene		92.3 %	72.6	5-146	"	"	"	"	
Mydraulic Oil	Extractable Petroleum Hydrocarl	oons by 8015C								
No.   No.	Hydraulic Oil		0.10	mg/l	1	9072404	07/24/09	07/29/09	EPA 8015C	
Bromobenzene   ND   1.0   ug/l   1   9072401   07/24/99   07/28/09   EPA 8260B   Bromochloromethane   ND   1.0   "   "   "   "   "   "   "   "   "	Surrogate: p-Terphenyl		104 %	65-	135	"	"	"	II .	
Bromochloromethane   ND   1.0   "   "   "   "   "   "   "   "   "	<b>Volatile Organic Compounds by I</b>	EPA Method 8260	)B							
Bromodichloromethane ND	Bromobenzene	ND	1.0	ug/l	1	9072401	07/24/09	07/28/09	EPA 8260B	
Bromoform         ND         1.0         " <t< td=""><td>Bromochloromethane</td><td>ND</td><td>1.0</td><td>"</td><td>"</td><td>"</td><td>"</td><td>"</td><td>"</td><td></td></t<>	Bromochloromethane	ND	1.0	"	"	"	"	"	"	
Bromomethane         ND         1.0         "	Bromodichloromethane	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene         ND         1.0         "	Bromoform	ND	1.0	"	"	"	"	"	"	
sec-Butylbenzene         ND         1.0         "	Bromomethane	ND	1.0	"	"	"	"	"	"	
tert-Butylbenzene ND 1.0 " " " " " " " " " " " " " " " " " " "	n-Butylbenzene	ND	1.0	"	"	"	"	"	"	
Carbon tetrachloride         ND         0.50         " <td>sec-Butylbenzene</td> <td>ND</td> <td>1.0</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td></td>	sec-Butylbenzene	ND	1.0	"	"	"	"	"	"	
Chlorobenzene         ND         1.0         "	tert-Butylbenzene	ND	1.0	"	"	"	"	"	"	
Chloroethane  ND 1.0 " " " " " " " " " " " " " " " " " " "	Carbon tetrachloride	ND	0.50	"	"	"	"	"	"	
Chloroform  Chloroform  ND  1.0  " " " " " " " " " " " " " " " " " "	Chlorobenzene	ND	1.0	"	"	"	"	"	"	
Chloromethane         ND         1.0         "	Chloroethane	ND	1.0	"	"	"	"	"	"	
2-Chlorotoluene       ND       1.0       "	Chloroform	ND	1.0	"	"	"	"	"	"	
4-Chlorotoluene ND 1.0 " " " " " " " " " " " " " " " " " " "	Chloromethane	ND	1.0	"	"	"	"	"	"	
Dibromochloromethane         ND         1.0         "	2-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	4-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)  ND  1.0  " " " " " " " " " " " " " " " " " "	Dibromochloromethane	ND	1.0	"	"	"	"	"	"	
Dibromomethane ND 1.0 " " " " " " " " " " " " 1,2-Dichlorobenzene ND 1.0 " " " " " " " " " " " " " " " " " 1,3-Dichlorobenzene ND 1.0 " " " " " " " " " " " " " " " " " " "	1,2-Dibromo-3-chloropropane	ND	1.0	"	"	"	"	"	"	
1,2-Dichlorobenzene       ND       1.0       " <td>1,2-Dibromoethane (EDB)</td> <td>ND</td> <td>1.0</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td></td>	1,2-Dibromoethane (EDB)	ND	1.0	"	"	"	"	"	"	
1,2-Dichlorobenzene       ND       1.0       " <td>Dibromomethane</td> <td>ND</td> <td>1.0</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td></td>	Dibromomethane	ND	1.0	"	"	"	"	"	"	
1,4-Dichlorobenzene       ND       1.0       " <td>1,2-Dichlorobenzene</td> <td>ND</td> <td>1.0</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td></td>	1,2-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
Dichlorodifluoromethane         ND         0.50         "<	1,3-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
Dichlorodifluoromethane         ND         0.50         "<	1,4-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
	Dichlorodifluoromethane	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane ND 0.50 " " " " " "	1,1-Dichloroethane	ND	1.0	"	"	"	"	"	"	
	1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	

SunStar Laboratories, Inc.



PSI -- Oakland Project: Corte Madera

4703 Tidewater Ave Ste BProject Number: 575-8G001Reported:Oakland CA, 94601Project Manager: Ezekiel Robles08/17/09 15:07

## MW-3 T900682-03 (Water)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

#### SunStar Laboratories, Inc.

	S	SunStar La	boratori	es, Inc.				
Volatile Organic Compounds by I	EPA Method 8260E	3						
1,1-Dichloroethene	ND	1.0	ug/l	1	9072401	07/24/09	07/28/09	EPA 8260B
cis-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"
1,2-Dichloropropane	ND	1.0	"	"	"	"	"	"
1,3-Dichloropropane	ND	1.0	"	"	"	"	"	"
2,2-Dichloropropane	ND	1.0	"	"	"	"	"	"
1,1-Dichloropropene	ND	1.0	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"
rans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"
Hexachlorobutadiene	ND	1.0	"	"	"	"	"	"
Isopropylbenzene	ND	1.0	"	"	"	"	"	"
p-Isopropyltoluene	ND	1.0	"	"	"	"	"	"
Methylene chloride	ND	1.0	"	"	"	"	"	"
Naphthalene	ND	1.0	"	"	"	"	"	"
n-Propylbenzene	ND	1.0	"	"	"	"	"	"
Styrene	ND	1.0	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"
Γetrachloroethene	ND	1.0	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	1.0	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"
Γrichloroethene	ND	1.0	"	"	"	"	"	"
Trichlorofluoromethane	ND	1.0	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	1.0	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"
Vinyl chloride	ND	1.0	"	"	"	"	"	"
Benzene	ND	0.50	"	"	"	"	"	"
Γoluene	ND	0.50	"	"	"	"	"	"
Ethylbenzene	ND	0.50	"	"	"	"	"	"

SunStar Laboratories, Inc.



Oakland CA, 94601

25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone 949.297.5027 Fax

PSI -- Oakland Project: Corte Madera 4703 Tidewater Ave Ste B Project Number: 575-8G001

Project Manager: Ezekiel Robles

**Reported:** 08/17/09 15:07

## MW-3 T900682-03 (Water)

Analysis	D14	Reporting	I I:4	D:1	Datab	D	A1 d	M-41 1	NI-4
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

#### SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA	Method 8260	В									
m,p-Xylene	ND	1.0	ug/l	1	9072401	07/24/09	07/28/09	EPA 8260B			
o-Xylene	ND	0.50	"	"	"	"	"	"			
Tert-amyl methyl ether	ND	2.0	"	"	"	"	"	"			
Tert-butyl alcohol	ND	10	"	"	"	"	"	"			
Di-isopropyl ether	ND	2.0	"	"	"	"	"	"			
Ethyl tert-butyl ether	ND	2.0	"	"	"	"	"	"			
Methyl tert-butyl ether	ND	1.0	"	"	"	"	"	"			
Surrogate: 4-Bromofluorobenzene		99.5 %	77.1-	110	"	"	"	"			
Surrogate: Dibromofluoromethane		110 %	66.3-	111	"	"	"	"			
Surrogate: Toluene-d8		105 %	84.7-	109	"	"	"	"			

SunStar Laboratories, Inc.



PSI -- Oakland Project: Corte Madera
4703 Tidewater Ave Ste B Project Number: 575-8G001 Reported:
Oakland CA, 94601 Project Manager: Ezekiel Robles 08/17/09 15:07

# MW-4 T900682-04 (Water)

Analyte Res	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	SunStar L	aborator	ries, Inc.					
Purgeable Petroleum Hydrocarbons by EPA	8015C							
C6-C12 (GRO)	ND 50	ug/l	1	9072402	07/24/09	07/24/09	EPA 8015C	
Surrogate: 4-Bromofluorobenzene	93.4 %	72.6	-146	"	"	"	"	
Extractable Petroleum Hydrocarbons by 801	5C							
Hydraulic Oil	<b>19</b> 0.10	mg/l	1	9072404	07/24/09	07/29/09	EPA 8015C	
Surrogate: p-Terphenyl	106 %	65-	135	"	"	"	"	
Volatile Organic Compounds by EPA Method	d 8260B							
Bromobenzene	ND 1.0	ug/l	1	9072401	07/24/09	07/28/09	EPA 8260B	
Bromochloromethane	ND 1.0	"	"	"	"	"	"	
Bromodichloromethane	ND 1.0	"	"	"	"	"	"	
Bromoform	ND 1.0	"	"	"	"	"	"	
Bromomethane	ND 1.0	"	"	"	"	"	"	
n-Butylbenzene N	ND 1.0	"	"	"	"	"	"	
sec-Butylbenzene	ND 1.0	"	"	"	"	"	"	
tert-Butylbenzene N	ND 1.0	"	"	"	"	"	"	
Carbon tetrachloride	ND 0.50	"	"	"	"	"	"	
Chlorobenzene	ND 1.0	"	"	"	"	"	"	
Chloroethane	ND 1.0	"	"	"	"	"	"	
Chloroform	ND 1.0	"	"	"	"	"	"	
Chloromethane	ND 1.0	"	"	"	"	"	"	
2-Chlorotoluene	ND 1.0	"	"	"	"	"	"	
4-Chlorotoluene	ND 1.0	"	"	"	"	"	"	
Dibromochloromethane N	ND 1.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND 1.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND 1.0	"	"	"	"	"	"	
Dibromomethane N	ND 1.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND 1.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND 1.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND 1.0	"	"	"	"	"	"	
Dichlorodifluoromethane N	ND 0.50	"	"	"	"	"	"	
	ND 1.0	"	"	"	"	"	"	
	ND 0.50	"	"	"	"	"	"	

SunStar Laboratories, Inc.



PSI -- Oakland Project: Corte Madera

4703 Tidewater Ave Ste BProject Number: 575-8G001Reported:Oakland CA, 94601Project Manager: Ezekiel Robles08/17/09 15:07

## MW-4 T900682-04 (Water)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

#### SunStar Laboratories, Inc.

	S	SunStar La	boratori	es, Inc.				
Volatile Organic Compounds by I	EPA Method 8260E	3						
1,1-Dichloroethene	ND	1.0	ug/l	1	9072401	07/24/09	07/28/09	EPA 8260B
cis-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"
1,2-Dichloropropane	ND	1.0	"	"	"	"	"	"
1,3-Dichloropropane	ND	1.0	"	"	"	"	"	"
2,2-Dichloropropane	ND	1.0	"	"	"	"	"	"
1,1-Dichloropropene	ND	1.0	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"
rans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"
Hexachlorobutadiene	ND	1.0	"	"	"	"	"	"
Isopropylbenzene	ND	1.0	"	"	"	"	"	"
p-Isopropyltoluene	ND	1.0	"	"	"	"	"	"
Methylene chloride	ND	1.0	"	"	"	"	"	"
Naphthalene	ND	1.0	"	"	"	"	"	"
n-Propylbenzene	ND	1.0	"	"	"	"	"	"
Styrene	ND	1.0	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"
Γetrachloroethene	ND	1.0	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	1.0	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"
Γrichloroethene	ND	1.0	"	"	"	"	"	"
Trichlorofluoromethane	ND	1.0	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	1.0	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"
Vinyl chloride	ND	1.0	"	"	"	"	"	"
Benzene	ND	0.50	"	"	"	"	"	"
Γoluene	ND	0.50	"	"	"	"	"	"
Ethylbenzene	ND	0.50	"	"	"	"	"	"

SunStar Laboratories, Inc.



PSI -- Oakland Project: Corte Madera 4703 Tidewater Ave Ste B Project Number: 575-8G001

Oakland CA, 94601 Project Manager: Ezekiel Robles

**Reported:** 08/17/09 15:07

## MW-4 T900682-04 (Water)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

#### SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B													
m,p-Xylene	ND	1.0	ug/l	1	9072401	07/24/09	07/28/09	EPA 8260B					
o-Xylene	ND	0.50	"	"	"	"	"	"					
Tert-amyl methyl ether	ND	2.0	"	"	"	"	"	"					
Tert-butyl alcohol	ND	10	"	"	"	"	"	"					
Di-isopropyl ether	ND	2.0	"	"	"	"	"	"					
Ethyl tert-butyl ether	ND	2.0	"	"	"	"	"	"					
Methyl tert-butyl ether	5.2	1.0	"	"	"	"	"	"					
Surrogate: 4-Bromofluorobenzene		99.1 %	77.1-110		"	"	"	"					
Surrogate: Dibromofluoromethane		102 %	66.3-	111	"	"	"	"					
Surrogate: Toluene-d8		105 %	84.7-	109	"	"	"	"					

SunStar Laboratories, Inc.



PSI -- Oakland Project: Corte Madera

4703 Tidewater Ave Ste BProject Number: 575-8G001Reported:Oakland CA, 94601Project Manager: Ezekiel Robles08/17/09 15:07

# Purgeable Petroleum Hydrocarbons by EPA 8015C - Quality Control SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes						
Batch 9072402 - EPA 5030 GC																
Blank (9072402-BLK1)				Prepared & Analyzed: 07/24/09												
C6-C12 (GRO)	ND	50	ug/l													
Surrogate: 4-Bromofluorobenzene	189		"	200		94.3	72.6-146									
LCS (9072402-BS1)				Prepared	& Analyze	ed: 07/24/	09									
C6-C12 (GRO)	5250	50	ug/l	5500		95.4	75-125									
Surrogate: 4-Bromofluorobenzene	187		"	200		93.6	72.6-146									
LCS Dup (9072402-BSD1)				Prepared	& Analyze	ed: 07/24/	09									
C6-C12 (GRO)	5290	50	ug/l	5500		96.2	75-125	0.857	20							
Surrogate: 4-Bromofluorobenzene	185		"	200		92.3	72.6-146									

SunStar Laboratories, Inc.



PSI -- Oakland Project: Corte Madera

4703 Tidewater Ave Ste BProject Number: 575-8G001Reported:Oakland CA, 94601Project Manager: Ezekiel Robles08/17/09 15:07

# Extractable Petroleum Hydrocarbons by 8015C - Quality Control SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9072404 - EPA 3510C GC										
Blank (9072404-BLK1)				Prepared:	07/24/09	Analyzed	1: 07/29/09			
Hydraulic Oil	ND	0.10	mg/l							
C13-C28 (DRO)	ND	0.50	"							
Surrogate: p-Terphenyl	3.35		"	4.00		83.9	65-135			
LCS (9072404-BS1)				Prepared:	07/24/09	Analyzed	1: 07/29/09			
C13-C28 (DRO)	18.0	0.50	mg/l	20.0		90.2	75-125			
Surrogate: p-Terphenyl	4.36		"	4.00		109	65-135			
LCS Dup (9072404-BSD1)				Prepared:	07/24/09	Analyzed	1: 07/29/09			
C13-C28 (DRO)	17.8	0.50	mg/l	20.0		89.0	75-125	1.39	20	
Surrogate: p-Terphenyl	4.31		"	4.00		108	65-135			

SunStar Laboratories, Inc.



PSI -- Oakland Project: Corte Madera

4703 Tidewater Ave Ste BProject Number: 575-8G001Reported:Oakland CA, 94601Project Manager: Ezekiel Robles08/17/09 15:07

# Volatile Organic Compounds by EPA Method 8260B - Quality Control SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9072401 - EPA 5030 GCMS										
Blank (9072401-BLK1)				Prepared:	07/24/09	Analyzed	1: 07/28/09			
Benzene	ND	0.50	ug/l							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
m,p-Xylene	ND	1.0	"							
o-Xylene	ND	0.50	"							
Tert-amyl methyl ether	ND	2.0	"							
Tert-butyl alcohol	ND	10	"							
Di-isopropyl ether	ND	2.0	"							
Ethyl tert-butyl ether	ND	2.0	"							
Methyl tert-butyl ether	ND	1.0	"							
Ethanol	ND	500	"							
Surrogate: 4-Bromofluorobenzene	7.86		"	8.00		98.2	77.1-110			
Surrogate: Dibromofluoromethane	8.45		"	8.00		106	66.3-111			
Surrogate: Toluene-d8	8.39		"	8.00		105	84.7-109			
LCS (9072401-BS1)				Prepared:	07/24/09	Analyzed	1: 07/27/09			
Benzene	18.3	0.50	ug/l	20.0		91.7	75-125			
Toluene	18.5	0.50	"	20.0		92.4	75-125			
Surrogate: 4-Bromofluorobenzene	8.39		"	8.00		105	77.1-110			
Surrogate: Dibromofluoromethane	7.61		"	8.00		95.1	66.3-111			
Surrogate: Toluene-d8	8.32		"	8.00		104	84.7-109			
LCS Dup (9072401-BSD1)				Prepared:	07/24/09	Analyzed	1: 07/28/09			
Benzene	18.6	0.50	ug/l	20.0		92.8	75-125	1.14	20	
Toluene	18.8	0.50	"	20.0		93.8	75-125	1.50	20	
Surrogate: 4-Bromofluorobenzene	7.58		"	8.00		94.8	77.1-110			
Surrogate: Dibromofluoromethane	7.67		"	8.00		95.9	66.3-111			
Surrogate: Toluene-d8	8.11		"	8.00		101	84.7-109			

SunStar Laboratories, Inc.



PSI -- Oakland Project: Corte Madera

4703 Tidewater Ave Ste BProject Number: 575-8G001Reported:Oakland CA, 94601Project Manager: Ezekiel Robles08/17/09 15:07

#### **Notes and Definitions**

S-GC Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s).

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

SunStar Laboratories, Inc.

# **Chain of Custody Record**

SunStar Laboratories, Inc. 3002 Dow Ave, Suite 212 Tustin, CA 92780 714-505-4010

Client:		<del></del>			-			Date						/6			_ Pag	je:	Of	1	-
Address: 4703 Tilovator Ave Stell, Oakland, CA 94601  Phone 510) 434-9200 Fax: 510) 434-7676  Project Manager: Ezekiol Robles						Project Name: Tristar Collector: Ezekiel Robles						Client Project #:575-86012									
Project Manager: E26	ekiel 10	061e	F	ED	F	61.		Bate	ch #	:	T	90	068	83			_	COC			T-
Sample ID  M W - 1  M W - 2  M W - 3  M W - 4	Date Sampled 7-20-09		Sample Type WATER	Container Type VOA	8260	XXXX 8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	XXX 8015M Ext./Carbon Chain	6010/7000 Title 22 Metals				Laboratory ID #	Com	ments/F	Preservative	Total # of containers
Relinquished by: (signature)	Date / Tin 2Z/01 5	:10pm	Received by	y: (signature)		_ - 7	1/2	ate / Time 2 <b>2/9 5:10</b> F			Total # of containers Chain of Custody seals Y/N/NA						,	· Crea	No te Ek	tes mg/L for 9TPH-K	
Relinquished by: (signature)	7/23/9	5.00°	Received by	y: (signature)			Dat	e / T <i> 09</i>	ime	20	p.	ecai				Y/N/NA on/cold		T	PH-G	9 TPH-K	)
Relinquished by: (signature)	Date / Tir		Received b	y: (signature)				e/T						d time		ST	9	+ RL = 0	0.100 TPH-	mg/L for Mo	`
Sample disposal Instructions: D	ienosal @ \$2 00 ea	ach	Return to	client		Picki	ın														