PACCAR Inc

March 20, 2012

Mr. Jerry Wickham
Senior Hazardous Materials Specialist
Alameda County Environmental Health Services
Environmental Protection, Local Oversight Program
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Subject: **Letter of Transmittal for Soil Vapor and Subsurface Investigation Report**
O'Reilly Auto Pasts (Former Grand Auto #43)
4240 International Boulevard (East 14th Street)
Oakland, California 94601
ACEH Fuel Leak Case No. RO0002483
GeoTracker Global ID No. T06019705075

Dear Mr. Wickham:

As required in your letters of May 16 and August 4, 2011 regarding the above-referenced subject site, we submit this transmittal letter and accompanying *Soil Vapor and Subsurface Investigation* report. This report contains the results of the subsurface investigation performed on January 4 and 5, 2012 to evaluate the potential for soil vapor intrusion from the former sump, and for soil and groundwater impact from the former underground storage tanks.

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

Sincerely,

PACCAR, Inc.

Vicki ZumBrunnen, REM
Environmental Project Supervisor

AllWest Environmental, Inc.

Specialists in Physical Due Diligence and Remedial Services

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SOIL VAPOR AND SUBSURFACE INVESTIGATION

O'Reilly Auto Parts
(Former Grand Auto #43)
4240 International Boulevard (East 14th Street)
Oakland, California 94601

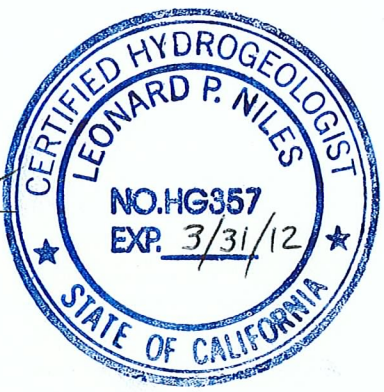
ACHCS Case # RO0002483
Geotracker Global ID # T06019705075

PREPARED FOR:

PACCAR, Inc.
Corporate Environmental Department
P.O. Box 1518
Bellevue, WA 98009

ALLWEST PROJECT 11134.23
March 16, 2012

PREPARED BY:



Leonard P. Niles, PG, CHG
Senior Project Manager

REVIEWED BY:

Marc D. Cunningham REA
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AllWest

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AllWest Environmental, Inc.

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I. EXECUTIVE SUMMARY

AllWest Environmental, Inc. (AllWest) conducted a subsurface investigation on January 4 and 5, 2012 to characterize potential soil vapor intrusion, soil and groundwater conditions in the vicinity of the former Grand Auto # 43 facility (the subject site) referenced above. The work was performed in response to a request by the Alameda County Health Care Services Agency, Environmental Health Services (ACHCS/ACEH) in their letters of December 10, 2010 and May 16, 2011 to address outstanding issues prior to considering case closure. The proposed scope of work was described in the *Soil Vapor Investigation and Groundwater Monitoring Work Plan* submitted by AllWest on April 15, 2011 and the *Soil and Groundwater Investigation Work Plan Addendum* submitted by AllWest on July15, 2011.

The purpose of the subsurface investigation was to evaluate potential soil vapor intrusion impact of volatile organic compounds (VOCs) to indoor air quality at the subject site in the vicinity of the former car wash sump. Additionally, the purpose was to evaluate potential impact to soil and groundwater by petroleum hydrocarbons at the subject site in the presumed vicinity of the former underground storage tanks (USTs) removed in 1986. The work was performed on January 4 and 5, 2012 with approval and oversight of the ACHCS.

Six soil borings were advanced on January 4, 2012 using Geoprobe® Direct Push Technology (DPT) and hand-driven methods. Temporary soil vapor probes SVP-1 through SVP-6 were installed to a depth of 5 feet below ground surface (bgs) inside and

outside of the building in the vicinity of the former car wash sump (Figure 2). The soil vapor probes SVP-1, SVP-2 and SVP-3 were located in the building interior adjacent to the former sump. Probes SVP-4, SVP-5 and SVP-6 were located in the outdoor parking areas adjacent to the former sump. AllWest collected soil vapor samples from SVP-1 through and SVP-6 in SUMMA canisters in general accordance with the State of California Department of Toxic Substances Control (DTSC) *Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance)*, October 2011 (DTSC, 2011).

Soil vapor samples were analyzed for VOCs by EPA Method TO-15. Tetrachloroethene (PCE) was detected in soil vapor samples collected from temporary soil vapor probes SVP-1, SVP-2, SVP-3, SVP-4, SVP-5 and SVP-6, at respective concentrations of 270 micrograms per cubic meter ($\mu g/m^3$), 460 $\mu g/m^3$, 8,100 $\mu g/m^3$, 550 $\mu g/m^3$, 4,600 $\mu g/m^3$ and 670 $\mu g/m^3$. The PCE breakdown product trichloroethene (TCE) was detected in soil vapor samples collected from SVP-2, SVP-3, SVP-5 and SVP-6, at respective concentrations of 25 $\mu g/m^3$, 210 $\mu g/m^3$, 51 $\mu g/m^3$ and 26 $\mu g/m^3$.

Low concentrations of other VOCs including benzene, toluene, ethylbenzene and total xylenes (BTEX), acetone, 1,3-butadiene, chloroform, dichlorodifluoromethane (Freon 12), ethanol, ethyl acetate, 4-ethyltoluene, isopropyl alcohol (IPA), 4-methyl-2-pentanone (MIBK), naphthalene, propene, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene were also detected. Soil vapor analytical results are summarized in Table 1.

PCE concentrations in probes SVP-3 and SVP-5 exceeded the corresponding California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) Environmental Screening Level (ESL) of 1,400 $\mu g/m^3$ for commercial/industrial land use (RWQCB, *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, *Table E*, Interim Final November 2007, revised May 2008), and exceeded the State of California Environmental Protection Agency (CalEPA) California Human Health Screening Level (CHHSL) of 600 $\mu g/m^3$ for soil vapor at commercial/industrial sites constructed without engineered fill (*Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties, Table 3*, January 2005, revised September 23, 2010). The PCE concentration in probe SVP-6 exceeded its applicable commercial/industrial CHHSL. None of the other VOCs detected in soil vapor samples exceeded their applicable ESLs or CHHSLs.

Only one (SVP-3) of the three soil vapor samples collected from beneath the building interior floor slab contained VOCs at concentrations exceeding ESLs and CHHSLs. PCE and TCE concentrations in SVP-3 exceeded their respective applicable ESLs and CHHSLs by less than one order of magnitude. A second soil vapor sample (SVP-5) contained PCE at a concentration exceeding the applicable ESL and CHHSL, and a third sample (SVP-6) contained PCE at a concentration exceeding the CHHSL; however, both were located in the outside parking area where vapor intrusion is not a likely exposure pathway.

Two soil borings, GP-1 and GP-2, were advanced to total respective depths of 35 and 20 feet bgs using Geoprobe® DPT methods on January 5, 2012 in the vicinity of the former USTs in the driveway and parking areas (Figure 2). Soil and groundwater samples were collected from each boring. The groundwater sample from boring GP-2 was collected from a shallow perched saturated zone at approximately 10 to 12 feet bgs within backfill material near the bottom of the former UST excavation. Boring GP-2 was not advanced deeper than 20 feet bgs to prevent possible cross-contamination between the shallow perched saturated zone and the true groundwater-bearing zone first encountered at approximately 35 feet bgs in GP-1.

AllWest concludes the highest VOC concentrations detected in soil vapor samples were from the vicinity of the former sump. Soil vapor intrusion into the building interior is likely not a significant exposure pathway to building occupants, since only one of the three soil vapor samples collected from beneath the building interior floor slab contained PCE at concentrations exceeding the applicable ESL, by less than one order of magnitude.

Two soil samples each were collected from borings GP-1 and GP-2 at depths ranging from 9.5 to 20 feet bgs. Groundwater samples were collected through temporary PVC well screen and casing from boring GP-1 at the total boring depth of 35 feet bgs, and from GP-2 at 15 feet bgs and the total boring depth of 20 feet bgs. All soil and groundwater samples were analyzed for VOCs and total petroleum hydrocarbons as gasoline, diesel, and motor oil (TPH-g, TPH-d and TPH-mo) by EPA Methods 8260B and 8015B with silica gel cleanup, and for LUFT 5 metals by EPA Methods 6010B (soil) and 200.8 (water). Soil and groundwater analytical results are summarized in Tables 2 and 3.

The only VOCs detected in soil samples were PCE at 0.0067 milligrams per kilogram (mg/kg) and naphthalene at 0.0056 mg/kg in boring GP-2 at a depth of 10 to 10.5 feet bgs. TPH-d was detected in all four soil samples at a maximum concentration of 15 mg/kg in GP-2 at a depth of 10 to 10.5 feet bgs. TPH-mo was detected only in boring GP-2 at 72 mg/kg at a depth of 10 to 10.5 feet bgs. TPH-g was not detected in any soil samples analyzed. The metals chromium, nickel and zinc were detected in all four soil samples at maximum concentrations of 120 mg/kg, 160 mg/kg and 100 mg/kg. Lead was detected in two soil samples at a maximum concentration of 6.5 mg/kg. Soil analytical results are summarized in Table 2.

None of the petroleum hydrocarbons or VOCs detected exceeded their applicable ESLs for commercial/industrial land use in shallow or deep soils where groundwater is a potential drinking water resource (RWQCB *Tables A and C,* 2008). The nickel concentration of 160 mg/kg detected in boring GP-1 at 9.0 to 9.5 feet bgs slightly exceeded the ESL of 150 mg/kg for commercial/industrial land use in shallow soils where groundwater is a potential drinking water resource (RWQCB *Table A,* 2008), but was within naturally occurring background levels for the area.

PCE and carbon disulfide were detected in the shallow perched zone water sample collected from boring GP-2 at respective concentrations of 0.64 micrograms per liter (µg/L) and 0.62 µg/L. The PCE breakdown product cis-1,2-dichlorethene (cis-1,2-DCE) was detected in groundwater samples collected from both borings GP-1 and GP-2, at respective concentrations of 0.73 µg/L and 0.72 µg/L. Toluene and methyl tertiary butyl ether (MTBE) were detected in the groundwater sample from GP-1 at respective concentrations of 0.63 µg/L and 0.96 µg/L. No other VOCs were detected in groundwater samples from either boring.

TPH-g was not detected in groundwater samples from either boring GP-1 or GP-2. TPH-d and TPH-mo were detected only in the shallow perched zone water sample from boring GP-2 at respective concentrations of 200 µg/L and 1,000 µg/L. Nickel and zinc were detected in both groundwater samples at maximum respective concentrations of 14 µg/L and 34 µg/L. Groundwater analytical results are summarized in Table 3.

All VOCs detected in groundwater samples from GP-1 and GP-2 were at concentrations below groundwater ESLs for commercial/industrial land use where groundwater is a potential drinking water resource. TPH-d and TPH-mo concentrations, detected in the shallow perched water sample from GP-2, exceeded the respective drinking water ESLs of 100 µg/L for each; however, that sample from within the former UST excavation is not representative of true groundwater at the subject site. Nickel, detected at 34 µg/L in the groundwater sample from boring GP-1, exceeded the drinking water ESL of 8.2 µg/L.

VOC concentrations exceeding applicable ESLs were detected in groundwater samples collected on December 20, 2011 from onsite monitoring wells MW-1, MW-2, MW-3A and MW-4, located downgradient from the former USTs. The origin of the VOC concentrations in onsite groundwater is uncertain, but does not appear to originate from the former onsite USTs due to the very low VOC concentrations detected in groundwater samples from borings GP-1 and GP-2 in the former UST vicinity.

TPH-g concentrations reported in groundwater samples by the analytical laboratories during the December 2011 and previous historical events in the early 1990s are actually representative of chlorinated VOCs (mostly PCE) within the TPH-g range and do not originate from the former onsite USTs. Although groundwater in the area is designated as potential municipal use by the RWQCB, it is not currently used as drinking water and unlikely to be used as such in the future due to the numerous LUST and industrial solvent leak sites in the area.

AllWest concludes the former fuel USTs have not significantly impacted soil or groundwater at the subject property, since none of the VOCs or petroleum hydrocarbons detected in true first encountered groundwater samples collected from boring GP-1 exceeded their respective ESLs. The source of the VOCs in groundwater at the subject property has not been determined, but they do not originate from the former onsite USTs. TPH-g concentrations reported in laboratory analytical results for groundwater samples

collected during the December 2012 event, and previous historical events during the 1990s, are probably representative of chlorinated VOCs, mostly PCE.

AllWest recommends a meeting be arranged with the ACHCS to discuss further steps toward obtaining case closure for the subject site.

II. PROJECT BACKGROUND

A. Site Location and Description

The approximately 1.2 acre former Grand Auto retail facility is located at the northwest corner of High Street and International Boulevard (formerly 14th Street) in Oakland, California. The site currently is used as a Kragen Auto Supply store.

The site was used as a dance hall in 1903. Site use between 1903 and 1946 is unknown. Circa 1946, an L-shaped building was constructed on the site. This building was used as office space and for auto repair and painting. The date of demolition of this building is not known. In 1960 or 1961, the present building was constructed for use as a Safeway grocery store.

Grand Auto occupied the building in 1971, installed gasoline pump islands and three 10,000-gallon gasoline underground storage tanks (USTs) for retail gasoline sales, and a car wash with an associated drainage sump. The gasoline service station and car wash operated from circa 1972 to 1986. The USTs were removed in August 1986. The car wash drainage sump was removed in August 1992. In October 1993, the remaining fuel conveyance piping associated with the former USTs was excavated and removed from the site.

Between 1992 and 2008, site environmental conditions were characterized via soil borings and groundwater monitoring wells. A site location map and site plan are presented as Figures 1 and 2, respectively.

B. Site Geology and Hydrogeology

The property is located on the East Bay Plain along the eastern slopes of the San Francisco Bay and immediately west of the East Bay Hills. The subject site is located at an elevation of approximately 30 feet above mean sea level (msl). The topographic gradient in the site vicinity is to the south-southwest toward San Francisco Bay.

According to the *Preliminary Engineering Geologic Information Map, Oakland and Vicinity* (1967), the site surface soils are mapped as Qu (Undifferentiated Quaternary deposits) which may include the Qtc (Temescal Formation, dark alluvium) and Qts (alluvial materials derived from the Qsu and Qsl (upper and

lower members of the San Antonia Formation, clay, silt sand and gravel mixtures)). In general, these Quaternary alluvial deposits consist of unconsolidated clay, silt, sand, and gravel. Bedrock underlying the alluvium in the area consists primarily of the Mesozoic Franciscan Formation. The depth to bedrock in the site area is unknown but presumed to be over 100 feet below the ground surface.

Data from previous site borings indicate the property is underlain by an irregularly layered sequence of clayey to silty gravelly sand and sandy gravel lenses separated by clayey to sandy silt and silty to sandy clay layers to a depth of approximately 35 feet bgs. As much as 20 feet of imported fill material has been reported at some areas of the site. However, the site is not in an area mapped as Qf (artificial fill) like those areas by the Oakland Coliseum located approximately 2 miles south of the subject property.

Below the silt and clay layers, a fairly uniform layer of silty to gravelly sand was encountered in all borings at approximately 31 to 37 feet bgs, and extended to the total explored depth of approximately 46 feet bgs in most borings, except for a lower clay layer encountered from approximately 44 to 46 feet bgs in borings MW-3 and MW-4. Unconfined groundwater was first encountered within this sand layer at approximately 35 to 37 feet bgs in borings B-5, B-7 (MW-1), MW-2, MW-3 and MW-4. Although first encountered groundwater within this sand layer was unconfined when these borings were drilled near the end of a prolonged drought period in the early 1990s, increased precipitation has since resulted in static water levels rising to approximately 23 to 24 feet bgs; therefore groundwater within this sand layer is now confined.

Shallow perched water-bearing zones were encountered at 14.5 feet bgs and 9.5 feet bgs in borings B-1 and B-2, respectively. Very moist to wet zones were encountered during the drilling of borings B-4 at approximately 11.5 to 20 feet bgs, B-5 at approximately 11.5 to 15.5 feet bgs, and B-7 (MW-1) at approximately 9.5 to 10.5 feet bgs, although free water was nor encountered. These perched water-bearing and moist to wet zones indicate a possible discontinuous zone of perched groundwater. No other wet or perched zones were noted in other borings drilled at the subject property Hart Crowser, *Preliminary Site Investigation Report*, November 20, 1992 (Hart Crowser, 1992b) and *Supplemental Site Investigation* June 18, 1993 (Hart Crowser, 1993).

The groundwater gradient in the site area is very flat, thus the determination of the groundwater flow direction is difficult to assess. Regionally, groundwater is typically reported to flow from the east to the west from the Oakland Hills towards the San Francisco Bay. Groundwater flow in the vicinity of the site has historically fluctuated, but was generally calculated to be to the east, at a very flat gradient. The depth to groundwater during the last monitoring event in December 2011 ranged between 22.11 feet below ground surface (bgs) and 23.74 feet bgs.

The local groundwater flow direction measured during the 2008 monitoring event was generally towards the west at a gradient of approximately 0.001 feet/foot. The regional groundwater flow direction is to the southwest towards San Francisco Bay, concurrent with the topography. Prior to the 2008 measurement, local gradients were generally to the east. The historical fluctuations in gradient direction are not considered significant due to very small differences in groundwater elevations measured.

C. Previous Investigations and Remedial Actions

Underground Tank Removal

According to documents reviewed by AllWest at the City of Oakland Fire Department Fire Prevention Bureau (OFD) in March 2011, a pressure test was conducted in July 1986 on the three 10,000-gallon gasoline fuel underground storage tanks (USTs) at the site. At least one of the USTs failed the pressure test, with a maximum measured leakage rate of 0.1913 gallons per hour.

All three USTs were removed in August 1986, according to documents reviewed at OFD. AllWest was unable to locate any agency or consultant UST removal reports, or laboratory analytical data of any confirmatory soil or water samples, although other documentation including a permit application to remove the tanks, contractor terms and conditions and a billing invoice indicated that the USTs had been removed at that time. According to site plans and sketches in the OFD and City of Oakland Building Services Division (OBSD) files, the three USTs were located northeast of the fuel dispenser islands, not southwest of the islands as depicted in historical subsurface investigation and monitoring reports.

In July 1992, Hart Crowser, Inc. (Hart Crowser) performed a site investigation as outlined in *Sampling and Analysis Plan, Grand Auto/Super Tire Facilities*, July 5, 1992. The investigation included drilling two borings (B-4 and B-5) southwest of the dispenser islands in the assumed vicinity of the former location of the USTs (Figure 2). Analyses of soil samples from these borings did not indicate significant petroleum hydrocarbon concentrations, as summarized in the *Preliminary Site Investigation Report* (Hart Crowser, 1992b). Historical soil analytical data is summarized in Appendix A, Table A-1.

Drainage Sump Removal and Installation of MW-1

The car wash drainage sump and surrounding soil were removed on August 7, 1992. Hart Crowser collected a soil sample "S2C" from beneath the sump at the bottom of the excavation at 8.5 feet bgs. Analyses of the sample collected from the soil beneath the sump indicated the presence of TPH-g and TPH-d at

310 mg/Kg and 120 mg/Kg, respectively. Low concentrations of toluene, ethylbenzene, xylenes, and PCE were also detected (Appendix A, Table A-1).

A groundwater monitoring well, MW-1 (boring B-7), was installed approximately 10 feet southwest of the sump, in a down to cross gradient direction. The results of this phase of the investigation were summarized in the *Preliminary Site Investigation Report* (Hart Crowser, 1992b).

Groundwater Well Installations of MW-2 through MW-4 and HC-1

During April 1993, Hart Crowser drilled five soil borings (B-8 through B-12) and converted three of them to underground monitoring wells, MW-2 (B-10), MW-3 (B-11) and MW-4 (B-12) at the Grand Auto Store. A groundwater monitoring well, HC-1, was also installed at this time at the adjacent, former Super Tire Facility. Two of the soil borings (B-8 and B-9) were completed in the area of the former car wash sump. Soil samples from these two borings indicated that the total petroleum hydrocarbons (TPH) and PCE detected immediately below the sump in sample "S2C" were neither laterally nor vertically widespread (Appendix A, Table A-1). The wells were developed and sampled in April 1993. The results of this phase of the assessment were summarized in a report, *Supplemental Site Investigation* (Hart Crowser, 1993).

Conveyance Piping Removal

In October 1993, fuel conveyance piping associated with the former underground fuel storage tanks was excavated and removed from the site, as summarized in the *Quarterly Status Report*, (Hart Crowser, January 14, 1994). Verification soil samples were collected at a depth of 2.5 feet bgs from the base of the excavation at four locations, PGA-1, PGA-2, PGA-3 and PGA-4 (Figure 2). Each sample was analyzed for TPH-g and benzene, toluene, ethylbenzene, and xylenes (BTEX). TPH-g and BTEX were not detected in any of the samples analyzed (Appendix A, Table A-1).

Groundwater Monitoring

Between August 1993 and May 1996, Hart Crowser sampled the five groundwater monitoring wells eight more times. Although TPH-g range hydrocarbons were reported by the analytical laboratory, the chromatograms were not typical of a gasoline pattern and were interpreted by Hart Crowser to represent analytical overlap from halogenated VOCs detected in samples and not TPH-g. Hart Crowser discontinued TPH-g analysis after the June 1994 event (Hart Crowser, *Quarterly Status Report*, November 9, 1994). The groundwater analytical results from these sampling events are presented in Table 3.

Facility Closure Letter for Super Tire

When environmental activities were initiated at the subject property, the former Super Tire store at 4256 East 14th Street (currently All Mufflers Discounted) located southeast of the subject property was included as part of the Grand Auto site. Subsequently, the former Super Tire store was considered by both PACCAR and ACHCS as a separate site. In its letter to PACCAR dated December 27, 1993, ACHCS indicated that no further action was required for soil-related issues at the former Super Tire store. In a second letter dated November 20, 2000, ACHCS approved the destruction of the single groundwater well, HC-1, located on the former Super Tire facility.

Facility Closure Report for Grand Auto

Hart Crowser submitted a *Facility Closure Report* on February 16, 1996 requesting site closure (Hart Crowser, 1996a). The request was based on the following:

- Potential onsite sources related to Grand Auto operations (USTs, pump islands, associated piping, and car wash sump) have been investigated and/or successfully remediated, thus are no longer considered to be sources;

- Investigations of these potential onsite sources did not indicate evidence of a source of halogenated VOCs (chlorinated solvents) to the groundwater; and

- Several potential offsite sources of halogenated VOCs (chlorinated solvents) exist.

Hart Crowser recommended case closure for the site since the environmental issues associated with potential onsite sources of chemicals had been addressed. Halogenated VOCs remained in site groundwater, but these were 1) unrelated to the onsite sources that have been addressed; and 2) likely to be the result of releases at one or more of the numerous offsite potential sources located in the immediate vicinity of the site. Hart Crowser recommended abandonment of the remaining groundwater monitoring wells after closure certification approval by ACHCS and RWQCB (Hart Crowser, 1996a).

Hart Crowser 1996 Risk Assessment

In order to obtain site closure for the soil portion of the site, Hart Crowser completed an ASTM, Tier 1, RBCA assessment for the subject property (*Risk Assessment,* October 8, 1996). The risk assessment was prepared to meet the closure requirements of the ACHCS and the RWQCB. No on-site concentrations were noted above the calculated Risk-Based Screening Levels (RBSLs) in subsurface soil or from vapors in soil from groundwater under either the

residential or industrial exposure scenario. Therefore, Hart Crowser (1996b) concluded that the residual presence of chemicals in subsurface soils does not pose an unacceptable risk to human health under current or potential future use scenarios, and the site satisfies the conditions for regulatory site closure from a human health risk perspective.

ACHCS 1996 Closure Letter for Site Soils

Based on the Hart Crowser risk assessment (1996b), ACHCS concluded in December 30, 1996 letter to PACCAR that the soils on-site do not pose a threat to public health.

AllWest 2000 Site Closure and Groundwater Monitoring Report

In 1999 and 2000 AllWest completed the following tasks at the subject property:

- The redevelopment and sampling of the five on-site groundwater wells during the week of November 1, 1999 to demonstrate that the residual contamination in the groundwater is natural attenuating and likely from off-site source(s),

- An update of the previously completed ASTM Tier 1 risk assessment by discounting the groundwater ingestion pathway by the completion of a 1/2 mile radius well survey; and

- The comparison of the maximum on-site groundwater contamination concentrations to recently developed, Oakland specific, Tier 1 risk based screening levels (RBSLs) to document that this is a low risk case and candidate for "No Further Action" status by the ACHCS, the lead oversight agency, as per regulations and guidelines of the RWQCB, the lead State agency in charge of protecting the groundwater quality of the Greater Oakland Area.

- The destruction of monitoring well MW-3 on May 25, 2000 due to motor oil leakage into the vault box from parked automobiles, and the drilling and installation of replacement monitoring well MW-3A outside of the parking area. The damaged vault box of monitoring well MW-4 was also replaced on this date.

Based on the lack of reportable concentrations of benzene, toluene, ethylbenzene, and total xylenes (BTEX) compounds or methyl tert-butyl ether (MTBE), and only low levels of total petroleum hydrocarbon as gasoline (TPH-g), petroleum hydrocarbons were not considered an unacceptable risk to human health or the environment. The chlorinated solvent concentrations were noted to generally decrease from the November 1999 sampling as compared to the previous sampling period event conducted in 1996. AllWest concluded that the likely

source of the bulk of the chlorinated solvents is the existing or former dry cleaners located southeast of the subject property. Historical groundwater analytical data is summarized in Table 3.

As part of the 1999/2000 investigation activities, AllWest reviewed and updated the previously completed ASTM, Tier 1 RBCA assessment prepared by Hart Crowser (September 27, 1996) for the subject property. The focus of the update was two-fold. Firstly, the update was performed to document that the groundwater ingestion pathway is incomplete by conducting a well survey of the area. Secondly, the existing site data was compared to published risk based action levels, the recently compiled, City of Oakland specific, Tier 1 RBSLs, to document that the residual site contaminants are not an unacceptable risk to human health or the environment. No groundwater supply wells for industrial, agricultural, municipal or residential uses were identified within 1/2 mile of the subject property. Maximum VOC concentrations reported from the site groundwater were at least one order of magnitude lower than their respective Oakland Tier 1 RBSLs.

AllWest concluded in their *Site Closure and Groundwater Monitoring* Report, dated August 15, 2000 that the results of the November 1999 groundwater sampling event indicated that the shallow groundwater of the subject property is impacted with chlorinated solvents. The spatial distribution of the chlorinated solvents did not indicate a clear source area due to similar contaminant concentrations and the flat hydraulic gradient of the area. However, based on the ratio of PCE to TCE and cis-1,2-DCE, the likely source of the bulk of the chlorinated solvents is the existing or former dry cleaners located southeast of the subject property. Based on site specific results and current health risk based action levels, AllWest concluded that it is unlikely that the residual contamination in the site groundwater poses as an unacceptable risk to human health or the environment. AllWest recommended that ACHCS grant "no further action status" for the residual chlorinated solvents in the groundwater of the subject property and requested approval to abandon the existing five on-site groundwater wells.

ACHCS November 2000 No Further Remediation Letter

ACHCS reviewed AllWest's August 2000 report and noted that they and the RWQCB do not grant closure for sites with groundwater impacted above MCLs. However, ACHCS did state that active remediation for the residual chlorinated solvents in the soil or groundwater is not required and requested the annual sampling of wells MW-1 through MW-4. ACHCS also added that groundwater well, HC-1, located on the former Super Tire facility may be decommissioned at this time.

Super Tire 2001 Well Destruction

As per ACHCS approval in a second letter dated November 20, 2000,, the groundwater monitoring well, HC-1, located at the adjacent former Super Tire facility, was abandoned following State and local regulations on June 18, 2001 as described in the AllWest *Annual Groundwater Monitoring and Well Destruction Report*, August 27, 2001.

Groundwater Monitoring 2000 to 2011

AllWest conducted annual groundwater monitoring from 2001 to 2004. The ACHCS in their letter of November 7, 2005 directed groundwater monitoring be conducted on a biennial basis (every two years). AllWest conducted biennial groundwater monitoring during 2006 and 2008. The most recent groundwater monitoring event is described in the AllWest *2011 Biennial Groundwater Monitoring Report*, dated February 22, 2011. Historical groundwater analytical data is presented in Table 3.

Chlorinated solvents continued to be detected in all wells at the property. The highest concentrations of PCE have historically been detected in MW-1. Slightly lower levels have been detected in MW-3A and MW-4. Significantly lower concentrations of PCE have been detected in MW-2. The PCE breakdown products, trichloroethene (TCE), and cis-1,2-dichloroethene (cis-1,2-DCE) also follow this trend. Based on the spatial distribution of the chemicals detected in site monitoring wells, a single, well defined source for the chemicals does not likely exist.

Concentrations of PCE and TCE and their breakdown products during the most recent monitoring event in June 2008 were generally stable or decreased since previous sampling events and were at or near historically low levels indicating a stable or shrinking plume. It is reasonable to presume the concentrations will continue to decrease due to the processes of natural in situ degradation which include biodegradation, volatilization and dispersion. Chlorinated solvent concentrations detected in the four wells during the December 2011 monitoring event exceeded ESLs as described in *Table F-1a Groundwater Screening Levels (groundwater is a current or potential drinking water resource)* in the *Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater* (RWQCB, 2008).

Although groundwater in the area is designated as potential municipal use by the RWQCB, it is not currently used as drinking water and unlikely to be used as such in the future due to the numerous LUST and industrial solvent leak sites in the area. Chlorinated solvent concentrations detected in the four wells during the December 2011 monitoring event did not exceeded ESLs as described in *Table F-1b Groundwater Screening Levels (groundwater is* NOT *a current or*

potential drinking water resource) in the *Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater* (RWQCB, 2008).

Only VOC analysis was performed from the 2001 through 2008 events; TPH-g analysis has not been performed between the 1999 and 2011 events, and was detected only in a single sample during the 1999 event. TPH-g range compounds were detected in groundwater samples collected from MW-1, MW-3A and MW-4 during the December 2011 sampling event. Since the laboratory chromatograms of the December 2011 (and most of the historical 1993 to 1994) TPH-g detections do not match typical gasoline standards, the detected constituents were probably chlorinated VOCs (mostly PCE) within the TPH-g range.

AllWest requested case closure in the *2008 Biennial Groundwater Monitoring Report*, July 28, 2008. The ACHCS responded to the closure request in their letter dated April 15, 2010, stating that closure was being evaluated for commercial use only, and that during the period that the case is under review, groundwater monitoring may be suspended. In their letter of December 10, 2010 the ACHCS requesting that additional investigation be conducted prior to considering case closure. The ACHCS requested that a workplan be prepared to address potential soil vapor intrusion concerns in the area of the former car wash sump, that additional information regarding the UST removals in 1986 and conveyance piping removals in 1993 be provided, and that a request to extend groundwater monitoring frequency to a 5-year interval was denied.

AllWest submitted a *Soil Vapor Investigation and Groundwater Monitoring Work Plan* to ACHCS on April 15, 2011 to address issues in their letter of December 10, 2010. The ACHCS responded in their letter of May 16, 2011, requesting that a Work Plan Addendum be submitted to characterize soil and groundwater in the presumed former UST locations north of the former dispensers, if additional agency file review failed to verify the previously assumed UST locations south of the dispensers. AllWest submitted a *Soil and Groundwater Investigation Workplan Addendum* to ACHCS on July 15, 2011. The ACHCS approved the AllWest *Soil and Groundwater Investigation Workplan Addendum* in their letter dated August 4, 2011.

III. PURPOSE AND SCOPE OF WORK

The purpose of this investigation was to evaluate the potential soil vapor intrusion impact by VOCs to indoor air quality at the subject site in the vicinity of the former car wash sump. Additionally, the purpose was to evaluate potential impact of petroleum hydrocarbons to the soil and groundwater at the subject site in the vicinity of the former USTs removed in 1986. The investigation was performed by collecting soil vapor samples inside and outside of the subject site building in the vicinity of the former sump area, and by collecting soil and groundwater samples in the presumed vicinity of the

former USTs north of the former fuel dispensers. The scope of work consisted of the following tasks:

1) Obtained a drilling permit from the Alameda County Publics Work Agency (ACPWA);

2) Prepared a site-specific health and safety plan;

3) Engaged the service of Underground Service Alert (USA) and a private underground utility locator to locate and clear underground utilities within the proposed investigation area so that the potential of accidental damage to underground utilities will be reduced during proposed subsurface investigation. The private utility locator also attempted to conduct a survey of the suspected sewer line connected to the former sump. Notified the ACHCS, ACPWA and site tenants, property owners and facility maintenance prior to the start of field work;

4) Retained the service of a C-57 licensed drilling contractor for the advancement by truck-mounted Geoprobe® DPT methods, or limited access hand operated slide-hammer methods, of six borings to a depth of 5 feet bgs and the installation of temporary soil vapor sampling probes in the vicinity of the former sump and sewer line. Three probes were located inside the site building and three in the parking area outside. Collected soil vapor samples using SUMMA canisters in general accordance with the DTSC *Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance),* October 2011 (DTSC, 2011). Retained one soil vapor sample from each vapor probe for analytical testing;

5) Retained the service of a C-57 licensed drilling contractor for the advancement by truck mounted Geoprobe® DPT methods of two continuously cored soil borings to a maximum depth of approximately 35 feet bgs in the vicinity of the presumed former UST locations northwest of the former fuel dispensers. Collected soil samples. Installed temporary PVC well casings and collected groundwater samples. Retained three to four soil samples and one groundwater sample from each boring for analytical testing;

6) At the completion of drilling and sampling activities, removed temporary soil vapor probes and PVC well casing, and backfilled each boring with a "neat" cement grout slurry and restored the interior floor slabs by backfilling with a concrete slurry;

7) Maintained soil vapor samples under chain-of-custody and transported the samples to a Department of Health Services (DHS) certified analytical laboratory (McCampbell Analytical of Pittsburg, California) for chemical analyses. Analyzed six soil vapor samples for VOCs using EPA Method TO-15 (mid detection level, full scan);

8) Maintained soil vapor, soil and groundwater samples under chain-of-custody and transported the samples to a DHS certified analytical laboratory (McCampbell Analytical of Pittsburg, California) for chemical analyses. Analyzed four soil samples (two collected from each boring) and two groundwater samples (one from each boring) for TPH-g and VOCs (full scan including fuel oxygenates) per EPA Method 8260B, TPH-d and TPH-mo per EPA Method 8015M with silica gel cleanup, and LUFT 5 metals (cadmium, chromium, nickel, lead and zinc) per EPA Method 6010. Archived additional shallow soil samples for possible analysis based on headspace screening and previous analytical results; and

9) Prepared a written report describing the field activities, summarizing the laboratory data, presenting investigation findings, and providing conclusions and recommendations. Upload the report and associated data files to the ACHCS FTP website and the GeoTracker database.

IV. INVESTIGATIVE ACTIVITIES

A. Permitting

AllWest obtained a property access agreement from the current owners of the subject property and the O'Reilly Auto Parts store. AllWest then prepared and submitted a drilling permit application to ACPWA for review and approval. Upon permit approval, AllWest notified ACPWA, ACHCS, and the site tenant and property owner of the drilling schedule a minimum of 72 working hours in advance to allow scheduling of drilling and grouting inspection. A copy of the ACPWA drilling permit is included in Appendix B.

B. Health and Safety Plan

AllWest prepared a site specific health and safety plan prior to mobilizing to the site. A tailgate safety meeting was given prior to commencing work. All site personnel were required to review the health and safety plan.

C. Underground Utility Inspection and Conduit Survey

To avoid damage to underground utility installations during the course of the subsurface investigation, AllWest contacted Underground Service Alert (USA), an organization for public utility information, on the pending subsurface investigation. USA then notified public and private entities that maintained underground utilities within the site vicinity to locate and mark their installations for field identification.

A private underground utility locator, Subtronic Corporation (Subtronic) of Concord, California, was also be employed by AllWest to conduct a magnetometer and ground penetrating radar (GPR) sweep investigation to locate marked and unmarked underground utilities in the vicinity of the proposed boring locations. Subtronic also attempted to trace the location of the suspected sewer line in the vicinity of the former sump by inserting a probe though the floor drain in the building interior. However, this was unsuccessful since the drain was blocked. Subtronic did partially trace the position of what was suspected to be the sewer line in the outside parking area using GPR.

D. Geoprobe® DPT Soil Vapor Probe Installation

On January 4, 2012, a State of California C-57 licensed drilling contractor, Vironex, Inc., of Concord, California, advanced six borings at three locations inside the subject site building (SVP-1, SVP-2 and SVP-3) and three outside locations (SVP-4, SVP-5 and SVP-6) in the parking areas adjacent to the former sump location (Figure 2).

After coring through the 6-inch thick concrete floor slab locations inside the building, the borings SVP-1 through SVP-3 were advanced to approximately 5 feet bgs with hand-operated limited access equipment using slide hammer-driven 1-inch outside diameter (OD) rods and probes with expendable steel tips. Borings SVP-4 through SVP-6 were advanced through the 3-inch thick asphalt pavement of the outside parking areas to a depth approximately of 5 feet bgs using a truck-mounted Geoprobe® DPT rig driving 1-inch OD rods and probes with expendable steel tips. No soil cores were recovered from the probes. After the probes were advanced to the specified depth, the probes and drive rods were removed, leaving the borehole open with the expendable probe tip at the bottom. Standard Geoprobe® operating procedures are included in Appendix C.

Plastic soil vapor probes, ½-inch diameter by 2-inches long and tipped with porous plastic membranes, were inserted to the bottom of the 1-inch diameter boreholes at 5 feet bgs. The probe tips were attached to 7-foot lengths of 0.25-inch OD Teflon™ tubing extending to the top of the floor slab. A fine sand filter pack was placed in the borehole annulus around the probe. Hydrated bentonite chips were then used to fill the annular space above the filter pack to the top of the floor slab. The bentonite was allowed to hydrate and borehole conditions to equalize for 30 minutes prior to sampling activities, per DTSC vapor sampling guidelines. Standard soil vapor probe installation procedures are included in Appendix C.

E. Geoprobe® DPT Soil Boring Advancement

On January 5, 2012, Vironex, Inc. advanced two soil borings (GP-1 and GP-2) within the presumed former UST excavation northwest of the former dispensers.

The boring locations are shown in Figure 2. Following coring of the asphalt pavement and hand-augering to 5 feet bgs to clear potential underground utilities, the borings were advanced by truck-mounted equipment using Geoprobe® DPT continuous coring methods.

Boring GP-1 was advanced to approximately 35 feet bgs to intersect the first encountered groundwater-bearing zone, based on previous site lithologic data. Boring GP-2 was advanced to approximately 20 feet bgs and terminated after encountering a shallow perched water bearing zone at approximately 10 to 12 feet bgs in fill material within the former UST excavation. Boring GP-2 was not advanced deeper in order to avoid cross-contamination with the true groundwater-bearing zone first encountered in GP-1 at approximately 35 feet bgs.

Continuous core soil samples were collected for lithologic characterization and laboratory analysis using a nominal 5-foot long, 2-inch outside diameter (OD) stainless steel core barrel drive probe and extension rods. The drive probe interior was lined with nominal 1-1/2 inch inside diameter (ID) clear PETG plastic tubes for soil sample recovery. Following advancement of borings GP-1 and GP-2 to the total designated depths, the drive rods and core barrel were withdrawn and temporary PVC well casings with 5-foot screened intervals were inserted into the boreholes. Geoprobe® DPT boring advancement and soil sampling procedures are included in Appendix B. Boring logs and temporary well construction diagrams are included in Appendix E.

F. Soil Vapor Sampling

AllWest collected soil vapor samples from the six temporary soil vapor probes SVP-1 through SVP-6 on January 4, 2012, following a minimum 30-minute period after hydration of the bentonite surface seals. Soil vapor sampling was performed in general accordance with the DTSC *Vapor Intrusion Guidance* (DTSC, 2011). Standard soil vapor sampling procedures are included in Appendix C.

AllWest collected one soil vapor sample from each probe in laboratory prepared 1-liter (L) capacity SUMMA canisters. Prior to vapor purging and sample collection, a vacuum leak test of the flow-controller/gauge manifold assembly was performed for a minimum of 3 minutes and a maximum of 9 minutes. The manifold assembly used for SVP-6 failed the vacuum leak test and was replaced, passing the second test. All other sample manifolds passed the vacuum leak test. Prior to sample collection, approximately 500 milliliters (ml) of soil vapor (a minimum of 3 sample system volumes) was purged at a nominal flow rate of approximately 150 milliliters per minute (ml/min) from each sub-slab vapor probe using a dedicated 6-liter capacity SUMMA purge canister.

While sampling, a leak detection test was conducted using helium as a leak tracer inside an airtight plastic shroud. The helium concentration inside the leak detection shroud was monitored using a helium gas detector. Average helium concentrations within the shroud ranged from approximately 17.9% to 20.7%. No ambient air samples were collected to verify measured helium concentrations since no extra ambient leak detection gas SUMMA canister was supplied by the analytical laboratory for the January 3, 2012 event.

A nominal flow rate of approximately 150 ml/min was used to fill the sample canisters; actual measured flow rates ranged from approximately 137 ml/min to 201 ml/min. The canisters were filled to approximate 80% of capacity (approximately -5 inches of mercury vacuum remaining). All pertinent field observations, pressure, times and readings were recorded. After filling and closing the sample valve, all SUMMA canisters were removed from the manifold, labeled with sampling information, including initial and final vacuum pressures, placed in a dark container and transported under chain-of-custody to the analytical laboratory, McCampbell Analytical, Inc., of Pittsburg, California. Soil vapor sampling and SUMMA field logs are included in Appendix D.

G. Soil Sampling

An AllWest environmental professional oversaw field work and drilling activities. The recovered soil samples were inspected after each drive interval, with lithologic and relevant drilling observations recorded. Soil samples were screened for organic vapors, using a photo-ionizer detector (PID), by taking readings of headspace vapor concentrations of the soil inside a zip-lock plastic bag. PID readings, soil staining and other relevant observations were recorded on the boring logs. Boring logs are included in Appendix E.

Four soil samples from boring GP-1 and three soil samples from GP-2 were collected for laboratory analysis. Samples from boring GP-1 were collected from the 5.0 to 5.5 feet bgs, 9.0 to 9.5 feet bgs, 19.5 to 20.0 feet bgs and 34.5 to 35.0 feet bgs depth intervals. Samples from boring GP-2 were collected from the 5.0 to 5.5 feet bgs, 10.0 to 10.5 feet bgs and 17.0 to 17.5 feet bgs depth intervals. Selected soil sample intervals for analytical testing were cut in 6-inch lengths from the PETG tubing following removal from the Geoprobe® DPT core barrel. The ends of sample tubes for possible analytical testing were sealed using Teflon® squares and plastic end caps. Geoprobe® DPT soil sampling procedures are included in Appendix C.

To prevent the loss of constituents of interest, all soil samples were preserved by storing in an ice chest cooled to 4°C with crushed ice immediately after their collection and during transportation to the laboratory. Samples were stored within the cooler in separate zip-lock plastic bags to avoid cross-contamination.

H. Groundwater Sampling

Groundwater samples were collected from borings GP-1 and GP-2 on January 5, 2012. Prior to collecting samples, depth to water was measured in the temporary PVC casings using an electronic water level probe. Static water levels were 20.6 feet bgs in GP-1 and 10.4 feet bgs in GP-2. Groundwater samples were collected from the temporary PVC well casing in boring GP-1 using a peristaltic pump fitted with disposable Teflon™ sample tubing. Groundwater samples were collected from the temporary PVC well casing in boring GP-2 using a small-diameter disposable polyethylene bailer.

Samples were decanted into three 40-milliliter (ml) glass volatile organic analysis (VOA) vials preserved with hydrochloric acid (HCl) for TPH-g and VOC analysis, one 1-liter (L) amber glass bottle preserved with HCl for TPH-d and TPH-mo analysis, and one unpreserved 250 ml polyethylene bottle for LUFT 5 metals analysis. The sample for metals analysis was unfiltered. Because of borehole caving and limited groundwater recovery in boring GP-2 following collection of samples in the VOAs at a boring depth of 15 feet bgs, the PVC casing was removed, the boring advanced to a total depth of 20 feet bgs to clear out slough and improve recovery, and the PVC casing re-installed prior to collection of samples in the 1 L and 250 ml bottles. Sample bottles were labeled and immediately placed in a cooler on ice to preserve the chemical characteristics of its content. Standard Geoprobe® groundwater sampling procedures are included in Appendix C.

To help prevent cross contamination, all groundwater sampling equipment that came in contact with the groundwater was decontaminated prior to sampling. To minimize the possibility of cross contamination, a new disposable bailer or sample tubing was be used to collect each groundwater sample. To prevent the loss of constituents of interest, all groundwater samples were preserved by storing in an ice chest cooled to 4°C with crushed ice immediately after their collection and during transportation to the laboratory. Samples were stored within the cooler in separate zip-lock plastic bags to avoid cross-contamination. Sampling, sample handling, storage, and transport procedures described in Appendix C were employed.

I. Borehole Backfilling

At the completion of drilling and sampling activities and removal of all drive rods, sample probes and temporary PVC casing, the borings were backfilled with a “neat” Portland Type I or II cement grout slurry tremied into the borehole through a PVC pipe. The level of grout was checked to ascertain if any settling had occurred and was be “topped off” if required. The ACPWA was notified 72 hours in advance of the anticipated grouting time in order to schedule inspection.

J. Sample Preservation, Storage, Handling and Chain-Of-Custody Program

To prevent the loss of constituents of interest, all SUMMA canisters were removed from the manifold, labeled with sampling information, including initial and final vacuum pressures, placed in a dark container and transported under chain-of-custody to the analytical laboratory, McCampbell Analytical, Inc., of Pittsburg, California. To prevent the loss of constituents of interest, all soil and groundwater samples were preserved by storing in an ice chest cooled to 4°C with crushed ice immediately after their collection and during transportation to the laboratory, McCampbell Analytical, Inc., of Pittsburg, California. Samples were stored within the cooler in separate zip-lock plastic bags to avoid cross-contamination.

All samples collected for this project were transported under chain-of-custody protocol. The chain-of-custody program allows for the tracing of possession and handling of individual samples from the time of field collection through laboratory analysis. The document includes the signature of the collector, date and time of collection, sample number, number and type of sample containers including preservatives, parameters requested for analysis, signatures of persons and inclusive dates involved in the chain of possession. Upon delivery to the laboratory the document also includes the name of the person receiving the samples, and date and time samples were received. Chain of custody documents are included in Appendix F.

K. Investigative Derived Waste Containment and Disposal

Investigative derived waste including soil cores or cuttings, purged groundwater and decontamination rinseate was contained onsite in 55-gallon drums pending analytical results, profiling and transport to an appropriate disposal facility. An additional soil sample composited from those collected from borings GP-1 and GP-2 was analyzed for STLC chromium as required by the disposal facility. The waste soil and water was transported by Integrated Waste Management of San Jose, California to appropriate offsite disposal facilities.

V. ASSESSMENT FINDINGS

A. Subsurface Conditions

Soil cores for lithologic characterization were not recovered from the soil borings for the soil vapor probes SVP-1 through SVP-6, and no boring logs were recorded. Soil cores for lithologic characterization were recovered and boring logs recorded for borings GP-1 and GP-2.

Beneath the 3 inch thick asphalt pavement, soils encountered in boring GP-1 consisted of sandy clay to approximately 4 feet bgs, underlain by clayey gravel to approximately 12 to 13 feet bgs where it graded to clayey sand. The clayey gravel had a disturbed structure and appeared to possibly be fill material, but it is unclear whether this represented the UST excavation backfill. Clayey sand was encountered from approximately 13 to 15 feet bgs, and then graded to sandy clay, which in turn graded to very moist but not saturated clayey gravel at approximately 16.5 feet bgs. Damp silty clay was encountered from approximately 23.5 feet bgs to approximately 33 feet bgs, where it graded to sandy clay with increasing moisture. Very moist, but not saturated, clayey sand was encountered from approximately 34.5 feet bgs to the total explored depth of approximately 35 feet bgs.

Beneath the asphalt pavement, soils encountered in boring GP-2 consisted of loose gravelly sand fill material to approximately 6.5 feet bgs, where there was an interval of no recovery to approximately 10 feet bgs, where clayey gravel was encountered, which also appeared likely to be fill material. The clayey gravel became saturated at a depth of 10.4 feet bgs, and extended to a depth of approximately 12 feet bgs where moist but unsaturated native sandy clay was encountered. The gravelly sand and clayey gravel appeared to be backfill material for the former UST excavation extending to approximately 12 feet bgs. The native sandy clay extended from approximately 12 to 15.5 feet bgs, with moist but unsaturated clayey gravel at approximately 15.5 to 16.3 feet bgs, underlain by moist but unsaturated clayey sand grading to sandy clay at approximately 17.5 feet bgs. No soil core was recovered from 17.5 feet bgs to the total boring depth of 20 feet bgs. No hydrocarbon staining, odors or elevated PID readings were noted in soil recovered from either boring GP-1 or GP-2.

Groundwater was apparently first encountered in GP-1 at or near the total depth of the boring at approximately 35 feet bgs, since groundwater was not previously observed and soil recovered from the total depth appeared moist but not saturated. This is consistent with the first encountered groundwater depths in previous investigations at the subject site. Groundwater immediately rose in the borehole to a static depth of 20.6 feet bgs, which is approximately 3 to 4 feet higher than depth to water measured in the onsite groundwater monitoring wells during the December 20, 2011 monitoring event.

Depth to water in the shallow perched saturated zone encountered in GP-2 was approximately 10.4 feet bgs. The water level did not rise from the first encountered depth. This perched saturated zone is not representative of true groundwater, but is a localized perched water-bearing zone caused by surface water infiltration within the permeable former UST excavation sand and gravel backfill material, contained below the base of the former excavation at approximately 12 feet bgs by the low permeability native clay. This shallow

perched saturated zone was not encountered in nearby boring GP-1, which was apparently located just outside the former UST excavation.

B. Laboratory Analysis and Sampling Data

Soil Vapor

Six soil vapor samples (SVP-1 through SVP-6) were analyzed by a State of California certified independent analytical laboratory, McCampbell Analytical, Inc., (McCampbell) of Pittsburg, California. Sample analysis was performed on 5-day turnaround time. The soil vapor samples collected during this investigation were analyzed for VOCs using EPA Method TO-15 (mid-detection levels, full scan). Due to a miscommunication, the samples were not analyzed for the leak detection gas helium per ASTM D-1946.

Tetrachloroethene (PCE) was detected in soil vapor samples collected from temporary soil vapor probes SVP-1, SVP-2, SVP-3, SVP-4, SVP-5 and SVP-6, at respective concentrations of 270 micrograms per cubic meter ($\mu g/m^3$), 460 $\mu g/m^3$, 8,100 $\mu g/m^3$, 550 $\mu g/m^3$, 4,600 $\mu g/m^3$ and 670 $\mu g/m^3$. The PCE breakdown product trichloroethene (TCE) was detected in soil vapor samples collected from SVP-2, SVP-3, SVP-5 and SVP-6, at respective concentrations of 25 $\mu g/m^3$, 210 $\mu g/m^3$, 51 $\mu g/m^3$ and 26 $\mu g/m^3$. Benzene, toluene, ethylbenzene and total xylenes (BTEX) were detected in soil vapor samples at maximum concentrations of 16 $\mu g/m^3$, 81 $\mu g/m^3$, 63 $\mu g/m^3$, and 370 $\mu g/m^3$, respectively.

Low concentrations of other VOCs including acetone, 1,3-butadiene, chloroform, dichlorodifluoromethane (Freon 12), ethanol, ethyl acetate, 4-ethyltoluene, isopropyl alcohol (IPA), 4-methyl-2-pentanone (MIBK), naphthalene, propene, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene were also detected at maximum respective concentrations of 320 $\mu g/m^3$, 76 $\mu g/m^3$, 97 $\mu g/m^3$, 370 $\mu g/m^3$, 1,900 $\mu g/m^3$, 250 $\mu g/m^3$, 32 $\mu g/m^3$, 91 $\mu g/m^3$, 47 $\mu g/m^3$, 11 $\mu g/m^3$, 770 $\mu g/m^3$, 66 $\mu g/m^3$ and 23 $\mu g/m^3$. Although IPA was described as a leak detection gas in the laboratory analytical report, this compound was not used by AllWest during this sampling event, and therefore is probably a laboratory contaminant. Soil vapor analytical results are summarized in Table 1. Laboratory analytical reports are included in Appendix F.

Although analysis for the leak detection gas helium was not performed on soil vapor samples collected from the subject site, that analysis was performed on soil vapor samples collected by AllWest the previous day, January 3, 2012, at another site under similar conditions using the same driller and identical equipment, sample containers, sampling methods, analytical methods and analytical laboratory. The leak detection gas helium was analyzed per ASTM D-1946, and was detected in seven of eight soil vapor samples at concentrations ranging from 0.0036% to 0.032%, compared to ambient shroud concentrations of

approximately 18.3% to 22.8%, indicating that dilution with atmospheric air from system vacuum leaks was relatively insignificant. Therefore, it is reasonable to presume that leak detection results would be similar for the soil vapor sampling at the subject site on January 4, 2012.

Soil

Seven soil samples were submitted to McCampbell, of which four were selected for analysis and the remaining three archived for potential analysis. Samples collected from boring GP-1 at 9.0 to 9.5 feet bgs and 19.5 to 20.0 feet bgs, and from boring GP-2 at 10.0 to 10.5 feet bgs and 17.0 to 1.5 feet bgs, were selected for analysis by EPA Method 8260B for VOCs and TPH-g, EPA Method 8015B with silica gel cleanup for TPH-d and TPH-mo, and EPA Method 6010B for LUFT 5 metals.

The only VOCs detected in soil samples were PCE at 0.0067 milligrams per kilogram (mg/kg) and naphthalene at 0.0056 mg/kg in boring GP-2 at a depth of 10 to 10.5 feet bgs. TPH-g was not detected in any soil samples analyzed. TPH-d was detected in all four soil samples at a maximum concentration of 15 mg/kg in GP-2 at a depth of 10 to 10.5 feet bgs. TPH-mo was detected only in boring GP-2 at 72 mg/kg at a depth of 10 to 10.5 feet bgs.

The metals chromium, nickel and zinc were detected in all four soil samples at maximum concentrations of 120 mg/kg, 160 mg/kg and 100 mg/kg. Lead was detected in two soil samples at a maximum concentration of 6.5 mg/kg. Soil analytical results are summarized in Table 2. Laboratory analytical reports are included in Appendix F.

Groundwater

Three groundwater samples were submitted for laboratory analysis. One sample was collected from boring GP-1 within the first encountered true groundwater bearing zone at a total boring depth of 35 feet bgs. Two samples were collected from boring GP-2 within a shallow perched water bearing zone at boring depths of 15 and 20 feet bgs; although these were labeled as separate samples they were both collected from the same water bearing zone and thus essentially the same sample.

The groundwater samples collected from GP-1 and from a boring depth of 15 feet in GP-2 were analyzed for VOCs and TPH-g by EPA Method 8260B. The groundwater samples collected from GP-1 and from a boring depth of 20 feet in GP-2 were analyzed for TPH-d and TPH-mo by EPA Method 8015B with silica gel cleanup, and for LUFT 5 metals by EPA Method 200.8.

PCE and carbon disulfide were detected in the shallow perched zone water sample collected from boring GP-2 at respective concentrations of 0.64 micrograms per kilogram (µg/L) and 0.62 µg/L. The PCE breakdown product cis-1,2-dichlorethene (cis-1,2-DCE) was detected in groundwater samples collected from both borings GP-1 and GP-2, at respective concentrations of 0.73 µg/L and 0.72 µg/L. Toluene and MTBE were detected in the groundwater sample from GP-1 at respective concentrations of 0.63 µg/L and 0.96 µg/L. No other VOCs were detected in groundwater samples from either boring.

TPH-g was not detected in groundwater samples from either boring GP-1 or GP-2. TPH-d and TPH-mo were detected only in the shallow perched zone water sample from boring GP-2 at respective concentrations of 200 µg/L and 1,000 µg/L.

Nickel and zinc were detected in both water samples at maximum respective concentrations of 14 µg/L and 34 µg/L. Groundwater analytical results are summarized in Table 3. Laboratory analytical reports are included in Appendix F.

C. Laboratory Quality Assurance and Quality Control

A review of laboratory internal quality assurance/quality control (QA/QC) reports indicates the method blank and sample spike data for all analyses were within the laboratory recovery limits. The samples were also analyzed within the acceptable EPA holding times. The data from the McCampbell Analytical laboratories are considered to be of good quality. Laboratory analytical reports and chain-of-custody records are included in Appendix F.

VI. DISCUSSION

A. Site Hydrogeology

The lithology and depth to groundwater encountered during this investigation in boring GP-1 to the total explored depth of 35 feet bgs is quite similar to that previously encountered in boring B-7 (MW-1). However, the thick clayey gravel layers encountered in GP-1 to approximately 23.5 feet bgs are inconsistent with lithology encountered in most other previous onsite borings, with the exception of B-7 (MW-1). The clayey gravel encountered in boring GP-1 to a depth of approximately 12 feet bgs had a disturbed bedding structure which appeared to indicate fill material; however, it is uncertain whether this constitutes UST excavation backfill as encountered in the nearby boring GP-2

Therefore, it is uncertain whether GP-1 is located within the former UST excavation. The suspected fill material seems to be consistent with previous subsurface investigations which reported as much as 20 feet of fill material

present at the subject site. A very moist but not saturated layer of clayey gravel encountered from approximately 16.5 to 23.5 feet bgs was consistent with moist layers and perched zones encountered in several previous borings at the subject site.

The relatively thick layer of stiff low permeability silty to sandy clay encountered between approximately 23.5 feet bgs and first encountered groundwater at approximately 34.5 feet bgs would likely inhibit vertical migration of potential contaminants from surface releases to groundwater, and also inhibit soil vapor intrusion from potential groundwater contaminants. This silty clay or clayey silt confining layer, which overlies the sand layer containing the first encountered groundwater, appears to be present in all of the deeper subject site borings.

The saturated clayey sand and first groundwater encountered in GP-1 near the total boring depth at approximately 34.5 to 35 feet bgs was consistent with the lithology and first groundwater encountered at about that depth in previous borings at the subject site. The static depth of confined groundwater encountered in GP-1 of approximately 20.6 feet bgs was approximately 3 to 4 feet higher than depth to water measured in the onsite monitoring wells during the December 20, 2011 monitoring event.

The loose gravelly fine sand encountered in boring GP-2 from below the pavement to a depth of approximately 6.5 to 10 feet bgs is inconsistent with lithology encountered in other previous borings at the subject site, and appears to be UST excavation backfill, as does the underlying clayey gravel extending to 12 feet bgs. A sharply defined contact at 12 feet bgs between clayey gravel fill material and native sandy clay below probably defines the base of the former UST excavation.

The clayey gravel layer was saturated at a depth of approximately 10.4 feet bgs; this water level did not rise after the first encounter, indicating a localized shallow unconfined perched water-bearing zone within the former UST excavation backfill confined by low permeability native clay below. This perched zone appears to be consistent with those encountered in several other previous borings, and does not constitute a continuous groundwater-bearing zone across the subject property.

B. Environmental Screening Levels

Soil Vapor Screening Levels

To assess if the identified COCs in soil vapor pose a risk to human health and the environment, AllWest compared detected concentrations to ESLs for commercial land use compiled by the RWQCB in *Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater*, Interim Final November 2007,

revised May 2008), and listed in *Table E - Environmental Screening Levels (ESLs) – Indoor Air and Soil Gas (Vapor Intrusion Concerns), Commercial / Industrial Land Use Only* (RWQCB, November 2007, revised May 2008). The ESL for PCE as soil gas in a commercial/industrial setting is 1,400 $\mu g/m^3$.

Under most circumstances, the presence of a chemical at a concentration below the corresponding ESL is presumed to not pose a significant risk to human health or the environment. Since the site is paved and in a commercial area, the outdoor vapor intrusion exposure pathway is insignificant and residential exposure standards do not apply.

AllWest also compared soil vapor, IAQ and AAC data generated during this assessment to the CalEPA, *Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties, Table 3 - California Human Health Screening Levels for Indoor Air and Soil Gas*, January 2005, revised September 23, 2010 (CalEPA, 2010). The soil vapor CHHSL for PCE is 600 $\mu g/m^3$ for commercial/industrial sites constructed without engineered fill. The ESLs and CHHSLs are based on a target cancer risk of 1.0×10^{-6} (1/1,000,000) for an average 8-hour per day exposure period in a commercial/industrial workplace setting.

PCE soil vapor concentrations in probes SVP-3 and SVP-5 exceeded the applicable commercial/industrial RWQCB ESL and CalEPA CHHSL. The PCE concentration in probe SVP-6 slightly exceeded its applicable commercial/industrial CHHSL. None of the other VOCs detected in soil vapor samples exceeded their applicable ESLs or CHHSLs. Applicable ESLs and CHHSLs for VOCs detected in site soil vapor samples are listed in Table 1.

Soil Screening Levels

To assess if the identified constituents of concern (COCs) in site soils pose a risk to human health and the environment, AllWest compared soil sample analytical data generated during this investigation to ESLs for commercial/industrial land use compiled by the RWQCB in *Tables A and A-2 – ESLs for Shallow Soils (≤ 9.9 feet bgs)* and *Tables C and C-2 – ESLs for Deep Soils (> 9.9 feet bgs) where Groundwater IS a Current or Potential Source of Drinking Water* (RWQCB, November 2007, revised May 2008). Since the site is paved and in a commercial area, there is no direct contact exposure pathway and residential exposure standards do not apply.

None of the petroleum hydrocarbons or VOCs detected exceeded their applicable ESLs for commercial/industrial land use in shallow or deep soils where groundwater is a potential drinking water resource (RWQCB *Tables A and C,* 2008). The nickel concentration of 160 mg/kg detected in boring GP-1 at 9.0 to 9.5 feet bgs slightly exceeded the ESL of 150 mg/kg for commercial/industrial

land use in shallow soils where groundwater is a potential drinking water resource (RWQCB *Table A,* 2008). Applicable soil ESLs are listed in Table 2.

Groundwater Screening Levels

To assess if the identified COCs in the groundwater pose a risk to human health and the environment, AllWest compared concentrations with the RWQCB ESLs from *Table F-1a – Groundwater Screening Levels (Groundwater IS a Current or Potential Drinking Water Resource)*, (RWQCB, Interim Final November 2007, revised May 2008).

All VOCs detected in groundwater samples were at concentrations below groundwater ESLs for commercial/industrial land use where groundwater is a potential drinking water resource. TPH-d and TPH-mo concentrations, detected in the shallow perched water sample from GP-2, exceeded their respective drinking water ESLs of 100 µg/L for each. Nickel, detected at 14 µg/L in the groundwater sample from boring GP-1, slightly exceeded the drinking water ESL of 8.2 µg/L.

C. Contaminant Distribution and Exposure Pathways

Soil Vapor

The distribution of VOCs detected in soil vapor samples indicates the highest PCE and TCE concentrations were detected in samples SVP-3 and SVP-5, located nearest to the former sump. There does not appear to be a correlation between concentrations and distribution of VOCs detected in soil vapor samples and the suspected current location of the lateral sanitary sewer line (as traced by Subtronic).

Only one (SVP-3) of the three soil vapor samples collected from beneath the building interior floor slab contained PCE at a concentration exceeding the applicable ESL and CHHSL. Therefore, soil vapor intrusion into the building interior is probably not a significant exposure pathway to building occupants. A second soil vapor sample (SVP-5) contained PCE at a concentration exceeding the applicable ESL and CHHSL, and a third sample (SVP-6) contained PCE at a concentration exceeding the CHHSL; however, both were located in the exterior asphalt-paved parking area where vapor intrusion is not a significant exposure pathway.

None of the other VOCs detected in soil vapor samples exceeded their respective applicable ESLs or CHHSLs and do not represent environmental concerns. With the exception of PCE, TCE, BTEX, Freon 12, chloroform and naphthalene, which have all been historically detected in soil or groundwater samples at the subject site, it is likely the remaining detected VOCs are laboratory contaminants.

Soil

The very low concentrations of TPH-d, TPH-mo, PCE and naphthalene detected in soil samples from GP-1 and/or GP-2 are all well below their applicable ESLs and do not represent an environmental concern, indicating that the former USTs have not significantly impacted soil at the subject site. Since most of the subject site areas are paved or covered with buildings, it is unlikely that any direct contact exposure pathway to human receptors is present.

All metals detected were below their applicable ESLs with the exception of nickel in GP-1 at 9.0 to 9.5 feet bgs, which slightly exceeded the ESL for commercial/industrial land use in shallow soils where groundwater is a potential drinking water resource. However, the detected nickel concentration of 160 mk/kg is within the 6.0 to 380 mg/kg naturally occurring background range for soils in the nearby East Bay Hills, as summarized by the Lawrence Berkeley National Laboratory (LBNL) *Analysis of Background Distribution of Metals in the Soil at Lawrence Berkeley National Laboratory* (LBNL, June 2002, revised April 2009).

Groundwater

The TPH-d and TPH-mo detected at concentrations exceeding applicable ESLs in the groundwater sample from boring GP-2 is from a sample collected from a localized shallow perched water-bearing zone and not representative of true groundwater at the subject site. Nickel detected in the groundwater sample from boring GP-1 slightly exceeded its applicable drinking water ESL; however the groundwater sample was not pre-filtered in the field and sample analysis may have been biased by high sediment concentrations. All other VOCs and metals detected in groundwater samples collected from borings GP-1 and GP-2 during this event were below applicable ESLs and do not represent an environmental concern.

VOC concentrations exceeding applicable ESLs were detected in groundwater samples collected on December 20, 2011 from onsite monitoring wells MW-1, MW-2, MW-3A and MW-4, located downgradient (northeast) from the former USTs. The origin of the VOC concentrations in subject site groundwater is uncertain, but they do not appear to originate from the former onsite USTs due to the very low VOC concentrations detected in groundwater samples from borings GP-1 and GP-2 in the former UST vicinity.

TPH-g concentrations reported in groundwater samples by the analytical laboratories during the December 2011 and previous historical events in the early 1990s are actually representative of chlorinated VOCs (mostly PCE) within the TPH-g range, and do not originate from the former onsite USTs.

Although groundwater in the area is designated as potential municipal use by the RWQCB, it is not currently used as drinking water and unlikely to be used as such in the future due to the numerous LUST and industrial solvent leak sites in the area, therefore any ingestion pathway to human receptors is unlikely. Since groundwater at the subject site is typically first encountered at approximately 35 feet bgs and most of the subject site areas are paved or covered with buildings, it is unlikely that any direct contact or vapor intrusion exposure pathway to human receptors is present from site groundwater.

VII. CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions

AllWest concludes the highest VOC concentrations detected in soil vapor samples were from the vicinity of the former sump. Soil vapor intrusion into the building interior is probably not a significant exposure pathway to building occupants, since only one of the three soil vapor samples collected from beneath the building interior floor slab contained PCE at concentrations exceeding the applicable ESL, by less than one order of magnitude.

AllWest concludes the former fuel USTs have not significantly impacted soil or groundwater at the subject property. The source of the VOCs in groundwater at the subject property has not been determined, but they do not originate from the former onsite USTs. TPH-g concentrations reported in laboratory analytical results for groundwater samples collected during the December 2011 event, and previous historical events during the 1990s are probably representative of chlorinated VOCs, mostly PCE.

B. Recommendations

AllWest recommends a meeting be arranged with the ACHCS to discuss further steps toward obtaining case closure for the subject site.

VIII. REPORT LIMITATIONS

The work described in this report is performed in accordance with the Environmental Consulting Agreement between PACCAR, Inc. (Client) and AllWest Environmental, Inc, dated October 2011. AllWest has prepared this report for the exclusive use of the Client for this particular project and in accordance with generally accepted practices at the time of the work. No other warranties, certifications or representations, either expressed or implied are made as to the professional advice offered.

The services provided for the Client were limited to their specific requirements; the limited scope allows for AllWest to form no more than an opinion of the actual site conditions.

The conclusions and recommendations contained in this report are made based on observed conditions existing at the site, laboratory test results of the submitted samples, and interpretation of a limited data set. It must be recognized that changes can occur in subsurface conditions due to site use or other reasons. Furthermore, the distribution of chemical concentrations in the subsurface can vary spatially and over time. The results of chemical analysis are valid as of the date and at the sampling location only. AllWest is not responsible for the accuracy of the test data from an independent laboratory nor for any analyte quantities falling below the recognized standard detection limits or for the method utilized by the independent laboratories.

Background information that AllWest has used in preparing this report, including but not limited to previous field measurements, analytical results, site plans, and other data, has been furnished to AllWest by the Client, its previous consultants, and/or third parties. AllWest has relied on this information as furnished. AllWest is not responsible for nor has it confirmed the accuracy of this information.

IX. REFERENCES

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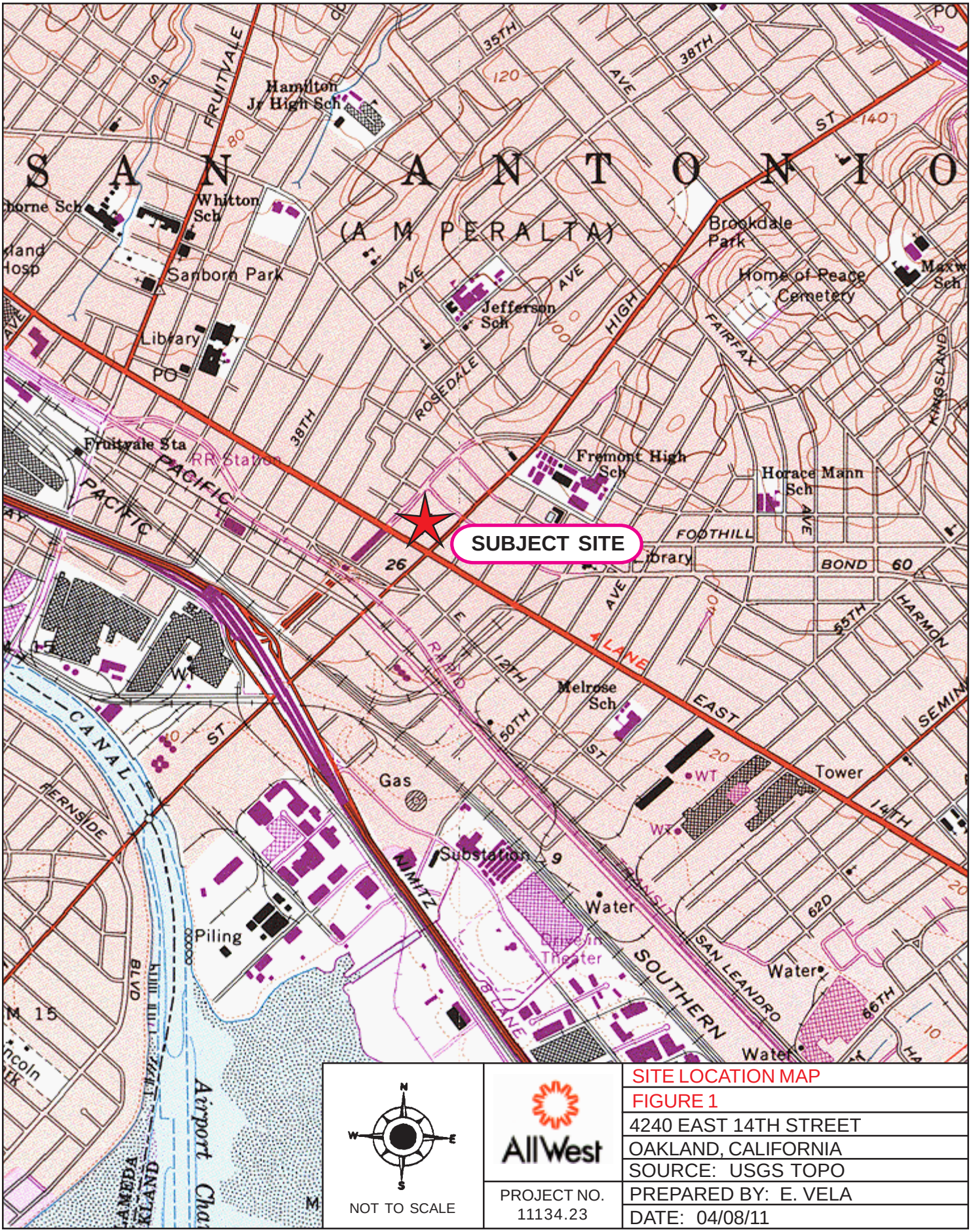
FIGURES



N
W
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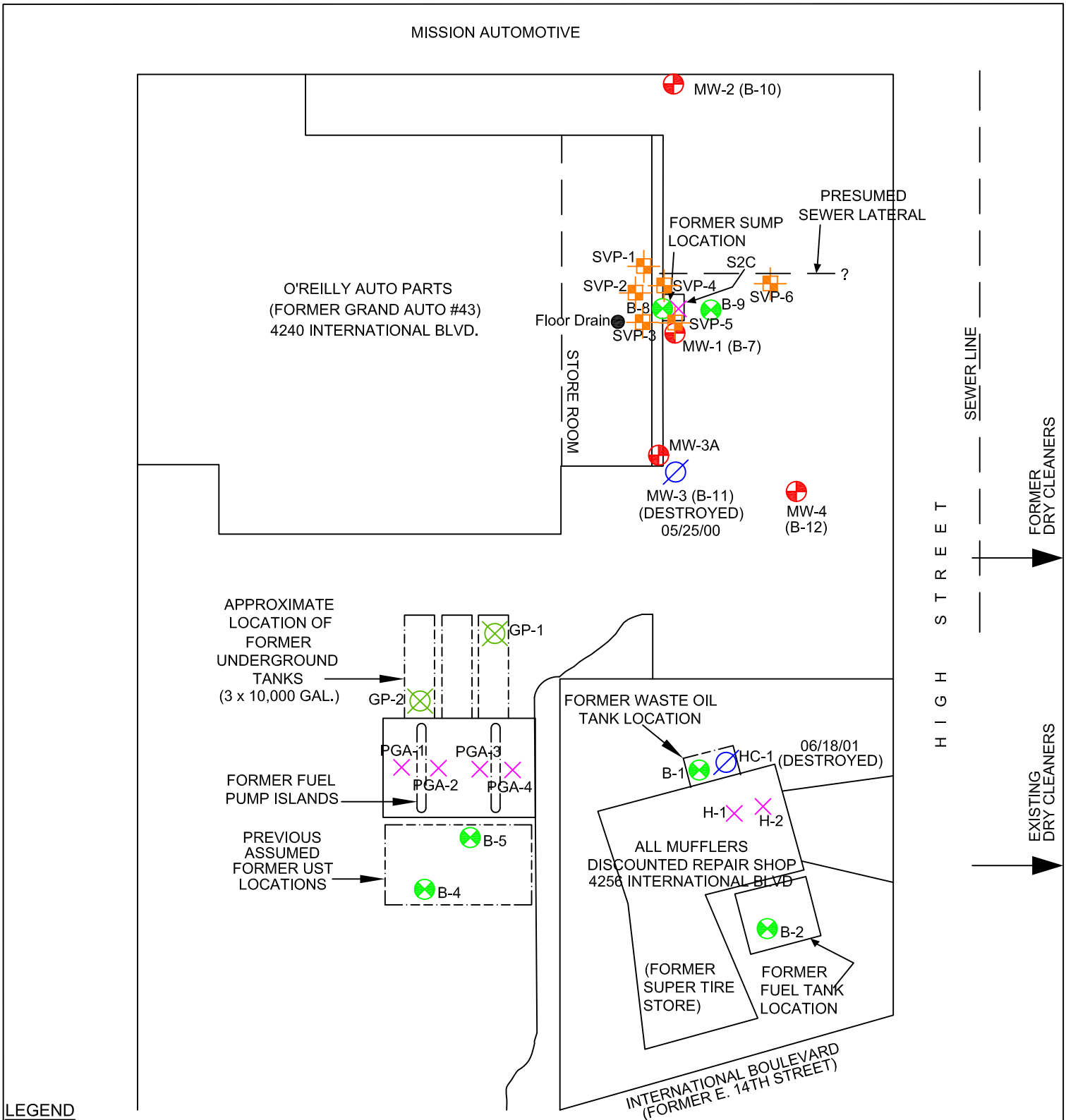
S

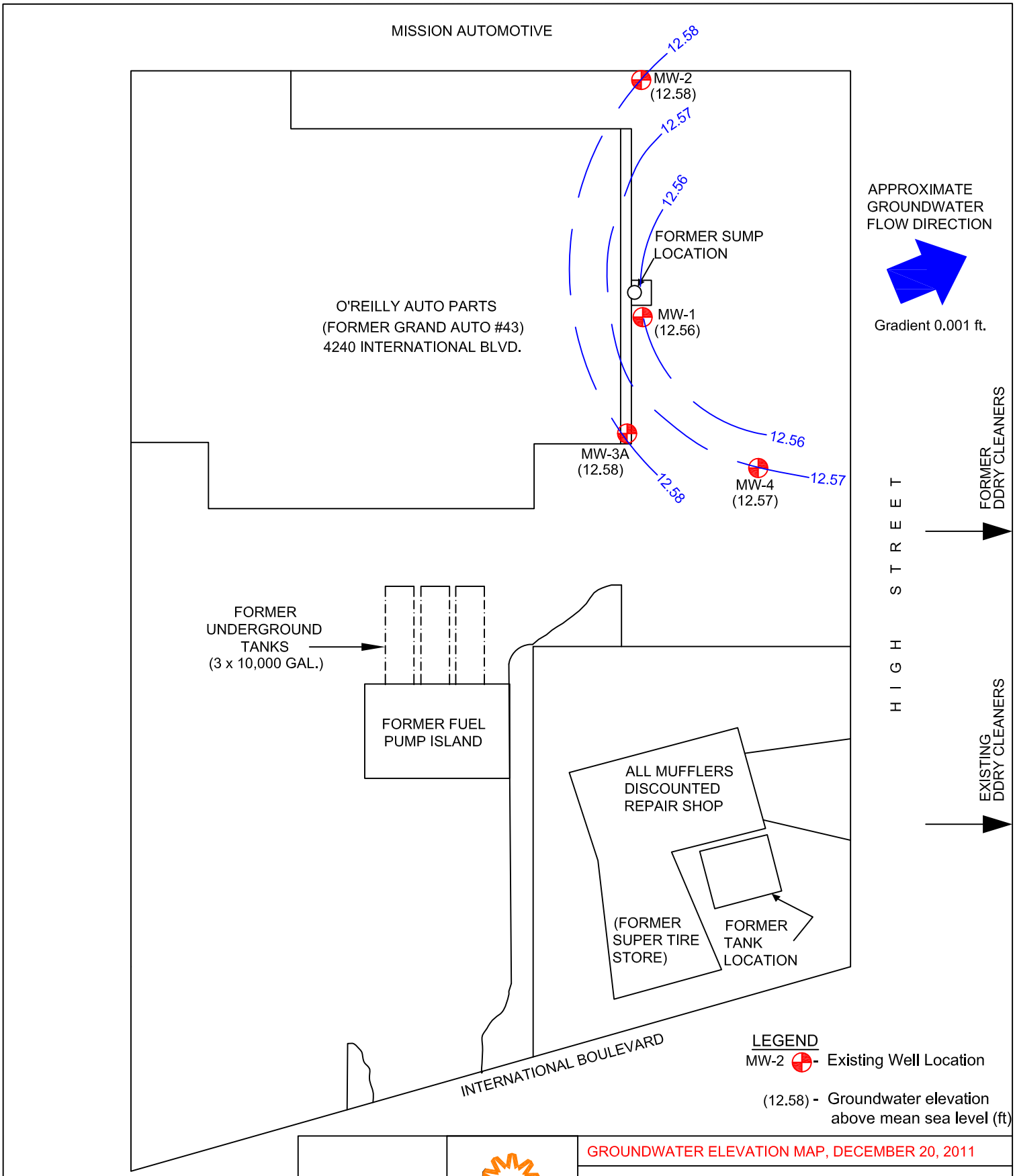
NOT TO SCALE

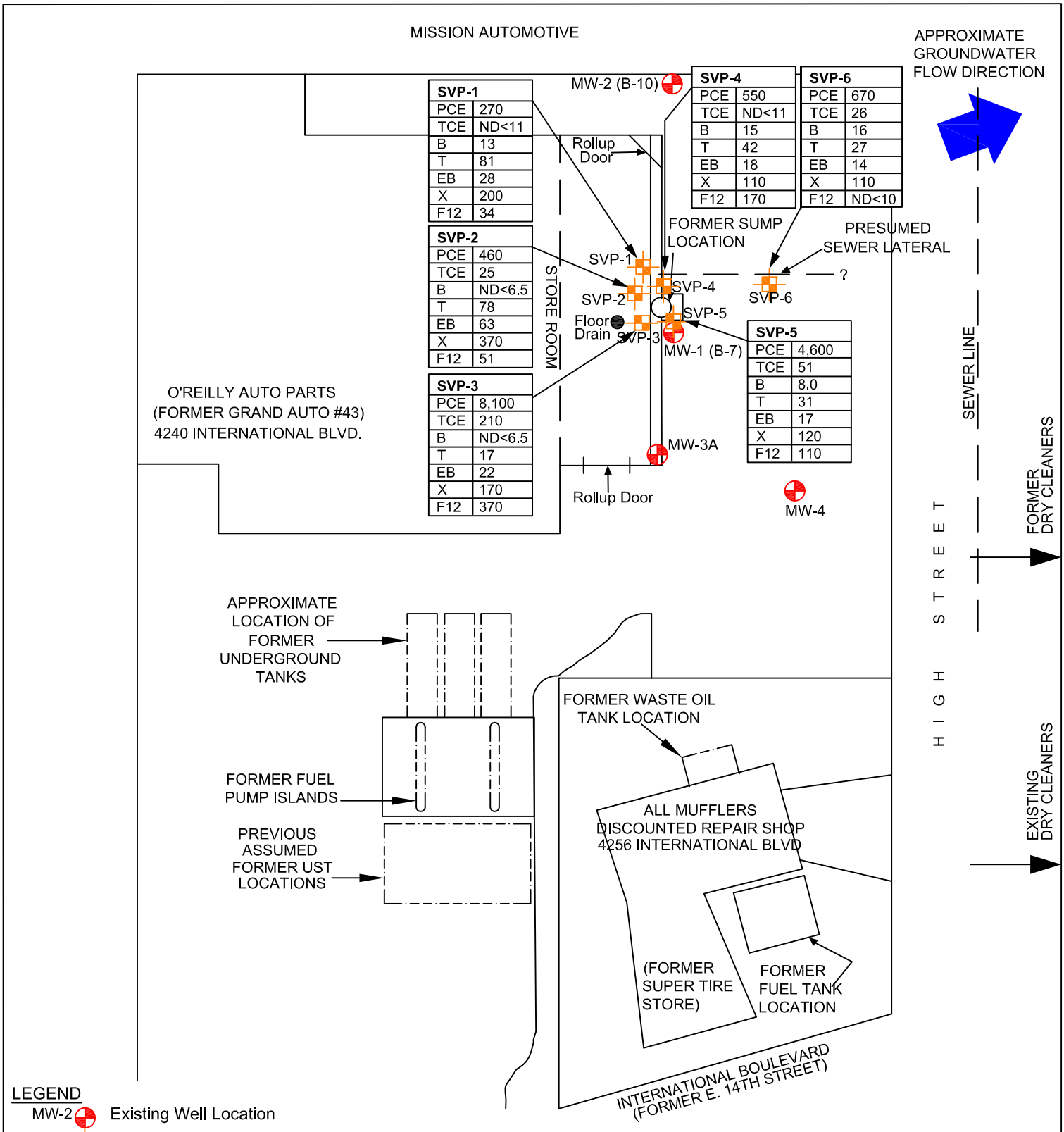
AllWest

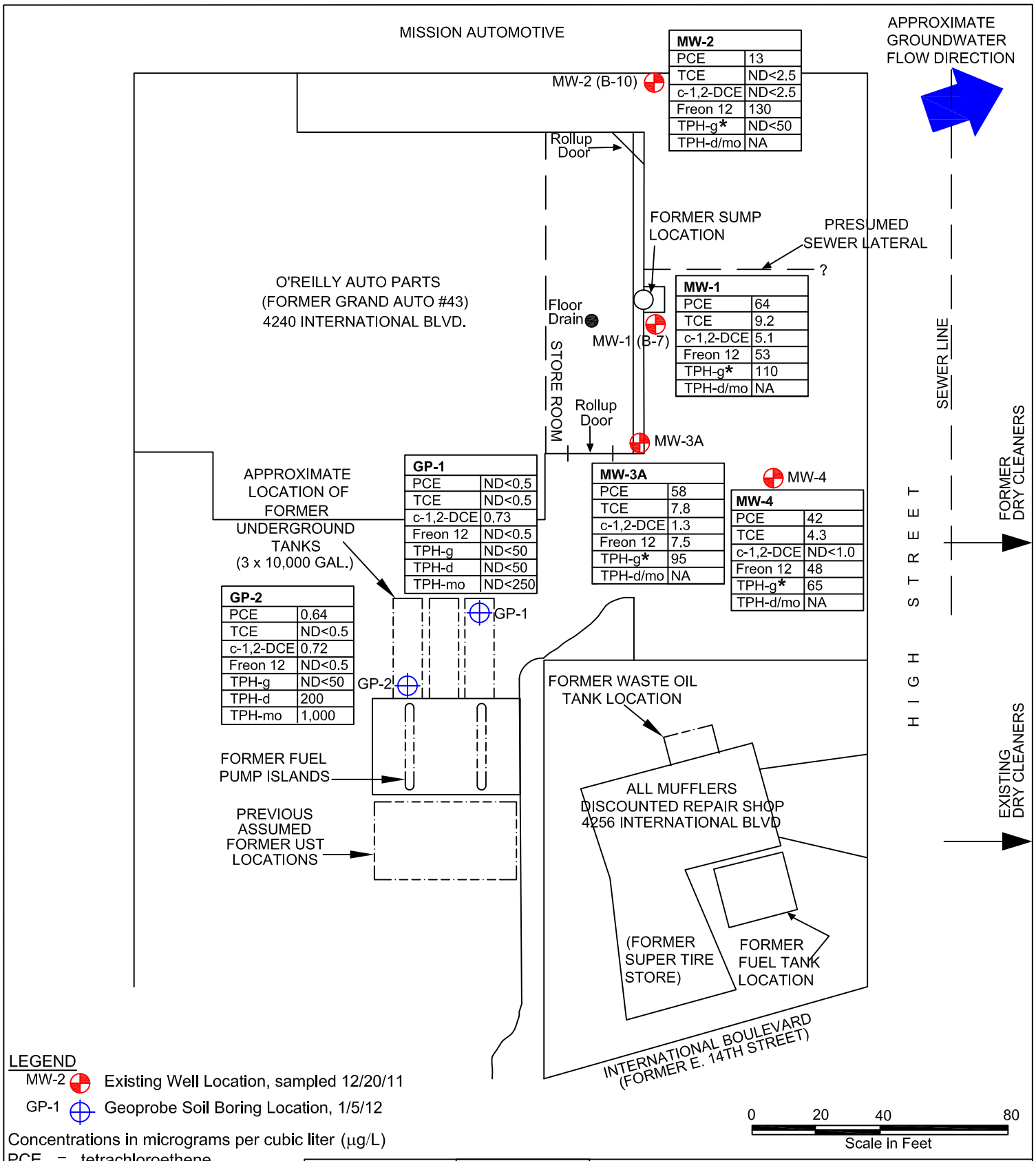
PROJECT NO. 11134.23

SITE LOCATION MAP
FIGURE 1
4240 EAST 14TH STREET
OAKLAND, CALIFORNIA
SOURCE: USGS TOPO
PREPARED BY: E. VELA
DATE: 04/08/11


MISSION AUTOMOTIVE
MW-2 (B-10)
PRESUMED
SEWER LATERAL
FORMER SUMP
LOCATION
SVP-1
S2C
?
SVP-2
SVP-4
SVP-6
B-8
B-9
Floor Drain
SVP-5
SVP-3
MW-1 (B-7)
O'REILLY AUTO PARTS
(FORMER GRAND AUTO #43)
4240 INTERNATIONAL BLVD.
STORE ROOM
SEWER LINE
MW-3A
MW-3 (B-11)
(DESTROYED)
05/25/00
MW-4
(B-12)
FORMER
DRY CLEANERS
H I G H S T R E E T
APPROXIMATE
LOCATION OF
FORMER
UNDERGROUND
TANKS
(3 x 10,000 GAL.)
GP-1
GP-2
FORMER WASTE OIL
TANK LOCATION
B-1
HC-1
06/18/01
(DESTROYED)
PGA-1
PGA-3
PGA-2
PGA-4
FORMER FUEL
PUMP ISLANDS
H-1
H-2
EXISTING
DRY CLEANERS
ALL MUFFLERS
DISCOUNTED REPAIR SHOP
4256 INTERNATIONAL BLVD
PREVIOUS
ASSUMED
FORMER UST
LOCATIONS
B-5
B-4
B-2
(FORMER
SUPER TIRE
STORE)
FORMER
FUEL TANK
LOCATION
INTERNATIONAL BOULEVARD
(FORMER E. 14TH STREET)
LEGEND
MW-2 Existing Well Location
MW-3 Former Well Location (destroyed 2000)
PGA-1 Trench Sample Location (HC, 1993)
B-1 Boring Location (HC, 1992)
GP-1 Geoprobe Boring Location (AllWest, 2012)
SVP-1 Soil Vapor Probe Location (AllWest, 2012)
0 20 40 80
Scale in Feet
N
AllWest
PROJECT NO.
11134.23
SITE PLAN WITH BORING AND WELL LOCATIONS
FIGURE 2: O'REILLY AUTO PARTS
4240 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA
SOURCE: ALLWEST
PREPARED BY: C. RAMELB (02/21/12)


MISSION AUTOMOTIVE
MW-2
(12.58)
12.58
12.57
12.56
FORMER SUMP
LOCATION
MW-1
(12.56)
O'REILLY AUTO PARTS
(FORMER GRAND AUTO #43)
4240 INTERNATIONAL BLVD.
MW-3A
(12.58)
MW-4
(12.57)
APPROXIMATE
GROUNDWATER
FLOW DIRECTION
Gradient 0.001 ft.
FORMER
DDRY CLEANERS
H I G H S T R E E T
EXISTING
DDRY CLEANERS
FORMER
UNDERGROUND
TANKS
(3 x 10,000 GAL.)
FORMER FUEL
PUMP ISLAND
ALL MUFFLERS
DISCOUNTED
REPAIR SHOP
(FORMER
SUPER TIRE
STORE)
FORMER
TANK
LOCATION
INTERNATIONAL BOULEVARD
LEGEND
MW-2 - Existing Well Location
(12.58) - Groundwater elevation
above mean sea level (ft)
N
0 20 40 80
Scale in Feet
AllWest
PROJECT NO.
11134.23
GROUNDWATER ELEVATION MAP, DECEMBER 20, 2011
FIGURE 3: O'REILLY AUTO PARTS
4240 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA
SOURCE: ALLWEST
PREPARED BY: D. ZAMORA (REV. 02/21/12)


MISSION AUTOMOTIVE
APPROXIMATE GROUNDWATER FLOW DIRECTION
MW-2 (B-10)
SVP-1
PCE 270
TCE ND<11
B 13
T 81
EB 28
X 200
F12 34
SVP-2
PCE 460
TCE 25
B ND<6.5
T 78
EB 63
X 370
F12 51
SVP-3
PCE 8,100
TCE 210
B ND<6.5
T 17
EB 22
X 170
F12 370
SVP-4
PCE 550
TCE ND<11
B 15
T 42
EB 18
X 110
F12 170
SVP-5
PCE 4,600
TCE 51
B 8.0
T 31
EB 17
X 120
F12 110
SVP-6
PCE 670
TCE 26
B 16
T 27
EB 14
X 110
F12 ND<10
Rollup Door
FORMER SUMP LOCATION
PRESUMED SEWER LATERAL
?
STORE ROOM
Floor Drain
MW-1 (B-7)
MW-3A
MW-4
Rollup Door
O'REILLY AUTO PARTS
(FORMER GRAND AUTO #43)
4240 INTERNATIONAL BLVD.
SEWER LINE
HIGH STREET
FORMER DRY CLEANERS
EXISTING DRY CLEANERS
APPROXIMATE LOCATION OF FORMER UNDERGROUND TANKS
FORMER FUEL PUMP ISLANDS
PREVIOUS ASSUMED FORMER UST LOCATIONS
FORMER WASTE OIL TANK LOCATION
ALL MUFFLERS
DISCOUNTED REPAIR SHOP
4256 INTERNATIONAL BLVD
(FORMER SUPER TIRE STORE)
FORMER FUEL TANK LOCATION
INTERNATIONAL BOULEVARD
(FORMER E. 14TH STREET)
LEGEND
MW-2 Existing Well Location
SVP-1 Soil Vapor Sample Location
0 20 40 80
Scale in Feet
Concentrations in micrograms per cubic meter (µg/m³)
PCE = tetrachloroethene
TCE = trichloroethene
B = benzene
T = toluene
EB = ethyl benzene
X = xylenes (total)
F12 = Freon 12 (dichloro-difluoromethane)
N
AllWest
PROJECT NO. 11134.23
SOIL VAPOR SAMPLE ANALYTICAL SUMMARY, 01/04/12
FIGURE 4: FORMER GRAND AUTO #43
4240 EAST 14TH STREET (INTERNATIONAL BOULEVARD)
OAKLAND, CALIFORNIA
SOURCE: ALLWEST
PREPARED BY: C. RAMELB (02/21/12)



LEGEND

MW-2 Existing Well Location, sampled 12/20/11

GP-1 Geoprobe Soil Boring Location, 1/5/12

Concentrations in micrograms per cubic liter (µg/L)

PCE = tetrachloroethene
TCE = trichloroethene
c-1,2-DCE = cis-1,2-dichloroethene
Freon12 = dichloro-difluoromethane
TPH = total petroleum hydrocarbons
ND = below listed detection limit
g = gasoline d = diesel mo = motor oil
*TPH-g chromatogram doesn't match gasoline standard; probably PCE

AllWest

PROJECT NO. 11134.23

GROUNDWATER ANALYTICAL SUMMARY, 12/20/11 & 1/5/12

FIGURE 5: FORMER GRAND AUTO #43

4240 EAST 14TH STREET (INTERNATIONAL BOULEVARD)

OAKLAND, CALIFORNIA

SOURCE: ALLWEST

PREPARED BY: C. RAMELB (02/21/12)

TABLES

TABLE 1

SUMMARY OF SOIL VAPOR SAMPLE ANALYTICAL DATA
O'REILLY AUTO SUPPLY
(FORMER GRAND AUTO SUPPLY #43)
OAKLAND, CALIFORNIA
AllWest Project No. 11134.23

Sample Number	Date	Sample Depth feet bgs	Acetone µg/m^3	Benzene µg/m^3	1,3-Butadiene µg/m^3	Chloroform µg/m^3	Dichloro-difluoromethane (Freon 12) µg/m^3	Ethanol µg/m^3	Ethyl-benzene µg/m^3	Ethyl Acetate µg/m^3	4-Ethyltoluene µg/m^3	Isopropyl Alcohol (IPA) µg/m^3	4-Methyl-2-pentanone (MIBK) µg/m^3	Naphthalene µg/m^3	Propene µg/m^3	Tetrachloro-ethene (PCE) µg/m^3	Toluene µg/m^3	Trichloro-ethene (TCE) µg/m^3	1,2,4-Trimethyl-benzene µg/m^3	1,3,5-Trimethyl-benzene µg/m^3	Xylenes (Total) µg/m^3	Other VOCs µg/m^3
SVP-1	1/4/2012	5	ND (<120)	**13**	ND (<4.5)	ND (<9.9)	**34**	**1,600**	**28**	**46**	**18**	**91**	ND (<8.3)	ND (<11)	ND (<88)	**270**	**81**	ND (<11)	**66**	**23**	**200**	ND (varies)
SVP-2	1/4/2012	5	ND (<120)	ND (<6.5)	ND (<4.5)	ND (<9.9)	**51**	**200**	**63**	**21**	**23**	ND (<50)	**14**	ND (<11)	ND (<88)	**460**	**78**	**25**	**39**	**14**	**370**	ND (varies)
SVP-3	1/4/2012	5	ND (<120)	ND (<6.5)	ND (<4.5)	**97**	**370**	**170**	**22**	**15**	**22**	ND (<50)	**15**	ND (<11)	ND (<88)	**8,100**	**17**	**210**	**55**	**23**	**170**	ND (varies)
SVP-4	1/4/2012	5	**140**	**15**	**28**	**28**	**170**	**1,500**	**18**	**76**	**30**	**80**	**30**	ND (<11)	**770**	**550**	**42**	ND (<11)	**49**	**18**	**110**	ND (varies)
SVP-5	1/4/2012	5	**320**	**8.0**	**ND (<4.5)**	ND (<9.9)	**110**	**1,900**	**17**	**250**	**32**	**88**	**47**	**11**	**470**	**4,600**	**31**	**51**	**55**	**19**	**120**	ND (varies)
SVP-6	1/4/2012	5	ND (<120)	**16**	**76**	ND (<9.9)	ND (<10)	**340**	**14**	**40**	**17**	ND (<50)	**20**	ND (<11)	ND (<88)	**670**	**27**	**26**	**65**	**22**	**110**	ND (varies)
ESL	Residential		660,000	84	NL	460	NL	NL	980	NL	NL	NL	NL	72	NL	410	63,000	1,200	NL	NL	21,000	Varies
ESL	Commercial		1,800,000	280	NL	1,500	NL	NL	3,300	NL	NL	NL	NL	240	NL	1,400	180,000	4,100	NL	NL	58,000	Varies
CHHSL	Residential		NL	36	NL	NL	NL	NL	420	NL	NL	NL	NL	32	NL	180	140,000	530	NL	NL	320,000	Varies
CHHSL	Commercial		NL	120	NL	NL	NL	NL	1,400	NL	NL	NL	NL	110	NL	600	380,000	1,800	NL	NL	890,000	Varies

Notes:

VOCs	Volatile Organic Compounds by EPA Method TO-15, McCampbell Analytical, Inc., Pittsburg, CA
MIBK	4-Methyl-2-pentanone
µg/m^3	Micrograms per cubic meter = 0.001 micrograms per liter
ND	Not detected at or below laboratory reporting limit (reporting limit in parenthesis)
NA	Not Analyzed
NL	Not Listed
ESL	Environmental Screening Level (Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater, California Regional Water Quality Control Board, San Francisco Bay, INTERIM FINAL - November 2007 (revised May 2008). Table E, Shallow Soil Gas Screening Levels, For Evaluation Of Potential Vapor Intrusion Concerns, Residential Exposure, Commercial/Industrial Land Use).
CHHSL	California Environmental Protection Agency (CalEPA), Office of Environmental Health Hazard Assessment (OEHHA) Use of California Human Health Screening Levels (CHHSLS) in Evaluation of Contaminated Properties, Table 3, Soil-Gas Screening Numbers for Volatile Chemicals Below Buildings Constructed Without Engineered Fill Below Sub-Slab Gravel, January 2005, updated tables September 23, 2010.

TABLE 2
Summary of Soil Sample Analytical Data
O'Reilly Auto Supply (Former Grand Auto Supply #43)
4240 East 14th Street
Oakland, California
AllWest Project No. 11134.23

Sample ID Number	Depth (feet bgs)	Date	TPH-g (mg/kg)	TPH-d C10-C-23 (mg/kg)	TPH-mo C18-C36 (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylenes (mg/kg)	MTBE (mg/kg)	Naph-thalene (mg/kg)	PCE (mg/kg)	Other VOCs (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)
GP-1-9.0-9.5 (qualifiers)	9.0-9.5	01/05/12	ND (<0.25)	**1.2** (e2)	ND (<5.0)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (varies)	ND (<1.5)	**120**	**6.5**	**160**	**99**
GP-1-19.5-20.0 (qualifiers)	19.5-20.0	01/05/12	ND (<0.25)	**2.1** (e2)	ND (<5.0)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (varies)	ND (<1.5)	**47**	ND (<5.0)	**85**	**100**
GP-2-10.0-10.5 (qualifiers)	10.0-10.5	01/05/12	ND (<0.25)	**15** (e7, e2)	**72** (e7, e2)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	**0.0056**	**0.0067**	ND (varies)	ND (<1.5)	**63**	**5.5**	**48**	**75**
GP-2-17.0-17.5 (qualifiers)	17.0-17.5	01/05/12	ND (<0.25)	**2.0** (e2)	ND (<5.0)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (varies)	ND (<1.5)	**38**	ND (<5.0)	**50**	**57**
RWQCB Commercial/Industrial ESLs, ≤9.9 feet bgs, drinking water resource			**83**	**83**	**2,500**	**0.0044**	**2.9**	**3.3**	**2.3**	**0.0023**	**2.8**	**0.7**	**varies**	**7.4**	**750 (Cr III) 8.0 (Cr VI)**	**750**	**150**	**600**
RWQCB Commercial/Industrial ESLs, >9.9 feet bgs, drinking water resource			**83**	**83**	**5,000**	**0.0044**	**2.9**	**3.3**	**2.3**	**0.0023**	**3.4**	**0.7**	**varies**	**39.0**	**5,000 (Cr III) 0.53 (Cr VI)**	**750**	**260**	**5,000**

Notes:

All samples analyzed at McCampbell Analytical, Inc., Pittsburg, California
All results are reported in milligrams per kilogram (mg/kg) [equivalent to parts per million (ppm)], except where noted.
feet bgs = feet below ground surface
TPH-g - Total petroleum hydrocarbons as gasoline (analytical method SW8260B)
TPH-d - Total petroleum hydrocarbons as diesel, C10-C23 range (analytical method SW8015B with silica gel cleanup)
TPH-mo - Total petroleum hydrocarbons as motor oil, C18-C36 range (analytical method SW8015B with silica gel cleanup)
MTBE - Methyl tert-butyl ether (analytical method SW8260B)
PCE - Tetrachloroethene (analytical method SW8260B)
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) (analytical method SW8260B)
MEK - methyl ethyl ketone (analytical method SW8260B)
VOCs - Volatile organic compounds (analytical method SW8260B)
LUFT 5 Metals - (analytical method SW6010B)
ND (<0.01) - Not detected at or above listed reporting limit
NA - Not analyzed
NE - Not Established
Laboratory Qualifiers:
e2 - diesel range compounds are significant, no recognizable pattern
e7 - oil range compounds are significant
San Francisco Bay Regional Water Quality Control Board (RWQCB) Environmental Screening Levels (ESLs), shallow soils (≤3 m bgs) and deep soils (> 3 m bgs) for commercial/industrial land use where groundwater is a potential drinking water resource from Tables A, A-2, C and C-2, *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater* . RWQCB, Interim Final November 2007, revised May 2008.

TABLE 3
Summary of Groundwater Sample Analytical Data
O'Reilly Auto Supply
(Former Grand Auto Supply #43)
4240 East 14th Street, Oakland, California
AllWest Project Number 11134.23

Location	Date	PCE (µg/L)	TCE (µg/L)	cis-1,2 DCE (µg/L)	FREON 12 (µg/L)	Chloroform (µg/L)	1,1,1-TCA (µg/L)	1,2-DCA (µg/L)	Vinyl Chloride (µg/L)	Carbon Tetrachloride (µg/L)	TPH-g (µg/L)	TPH-d (µg/L)	TPH-mo (µg/L)	Other VOCs (µg/L)	LUFT 5 Metals (µg/L)
MW-1	12/20/2011	**64**	**9.2**	**5.1**	**53**	ND (<1.7)	ND (<1.7)	ND (<1.7)	ND (<1.7)	ND (<1.7)	**110** [6]	NA	NA	ND (varies)	NA
MW-1	6/2/2008	**68**	**10**	**4.6**	**36**	ND (<2.5)	ND (<2.5)	ND (<2.5)	ND (<2.5)	ND (<2.5)	NA	NA	NA	ND (varies)	NA
MW-1	9/27/2006	**110**	**15**	**8.7**	**21**	**0.83**	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	NA	ND (varies)	NA
MW-1	7/23/2004	**140**	**19**	**5.9**	**69**	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	NA	NA	NA	ND (varies)	NA
MW-1	5/15/2003	**120**	**15**	**5.8**	**50**	ND (<2.5)	ND (<2.5)	ND (<2.5)	ND (<2.5)	ND (<2.5)	NA	NA	NA	ND (varies)	NA
MW-1	5/21/2002	**140**	**15**	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	NA	NA	NA	ND (varies)	NA
MW-1	6/19/2001	**130**	**17**	**5.3**	**35**	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	NA	NA	NA	ND (varies)	NA
MW-1	11/4/1999	**120**	**17**	**6.6**	**62**	ND (<3.0)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<50)	NA	NA	ND (varies)	NA
MW-1	5/10/1996	**270**	**24**	**4.3**	NA	**2.6**	ND (<1.3)	ND (<1.3)	ND (<1.3)	ND (<1.3)	NA	NA	NA	ND (varies)	NA
MW-1	9/15/1995	**200**	**25**	**6.8**	NA	**1.4**	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	NA	ND (varies)	NA
MW-1	1/31/1995	**54**	**13**	**9.7**	NA	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<2.0)	ND (<1.0)	NA	NA	NA	ND (varies)	NA
MW-1 (D)	1/31/1995	**54**	**13**	**9.3**	NA	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<2.0)	ND (<1.0)	NA	NA	NA	ND (varies)	NA
MW-1	9/20/1994	**270**	**37**	**19**	NA	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	NA	NA	NA	ND (varies)	NA
MW-1 (D)	9/20/1994	**270**	**36**	**18**	NA	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	NA	NA	NA	ND (varies)	NA
MW-1	6/7/1994	**200**	**28**	**25**	NA	**1.6**	(ND <0.5)	(ND <0.5)	(ND <0.5)	(ND <0.5)	**83** [5]	NA	NA	ND (varies)	ND (varies)
MW-1 (D)	6/7/1994	**340**	**35**	**22**	NA	**1.5**	(ND <0.5)	(ND <0.5)	(ND <0.5)	(ND <0.5)	NA	NA	NA	ND (varies)	NA
MW-1	2/18/1994	**200**	**25**	**12**	NA	**1**	(ND <0.5)	(ND <0.5)	(ND <0.5)	(ND <0.5)	**110** [5]	NA	NA	ND (varies)	ND (varies)
MW-1	11/17/1993	**230**	**28**	**15**	NA	**1.8**	(ND <0.5)	(ND <0.5)	ND (<1.0)	(ND <0.5)	**99** [5]	NA	NA	ND (varies)	ND (varies)
MW-1	8/4/1993	**290**	**23**	**10**	NA	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<10)	ND (<5.0)	**150** [5]	NA	NA	Toluene **0.4**, others ND (varies)	ND (varies)
MW-1	4/26/1993	**300**	**22**	**8.7**	**37**	**1.0**	ND (<0.5)	ND (<0.5)	ND (<1.0)	ND (<0.5)	**57** [5]	NA	NA	ND (varies)	ND (varies)
MW-1 (D)	4/26/1993	**300**	**22**	**8.7**	**110**	**1.1**	0.6	ND (<0.5)	ND (<1.0)	ND (<0.5)	**74** [5]	NA	NA	ND (varies)	ND (varies)
MW-1	1/19/1993	**220**	**28**	**14**	NA	ND (<3.0)	ND (<3.0)	ND (<1.0)	--	ND (<1.0)	**160** [5]	NA	NA	ND (varies)	ND (varies)
MW-1	9/10/1992	**310**	**26**	**11**	NA	**1.1**	ND (<0.5)	ND (<0.6)	--	ND (<0.5)	**150** [5]	NA	NA	ND (varies)	ND (varies)
MW-2	12/20/2011	**13**	ND (<2.5)	ND (<2.5)	**130**	ND (<2.5)	ND (<2.5)	ND (<2.5)	ND (<2.5)	ND (<2.5)	ND (<50)	NA	NA	ND (varies)	NA
MW-2	6/2/2008	**6.5**	**1.8**	ND	**47**	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	NA	NA	NA	ND (varies)	NA
MW-2	9/27/2006	**8.3**	**5.9**	**1.7**	**24**	**0.91**	ND (<0.5)	ND (<0.5)	ND (<0.5)	**1.9**	NA	NA	NA	ND (varies)	NA
MW-2	7/23/2004	**3.7**	**11**	**3**	**60**	ND (<0.5)	ND (<0.5)	**0.53**	ND (<0.5)	ND (<0.5)	NA	NA	NA	ND (varies)	NA
MW-2	5/15/2003	**3.9**	**12**	**2.9**	**56**	ND (<0.5)	ND (<0.5)	**0.63**	ND (<0.5)	ND (<0.5)	NA	NA	NA	ND (varies)	NA
MW-2	5/21/2002	**6.3**	**4.7**	**0.84**	**44**	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	**0.61**	NA	NA	NA	ND (varies)	NA
MW-2	6/19/2001	**9.1**	**5.3**	**1**	**38**	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	**0.83**	NA	NA	NA	ND (varies)	NA
MW-2	11/4/1999	**7.6**	**8.1**	**1.9**	**55**	ND (<3.0)	ND (<0.5)	ND (<0.5)	ND (<0.5)	**2.0**	ND (<50)	NA	NA	ND (varies)	NA
MW-2	5/10/1996	**7.2**	**51**	**13**	NA	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	NA	NA	NA	ND (varies)	NA
MW-2	9/15/1995	**6.3**	**52**	**17**	NA	ND (<0.5)	ND (<0.5)	ND (<0.5)	**0.8**	ND (<0.5)	NA	NA	NA	ND (varies)	NA
MW-2 (D)	9/15/1995	**6.5**	**69**	**17**	NA	ND (<0.5)	ND (<0.5)	**0.9**	**0.9**	ND (<0.5)	NA	NA	NA	ND (varies)	NA
MW-2	1/31/1995	**3**	**60**	**17**	NA	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<2.0)	ND (<1.0)	NA	NA	NA	ND (varies)	NA
MW-2	9/20/1994	**6**	**130**	**36**	NA	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	NA	NA	NA	ND (varies)	NA
MW-2	6/7/1994	**6.9**	**120**	**31**	NA	ND (<0.5)	ND (<0.5)	**1.8**	ND (<0.5)	ND (<0.5)	**52** [5]	NA	NA	ND (varies)	Zinc **20**, others ND (varies)

TABLE 3
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O'Reilly Auto Supply
(Former Grand Auto Supply #43)
4240 East 14th Street, Oakland, California
AllWest Project Number 11134.23

Location	Date	PCE (µg/L)	TCE (µg/L)	cis-1,2 DCE (µg/L)	FREON 12 (µg/L)	Chloroform (µg/L)	1,1,1-TCA (µg/L)	1,2-DCA (µg/L)	Vinyl Chloride (µg/L)	Carbon Tetrachloride (µg/L)	TPH-g (µg/L)	TPH-d (µg/L)	TPH-mo (µg/L)	Other VOCs (µg/L)	LUFT 5 Metals (µg/L)
MW-2	2/18/1994	**4.8**	**75**	**25**	NA	ND (<0.5)	ND (<0.5)	**1.5**	ND (<0.5)	ND (<0.5)	**58** [5]	NA	NA	ND (varies)	ND (varies)
MW-2	11/17/1993	**6.1**	**32**	**8.7**	NA	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<1.0)	ND (<0.5)	ND (<50)	NA	NA	ND (varies)	ND (varies)
MW-2	8/4/1993	**7.2**	**110**	**22**	NA	ND (<1.2)	ND (<1.2)	ND (<1.2)	ND (<2.4)	ND (<1.2)	**120** [5]	NA	NA	Toluene **0.3**, others ND (varies)	ND (varies)
MW-2	4/26/1993	**7.5**	**32**	**8.5**	**31**	**0.9**	**0.6**	**0.6**	ND (<1.0)	ND (<0.5)	**70**	NA	NA	Benzene **0.8**, Toluene **1.1**, Xylenes **1.0,** others ND (varies)	ND (varies)
MW-3A	12/20/2011	**58**	**7.8**	**1.3**	**7.5**	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	**95** [6]	NA	NA	ND (varies)	NA
MW-3A	6/2/2008	**71**	**11**	ND (<2.5)	**8.1**	ND (<2.5)	ND (<2.5)	ND (<2.5)	ND (<2.5)	ND (<2.5)	NA	NA	NA	ND (varies)	NA
MW-3A	9/27/2006	**83**	**12**	**4.7**	**3.6**	**0.83**	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	NA	ND (varies)	NA
MW-3A	7/23/2004	**85**	**12**	**2.4**	**8.3**	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	NA	NA	NA	ND (varies)	NA
MW-3A	5/15/2003	**130**	**16**	ND (<2.5)	**21**	ND (<2.5)	ND (<2.5)	ND (<2.5)	ND (<2.5)	ND (<2.5)	NA	NA	NA	ND (varies)	NA
MW-3A	5/2/2002	**120**	**16**	ND (<2.5)	**7.1**	ND (<2.5)	ND (<2.5)	ND (<2.5)	ND (<2.5)	ND (<2.5)	NA	NA	NA	ND (varies)	NA
MW-3A [4]	6/19/2001	**120**	**21**	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	NA	NA	NA	ND (varies)	NA
MW-3	11/4/1999	**150**	**24**	**14**	**14**	ND (<15)	ND (<2.5)	ND (<2.5)	ND (<2.5)	ND (<2.5)	**61**	NA	NA	ND (varies)	NA
MW-3	5/10/1996	**160**	**25**	**7.2**	NA	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	NA	NA	NA	ND (varies)	NA
MW-3	9/15/1995	**170**	**25**	**6.2**	NA	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	NA	ND (varies)	NA
MW-3	1/31/1995	**160**	**34**	**6.2**	NA	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<5.0)	ND (<1.0)	NA	NA	NA	ND (varies)	NA
MW-3	9/20/1994	**240**	**37**	**11**	NA	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	NA	NA	NA	ND (varies)	NA
MW-3	6/7/1994	**160**	**34**	**8.3**	NA	**0.6**	**0.6**	ND (<0.5)	ND (<0.5)	ND (<0.5)	**78** [5]	NA	NA	ND (varies)	ND (varies)
MW-3	2/18/1994	**85**	**19**	**5**	NA	**0.7**	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	**64** [5]	NA	NA	ND (varies)	ND (varies)
MW-3	11/17/1993	**170**	**29**	**12**	NA	**1.3**	**0.8**	ND (<0.5)	ND (<1.0)	ND (<0.5)	ND (<50)	NA	NA	ND (varies)	ND (varies)
MW-3	8/4/1993	**170**	**28**	ND (<5.0)	NA	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<10)	ND (<5.0)	**170** [5]	NA	NA	Benzene **0.3**, Toluene **0.4**, others ND (varies)	ND (varies)
MW-3	4/26/1993	**79**	**21**	**9.7**	**35**	ND (<0.5)	**0.8**	ND (<0.5)	ND (<1.0)	ND (<0.5)	ND (<50)	NA	NA	ND (varies)	Chromium **170**, others ND (varies)
MW-4	12/20/2011	**42**	**4.3**	ND (<1.0)	**48**	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	**65** [6]	NA	NA	ND (varies)	NA
MW-4	6/2/2008	**39**	**4.3**	ND (<1.0)	**29**	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	NA	NA	NA	ND (varies)	NA
MW-4	9/27/2006	**62**	**7.8**	**1.4**	**13**	**1.1**	ND (<0.5)	ND (<0.5)	ND (<0.5)	**1.3**	NA	NA	NA	ND (varies)	NA
MW-4	7/23/2004	**23**	**3.7**	**1**	**26**	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	**0.5**	NA	NA	NA	ND (varies)	NA
MW-4	5/15/2003	**120**	**7.7**	**0.75**	**16**	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	NA	ND (varies)	NA
MW-4	5/21/2002	**70**	**7.7**	ND (<2.5)	**18**	ND (<2.5)	ND (<2.5)	ND (<2.5)	ND (<2.5)	ND (<2.5)	NA	NA	NA	ND (varies)	NA
MW-4	6/19/2001	**47**	**7**	**1.2**	**19**	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	NA	ND (varies)	NA
MW-4	11/4/1999	**61**	**10**	**2.2**	**41**	ND (<3.0)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<50)	NA	NA	ND (varies)	NA
MW-4	5/10/1996	**190**	**22**	**2.5**	NR	ND (<1.3)	ND (<1.3)	ND (<1.3)	ND (<1.3)	ND (<1.3)	NA	NA	NA	ND (varies)	NA

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Location	Date	PCE (µg/L)	TCE (µg/L)	cis-1,2 DCE (µg/L)	FREON 12 (µg/L)	Chloroform (µg/L)	1,1,1-TCA (µg/L)	1,2-DCA (µg/L)	Vinyl Chloride (µg/L)	Carbon Tetrachloride (µg/L)	TPH-g (µg/L)	TPH-d (µg/L)	TPH-mo (µg/L)	Other VOCs (µg/L)	LUFT 5 Metals (µg/L)
MW-4	9/15/1995	**160**	**24**	**4.4**	NR	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	NA	ND (varies)	NA
MW-4	1/31/1995	**140**	**20**	**4.7**	NR	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<5.0)	ND (<1.0)	NA	NA	NA	ND (varies)	NA
MW-4	9/20/1994	**220**	**32**	**5**	NR	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	NA	NA	NA	ND (varies)	NA
MW-4	6/7/1994	**140**	**28**	**7.1**	NR	**0.9**	**0.9**	ND (<0.5)	ND (<0.5)	ND (<0.5)	**62** [5]	NA	NA	ND (varies)	Nickel **20**, others ND (varies)
MW-4	2/18/1994	**120**	**31**	**6**	NR	**1.9**	**0.7**	ND 0.5	ND 0.5	ND	**95** [5]	NA	NA	ND (varies)	ND (varies)
MW-4	11/17/1993	**87**	**20**	**6.6**	NR	**1.0**	ND (<0.5)	ND (<0.5)	ND (<1.0)	ND (<0.5)	ND (<50)	NA	NA	ND (varies)	ND (varies)
MW-4	8/4/1993	**110**	**16**	ND (<5.0)	NR	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<10)	ND (<5.0)	**110** [5]	NA	NA	Toluene **0.4**, others ND (varies)	ND (varies)
MW-4	4/26/1993	**78**	**17**	**3.9**	**28**	**0.6**	ND (<0.5)	ND (<0.5)	ND (<1.0)	ND (<0.5)	ND (<50)	NA	NA	ND (varies)	Chromium **60**, others ND (varies)
HC-1	11/4/1999	**100**	**17**	**8.7**	**43**	ND <3.0)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<50)	NA	NA	ND (varies)	NA
HC-1	5/10/1996	**200**	**27**	**13**	NR	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	NA	NA	NA	ND (varies)	NA
HC-1	9/15/1995	**170**	**27**	**14**	NR	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<50)	NA	NA	ND (varies)	NA
HC-1	1/31/1995	**120**	**27**	**11**	NR	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<50)	NA	NA	ND (varies)	NA
HC-1	9/20/1994	**190**	**37**	**15**	NR	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<50)	NA	NA	ND (varies)	NA
HC-1	6/7/1994	**180**	**42**	**22**	NR	**1.0**	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	**69** [5]	NA	NA	ND (varies)	NA
HC-1	2/18/1994	**140**	**30**	**13**	NR	**0.7**	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	**96** [5]	NA	NA	ND (varies)	NA
HC-1	2/18/1994	**150**	**22**	**11**	NR	**0.6**	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	**90** [5]	NA	NA	ND (varies)	NA
HC-1	11/17/1993	**130**	**27**	**16**	NR	**1.1**	**0.7**	ND (<0.6)	ND (<2.0)	ND (<0.5)	ND (<50)	NA	NA	ND (varies)	NA
HC-1	8/4/1993	**83**	**27**	**15**	NR	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<1.0)	ND (<0.5)	**100** [5]	NA	NA	ND (varies)	NA
HC-1	4/26/1993	**46**	**22**	**13**	**47**	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<1.0)	ND (<0.5)	ND (<50)	NA	NA	ND (varies)	NA
GP-1-GW-35	1/5/2012	ND (<0.5)	ND (<0.5)	**0.73**	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<50) [1]	ND (<50) [1]	ND (<250) [1]	Toluene **0.63**, MTBE **0.96**, other VOCs ND (varies)	Nickel **14**, Zinc **33**, others ND (varies) [1]
GP-2-GW-15, GP-2-GW-20	1/5/2012	**0.64**	ND (<0.5)	**0.72**	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<50) [1]	**200** [2,3]	**1,000** [2,3]	Carbon Disulfide 0.62, other VOCs ND (varies)	Nickel **7.0**, Zinc **34**, others ND (varies)
RWQCB Commercial/Industrial ESLs, current or potential drinking water		**5**	**5**	**6**	NE	**70**	**62**	**0.5**	**0.5**	**0.5**	**100**	**100**	**100**	Benzene 1.0, Toluene 40, Xylenes 20, MTBE 5.0, others NE or varies	Cadmium 0.25, Chromium 50, Lead 2.5, Nickel 8.2, and Zinc 81

TABLE 3
Summary of Groundwater Sample Analytical Data
O'Reilly Auto Supply
(Former Grand Auto Supply #43)
4240 East 14th Street, Oakland, California
AllWest Project Number 11134.23

Location	Date	PCE (µg/L)	TCE (µg/L)	cis-1,2 DCE (µg/L)	FREON 12 (µg/L)	Chloroform (µg/L)	1,1,1-TCA (µg/L)	1,2-DCA (µg/L)	Vinyl Chloride (µg/L)	Carbon Tetrachloride (µg/L)	TPH-g (µg/L)	TPH-d (µg/L)	TPH-mo (µg/L)	Other VOCs (µg/L)	LUFT 5 Metals (µg/L)

Notes: All results are reported in micrograms per liter (µg/L) [equivalent to parts per billion (ppb)], except where noted.

1,1,1-TCA = 1,1,1-Trichloroethane (analytical method SW8260B)
1,2-DCA = 1,2-Dichloroethane (analytical method SW8260B)
cis-1,2 DCE = cis-1,2-Dichloroethene (analytical method SW8260B)
Freon 12 = Dichlorodifluoromethane (analytical method SW8260B)
MTBE = Methyl tertiary butyl ether (analytical method SW8260B)
TCE = Trichloroethene (analytical method SW8260B)
TPH-d = Total petroleum hydrocarbons as diesel (analytical method SW8015B with silica gel cleanup)
TPH-g = Total petroleum hydrocarbons as gasoline (analytical method SW8260B)
TPH-mo = Total petroleum hydrocarbons as motor oil (analytical method SW8015B with silica gel cleanup)
VOCs = Volatile organic compounds (analytical method SW8260B)
LUFT 5 Metals = Cadmium, chromium, lead, nickel and zonce by EPA Method 200.8
(D) = Duplicate sample
NA = Not analyzed
ND (<0.5) = Not detected at or above listed reporting limit
NE = Not established
NR = Not reported

1 - Aqueous sample that contains greater than ~ 1 vol. % sediment.
2 - Oil range compounds are significant
3 - Diesel range compounds are significant; no recognizable pattern
4 - Monitoring Well MW-3 was destroyed in May 2000 and replaced by MW-3A
5 - Gasoline range concentration reported. The chromatogram showed only a single peak in the gasoline range, and did not match typical gasoline pattern. Was interpreted by Hart Crowser to represent analytical overlap from halogenated VOCs detected in samples and not TPH-g (Hart Crowser Quarterly Status Report, November 9, 1994.
6 - Upon laboratory review of chromatogram, TPH range is derived solely from chlorinated hydrocarbons (mostly PCE) detected in samples and not TPH-g range fuel pattern (McCampbell Analytical, Inc., written communication, February 21, 2012).

San Francisco Bay Regional Water Quality Control Board (RWQCB) Environmental Screening Levels (ESLs) for commercial/industrial land use where groundwater is a current or potential drinking water resource from Tables A and F1a, *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater* . RWQCB, Interim Final November 2007, revised May 2008.

Appendix A

TABLE A-1
SUMMARY OF SOIL ANALYSES
GRAND AUTO STORE , OAKLAND, CALIFORNIA

BORING/WELL DATE	B4-21 7/16/92	B5-19 7/16/92	B5-26 7/16/92	S2C-8 8/7/92	MW2-10.5 4/14,15,16/93	MW2-35 4/14,15,16/93	MW3-35.5 4/14,15,16/93	MW4-36 4/14,15,16/93	B8-11 4/14,15,16/93
Oil & Grease	NT	NT	NT	ND<50	NT	NT	NT	NT	NT
TPH-Diesel	ND<10	ND<10	ND<10	120	ND<10	ND<10	ND<10	ND<10	ND<10
TPH-Gasoline	ND<1	ND<1	ND<1	310	ND<1	ND<1	ND<1	ND<1	ND<1
Organic Lead	ND<2	NT	ND<2	ND<2	NT	NT	NT	NT	NT
Benzene	ND<0.003	0.011	ND<0.003	ND<0.075	ND<0.003	ND<0.003	ND<0.003	ND<0.003	ND<0.003
Ethyl Benzene	ND<0.003	ND<0.003	ND<0.003	0.064	ND<0.003	ND<0.003	ND<0.003	ND<0.003	ND<0.003
Toluene	ND<0.003	ND<0.003	ND<0.003	0.065	ND<0.003	ND<0.003	ND<0.003	ND<0.003	ND<0.003
Xylenes	ND<0.003	0.003	ND<0.003	1.5	ND<0.009	ND<0.009	ND<0.009	ND<0.009	ND<0.009
PCE	NT	NT	NT	0.104	ND<0.005	ND<0.005	0.009	0.012	0.005
Other Chlorinated VOCs	NT	NT	NT	ND	ND	ND	ND	ND	ND
Cadmium	NT	NT	NT	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
Chromium	NT	NT	NT	73	28	31	29	35	58
Lead	NT	NT	NT	9	5	ND	ND	ND	9
Nickel	NT	NT	NT	110	61	47	42	59	150
Zinc	NT	NT	NT	30	39	49	47	34	61

Notes:
ND denotes chemical not dected in sample at a concentration of x.
NT denotes analysis not performed on sample.
Concentrations listed are in milligrams per kilogram (mg/kg).

TABLE A-1
SUMMARY OF SOIL ANALYSES
GRAND AUTO STORE , OAKLAND, CALIFORNIA

BORING/WELL DATE	B8-16 4/14,15,16/93	B8-21 4/14,15,16/93	B8-25 4/14,15,16/93	B9-10 4/14,15,16/93	P1-2.5 10/20/93	P2-2.5 10/20/93	P3-2.5 10/20/93	P4-2.5 10/20/93
Oil & Grease	NT	NT	NT	NT	NT	NT	NT	NT
TPH-Diesel	ND<10	ND<10	ND<10	ND<10	NT	NT	NT	NT
TPH-Gasoline	ND<1	ND<1	ND<1	ND<1	ND<1.0	ND<1.0	ND<1.0	ND<1.0
Organic Lead	NT	NT	NT	NT	NT	NT	NT	NT
Benzene	ND<0.003	ND<0.003	ND<0.003	ND<0.003	ND<0.003	ND<0.003	ND<0.003	ND<0.003
Ethyl Benzene	ND<0.003	ND<0.003	ND<0.003	ND<0.003	ND<0.003	ND<0.003	ND<0.003	ND<0.003
Toluene	ND<0.003	ND<0.003	ND<0.003	ND<0.003	ND<0.003	ND<0.003	ND<0.003	ND<0.003
Xylenes	ND<0.009	ND<0.009	ND<0.009	ND<0.009	ND<0.009	ND<0.009	ND<0.009	ND<0.009
PCE	ND<0.005	ND<0.005	0.030	ND<0.005	NT	NT	NT	NT
Other Chlorinated VOCs	ND	ND	ND<0.005	ND<0.005	NT	NT	NT	NT
Cadmium	ND<1	ND<1	ND<1	ND<1	NT	NT	NT	NT
Chromium	29	29	28	27	NT	NT	NT	NT
Lead	ND	ND	6	6	NT	NT	NT	NT
Nickel	53	43	41	72	NT	NT	NT	NT
Zinc	45	37	48	40	NT	NT	NT	NT

Notes:
ND denotes chemical not dected in sample at a concentration of x.
NT denotes analysis not performed on sample.
Concentrations listed are in milligrams per kilogram (mg/kg).

Appendix B

Alameda County Public Works Agency - Water Resources Well Permit

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

Application Approved on: 12/20/2011 By jamesy

Permit Numbers: W2011-0779
Permits Valid from 01/04/2012 to 01/05/2012

Application Id:	1323884356677	**City of Project Site:**	Oakland
Site Location:	4240 International Boulevard Kragen/O'Reilly Auto Parts Store		
Project Start Date:	01/04/2012	**Completion Date:**	01/05/2012
Assigned Inspector:	Contact Steve Miller at (510) 670-5517 or stevem@acpwa.org		
Applicant:	AllWest Environemntal, Inc. - Leonard Niles 530 Howard Street, Suite 300, San Francisco, CA 94105	**Phone:**	415-391-2510 x109
Property Owner:	Sandra & Joseph Hess, c/o Hess Properties, LLC 2709 Park Avenue, La Verne, CA 91750	**Phone:**	415-269-7220
Client:	Vicki ZumBrunnen, c/o PACCAR,Inc. 777 106th Avenue N.E., Bellevue, WA 98004	**Phone:**	425-468-7055
Contact:	Leonard Niles	**Phone:** **Cell:**	415-391-2510 x109 415-686-4412

	Total Due:	$265.00
Receipt Number: WR2011-0378	**Total Amount Paid:**	$265.00
Payer Name : AllWest Environmental	Paid By: CHECK	**PAID IN FULL**

Works Requesting Permits:

Borehole(s) for Geo Probes-Sampling 24 to 72 hours only - 8 Boreholes
Driller: Vironex, Inc. - Lic #: 705927 - Method: DP **Work Total: $265.00**

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2011-0779	12/20/2011	04/03/2012	8	2.00 in.	35.00 ft

Specific Work Permit Conditions

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

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

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

4. Applicant shall contact Steve Miller for an inspection time at (510) 670-5517 or email to stevem@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

5. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

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

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

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

Appendix C

STANDARD GEOPROBE® AND SUB-SLAB PROBE SOIL VAPOR SAMPLING PROCEDURES

Geoprobe® PRT Soil Vapor Probe Advancement Sampling

The Geoprobe® Post Run Tubing (PRT) soil vapor sampling process involves driving into the subsurface a disposable Geoprobe® sampling probe with expendable tip and a PRT adapter that are connected to 4-foot sections of Geoprobe® 1.25-inch inside diameter (ID) extension rods. The PRT adapter has a reverse-thread adapter at the upper end to allow the connection of flexible soil vapor sampling tubing with a PRT tubing adaptor after the installation (post-run) of the tip. The entire sampling assembly, the sampling tip, PRT adapter, and the Geoprobe® extension rods, is driven into the subsurface by a truck-mounted hydraulic percussion hammer. The sampler is driven to the desired depth as additional rods are connected. At the desired sampling depth, a sufficient length of disposable flexible polyethylene or Teflon® sample tubing is first lowered through the center of the extension rod and connected to the PRT adapter. The extension rod is then retracted 3 to 4 inches to create a small void around the PRT adapter and the expendable sampling tip for extracting a soil vapor sample from that location. Bentonite chips will be used to fill the annular space between the probe and the subgrade material to the ground surface. The bentonite will then be hydrated with distilled water. The temporary Geoprobe® PRT soil vapor probe will be sampled at least 30 minutes following driving of the probe, to allow vapor conditions to equalize in subsurface materials and the bentonite surface seal to hydrate.

Sub Slab Soil Vapor Probe Installation

Semi-permanent sub-slab soil vapor probes are emplaced as follows: A 1-inch diameter hole is drilled through the concrete floor slab using a portable electric drill. The boreholes are advanced approximately 0.5 feet bgs into the subgrade material beneath the floor slab. Stainless steel vapor probes 2 inches long by 0.5 inches in diameter, tipped with porous plastic membranes, will be inserted to the bottom of each sub-slab borehole. The probe tips will be attached to lengths of 0.25-inch diameter Teflon® tubing extending to the top of the floor slab. A fine sand filter pack will be placed in the borehole annulus around the probe. Bentonite chips will then used to fill the borehole annular space above the filter pack between the probe and the to the floor slab base. The bentonite will then be hydrated with distilled water. Portland cement will be poured into the borehole annulus in the concrete floor slab to seal the probe. Care will be taken not to over hydrate the bentonite and cement to limit the introduction of excess moisture to the subsurface. Each probe will be constructed with a brass threaded fitting and cap attached to the top of the Teflon® tubing and recessed below the concrete floor. A plastic cap will then be placed flush with the concrete floor to minimize tripping hazards. AllWest will allow a minimum of two days prior to sampling to allow the cement to setup and for subsurface conditions to stabilize.

Soil vapor sampling procedures will be similar for both the semi-permanent and temporary vapor probes, in general accordance with *Interim Final, Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air - DTSC December 15, 2004 (Revised February 7, 2005).* Soil vapor sampling will not be performed if measurable precipitation has occurred within the previous five days.

Soil Vapor Sampling via Syringe and Mobile Laboratory

The surface end of the flexible tubing is first connected to a vacuum tank with a diaphragm pump to purge the ambient air from the tubing. After a minimum of one minute purging time to remove at least 3

sampling system volumes, the flexible tubing is connected to a syringe collect a vapor sample. The syringe is them immediately transported to an on-site mobile laboratory for analysis.

Soil Vapor Sampling via Summa Canister

AllWest will collect soil vapor samples in laboratory prepared 6-liter capacity SUMMA canisters. Prior to vapor purging and sample collection, a vacuum leak test of the flow-controller/gauge manifold assembly we be performed for a minimum of 5 minutes. Prior to sample collection, approximately 1 liter of soil vapor (or a minimum of 3 sampling system volumes) will be purged at a flow rate of approximately 200 milliliters per minute (ml/min) from each sub-slab vapor probe using a dedicated 6-liter capacity SUMMA purge canister.

During vapor sample collection, a vacuum leak test of the flow-controller/gauge manifold assembly will be performed using isopropyl alcohol (IPA), diflouroethane or helium as a leak tracer inside an airtight shroud. IPA concentrations inside the shroud will be monitored using a photo-ionization detector (PID). An ambient air sample will collected using a SUMMA canister inside the leak detection shroud during at least one soil vapor probe sampling to measure IPA, difluoroethane or helium concentrations inside the shroud concurrent with PID readings and soil vapor sample analysis. Flow rates of approximate 200 milliliters per minute (ml/min) will be used to fill the canisters. The canisters will be filled to approximately 80% of capacity. All pertinent field observations, pressure, times and readings will be recorded. Sample containers will be labeled, placed in a dark container and transported under chain-of-custody control to the analytical laboratory.

STANDARD GEOPROBE™ DPT SAMPLING PROCEDURES

Soil Sampling

Direct push technology (DPT) soil core sampling using Geoprobe™ or similar methods is accomplished using a nominal 4-foot long, 2-inch diameter stainless steel steel drive probe and extension rods. The drive probe is equipped with nominal 1-1/2 inch diameter clear plastic poly tubes that line the interior of the probe. The probe and insert tubes are together pneumatically driven using a percussion hammer in 4-foot intervals. After each drive interval the drive probe and rods are retrieved to the surfaced. The poly tube containing subsurface soil is then removed. The drive probe is then cleaned, equipped with a new poly tube and reinserted into the boring with extension rods as required. The apparatus is then driven following the above procedure until the desired depth is obtained. The poly tubes and soil are inspected after each drive interval with lithologic and relevant drilling observations recorded. Soil samples are screened for organic vapors using an organic vapor meter (OVM), photo-ionization detector (PID) or other appropriate device. OVM/PID readings, soil staining and other relevant observations are recorded. Selected soil sample intervals can be cut from the 4-foot intervals for possible analytical or geotechnical testing or other purposes.

The soils contained in the sample liners are then classified according to the Uniform Soil Classification System and recorded on the soil boring logs.

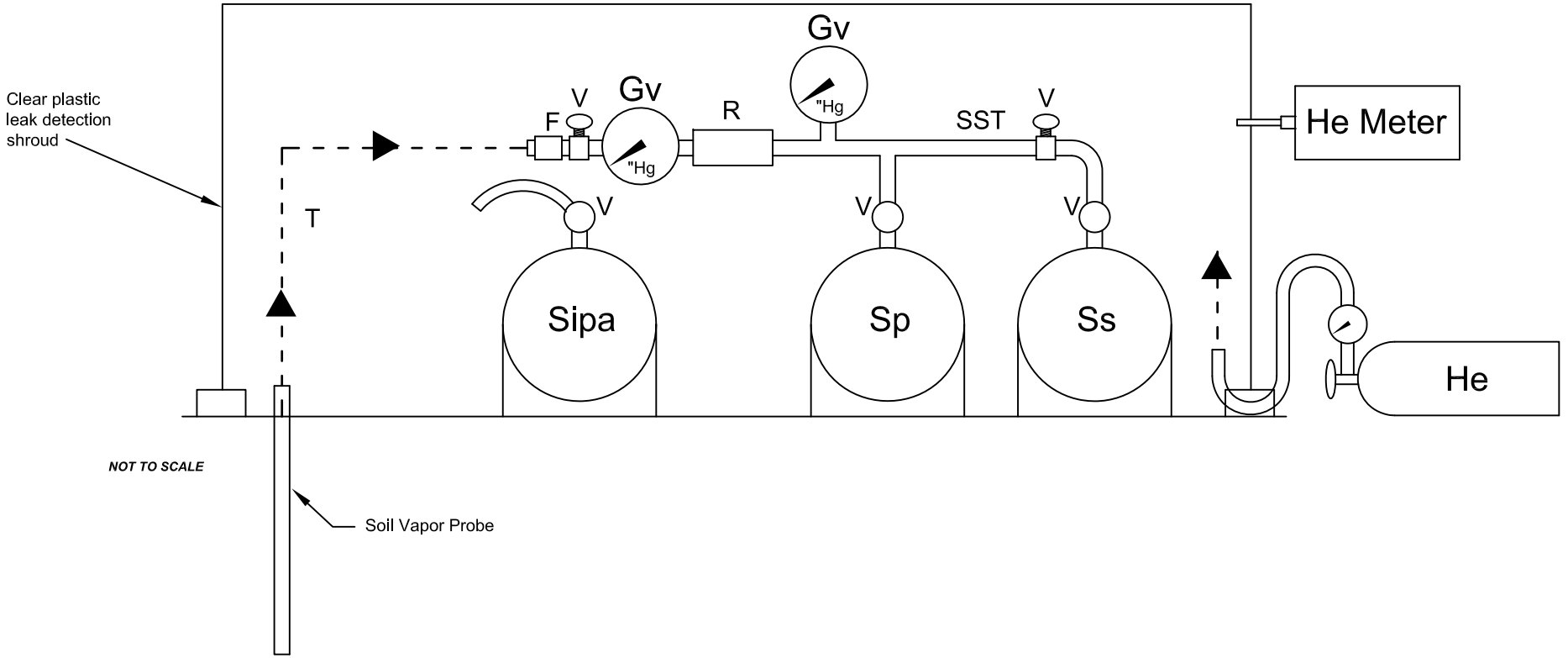
Sample liners selected for laboratory analyses are sealed with Teflon sheets, plastic end caps, and silicon tape. The sealed sample liner is then labeled, sealed in a plastic bag, and placed in an ice chest cooled to 4°C with crushed ice for temporary field storage and transportation. The standard chain-of-custody protocol is maintained for all soil samples from the time of collection to arrival at the laboratory.

Groundwater Sampling

Groundwater sampling is performed after the completion of soil sampling and when the boring has reached its desired depth. The steel probe and rods are then removed from the boring and new, nominal 1-inch diameter PVC solid and perforated temporary casing is lowered into the borehole. Alternatively, a retractable screen sampling device such as a Hydropunch™ can be driven to the desired depth and pulled back to expose the screened interval. Depth to water is then measured using an electronic groundwater probe. Groundwater samples are collected using a stainless steel bailer, disposable Teflon™ bailer, or check valve or peristaltic pump with disposable Teflon™ or polyethylene sample tubing.

After the retrieval of the bailer, groundwater contained in the bailer (or discharged from sample tubing) is decanted into laboratory provided containers. The containers are then sealed with Teflon coated caps with no headspace, labeled, and placed in an ice chest for field storage and transportation to a state certified analytical laboratory. The standard chain-of-custody protocols are followed from sample collection to delivery to the laboratory. A new bailer (or sample tubing) is used for each groundwater sampling location to avoid cross contamination.

General Soil Gas Sampling Manifold Schematic with Leak Detection Shroud



LEGEND

F	=	Filter
V	=	Valve
Gp	=	Pressure Gauge
R	=	Flow Regulator
Gv	=	Vacuum Gauge
Sp	=	Purge Summa Canister
Ss	=	Sample Summa Canister
Sipa	=	Ambient Air Helium Leak Detect Gas Summa Canister
He Meter	=	Helium detector for He concentration readings
T	=	Disposable Teflon or Polyethylene Tubing
SST	=	Stainless Steel Tubing and Fittings
He	=	Helium tank, leak detect gas, regulator and tubing

AllWest

STANDARD OPERATING PROCEDURE
SOIL VAPOR SAMPLING
HELIUM SHROUD
SOURCE: ALLWEST
PREPARED BY: C. RAMELB

Appendix D

AllWest Environmental, Inc.
Specialists in Physical Due Diligence and Remedial Services
530 Howard Street, Suite 300
San Francisco, CA 94105
Tel 415.391.2510
Fax 415.391.2008

AllWest

SOIL GAS VAPOR FIELD LOG

Project No: 1113423 **Project Name:** PACCAR-Oakland Sub

Date: 1/4/2012 **Vapor Probe No:** SVP-1 1L Summa **Serial No:** 6309
6L Purge Summa L4768

Regulatory Agencies: ACEH/ACPWA

Contractor: Vironex/AllWest

Hole Diameter: 1" **Total Depth:** 5' **Grout/Bentonite:** 6" #2/16 sand-bottom to top, hydrated

Probe Diameter: 1/4" ID, 1/2" OD x 2" L plastic **Line Length:** 7' #MAN316T-775 **Purge Volume:** 500 ml

Tracer Gas: helium **Flow Regulator:** 150 (ml/min) **Leak Test:** Pass/Fail

Laboratory Name and Number: McCampbell Analytical, TO-15 - VOCs

SAMPLE COLLECTION

Start Time	Time Elapsed	Pressure	Remarks
14:34	0	-20.2/29"	Start leak check, Summa #L4768
14:38	4 min	↓ / ↓	stop leak check - passed
14:39	0	-20.2"	start purge, -2.5" = 0.5 L, Summa L4768
14:42	3 min	-17.6"	stop purge
14:48	0	-28.0"/29.3"	start sample, summa #6309
14:50	2 min	-20"	He = 20.6% in shroud
14:51	3 min	-13"	He = 20.5%
14:52	4 min	-10"	He = 20.5%
14:54	6 min	-3.0" *	He = 20.3% (gauge #988 reads -5.3")

Remarks: Initial vacuum Summa #6309 = -30" Hg (gauge #988)
Initial helium concentration in shroud x 20%, dropped to 3% when lifted to start, injected He to bring to ≈ 20%
* Manifold gauges MAN316T-775 inaccurate
Final Summa #6309 vacuum = -5.3"
PID = 0.1 - 1.72 ppm post-sample from tubing
Measured Sample flow rate = 137 ml/min, average He ≈ 20.48%

Sampler: Leonard Niles

AllWest Environmental, Inc.
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San Francisco, CA 94105
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AllWest

SOIL GAS VAPOR FIELD LOG

Project No: 1134.23 **Project Name:** PACCAR

Date: 1/4/2012 **Vapor Probe No:** SVP-2 1L Summa **Serial No:** 6305

Regulatory Agencies: ACEH/ACPWA 6L Purge Summa #L4678 L4768

Contractor: Vironex/AllWest

Hole Diameter: 1" **Total Depth:** 5' **Grout/Bentonite:** 6" #2/16 sand-bottom → to top, hydrated

Probe Diameter: 1/4"/0/1/2" OD **Line Length:** 6.5' **Purge Volume:** 500ml

Tracer Gas: helium **Flow Regulator:** 150 (ml/min) **Leak Test:** Pass/Fail

Laboratory Name and Number: McCampbell Analytical, TO-15 - VOCs

SAMPLE COLLECTION

Start Time	Time Elapsed	Pressure	Remarks
15:27	0	-18.9"/19.1"	Start leak check, Summa #L4768
15:31	4 min	-18.9/19.1"	Stop leak check - passed
15:32	0	-18.9"	Start purge
15:35	3 min	-16.4	Stop purge -2.5" = 0.5L 16.4
15:40	0	-29.0"/28.1"	Start sample, He ≈ 8%, Summa #6305
15:42	2 min	-18"	He = 23.7%
15:42	2 min	-15"	He = 24.0%
15:43	3 min	-9"	He = 24.0%
15:44	4 min	-4.1"	He = 24.0% (gauge #988 reads -5.9")

Remarks: Initial Summa #6305 vacuum = -29.9" (gauge #MAN316M-988)
Initial shroud He concentration ≈ 20%, dropped to ≈ 8% when removed to start sample, injected more He ≈ 24%
Final Summa #6305 vacuum reads -5.9" (gauge #988)
PID reading from tubing = 0.7 - 1.3 ppm post sample (ambient air = 0.3 - 1 ppm paint fumes indoors)
Measured sample flow rate ≈ 201 ml/min, average He ≈ 20.74%

Sampler: Leonard Niles

AllWest Environmental, Inc.
Specialists in Physical Due Diligence and Remedial Services
530 Howard Street, Suite 300
San Francisco, CA 94105
Tel 415.391.2510
Fax 415.391.2008

AllWest

SOIL GAS VAPOR FIELD LOG

Project No: 1134.23 **Project Name:** PACCAR – Oakland Sub

Date: 1/4/2012 **Vapor Probe No:** SVP-3 1L Summa **Serial No:** 6166
6L Purge Summa #L4768

Regulatory Agencies: ACEH/ACPWA

Contractor: Vironex/AllWest

Hole Diameter: 1" **Total Depth:** 5' **Grout/Bentonite:** 6" #2/16 sand-bottom ~~?~~ to top, hydrated

Probe Diameter: plastic 1/4" ID, 1/2" OD x 2" L **Line Length:** 7' **Purge Volume:** 500 ml

Tracer Gas: helium **Flow Regulator:** 150 (ml/min) **Leak Test:** Pass/Fail

Laboratory Name and Number: McCampbell Analytical, TO-15, VOCs

SAMPLE COLLECTION

Start Time	Time Elapsed	Pressure	Remarks
16:18	0	-15.1"/14.9"	start leak check
16:21	3 min	↓ / ↓	stop leak check – passed
16:22	0	-15.1"	start purge – Summa #6166
16:25	3 min	-12.4"	stop purge, -2.5" = 0.5L -12.6"
16:28	0	-28.4"	start sample, He ≈ 15%
16:29	1 min	-24"	He = 18.9%
16:30	2 min	-18"	He = 20.1%
16:32	4 min	-10"	He = 20.0%
16:33	5 min	~~-13.8~~ -13.8"	He = 20.0% (-6.0" per gauge #988)

Remarks: Initial Summa #6166 vacuum = -30" Hg (gauge #MAN316M-988). Initial helium concentration ≈ 20+%, dropped when lifted to start sample, injected more He to ≈ 20%
Final Summa #6166 vacuum = -6.0" using gauge # 988.
PID reading from tubing post-sample = 2.4-2.6 ppm (20.3 ppm ambient)
Measured sample flow rate ≈ 175 ml/min, Average He ≈ 18.82%

4VBG149

Sampler: Leonard Niles

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Specialists in Physical Due Diligence and Remedial Services
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San Francisco, CA 94105
Tel 415.391.2510
Fax 415.391.2008

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SOIL GAS VAPOR FIELD LOG

Project No: 11134.23 **Project Name:** PACCAR - Oakland Sub

Date: 1/4/2012 **Vapor Probe No:** SVP-4 1L Summa **Serial No:** 6408
6L Purge Summa #L4768

Regulatory Agencies: ACEH / ACPWA

Contractor: Vironex / Allwest

Hole Diameter: 2" **Total Depth:** 5' **Grout/Bentonite:** 6" #2/16 sand - bottom → hydrated, to top

Probe Diameter: Plastic 1/4" ID, 1/2" OD x 2" L **Line Length:** 6.5' #MAN316T-778 **Purge Volume:** 500ml

Tracer Gas: helium **Flow Regulator:** 150 (ml/min) **Leak Test:** Pass/Fail

Laboratory Name and Number: McCampbell Analytical, TO-15, VOCs

SAMPLE COLLECTION

Start Time	Time Elapsed	Pressure	Remarks
11:50	0	-28.2"	Start leak check, Summa #L4768
11:54	4 min	-28.2"	stop leak check - passed
11:55	0	-28.2"	start purge, summa #L4768
11:58	3 min	-25.7"	stop purge, -2.5" = 0.5 L
12:03	0	-30"	start sample, summa #6408, He = 14.1%
12:05	2 min	-20"	He = 29.1%
12:06	3 min	-15"	He = 19.1%
12:08	5 min	-4.8"	He = 20.4% (-4.7" using gauge MAN-988

Remarks: Initial Summa #6408 vacuum = -30", gauge #MAN316M-988
Both vac gauges on manifold MAN316T-778 read ≈ same
Initial helium concentration in should ≈ 20% dropped to 14% when titled to start sample - injected more to raise to 20%
Final vacuum in Summa #6408 = -4.7" using gauge MAN316M-988
PID reading in sampling tube = 1.0 ppm post-sample, stabilized @ 0.6 ppm
Measured sample flow rate ≈ 169 ml/min, average He ≈ 18.43

Sampler: Leonard Niles

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SOIL GAS VAPOR FIELD LOG

Project No: 11134.23 **Project Name:** PACCAR-Oakland Sub

Date: 1/4/2012, **Vapor Probe No:** ~~SVP-5~~ SVP-5 **1L Summa Serial No:** 6203
6L Purge Summa #L4768

Regulatory Agencies: ACEH/ACPWA

Contractor: Vironex / AllWest

Hole Diameter: 2" **Total Depth:** 5' **Grout/Bentonite:** 6" #2/16 sand-bottom → hydrated, to top

Probe Diameter: plastic 1/4"ID, 1/2"OD x 2"L **Line Length:** 7' **Purge Volume:** 500ml

Tracer Gas: helium **Flow Regulator:** #MAN316T-777 150 (ml/min) **Leak Test:** Pass/Fail

Laboratory Name and Number: McCampbell Analytical, TO-15 - VOCs

SAMPLE COLLECTION

Start Time	Time Elapsed	Pressure	Remarks
10:44	0	-28.0"/29.3"	start manifold leak check, Summa #L4768
10:53	9 min	-28.0"/29.3"	stop leak check - passed
10:53	0	-28.0"/-29.3"	start purge
10:56	3 min	-25.4/-26.6"	stop purge, -2.5" = 0.5L
11:06	0	-28.9"/27.6"	start sample, He conc in shroud = 9.6%
11:07	1 min	-19.0"	He = 20.6% in shroud
11:09	3 min	-10"	He = 20.7%
11:10	4 min	-4.6"	He ≈ 20.6% (separate gauge reads -6.4")

Remarks: used vac gauge #MAN316M-988 for initial vacuums: #6203 = -30" Hg, #L4768 = ≤ -30" Hg. Manifold #MAN316T-777 gauges not accurate, ~~[illegible]~~ ≈ 1.3" off each other. Initial helium concentration in shroud ≈ 20%, Dropped to < 10% when shroud removed to start sample, injected more He when shroud replaced to bring to ≈ 20%.
Final Summa #~~[illegible]~~6203 vacuum = -6.4" measured by gauge #MAN316M-988
PID reading from sample tubing = 2.6 ppm post-sample, stabilized @ 2.0 ppm
Measured sample flow rate ≅ 197 ml/min, average He ≅ 17.9%

Sampler: Leonard Niles

AllWest Environmental, Inc.
Specialists in Physical Due Diligence and Remedial Services
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San Francisco, CA 94105
Tel 415.391.2510
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AllWest

SOIL GAS VAPOR FIELD LOG

Project No: 11134.23 **Project Name:** PACCAR-Oakland Sub

Date: 1/4/2012 **Vapor Probe No:** SVP-6 **Serial No:** 1L Summa 643, 6L Purge Summa #L4768

Regulatory Agencies: ACEH/ACPWA

Contractor: Vironex/AllWest

Hole Diameter: 2" **Total Depth:** 5' **Grout/Bentonite:** 6" #2/16 sand - bottom to top, hydrated

Probe Diameter: plastic 1/4"ID, 1/2"OD x 2"L **Line Length:** 6.5' **Purge Volume:** 500 ml

Tracer Gas: helium **Flow Regulator:** ~~#MAN316T-779~~ #MAN316T-778 (ml/min) **Leak Test:** Pass/1st Fail

Laboratory Name and Number: McCampbell Analytical, TO-15 - VOCs

SAMPLE COLLECTION

Start Time	Time Elapsed	Pressure	Remarks
12:52	0	26.0"/27.0"	start leak check, Summa #L4768 - Fail - Vacuum drop
13:10	0	-25.7"	~~Stop~~ leak check restart, manifold #MAN316T-778
13:14	4 min	-25.4"	stop leak check, very slight drop - passed
13:15	0	-25.4"	Start purge, Summa #L4768
13:18	3 min	-22.9"	stop purge, 2.5" = 0.5L
13:22	0	-30"	start sample, He = 16.2%
13:24	2 min	~~-18"~~	He = 21.2%
13:25	3 min	~~-15"~~	20.9%
13:26	4 min	-10"	20.1%
13:27	5 min	-4.3"	21.3

Remarks: Initial Summa #6413 vacuum = -30" (gauge #MAN316M-988)
1st manifold #MAN316T-779 failed leak test, re-used #MAN316T-778 after decon by blasting with helium.
Final vacuum Summa #6413 = -4.2" (gauge #988)
PID reading = 0.4 - 0.6 ppm post-sample, from tubing.
Measured sample flow rate ≅ 172 ml/min, average He ≅ 19.72%

Sampler: Leonard Niles

Appendix E

AllWest Environmental
530 Howard Street, #300
San Francisco, California 94105
Telephone: 415-391-2510
Fax: 415-391-2008

BORING NUMBER GP-1

CLIENT PACCAR, Inc
PROJECT NAME PACCAR - Oakland Sub
PROJECT NUMBER 11134.23
PROJECT LOCATION O'Reilly Auto 4240 International Blvd., Oakland, CA
DATE STARTED 1/5/12 **COMPLETED** 1/5/12
GROUND ELEVATION ___ **HOLE SIZE** 2
DRILLING CONTRACTOR Vironex
GROUND WATER LEVELS:
DRILLING METHOD Geoprobe
AT TIME OF DRILLING 35.00 ft
LOGGED BY Leonard Niles **CHECKED BY** Leonard Niles
AT END OF DRILLING 20.60 ft
NOTES Grouted with neat cement
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Environmental Data	WELL DIAGRAM
0					0.3 Asphalt pavement		
	AU	100	GC		(GC) Clayey gravel, baserock fill		
					2.0	PID = 0	
			CL		(CL) Sandy clay, dark grayish brown, damp, moderate plasticity, soft, fine sand, fill		
					4.0	PID = 0	
5	UD GP-1-5.0 - 5.5	100	GC		(GC) Clayey gravel, yellowish brown, fine to coarse sand, fine gravel, damp, fill, low to very low plasticity, sub angular clasts, disturbed structure - Fill?	PID = 0	
	UD	100			Clayey gravel as above, except color change to dark greenish gray and yellowish brown		
					grades to clayey sand		
10	UD GP-1-9.0 - 9.5	100 0				PID = 0	
	NR					PID = 0	
	UD	100	SC		11.5 (SC) Clayey sand, dark olive gray, fine to coarse sand, minor fine gravel, low plasticity, damp to moist - fill?		
					14.0	PID = 0	
15	NR	0	CL		(CL) Grading to sandy clay, olive brown, fine to coarse sand, low to moderate plasticity, moist		Temporary 3/4" ID PVC casing
					16.0	PID = 0	
	UD	100	GC		(GC) Clayey gravel, olive brown to olive gray, fine to coarse sand, fine gravel, very low plasticity, very moist.		
					Gravel grading coarser at 19 to 20 feet		
20	UD GP-1-19.5 - 20.0	100			Static water level (rose from 35')	PID = 0	
	UD	100			23.0		
					(CL) Silty clay, yellowish brown mottled with olive gray, low to moderate plasticity, damp, <5% sand, native soil (?)		
25	NR	0				PID = 0	
					Silty clay as above, except dark yellowish brown, moderate plasticity, damp, hard, native soil, difficult core recover at 25-35 feet due to hard clay jamming liner into core barrel		
	UD	100	CL		Softer at 32.5 feet, increasing silt and very fine sand, moist		
30						PID = 0	
					32.0		
	UD	100	CL		(CL) Sandy clay, olive brown, very fine sand and silt, low to moderate plasticity, moist		Temporary 3/4" ID PVC screen, Groundwater sample GP-1-GW-35
					34.0		
35	UD	100	SC		35.0 (SC) Clayey sand, light olive brown, very fine to fine sand, very low	PID = 0	

(Continued Next Page)

AllWest Environmental
530 Howard Street, #300
San Francisco, California 94105
Telephone: 415-391-2510
Fax: 415-391-2008

BORING NUMBER GP-1

CLIENT PACCAR, Inc **PROJECT NAME** PACCAR - Oakland Sub

PROJECT NUMBER 11134.23 **PROJECT LOCATION** O'Reilly Auto 4240 International Blvd., Oakland, CA

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Environmental Data	WELL DIAGRAM
	GP-1-34.5 - 35.0				plasticity, moist (not wet) 1st encountered water (?) Bottom of borehole at 35.0 feet.		

AllWest Environmental
530 Howard Street, #300
San Francisco, California 94105
Telephone: 415-391-2510
Fax: 415-391-2008

BORING NUMBER GP-2

CLIENT PACCAR, Inc
PROJECT NAME PACCAR - Oakland Sub
PROJECT NUMBER 11134.23
PROJECT LOCATION O'Reilly Auto 4240 International Blvd., Oakland, CA
DATE STARTED 1/5/12 **COMPLETED** 1/5/12
GROUND ELEVATION **HOLE SIZE** 2
DRILLING CONTRACTOR Vironex
GROUND WATER LEVELS:
DRILLING METHOD Geoprobe
AT TIME OF DRILLING 10.40 ft
LOGGED BY Leonard Niles **CHECKED BY** Leonard Niles
AT END OF DRILLING ---
NOTES Grouted with neat cement
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Environmental Data	WELL DIAGRAM
0					0.3 Asphalt pavement		
	AU	100	SP		(SP) Gravelly sand, olive gray, fine sand with 10-20% fine to coarse sub rounded to sub angular gravel, damp, fill		
5	UD GP-2-5.0 - 5.5	100				PID = 0	
	UD	100			6.5	PID = 0	
	NR	0			No recovery from 6.5 feet to 10 feet		Temporary 3/4" ID PVC casing
10					Uncertain contact at approximately 10 feet 10.0		
	UD GP-2-10.0 - 10.5	100	GC		(GC) Clayey gravel, olive brown/olive gray, fine to coarse sand, fine to coarse gravel, low plasticity to very low, wet (fill?)	PID = 0	
	UD	100			12.0		
			CL		13.0 (CL) Sandy clay, yellowish brown mottled with olive gray, fine to very fine sand, ow to moderate plasticity, moist (native soil)		
	NR	0			No recovery from 13 feet - 15 feet, sand sloughed from above	PID = 0	
15					15.0		
			CL		15.5 (CL) Sandy clay as above		
	UD	100	GC		16.0 (GC) Clayey gravel, yellowish brown, fine to coarse sand, fine to coarse gravel, moist		
	UD GP-2-17.0 - 17.5	100	SC		17.5 (SC) Clayey sand, olive brown, fine sand, very low plasticity, moist, grading to sandy clay at 17.5 feet	PID = 0	Temporary 3/4" ID PVC screen, Groundwater sample GP-2-GW-15 and GP-2-GW-20
	NR	0			No recover from 17.5 feet to 20 feet		
20					20.0		

Bottom of borehole at 20.0 feet.

Appendix F

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

All West Environmental, Inc	Client Project ID: #11134.23; PACCAR Sub	Date Sampled: 01/04/12
		Date Received: 01/05/12
530 Howard Street, Ste. 300	Client Contact: Leonard Niles	Date Reported: 01/12/12
San Francisco, CA 94105	Client P.O.:	Date Completed: 01/12/12

WorkOrder: 1201090

January 12, 2012

Dear Leonard:

Enclosed within are:

1) The results of the **6** analyzed samples from your project: **#11134.23; PACCAR Sub,**
2) QC data for the above samples, and
3) A copy of the chain of custody.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

The analytical results relate only to the items tested.

1201090

McCAMPBELL ANALYTICAL INC.
1534 WILLOW PASS ROAD / PITTSBURG, CA 94565-1701
Website: www.mccampbell.com / Email: main@mccampbell.com
Telephone: (877) 252-9262 / Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAY

EDF Required? Coelt (Normal) No Write On (DW) No

Lab Use Only

Pressurized By	Date	Pressurization Gas N2	Pressurization Gas He

Helium Shroud SN#:

Other:

Notes: Re-used manifold MAN316T-778 after decon, since # ~~AAANT-77~~ MAN316T-~~7~~79 failed leak check

Report To: Leonard Niles Bill To: Darlene Torio

Company: AllWest Environmental, Inc.

530 Howard Street, Suite 300
San Francisco, CA 94105 E-Mail: Leonard@allwest1.com Darlene@allwest1.com

Tele: (415) 391-2510 Fax: (415) 391-2510

Project #: 11134.23 Project Name: PACCAR Sub

Project Location: O'Reilly's Auto 4240 International Blvd, Oakland, CA

Sampler Signature: Leonard Niles

Field Sample ID (Location)	Collection Date	Collection Time	Canister SN#	Manifold / Sampler Kit SN#	Analysis Requested	Indoor Air	Soil Gas	Canister Pressure/Vacuum Initial "Hg	Canister Pressure/Vacuum Final "Hg	Canister Pressure/Vacuum Receipt	Canister Pressure/Vacuum Final (psi)
LM ~~SVP-4~~ SVP-5	1/4/12	11:10	6203	MAN316T-777	TO-15, VOCs		X	-30"	-6.4"		
LM ~~SVP-5~~ SVP-4	"	12:08	6408	MAN316T-778	TO-15, VOCs		X	-30"	-4.7"		
SVP-6	"	13:27	6413	MAN316T-778	TO-15, VOCs		X	-30"	-4.2"		
SVP-1	"	14:54	6309	MAN316T-775	TO-15, VOCs		X	-30"	-5.3"		
SVP-2	"	15:44	6305	MAN316T-997	TO-15, VOCs		X	-29.9"	-5.9"		
SVP-3	"	16:33	6166	MAN316T-774	TO-15, VOCs		X	-30"	-6.0"		

Relinquished By:	Date:	Time:	Received By:
Leonard Niles	1/12	4:10	
Relinquished By:	Date:	Time:	Received By:
	1/5/12	600	Myle Vall
Relinquished By:	Date:	Time:	Received By:

Temp (°C): n/a Work Order #: 1201090

Equipment Condition: good

Shipped Via: F.P. (Mail carrier)

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1201090 **ClientCode: AWE**

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Leonard Niles
All West Environmental, Inc
530 Howard Street, Ste. 300
San Francisco, CA 94105
(415) 391-2510 FAX: (415) 391-2008

Email: Leonard@allwest1.com
cc:
PO:
ProjectNo: #11134.23; PACCAR Sub

Bill to:
Darlene Torio
All West Environmental, Inc
530 Howard Street, Ste.300
San Francisco, CA 94105
darlene@allwest1.com

Requested TAT: 5 days

Date Received: **01/05/2012**
Date Printed: **01/05/2012**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1201090-001	SVP-5	Soil Gas	1/4/2012 11:10	☐	A											
1201090-002	SVP-4	Soil Gas	1/4/2012 12:08	☐	A											
1201090-003	SVP-6	Soil Gas	1/4/2012 13:27	☐	A											
1201090-004	SVP-1	Soil Gas	1/4/2012 14:54	☐	A											
1201090-005	SVP-2	Soil Gas	1/4/2012 15:44	☐	A											
1201090-006	SVP-3	Soil Gas	1/4/2012 16:33	☐	A											

Test Legend:

1	TO15_SOIL(UG/M3)	2		3		4		5	
6		7		8		9		10	
11		12							

The following SampIDs: 001A, 002A, 003A, 004A, 005A, 006A contain testgroup.

Prepared by: Melissa Valles

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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Sample Receipt Checklist

Client Name: **All West Environmental, Inc**
Date and Time Received: **1/5/2012 4:40:27 PM**

Project Name: **#11134.23; PACCAR Sub**
Checklist completed and reviewed by: Melissa Valles

WorkOrder N°: **1201090** Matrix: Soil Gas
Carrier: Rob Pringle (MAI Courier)

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp:		NA ☑
Water - VOA vials have zero headspace / no bubbles?	Yes ☐	No ☐	No VOA vials submitted ☑
Sample labels checked for correct preservation?	Yes ☑	No ☐	
Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☐	No ☑	

** NOTE: If the "No" box is checked, see comments below.*

Comments:

McCampbell Analytical, Inc.
"When Quality Counts"

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

All West Environmental, Inc	Client Project ID: #11134.23; PACCAR Sub	Date Sampled: 01/04/12
		Date Received: 01/05/12
530 Howard Street, Ste. 300	Client Contact: Leonard Niles	Date Extracted: 01/07/12-01/10/12
San Francisco, CA 94105	Client P.O.:	Date Analyzed: 01/07/12-01/10/12

Leak Check Compound*

Extraction method: TO15 Analytical methods: TO15 Work Order: 1201090

Lab ID	Client ID	Matrix	Initial Pressure	Final Pressure	Isopropyl Alcohol	DF	% SS	Comments
001A	SVP-5	Soil Gas	11.84	23.59	88	1	N/A	
002A	SVP-4	Soil Gas	12.77	25.45	80	1	N/A	
003A	SVP-6	Soil Gas	12.66	25.24	ND	1	N/A	
004A	SVP-1	Soil Gas	12.75	25.43	91	1	N/A	
005A	SVP-2	Soil Gas	12.53	24.97	ND	1	N/A	
006A	SVP-3	Soil Gas	12.52	24.96	ND	1	N/A	

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	psia	psia	NA	NA
	SoilGas	psia	psia	50	µg/m³

* leak check compound is reported in µg/m³.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

The IPA reference is:

DTSC, Advisory-Active Soil Gas Investigations, March 3rd, 2010, page 24, section 2.4:

"The laboratory reports should quantify and annotate all detections of the leak check compound at the reporting limit of the target analytes."

%SS = Percent Recovery of Surrogate Standard
DF = Dilution Factor

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

All West Environmental, Inc	Client Project ID: #11134.23; PACCAR Sub	Date Sampled: 01/04/12
		Date Received: 01/05/12
530 Howard Street, Ste. 300	Client Contact: Leonard Niles	Date Extracted: 01/07/12
San Francisco, CA 94105	Client P.O.:	Date Analyzed: 01/07/12

Volatile Organic Compounds in µg/m³*

Extraction Method: TO15 Analytical Method: TO15 Work Order: 1201090

Lab ID	1201090-001A	Initial Pressure (psia)	11.84
Client ID	SVP-5	Final Pressure (psia)	23.59
Matrix	Soil Gas		

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	320	1.0	120	Acrylonitrile	ND	1.0	4.4
tert-Amyl methyl ether (TAME)	ND	1.0	8.5	Benzene	8.0	1.0	6.5
Benzyl chloride	ND	1.0	11	Bromodichloromethane	ND	1.0	14
Bromoform	ND	1.0	21	Bromomethane	ND	1.0	7.9
1,3-Butadiene	ND	1.0	4.5	2-Butanone (MEK)	ND	1.0	150
t-Butyl alcohol (TBA)	ND	1.0	62	Carbon Disulfide	ND	1.0	6.3
Carbon Tetrachloride	ND	1.0	13	Chlorobenzene	ND	1.0	9.4
Chloroethane	ND	1.0	5.4	Chloroform	ND	1.0	9.9
Chloromethane	ND	1.0	4.2	Cyclohexane	ND	1.0	180
Dibromochloromethane	ND	1.0	17	1,2-Dibromo-3-chloropropane	ND	1.0	20
1,2-Dibromoethane (EDB)	ND	1.0	16	1,2-Dichlorobenzene	ND	1.0	12
1,3-Dichlorobenzene	ND	1.0	12	1,4-Dichlorobenzene	ND	1.0	12
Dichlorodifluoromethane	110	1.0	10	1,1-Dichloroethane	ND	1.0	8.2
1,2-Dichloroethane (1,2-DCA)	ND	1.0	8.2	1,1-Dichloroethene	ND	1.0	8.1
cis-1,2-Dichloroethene	ND	1.0	8.1	trans-1,2-Dichloroethene	ND	1.0	8.1
1,2-Dichloropropane	ND	1.0	9.4	cis-1,3-Dichloropropene	ND	1.0	9.2
trans-1,3-Dichloropropene	ND	1.0	9.2	1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	1.0	14
Diisopropyl ether (DIPE)	ND	1.0	8.5	1,4-Dioxane	ND	1.0	7.3
Ethanol	1900	10	96	Ethyl acetate	250	1.0	7.3
Ethyl tert-butyl ether (ETBE)	ND	1.0	8.5	Ethylbenzene	17	1.0	8.8
4-Ethyltoluene	32	1.0	10	Freon 113	ND	1.0	16
Heptane	ND	1.0	210	Hexachlorobutadiene	ND	1.0	22
Hexane	ND	1.0	180	2-Hexanone	ND	1.0	210
4-Methyl-2-pentanone (MIBK)	47	1.0	8.3	Methyl-t-butyl ether (MTBE)	ND	1.0	7.3
Methylene chloride	ND	1.0	7.1	Naphthalene	11	1.0	11
Propene	470	1.0	88	Styrene	ND	1.0	8.6
1,1,1,2-Tetrachloroethane	ND	1.0	14	1,1,2,2-Tetrachloroethane	ND	1.0	14
Tetrachloroethene	4600	10	14	Tetrahydrofuran	ND	1.0	6.0
Toluene	31	1.0	7.7	1,2,4-Trichlorobenzene	ND	1.0	15
1,1,1-Trichloroethane	ND	1.0	11	1,1,2-Trichloroethane	ND	1.0	11
Trichloroethene	51	1.0	11	Trichlorofluoromethane	ND	1.0	11
1,2,4-Trimethylbenzene	55	1.0	10	1,3,5-Trimethylbenzene	19	1.0	10
Vinyl Acetate	ND	1.0	180	Vinyl Chloride	ND	1.0	5.2
Xylenes, Total	120	1.0	27				

Surrogate Recoveries (%)

%SS1:	98	%SS2:	97
%SS3:	96		

Comments:

*vapor samples are reported in µg/m³.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

%SS = Percent Recovery of Surrogate Standard
DF = Dilution Factor

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http://www.mccampbell.com / E-mail: main@mccampbell.com

All West Environmental, Inc	Client Project ID: #11134.23; PACCAR Sub	Date Sampled: 01/04/12
		Date Received: 01/05/12
530 Howard Street, Ste. 300	Client Contact: Leonard Niles	Date Extracted: 01/09/12
San Francisco, CA 94105	Client P.O.:	Date Analyzed: 01/09/12

Volatile Organic Compounds in µg/m³*

Extraction Method: TO15 Analytical Method: TO15 Work Order: 1201090

Lab ID	1201090-002A	Initial Pressure (psia)	12.77
Client ID	SVP-4	Final Pressure (psia)	25.45
Matrix	Soil Gas		

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	140	1.0	120	Acrylonitrile	ND	1.0	4.4
tert-Amyl methyl ether (TAME)	ND	1.0	8.5	Benzene	15	1.0	6.5
Benzyl chloride	ND	1.0	11	Bromodichloromethane	ND	1.0	14
Bromoform	ND	1.0	21	Bromomethane	ND	1.0	7.9
1,3-Butadiene	28	1.0	4.5	2-Butanone (MEK)	ND	1.0	150
t-Butyl alcohol (TBA)	ND	1.0	62	Carbon Disulfide	ND	1.0	6.3
Carbon Tetrachloride	ND	1.0	13	Chlorobenzene	ND	1.0	9.4
Chloroethane	ND	1.0	5.4	Chloroform	28	1.0	9.9
Chloromethane	ND	1.0	4.2	Cyclohexane	ND	1.0	180
Dibromochloromethane	ND	1.0	17	1,2-Dibromo-3-chloropropane	ND	1.0	20
1,2-Dibromoethane (EDB)	ND	1.0	16	1,2-Dichlorobenzene	ND	1.0	12
1,3-Dichlorobenzene	ND	1.0	12	1,4-Dichlorobenzene	ND	1.0	12
Dichlorodifluoromethane	170	1.0	10	1,1-Dichloroethane	ND	1.0	8.2
1,2-Dichloroethane (1,2-DCA)	ND	1.0	8.2	1,1-Dichloroethene	ND	1.0	8.1
cis-1,2-Dichloroethene	ND	1.0	8.1	trans-1,2-Dichloroethene	ND	1.0	8.1
1,2-Dichloropropane	ND	1.0	9.4	cis-1,3-Dichloropropene	ND	1.0	9.2
trans-1,3-Dichloropropene	ND	1.0	9.2	1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	1.0	14
Diisopropyl ether (DIPE)	ND	1.0	8.5	1,4-Dioxane	ND	1.0	7.3
Ethanol	1500	10	96	Ethyl acetate	76	1.0	7.3
Ethyl tert-butyl ether (ETBE)	ND	1.0	8.5	Ethylbenzene	18	1.0	8.8
4-Ethyltoluene	30	1.0	10	Freon 113	ND	1.0	16
Heptane	ND	1.0	210	Hexachlorobutadiene	ND	1.0	22
Hexane	ND	1.0	180	2-Hexanone	ND	1.0	210
4-Methyl-2-pentanone (MIBK)	30	1.0	8.3	Methyl-t-butyl ether (MTBE)	ND	1.0	7.3
Methylene chloride	ND	1.0	7.1	Naphthalene	ND	1.0	11
Propene	770	10	88	Styrene	ND	1.0	8.6
1,1,1,2-Tetrachloroethane	ND	1.0	14	1,1,2,2-Tetrachloroethane	ND	1.0	14
Tetrachloroethene	550	1.0	14	Tetrahydrofuran	ND	1.0	6.0
Toluene	42	1.0	7.7	1,2,4-Trichlorobenzene	ND	1.0	15
1,1,1-Trichloroethane	ND	1.0	11	1,1,2-Trichloroethane	ND	1.0	11
Trichloroethene	ND	1.0	11	Trichlorofluoromethane	ND	1.0	11
1,2,4-Trimethylbenzene	49	1.0	10	1,3,5-Trimethylbenzene	18	1.0	10
Vinyl Acetate	ND	1.0	180	Vinyl Chloride	ND	1.0	5.2
Xylenes, Total	110	1.0	27				

Surrogate Recoveries (%)

%SS1:	99	%SS2:	100
%SS3:	91		

Comments:

*vapor samples are reported in µg/m³.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

%SS = Percent Recovery of Surrogate Standard
DF = Dilution Factor

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All West Environmental, Inc	Client Project ID: #11134.23; PACCAR Sub	Date Sampled: 01/04/12
		Date Received: 01/05/12
530 Howard Street, Ste. 300	Client Contact: Leonard Niles	Date Extracted: 01/10/12
San Francisco, CA 94105	Client P.O.:	Date Analyzed: 01/10/12

Volatile Organic Compounds in µg/m³*

Extraction Method: TO15 Analytical Method: TO15 Work Order: 1201090

Lab ID	1201090-003A	Initial Pressure (psia)	12.66
Client ID	SVP-6	Final Pressure (psia)	25.24
Matrix	Soil Gas		

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	120	Acrylonitrile	ND	1.0	4.4
tert-Amyl methyl ether (TAME)	ND	1.0	8.5	Benzene	16	1.0	6.5
Benzyl chloride	ND	1.0	11	Bromodichloromethane	ND	1.0	14
Bromoform	ND	1.0	21	Bromomethane	ND	1.0	7.9
1,3-Butadiene	76	1.0	4.5	2-Butanone (MEK)	ND	1.0	150
t-Butyl alcohol (TBA)	ND	1.0	62	Carbon Disulfide	ND	1.0	6.3
Carbon Tetrachloride	ND	1.0	13	Chlorobenzene	ND	1.0	9.4
Chloroethane	ND	1.0	5.4	Chloroform	ND	1.0	9.9
Chloromethane	ND	1.0	4.2	Cyclohexane	ND	1.0	180
Dibromochloromethane	ND	1.0	17	1,2-Dibromo-3-chloropropane	ND	1.0	20
1,2-Dibromoethane (EDB)	ND	1.0	16	1,2-Dichlorobenzene	ND	1.0	12
1,3-Dichlorobenzene	ND	1.0	12	1,4-Dichlorobenzene	ND	1.0	12
Dichlorodifluoromethane	ND	1.0	10	1,1-Dichloroethane	ND	1.0	8.2
1,2-Dichloroethane (1,2-DCA)	ND	1.0	8.2	1,1-Dichloroethene	ND	1.0	8.1
cis-1,2-Dichloroethene	ND	1.0	8.1	trans-1,2-Dichloroethene	ND	1.0	8.1
1,2-Dichloropropane	ND	1.0	9.4	cis-1,3-Dichloropropene	ND	1.0	9.2
trans-1,3-Dichloropropene	ND	1.0	9.2	1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	1.0	14
Diisopropyl ether (DIPE)	ND	1.0	8.5	1,4-Dioxane	ND	1.0	7.3
Ethanol	340	1.0	96	Ethyl acetate	40	1.0	7.3
Ethyl tert-butyl ether (ETBE)	ND	1.0	8.5	Ethylbenzene	14	1.0	8.8
4-Ethyltoluene	17	1.0	10	Freon 113	ND	1.0	16
Heptane	ND	1.0	210	Hexachlorobutadiene	ND	1.0	22
Hexane	ND	1.0	180	2-Hexanone	ND	1.0	210
4-Methyl-2-pentanone (MIBK)	20	1.0	8.3	Methyl-t-butyl ether (MTBE)	ND	1.0	7.3
Methylene chloride	ND	1.0	7.1	Naphthalene	ND	1.0	11
Propene	ND	1.0	88	Styrene	ND	1.0	8.6
1,1,1,2-Tetrachloroethane	ND	1.0	14	1,1,2,2-Tetrachloroethane	ND	1.0	14
Tetrachloroethene	670	1.0	14	Tetrahydrofuran	ND	1.0	6.0
Toluene	27	1.0	7.7	1,2,4-Trichlorobenzene	ND	1.0	15
1,1,1-Trichloroethane	ND	1.0	11	1,1,2-Trichloroethane	ND	1.0	11
Trichloroethene	26	1.0	11	Trichlorofluoromethane	ND	1.0	11
1,2,4-Trimethylbenzene	65	1.0	10	1,3,5-Trimethylbenzene	22	1.0	10
Vinyl Acetate	ND	1.0	180	Vinyl Chloride	ND	1.0	5.2
Xylenes, Total	110	1.0	27				

Surrogate Recoveries (%)

%SS1:	103	%SS2:	100
%SS3:	103		

Comments:

*vapor samples are reported in µg/m³.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

%SS = Percent Recovery of Surrogate Standard
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All West Environmental, Inc	Client Project ID: #11134.23; PACCAR Sub	Date Sampled: 01/04/12
		Date Received: 01/05/12
530 Howard Street, Ste. 300	Client Contact: Leonard Niles	Date Extracted: 01/09/12-01/10/12
San Francisco, CA 94105	Client P.O.:	Date Analyzed: 01/09/12-01/10/12

Volatile Organic Compounds in µg/m³*

Extraction Method: TO15 Analytical Method: TO15 Work Order: 1201090

Lab ID	1201090-004A	Initial Pressure (psia)	12.75
Client ID	SVP-1	Final Pressure (psia)	25.43
Matrix	Soil Gas		

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	120	Acrylonitrile	ND	1.0	4.4
tert-Amyl methyl ether (TAME)	ND	1.0	8.5	Benzene	13	1.0	6.5
Benzyl chloride	ND	1.0	11	Bromodichloromethane	ND	1.0	14
Bromoform	ND	1.0	21	Bromomethane	ND	1.0	7.9
1,3-Butadiene	ND	1.0	4.5	2-Butanone (MEK)	ND	1.0	150
t-Butyl alcohol (TBA)	ND	1.0	62	Carbon Disulfide	ND	1.0	6.3
Carbon Tetrachloride	ND	1.0	13	Chlorobenzene	ND	1.0	9.4
Chloroethane	ND	1.0	5.4	Chloroform	ND	1.0	9.9
Chloromethane	ND	1.0	4.2	Cyclohexane	ND	1.0	180
Dibromochloromethane	ND	1.0	17	1,2-Dibromo-3-chloropropane	ND	1.0	20
1,2-Dibromoethane (EDB)	ND	1.0	16	1,2-Dichlorobenzene	ND	1.0	12
1,3-Dichlorobenzene	ND	1.0	12	1,4-Dichlorobenzene	ND	1.0	12
Dichlorodifluoromethane	34	1.0	10	1,1-Dichloroethane	ND	1.0	8.2
1,2-Dichloroethane (1,2-DCA)	ND	1.0	8.2	1,1-Dichloroethene	ND	1.0	8.1
cis-1,2-Dichloroethene	ND	1.0	8.1	trans-1,2-Dichloroethene	ND	1.0	8.1
1,2-Dichloropropane	ND	1.0	9.4	cis-1,3-Dichloropropene	ND	1.0	9.2
trans-1,3-Dichloropropene	ND	1.0	9.2	1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	1.0	14
Diisopropyl ether (DIPE)	ND	1.0	8.5	1,4-Dioxane	ND	1.0	7.3
Ethanol	1600	10	96	Ethyl acetate	46	1.0	7.3
Ethyl tert-butyl ether (ETBE)	ND	1.0	8.5	Ethylbenzene	28	1.0	8.8
4-Ethyltoluene	18	1.0	10	Freon 113	ND	1.0	16
Heptane	ND	1.0	210	Hexachlorobutadiene	ND	1.0	22
Hexane	ND	1.0	180	2-Hexanone	ND	1.0	210
4-Methyl-2-pentanone (MIBK)	ND	1.0	8.3	Methyl-t-butyl ether (MTBE)	ND	1.0	7.3
Methylene chloride	ND	1.0	7.1	Naphthalene	ND	1.0	11
Propene	ND	1.0	88	Styrene	ND	1.0	8.6
1,1,1,2-Tetrachloroethane	ND	1.0	14	1,1,2,2-Tetrachloroethane	ND	1.0	14
Tetrachloroethene	270	1.0	14	Tetrahydrofuran	ND	1.0	6.0
Toluene	81	1.0	7.7	1,2,4-Trichlorobenzene	ND	1.0	15
1,1,1-Trichloroethane	ND	1.0	11	1,1,2-Trichloroethane	ND	1.0	11
Trichloroethene	ND	1.0	11	Trichlorofluoromethane	ND	1.0	11
1,2,4-Trimethylbenzene	66	1.0	10	1,3,5-Trimethylbenzene	23	1.0	10
Vinyl Acetate	ND	1.0	180	Vinyl Chloride	ND	1.0	5.2
Xylenes, Total	200	1.0	27				

Surrogate Recoveries (%)

%SS1:	101	%SS2:	99
%SS3:	101		

Comments:

*vapor samples are reported in µg/m³.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

%SS = Percent Recovery of Surrogate Standard
DF = Dilution Factor

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All West Environmental, Inc	Client Project ID: #11134.23; PACCAR Sub	Date Sampled: 01/04/12
		Date Received: 01/05/12
530 Howard Street, Ste. 300	Client Contact: Leonard Niles	Date Extracted: 01/10/12
San Francisco, CA 94105	Client P.O.:	Date Analyzed: 01/10/12

Volatile Organic Compounds in µg/m³*

Extraction Method: TO15 Analytical Method: TO15 Work Order: 1201090

Lab ID	1201090-005A	Initial Pressure (psia)	12.53
Client ID	SVP-2	Final Pressure (psia)	24.97
Matrix	Soil Gas		

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	120	Acrylonitrile	ND	1.0	4.4
tert-Amyl methyl ether (TAME)	ND	1.0	8.5	Benzene	ND	1.0	6.5
Benzyl chloride	ND	1.0	11	Bromodichloromethane	ND	1.0	14
Bromoform	ND	1.0	21	Bromomethane	ND	1.0	7.9
1,3-Butadiene	ND	1.0	4.5	2-Butanone (MEK)	ND	1.0	150
t-Butyl alcohol (TBA)	ND	1.0	62	Carbon Disulfide	ND	1.0	6.3
Carbon Tetrachloride	ND	1.0	13	Chlorobenzene	ND	1.0	9.4
Chloroethane	ND	1.0	5.4	Chloroform	ND	1.0	9.9
Chloromethane	ND	1.0	4.2	Cyclohexane	ND	1.0	180
Dibromochloromethane	ND	1.0	17	1,2-Dibromo-3-chloropropane	ND	1.0	20
1,2-Dibromoethane (EDB)	ND	1.0	16	1,2-Dichlorobenzene	ND	1.0	12
1,3-Dichlorobenzene	ND	1.0	12	1,4-Dichlorobenzene	ND	1.0	12
Dichlorodifluoromethane	51	1.0	10	1,1-Dichloroethane	ND	1.0	8.2
1,2-Dichloroethane (1,2-DCA)	ND	1.0	8.2	1,1-Dichloroethene	ND	1.0	8.1
cis-1,2-Dichloroethene	ND	1.0	8.1	trans-1,2-Dichloroethene	ND	1.0	8.1
1,2-Dichloropropane	ND	1.0	9.4	cis-1,3-Dichloropropene	ND	1.0	9.2
trans-1,3-Dichloropropene	ND	1.0	9.2	1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	1.0	14
Diisopropyl ether (DIPE)	ND	1.0	8.5	1,4-Dioxane	ND	1.0	7.3
Ethanol	200	1.0	96	Ethyl acetate	21	1.0	7.3
Ethyl tert-butyl ether (ETBE)	ND	1.0	8.5	Ethylbenzene	63	1.0	8.8
4-Ethyltoluene	23	1.0	10	Freon 113	ND	1.0	16
Heptane	ND	1.0	210	Hexachlorobutadiene	ND	1.0	22
Hexane	ND	1.0	180	2-Hexanone	ND	1.0	210
4-Methyl-2-pentanone (MIBK)	14	1.0	8.3	Methyl-t-butyl ether (MTBE)	ND	1.0	7.3
Methylene chloride	ND	1.0	7.1	Naphthalene	ND	1.0	11
Propene	ND	1.0	88	Styrene	ND	1.0	8.6
1,1,1,2-Tetrachloroethane	ND	1.0	14	1,1,2,2-Tetrachloroethane	ND	1.0	14
Tetrachloroethene	460	1.0	14	Tetrahydrofuran	ND	1.0	6.0
Toluene	78	1.0	7.7	1,2,4-Trichlorobenzene	ND	1.0	15
1,1,1-Trichloroethane	ND	1.0	11	1,1,2-Trichloroethane	ND	1.0	11
Trichloroethene	25	1.0	11	Trichlorofluoromethane	ND	1.0	11
1,2,4-Trimethylbenzene	39	1.0	10	1,3,5-Trimethylbenzene	14	1.0	10
Vinyl Acetate	ND	1.0	180	Vinyl Chloride	ND	1.0	5.2
Xylenes, Total	370	1.0	27				

Surrogate Recoveries (%)

%SS1:	101	%SS2:	99
%SS3:	92		

Comments:

*vapor samples are reported in µg/m³.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

%SS = Percent Recovery of Surrogate Standard
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All West Environmental, Inc	Client Project ID: #11134.23; PACCAR Sub	Date Sampled: 01/04/12
		Date Received: 01/05/12
530 Howard Street, Ste. 300	Client Contact: Leonard Niles	Date Extracted: 01/09/12-01/10/12
San Francisco, CA 94105	Client P.O.:	Date Analyzed: 01/09/12-01/10/12

Volatile Organic Compounds in µg/m³*

Extraction Method: TO15 Analytical Method: TO15 Work Order: 1201090

Lab ID	1201090-006A	Initial Pressure (psia)	12.52
Client ID	SVP-3	Final Pressure (psia)	24.96
Matrix	Soil Gas		

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	120	Acrylonitrile	ND	1.0	4.4
tert-Amyl methyl ether (TAME)	ND	1.0	8.5	Benzene	ND	1.0	6.5
Benzyl chloride	ND	1.0	11	Bromodichloromethane	ND	1.0	14
Bromoform	ND	1.0	21	Bromomethane	ND	1.0	7.9
1,3-Butadiene	ND	1.0	4.5	2-Butanone (MEK)	ND	1.0	150
t-Butyl alcohol (TBA)	ND	1.0	62	Carbon Disulfide	ND	1.0	6.3
Carbon Tetrachloride	ND	1.0	13	Chlorobenzene	ND	1.0	9.4
Chloroethane	ND	1.0	5.4	Chloroform	97	1.0	9.9
Chloromethane	ND	1.0	4.2	Cyclohexane	ND	1.0	180
Dibromochloromethane	ND	1.0	17	1,2-Dibromo-3-chloropropane	ND	1.0	20
1,2-Dibromoethane (EDB)	ND	1.0	16	1,2-Dichlorobenzene	ND	1.0	12
1,3-Dichlorobenzene	ND	1.0	12	1,4-Dichlorobenzene	ND	1.0	12
Dichlorodifluoromethane	370	1.0	10	1,1-Dichloroethane	ND	1.0	8.2
1,2-Dichloroethane (1,2-DCA)	ND	1.0	8.2	1,1-Dichloroethene	ND	1.0	8.1
cis-1,2-Dichloroethene	ND	1.0	8.1	trans-1,2-Dichloroethene	ND	1.0	8.1
1,2-Dichloropropane	ND	1.0	9.4	cis-1,3-Dichloropropene	ND	1.0	9.2
trans-1,3-Dichloropropene	ND	1.0	9.2	1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	1.0	14
Diisopropyl ether (DIPE)	ND	1.0	8.5	1,4-Dioxane	ND	1.0	7.3
Ethanol	170	1.0	96	Ethyl acetate	15	1.0	7.3
Ethyl tert-butyl ether (ETBE)	ND	1.0	8.5	Ethylbenzene	22	1.0	8.8
4-Ethyltoluene	22	1.0	10	Freon 113	ND	1.0	16
Heptane	ND	1.0	210	Hexachlorobutadiene	ND	1.0	22
Hexane	ND	1.0	180	2-Hexanone	ND	1.0	210
4-Methyl-2-pentanone (MIBK)	15	1.0	8.3	Methyl-t-butyl ether (MTBE)	ND	1.0	7.3
Methylene chloride	ND	1.0	7.1	Naphthalene	ND	1.0	11
Propene	ND	1.0	88	Styrene	ND	1.0	8.6
1,1,1,2-Tetrachloroethane	ND	1.0	14	1,1,2,2-Tetrachloroethane	ND	1.0	14
Tetrachloroethene	8100	10	14	Tetrahydrofuran	ND	1.0	6.0
Toluene	17	1.0	7.7	1,2,4-Trichlorobenzene	ND	1.0	15
1,1,1-Trichloroethane	ND	1.0	11	1,1,2-Trichloroethane	ND	1.0	11
Trichloroethene	210	1.0	11	Trichlorofluoromethane	ND	1.0	11
1,2,4-Trimethylbenzene	55	1.0	10	1,3,5-Trimethylbenzene	23	1.0	10
Vinyl Acetate	ND	1.0	180	Vinyl Chloride	ND	1.0	5.2
Xylenes, Total	170	1.0	27				

Surrogate Recoveries (%)

%SS1:	102	%SS2:	99
%SS3:	104		

Comments:

*vapor samples are reported in µg/m³.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

%SS = Percent Recovery of Surrogate Standard
DF = Dilution Factor

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QC SUMMARY REPORT FOR TO15

W.O. Sample Matrix: Soilgas | QC Matrix: Soilgas | BatchID: 63853 | WorkOrder: 1201090

EPA Method: TO15 | **Extraction: TO15** | **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	nL/L	nL/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
Acrylonitrile	N/A	25	N/A	N/A	N/A	90.7	N/A	N/A	70 - 130
tert-Amyl methyl ether (TAME)	N/A	25	N/A	N/A	N/A	85.4	N/A	N/A	70 - 130
Benzene	N/A	25	N/A	N/A	N/A	81.8	N/A	N/A	70 - 130
Benzyl chloride	N/A	25	N/A	N/A	N/A	106	N/A	N/A	70 - 130
Bromodichloromethane	N/A	25	N/A	N/A	N/A	89.9	N/A	N/A	70 - 130
Bromoform	N/A	25	N/A	N/A	N/A	100	N/A	N/A	70 - 130
Carbon Disulfide	N/A	25	N/A	N/A	N/A	88.9	N/A	N/A	70 - 130
Carbon Tetrachloride	N/A	25	N/A	N/A	N/A	88	N/A	N/A	70 - 130
Chlorobenzene	N/A	25	N/A	N/A	N/A	85.5	N/A	N/A	70 - 130
Chloroethane	N/A	25	N/A	N/A	N/A	99.2	N/A	N/A	70 - 130
Chloroform	N/A	25	N/A	N/A	N/A	87.1	N/A	N/A	70 - 130
Chloromethane	N/A	25	N/A	N/A	N/A	104	N/A	N/A	70 - 130
Dibromochloromethane	N/A	25	N/A	N/A	N/A	94.4	N/A	N/A	70 - 130
1,2-Dibromo-3-chloropropane	N/A	25	N/A	N/A	N/A	101	N/A	N/A	70 - 130
1,2-Dibromoethane (EDB)	N/A	25	N/A	N/A	N/A	87	N/A	N/A	70 - 130
1,3-Dichlorobenzene	N/A	25	N/A	N/A	N/A	98.9	N/A	N/A	70 - 130
1,4-Dichlorobenzene	N/A	25	N/A	N/A	N/A	98.9	N/A	N/A	70 - 130
Dichlorodifluoromethane	N/A	25	N/A	N/A	N/A	85.1	N/A	N/A	70 - 130
1,1-Dichloroethane	N/A	25	N/A	N/A	N/A	87.6	N/A	N/A	70 - 130
1,2-Dichloroethane (1,2-DCA)	N/A	25	N/A	N/A	N/A	87.5	N/A	N/A	70 - 130
cis-1,2-Dichloroethene	N/A	25	N/A	N/A	N/A	87.3	N/A	N/A	70 - 130
trans-1,2-Dichloroethene	N/A	25	N/A	N/A	N/A	87	N/A	N/A	70 - 130
1,2-Dichloropropane	N/A	25	N/A	N/A	N/A	85.5	N/A	N/A	70 - 130
cis-1,3-Dichloropropene	N/A	25	N/A	N/A	N/A	89.6	N/A	N/A	70 - 130
trans-1,3-Dichloropropene	N/A	25	N/A	N/A	N/A	92.3	N/A	N/A	70 - 130
1,2-Dichloro-1,1,2,2-tetrafluoroethane	N/A	25	N/A	N/A	N/A	80.9	N/A	N/A	70 - 130
Diisopropyl ether (DIPE)	N/A	25	N/A	N/A	N/A	103	N/A	N/A	70 - 130
1,4-Dioxane	N/A	25	N/A	N/A	N/A	92.5	N/A	N/A	70 - 130
Ethyl acetate	N/A	25	N/A	N/A	N/A	101	N/A	N/A	70 - 130
Ethyl tert-butyl ether (ETBE)	N/A	25	N/A	N/A	N/A	84.8	N/A	N/A	70 - 130
Ethylbenzene	N/A	25	N/A	N/A	N/A	83.4	N/A	N/A	70 - 130

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

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

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS ELAP Certification 1644

QA/QC Officer

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QC SUMMARY REPORT FOR TO15

W.O. Sample Matrix: Soilgas | QC Matrix: Soilgas | BatchID: 63853 | WorkOrder: 1201090

EPA Method: TO15 **Extraction: TO15** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	nL/L	nL/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
Freon 113	N/A	25	N/A	N/A	N/A	81.6	N/A	N/A	70 - 130
Hexachlorobutadiene	N/A	25	N/A	N/A	N/A	115	N/A	N/A	70 - 130
4-Methyl-2-pentanone (MIBK)	N/A	25	N/A	N/A	N/A	92.8	N/A	N/A	70 - 130
Methyl-t-butyl ether (MTBE)	N/A	25	N/A	N/A	N/A	85.5	N/A	N/A	70 - 130
Methylene chloride	N/A	25	N/A	N/A	N/A	103	N/A	N/A	70 - 130
Naphthalene	N/A	25	N/A	N/A	N/A	110	N/A	N/A	70 - 130
Styrene	N/A	25	N/A	N/A	N/A	90.4	N/A	N/A	70 - 130
1,1,1,2-Tetrachloroethane	N/A	25	N/A	N/A	N/A	89.9	N/A	N/A	70 - 130
1,1,2,2-Tetrachloroethane	N/A	25	N/A	N/A	N/A	85.3	N/A	N/A	70 - 130
Tetrachloroethene	N/A	25	N/A	N/A	N/A	80.9	N/A	N/A	70 - 130
Tetrahydrofuran	N/A	25	N/A	N/A	N/A	104	N/A	N/A	70 - 130
Toluene	N/A	25	N/A	N/A	N/A	85.5	N/A	N/A	70 - 130
1,2,4-Trichlorobenzene	N/A	25	N/A	N/A	N/A	105	N/A	N/A	70 - 130
1,1,1-Trichloroethane	N/A	25	N/A	N/A	N/A	86.7	N/A	N/A	70 - 130
1,1,2-Trichloroethane	N/A	25	N/A	N/A	N/A	86.6	N/A	N/A	70 - 130
Trichloroethene	N/A	25	N/A	N/A	N/A	85.4	N/A	N/A	70 - 130
1,2,4-Trimethylbenzene	N/A	25	N/A	N/A	N/A	99.7	N/A	N/A	70 - 130
1,3,5-Trimethylbenzene	N/A	25	N/A	N/A	N/A	97	N/A	N/A	70 - 130
Vinyl Chloride	N/A	25	N/A	N/A	N/A	90.9	N/A	N/A	70 - 130
%SS1:	N/A	500	N/A	N/A	N/A	97	N/A	N/A	70 - 130
%SS2:	N/A	500	N/A	N/A	N/A	100	N/A	N/A	70 - 130
%SS3:	N/A	500	N/A	N/A	N/A	102	N/A	N/A	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

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

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

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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QC SUMMARY REPORT FOR TO15

W.O. Sample Matrix: Soilgas | QC Matrix: Soilgas | BatchID: 63853 | WorkOrder: 1201090

EPA Method: TO15 | **Extraction: TO15** | **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	nL/L	nL/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS

BATCH 63853 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1201090-001A	01/04/12 11:10 AM	01/07/12	01/07/12 1:15 PM	1201090-001A	01/04/12 11:10 AM	01/07/12	01/07/12 3:29 PM
1201090-002A	01/04/12 12:08 PM	01/09/12	01/09/12 7:47 PM	1201090-002A	01/04/12 12:08 PM	01/09/12	01/09/12 11:52 PM
1201090-003A	01/04/12 1:27 PM	01/10/12	01/10/12 12:36 AM	1201090-004A	01/04/12 2:54 PM	01/09/12	01/09/12 9:07 PM
1201090-004A	01/04/12 2:54 PM	01/10/12	01/10/12 1:21 AM	1201090-005A	01/04/12 3:44 PM	01/10/12	01/10/12 2:04 AM
1201090-006A	01/04/12 4:33 PM	01/09/12	01/09/12 10:30 PM	1201090-006A	01/04/12 4:33 PM	01/10/12	01/10/12 2:47 AM

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

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

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

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Analytical Report

All West Environmental, Inc	Client Project ID: #11134.23; PACCAR-Oakland Sub	Date Sampled: 01/05/12
		Date Received: 01/06/12
530 Howard Street, Ste. 300	Client Contact: Leonard Niles	Date Reported: 01/13/12
San Francisco, CA 94105	Client P.O.:	Date Completed: 01/13/12

WorkOrder: 1201140

January 13, 2012

Dear Leonard:

Enclosed within are:

1) The results of the **7** analyzed samples from your project: **#11134.23; PACCAR-Oakland Sub,**
2) QC data for the above samples, and
3) A copy of the chain of custody.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

The analytical results relate only to the items tested.

1201140

McCAMPBELL ANALYTICAL, INC.

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CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAY
GeoTracker EDF ☐ PDF ☐ Excel ☐ Write On (DW) ☐

Report To: Leonard Niles Bill To: Darlene Torio
Company: Allwest Environmental, Inc.
530 Howard Street, Suite 300 E-Mail: Leonard@allwest1.com, Darlene@allwest1.com
Tele: (415) 391-2510 Fax: (415) 391-2008
Project #: 11134.23 Project Name: PACCAR-Oakland Sub
Project Location: O'Reilly Auto 4240 International Blvd., Oakland, CA
Sampler Signature: Leonard Niles

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED ICE	METHOD PRESERVED HCL	METHOD PRESERVED HNO_3	METHOD PRESERVED Other
GP-1-5.0-5.5	GP-1	1/5/12	9:13	1	PT		X				X			
GP-1-9.0-9.5	GP-1		9:19	1	PT		X				X			
GP-1-19.5-20.0	GP-1		10:10	1	PT		X				X			
GP-1-34.5-35.0	GP-1		10:18	1	PT		X				X			
GP-1-GW-35	GP-1		10:40	3	VOA	X					X	X		
GP-1-GW-35	GP-1		10:40	1	1LA	X					X	X		
GP-1-GW-35	GP-1		10:40	1	250 PE	X					X			
GP-2-5.0-5.5	GP-2		12:25	1	PT		X				X			
GP-2-10.0-10.5	GP-2		13:47	1	PT		X				X			
GP-2-17.0-17.5	GP-2		13:56	1	PT		X				X			
GP-2-GW-15	GP-2		12:53	3	VOA	X					X	X		
GP-2-GW-20	GP-2		13:45	1	1LA	X					X	X		
GP-2-GW-20	GP-2		13:45	1	250 PE	X					X			

Analysis Request

MTBE / BTEX & TPH as Gas (602 / 8021 + 8015)	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015) / Silicagel	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	EPA 505/ 608 / 8081 (Cl Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs) / TPH-g	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Other	Comments
		X								X				X			HOLD
		X								X				X			
																	HOLD
		X								X							
														X			Filter
		X								X				X			HOLD
		X								X				X			
		X								X							

Filter Samples for Metals analysis: (Yes) No

ICE/t° 3.2
GOOD CONDITION
HEAD SPACE ABSENT
DECHLORINATED IN LAB
APPROPRIATE CONTAINERS
PRESERVED IN LAB

PRESERVATION VOAS O&G METALS OTHER pH<2

COMMENTS: Filter water samples for LUFT 5 Metals, Silicagel cleanup for TPH-d/mo

Relinquished By:	Date:	Time:	Received By:
Leonard Niles	1/6/12	1615	
Relinquished By:	Date: 1/6	Time: 1837	Received By:
Relinquished By:	Date:	Time:	Received By:

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1201140 **ClientCode: AWE**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Leonard Niles
All West Environmental, Inc
530 Howard Street, Ste. 300
San Francisco, CA 94105
(415) 391-2510 FAX: (415) 391-2008

Email: Leonard@allwest1.com
cc:
PO:
ProjectNo: #11134.23; PACCAR-Oakland Sub

Bill to:
Darlene Torio
All West Environmental, Inc
530 Howard Street, Ste.300
San Francisco, CA 94105
darlene@allwest1.com

Requested TAT: 5 days

Date Received: **01/06/2012**
Date Printed: **01/06/2012**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1201140-002	GP-1-9.0-9.5	Soil	1/5/2012 9:19	☐	A		A			A						
1201140-003	GP-1-19.5-20.0	Soil	1/5/2012 10:10	☐	A		A			A						
1201140-005	GP-1-GW-35	Water	1/5/2012 10:40	☐		A		C	C		B					
1201140-007	GP-2-10.0-10.5	Soil	1/5/2012 13:45	☐	A		A			A						
1201140-008	GP-2-17.0-17.5	Soil	1/5/2012 13:56	☐	A		A			A						
1201140-009	GP-2-GW-15	Water	1/5/2012 12:53	☐		A										
1201140-010	GP-2-GW-20	Water	1/5/2012 13:45	☐				B	B		A					

Test Legend:

1	GAS8260_S	2	GAS8260_W	3	LUFT_S	4	LUFTMS_DISS	5	PRDISSOLVED
6	TPH(DMO)WSG_S	7	TPH(DMO)WSG_W	8		9		10	
11		12							

The following SampIDs: 002A, 003A, 005A, 007A, 008A, 009A contain testgroup.

Prepared by: Ana Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Sample Receipt Checklist

Client Name: **All West Environmental, Inc** Date and Time Received: **1/6/2012 8:20:52 PM**

Project Name: **#11134.23; PACCAR-Oakland Sub** Checklist completed and reviewed by: Ana Venegas

WorkOrder N°: **1201140** Matrix: Soil/Water Carrier: Benjamin Yslas (MAI Courier)

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp: 3.2°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☑	No ☐	No VOA vials submitted ☐
Sample labels checked for correct preservation?	Yes ☑	No ☐	
Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☑	No ☐	

(Ice Type: WET ICE)

** NOTE: If the "No" box is checked, see comments below.*

Comments:

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

All West Environmental, Inc	Client Project ID: #11134.23; PACCAR-Oakland Sub	Date Sampled: 01/05/12
		Date Received: 01/06/12
530 Howard Street, Ste. 300	Client Contact: Leonard Niles	Date Extracted: 01/06/12
San Francisco, CA 94105	Client P.O.:	Date Analyzed: 01/12/12

Volatile Organics by P&T and GC/MS (Basic Target List)*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1201140

Lab ID	1201140-002A
Client ID	GP-1-9.0-9.5
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	0.05	tert-Amyl methyl ether (TAME)	ND	1.0	0.005
Benzene	ND	1.0	0.005	Bromobenzene	ND	1.0	0.005
Bromochloromethane	ND	1.0	0.005	Bromodichloromethane	ND	1.0	0.005
Bromoform	ND	1.0	0.005	Bromomethane	ND	1.0	0.005
2-Butanone (MEK)	ND	1.0	0.02	t-Butyl alcohol (TBA)	ND	1.0	0.05
n-Butyl benzene	ND	1.0	0.005	sec-Butyl benzene	ND	1.0	0.005
tert-Butyl benzene	ND	1.0	0.005	Carbon Disulfide	ND	1.0	0.005
Carbon Tetrachloride	ND	1.0	0.005	Chlorobenzene	ND	1.0	0.005
Chloroethane	ND	1.0	0.005	Chloroform	ND	1.0	0.005
Chloromethane	ND	1.0	0.005	2-Chlorotoluene	ND	1.0	0.005
4-Chlorotoluene	ND	1.0	0.005	Dibromochloromethane	ND	1.0	0.005
1,2-Dibromo-3-chloropropane	ND	1.0	0.004	1,2-Dibromoethane (EDB)	ND	1.0	0.004
Dibromomethane	ND	1.0	0.005	1,2-Dichlorobenzene	ND	1.0	0.005
1,3-Dichlorobenzene	ND	1.0	0.005	1,4-Dichlorobenzene	ND	1.0	0.005
Dichlorodifluoromethane	ND	1.0	0.005	1,1-Dichloroethane	ND	1.0	0.005
1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.004	1,1-Dichloroethene	ND	1.0	0.005
cis-1,2-Dichloroethene	ND	1.0	0.005	trans-1,2-Dichloroethene	ND	1.0	0.005
1,2-Dichloropropane	ND	1.0	0.005	1,3-Dichloropropane	ND	1.0	0.005
2,2-Dichloropropane	ND	1.0	0.005	1,1-Dichloropropene	ND	1.0	0.005
cis-1,3-Dichloropropene	ND	1.0	0.005	trans-1,3-Dichloropropene	ND	1.0	0.005
Diisopropyl ether (DIPE)	ND	1.0	0.005	Ethylbenzene	ND	1.0	0.005
Ethyl tert-butyl ether (ETBE)	ND	1.0	0.005	Freon 113	ND	1.0	0.1
Hexachlorobutadiene	ND	1.0	0.005	Hexachloroethane	ND	1.0	0.005
2-Hexanone	ND	1.0	0.005	Isopropylbenzene	ND	1.0	0.005
4-Isopropyl toluene	ND	1.0	0.005	Methyl-t-butyl ether (MTBE)	ND	1.0	0.005
Methylene chloride	ND	1.0	0.005	4-Methyl-2-pentanone (MIBK)	ND	1.0	0.005
Naphthalene	ND	1.0	0.005	n-Propyl benzene	ND	1.0	0.005
Styrene	ND	1.0	0.005	1,1,1,2-Tetrachloroethane	ND	1.0	0.005
1,1,2,2-Tetrachloroethane	ND	1.0	0.005	Tetrachloroethene	ND	1.0	0.005
Toluene	ND	1.0	0.005	1,2,3-Trichlorobenzene	ND	1.0	0.005
1,2,4-Trichlorobenzene	ND	1.0	0.005	1,1,1-Trichloroethane	ND	1.0	0.005
1,1,2-Trichloroethane	ND	1.0	0.005	Trichloroethene	ND	1.0	0.005
Trichlorofluoromethane	ND	1.0	0.005	1,2,3-Trichloropropane	ND	1.0	0.005
1,2,4-Trimethylbenzene	ND	1.0	0.005	1,3,5-Trimethylbenzene	ND	1.0	0.005
Vinyl Chloride	ND	1.0	0.005	Xylenes, Total	ND	1.0	0.005

Surrogate Recoveries (%)

%SS1:	87	%SS2:	118
%SS3:	102		

Comments:

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

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

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All West Environmental, Inc	Client Project ID: #11134.23; PACCAR-Oakland Sub	Date Sampled: 01/05/12
		Date Received: 01/06/12
530 Howard Street, Ste. 300	Client Contact: Leonard Niles	Date Extracted: 01/06/12
San Francisco, CA 94105	Client P.O.:	Date Analyzed: 01/12/12

Volatile Organics by P&T and GC/MS (Basic Target List)*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1201140

Lab ID	1201140-003A
Client ID	GP-1-19.5-20.0
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	0.05	tert-Amyl methyl ether (TAME)	ND	1.0	0.005
Benzene	ND	1.0	0.005	Bromobenzene	ND	1.0	0.005
Bromochloromethane	ND	1.0	0.005	Bromodichloromethane	ND	1.0	0.005
Bromoform	ND	1.0	0.005	Bromomethane	ND	1.0	0.005
2-Butanone (MEK)	ND	1.0	0.02	t-Butyl alcohol (TBA)	ND	1.0	0.05
n-Butyl benzene	ND	1.0	0.005	sec-Butyl benzene	ND	1.0	0.005
tert-Butyl benzene	ND	1.0	0.005	Carbon Disulfide	ND	1.0	0.005
Carbon Tetrachloride	ND	1.0	0.005	Chlorobenzene	ND	1.0	0.005
Chloroethane	ND	1.0	0.005	Chloroform	ND	1.0	0.005
Chloromethane	ND	1.0	0.005	2-Chlorotoluene	ND	1.0	0.005
4-Chlorotoluene	ND	1.0	0.005	Dibromochloromethane	ND	1.0	0.005
1,2-Dibromo-3-chloropropane	ND	1.0	0.004	1,2-Dibromoethane (EDB)	ND	1.0	0.004
Dibromomethane	ND	1.0	0.005	1,2-Dichlorobenzene	ND	1.0	0.005
1,3-Dichlorobenzene	ND	1.0	0.005	1,4-Dichlorobenzene	ND	1.0	0.005
Dichlorodifluoromethane	ND	1.0	0.005	1,1-Dichloroethane	ND	1.0	0.005
1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.004	1,1-Dichloroethene	ND	1.0	0.005
cis-1,2-Dichloroethene	ND	1.0	0.005	trans-1,2-Dichloroethene	ND	1.0	0.005
1,2-Dichloropropane	ND	1.0	0.005	1,3-Dichloropropane	ND	1.0	0.005
2,2-Dichloropropane	ND	1.0	0.005	1,1-Dichloropropene	ND	1.0	0.005
cis-1,3-Dichloropropene	ND	1.0	0.005	trans-1,3-Dichloropropene	ND	1.0	0.005
Diisopropyl ether (DIPE)	ND	1.0	0.005	Ethylbenzene	ND	1.0	0.005
Ethyl tert-butyl ether (ETBE)	ND	1.0	0.005	Freon 113	ND	1.0	0.1
Hexachlorobutadiene	ND	1.0	0.005	Hexachloroethane	ND	1.0	0.005
2-Hexanone	ND	1.0	0.005	Isopropylbenzene	ND	1.0	0.005
4-Isopropyl toluene	ND	1.0	0.005	Methyl-t-butyl ether (MTBE)	ND	1.0	0.005
Methylene chloride	ND	1.0	0.005	4-Methyl-2-pentanone (MIBK)	ND	1.0	0.005
Naphthalene	ND	1.0	0.005	n-Propyl benzene	ND	1.0	0.005
Styrene	ND	1.0	0.005	1,1,1,2-Tetrachloroethane	ND	1.0	0.005
1,1,2,2-Tetrachloroethane	ND	1.0	0.005	Tetrachloroethene	ND	1.0	0.005
Toluene	ND	1.0	0.005	1,2,3-Trichlorobenzene	ND	1.0	0.005
1,2,4-Trichlorobenzene	ND	1.0	0.005	1,1,1-Trichloroethane	ND	1.0	0.005
1,1,2-Trichloroethane	ND	1.0	0.005	Trichloroethene	ND	1.0	0.005
Trichlorofluoromethane	ND	1.0	0.005	1,2,3-Trichloropropane	ND	1.0	0.005
1,2,4-Trimethylbenzene	ND	1.0	0.005	1,3,5-Trimethylbenzene	ND	1.0	0.005
Vinyl Chloride	ND	1.0	0.005	Xylenes, Total	ND	1.0	0.005

Surrogate Recoveries (%)

%SS1:	88	%SS2:	125
%SS3:	98		

Comments:

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

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

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All West Environmental, Inc	Client Project ID: #11134.23; PACCAR-Oakland Sub	Date Sampled: 01/05/12
		Date Received: 01/06/12
530 Howard Street, Ste. 300	Client Contact: Leonard Niles	Date Extracted: 01/06/12
San Francisco, CA 94105	Client P.O.:	Date Analyzed: 01/12/12

Volatile Organics by P&T and GC/MS (Basic Target List)*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1201140

Lab ID	1201140-007A
Client ID	GP-2-10.0-10.5
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	0.05	tert-Amyl methyl ether (TAME)	ND	1.0	0.005
Benzene	ND	1.0	0.005	Bromobenzene	ND	1.0	0.005
Bromochloromethane	ND	1.0	0.005	Bromodichloromethane	ND	1.0	0.005
Bromoform	ND	1.0	0.005	Bromomethane	ND	1.0	0.005
2-Butanone (MEK)	ND	1.0	0.02	t-Butyl alcohol (TBA)	ND	1.0	0.05
n-Butyl benzene	ND	1.0	0.005	sec-Butyl benzene	ND	1.0	0.005
tert-Butyl benzene	ND	1.0	0.005	Carbon Disulfide	ND	1.0	0.005
Carbon Tetrachloride	ND	1.0	0.005	Chlorobenzene	ND	1.0	0.005
Chloroethane	ND	1.0	0.005	Chloroform	ND	1.0	0.005
Chloromethane	ND	1.0	0.005	2-Chlorotoluene	ND	1.0	0.005
4-Chlorotoluene	ND	1.0	0.005	Dibromochloromethane	ND	1.0	0.005
1,2-Dibromo-3-chloropropane	ND	1.0	0.004	1,2-Dibromoethane (EDB)	ND	1.0	0.004
Dibromomethane	ND	1.0	0.005	1,2-Dichlorobenzene	ND	1.0	0.005
1,3-Dichlorobenzene	ND	1.0	0.005	1,4-Dichlorobenzene	ND	1.0	0.005
Dichlorodifluoromethane	ND	1.0	0.005	1,1-Dichloroethane	ND	1.0	0.005
1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.004	1,1-Dichloroethene	ND	1.0	0.005
cis-1,2-Dichloroethene	ND	1.0	0.005	trans-1,2-Dichloroethene	ND	1.0	0.005
1,2-Dichloropropane	ND	1.0	0.005	1,3-Dichloropropane	ND	1.0	0.005
2,2-Dichloropropane	ND	1.0	0.005	1,1-Dichloropropene	ND	1.0	0.005
cis-1,3-Dichloropropene	ND	1.0	0.005	trans-1,3-Dichloropropene	ND	1.0	0.005
Diisopropyl ether (DIPE)	ND	1.0	0.005	Ethylbenzene	ND	1.0	0.005
Ethyl tert-butyl ether (ETBE)	ND	1.0	0.005	Freon 113	ND	1.0	0.1
Hexachlorobutadiene	ND	1.0	0.005	Hexachloroethane	ND	1.0	0.005
2-Hexanone	ND	1.0	0.005	Isopropylbenzene	ND	1.0	0.005
4-Isopropyl toluene	ND	1.0	0.005	Methyl-t-butyl ether (MTBE)	ND	1.0	0.005
Methylene chloride	ND	1.0	0.005	4-Methyl-2-pentanone (MIBK)	ND	1.0	0.005
Naphthalene	0.0056	1.0	0.005	n-Propyl benzene	ND	1.0	0.005
Styrene	ND	1.0	0.005	1,1,1,2-Tetrachloroethane	ND	1.0	0.005
1,1,2,2-Tetrachloroethane	ND	1.0	0.005	Tetrachloroethene	0.0067	1.0	0.005
Toluene	ND	1.0	0.005	1,2,3-Trichlorobenzene	ND	1.0	0.005
1,2,4-Trichlorobenzene	ND	1.0	0.005	1,1,1-Trichloroethane	ND	1.0	0.005
1,1,2-Trichloroethane	ND	1.0	0.005	Trichloroethene	ND	1.0	0.005
Trichlorofluoromethane	ND	1.0	0.005	1,2,3-Trichloropropane	ND	1.0	0.005
1,2,4-Trimethylbenzene	ND	1.0	0.005	1,3,5-Trimethylbenzene	ND	1.0	0.005
Vinyl Chloride	ND	1.0	0.005	Xylenes, Total	ND	1.0	0.005

Surrogate Recoveries (%)

%SS1:	94	%SS2:	109
%SS3:	108		

Comments:

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

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

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All West Environmental, Inc	Client Project ID: #11134.23; PACCAR-Oakland Sub	Date Sampled: 01/05/12
		Date Received: 01/06/12
530 Howard Street, Ste. 300	Client Contact: Leonard Niles	Date Extracted: 01/06/12
San Francisco, CA 94105	Client P.O.:	Date Analyzed: 01/13/12

Volatile Organics by P&T and GC/MS (Basic Target List)*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1201140

Lab ID	1201140-008A
Client ID	GP-2-17.0-17.5
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	0.05	tert-Amyl methyl ether (TAME)	ND	1.0	0.005
Benzene	ND	1.0	0.005	Bromobenzene	ND	1.0	0.005
Bromochloromethane	ND	1.0	0.005	Bromodichloromethane	ND	1.0	0.005
Bromoform	ND	1.0	0.005	Bromomethane	ND	1.0	0.005
2-Butanone (MEK)	ND	1.0	0.02	t-Butyl alcohol (TBA)	ND	1.0	0.05
n-Butyl benzene	ND	1.0	0.005	sec-Butyl benzene	ND	1.0	0.005
tert-Butyl benzene	ND	1.0	0.005	Carbon Disulfide	ND	1.0	0.005
Carbon Tetrachloride	ND	1.0	0.005	Chlorobenzene	ND	1.0	0.005
Chloroethane	ND	1.0	0.005	Chloroform	ND	1.0	0.005
Chloromethane	ND	1.0	0.005	2-Chlorotoluene	ND	1.0	0.005
4-Chlorotoluene	ND	1.0	0.005	Dibromochloromethane	ND	1.0	0.005
1,2-Dibromo-3-chloropropane	ND	1.0	0.004	1,2-Dibromoethane (EDB)	ND	1.0	0.004
Dibromomethane	ND	1.0	0.005	1,2-Dichlorobenzene	ND	1.0	0.005
1,3-Dichlorobenzene	ND	1.0	0.005	1,4-Dichlorobenzene	ND	1.0	0.005
Dichlorodifluoromethane	ND	1.0	0.005	1,1-Dichloroethane	ND	1.0	0.005
1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.004	1,1-Dichloroethene	ND	1.0	0.005
cis-1,2-Dichloroethene	ND	1.0	0.005	trans-1,2-Dichloroethene	ND	1.0	0.005
1,2-Dichloropropane	ND	1.0	0.005	1,3-Dichloropropane	ND	1.0	0.005
2,2-Dichloropropane	ND	1.0	0.005	1,1-Dichloropropene	ND	1.0	0.005
cis-1,3-Dichloropropene	ND	1.0	0.005	trans-1,3-Dichloropropene	ND	1.0	0.005
Diisopropyl ether (DIPE)	ND	1.0	0.005	Ethylbenzene	ND	1.0	0.005
Ethyl tert-butyl ether (ETBE)	ND	1.0	0.005	Freon 113	ND	1.0	0.1
Hexachlorobutadiene	ND	1.0	0.005	Hexachloroethane	ND	1.0	0.005
2-Hexanone	ND	1.0	0.005	Isopropylbenzene	ND	1.0	0.005
4-Isopropyl toluene	ND	1.0	0.005	Methyl-t-butyl ether (MTBE)	ND	1.0	0.005
Methylene chloride	ND	1.0	0.005	4-Methyl-2-pentanone (MIBK)	ND	1.0	0.005
Naphthalene	ND	1.0	0.005	n-Propyl benzene	ND	1.0	0.005
Styrene	ND	1.0	0.005	1,1,1,2-Tetrachloroethane	ND	1.0	0.005
1,1,2,2-Tetrachloroethane	ND	1.0	0.005	Tetrachloroethene	ND	1.0	0.005
Toluene	ND	1.0	0.005	1,2,3-Trichlorobenzene	ND	1.0	0.005
1,2,4-Trichlorobenzene	ND	1.0	0.005	1,1,1-Trichloroethane	ND	1.0	0.005
1,1,2-Trichloroethane	ND	1.0	0.005	Trichloroethene	ND	1.0	0.005
Trichlorofluoromethane	ND	1.0	0.005	1,2,3-Trichloropropane	ND	1.0	0.005
1,2,4-Trimethylbenzene	ND	1.0	0.005	1,3,5-Trimethylbenzene	ND	1.0	0.005
Vinyl Chloride	ND	1.0	0.005	Xylenes, Total	ND	1.0	0.005

Surrogate Recoveries (%)

%SS1:	88	%SS2:	121
%SS3:	99		

Comments:

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

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

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All West Environmental, Inc	Client Project ID: #11134.23; PACCAR-Oakland Sub	Date Sampled: 01/05/12
		Date Received: 01/06/12
530 Howard Street, Ste. 300	Client Contact: Leonard Niles	Date Extracted: 01/13/12
San Francisco, CA 94105	Client P.O.:	Date Analyzed: 01/13/12

Volatile Organics by P&T and GC/MS (Basic Target List)*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1201140

Lab ID	1201140-005A
Client ID	GP-1-GW-35
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	10	tert-Amyl methyl ether (TAME)	ND	1.0	0.5
Benzene	ND	1.0	0.5	Bromobenzene	ND	1.0	0.5
Bromochloromethane	ND	1.0	0.5	Bromodichloromethane	ND	1.0	0.5
Bromoform	ND	1.0	0.5	Bromomethane	ND	1.0	0.5
2-Butanone (MEK)	ND	1.0	2.0	t-Butyl alcohol (TBA)	ND	1.0	2.0
n-Butyl benzene	ND	1.0	0.5	sec-Butyl benzene	ND	1.0	0.5
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	ND	1.0	0.5
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0	0.5
Chloroethane	ND	1.0	0.5	Chloroform	ND	1.0	0.5
Chloromethane	ND	1.0	0.5	2-Chlorotoluene	ND	1.0	0.5
4-Chlorotoluene	ND	1.0	0.5	Dibromochloromethane	ND	1.0	0.5
1,2-Dibromo-3-chloropropane	ND	1.0	0.2	1,2-Dibromoethane (EDB)	ND	1.0	0.5
Dibromomethane	ND	1.0	0.5	1,2-Dichlorobenzene	ND	1.0	0.5
1,3-Dichlorobenzene	ND	1.0	0.5	1,4-Dichlorobenzene	ND	1.0	0.5
Dichlorodifluoromethane	ND	1.0	0.5	1,1-Dichloroethane	ND	1.0	0.5
1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.5	1,1-Dichloroethene	ND	1.0	0.5
cis-1,2-Dichloroethene	0.73	1.0	0.5	trans-1,2-Dichloroethene	ND	1.0	0.5
1,2-Dichloropropane	ND	1.0	0.5	1,3-Dichloropropane	ND	1.0	0.5
2,2-Dichloropropane	ND	1.0	0.5	1,1-Dichloropropene	ND	1.0	0.5
cis-1,3-Dichloropropene	ND	1.0	0.5	trans-1,3-Dichloropropene	ND	1.0	0.5
Diisopropyl ether (DIPE)	ND	1.0	0.5	Ethylbenzene	ND	1.0	0.5
Ethyl tert-butyl ether (ETBE)	ND	1.0	0.5	Freon 113	ND	1.0	10
Hexachlorobutadiene	ND	1.0	0.5	Hexachloroethane	ND	1.0	0.5
2-Hexanone	ND	1.0	0.5	Isopropylbenzene	ND	1.0	0.5
4-Isopropyl toluene	ND	1.0	0.5	Methyl-t-butyl ether (MTBE)	0.96	1.0	0.5
Methylene chloride	ND	1.0	0.5	4-Methyl-2-pentanone (MIBK)	ND	1.0	0.5
Naphthalene	ND	1.0	0.5	n-Propyl benzene	ND	1.0	0.5
Styrene	ND	1.0	0.5	1,1,1,2-Tetrachloroethane	ND	1.0	0.5
1,1,2,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethene	ND	1.0	0.5
Toluene	0.63	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0	0.5
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloroethane	ND	1.0	0.5
1,1,2-Trichloroethane	ND	1.0	0.5	Trichloroethene	ND	1.0	0.5
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Trichloropropane	ND	1.0	0.5
1,2,4-Trimethylbenzene	ND	1.0	0.5	1,3,5-Trimethylbenzene	ND	1.0	0.5
Vinyl Chloride	ND	1.0	0.5	Xylenes, Total	ND	1.0	0.5

Surrogate Recoveries (%)

%SS1:	100	%SS2:	101
%SS3:	100		

Comments: b1

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

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

b1) aqueous sample that contains greater than ~1 vol. % sediment

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All West Environmental, Inc	Client Project ID: #11134.23; PACCAR-Oakland Sub	Date Sampled: 01/05/12
		Date Received: 01/06/12
530 Howard Street, Ste. 300	Client Contact: Leonard Niles	Date Extracted: 01/13/12
San Francisco, CA 94105	Client P.O.:	Date Analyzed: 01/13/12

Volatile Organics by P&T and GC/MS (Basic Target List)*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1201140

Lab ID	1201140-009A
Client ID	GP-2-GW-15
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	10	tert-Amyl methyl ether (TAME)	ND	1.0	0.5
Benzene	ND	1.0	0.5	Bromobenzene	ND	1.0	0.5
Bromochloromethane	ND	1.0	0.5	Bromodichloromethane	ND	1.0	0.5
Bromoform	ND	1.0	0.5	Bromomethane	ND	1.0	0.5
2-Butanone (MEK)	ND	1.0	2.0	t-Butyl alcohol (TBA)	ND	1.0	2.0
n-Butyl benzene	ND	1.0	0.5	sec-Butyl benzene	ND	1.0	0.5
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	0.62	1.0	0.5
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0	0.5
Chloroethane	ND	1.0	0.5	Chloroform	ND	1.0	0.5
Chloromethane	ND	1.0	0.5	2-Chlorotoluene	ND	1.0	0.5
4-Chlorotoluene	ND	1.0	0.5	Dibromochloromethane	ND	1.0	0.5
1,2-Dibromo-3-chloropropane	ND	1.0	0.2	1,2-Dibromoethane (EDB)	ND	1.0	0.5
Dibromomethane	ND	1.0	0.5	1,2-Dichlorobenzene	ND	1.0	0.5
1,3-Dichlorobenzene	ND	1.0	0.5	1,4-Dichlorobenzene	ND	1.0	0.5
Dichlorodifluoromethane	ND	1.0	0.5	1,1-Dichloroethane	ND	1.0	0.5
1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.5	1,1-Dichloroethene	ND	1.0	0.5
cis-1,2-Dichloroethene	0.72	1.0	0.5	trans-1,2-Dichloroethene	ND	1.0	0.5
1,2-Dichloropropane	ND	1.0	0.5	1,3-Dichloropropane	ND	1.0	0.5
2,2-Dichloropropane	ND	1.0	0.5	1,1-Dichloropropene	ND	1.0	0.5
cis-1,3-Dichloropropene	ND	1.0	0.5	trans-1,3-Dichloropropene	ND	1.0	0.5
Diisopropyl ether (DIPE)	ND	1.0	0.5	Ethylbenzene	ND	1.0	0.5
Ethyl tert-butyl ether (ETBE)	ND	1.0	0.5	Freon 113	ND	1.0	10
Hexachlorobutadiene	ND	1.0	0.5	Hexachloroethane	ND	1.0	0.5
2-Hexanone	ND	1.0	0.5	Isopropylbenzene	ND	1.0	0.5
4-Isopropyl toluene	ND	1.0	0.5	Methyl-t-butyl ether (MTBE)	ND	1.0	0.5
Methylene chloride	ND	1.0	0.5	4-Methyl-2-pentanone (MIBK)	ND	1.0	0.5
Naphthalene	ND	1.0	0.5	n-Propyl benzene	ND	1.0	0.5
Styrene	ND	1.0	0.5	1,1,1,2-Tetrachloroethane	ND	1.0	0.5
1,1,2,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethene	0.64	1.0	0.5
Toluene	ND	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0	0.5
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloroethane	ND	1.0	0.5
1,1,2-Trichloroethane	ND	1.0	0.5	Trichloroethene	ND	1.0	0.5
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Trichloropropane	ND	1.0	0.5
1,2,4-Trimethylbenzene	ND	1.0	0.5	1,3,5-Trimethylbenzene	ND	1.0	0.5
Vinyl Chloride	ND	1.0	0.5	Xylenes, Total	ND	1.0	0.5

Surrogate Recoveries (%)

%SS1:	100	%SS2:	101
%SS3:	102		

Comments: b1

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

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

b1) aqueous sample that contains greater than ~1 vol. % sediment

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All West Environmental, Inc	Client Project ID: #11134.23; PACCAR-Oakland Sub	Date Sampled: 01/05/12
		Date Received: 01/06/12
530 Howard Street, Ste. 300	Client Contact: Leonard Niles	Date Extracted 01/06/12-01/13/12
San Francisco, CA 94105	Client P.O.:	Date Analyzed 01/12/12-01/13/12

TPH(g) by Purge & Trap and GC/MS*

Extraction method: SW5030B Analytical methods: SW8260B Work Order: 1201140

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS	Comments
002A	GP-1-9.0-9.5	S	ND	1	118	
003A	GP-1-19.5-20.0	S	ND	1	125	
005A	GP-1-GW-35	W	ND	1	105	b1
007A	GP-2-10.0-10.5	S	ND	1	113	
008A	GP-2-17.0-17.5	S	ND	1	122	
009A	GP-2-GW-15	W	ND	1	104	b1

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	µg/L
	S	0.25	mg/kg

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

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

b1) aqueous sample that contains greater than ~1 vol. % sediment

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Angela Rydelius, Lab Manager

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All West Environmental, Inc	Client Project ID: #11134.23; PACCAR-Oakland Sub	Date Sampled: 01/05/12
		Date Received: 01/06/12
530 Howard Street, Ste. 300	Client Contact: Leonard Niles	Date Extracted: 01/06/12
San Francisco, CA 94105	Client P.O.:	Date Analyzed: 01/09/12

LUFT 5 Metals*

Extraction method: SW3050B Analytical methods: SW6010B Work Order: 1201140

Lab ID	Client ID	Matrix	Extraction Type	Cadmium	Chromium	Lead	Nickel	Zinc	DF	% SS	Comments
002A	GP-1-9.0-9.5	S	TOTAL	ND	120	6.5	160	99	1	115	
003A	GP-1-19.5-20.0	S	TOTAL	ND	47	ND	85	100	1	112	
007A	GP-2-10.0-10.5	S	TOTAL	ND	63	5.5	48	75	1	118	
008A	GP-2-17.0-17.5	S	TOTAL	ND	38	ND	50	57	1	118	

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	TOTAL	NA	NA	NA	NA	NA	NA
	S	TOTAL	1.5	1.5	5.0	1.5	5.0	mg/Kg

*water samples are reported in µg/L, product/oil/non-aqueous liquid samples and all TCLP / STLC / DISTLC / SPLP extracts are reported in mg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter.

means surrogate diluted out of range; ND means not detected above the reporting limit/method detection limit; N/A means not applicable to this sample or instrument.

TOTAL = Hot acid digestion of a representative sample aliquot.
TRM = Total recoverable metals is the "direct analysis" of a sample aliquot taken from its acid-preserved container.
DISS = Dissolved metals by direct analysis of 0.45 µm filtered and acidified sample.

%SS = Percent Recovery of Surrogate Standard
DF = Dilution Factor

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All West Environmental, Inc	Client Project ID: #11134.23; PACCAR-Oakland Sub	Date Sampled: 01/05/12
		Date Received: 01/06/12
530 Howard Street, Ste. 300	Client Contact: Leonard Niles	Date Extracted: 01/06/12
San Francisco, CA 94105	Client P.O.:	Date Analyzed: 01/10/12

LUFT 5 Metals*

Extraction method: E200.8 Analytical methods: E200.8 Work Order: 1201140

Lab ID	Client ID	Matrix	Extraction Type	Cadmium	Chromium	Lead	Nickel	Zinc	DF	% SS	Comments
005C	GP-1-GW-35	W	DISS.	ND	ND	ND	14	33	1	N/A	b1
010B	GP-2-GW-20	W	DISS.	ND	ND	ND	7.0	34	1	N/A	

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	DISS.	0.25	0.5	0.5	0.5	5.0	µg/L
	S	TOTAL	NA	NA	NA	NA	NA	NA

*water samples are reported in µg/L, product/oil/non-aqueous liquid samples and all TCLP / STLC / DISTLC / SPLP extracts are reported in mg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter.

means surrogate diluted out of range; ND means not detected above the reporting limit/method detection limit; N/A means not applicable to this sample or instrument.

TOTAL = Hot acid digestion of a representative sample aliquot.
TRM = Total recoverable metals is the "direct analysis" of a sample aliquot taken from its acid-preserved container.
DISS = Dissolved metals by direct analysis of 0.45 µm filtered and acidified sample.

%SS = Percent Recovery of Surrogate Standard
DF = Dilution Factor

b1) aqueous sample that contains greater than ~1 vol. % sediment

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All West Environmental, Inc	Client Project ID: #11134.23; PACCAR-Oakland Sub	Date Sampled: 01/05/12
		Date Received: 01/06/12
530 Howard Street, Ste. 300	Client Contact: Leonard Niles	Date Extracted: 01/06/12
San Francisco, CA 94105	Client P.O.:	Date Analyzed: 01/07/12-01/09/12

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up*

Extraction method: SW3510C/3630C/SW3550B/3630C Analytical methods: SW8015B Work Order: 1201140

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	TPH-Motor Oil (C18-C36)	DF	% SS	Comments
1201140-002A	GP-1-9.0-9.5	S	1.2	ND	1	106	e2
1201140-003A	GP-1-19.5-20.0	S	2.1	ND	1	110	e2
1201140-005B	GP-1-GW-35	W	ND	ND	1	93	b1
1201140-007A	GP-2-10.0-10.5	S	15	72	5	105	e7,e2
1201140-008A	GP-2-17.0-17.5	S	2.0	ND	1	108	e2
1201140-010A	GP-2-GW-20	W	200	1000	1	93	e7,e2

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	250	µg/L
	S	1.0	5.0	mg/Kg

* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

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

%SS = Percent Recovery of Surrogate Standard. DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
b1) aqueous sample that contains greater than ~1 vol. % sediment
e2) diesel range compounds are significant; no recognizable pattern
e7) oil range compounds are significant

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Soil | QC Matrix: Soil | BatchID: 63849 | WorkOrder: 1201140

EPA Method: SW8260B **Extraction: SW5030B** **Spiked Sample ID: 1201084-020A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
tert-Amyl methyl ether (TAME)	ND<0.20	0.050	92.8	91.1	1.84	121	70 - 130	30	70 - 130
Benzene	ND<0.20	0.050	98.7	97.1	1.60	120	70 - 130	30	70 - 130
t-Butyl alcohol (TBA)	ND<2.0	0.20	117	114	3.20	115	70 - 130	30	70 - 130
Chlorobenzene	ND<0.20	0.050	108	106	1.43	117	70 - 130	30	70 - 130
1,2-Dibromoethane (EDB)	ND<0.16	0.050	121	121	0	127	70 - 130	30	70 - 130
1,2-Dichloroethane (1,2-DCA)	ND<0.16	0.050	90	87.5	2.87	115	70 - 130	30	70 - 130
1,1-Dichloroethene	ND<0.20	0.050	51.6,F1	48.1,F1	6.97	106	70 - 130	30	70 - 130
Diisopropyl ether (DIPE)	ND<0.20	0.050	76.1	74.7	1.84	116	70 - 130	30	70 - 130
Ethyl tert-butyl ether (ETBE)	ND<0.20	0.050	87	85.8	1.44	115	70 - 130	30	70 - 130
Methyl-t-butyl ether (MTBE)	ND<0.20	0.050	102	99.3	2.92	120	70 - 130	30	70 - 130
Toluene	ND<0.20	0.050	128	133, F1	3.43	130	70 - 130	30	70 - 130
Trichloroethene	ND<0.20	0.050	NR	NR	NR	120	70 - 130	30	70 - 130
%SS1:	107	0.12	93	92	0.265	99	70 - 130	30	70 - 130
%SS2:	---#	0.12	99	99	0	88	70 - 130	30	70 - 130
%SS3:	---#	0.012	---#	---#	---#	126	70 - 130	30	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

F1 = MS / MSD outside of acceptance criteria. LCS validates prep batch.

BATCH 63849 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1201140-002A	01/05/12 9:19 AM	01/06/12	01/12/12 10:49 PM	1201140-003A	01/05/12 10:10 AM	01/06/12	01/12/12 11:29 PM
1201140-007A	01/05/12 1:45 PM	01/06/12	01/12/12 3:31 PM	1201140-008A	01/05/12 1:56 PM	01/06/12	01/13/12 12:10 AM

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

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

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

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

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

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

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QA/QC Officer

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 63815 | WorkOrder: 1201140

EPA Method: SW8260B **Extraction: SW5030B** **Spiked Sample ID: 1201040-001A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
tert-Amyl methyl ether (TAME)	ND	10	113	119	5.08	113	70 - 130	30	70 - 130
Benzene	ND	10	107	111	3.54	114	70 - 130	30	70 - 130
t-Butyl alcohol (TBA)	ND	40	96.1	96.2	0.0727	83	70 - 130	30	70 - 130
Chlorobenzene	ND	10	103	108	4.34	111	70 - 130	30	70 - 130
1,2-Dibromoethane (EDB)	ND	10	113	119	5.23	115	70 - 130	30	70 - 130
1,2-Dichloroethane (1,2-DCA)	ND	10	107	112	4.30	110	70 - 130	30	70 - 130
1,1-Dichloroethene	ND	10	87.3	90.3	3.38	88.9	70 - 130	30	70 - 130
Diisopropyl ether (DIPE)	ND	10	82.4	83.4	1.23	82.1	70 - 130	30	70 - 130
Ethyl tert-butyl ether (ETBE)	ND	10	102	112	9.22	110	70 - 130	30	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	98.6	101	2.23	91.7	70 - 130	30	70 - 130
Toluene	ND	10	103	108	4.98	112	70 - 130	30	70 - 130
Trichloroethene	ND	10	109	115	5.22	118	70 - 130	30	70 - 130
%SS1:	106	25	107	106	0.861	106	70 - 130	30	70 - 130
%SS2:	114	25	114	114	0	115	70 - 130	30	70 - 130
%SS3:	99	2.5	120	121	1.23	121	70 - 130	30	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 63815 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1201140-005A	01/05/12 10:40 AM	01/13/12	01/13/12 2:54 AM				

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

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

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

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

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

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

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QA/QC Officer

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 63883 | WorkOrder: 1201140

EPA Method: SW8260B **Extraction: SW5030B** **Spiked Sample ID: 1201151-005B**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
tert-Amyl methyl ether (TAME)	ND	10	97.5	98.5	0.928	128	70 - 130	30	70 - 130
Benzene	ND	10	103	101	2.11	115	70 - 130	30	70 - 130
t-Butyl alcohol (TBA)	ND	40	109	116	6.08	96.1	70 - 130	30	70 - 130
Chlorobenzene	ND	10	97.9	94.5	3.44	112	70 - 130	30	70 - 130
1,2-Dibromoethane (EDB)	ND	10	99.1	100	0.957	126	70 - 130	30	70 - 130
1,2-Dichloroethane (1,2-DCA)	ND	10	102	101	0.480	114	70 - 130	30	70 - 130
1,1-Dichloroethene	ND	10	103	101	1.51	101	70 - 130	30	70 - 130
Diisopropyl ether (DIPE)	ND	10	110	109	0.871	121	70 - 130	30	70 - 130
Ethyl tert-butyl ether (ETBE)	ND	10	104	105	1.41	121	70 - 130	30	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	106	107	1.48	123	70 - 130	30	70 - 130
Toluene	ND	10	93.1	95	2.01	112	70 - 130	30	70 - 130
Trichloroethene	ND	10	102	100	2.23	113	70 - 130	30	70 - 130
%SS1:	111	25	102	105	2.55	106	70 - 130	30	70 - 130
%SS2:	96	25	116	116	0	80	70 - 130	30	70 - 130
%SS3:	105	2.5	102	100	1.98	123	70 - 130	30	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 63883 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1201140-009A	01/05/12 12:53 PM	01/13/12	01/13/12 3:37 AM				

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

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

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

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

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

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

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QA/QC Officer

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QC SUMMARY REPORT FOR 6010B

W.O. Sample Matrix: Soil | QC Matrix: Soil | BatchID: 63816 | WorkOrder: 1201140

EPA Method: SW6010B **Extraction: SW3050B** **Spiked Sample ID: 1201042-001A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
Cadmium	ND	50	92.4	93.1	0.755	90.8	75 - 125	25	75 - 125
Chromium	34	50	90.9	91.8	0.565	88.8	75 - 125	25	75 - 125
Lead	21	50	100	98.1	1.52	81.5	75 - 125	25	75 - 125
Nickel	16	50	91.4	94.3	2.35	89.6	75 - 125	25	75 - 125
Zinc	40	500	93.1	93.9	0.788	91.6	75 - 125	25	75 - 125
%SS:	99	500	99	97	2.34	102	70 - 130	20	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 63816 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1201140-002A	01/05/12 9:19 AM	01/06/12	01/09/12 10:22 AM	1201140-003A	01/05/12 10:10 AM	01/06/12	01/09/12 10:25 AM
1201140-007A	01/05/12 1:45 PM	01/06/12	01/09/12 10:28 AM	1201140-008A	01/05/12 1:56 PM	01/06/12	01/09/12 10:32 AM

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

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

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

N/A = not applicable to this method.

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

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QC SUMMARY REPORT FOR E200.8

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 63855 | WorkOrder: 1201140

EPA Method: E200.8 **Extraction: E200.8** **Spiked Sample ID: 1112539-010A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
Cadmium	ND	50	99.6	100	0.481	102	70 - 130	20	85 - 115
Chromium	ND	50	101	101	0	104	70 - 130	20	85 - 115
Lead	ND	50	96.3	97.6	1.35	97.9	70 - 130	20	85 - 115
Nickel	2.2	50	98.8	98.5	0.252	103	70 - 130	20	85 - 115
Zinc	44	500	98.2	98	0.131	102	70 - 130	20	85 - 115
%SS:	103	750	103	102	1.04	100	70 - 130	20	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 63855 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1201140-005C	01/05/12 10:40 AM	01/06/12	01/10/12 3:08 AM	1201140-010B	01/05/12 1:45 PM	01/06/12	01/10/12 3:14 AM

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

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

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

N/A = not applicable to this method.

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

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QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Soil | QC Matrix: Soil | BatchID: 63824 | WorkOrder: 1201140

EPA Method: SW8015B | **Extraction: SW3550B/3630C** | **Spiked Sample ID: 1201061-005A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
TPH-Diesel (C10-C23)	3.3	40	134, F1	133, F1	1.27	118	70 - 130	30	70 - 130
%SS:	110	25	109	108	7.15	97	70 - 130	30	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

F1 = MS / MSD outside of acceptance criteria. LCS validates prep batch.

BATCH 63824 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1201140-002A	01/05/12 9:19 AM	01/06/12	01/09/12 4:56 PM	1201140-003A	01/05/12 10:10 AM	01/06/12	01/07/12 4:39 PM
1201140-007A	01/05/12 1:45 PM	01/06/12	01/09/12 5:09 PM	1201140-008A	01/05/12 1:56 PM	01/06/12	01/07/12 3:32 PM

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

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

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

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

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

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QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 63798 | WorkOrder: 1201140

EPA Method: SW8015B **Extraction: SW3510C/3630C** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	109	N/A	N/A	70 - 130
%SS:	N/A	625	N/A	N/A	N/A	98	N/A	N/A	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 63798 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1201140-005B	01/05/12 10:40 AM	01/06/12	01/07/12 6:53 PM	1201140-010A	01/05/12 1:45 PM	01/06/12	01/07/12 5:46 PM

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

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

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

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

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

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