By Alameda County Environmental Health at 8:52 am, Apr 01, 2013

March 25, 2013

Mr. Paresh Khatri **Alameda County Environmental Health Services** 1131 Harbor Bay Parkway, Suite 250 Alameda, California 94502-6577

Subject:

1st Semi-Annual 2013 Groundwater Monitoring Report

Former AutoPro

5200 Telegraph Avenue, Oakland, California

Case Number RO0000323

GeoTracker Global ID T0600100131

PSI Project No. 575-102-7

Dear Mr. Khatri:

Tri Star Partnership is pleased to submit the Semi-Annual 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 (x11).

Sincerely,

George Tuma
General Partner

Tri Star Partnership

cc: Mr. Frank Poss, PSI



1st SEMI-ANNUAL 2013 GROUNDWATER MONITORING REPORT

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

1st SEMI-ANNUAL 2013 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

March 22, 2013 575-102-7



TABLE OF CONTENTS

STA	TEMENT OF LIMITATIONS AND PROFESSIONAL CERTIFICATION	i
1.0	INTRODUCTION	. 1
2.0	SITE BACKGROUND 2.1 HISTORICAL SITE USE 2.2 PREVIOUS ENVIRONMENTAL SITE ACTIVITIES 2.2.1 Underground Storage Tank Removal - 1990 2.2.2 Limited Soil and Groundwater Investigation - 1993 2.2.3 Preliminary Site Assessment and Groundwater Monitoring - 1994 2.2.4 Site Assessment and Groundwater Monitoring - 1996 2.2.5 Remediation and Site Closure Report - 1999 2.2.6 Quarterly Monitoring and Utility Backfill Sampling - 2004 2.2.7 Site Recommendations From the ACEH - 2008 2.2.8 Addressing ACEH Recommendations 2.2.9 Workplan for Site Investigation 2.2.10 Site Investigation - 2012	.1.2.2.2.3.3.4.5.6.7
3.0	GROUNDWATER MONITORING ACTIVITIES 3.1 GROUNDWATER ELEVATION AND HYDRAULIC GRADIENT 3.2 GROUNDWATER SAMPLING 3.3 LABORATORY ANALYSIS, RESULTS, AND DISCUSSION 3.4 COORDINATED REPORTING WITH NEARBY CHEVRON SITE	. 8 . 8 . 9 10
4.0	CONCLUSIONS AND RECOMMENDATIONS	11
5.0	REFERENCES	12

FIGURES

FIGURE 1: SITE LOCATION MAP

FIGURE 2: GROUNDWATER ELEVATION MAP (March 6, 2013)

TABLES

TABLE 1: SUMMARY OF GROUNDWATER ELEVATIONS

TABLE 2: SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

<u>APPENDICES</u>

APPENDIX A: GROUNDWATER PURGE LOGS AND WATER LEVEL DATA APPENDIX B: LABORATORY REPORT AND CHAIN-OF-CUSTODY RECORD



STATEMENT OF LIMITATIONS AND PROFESSIONAL CERTIFICATION

The information provided in this Groundwater Monitoring Report prepared by PSI, Project Number 575-102-7, 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

GEO

BRAND W. BURFIELD

NO. 6986

Project Geologist



1.0 INTRODUCTION

The Subject Property is an approximately 9,000 square foot, triangular-shaped parcel located at 5200 Telegraph Avenue, on the northeastern corner of Telegraph and Claremont Avenue in Oakland, Alameda County, California (see Figure 1 – Site Location Map). The site is asphalt-paved and is currently used as a smog testing facility ("Test Only Smog Station") but was formerly an auto repair facility ("Autopro") and a Shell gasoline service station. The subject site formerly included five Underground Storage Tanks (USTs) which were removed from 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 1st Semi-Annual 2013 groundwater monitoring activities conducted on March 6, 2013, at the former UST site. The purpose of this project is to monitor petroleum hydrocarbon concentrations in groundwater to comply with the 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 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, dependent 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 μ 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 μ g/l in groundwater samples from AP-1, AP-2 and AP-3. TPH-MO was detected at a concentration of 1,900 μ 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 μ g/l and 100 μ 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 μ g/l in MW-1, MW-3, and MW-4 respectively. TPH-D was detected at concentrations between 56 and 1,200 μ g/l in MW-1 through MW-4. Ethylbenzene was detected at concentrations of 0.67 μ g/l in MW-4 and total xylenes were detected at concentrations of 5.6 and 1.22 μ 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 μ g/l in MW-1, MW-3, and MW-4 respectively. TPH-D was detected at concentrations between 74 and 2,500 μ 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 μ 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 μ g/l in monitoring wells MW-1, MW-3, and MW-4 respectively. TPH-D was detected at concentrations between 53 and 3,300 μ g/l in all wells except Chevron well MW-2. TPH-MO was detected at concentrations of 450 and 1,400 μ 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 μ 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. The ACEH expressed concerns that 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 down gradient well MW-3 warranted further characterization of the onsite plume.

Since groundwater monitoring at the site had 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).

<u>2.2.8 Addressing ACEH Recommendations</u>

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 which the block became lodged at 14 feet. Fortunately, the well recharged easily during purging, suggesting that the filter pack and screen are in good working order.

ACEH was 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. While we are in agreement that "drowned wells" would affect the ability to detect product (i.e. fuel or oil) floating on top of the groundwater table, in the absence of floating product, this is not expected to significantly affect the monitoring of dissolved hydrocarbon contaminants in groundwater beneath the site either from a qualitative (ability to detect) or quantitative (detected concentrations) standpoint. We have seen no mention in the references reviewed and no indication from historical analytical data that there is, or has been, free floating product on groundwater at the site. As such, it is our opinion that the ability to accurately detect contaminant concentrations in the on-site wells is not a concern, despite their incorrect installation.

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 <u>less</u> 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 seemingly "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 cause of the discrepancy is a partial blockage of the wells.

2.2.9 Workplan for Site Investigation

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 stated that semi-annual monitoring frequency is appropriate for the site.

2.2.10 Site Investigation - 2012

In May 2012, PSI advanced and sampled soil and groundwater from three geoprobe borings at the subject site; B-1 was drilled to evaluate a former fuel dispenser on the west side of the site as a potential contaminant source; B-2 was drilled to evaluate whether improper installation of the existing monitoring wells at the site are affecting the detected contaminant concentrations; and B-3 was drilled to provide subsurface information near the downgradient (southwest) corner of the site for an upcoming Site Conceptual Model.

The report concluded that the former west-side fuel dispenser island does not appear to be a source of contamination and that the existing monitoring wells appear to provide adequate characterization of contaminant concentrations in groundwater. A well survey was also conducted to provide location and elevation data for the wells that is up to current standards.



3.0 GROUNDWATER MONITORING ACTIVITIES

The current groundwater monitoring program includes semi-annual sampling of monitoring wells MW-1, MW-2, MW-3, and MW-4.

3.1 GROUNDWATER ELEVATION AND HYDRAULIC GRADIENT

Prior to sampling on March 6, 2013, 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.

Depths to groundwater and calculated groundwater elevations are presented in Table 1. Groundwater contours representing interpreted 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, which is consistent with data obtained from groundwater monitoring reports for three sites within 1,000 feet of the subject property. Based on the water level measurements obtained from wells MW-1, MW-2 and MW-3, the groundwater flow direction at the subject site is generally toward the west/southwest with a hydraulic gradient of approximately 0.007.

The groundwater level from MW-4 was not used in the calculation of this gradient because it conflicts with the data from the other 3 wells. This discrepancy has been noted in almost all of the monitoring events since PSI first measured groundwater levels at the site in 2008. Upon review of the geologic logs for the installation of the wells (ESE, 1994) it is apparent that there is a significant difference in the soil strata between MW-4 and the other 3 wells. This difference in layering of permeable and relatively impermeable soils and their interaction with the installed well screen may help explain the discrepancy in the measured water levels.

3.2 GROUNDWATER SAMPLING

On March 6, 2013, 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. Each well was purged with a new,



single-use dedicated bailer. If purged dry, the wells were allowed to recover to at least 80 percent of their original static groundwater levels or two hours were allowed to pass prior to sampling.

- 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 8015
- Total Petroleum Hydrocarbons as Diesel (TPH-D) using EPA Method 8015
- Total Petroleum Hydrocarbons as Motor Oil (TPH-MO) using EPA Method 8015
- Volatile Organic Compounds (VOCs) including 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) only in the groundwater sample from MW-3 (610 μg/L).
- TPH-D was detected above the laboratory reporting limit of 50 μg/L only in the groundwater sample from MW-3 (790 μg/L).
- TPH-MO was not detected above the laboratory reporting limit of 100 μg/L in the groundwater samples from any of the wells.
- Only one BTEX constituent (xylene) was detected in any of the groundwater samples; only in the groundwater sample from MW-3 (3.4 µg/L).



- Various other VOCs associated with hydrocarbon contamination were detected above their respective laboratory reporting limit in the groundwater samples collected from MW-1, MW-3 and MW-4. VOCs were not detected in MW-2.
- None of the tested constituents were detected in the groundwater sample from MW-2.

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 groundwater is a drinking water resource. The following constituents were detected at greater than their respective ESL;

- TPH-G in MW-3 at 610 µg/L (ESL of 100 µg/L)
- TPH-D in MW-3 at 790 μg/L (ESL of 100 μg/L)

None of the other tested constituents were detected at greater than their ESL.

3.4 COORDINATED REPORTING WITH NEARBY CHEVRON SITE

The nearby Chevron #93864, located at 5101 Telegraph Avenue (southwest of the subject site across the intersection of Telegraph and 52nd Street) has suspended their groundwater monitoring, pending a decision from the RWQCB regarding their request for case closure. As such, there are no corresponding groundwater levels or analytical results for comparison.



4.0 CONCLUSIONS AND RECOMMENDATIONS

PSI conducted groundwater monitoring activities on March 6, 2013. The results of the monitoring event are summarized below.

- Based on our field measurements, groundwater at the site flows generally toward the west/southwest under a hydraulic gradient of 0.007.
- TPH-G was detected only in the groundwater sample from MW-3.
- TPH-D was detected only in the groundwater sample from MW-3.
- Only one BTEX constituent (xylene) was detected, and only in the groundwater sample from MW-3.
- Other VOCs associated with petroleum hydrocarbon contamination were detected in the groundwater samples from MW-1, MW-3 and MW-4.
- None of the tested constituents were detected in the groundwater sample from MW-2.
- TPH-G and TPH-D in MW-3 were the only constituents detected at concentrations greater than their respective ESL.

Based on the soil and groundwater analytical results, petroleum hydrocarbon-impacted groundwater is present in the area of the former UST excavations.

PSI is currently preparing a site conceptual model report for the site to evaluate whether the conditions at the site satisfy the criteria to qualify for closure as a "low-threat underground storage tank case." PSI recommends that semi-annual groundwater monitoring at the site continue until case closure has been granted.



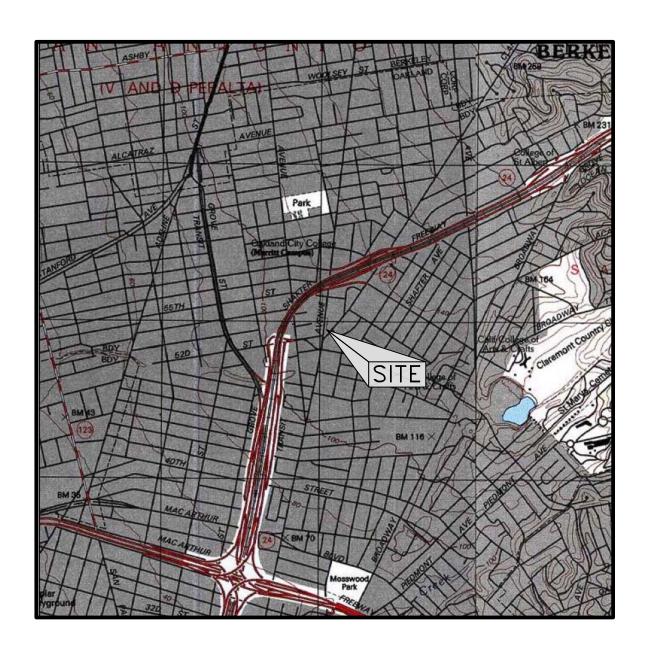
5.0 REFERENCES

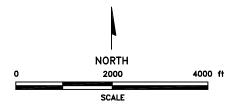
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- 11. PSI, Inc., June 8, 2009, "Workplan for Site Investigation, Test Only Smog Station (Former Autopro), 5200 Telegraph Avenue, Oakland, California, Fuel Leak Case No. RO0000323, Geotracker ID T0600100131, PSI Project No. 575-8G012."
- 12. PSI, Inc., July 17, 2012, "Soil and Groundwater Investigation Report, Test Only Smog Station (Former Autopro), 5200 Telegraph Avenue, Oakland, California," PSI Project No. 575-401.
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FIGURES







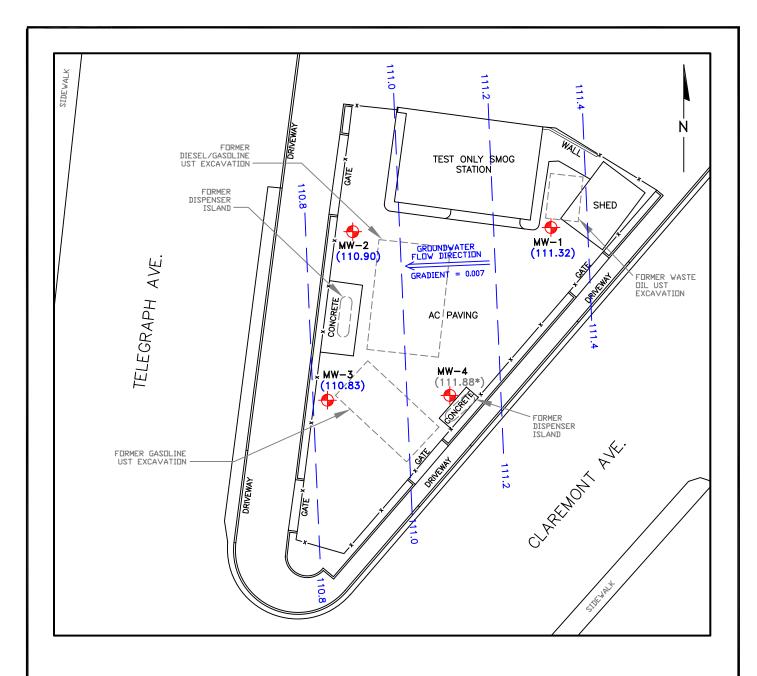
REFERENCE:

U.S.G.S. OAKLAND WEST AND OAKLAND EAST, CALIFORNIA, 7.5 MINUTE SERIES TOPO-GRAPHIC MAPS, DATED 1993 AND 1997.

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

Projec	t Name: TES	T ONLY S	SMOG S	STATION	Drawn By:	Date:	File No.:	Figure No.:
		(FORMER	AUTOP		S.R.	3/13	102-7-1	1
Title:					Approved By:	Project No.:		1 /
	SI	TE LOCAT	TON MA	AP	F.P.	575-	-102-7	



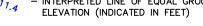
LEGEND



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

~111.4

- INTERPRETED LINE OF EQUAL GROUNDWATER



NOTES

BASE MAP TAKEN FROM MORROW SURVEYING, DWG. NO. 6381-043, DATED MAY, 2012.

ンメ – FENCELINE

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



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

60ft

30

APPROXIMATE SCALE

15

Project Name: TEST ONLY SMOG STATION (FORMER AUTOPRO) 5200 TELEGRAPH AVENUE, OAKLAND, CALIFORNIA	Drawn By: B.B.	Date: 3/13	Fue No.: 102-15A13	Figure No.:
GROUNDWATER ELEVATION MAP (MARCH 6, 2013)	Approved By: F.P.	1 1	102-7	~

TABLES



TABLE 1

SUMMARY OF GROUNDWATER ELEVATIONS Test Only SMOG Station (Former Autopro) 5200 Telegraph Avenue, Oakland, California

Well Number	TOC Elevation (ft msl)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft msl)
MW-1	123.49	12/22/08	11.67	111.82
		3/4/09	8.50	114.99
		5/1/09	12.58	110.91
		7/20/09	13.30	110.19
		3/2/10	10.17	113.32
		9/23/10	13.56	101.88
		3/2/11	10.55	112.94
		7/21/11	12.66	102.78
		3/21/12	10.03	105.41
		9/25/12	13.72	109.77
		3/6/13	12.17	111.32
MW-2	122.69	12/22/08	10.96	111.73
		3/4/09	7.83	114.86
		5/1/09	11.91	110.78
		7/20/09	12.64	110.05
		3/2/10	9.49	113.20
		9/23/10	13.02	101.60
		3/2/11	9.98	112.71
		7/21/11	12.11	102.51
		3/21/12	9.47	105.15
		9/25/12	13.07	109.62
		3/6/13	11.79	110.90
MW-3	121.87	12/22/08	10.30	111.57
		3/4/09	7.22	114.65
		5/1/09	11.30	110.57
		7/20/09	11.93	109.94
		3/2/10	8.94	112.93
		9/23/10	12.15	101.62
		3/2/11	9.23	112.64
		7/21/11	11.34	102.43
		3/21/12	8.65	105.12
		9/25/12	12.32	109.55
		3/6/13	11.04	110.83
MW-4	122.30	12/22/08	10.36	111.94
		3/4/09	7.47	114.83
		5/1/09	10.97	111.33
		7/20/09	11.56	110.74
		3/2/10	8.89	113.41
		9/23/10	11.64	102.61
		3/2/11	8.92	113.38
	Γ	7/21/11	10.86	103.39
	Γ	3/21/12	8.51	105.74
		9/25/12	12.32	109.98
		3/6/13	10.42	111.88

Notes:

TABLE 2

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS Test Only SMOG Station (Former Autopro) 5200 Telegraph Avenue, Oakland, California

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
	3/2/10	<50	<50	<100	<0.5	1.1	1.7	<1.0	1.1	<0.5	<1.0	<1.0	2.1	<0.5	<1.0	<1.0	<1.5
	9/23/10	<50	<50	<100	<0.5	<1.0	1.2	<1.0	<1.0	<0.5	<1.0	<1.0	<1.0	<0.5	<1.0	<1.0	<1.5
	3/2/11	57	110	<100	<0.5	<1.0	3.2	<1.0	2.5	<0.5	<1.0	<1.0	4.5	<0.5	<1.0	<1.0	<1.5
	7/21/11	<50	430	<100	<0.5	2.1	1.8	<1.0	1.7	<0.5	<1.0	<1.0	3.9	<0.5	<1.0	<1.0	<1.5
	3/21/12	700	100	<100	<0.5	2.2	1.9	<1.0	2.1	<0.5	<1.0	<1.0	4.3	<0.5	<1.0	<1.0	<1.5
	9/25/12	<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
	3/6/12	<50	<50	<100	<0.5	<1.0	<1.0	<1.0	1.1	<0.5	<1.0	<1.0	2.0	<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
	3/2/10	<50 <50	<50 <50	<100 <100	<0.5	<1.0 <1.0	<1.0 <1.0	<1.0 <1.0	<1.0 <1.0	<0.5	<1.0 <1.0	<1.0 <1.0	<1.0 <1.0	<0.5 <0.5	<1.0 <1.0	<1.0	<1.5
	9/23/10	<50 <50	<50 <50	<100	<0.5 <0.5	<1.0	<1.0	<1.0	<1.0	<0.5 <0.5	<1.0	<1.0	<1.0	<0.5	<1.0	<1.0 <1.0	<1.5 <1.5
	7/21/11	<50	<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
	3/21/12	<50	<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
	9/25/12	<50	<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
	3/6/12	<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
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
	3/2/10	4,500	1,000	<100	0.8	<1.0	8.8	<1.0	26	2.1	6.6	<1.0	58	2.0	<1.0	<1.0	4.1
	9/23/10	230	880	270	<0.5	13	8.4	<1.0	20	0.88	3.5	<1.0	40	0.63	<1.0	<1.0	3.2
	3/2/11	6,900	1,900	<100	<0.5	<1.0	13	<1.0	38	2.5	8.4	<1.0	81	1.1	<1.0	<1.0	7.2
	7/21/11	1,600	1,700	1,100	<0.5	9.9	6.2	<1.0	15	0.64	3.0	1.1	29	<0.5	<1.0	<1.0	2.2
	3/21/12	2,500	800	<100	<0.5	18	8.3	<1.0	33	1.6	5.2	<1.0	75	1.0	<1.0	<1.0	4.1
	9/25/12	1,800	1,500	<100	0.67	22	8.2	<1.0	20	0.74	5.2	<1.0	47	0.93	<1.0	<1.0	2.4
	3/6/12	610	790	<100	<0.5	16	9.6	<1.0	22	<0.5	5.0	<1.0	47	<0.5	<1.0	<1.0	3.4
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
	3/2/10	860	370	<100	<0.5	<1.0	4.0	<1.0	4.3	0.57	2.0	<1.0	7.6	<0.5	<1.0	1.9	<1.5
	9/23/10	<50	82	<100	<0.5	1.6	2.0	<1.0	1.7	<0.5	<1.0	<1.0	2.2	<0.5	<1.0	<1.0	<1.5
	3/2/11	<50	8,400	18,000	<0.5	<1.0	2.8	<1.0	2.6	<0.5	1.3	<1.0	4.2	<0.5	<1.0	<1.0	<1.5
	7/21/11	810	1,100	1,200	<0.5	1.1	1.5	<1.0	1.1	<0.5	<1.0	<1.0	1.6	<0.5	<1.0	<1.0	<1.5
	3/21/12	810	120	<100	<0.5	2.1	1.9	<1.0	1.8	<0.5	1.1	<1.0	3.3	<0.5	<1.0	<1.0	<1.5
	9/25/12	<50	520	<100	<0.5	2.0	1.4	<1.0	<1.0	<0.5	<1.0	<1.0	1.4	<0.5	<1.0	<1.0	<1.5
	3/6/12	<50	<50	<100	<0.5	1.4	2.4	<1.0	1.3	<0.5	<1.0	<1.0	2.0	<0.5	<1.0	<1.0	<1.5

Notes

TPH-G = Total Petroleum Hydrocarbons as Gasoline
TPH-MO = Total Petroleum Hydrocarbons as Motor Oil
All VOCs not listed were below their laboratory reporting limit.

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.

APPENDIX A

GROUNDWATER PURGE LOGS AND WATER LEVEL DATA



		FLUI	D MEAS	JREMEN	T FIELD [DATA		
				-	- 11		SHEET: 1	OF 1
DATE:	3/6/2013	PROJECT NAME:	Tristar			PROJECT NO: 57	75-102-7	
WATER LEVEL I	MEASUREMENT INS	TRUMENT:	SOLINST			SERIAL NO:	12080	
PRODUCT DETE	CTION INSTRUMEN	NT:				SERIAL NO:		
EQUIP. DECON:	☐ ALCONOX	WASH 🔽 DIST/	DEION 1 RINSE	☐ ISOPROPANOL	☐ ANALYTE F	REE FINAL RINSE	☐ TAP WATER F	INAL RINSE
☐ TAP WA	TER WASH	LIQUINOX WASH	☐ DIST/DEIC	ON 2 RINSE	OTHER SOLVENT	☑ DIST/DEION	FINAL RINSE	☐ AIR DRY
WELL	GROUND	TOP OF	DEPTH TO	DEPTH TO	WELL	PRODUCT	WATER	ACTUAL
NUMBER	SURFACE	CASING	PRODUCT	WATER	DEPTH	THICKNESS	TABLE	TIME
	ELEVATION	ELEVATION	BELOW TOC	BELOW TOC	BELOW TOC		ELEVATION	10.44
MW-1		123.49		12.17	26.03			10:41
MW-2		122.69		11.79	24.69			10:38
MW-3		121.87		11.04	14.37			10:45
MW-4		122.3		10,42	15.69			10:43
WEUS	SPENER	10:18	TO 10:23					
MEN R	peum Pu	TEED, NO M	iso to b	PING ANOTH	es spun	DSITE		
DANN C	N-SITE	1/3 F4 4	LXW	CALLONS	IN IT.			
			-					
								-
	 .				_	<u> </u>		
		-						
REMEMBER TO COL	RECT PRODUCT THICK	(NESS FOR DENSITY B	REORE CALCULATING	3 WATER TABLE ELEV	ATION	PREPARED BY:	STEPHEN RAMOS	<u>;</u>

			WELL I	PURGII	NG ANI	D SAM	PLING	DAT	Ά	
							WELL N	10:	MW-1	
DATE:	3/6/2013	PROJE	CT NAME: TF	RISTAR			PROJE	CT NO:	575-102-7	
WEATHE	R CONDITIO	ONS:					·-			
WELL DIA	METER (IN	.)	<u> </u>	X 2	<u> </u>	<u> </u>	OTHER		11	
SAMPLE 1	TYPE: [GROUN	DWATER	WAS	TEWATER	SUR	FACE WATE	R [OTHER	
WELL DE	PTH (TOC)	2	26.03	FT	DEPTH 1	O WATER	BEFORE PL	JRGING	(TOC) 12.17	FT.
LENGTH (OF WATER	1	3.86	FT	CALCUL	ATED ON	E WELL VO	LUME ¹ :	2.36	GAL.
PURGING	DEVICE:	P(OLY BAILER		X DEDIC	ATED [X DISPOSA	BLE [DECONTAMINATED	-
	G DEVICE:	P	OLY BAILER		X DEDIC	ATED [X DISPOSA	BLE [DECONTAMINATED	
EQUIP. DI		_	AP WATER W			ISOPROPA			TE FREE FINAL RINSE	
I ==	CONOX WA		▼ DIST/DE	ON 1 RINSE ON 2 RINSE	님		DLVENT <u> X </u> ER FINAL RIN		EION FINAL RINSE	
	ER PRESE			PRESERVE	D FIELD	PRESERV			AINDIN	
WATER A	NALYZER I	MODEL &	SERIAL NO:						<u>.</u>	
40714	a				SI 556 MPS	Seriai # M				
ACTUAL TIME	CUMUL. VOLUME	TEMP □ °F	SPECIFIC CONDUCT.	pΗ	TO GROUND		WATER APPEAR		REMARKS (EVIDENT ODOR, COLOR, PID)	
(MIN)	PURGED (GAL)	⊠ ℃	MS		WATER		CL=CLEAR CO=CLOUDY			
				1.0			TU=TURBID			
11:35	INITIAL	17.7	335.7	649			CL	M	one/cuear	
11:40	2.5	18.7	370.2	6.98			CL	NO	onor/curar	
11:42	5	18:8	357.4	6.98			a	1	own / whar	
11:20	7.5	18-8		6.98			CL	N	obx/CLEAR	
11:37	aut		SAMPU	0			-			
		_								
		 .							<u>,, </u>	
			_							
				_					. <u></u>	
			<u></u>							
DEPTH TO	O WATER A	FTER PU	RGING (TOO	;)	FT.	SAMPLE I	FILTERED	YES	S NO SIZE	
NOTES:					SAMPLE T	IME:	:15	ļi	D# MW-1	
					DUPLICAT	E 🗆 ''	TIME:	J:	D#:	
		<u> </u>			EQUIP. BL	ANK: 🔲	TIME:	<u> </u>	D#:	
					PREPARE	D BY:	STEPH	EN RAN	MOS	

¹ 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	PURGII	NG ANI	D SAN	IPLING	DATA		
							WELL N	IO: MW	-2	
DATE:	3/6/2013	PROJE	CT NAME: TI	RISTAR			PROJEC	CT NO: 575-	102-7	
WEATHE	R CONDITION	ONS:								,
WELL DIA	AMETER (IN	l.)	<u> </u>	X 2	4	<u> </u>	OTHER			
SAMPLE	TYPE: [x]GROUN	DWATER	WAS	TEWATER	SU	RFACE WATE	R DOTH	ER	
WELL DE	PTH (TOC)	2	24.69	FI	DEPTH	TO WATE	R BEFORE PU	RGING (TOC)	11.79	FT
LENGTH	OF WATER	17	2.9	FT	CALCUI	ATED OI	NE WELL VO	LUME ¹ : 7	2.19	GAL
PURGING	DEVICE:	P(OLY BAILER		X DEDIC	CATED	X DISPOSA	BLE DEC	ONTAMINATED	-
SAMPLIN	G DEVICE:	P	OLY BAILER		X DEDIC	CATED	X DISPOSA	BLE DEC	ONTAMINATED	
EQUIP. D			P WATER W			ISOPROF			EE FINAL RINSE	
==	AW XONOD. AW XONIUG		X DIST/DE	ON 1 RINSE ON 2 RINSE			SOLVENT 🔀			
	ER PRESE			PRESERVEI		PRESER		19E LJ A	IR DRY	
			SERIAL NO:							
	_			Y8	SI 556 MPS	Serial # I	M61171 AN			
ACTUAL TIME (MIN)	CUMUL. VOLUME PURGED (GAL)	TEMP □°F ☑°C	SPECIFIC CONDUCT.	рН	DEPTH TO GROUND WATER		WATER APPEAR CL=CLEAR CO=CLOUDY TU=TURBID	(EVID	REMARKS ENT ODOR, COLOR, PID)	
11:01	INITIAL.	183	428-9	7.00			CL	שנים טיגו	2/ CLEDR	
11:06	2.5	186	373.4	698			CL	to obox		
11:11	5	18:4	353.0	6.95			CL	100 € 001	-1 CUEAR	
11:16	7.5	18.5	337.4	6.96			CL	No apos	1 CLEAR	
11:20		wall	- JAn	preor						
		1000								
									- 3	
			<u></u>							
				,						
								,		
DEPTH TO	O WATER A	AFTER PU	RGING (TO	C)	FT.	SAMPLE	FILTERED	YES X	NO SIZE	
NOTES:		W257 1			SAMPLE T	IME:	1.20_	ID#	Mw-2	
					DUPLICAT	E 🔲	TIME:	ID#:		
					EQUIP. BL	ANK: [] TIME:	ID#:		
					PREPARE	D BY:	STEPHE	EN RAMOS	,t	

¹A 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	PURGII	NG AN	D SAN	IPLING	DATA		
						_	WELL N	io: MW-	3	
DATE:	3/6/2013	PROJE	CT NAME: TR	RISTAR			PROJEC	CT NO: 575-1	102-7	
WEATHE	R CONDITI	ONS:						·		
WELL DIA	METER (IN	1.)	1	X 2	<u> </u>	<u> </u>	OTHER			
SAMPLE :	TYPE:	X GROUN	DWATER	WAS	TEWATER	SUF	RFACE WATE	R 🗌 OTHE	ER .	
WELL DE	PTH (TOC)		14.37	FT.	. DEPTH	TO WATER	BEFORE PU	RGING (TOC)	11-04	FT.
LENGTH	OF WATER	1	3 33	FT	CALCUI	ATED ON	IE WELL VO	LUME1: C). 57	GAL.
PURGING	DEVICE:	P(OLY BAILER		X DEDIC	CATED	DISPOSA	BLE DECO	ONTAMINATED	
	G DEVICE:	P	OLY BAILER		X DEDIC	CATED	X DISPOSA	BLE DEC	ONTAMINATED	
EQUIP. D		_	AP WATER W			ISOPROP			E FINAL RINSE	
	CONOX WA		DIST/DEIO	ON 1 RINSE ON 2 RINSE			OLVENT 【 <u>X</u> 】 ER FINAL RIN	DIST/DEION F	INAL RINSE R DRY	
	ER PRESE			PRESERVE		PRESER		ISE LIAN	- CORY	
			SERIAL NO:				<u> </u>	<u> </u>		
				YS	SI 556 MPS	Serial # M	161171 AN			
ACTUAL TIME (MIN)	CUMUL. VOLUME PURGED (GAL)	TEMP ☐ °F	SPECIFIC CONDUCT.	pН	DEPTH TO GROUND WATER		WATER APPEAR CL=CLEAR CO=CLOUDY TU=TURBID	(EVIDE	REMARKS ENT ODOR, COLOR, PID)	
12:39	INITIAL	18.7	177.6	7.04		X	CL	SLILIAT	4c 0002/CL	EA-A
12:42	1	19-0	178-9	701			CL-60	scient it		KUN NI
12:45	2	19.1	181.2	7.60	-JE2		CL-W	SU bUT F		Symmys Symmys
1250	3	19.1	183.7	7.00			(L	li .	to ope/ city	7
12.54			WEL	L SAN	pueso.					
						_				
									-	
				-						
DEPTH TO	WATER A	AFTER PU	RGING (TOC)	FT.	SAMPLE	FILTERED	YES X	IO SIZE	
NOTES:					SAMPLE T				110-3	
					DUPLICAT		TIME:	ID#:		
					EQUIP. BL	ANK:	TIME:	ID#:		
					PREPAREI	D BY:	STEPHE	EN RAMOS		

¹A 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 I	PURGI	NG AN	D SAM	PLING	DAT	A		
				 .			WELL N	10:	MW-4		
DATE:	3 / d2013	PROJE	CT NAME: T	RISTAR			PROJE	CT NO:	575-102	-7	
WEATHE	R CONDITI	ONS:								-	
WELL DIA	AMETER (IN	l.)	1	X 2	□ 4	<u> </u>	OTHER				
SAMPLE	TYPE: [X GROUN	DWATER	□was	TEWATER	SUR	FACE WATE	R [OTHER	<u> </u>	
WELL DE	PTH (TOC)		5.69	F1	. DEPTH	TO WATER	BEFORE PL	JRGING	(тос)	0.42	FT.
LENGTH	OF WATER	<u> </u>	5.27	F	CALCUI	LATED ON	E WELL VO	LUME ¹ :	O. 9	0	GAL
PURGING	DEVICE:	P	OLY BAILER		X DEDIC	CATED [DISPOSA	BLE [DECONT	AMINATED)
SAMPLIN	G DEVICE:	P(OLY BAILER		X DEDIC	CATED [DISPOSA	BLE [DECONT	AMINATED)
EQUIP. D		_	P WATER W			ISOPROPA		-		INAL RINSI	E
_	AW XONOO.		DIST/DE	ON 1 RINSE ON 2 RINSE			ER FINAL RIN		_		
	ER PRESE		=	PRESERVE		D PRESERV	-	NSE	∐ AIR DE	ΚΥ	
			SERIAL NO:								
			_	Y	SI 556 MPS	Serial # M	61171 AN 				
ACTUAL TIME	CUMUL. VOLUME	TEMP □°F	SPECIFIC CONDUCT.	pН	DEPTH TO GROUND		WATER APPEAR			REMARKS ODOR, COLO	R PID)
(MIN)	PURGED	⊠°c			WATER		CL=CLEAR		(CTIDCIT)	00011, 0020	к, гю,
	(GAL)		KIS				CO=CLOUDY TU=TURBID				
12:10	INITIAL	71.9	127.8	7.07			CL	SLIG	HT HC	oave)	CLEAR
12:13	1	166	0.111	7.55			CL			UPUR)	4-
12:15	2	15.7	110.0	7.04			CL	SLIG	HT HC	. upuc/	CEAR
12:18	3	18.8	1109	7.04			CL	SLIL	HT HC	unsel	C GAR
12 22		_ 1/15	y SA	nour			<u> </u>				
ļ <u>. </u>											
		ī		ļ							
				<u> </u>							
DEPTH TO	O WATER A	AFTER PU	RGING (TOO	C)	FT.	SAMPLE F	FILTERED	YES	X NO	SIZE	
NOTES:					SAMPLE T	TME: 12)	22_	IC)# M	Nº4	
					DUPLICAT	E	TIME:	10)#:		
					EQUIP. BL	ANK: 🔲	TIME:	IC)#:		
					PREPARE	D BY:	STEPH	EN RAN	IOS		

¹A 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







12 March 2013

Brand Burfield PSI -- Oakland 4703 Tidewater Ave Ste B Oakland, CA 94601

RE: Tristar

Enclosed are the results of analyses for samples received by the laboratory on 03/07/13 09:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Wendy Hsiao

Project Manager

Wordy Plsia



PSI -- Oakland Project: Tristar
4703 Tidewater Ave Ste B Project Number: 575-102-7
Oakland CA, 94601 Project Manager: Brand Burfield

Reported: 03/12/13 14:02

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	T130526-01	Water	03/06/13 11:55	03/07/13 09:15
MW-2	T130526-02	Water	03/06/13 11:20	03/07/13 09:15
MW-3	T130526-03	Water	03/06/13 12:54	03/07/13 09:15
MW-4	T130526-04	Water	03/06/13 12:22	03/07/13 09:15

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Wordy Plsia



PSI -- Oakland Project: Tristar
4703 Tidewater Ave Ste B Project Number: 575-102-7 Reported:
Oakland CA, 94601 Project Manager: Brand Burfield 03/12/13 14:02

MW-1 T130526-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar La	aborato	ries, Inc.					
Extractable Petroleum Hydrocarb	oons by 8015C								
C6-C12 (GRO)	ND	0.050	mg/l	1	3030717	03/07/13	03/09/13	EPA 8015C	
C13-C28 (DRO)	ND	0.050	"	"	"	"	"	"	
C29-C40 (MORO)	ND	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		82.4 %	65-	135	"	"	"	"	
Volatile Organic Compounds by E	EPA Method 8260	B							
Bromobenzene	ND	1.0	ug/l	1	3030728	03/07/13	03/07/13	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	"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

evandy flsia



PSI -- Oakland Project: Tristar
4703 Tidewater Ave Ste B Project Number: 575-102-7
Oakland CA, 94601 Project Manager: Brand Burfield

Reported: 03/12/13 14:02

MW-1 T130526-01 (Water)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

		SunStar La	iboratori	es, Inc.				
Volatile Organic Compounds by I cis-1,2-Dichloroethene	EPA Method 8260B ND	1.0	ug/l	1	3030728	03/07/13	03/07/13	EPA 8260E
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	1.1	1.0	"	"	"	"	"	"
p-Isopropyltoluene	ND	1.0	"	"	"	"	"	"
Methylene chloride	ND	1.0	"	"	"	"	"	"
Naphthalene	ND	1.0	"	"	"	"	"	"
n-Propylbenzene	2.0	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	"	"	"	"	"	"
m,p-Xylene	ND	1.0	"	"	"	"	"	"

SunStar Laboratories, Inc.

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Wardy Flsia



PSI -- Oakland Project: Tristar
4703 Tidewater Ave Ste B Project Number: 575-102-7
Oakland CA, 94601 Project Manager: Brand Burfield

Reported: 03/12/13 14:02

MW-1 T130526-01 (Water)

ı										
			Reporting							
	Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Volatile Organic Compounds by EP.	A Method 8260B								
o-Xylene	ND	0.50	ug/l	1	3030728	03/07/13	03/07/13	EPA 8260B	
Tert-amyl methyl ether	ND	2.0	"	"	"	"	"	"	
Tert-butyl alcohol	ND	10	"	"	"	"	"	"	
Di-isopropyl 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		104 %	83.5-1	19	"	"	"	"	
Surrogate: Dibromofluoromethane		109 %	81-13	6	"	"	"	"	
Surrogate: Toluene-d8		96.6 %	88.8-1	17	"	"	"	"	

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

evandy flsia



PSI -- Oakland Project: Tristar
4703 Tidewater Ave Ste B Project Number: 575-102-7 Reported:
Oakland CA, 94601 Project Manager: Brand Burfield 03/12/13 14:02

MW-2 T130526-02 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar La	aborato	ries, Inc.					
Extractable Petroleum Hydrocarb	ons by 8015C								
C6-C12 (GRO)	ND	0.050	mg/l	1	3030717	03/07/13	03/09/13	EPA 8015C	
C13-C28 (DRO)	ND	0.050	"	"	"	"	"	"	
C29-C40 (MORO)	ND	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		77.7 %	65-	135	"	"	"	"	
Volatile Organic Compounds by E	EPA Method 8260	В							
Bromobenzene	ND	1.0	ug/l	1	3030728	03/07/13	03/07/13	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	"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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evandy flsia



PSI -- Oakland Project: Tristar
4703 Tidewater Ave Ste B Project Number: 575-102-7
Oakland CA, 94601 Project Manager: Brand Burfield

Reported: 03/12/13 14:02

MW-2 T130526-02 (Water)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

s-1,2-Dichloroethene	ND	1.0	ug/l	1	3030728	03/07/13	03/07/13	EPA 8260E
ans-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	"	"	"	"	"	"
s-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"
ans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"
exachlorobutadiene	ND	1.0	"	"	"	"	"	"
opropylbenzene	ND	1.0	"	"	"	"	"	"
Isopropyltoluene	ND	1.0	"	"	"	"	"	"
ethylene chloride	ND	1.0	"	"	"	"	"	"
aphthalene	ND	1.0	"	"	"	"	"	"
Propylbenzene	ND	1.0	"	"	"	"	"	"
yrene	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	"	"	"	"	"	"
hylbenzene	ND	0.50	"	"	"	"	"	"
,p-Xylene	ND	1.0	"	"	"	"	"	"

SunStar Laboratories, Inc.

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PSI -- Oakland Project: Tristar
4703 Tidewater Ave Ste B Project Number: 575-102-7
Oakland CA, 94601 Project Manager: Brand Burfield

Reported: 03/12/13 14:02

MW-2 T130526-02 (Water)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Sunstar Laboratories, Inc.												
Volatile Organic Compounds by EP.	A Method 8260B											
o-Xylene	ND	0.50	ug/l	1	3030728	03/07/13	03/07/13	EPA 8260B				
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		102 %	83.5-	119	"	"	"	"				
Surrogate: Dibromofluoromethane		112 %	81-1	36	"	"	"	"				
Surrogate: Toluene-d8		97.8 %	88.8-	117	"	"	"	"				

SunStar Laboratories, Inc.

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PSI -- Oakland Project: Tristar
4703 Tidewater Ave Ste B Project Number: 575-102-7 Reported:
Oakland CA, 94601 Project Manager: Brand Burfield 03/12/13 14:02

MW-3 T130526-03 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar La	aborato	ries, Inc.					
Extractable Petroleum Hydrocarb	ons by 8015C								
C6-C12 (GRO)	0.61	0.050	mg/l	1	3030717	03/07/13	03/09/13	EPA 8015C	
C13-C28 (DRO)	0.79	0.050	"	"	"	"	"	"	
C29-C40 (MORO)	ND	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		80.5 %	65-	135	"	"	"	"	
Volatile Organic Compounds by E	PA Method 8260)B							
Bromobenzene	ND	1.0	ug/l	1	3030728	03/07/13	03/08/13	EPA 8260B	
Bromochloromethane	ND	1.0	"	"	"	"	"	"	
Bromodichloromethane	ND	1.0	"	"	"	"	"	"	
Bromoform	ND	1.0	"	"	"	"	"	"	
Bromomethane	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene	16	1.0	"	"	"	"	"	"	
sec-Butylbenzene	9.6	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	"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Oakland CA, 94601

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

PSI -- Oakland Project: Tristar 4703 Tidewater Ave Ste B Project Number: 575-102-7

Project Number: 575-102-7 **Reported:**Project Manager: Brand Burfield 03/12/13 14:02

MW-3 T130526-03 (Water)

	Re	porting							
Analyte	esult	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Sunstar Laboratories, Inc.												
Volatile Organic Compounds by I	EPA Method 8260B											
trans-1,2-Dichloroethene	ND	1.0	ug/l	1	3030728	03/07/13	03/08/13	EPA 8260B				
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	22	1.0	"	"	"	"	"	"				
p-Isopropyltoluene	5.0	1.0	"	"	"	"	"	"				
Methylene chloride	ND	1.0	"	"	"	"	"	"				
Naphthalene	ND	1.0	"	"	"	"	"	"				
n-Propylbenzene	47	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	"	"	"	"	"	"				
m,p-Xylene	3.4	1.0	"	"	"	"	"	"				
o-Xylene	ND	0.50	"	"	"	"	"	"				

SunStar Laboratories, Inc.

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PSI -- Oakland Project: Tristar
4703 Tidewater Ave Ste B Project Number: 575-102-7
Oakland CA, 94601 Project Manager: Brand Burfield

Reported: 03/12/13 14:02

MW-3 T130526-03 (Water)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

, ordinary or property of the state of the s									
Tert-amyl methyl ether	ND	2.0	ug/l	1	3030728	03/07/13	03/08/13	EPA 8260B	
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		116 %	83.5-	-119	"	"	"	"	
Surrogate: Dibromofluoromethane		108 %	81-1	136	"	"	"	"	
Surrogate: Toluene-d8		96.8 %	88.8-	-117	"	"	"	"	

SunStar Laboratories, Inc.

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PSI -- Oakland Project: Tristar
4703 Tidewater Ave Ste B Project Number: 575-102-7 Reported:
Oakland CA, 94601 Project Manager: Brand Burfield 03/12/13 14:02

MW-4 T130526-04 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar La	aborato	ries, Inc.					
Extractable Petroleum Hydrocarb	ons by 8015C								
C6-C12 (GRO)	ND	0.050	mg/l	1	3030717	03/07/13	03/09/13	EPA 8015C	
C13-C28 (DRO)	ND	0.050	"	"	"	"	"	"	
C29-C40 (MORO)	ND	0.10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		82.0 %	65-	135	"	"	"	"	
Volatile Organic Compounds by E	CPA Method 8260	B							
Bromobenzene	ND	1.0	ug/l	1	3030728	03/07/13	03/08/13	EPA 8260B	
Bromochloromethane	ND	1.0	"	"	"	"	"	"	
Bromodichloromethane	ND	1.0	"	"	"	"	"	"	
Bromoform	ND	1.0	**	"	"	"	"	"	
Bromomethane	ND	1.0	**	"	"	"	"	"	
n-Butylbenzene	1.4	1.0	**	"	"	"	"	"	
sec-Butylbenzene	2.4	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	"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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Oakland CA, 94601

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

PSI -- Oakland Project: Tristar 4703 Tidewater Ave Ste B Project Number: 575-102-7

Project Number: 575-102-7 **Reported:**Project Manager: Brand Burfield 03/12/13 14:02

MW-4 T130526-04 (Water)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

ans-1,2-Dichloroethene	ND	1.0	ug/l	1	3030728	03/07/13	03/08/13	EPA 8260E
2-Dichloropropane	ND	1.0	"	"	"	"	"	"
3-Dichloropropane	ND	1.0	"	"	"	"	"	"
2-Dichloropropane	ND	1.0	"	"	"	"	"	"
1-Dichloropropene	ND	1.0	"	"	"	"	"	"
s-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"
ans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"
exachlorobutadiene	ND	1.0	"	"	"	"	"	"
opropylbenzene	1.3	1.0	"	"	"	"	"	"
Isopropyltoluene	ND	1.0	"	"	"	"	"	"
ethylene chloride	ND	1.0	"	"	"	"	"	"
aphthalene	ND	1.0	"	"	"	"	"	"
Propylbenzene	2.0	1.0	"	"	"	"	"	"
yrene	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	"	"	"	"	"	"
thylbenzene	ND	0.50	"	"	"	"	"	"
,p-Xylene	ND	1.0	"	"	"	"	"	"
Xylene	ND	0.50	"	"	"	"	"	"

SunStar Laboratories, Inc.

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PSI -- Oakland Project: Tristar
4703 Tidewater Ave Ste B Project Number: 575-102-7
Oakland CA, 94601 Project Manager: Brand Burfield

Reported: 03/12/13 14:02

MW-4 T130526-04 (Water)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Volatile Organic	Compounds l	by EPA	Method 8260B

, ordered or g									
Tert-amyl methyl ether	ND	2.0	ug/l	1	3030728	03/07/13	03/08/13	EPA 8260B	
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		100 %	83.5-	119	"	"	"	"	
Surrogate: Dibromofluoromethane		114 %	81-1	36	"	"	"	"	
Surrogate: Toluene-d8		93.4 %	88.8-117		"	"	"	"	

SunStar Laboratories, Inc.

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PSI -- Oakland Project: Tristar

4703 Tidewater Ave Ste BProject Number: 575-102-7Reported:Oakland CA, 94601Project Manager: Brand Burfield03/12/13 14:02

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

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 3030717 - EPA 3510C GC										
Blank (3030717-BLK1)				Prepared:	03/07/13	Analyzed	1: 03/09/13			
C6-C12 (GRO)	ND	0.050	mg/l							
C13-C28 (DRO)	ND	0.050	"							
C29-C40 (MORO)	ND	0.10	"							
Surrogate: p-Terphenyl	3.46		"	4.00		86.5	65-135			
LCS (3030717-BS1)				Prepared:	03/07/13	Analyzed	1: 03/09/13			
C13-C28 (DRO)	19.1	0.050	mg/l	20.0		95.4	75-125			
Surrogate: p-Terphenyl	3.77		"	4.00		94.4	65-135			
Matrix Spike (3030717-MS1)	Sou	rce: T13052	6-01	Prepared:	03/07/13	Analyzed	1: 03/09/13			
C13-C28 (DRO)	18.4	0.050	mg/l	20.0	ND	91.8	75-125			
Surrogate: p-Terphenyl	3.34		"	4.00		83.4	65-135			
Matrix Spike Dup (3030717-MSD1)	Sou	rce: T13052	6-01	Prepared:	03/07/13	Analyzed	1: 03/09/13			
C13-C28 (DRO)	19.8	0.050	mg/l	20.0	ND	99.1	75-125	7.67	20	
Surrogate: p-Terphenyl	3.38		"	4.00		84.5	65-135			

SunStar Laboratories, Inc.

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Wendy Hsiao, Project Manager

Wandy Flsia



PSI -- Oakland Project: Tristar

4703 Tidewater Ave Ste BProject Number: 575-102-7Reported:Oakland CA, 94601Project Manager: Brand Burfield03/12/13 14:02

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

Batch 3030728 - EPA 5030 GCMS										
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
		Reporting		Spike	Source		%REC		RPD	

Blank (3030728-BLK1)				Prepared & Analyzed: 03/07/13
Bromobenzene	ND	1.0	ug/l	
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	"	
1,1-Dichloroethene	ND	1.0	"	
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	"	
trans-1,3-Dichloropropene	ND	0.50	"	
Hexachlorobutadiene	ND	1.0	"	
Isopropylbenzene	ND	1.0	"	

SunStar Laboratories, Inc.

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PSI -- Oakland Project: Tristar

4703 Tidewater Ave Ste BProject Number: 575-102-7Reported:Oakland CA, 94601Project Manager: Brand Burfield03/12/13 14:02

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

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 3030728 - EPA 5030 GCMS										

Blank (3030728-BLK1)				Prepared & Analyzed: 03/07/13
p-Isopropyltoluene	ND	1.0	ug/l	
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	"	
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	"	
Surrogate: 4-Bromofluorobenzene	8.29		"	8.00 104 83.5-119
Surrogate: Dibromofluoromethane	8.54		"	8.00 107 81-136
Surrogate: Toluene-d8	7.76		"	8.00 97.0 88.8-117

SunStar Laboratories, Inc.

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PSI -- Oakland Project: Tristar

4703 Tidewater Ave Ste BProject Number: 575-102-7Reported:Oakland CA, 94601Project Manager: Brand Burfield03/12/13 14:02

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 3030728 - EPA 5030 GCMS										
LCS (3030728-BS1)				Prepared:	03/07/13	Analyzed	1: 03/08/13			
Chlorobenzene	18.1	1.0	ug/l	20.0		90.7	75-125			
1,1-Dichloroethene	19.6	1.0	"	20.0		98.0	75-125			
Trichloroethene	19.4	1.0	"	20.0		97.0	75-125			
Benzene	21.4	0.50	"	20.0		107	75-125			
Toluene	19.0	0.50	"	20.0		94.8	75-125			
Surrogate: 4-Bromofluorobenzene	8.14		"	8.00		102	83.5-119			
Surrogate: Dibromofluoromethane	9.85		"	8.00		123	81-136			
Surrogate: Toluene-d8	7.56		"	8.00		94.5	88.8-117			
Matrix Spike (3030728-MS1)	So	urce: T13052	6-02	Prepared:	03/07/13	Analyzed	1: 03/08/13			
Chlorobenzene	16.7	1.0	ug/l	20.0	ND	83.6	75-125			
1,1-Dichloroethene	18.8	1.0	"	20.0	ND	93.8	75-125			
Trichloroethene	16.3	1.0	"	20.0	ND	81.5	75-125			
Benzene	20.1	0.50	"	20.0	ND	101	75-125			
Toluene	16.8	0.50	"	20.0	ND	83.9	75-125			
Surrogate: 4-Bromofluorobenzene	8.16		"	8.00		102	83.5-119			
Surrogate: Dibromofluoromethane	9.92		"	8.00		124	81-136			
Surrogate: Toluene-d8	7.48		"	8.00		93.5	88.8-117			
Matrix Spike Dup (3030728-MSD1)	So	urce: T13052	6-02	Prepared:	03/07/13	Analyzed	1: 03/08/13			
Chlorobenzene	17.6	1.0	ug/l	20.0	ND	87.9	75-125	5.07	20	
1,1-Dichloroethene	18.8	1.0	"	20.0	ND	94.1	75-125	0.319	20	
Trichloroethene	16.8	1.0	"	20.0	ND	84.1	75-125	3.14	20	
Benzene	21.0	0.50	"	20.0	ND	105	75-125	4.04	20	
Toluene	17.8	0.50	"	20.0	ND	89.1	75-125	6.01	20	
Surrogate: 4-Bromofluorobenzene	8.18		"	8.00		102	83.5-119			
Surrogate: Dibromofluoromethane	9.80		"	8.00		122	81-136			
Surrogate: Toluene-d8	7.47		"	8.00		93.4	88.8-117			

SunStar Laboratories, Inc.

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Wendy Hsiao, Project Manager



PSI -- Oakland Project: Tristar 4703 Tidewater Ave Ste B Project Number: 575-102-7

4703 Tidewater Ave Ste BProject Number: 575-102-7Reported:Oakland CA, 94601Project Manager: Brand Burfield03/12/13 14:02

Notes and Definitions

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.

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Chain of Custody Record

SunStar Laboratories, Inc. 25712 Commercentre Dr Lake Forest, CA 92630 949-297-5020

Client: PST Address: 4703 TOFA Phone: (510)434-93	WATTER A	E STE	B 0916	1940 1947 1947	946	٥I	Pro	ject	Nan	ne:	TP	13 13 20 20	PM 0	<u>.</u>		T	t Proiec			1 1 2-7	
Project Manager: 13												052					#: <u>†</u> c				_
Sample ID MW-I MW-Z MW-3 MW-4	Date Sample	Time 11: \$5 11: 20 12: 54 12: 72	Sample Type White	Container Type	8260	+ lm.		8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals				2000 A Laboratory ID#	Co	ommer	nts/Pres	ervative	Total # of containers
Relinquished by: (signature)	Date / T	17:00	65074	y: (signature)	107	4166	ite / 1	3		Cha	in of	Custo	-	als Y/N	N/NA	Υ	• Cf	PRATI	Note F CO	F	-
Relinquished by: (signature) Relinquished by: (signature)	Date / T /テルス Date / T	915		y: (signature) y: (signature)	3/7/	l 3 Da	ite / 7	94	5			Sea ed go ound		dition	/cold		· Pl	رة ر ب _ا 0.	10 m 10 m	ng K FOR GUL FUR MO	-
Sample disposal Instructions:	Disposal @ \$2.00	each	Return	to client		Picku	р														



SAMPLE RECEIVING REVIEW SHEET

BATCH # 1130526	
Client Name: PSI-oakland Project:	Tristar
Received by: Date/Time	Received: $3/7/13$ 915
Delivered by: Client SunStar Courier GSO FedE	x Other
Total number of coolers received Temp criteria = 6	°C > 0°C (no <u>frozen</u> containers)
Temperature: cooler #1 $\underline{2.3}$ °C +/- the CF (-0.2°C) = $\underline{2.1}$ °C cc	orrected temperature
cooler #2°C +/- the CF (- 0.2°C) =°C cc	orrected temperature
cooler #3°C +/- the CF (- 0.2°C) =°C cc	orrected temperature
Samples outside temp. but received on ice, w/in 6 hours of final sampling	g. ⊠Yes □No* □N/A
Custody Seals Intact on Cooler/Sample	∭Yes □No* □N/A
Sample Containers Intact	⊠Yes □No*
Sample labels match COC ID's	⊠Yes □No*
Total number of containers received match COC	⊠Yes □No*
Proper containers received for analyses requested on COC	⊠Yes □No*
Proper preservative indicated on COC/containers for analyses requested	⊠Yes □No* □N/A
Complete shipment received in good condition with correct temperatures preservatives and within method specified holding times. Xes	s, containers, labels, volumes No*
* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample	e Review - Initials and date 3/
Comments:	
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