PACCAR Inc

October 31, 2014

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 Case Closure Summary Report**
O'Reilly Auto Parts (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 letter of July 16, 2014 regarding the above-referenced subject site, we submit this transmittal letter and accompanying report as our request for case closure of the subject site as a low-risk solvent site with no further action required.

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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San Francisco, CA 94110

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CASE CLOSURE SUMMARY REPORT

O'Reilly Auto Parts (Former Grand Auto #43)
4240 International Boulevard
Oakland, California

ACEH Case # RO0002483
GeoTracker Global ID # T06019705075

PREPARED FOR:

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ALLWEST PROJECT 14151.36
October 31, 2014

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I. INTRODUCTION

AllWest Environmental, Inc. (AllWest) was retained to summarize historical data from the above-referenced subject site, evaluate case closure criteria as a low threat solvent site, and to prepare a *Case Closure Summary Report* in accordance with the California Regional Groundwater Quality Control Board, San Francisco Bay Region (RWQCB) *Assessment Tool for Closure of Low-Threat Chlorinated Solvent Sites*, Draft Final – July 31, 2009. This *Case Closure Summary Report* identifies constituents of concern (COCs) at the subject property, estimates their lateral and vertical extent, evaluates impacted media, presents a Conceptual Site Model (CSM), and includes a Tier 1 Risk Assessment (RA).

This CSM/RA was performed in response to a request by Alameda County Environmental Health (ACEH) outlined in their letter dated July 16, 2014. The ACEH letter was issued in response to a recommendation in the AllWest report titled *Additional Soil Vapor Assessment and Indoor Air Quality Monitoring Report*, dated May 21, 2014, to evaluate case closure as a low threat solvent site.

The volatile organic compound (VOC) tetrachloroethene (PCE) has been detected in soil, groundwater, and soil vapor at the O'Reilly Auto Parts (formerly Grand Auto #43), located at 4240 International Boulevard, Oakland, California (Figures 1). The CSM presents a comprehensive understanding of the fate and transport of the COCs, exposure pathways and potential receptors. As part of this work, a Tier 1 Risk Assessment was performed based on RWQCB Environmental Screening Levels (ESLs) to ascertain if PCE detected in soil, groundwater, and soil vapor at the property poses a risk to any potential receptors. Proposed clean-up levels based on the environmental and hydrogeologic conditions of the property and exposure pathways have been evaluated, and recommendations for case closure, further investigation, or remediation are suggested as warranted.

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 14^{th} Street) in Oakland, California (Figure 1). The 16,900 square feet (sf) L-shaped, single-story building of concrete tilt-up construction on a concrete slab-on-grade foundation occupies the subject site and was constructed circa 1960-1961. The building is currently divided into two tenant suites.

The subject site is currently used as an O'Reilly Auto Parts store, that occupies the southeastern portion of the subject site building which contains an approximately 8,800 sf retail area and 3,000 sf stockroom/storage area. The southeast portion of the stockroom/storage area was formerly used as a car wash. The northwestern portion of the building, which contained the approximately 5,000 sf former Grand Auto service and shop area, is currently vacant and was most recently occupied by a tire dealer.

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.

In 1971 Grand Auto occupied the building and installed gasoline pump islands, 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 2014, site environmental conditions were characterized via soil borings, groundwater monitoring wells, soil vapor probes and indoor air samples. A site plan is presented as Figure 2.

B. Previous Site 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 the 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 (AllWest, 2011a). 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) south 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 Table 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 total petroleum hydrocarbons as gasoline (TPH-g) and diesel (TPH-d) at 310 milligrams per kilogram (mg/Kg) and 120 mg/Kg, respectively. Low concentrations of toluene, ethylbenzene, xylenes, and tetrachloroethene (PCE) were also detected (Table 1).

A groundwater monitoring well, MW-1 (boring B-7), was installed in August 1992 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 appeared to indicate that the petroleum hydrocarbons and PCE detected immediately below the sump in sample S2C-8 were not laterally or vertically widespread in unsaturated soil (Table 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). Monitoring well construction details are summarized in Table 2, groundwater elevation data in Table 3 and groundwater analytical data in Table 4. Historical boring logs and monitoring well construction diagrams are included in Appendix A.

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 (Table 1).

Between February 1994 and May 1996, Hart Crowser sampled the five groundwater wells six more times. The groundwater analytical results from these sampling events are presented in Table 4. Groundwater elevation maps from these events are included in Appendix B.

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 ACEH as a separate site. In its letter to PACCAR dated December 27, 1993, ACEH 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, ACEH 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 ACEH 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 ACEH 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.

ACEH 1996 Closure Letter for Site Soils

Based on the Hart Crowser risk assessment (1996b), ACEH concluded in a 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.

- 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 ACEH, 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 tertiary 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. Historical groundwater elevation and analytical data are summarized in Tables 3 and 4, and the groundwater elevation map is included in Appendix B.

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 twofold. 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 were 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 its breakdown products trichloroethene (TCE) and cis-1,2-dichloroethene (cis-1,2-DCE), AllWest concluded that the likely source of the bulk of the chlorinated solvents was 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 was unlikely that the residual contamination in the site groundwater posed an unacceptable risk to human health or the environment. AllWest recommended that ACEH 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 (AllWest, 2000).

ACEH November 2000 No Further Remediation Letter

ACEH 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, ACEH 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. ACEH 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 ACEH 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 (AllWest, 2001).

Groundwater Monitoring 2001 to 2011

AllWest conducted annual groundwater monitoring from 2001 to 2004. The ACEH 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. AllWest requested case closure in the *2008 Biennial Groundwater Monitoring Report*, (AllWest, 2008). The ACEH 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.

The most recent groundwater monitoring event was conducted December 20, 2011. Chlorinated solvents continued to be detected in all wells at the property. PCE was detected in groundwater samples collected from all four monitoring wells, with the highest concentrations in MW-1. Chlorinated solvent concentrations detected in the four wells during the December 2011 monitoring event exceeded the then-current RWQCB Environmental Screening Levels (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).

Concentrations of chlorinated solvents detected during the December 2011 event generally decreased in MW-1 and MW-3A and increased in MW-2 and MW-4 since the last sampling performed in 2008. 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 concentrations of PCE breakdown products TCE and cis-cis-1,2-DCE were historically highest in MW-2, but during the most recent sampling event in December 2011 were highest in MW-1. Based on the spatial distribution of the VOCs detected in site monitoring wells, a single, well-defined source for the chlorinated solvents is not apparent (AllWest, 2012a).

Only VOC analysis was performed from the 2001 through 2008 groundwater monitoring events. TPH-g analysis was not 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, 2012a). Historical groundwater elevation and analytical data are summarized in Tables 3 and 4. The December 2011 groundwater elevation map is included as Figure 3; historical groundwater elevation maps prior to 2011 are included in Appendix B.

<u>UST Subsurface Investigation in 2012</u>

AllWest conducted a subsurface investigation in January 2012 to characterize current soil and groundwater conditions in the vicinity of the former USTs at the subject site. 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.

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 1.

None of the petroleum hydrocarbons or VOCs detected exceeded their applicable then-current 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 then-current 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-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.

Total petroleum hydrocarbons as diesel, and motor oil (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 4.

All VOCs detected in groundwater samples from GP-1 and GP-2 were at concentrations below then-current 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, each exceeded their respective then-current drinking water ESLs of 100 µg/L (RWQCB, 2008); however, that sample from within the former UST excavation was 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 then-current drinking water ESL of 8.2 µg/L (AllWest, 2012b).

The ACEH concluded in their letter dated June 5, 2012, responding to the AllWest *Soil Vapor and Subsurface Investigation Report* (AllWest, March 2012b), that no further investigation was necessary in the area of the former USTs.

Soil Vapor Investigations in 2012

AllWest conducted a subsurface investigation in January 2012 to characterize potential indoor soil vapor intrusion conditions at the subject site.

Six temporary soil vapor probes (SVP-1 through SVP-6) were installed to a depth of 5 feet bgs inside and outside of the building in the vicinity of the former car wash sump (Figure 2). PCE was detected in all six soil vapor samples collected at a maximum concentration of 4,600 micrograms per cubic meter (µg/m^3) in SVP-2 inside the building adjacent to the former sump. The PCE breakdown product TCE was detected in soil vapor samples collected from SVP-2, SVP-3, SVP-5 and SVP-6 at a maximum concentration of 210 µg/m^3 in SVP-3. Low concentrations of other VOCs including 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 (AllWest, 2012b). Soil vapor analytical results are summarized in Table 5 and Figure 5.

PCE concentrations in probes SVP-3 and SVP-5 exceeded the then-current RWQCB ESL of 1,400 µg/m^3 for commercial/industrial land use (RWQCB, 2008). None of the other VOCs detected in soil vapor samples exceeded their applicable ESLs (AllWest, 2012b).

AllWest concluded the highest VOC concentrations detected in soil vapor samples were from the vicinity of temporary probe SVP-3; however, 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 5 feet beneath the building interior floor slab contained PCE at concentrations exceeding the applicable ESL, by less than one order of magnitude. (AllWest, 2012b).

In their letter of June 5, 2012 responding to the AllWest *Soil Vapor and Subsurface Investigation Report* (AllWest, March 2012b), ACEH requested additional assessment of potential indoor soil vapor intrusion by sub-slab soil vapor sampling within the subject site building. AllWest submitted a workplan titled *Additional Sub-Slab Soil Vapor Investigation,* dated August 1, 2012, which was approved in the ACEH letter dated September 6, 2012.

AllWest conducted a subsurface investigation in October 2012 to further evaluate the potential for impact by soil vapor intrusion to the indoor air quality within the O'Reilly Auto Parts store. Six permanent sub-slab soil vapor probes SVP-7 through SVP-12 were installed on October 22, 2012 beneath the floor slab within the O'Reilly Auto Parts store to approximate depths of 0.5 feet bgs inside the building (Figure 2). AllWest collected soil vapor samples from SVP-7 through SVP-12 on October 27, 2012 (AllWest, 2012d).

Soil vapor samples were analyzed for VOCs by EPA Method TO-15. PCE was detected in soil vapor samples collected from sub-slab vapor probes SVP-7, SVP-8, SVP-9, SVP-10, SVP-11 and SVP-12, at respective concentrations of 1,200 $\mu g/m^3$, 4,100 $\mu g/m^3$, 940 $\mu g/m^3$, 530 $\mu g/m^3$, 740 $\mu g/m^3$ and 1,700 $\mu g/m^3$. TCE was detected in soil vapor samples collected from SVP-11 and SVP-12, at respective concentrations of 18 $\mu g/m^3$ and 39 $\mu g/m^3$ (AllWest, 2012d). A summary of soil vapor analytical results are included in Table 5 and shown on Figure 5.

PCE concentrations in probes SVP-8 and SVP-12 exceeded the then-current RWQCB soil vapor ESL of 1,400 $\mu g/m^3$ for commercial/industrial land use (RWQCB, 2008). None of the other VOCs detected in soil vapor samples exceeded their applicable ESLs (AllWest, 2012d).

Soil Vapor and Indoor Air Monitoring in 2013

AllWest collected additional soil vapor samples from the six semi-permanent sub-slab soil vapor probes SVP-7 through SVP-12 on April 19, 2013 as a semiannual monitoring follow-up to the October 27, 2012 soil vapor sampling event. PCE was detected in soil vapor samples collected from soil vapor probes SVP-7, SVP-8, SVP-9, SVP-10, SVP-11 and SVP-12, at respective concentrations of 970 $\mu g/m^3$, 3,200 $\mu g/m^3$, 650 $\mu g/m^3$, 700 $\mu g/m^3$, 590 $\mu g/m^3$ and 2,300 $\mu g/m^3$. The PCE breakdown product TCE was not detected above laboratory detection limits in soil vapor samples collected during this investigation. Low concentrations of other VOCs including acetone, 2-butanone, chloroform, ethanol, tertiary butyl alcohol (TBA) and toluene were also detected (AllWest, 2013a). Soil vapor analytical results are summarized in Table 5 and shown in Figure 5.

PCE concentrations in probes SVP-8 and SVP-12 exceeded the applicable current RWQCB soil gas ESL of 2,100 $\mu g/m^3$ for commercial/industrial land use (RWQCB, 2013). PCE concentrations in all soil vapor samples exceeded the sub-slab screening level of 42 $\mu g/m^3$ calculated by dividing the indoor air ESL of 2.1 $\mu g/m^3$ by the sub-slab attenuation factor of 0.05 per the DTSC *Vapor Intrusion Guidance* (DTSC, 2011). None of the other VOCs detected in soil vapor samples exceeded their applicable soil gas ESLs or DTSC sub-slab screening levels (AllWest, 2013a).

AllWest conducted indoor air quality (IAQ) monitoring on August 27 and 28, 2013, a soil vapor investigation on September 17 through 20, 2013, and IAQ and sub-slab soil vapor monitoring on March 14, 2014 to further evaluate the potential for impact by soil vapor intrusion to the indoor air quality within the subject site building. The work was requested by ACEH in their letter dated December 27, 2012. The proposed scope of work was described in the *Additional Soil Vapor Investigation and Indoor Air Monitoring Workplan* submitted by AllWest on April 15, 2013, and approved by ACEH in their letter dated May 20, 2013 (AllWest, 2013a).

Seventeen shallow soil borings were advanced on September 16-19, 2013 to a depth of 5 feet bgs and completed as temporary soil vapor probes SVP-16 through SVP-32. Nine temporary soil vapor probes (SVP-16 through SVP-24) were located inside the subject site building adjacent to existing or new sub-slab vapor probes. Eight temporary probes (SVP-25 through SVP-32) were located outside of the building around the perimeter of the subject site (AllWest, 2013b). Temporary soil vapor probe locations are shown on Figure 2.

Three semi-permanent sub-slab Vapor Pin™ soil vapor probes (SVP-13, SVP-14 and SVP-15) were installed inside the subject site building. Six additional semi-permanent sub-slab Vapor Pin™ soil vapor probes (SVP-7B through SVP-12B) were installed adjacent to the previously installed sub-slab soil vapor probes SVP-7 through SVP-12 as replacements due to problems with leaking annular seals during previous sampling events (AllWest, 2013b). Semi-permanent sub-slab soil vapor probe locations are shown on Figure 2.

Soil vapor samples were collected by AllWest from temporary and semi-permanent sub-slab soil vapor probes SVP-13 through SVP-32 from September 16-20, 2013. Following sampling activities, the temporary soil vapor probes SVP-16 through SVP-32 were removed and the boreholes grouted with neat cement grout topped off with concrete. Soil vapor samples were collected again by

AllWest on March 14, 2014 from the semi-permanent sub-slab soil vapor probes SVP-13, SVP-14 and SVP-15. The replaced semi-permanent sub-slab soil vapor probes SVP-7B through SVP-12B were not sampled during these events (AllWest, 2013b and 2014).

Four indoor air quality samples IAQ-1 through IAQ-4, and one outdoor ambient air control sample OAA-1, were collected by AllWest on August 27 and 28, 2013 and again on March 14, 2014 (AllWest, 2013b and 2014). Indoor and outdoor air sample locations are shown on Figure 2.

PCE was detected in all 20 soil vapor samples collected during the September 2013 sampling event, at concentrations ranging from 4.8 micrograms per cubic meter ($\mu g/m^3$) in SVP-15 to 16,000 $\mu g/m^3$ in SVP-18 (AllWest, 2013b). PCE was detected in all 3 sub-slab soil vapor samples collected during the March 2014 sampling event, at concentrations ranging from 14 $\mu g/m^3$ in SVP-15 to 2,200 $\mu g/m^3$ in SVP-14 (AllWest, 2014). The highest PCE concentrations were generally detected in probes SVP-16 and SVP-18 within the former car wash area; however, elevated concentrations were also detected in probes SVP-27 and SVP-28 in the southeastern portion of the site in the vicinity of a parking lot storm drain catch basin, suggesting a possible secondary release source area (AllWest, 2013b). Soil vapor sample PCE concentrations are summarized in Table 5 and shown in Figure 5.

PCE concentrations in eight of the 5-feet bgs temporary soil vapor probe samples exceeded the corresponding current RWQCB ESL of 2,100 $\mu g/m^3$ for commercial/industrial land use (RWQCB, 2013). PCE concentrations in two of the semi-permanent sub-slab soil vapor probe samples collected during the September 2013 and March 2014 events exceeded the corresponding sub-slab screening level of 42 $\mu g/m^3$ (RWQCB current commercial indoor air ESL of 2.1 $\mu g/m^3$ divided by sub-slab attenuation factor of 0.05) recommended in 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), Table 2 and Appendix B*, October 2011 (DTSC, 2011).

The PCE breakdown products TCE and cis-1,2-DCE were detected at maximum respective concentrations of 250 $\mu g/m^3$ in SVP-21 and 13 $\mu g/m^3$ in SVP-23 (AllWest, 2013b). Low concentrations of various other VOCs were detected in soil vapor samples collected during the September 2013 and March 2014 events, including acetone, benzene, 2-butanone, carbon disulfide, chlorobenzene, chloroform, chloromethane, dichlorodifluoromethane, ethanol, ethylbenzene, 4-ethyltoluene, 2-hexanone, isopropyl alcohol, 4-methyl-1,2-pentanone, styrene, toluene, 1,1,1-trichloroethane, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, vinyl acetate, o-xylene, and p/m-xylene (AllWest, 2013b and 2014). Soil vapor sample VOC concentrations are summarized in Table 5 and shown in Figure 5.

None of these other VOC concentrations exceeded their respective applicable current RWQCB ESLs or DTSC sub-slab screening levels, with the exception of benzene detected at 49 $\mu g/m^3$ in sub-slab probe SVP-13 during the September 2013 event, which exceeded the recommended DTSC sub-slab screening level of 8.4 $\mu g/m^3$ (indoor air ESL of 0.42 $\mu g/m^3$ divided by sub-slab attenuation factor of 0.05; DTSC 2011).

PCE was detected in all four of the indoor air quality samples collected during both the August 2013 and March 2014 sampling events, at a maximum concentration of 1.2 $\mu g/m^3$ in sample IAQ-2 during the August 2013 event. PCE was not detected in the outdoor ambient air control sample OAA-1 during either sampling event. PCE concentrations did not exceed the applicable current RWQCB commercial indoor air ESL of 2.1 $\mu g/m^3$ (RWQCB, 2013). The PCE breakdown product TCE was detected in two indoor air samples, at a maximum concentration of 1.6 $\mu g/m^3$ in sample IAQ-2 during the August 2013 event, which did not exceed the applicable current ESL of 3.0 $\mu g/m^3$. The PCE breakdown product cis-1,2-DCE was detected in indoor air sample IAQ-2 at a concentration of 0.14 $\mu g/m^3$ in sample during the August 2013 event, which did not exceed the applicable current ESL of 31 $\mu g/m^3$ (AllWest, 2013b and 2014).

Other VOCs detected in indoor air quality and outdoor ambient air control samples during the August 2013 and March 2014 sampling events included benzene, carbon tetrachloride, chloroform, chloromethane, dichlorodifluoromethane, 1,2-dichloroethane, 1,1-difluoroethane, ethylbenzene, 4-ethyltoluene, methylene chloride, toluene, 1,1,2-trichloroethane-1,2,2-trifluoroethane, trichloroethene, trichlorofluoromethane, and 1,3,5-trimethylbenzene (AllWest, 2013b and 2014). Indoor and outdoor air sample VOC concentrations are summarized in Table 6 and shown in Figure 6.

None of these other VOC concentrations exceeded their respective applicable RWQCB commercial indoor air ESLs, with the exception of benzene and carbon tetrachloride. Benzene was detected in all indoor and outdoor air samples at a maximum concentration of 1.8 $\mu g/m^3$ in IAQ-2 and IAQ-4 during the March 2014 event, exceeding its applicable ESL of 0.42 $\mu g/m^3$ in all samples. Carbon tetrachloride was detected in all indoor and outdoor air samples at a maximum concentration of 0.68 $\mu g/m^3$ in IAQ-2 during the August 2013 event and IAQ-4 during the March 2014 event, exceeding its applicable ESL of 0.29 $\mu g/m^3$ in all but one sample. Because of uniform concentrations in both indoor and outdoor air samples, it is likely that benzene, carbon tetrachloride and several other detected VOCs are atmospheric contaminants (AllWest, 2013b and 2014).

AllWest concluded that elevated PCE concentrations in soil vapor exceeding ESLs were highest in the vicinity of temporary probe SVP-18 inside the building, and along interior sanitary sewer lines. Where semi-permanent sub-slab and temporary 5 feet bgs probes were installed in adjacent pairs, PCE concentrations tended to be higher in the 5 feet bgs temporary probes. PCE soil vapor concentrations were also elevated in the parking areas in the southeastern portion of the site, (AllWest, 2013b and 2014).

Although PCE concentrations detected in semi-permanent sub-slab soil vapor probes within the building exceeded screening levels calculated with the DTSC recommended sub-slab attenuation factor of 0.05 (DTSC, 2011), they did not exceed the site-specific screening level of 2,917 $\mu g/m^3$ calculated with the AllWest site-specific derived sub-slab attenuation factor of 0.00072 (Allwest, 2014).

AllWest concluded that PCE concentrations detected in indoor air quality samples did not exceed the applicable ESL; therefore, intrusion from soil vapor does not represent a significant risk to building occupants. Benzene and carbon tetrachloride detected in indoor air quality samples exceed their respective applicable ESLs; however, since concentrations were similar in the outdoor ambient air control samples and carbon tetrachloride was not detected in soil vapor samples, these constituents probably originate from atmospheric contaminants rather than soil vapor intrusion (Allwest, 2014).

AllWest recommended no further subsurface investigation at the subject site, and further recommended that a request for case closure as a low risk solvent site with no further action required be submitted to the ACEH (Allwest, 2014).

In their letter of July 16, 2014, ACEH did not request further investigation of the site, and requested that AllWest submit a case closure summary report that provides the technical basis for considering the site a low-risk solvent site.

II. SITE SETTING

A. 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 RWQCB *Water Quality Control Plan (Basin Plan),* dated June 29, 2013 (RWQCB, 2013a), the subject site vicinity is located in the Santa Clara Valley Groundwater Basin, East Bay Plain Sub-Basin.

Data from previous site borings advanced during subsurface investigations conducted during the 1990s and 2012 indicate the property is underlain by an irregularly layered sequence of clayey to silty gravelly sand and sandy to clayey gravel lenses separated by clayey to sandy silt and silty to sandy clay layers to a depth of approximately 35 feet below ground surface (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 artificial fill [Hart Crowser, *Preliminary Site Investigation Report*, November 20, 1992 (Hart Crowser, 1992b) and *Supplemental Site Investigation* June 18, 1993 (Hart Crowser, 1993), and AllWest, *Soil Vapor and Subsurface Investigation Report*, March 16, 2012 (AllWest, March 2012b)].

Shallow perched water-bearing zones were encountered at 14.5 feet bgs, 9.5 feet bgs and 10.4 feet bgs in borings B-1, B-2, and GP-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, B-7 (MW-1) at approximately 9.5 to 10.5 feet bgs, and GP-1 at approximately 16.5 to 23.5 feet bgs, although free water was not 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, 1992b and 1993).

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. Boring logs from previous subsurface investigations are included in Appendix A.

Groundwater was first encountered within this sand layer at approximately 34.5 to 37 feet bgs in borings B-5, B-7 (MW-1), MW-2, MW-3, MW-4 and GP-1. Although first encountered groundwater within this sand layer was unconfined when these borings (except GP-1) 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. A relatively thick silty to sandy 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 (Hart Crowser, 1992b and 1993, and AllWest, March 2012b). Historical depth to groundwater and groundwater elevation data is summarized in Table 3.

The static depth of confined groundwater encountered in GP-1 of approximately 20.6 feet bgs during January 2012 was approximately 3 to 4 feet higher than depth to water measured in the onsite monitoring wells during the December 20, 2011 monitoring event. A shallow, unconfined perched saturated zone was encountered in GP-2 at approximately 10.4 feet bgs. 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 backfill material atop low permeability native clay. (AllWest, March 2012b).

The groundwater gradient in the site area is very flat and the arrangement of monitoring wells largely linear and perpendicular to flow direction, thus the determination of the groundwater flow direction is difficult to assess. Groundwater flow direction in the vicinity of the site has historically fluctuated, but since 2000 has generally been calculated to be to the east-northeast, at a very flat gradient, with the exception of the June 2008 monitoring event measurement which was to the west-northwest. Prior to the destruction of monitoring well HC-1 in 2001, a flow direction component to the southwest was generally calculated in the vicinity of the former Super Tire Facility; it is the opinion of AllWest that this is the primary local groundwater flow direction. Historical groundwater elevation maps from 1993 to 2008, and a rose diagram of historical groundwater flow directions, are included in Appendix B.

The regional groundwater flow direction is presumed to be to the southwest from the Oakland Hills towards San Francisco Bay, concurrent with the topography. This generally correlates with the flow direction calculated at the subject site prior to the destruction of the offsite monitoring well HC-1 in 2001. The historical fluctuations in gradient direction are not considered significant due to the very small differences in groundwater elevations measured, and the linear arrangement of most of the monitoring wells (AllWest, March 2012b).

The depth to groundwater during the last monitoring event in December 2011 ranged between 22.51 feet below ground surface (bgs) and 24.13 feet bgs. The local groundwater flow direction measured during the 2011 monitoring event was generally towards the east at a gradient of approximately 0.001 feet/foot (AllWest, March 2012a). The December 2011 groundwater elevation map is included as Figure 3.

B. Local Groundwater Use

East Bay Municipal Utility District (EBMUD) supplies drinking water to the commercial and residential customers in the subject site vicinity. According to the District's *2013 Annual Water Quality Report*, the source of potable water for the EBMUD service area is treated surface water from the Mokelumne River watershed fed by Sierra Nevada snowmelt. The RWQCB *Basin Plan* classifies groundwater beneficial use in the subject site vicinity (Santa Clara Valley

Groundwater Basin, East Bay Plain Sub-Basin) as existing municipal, process, industrial and agricultural (RWQCB, 2013a).

AllWest requested a search of records for water wells within approximately 0.5 miles of the subject site from the California Department of Water Resources (DWR) database on September 11, 2014, and from the County of Alameda Public Works Agency (ACPWA) Water Resources Section database on September 15, 2014. Because of uncertainties in the estimated well locations and the large area of the subject site, the search radius was extended slightly beyond 0.5 miles. The DWR sent AllWest the records search results on September 24, 2014. The ACPWA sent AllWest the records search results on October 7, 2014.

The DWR and ACPWA records search results listed a total of approximately 465 and 376 water wells, respectively, within approximately 0.5 miles of the subject site. The vast majority of these wells were groundwater monitoring wells, remediation wells, test wells, or temporary environmental or geotechnical test borings. After reviewing the DWR and ACPWA records, AllWest was able to locate six water supply wells used for private domestic, irrigation or industrial use within approximately 0.5 miles of the subject site, and two more slightly more than 0.5 miles from the subject site.

The nearest listed water supply well is listed in the DWR records as located at 4514 East 14th Street (presumably the current International Boulevard) approximately 0.15 miles southeast of the subject site in the cross-gradient direction. However, the DWR records are unclear as to whether the 4514 East 14th Street address is the current International Boulevard in Oakland, or the current East 14th Street in the adjacent city of San Leandro. If this well is located at 4514 East 14th Street, San Leandro, it would be more than 6 miles southeast of the subject site. The DWR records are incomplete and are uncertain as to the installation date, use or status of this well, but it was apparently either a domestic or irrigation well since it was located at a residence according to a note on the well log. It should be noted that the 4514 International Boulevard address does not correspond to any current building address, and that buildings in this vicinity are commercial, not residential. The current status of this well is unknown. This well is not listed in the ACPWA records.

An irrigation well is located approximately 0.16 miles northeast of the subject site in the up-gradient to cross-gradient direction at a Chevron service station at 4265 Foothill Boulevard. This well was installed in 1990; however, the current status is unknown. An irrigation well is located approximately 0.26 miles northwest of the subject site in the cross-gradient direction at 1601 39th Avenue. This well was installed in 1977; however, the current status is unknown. Two industrial wells are located approximately 0.36 miles south-southeast of the subject site at 4701 San Leandro Avenue in the cross-gradient direction; one of these wells was installed in 1962, and the other at an earlier date - apparently 1923 according to ACPWA records. The current status of these wells is unknown. An irrigation well is located approximately 0.47 miles southwest of the subject site in the presumed down-gradient direction at 3801 East 8th Street. This well was installed in 1991; however, the current status is unknown.

One irrigation and one industrial well are located slightly outside the ½ mile radius northwest and southwest from the subject site in the cross-gradient and downgradient directions, respectively. A summary of water supply wells located within approximately ½ mile of the subject site is included in Table 7, and locations of these wells are shown on Figure 7.

III. CONCEPTUAL SITE MODEL

A. Constituents of Concern

Chemical analysis of soil, soil vapor and groundwater samples collected during investigations performed at the property have detected concentrations of the solvent PCE and its breakdown products TCE and cis-1,2-DCE in site soil and groundwater. Since the laboratory chromatograms of the December 2011 (and most of the historical 1993 to 1994) TPH-g detections in groundwater samples do not match typical gasoline standards, the detected constituents were probably chlorinated VOCs (mostly PCE) within the TPH-g range (AllWest, 2012a).

In January 2012 AllWest advanced two soil borings and collected soil and grab groundwater samples from the vicinity of the former UST area. Petroleum hydrocarbons were not detected at concentrations above screening levels in soil and groundwater samples from the two borings. In a letter dated June 5, 2012 commenting on these results and results from the last groundwater monitoring event conducted in December 2011, ACEH required no further investigation in the area of the former USTs. Therefore, PCE and its breakdown products will be considered the chief constituent of concern (COC) for this evaluation.

B. Source and Preferential Pathways

The specific area or location where PCE entered the subsurface has not been identified. However, based on the distribution and concentration of PCE detected in soil, groundwater and soil vapor samples, the primary source area is likely located in the vicinity of SVP-18. A car wash drainage sump 25 ft south/southwest of this area was removed on August 7, 1992 (Figure 2).

However, at least two other potential PCE release sources have been identified. These include the dry cleaners formerly located at 1460 High Street across High

Street east of the subject site (AllWest, 1995), which appeared to be upgradient during at least two groundwater monitoring events during 2008 and 1999, and potentially during several earlier events in 1993 and 1994 (Appendix B). Elevated PCE concentrations were detected in September 2013 from soil vapor samples collected from vapor probes SVP-27 and SVP-28 in the general vicinity of a storm drain catch basin located in the east parking lot area of the subject site.
In January 2012 and again in September 2013, AllWest, using a private underground utility locator, 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. This was unsuccessful since the drain was blocked, but the utility locator did partially trace the position of what was suspected to be the sewer line in the outside parking area using ground-penetrating radar (GPR).

AllWest reviewed the City of Oakland Building Services Division (BSD) files in March 2013 for information regarding the layout of sub-slab sanitary sewer lines and other utilities within the subject site building. The only building plans available showing sub-slab and subsurface utilities were dated 1960 and were of the original Safeway supermarket building configuration. Since the building was subsequently extensively remodeled for the Grand Auto facility circa 1971, these may not necessarily represent the current utility configuration. The Grand Auto car wash sump and associated sewer or storm drain lines are not shown on these building plans (AllWest, 2013b). Sanitary sewer and storm drain line locations, based on the original 1960 Safeway site plans and observations by utility locators during 2012 and 2013, are shown on Figure 2.

C. Distribution of Constituents of Concern in the Subsurface

Soil

The highest PCE concentration historically detected in soil samples at the subject site was 0.104 mg/kg in sample S2C-8 collected in August 1992 from beneath the car wash drainage sump at 8.5 feet bgs (Figure 2). TPH-g, TPH-d, ethylbenzene, toluene and total xylenes were also detected in S2C-8 at respective concentrations of 310 mg/kg, 120 mg/kg, 0.064 mg/kg, 0.065 mg/kg and 1.5 mg/kg (Table 1).

TPH-g and BTEX were not detected in soil samples collected in August 1992 from boring B-7 (converted to groundwater monitoring well MW-1) approximately 10 feet southwest of the sump (Figure 2; however, the samples were not analyzed for chlorinated VOCs including PCE (Table 1).

Two soil borings (B-8 and B-9) were drilled in the area of the former car wash sump during April 1993 (Figure 2). PCE was also detected in soil samples collected from B-8 at 11 feet bgs and 25 feet bgs at respective concentrations of 0.05 mg/kg and 0.030 mg/kg, but was not detected in any other samples collected from B-8 or B-9 (Table 1). Soil sample analytical results from these two borings appeared to indicate that the petroleum hydrocarbons and PCE detected immediately below the sump in sample S2C-8 were not laterally or vertically widespread in unsaturated soil.

During April 1993, PCE was detected in soil samples collected from borings B-11 (MW-3) at 35.5 feet bgs and B-12 (MW-4) at 36 feet bgs, at respective concentrations of 0.009 and 0.012 mg/kg (Table 1). Since these deep soil samples were collected near the saturated/unsaturated soil interface, and these borings are located southwest and south from the former sump in the generally downgradient direction (Figure 2), the detected PCE probably migrated from the source area by groundwater transport. PCE was not detected in soil samples collected from boring B-10 (MW-2) northeast of the sump (Figure 2, Table 1).

Based on the Hart Crowser *Risk Assessment* report (1996b), ACEH concluded in a December 30, 1996 letter to PACCAR that the soils at the subject site do not pose a threat to public health.

PCE was detected in a soil sample collected by AllWest in January 2012 from boring GP-2 at 10.0 to 10.5 feet bgs in the vicinity of the former USTs at a concentration of 0.0056 mg/kg (Figure 2, Table 1). 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 RWQCB ESLs and do not represent an environmental concern, indicating that the former USTs have not significantly impacted soil at the subject site (AllWest, 2012b).

The ACEH concluded in their letter dated June 5, 2012, responding to the AllWest *Soil Vapor and Subsurface Investigation Report* (AllWest, March 2012b), that no further investigation was necessary in the area of the former USTs.

<u>Groundwater</u>

A review of subsurface investigations and groundwater monitoring performed since 1993 indicates that PCE has been detected in 87 of 88 samples collected at eight sample locations, with a maximum concentration of 340 μg/L in monitoring well MW-1 in June 1994. The lateral extent of the PCE plume has not been defined. Based on the spatial distribution of the chemicals detected in site monitoring wells, a single, well defined source for the chlorinated solvents is not apparent, but the former dry cleaners across High Street from the subject site remains a possibility.

The upgradient, downgradient and cross-gradient extent of the PCE plume in groundwater has not been defined beyond the subject property boundaries, with the exception of the former offsite monitoring well HC-1 to the southwest, which indicated the PCE plume extended offsite in the presumed downgradient direction as of 2001. The lack of detected PCE in the groundwater sample from boring GP-1 in the former UST vicinity to the west-southwest of the former sump implies that the extent of the PCE plume has been defined in that direction.

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 only location where PCE has not been detected in groundwater samples was boring GP-1 in the vicinity of the former USTs during the January 2012 subsurface investigation. The highest PCE concentration detected during the most recent groundwater monitoring event conducted by AllWest in December 2011 was 64 μg/L in monitoring well MW-1 (Figure 4 and Table 4).

The PCE breakdown products TCE, and/or cis-1,2 DCE have been historically detected in all groundwater samples from the site, at maximum respective concentrations of 130 μg/L and 36 μg/L in monitoring well MW-2 during September 1994. The highest TCE and cis-1,2 DCE concentrations detected during the most recent groundwater monitoring event conducted by AllWest in December 2011 was 9.2 μg/L and 5.1 cis-1,2 DCE, respectively, in monitoring well MW-1 (Table 4).

Dichlorodifluoromethane (Freon® 12) was historically detected in groundwater samples collected from all monitoring wells, at a maximum concentration of 130 μg/L in MW-2 during the most recent December 2011 monitoring event. Historically, very low concentrations of chloroform, 111-trichloroethane (1,1,1-TCA), 1,2-dichloroethane (1,2-DCA), the PCE degradation product vinyl chloride, and carbon tetrachloride have been detected in groundwater samples at the subject site, but were not detected in any of the samples collected during the December 2011 groundwater sampling event (Table 4).

TPH-g range compounds were detected in groundwater samples collected from MW-1, MW-3A and MW-4 during the December 2011 sampling event. Historically, TPH-g range compounds were detected in groundwater samples from all wells monitored from 1992 to 1994, and a single detection in well MW-3A in 1999. TPH-g was not analyzed during the sampling events conducted from 1994 to 1996, and 2001 through 2008. Since the laboratory chromatograms of most historical TPH-g detections did not match typical gasoline standards, the detected constituents were probably chlorinated VOCs (mostly PCE) within the TPH-g range (Table 4).

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.

Toluene and MTBE were detected in the groundwater sample from boring GP-1 at respective concentrations of 0.63 µg/L and 0.96 µg/L (Table 4).

A summary of historical groundwater sample analytical data is presented in Table 4. A summary of analytical data and distribution in groundwater during the most recent monitoring event in December 2011 and subsurface investigation of January 2012 is shown in Figure 4.

Soil Vapor

A review of soil vapor investigations and monitoring events performed in 2012 and 2013 indicates that PCE has been detected in all 41 soil vapor samples collected, at a maximum concentration of 16,000 $\mu g/m^3$ in the sample collected in September 2013 at 5 feet bgs from vapor probe SVP-18 located in the former car wash about 20 feet northeast of the vicinity of the former sump (Figures 2 and 5).

PCE concentrations in soil vapor were generally highest in the vicinity of temporary probe SVP-18 inside the building, and generally elevated along interior sanitary sewer lines. Where semi-permanent sub-slab and temporary 5 feet bgs probes were installed in adjacent pairs, PCE concentrations tended to be higher in the 5 feet bgs temporary probes. The highest PCE concentrations were generally detected inside in probes SVP-16 and SVP-18, and SVP-27 and SVP-28 outside in the southeastern portion of the site in the vicinity of a parking lot storm drain catch basin. Soil vapor sample PCE concentrations are shown in Table 5 and Figure 5.

D. Constituents of Concern Concentration and Degradation Trends Over Time

Soil

PCE was historically detected in only three soil samples located adjacent to the former sump location and two soil samples located farther away in 1992-1993. PCE was detected in one soil sample collected in the former UST vicinity in 2012.

Groundwater

Comparison of groundwater analytical results from 1992 through the most recent groundwater sampling event in December 2011 indicates a trend of decreasing PCE concentrations. A maximum concentration of 340 µg/L was detected in June 1994 in the monitoring well MW-1. The maximum concentration detected in the most recent December 2011 event was 64 µg/L in MW-1 (Table 4).

Concentrations of PCE detected in monitoring well MW-1, MW-3/MW-3A, and MW-4 have been steadily declining since 1992. Concentrations of PCE in monitoring well MW-2 have historically been the lowest and have remained stable. PCE concentrations in the three monitoring wells MW-1, MW-3A, and MW-4 have been stable to slightly declining from June 2008 to December 2011, with an average decline of 4.7 μg/L during that period. Based on graphical analysis of PCE concentration trends (Appendix C), PCE concentrations in groundwater can be expected to decline below drinking water ESLs within approximately 10 years due to natural attenuation alone (primarily biodegradation, advection and dispersion).

PCE degradation products TCE and cis-1,2-DCE have been detected in groundwater samples analyzed at the subject site. TCE concentrations in all four site monitoring wells have decreased an average of 1.45 μg/L between June 2008 and December 2011. Cis-1,2-DCE concentrations in MW-1 and MW-3A increased an average of 1.3 μg/L between June 2008 and December 2011. Because of the presence of these degradation products and increase of cis-1,2-DCE, AllWest concludes that biodegradation of PCE is occurring at the subject site.

A summary of historical VOC concentrations in groundwater samples from 1992 to 2012 is included in Table 4. Graphs of PCE, TCE and cis-1,2-DCE concentration trends in groundwater from 1992 to 2011 are included in Appendix C.

<u>Soil Vapor</u>

Since most soil vapor samples were collected at different locations within a two-year period, it is difficult to conduct a trend analysis of PCE concentrations over time. For the sub-slab vapor probes SVP-7 through SVP-12, which were sampled twice during October 2012 and April 2013, PCE concentrations decreased by an average of 133 $\mu g/m^3$ between the two events. For the sub-slab vapor probes SVP-13 through SVP-15, which were sampled twice during September 2013 and March 2014, PCE concentrations increased by an average of only 3 $\mu g/m^3$ between the two events. The PCE degradation product TCE has been detected in 21 of 41 soil vapor samples collected at the subject property, which indicates bio-degradation is occurring.

<u>Indoor Air</u>

Concentrations of VOCs detected in indoor air quality samples varied little between the two sampling events in August 2013 and March 2014. PCE was not detected in the outdoor ambient air control sample OAA-1 during either sampling event. PCE concentrations detected in sample IAQ-1 located in the main retail store declined from 0.74 $\mu g/m^3$ to 0.35 $\mu g/m^3$ between the two events. PCE concentrations detected in sample IAQ-2 located in the restroom declined from

1.2 µg/m^3 to 0.37 µg/m^3 between the two events. PCE concentrations detected in sample IAQ-3 located in the rear stockroom area increased slightly from 0.28 µg/m^3 to 0.34 µg/m^3 between the two events. PCE concentrations detected in sample IAQ-4 located in the former car wash area increased slightly from 0.24 µg/m^3 to 0.30 µg/m^3 between the two events (Table 6 and Figure 6).

The PCE breakdown product TCE was detected in only two indoor air samples during the August 2013 event, at concentrations of 0.44 µg/m^3 in IAQ-1 and 1.6 µg/m^3 in sample IAQ-2, and was not detected in any other indoor or outdoor samples during either event. The PCE breakdown product cis-1,2-DCE was detected only in indoor air sample IAQ-2 during the August 2013 event at a concentration of 0.14 µg/m^3 in sample, and was not detected in any other indoor or outdoor air samples during either event (Table 6 and Figure 6).

Other VOCs detected in indoor air quality and outdoor ambient air control samples during the August 2013 and March 2014 sampling events included benzene, carbon tetrachloride, chloroform, chloromethane, dichlorodifluoromethane, 1,2-dichloroethane, 1,1-difluoroethane, ethylbenzene, 4-ethyltoluene, methylene chloride, toluene, 1,1,2-trichloroethane-1,2,2-trifluoroethane, trichloroethene, trichlorofluoromethane, and 1,3,5-trimethylbenzene (Table 6). Because of relatively uniform concentrations detected in both indoor and outdoor air samples during both events, it is likely that benzene, carbon tetrachloride and most of the other detected VOCs are atmospheric contaminants and are not considered COCs for this investigation (AllWest, 2013b and 2014).

E. Sensitive Receptors and Beneficial Uses

Potential sensitive receptors that are known or suspect at the subject site or vicinity are shown in Table 8 and include the following:

Human Receptors

- Construction Workers;
- Retail Business Employees and Customers;
- Cross-gradient and Down-Gradient Current Residents;
- Hypothetical Future Onsite Residents.

Ecological Receptors

- Terrestrial Biota (landscape flora and fauna);
- Aquatic Biota (surface water flora and fauna);
- Groundwater Quality.

Onsite Receptors

The subject property is a former Grand Auto retail store, car wash and auto repair building currently split into two different tenant spaces. One space is occupied by a retail business, O'Reilly Auto Parts; the other space is vacant and was most recently occupied by a tire dealer. The site occupants and potential human receptors include retail business workers, customers and construction workers.

Offsite Receptors

Potential offsite human receptors include occupants of the adjacent commercial buildings surrounding the subject property on the northeast, northwest and west sides. Commercial buildings are situated to the east and southeast across High Street and to the southwest across International Boulevard. Potential offsite human and ecological receptors also include users of domestic, irrigation and industrial water supply wells. Data obtained from the DWR and ACPWA listed a total of approximately 465 and 376 water wells, respectively, within approximately 0.5 miles of the subject site. The vast majority of these wells were groundwater monitoring wells, remediation wells, test wells, or temporary environmental or geotechnical test borings. After reviewing the DWR and ACPWA records, AllWest was able to locate six water supply wells used for private domestic, irrigation or industrial use within approximately 0.5 miles of the subject site, and two more slightly more than 0.5 miles from the subject site.

The nearest listed water supply well is an apparent residential irrigation or domestic well located approximately 0.15 miles southeast of the subject site in the cross-gradient direction. The drilling date and current status of this well is unknown. The DWR records are unclear as to whether the listed 4514 East 14th Street residential address is the current International Boulevard (formerly East 14th Street) in Oakland, or the current East 14th Street in the adjacent city of San Leandro. If this well is located at 4514 East 14th Street, San Leandro, it would be more than 6 miles southeast of the subject site. The 4514 International Boulevard address does not correspond to any current building address, and buildings in this vicinity are commercial, not residential. Therefore, AllWest regards the existence of this well within ½ mile of the subject site to be questionable and not a likely potential receptor due to the cross-gradient direction.

The nearest reliably located water supply well is an irrigation well located approximately 0.16 miles northeast of the subject site in the up-gradient to cross-gradient direction at a Chevron service station at 4265 Foothill Boulevard and installed in 1990. An irrigation well is located approximately 0.26 miles northwest of the subject site in the cross-gradient direction at 1601 39th Avenue and was installed in 1977. Two industrial wells are located approximately 0.36 miles south-southeast of the subject site at 4701 San Leandro Avenue in the cross-gradient direction; one of these wells was installed in 1962, and the other at an earlier date - apparently 1923. An irrigation well is located approximately 0.47 miles southwest of the subject site in the down-gradient direction at 3801 East 8th Street and was installed in 1991.

An additional irrigation and industrial well were located to the northwest and southwest slight outside the ½ mile radius from the subject site in the cross-gradient and downgradient directions, respectively. The current status of all of these wells is unknown. Due to distance and/or gradient direction, none of these listed wells are likely to be potential receptors. A survey of listed wells within approximately ½ mile of the subject site is presented in Table 7, locations are shown in Figure 7.

The nearest surface water drainage feature to the subject property is Tidal Canal, between the mainland and Alameda Island, located approximately 0.75 miles southwest of the subject property. Due to the distance from the subject site, this drainage feature is unlikely to be a potential ecological receptor.

F. Migration and Exposure Pathways

Table 8 presents the conceptual site model (CSM) that graphically illustrates potential sources of contamination, release and transport mechanisms, exposure media and routes, and receptors that could be present at the subject property (on-site, i.e.: O'Reilly Auto Parts) and off-site (i.e., beyond the boundaries of the subject property). In general, quantitative risk evaluations and development of remedial alternatives (if needed) are performed only for potentially complete exposure pathways and scenarios. Exposure pathways are considered to be complete if all of the four following elements are present:

- A source of chemicals;
- A mechanism of release from the source into an environmental medium;
- A mechanism for direct contact with the chemicals or for transport of the chemicals to the receptor exposure point with plausible receptors present or potentially present; and
- An exposure route (e.g., ingestion, inhalation, dermal contact, food chain, etc.) through which the chemicals can enter the human body and/or ecological system.

Although several complete exposure pathways may exist for an identified receptor(s), the pathways may not be comparable in magnitude or significance. The significance of a pathway as a mode of exposure depends on the identity and nature of the chemicals involved and the magnitude of the likely exposure dose. The Conceptual Site Model (Table 8) summarizes the importance of each of the exposure routes associated with each receptor. Potentially complete and significant exposure pathways are represented by a solid symbol, complete but minor pathways by a cross-hatched symbol, and incomplete pathways by a hollow symbol. Note that no significant complete exposure pathways are present. Several insignificant potentially complete pathways are described below.

Secondary Sources/*Potential Migration Pathways*

PCE released from the primary source or sources has migrated, resulting in secondary contaminant sources. These secondary sources and potential pathways may include subsurface soils, groundwater and soil gas.

Soil

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. The site and surrounding area is overlain with buildings, sidewalks, streets, and paved parking areas with virtually no landscaped areas. No direct exposure routes to impacted soil currently exist. PCE concentrations detected in soil are below direct contact ESLs. No offsite properties or receptors have been impacted.

Future construction or maintenance personnel in the area of the release could possibly be exposed to soil containing PCE and/or petroleum hydrocarbon concentrations during excavation activities or utility work. Exposure risks to PCE and/or petroleum hydrocarbon containing soil can be reduced or mitigated by employing various engineering measures including, but not limited to, use of Personnel Protective Equipment (PPE), minimizing direct contact and employing other mitigating measures.

Groundwater

Drinking water to receptors in the site vicinity is provided by the EBMUD from imported sources. However, the RWQCB considers groundwater in the site vicinity to be of potential or existing beneficial use for municipal, process, industrial and agricultural purposes. Based on the shallow depth of the first encountered groundwater, discussions with the local water agencies regarding aquifer use and drinking water supply, the relatively low concentrations of PCE detected in groundwater analytical results, and the absence of downgradient water supply wells in the site vicinity, it is reasonable to presume shallow groundwater containing PCE above ESLs is not used as a drinking water source. Although a potential water supply well appears to be listed in DWR records as being approximately 0.15 miles southeast of the subject site in the cross-to down-gradient direction, the correct location, use and status of the well are questionable due to the incompleteness of the records. Therefore, under current conditions, direct exposure or ingestion of impacted groundwater is unlikely.

In addition based on the distance to the nearest surface water body, approximately 0.75 miles to the southwest, no discharge of groundwater containing PCE to an aquatic habitats is likely. Since the depth of first encountered groundwater at the subject site is approximately 34 to 37 feet bgs, with a static depth of approximately 22 to 24 feet bgs, it is unlikely that current or future construction workers would be exposed to direct contact or accidental ingestion of PCE-impacted groundwater.

Vapor Intrusion

Volatilization of PCE vapor from shallow soil or groundwater into indoor air is considered a potentially complete exposure pathway. The likely receptors are indoor workers and customers at the O'Reilly Auto Parts retail business, and potential future construction workers. Because the site exterior is entirely paved, the floors of the building are slab-on-grade concrete, and detected PCE concentrations in indoor air samples are low (below commercial ESLs), the soil vapor intrusion pathway to workers, customers and visitors in the subject site building, or outdoor receptors, are not considered significant.

Volatilization of PCE vapor from shallow groundwater into indoor air at buildings downgradient from the subject site is considered a potentially complete exposure pathway. The likely receptors are workers and customers at adjacent commercial businesses. Due to the low concentrations of PCE present in groundwater, the depth to groundwater, and relatively low soil permeability, this potential vapor intrusion pathway is not considered significant.

IV. TIER 1 RISK ASSESSMENT

A. Environmental Screening Levels

To assess the risk of the PCE release(s) to potential receptors, soil, groundwater, soil vapor and indoor air sample analytical results were compared to the current Environmental Screening Levels (ESLs) for residential and commercial land use compiled by the RWQCB in *User's Guide: Derivation and Application of Environmental Screening Levels*, Interim Final – December 2013 (RWQCB 2013b). Although the conclusions of previous AllWest subsurface investigation and groundwater monitoring reports were based on the 2008 or earlier versions of the RWQCB ESLs and City of Oakland RBSLs, and no soil or groundwater samples have been collected at the subject site since 2012, AllWest used the most recent 2013 ESL values evaluate all analytical data in this Tier 1 risk assessment for the sake of consistency. Soil vapor, groundwater vapor intrusion and indoor air ESLs for PCE, TCE and various other VOCs were revised between 2008 and 2013.

ESLs were developed by the RWQCB to address environmental protection goals. These goals include protection of human health, drinking water resources, aquatic and terrestrial biota and adverse nuisance conditions. Under most conditions, the presence of chemicals at concentrations below the corresponding ESLs are presumed to not pose a significant threat to human health and the environment. Concentrations of chemicals above ESLs does not necessarily indicate impacts to human health or the environment exists or that remedial measure are required as ESLs are not intended to be used as a "clean-up" standard. ESLs used for this risk assessment are presented in Tables 4, 5 and 6.

B. Assessment of Risk – Soil

AllWest compared historical soil sample data generated during previous assessments to commercial/industrial ESL values listed in *Table A. Environmental Screening Levels (ESLs), Shallow Soils (≤3m bgs), Groundwater is Current or Potential Source of Drinking Water* and *Table C. Environmental Screening Levels (ESLs), Deep Soils (>3m bgs), Groundwater is Current or Potential Source of Drinking Water* (RWQCB, 2013b). We chose these Tables because PCE soil contamination detected at the subject property during previous investigations was detected in both shallow (less than 10 feet bgs) and deeper (greater than 10 feet bgs) soils and the RWQCB considers site groundwater to be a potential drinking water source. For shallow and deeper soils the commercial/industrial land use groundwater protection ESL for PCE is 0.7 mg/kg.

AllWest also compared historical soil analytical data to commercial/industrial human health direct contact ESL values listed in *Table A-2. Shallow Soil Screening Levels (≤3m bgs), Commercial/Industrial Land Use (Groundwater is Current or Potential Drinking Water Resource)* (RWQCB, 2013b). We chose this table to evaluate potential human health direct contact to potential future construction workers engaged in shallow soil excavation activities. The shallow soil commercial/industrial land use direct contact ESL for PCE is 2.6 mg/kg (RWQCB, *Table A-2,* 2013b).

No PCE or other VOC or petroleum hydrocarbon concentrations detected in historical soil samples at the subject site have exceeded their applicable ESLs (Table 1); therefore residual concentrations in site soils are unlikely to present a human health risk to site occupants. 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,* 2013b) but was within naturally occurring background levels for the area.

C. Assessment of Risk – Groundwater

AllWest compared historical groundwater sample data generated during previous assessments to ESL values in *Table F-1a. Groundwater Screening Levels (Groundwater is a Current or Potential Drinking Water Resource)* (RWQCB, 2013). We chose this Table because the RWQCB considers site groundwater to be a potential drinking water source. The drinking water ESL for PCE is 5.0 μg/L. We also evaluated groundwater sample data versus the ESL values provided in *Table E-1. Groundwater Screening Levels for Evaluation of Potential Vapor Intrusion Concerns* (RWQCB, 2013b). The vapor intrusion ESL values for PCE in groundwater for commercial/industrial land use is 640 μg/L (fine-coarse soil mix).

Historical PCE concentrations in groundwater exceeded the drinking water ESL in 82 of 88 samples collected between 1993 and 2012. The maximum concentration of PCE historically detected was 340 μg/L during June 1994 in monitoring well MW-1. The maximum PCE concentration detected during the most recent (December 2011) monitoring event was 64 μg/L, also in MW-1. These concentrations exceed the drinking water protection ESL of 5 μg/L, but not the commercial/industrial vapor intrusion ESL of 640 μg/L. PCE was subsequently detected in a perched-zone groundwater sample collected in January 2012 from boring GP-2 in the vicinity of the former USTs at 0.64 μg/L, below the ESL.

Historical TCE concentrations in groundwater exceeded the drinking water ESL in 81 of 88 samples collected between 1993 and 2012. The maximum concentration of TCE historically detected was 130 μg/L during September 1994 in monitoring well MW-2. The maximum PCE concentration detected during the most recent (December 2011) monitoring event was 9.2 μg/L, in MW-1. These concentrations exceed the drinking water protection ESL of 5 μg/L, but not the commercial/industrial vapor intrusion ESL of 1,300 μg/L.

Historical cis-1,2-DCE concentrations in groundwater exceeded the drinking water ESL in 48 of 88 samples collected between 1993 and 2012. The maximum concentration of cis-1,2-DCE historically detected was 36 μg/L during September 1994 in monitoring well MW-2. These concentrations exceed the drinking water protection ESL of 6 μg/L but not the commercial/industrial vapor intrusion ESL of 26,000 μg/L. The maximum PCE concentration detected during the most recent (December 2011) monitoring event was 5.1 μg/L, in MW-1, which did not exceed the drinking water protection ESL.

Therefore, PCE, TCE and cis-1,2-DCE concentrations detected in groundwater do not present a significant human health risk to site occupants, since concentrations do not exceed groundwater vapor intrusion ESLs, and groundwater in the site vicinity is not used as a drinking water source. The depth to first encountered groundwater is also relatively deep, at approximately 34 to 37 feet bgs. The PCE, TCE and cis-1,2-DCE plume does present a potential risk to offsite down-gradient water supply wells; however, since the nearest listed definitively located downgradient water supply (industrial) wells are located 0.36 miles from the subject property (Table 7 and Figure 7), it is very unlikely they have been impacted by the subject site PCE plume.

All other VOCs detected in historical groundwater samples were below the ESLs, with the exception of 1,2-dichloroethane (1,2-DCA) detected above its ESL of 0.5 µg/L in six samples from MW-2, most recently in July 2004; vinyl chloride (a PCE degradation product) detected above its ESL of 0.5 µg/L in two samples from MW-2, both in September 1995; and carbon tetrachloride detected above its ESL of 0.5 µg/L in 4 samples from MW-2, most recently in September 2006. Since none of these constituents has been detected at concentrations exceeding ESLs since 2006, they do not present a significant human health concern for the subject site or offsite receptors.

Historical TPH-g range concentrations in groundwater exceeded the drinking water ESL of 100 µg/L in 8 of 43 samples collected between 1993 and 2012. However, these TPH-g detections do not match typical gasoline standards and probably represent chlorinated VOCs (mostly PCE) within the TPH-g range. TPH-d and TPH-mo concentrations, detected in the shallow perched water sample from GP-2, each exceeded their respective drinking water ESLs of 100 µg/L; however, that sample from a perched water-bearing zone within the former UST excavation was 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 (AllWest, 2012b).

D. Assessment of Risk – Soil Vapor

AllWest compared soil vapor sample data generated from temporary probes at 5 feet bgs during previous assessments to commercial/industrial land use ESL values in *Table E. Environmental Screening Levels (ESLs), Indoor Air and Soil Gas (Vapor Intrusion Concerns)* and *Table E2. Soil Gas Screening Levels for Evaluation of Potential Vapor Intrusion* (RWQCB, 2013b). We chose these look up tables to evaluate possible soil vapor intrusion exposure to site occupants in a commercial setting. The commercial/industrial ESL for PCE as soil gas is 2,100 $\mu g/m^3$ (RWQCB, *Table E*, December 2013).

PCE was detected at concentrations exceeding the ESL of 2,100 $\mu g/m^3$in 2 of 8 soil vapor samples collected in January 2012 from temporary probes (SVP-1 through SVP-6) at 5 feet bgs, at a maximum concentration of 4,600 $\mu g/m^3$ in probe SVP-2. PCE concentrations in 8 of the 17 temporary 5-foot bgs soil vapor probe samples (SVP-16 through SVP-32) collected during the September 2013 event exceeded the corresponding RWQCB ESL of 2,100 $\mu g/m^3$, at a maximum concentration of 16,000 $\mu g/m^3$ in probe SVP-18. TCE was not detected in any of the soil vapor samples collected from 5 feet bgs during the two investigations at concentrations exceeding its applicable ESL of 3,000 $\mu g/m^3$.

ESLs for sub-slab soil vapor have not been established by the RWQCB. AllWest compared soil vapor sample data generated from permanent and semi-permanent sub-slab probes at approximately 0.5 feet bgs during previous assessments to the screening level recommended in the DTSC's *Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance), Table 2 and Appendix B,* October 2011 (DTSC, 2011). The DTSC sub-slab soil vapor screening level is derived by dividing the commercial indoor air ESL by a by sub-slab attenuation factor of 0.05. For the RWQCB commercial indoor air ESL of 2.1 $\mu g/m^3$ for PCE, the corresponding DTSC sub-slab screening level is 42 $\mu g/m^3$. For the RWQCB commercial indoor air ESL of 3.0 $\mu g/m^3$ for TCE, the corresponding DTSC sub-slab screening level is 60 $\mu g/m^3$.

The RWQCB *User's Guide: Derivation and Application of Environmental Screening Levels* and *Environmental Screening Levels, Frequently Asked Questions* (RWQCB, December 2013c) considers the DTSC 0.05 sub-slab attenuation factor to be excessively conservative, since it was based on United States Environmental Protection Agency (USEPA) data from sites across the country, many of which have conditions different from those in the San Francisco Bay Area. The RWQCB recommends developing Tier 2 site-specific sub-slab attenuation factors.

AllWest agrees with the RWQCB opinion that the DTSC sub-slab attenuation factor of 0.05 is excessively conservative. Based on subject site-specific sub-slab soil vapor and indoor air PCE concentrations detected during the September 2013 and March 2014 sampling events, AllWest has calculated an average sub-slab attenuation factor of 0.00033 and a 90^{th} percentile of data (as used by DTSC) sub-slab attenuation factor of 0.00072. These values agree closely with data calculated from sub-slab soil vapor and indoor air samples at several other AllWest PCE release sites. In no cases did sub-slab attenuation factors calculated for any of the AllWest sites exceed or approach the DTSC value of 0.05 and were generally two orders of magnitude below. The subject site-specific sub-slab attenuation factor data are presented in Table 9.

AllWest calculated site-specific sub-slab soil vapor screening levels for PCE and TCE, using our site-specific derived 90^{th} percentile sub-slab attenuation factor of 0.00072 and the RWQCB commercial indoor air ESLs for PCE and TCE of 2.1 $\mu g/m^3$ and 3.0 $\mu g/m^3$, respectively. The resulting site-specific PCE and TCE sub-slab soil vapor screening levels are 2,917 $\mu g/m^3$ and 4,167 $\mu g/m^3$, respectively (Table 5).

PCE concentrations in all twelve of the samples collected at 0.5 feet bgs from permanent sub-slab soil vapor probes SVP-7 through SVP-12 during the October 2012 and April 2013 events, and four of the six samples collected from semi-permanent sub-slab soil vapor probes during the September 2013 and March 2014 events, exceeded the corresponding DTSC sub-slab screening level of 42 $\mu g/m^3$ (using the DTSC defined sub-slab attenuation factor of 0.05). None of the PCE concentrations detected in any of the samples collected from 0.5 feet bgs sub-slab soil vapor probes in any events exceeded the AllWest-derived site-specific sub-slab screening level of 2,917 $\mu g/m^3$ (assuming our site-specific calculated sub-slab attenuation factor of 0.00072).

None of the TCE concentrations detected in any samples collected from the 0.5 feet bgs sub-slab soil vapor probes in any events exceeded the corresponding DTSC sub-slab screening level of 60 $\mu g/m^3$, or the AllWest-derived site specific screening level of 4,167 $\mu g/m^3$.

None of the other detected VOC concentrations exceeded their respective applicable RWQCB ESLs, or their DTSC or AllWest-derived sub-slab screening levels, with the exception of benzene detected at 49 $\mu g/m^3$ in sub-slab probe SVP-13 during the September 2013 event, which exceeded the recommended DTSC sub-slab screening level of 8.4 $\mu g/m^3$ (indoor air ESL of 0.42 $\mu g/m^3$ divided by sub-slab attenuation factor of 0.05), although not the AllWest-derived site-specific sub-slab screening level of 583 $\mu g/m^3$ (sub-slab attenuation factor of 0.00072).

E. Assessment of Risk – Indoor Air Quality

None of the concentrations of PCE or TCE detected in indoor air quality samples during the August 2013 and March 2014 sampling events exceeded their applicable RWQCB commercial ESLs of 2.1 $\mu g/m^3$ for PCE and 3.0 $\mu g/m^3$ for TCE. Other detected VOCs, including benzene and carbon tetrachloride, did exceed their respective commercial ESLs of 0.42 $\mu g/m^3$ and 0.29 $\mu g/m^3$; however, these are most likely atmospheric contaminants and are not regarded as COCs for the subject site.

V. LOW THREAT CLOSURE ASSESSMENT

A. Low Threat Closure Criteria and Discussion

As summarized in the RWQCB document *Assessment Tool for Closure of Low-Threat Chlorinated Solvent Site, Table ES-1,* Draft Final dated July 31, 2009, nine narrative criteria are described under which closure is warranted for low-threat chlorinated solvent-impacted sites. Low-threat sites are defined as sites that pose little threat to human and ecological health, water quality, and beneficial uses, but do not yet meet cleanup standards. The nine recommended narrative closure criteria are summarized as follows, along with our evaluation of whether each criteria has been satisfied:

1. Develop a Complete Conceptual Site Model (CSM)

1a) Pollutant sources are identified and evaluated

- The PCE release source has not been definitively identified. Although soil and soil vapor sample data implies the former onsite car wash sump, which was removed in Aug 1992, was a potential PCE release point, the low concentrations detected in soil imply the vertical and lateral extent is not widespread. At least one other potential PCE release source has been identified. Groundwater analytical and gradient data imply the former dry cleaners located at 1460 High Street east of the subject site, in the presumed general upgradient direction, is a potential release source. The vertical and lateral extent of contaminants in soil in the source area vicinity has not been fully characterized.

1b) The site is adequately characterized

- Even though no confirmed source was identified, existing soil sample data implies the vertical and lateral extent of the PCE impact in unsaturated soil is not widespread. The lateral extent of the dissolved PCE plume in groundwater has not been characterized in the up-gradient, downgradient or cross-gradient directions (Figure 4). The vertical extent of the dissolved PCE plume in groundwater has not been vertically defined below the shallow water-bearing zones at approximately 30 to 45 feet bgs.

1c) Exposure pathways, receptors, and potential risks, threats, and other environmental concerns are identified and assessed

- Exposure pathways and potential sensitive receptors are identified in the Conceptual Site Model (Table 8). No significant complete exposure pathways have been identified. Potential risks, threats, and other environmental concerns are identified and assessed in Sections II, III and IV. No significant risks or environmental concerns have been identified. Detected concentrations of PCE in soil and indoor air are below all RWQCB ESLs. Detected concentrations of PCE in groundwater are below all RWQCB ESLs with the exception of drinking water protection; however, due to distance and gradient direction to the nearest water supply wells, the threat to human health via drinking water ingestion is insignificant. Detected concentrations of PCE in soil vapor exceed RWQCB ESLs and DTSC-derived sub-slab screening levels, but are below AllWest-derived sub-slab screening levels and do not appear to have significantly impacted indoor air quality or pose a human health risk to site occupants based on indoor air sample analytical results.

2. Control Sources and Mitigate Risks and Threats

2a) Pollutant sources are remediated to the extent feasible

- The potential onsite source areas, the former car wash sump and former USTs, were removed and soil in the immediate vicinities excavated. The lack of nearby potential groundwater receptors and the low concentrations of PCE detected in indoor air samples, indicate there is no significant threat to sensitive receptors and therefore additional remediation is not necessary.

2b) Unacceptable risks to human health, ecological health, and sensitive receptors, considering current and future land and water uses, are mitigated

- Since the subject site is paved with asphalt or concrete, or covered with buildings on concrete slab-on-grade foundations, no significant exposure pathways to current site sensitive receptors exists; therefore, further mitigation measures are unnecessary. Since PCE concentrations detected in indoor air samples are below commercial ESLs, no significant vapor intrusion risk to site occupants exists; therefore, vapor intrusion mitigation is not necessary. Since PCE concentrations detected in soil are below residential or commercial direct contact ESLs, and PCE concentrations detected in groundwater are below vapor intrusion ESLs, no mitigation is necessary prior to future redevelopment of the subject property. Since there are no nearby surface water sources or water supply wells, no significant risk exists to ecological receptors or current or future water usage; therefore, further groundwater mitigation measures are unnecessary.

2c) Unacceptable threats to groundwater and surface water resources, considering existing and potential beneficial uses, are mitigated

- Since there are no nearby water supply wells or surface water sources, no significant risk exists to current or future water usage or ecological receptors; therefore, further mitigation measures are unnecessary. It has also not been conclusively defined that the PCE plume in groundwater originates from an onsite source, rather than from the upgradient former dry cleaners.

3. Demonstrate That Residual Pollution in All Media Will Not Adversely Affect Present and Anticipated Land and Water Uses

3a) Groundwater plumes are decreasing

- Historical data indicate that concentrations are steadily declining (Table 4 and Appendix C). The presence of significant concentrations of the PCE breakdown products TCE and cis-1,2-DCE detected in groundwater samples indicate that natural biodegradation is ongoing.

3b) Cleanup standards can be met within a reasonable timeframe

- Based on graphical analysis of PCE concentration trends (Appendix C), PCE concentrations in groundwater can be expected to decline below drinking water ESLs within approximately 10 years due to natural attenuation alone (primarily biodegradation, advection and dispersion).

3c) Risk management measures are appropriate, documented, and do not require future Water Board oversight

- The previous conceptual site model and risk assessment indicates that monitored natural attenuation is an appropriate remedial option, can be properly documented, and does not require continued Water Board oversight once PCE concentrations decline below ESLs.

VI. CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions

Concentrations of PCE detected in soil at the subject site are very low, not exceeding any commercial or residential ESLs. Concentrations of PCE and its breakdown products detected in groundwater at the subject site exceed ESLs for groundwater as a potential drinking water resource, but do not exceed commercial groundwater vapor intrusion ESLs.

Concentrations of PCE detected in soil vapor at 5 feet bgs at the subject site exceed commercial ESLs. Concentrations of PCE detected in sub-slab soil vapor at 0.5 feet bgs at the subject site exceed DTSC-derived commercial sub-slab screening levels, but not AllWest-derived commercial site-specific sub-slab screening levels. No PCE breakdown products detected in soil vapor samples exceed their applicable ESLs, DTSC sub-slab screening levels, or AllWest site-specific sub-slab screening levels.

None of the concentrations of PCE or TCE detected in indoor air quality samples exceeded their applicable commercial ESLs; therefore, these COCs do not present a significant vapor intrusion human health risk to occupants at the subject site. Other detected VOCs, including benzene and carbon tetrachloride, did exceed their respective commercial indoor air ESLs; however, these are most likely atmospheric contaminants and are not regarded as vapor intrusion COCs for the subject site.

The vertical and horizontal extent of PCE impact in unsaturated soil has not been fully characterized; however, historical soil data implies PCE impact to shallow soil is limited to the immediate vicinity of the former sump and is not widespread. The horizontal extent of the dissolved PCE plume in groundwater has not been characterized in the upgradient, cross-gradient or downgradient directions, with the exception of the former UST vicinity in the presumed topographic downgradient direction to the west-southwest. The vertical extent of the dissolved PCE plume in groundwater has not been vertically defined below the shallow water-bearing zones to approximately 45 feet bgs.

Exposure pathways and potential sensitive receptors are identified. Due to very low PCE concentrations detected in soil, low PCE and TCE concentrations detected in indoor air, and paved areas and buildings covering the subject site, risk to onsite occupants from vapor intrusion or direct contact is insignificant. Due to distance from the subject site of the nearest potential receptors and relatively low PCE and breakdown product concentrations in groundwater, risk to beneficial uses of groundwater resources and ecological receptors are insignificant.

B. Recommendations

Since the risk of PCE and breakdown product impact to on-site and off-site sensitive receptors and beneficial uses of groundwater is low to insignificant, AllWest recommends case closure as a low-threat solvent site. It is recommended institutional controls including tenant and maintenance personnel notifications be enacted to notify current and future workers of the presence of PCE in shallow soil in the vicinity of the former car wash sump. An appropriate Health and Safety Plan and Soil Management plan should be prepared for workers who may be exposed to the soil and implemented prior to the start of any subsurface work.

VII. 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 August 2014. 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.

VIII. REFERENCES

AllWest Environmental, Inc. (AllWest). 1995. *Environmental Site Assessment, Grand Auto Store #43, 4240 East 14th Street, Oakland, California 94601*. August 10.

AllWest. 1999. *Workplan for Well Development and Sampling at Grand Auto #43, 4240 East 14th Street, Oakland*. October 29.

AllWest. 2000. *Site Closure and Groundwater Monitoring Report, Grand Auto Store #43, 4240 East 14th Street, Oakland, California*. August 15.

AllWest. 2001. *Annual Groundwater Monitoring and Well Destruction Report, Grand Auto Store #43, 4240 East 14th Street, Oakland, California*. August 27.

AllWest. 2008. *2008 Biennial Groundwater Monitoring Report, Kragen Auto Supply (Former Grand Auto #43), 4240 International Boulevard (East 14th Street), Oakland, California*. July 28.

AllWest. 2011a. *Soil Vapor Investigation and Groundwater Monitoring Work Plan, Kragen Auto Supply (Former Grand Auto #43), 4240 International Boulevard (East 14th Street), Oakland, California 94601*. April 15.

AllWest. 2011b. *Soil and Groundwater Investigation Work Plan Addendum, Kragen Auto Supply (Former Grand Auto #43), 4240 International Boulevard (East 14th Street), Oakland, California 94601*. July 15.

AllWest. 2012a. *2011 Groundwater Monitoring Report, O'Reilly Auto Parts (Former Grand Auto #43), 4240 International Boulevard (East 14th Street), Oakland, California*. March 16.

AllWest. 2012b. *Soil Vapor and Subsurface Investigation, O'Reilly Auto Parts (Former Grand Auto #43), 4240 International Boulevard (East 14th Street), Oakland, California 94601*. March 16.

AllWest. 2012c. *Additional Sub-Slab Soil Vapor Investigation, O'Reilly Auto Parts (Former Grand Auto #43), 4240 International Boulevard (East 14th Street), Oakland, California 94601*. August 1.

AllWest. 2012d. *Sub-Slab Soil Vapor Probe Installation and Sampling Report, O'Reilly Auto Parts (Former Grand Auto #43), 4240 International Boulevard (East 14th Street), Oakland, California*. December 18.

AllWest. 2013a. *Additional Soil Vapor Investigation and Indoor Air Monitoring Workplan, O'Reilly Auto Parts (Former Grand Auto #43), 4240 International Boulevard (East 14th Street), Oakland, California*. April 15.

AllWest. 2013b. *Second Sub-Slab Soil Vapor Sampling Report, O'Reilly Auto Parts (Former Grand Auto #43), 4240 International Boulevard (East 14th Street), Oakland, California*. July 11.

AllWest. 2014. *Additional Soil Vapor Intrusion Assessment and Indoor Air Quality Monitoring Report, O'Reilly Auto Parts (Former Grand Auto #43), 4240 International Boulevard (East 14th Street), Oakland, California*. May 21.

Hart Crowser, Inc. (Hart Crowser). 1992a. *Sampling and Analysis Plan, Grand Auto/Super Tire Facilities, 4240/4256 East 14th Street, Oakland, California*. July 13.

Hart Crowser. 1992b. *Preliminary Site Investigation Report, Grand Auto/Super Tire Facilities, 4240/4256 East 14th Street, Oakland, California 94621*. November 20.

Hart Crowser. 1993. *Supplemental Site Investigation, Grand Auto Facility, 4240 E. 14th Street, Oakland, California*. June 18.

Hart Crowser. 1994a. *Quarterly Status Report, Grand Auto Facility, 4240 E. 14th Street, Oakland, California*. January 14.

Hart Crowser. 1994b. *Quarterly Status Report, Grand Auto Facility, 4240 E. 14th Street, Oakland, California*. November 9.

Hart Crowser. 1996a. *Facility Closure Report, Grand Auto Supply, 4240 East 14th Street, Oakland, California*. February 16.

Hart Crowser. 1996b. *Risk Assessment, Grand Auto Supply, 4240 East 14th Street, Oakland, California*. October 8.

State of California Department of Toxics Substance Control (DTSC). 2011a. *Final, Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance)*. October.

DTSC. 2011b. *Vapor Intrusion Mitigation Advisory Final Revision 1*. October.

DTSC and State of California Regional Water Quality Control Board, Los Angeles Region (LARWQCB). 2012. *Advisory – Active Soil Gas Investigations*. April.

DTSC. 2013. *Frequently Asked Questions, 2012 Advisory – Active Soil Gas Investigations (ASGI)*. March.

State of California Environmental Protection Agency (Cal EPA). 2010. *Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties, Table 2- California Human Health Screening Levels for Indoor Air and Soil Gas*. January 2005, updated September 23.

State of California Regional Water Quality Control Board, San Francisco Bay Region (SFWQCB). 2008. *Screening For Environmental Concerns at Sites with Contaminated Soil and Groundwater*. Interim Final - November 2007, Updated March.

SFRWQCB. 2009. *Assessment Tool for Closure of Low-Threat Chlorinated Solvent Sites*. Draft Final – July 31.

SFRWQCB. 2013a. *Water Quality Control Plan (Basin Plan).* June 29.

SFRWQCB. 2013b. *User's Guide: Derivation and Application of Environmental Screening Levels*. Interim Final –December.

SFRWQCB. 2013c. *Environmental Screening Levels, Frequently Asked Questions.* December.

TABLES

TABLE 1
Summary of Soil Sample Analytical Data
O'Reilly Auto Supply (Former Grand Auto Supply #43)
4240 East 14th Street
Oakland, California
AllWest Project No. 14151.36

Sample ID Number	Depth (feet bgs)	Date	TPH-g (mg/kg)	TPH-d C10-C-23 (mg/kg)	TPH-mo C18-C36 (mg/kg)	TOG (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)	Organic Lead (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)
B-1-11*	11	07/16/92	ND (<1.0)	ND (<10)	NA	430	ND (<0.003)	ND (<0.003)	ND (<0.003)	ND (<0.003)	NA	NA	NA	NA	ND (<1.0)	35	60	ND (<2.0)	40	190
B-1-16*	16	07/16/92	ND (<1.0)	ND (<10)	NA	ND (<50)	ND (<0.003)	ND (<0.003)	ND (<0.003)	ND (<0.003)	NA	NA	NA	NA	NA	NA	NA	ND (<2.0)	NA	NA
B-2-6*	6	07/16/92	ND (<1.0)	40	NA	NA	ND (<0.003)	0.004	0.003	0.007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-2-14*	14	07/16/92	ND (<1.0)	ND (<10)	NA	NA	ND (<0.003)	ND (<0.003)	ND (<0.003)	ND (<0.003)	NA	NA	NA	NA	NA	NA	NA	ND (<2.0)	NA	NA
B-4-21	21	07/16/92	ND (<1.0)	ND (<10)	NA	NA	ND (<0.003)	ND (<0.003)	ND (<0.003)	ND (<0.003)	NA	NA	NA	NA	NA	NA	NA	ND (<2.0)	NA	NA
B-5-19	19	07/16/92	ND (<1.0)	ND (<10)	NA	NA	0.011	ND (<0.003)	ND (<0.003)	0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B5-26	26	07/16/92	ND (<1.0)	ND (<10)	NA	NA	ND (<0.003)	ND (<0.003)	ND (<0.003)	ND (<0.003)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
S2C-8	8	08/07/92	310	**120**	NA	ND (<50)	ND (<0.075)	0.065	0.064	1.5	NA	NA	0.104	ND (varies)	ND (<1.0)	73	9	ND (<2.0)	110	30
B-7-11 (MW-1)	11	08/28/92	ND (<1.0)	NA	NA	NA	ND (<0.003)	ND (<0.003)	ND (<0.003)	ND (<0.003)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-7-36 (MW-1)	36	08/28/92	ND (<1.0)	NA	NA	NA	ND (<0.003)	ND (<0.003)	ND (<0.003)	ND (<0.003)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-2-10.5 (B-10)	10.5	04/15/93	ND (<1.0)	ND (<10)	NA	NA	ND (<0.003)	ND (<0.003)	ND (<0.003)	ND (<0.003)	NA	NA	ND (<0.005)	ND (varies)	ND (<1.0)	28	5	NA	61	39
MW-2-35 (B-10)	35	04/15/93	ND (<1.0)	ND (<10)	NA	NA	ND (<0.003)	ND (<0.003)	ND (<0.003)	ND (<0.003)	NA	NA	ND (<0.005)	ND (varies)	ND (<1.0)	31	ND (<5)	NA	47	49
MW-3-35 (B-11)	35	04/15/93	ND (<1.0)	ND (<10)	NA	NA	ND (<0.003)	ND (<0.003)	ND (<0.003)	ND (<0.003)	NA	NA	0.009	ND (varies)	ND (<1.0)	29	ND (<5)	NA	42	47
MW-4-36 (B-12)	36	04/15/93	ND (<1.0)	ND (<10)	NA	NA	ND (<0.003)	ND (<0.003)	ND (<0.003)	ND (<0.003)	NA	NA	0.012	ND (varies)	ND (<1.0)	35	ND (<5)	NA	59	34
B-8-11	11	04/16/93	ND (<1.0)	ND (<10)	NA	NA	ND (<0.003)	ND (<0.003)	ND (<0.003)	ND (<0.003)	NA	NA	0.005	ND (varies)	ND (<1.0)	58	9	NA	150	61
B-8-16	16	04/16/93	ND (<1.0)	ND (<10)	NA	NA	ND (<0.003)	ND (<0.003)	ND (<0.003)	ND (<0.003)	NA	NA	ND (<0.005)	ND (varies)	ND (<1.0)	29	ND (<5)	NA	53	45
B-8-21	21	04/16/93	ND (<1.0)	ND (<10)	NA	NA	ND (<0.003)	ND (<0.003)	ND (<0.003)	ND (<0.003)	NA	NA	ND (<0.005)	ND (varies)	ND (<1.0)	29	ND (<5)	NA	43	37
B-8-25	25	04/16/93	ND (<1.0)	ND (<10)	NA	NA	ND (<0.003)	ND (<0.003)	ND (<0.003)	ND (<0.003)	NA	NA	0.030	ND (varies)	ND (<1.0)	28	6	NA	41	48
B-9-10	10	04/16/93	ND (<1.0)	ND (<10)	NA	NA	ND (<0.003)	ND (<0.003)	ND (<0.003)	ND (<0.003)	NA	NA	ND (<0.005)	ND (varies)	ND (<1.0)	27	6	NA	72	40
P1-2.5	2.5	10/20/93	ND (<1.0)	NA	NA	NA	ND (<0.003)	ND (<0.003)	ND (<0.003)	ND (<0.003)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
P2-2.5	2.5	10/20/93	ND (<1.0)	NA	NA	NA	ND (<0.003)	ND (<0.003)	ND (<0.003)	ND (<0.003)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 1
Summary of Soil Sample Analytical Data

O'Reilly Auto Supply (Former Grand Auto Supply #43)
4240 East 14th Street
Oakland, California
AllWest Project No. 14151.36

Sample ID Number	Depth (feet bgs)	Date	TPH-g	TPH-d C10-C-23	TPH-mo C18-C36	TOG	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Naph-thalene	PCE	Other VOCs	Cadmium	Chromium	Lead	Organic Lead	Nickel	Zinc
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
P3-2.5	2.5	10/20/93	ND (<1.0)	NA	NA	NA	ND (<0.003)	ND (<0.003)	ND (<0.003)	ND (<0.003)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
P4-2.5	2.5	10/20/93	ND (<1.0)	NA	NA	NA	ND (<0.003)	ND (<0.003)	ND (<0.003)	ND (<0.003)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-1-9.0-9.5	9.0-9.5	01/05/12	ND (<0.25)	1.2	ND (<5.0)	NA	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**	NA	**160**	99
(qualifiers)				(e2)																
GP-1-19.5-20.0	19.5-20.0	01/05/12	ND (<0.25)	2.1	ND (<5.0)	NA	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)	NA	85	100
(qualifiers)				(e2)																
GP-2-10.0-10.5	10.0-10.5	01/05/12	ND (<0.25)	15	72	NA	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**	NA	48	75
(qualifiers)				(e7, e2)	(e7, e2)															
GP-2-17.0-17.5	17.0-17.5	01/05/12	ND (<0.25)	2.0	ND (<5.0)	NA	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)	NA	50	57
(qualifiers)				(e2)																
RWQCB Commercial/Industrial ESLs, ≤9.9 feet bgs, drinking water resource			**500**	**110**	**500**	**500**	**0.044**	**2.9**	**3.3**	**2.3**	**0.023**	**1.2**	**0.7**	**varies**	**12.0**	**2,500 (Total) 8.0 (Cr VI)**	**320**	**NE**	**150**	**600**
RWQCB Commercial/Industrial ESLs, >9.9 feet bgs, drinking water resource			**770**	**110**	**1,000**	**1,000**	**0.044**	**2.9**	**3.3**	**2.3**	**0.023**	**1.2**	**0.7**	**varies**	**1,000**	**5,000 (Total) 110 (Cr VI)**	**320**	**NE**	**5,000**	**5,000**
RWQCB Commercial/Industrial ESLs, ≤9.9 feet bgs, direct contact			**4,000**	**1,100**	**100,000**	**100,000**	**3.7**	**4,900**	**24**	**2,600**	**190**	**15**	**2.6**	**varies**	**1,000**	**1,600,000 (Cr III) 110 (Cr VI)**	**320**	**NE**	**19,000**	**310,000**

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)
TOG - Total Oil & Grease by Standard Method 5520F
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)
* - Borings located at adjacent Super Tire site at 4256 East 14th Street; no longer considered part of subject former Grand Auto site.
ND (<0.01) - Not detected at or above listed reporting limit
NA - Not analyzed
NE - Not Established
Bold Font - Detected values exceed regulatory screening levels.
Laboratory Qualifiers:
e2 - diesel range compounds are significant, no recognizable pattern

TABLE 1
Summary of Soil Sample Analytical Data
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4240 East 14th Street
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Sample ID Number	Depth (feet bgs)	Date	TPH-g (mg/kg)	TPH-d C10-C-23 (mg/kg)	TPH-mo C18-C36 (mg/kg)	TOG (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)	Organic Lead (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)

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, *User's Guide: Derivation and Application of Environmental Screening Levels* - Interim Final December 2013.

Table 2 - Well Construction Details

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

AllWest Project Number 14151.36

Well Number	Surface Elevation (ft MSL)	Top of Casing (ft MSL)	Total Depth (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Well Diameter (Inches)
MW-1	36.83	36.55	43	33	43	4
MW-2	36.68	36.43	45	31	45	4
MW-3A	37.03	36.71	41	20	41	4
MW-4	25.54	35.08	45	30	45	4

Notes:
MW-3 was replaced by MW-3A on May 25, 2000
HC-1 was abandoned on June 18, 2001
bgs = below ground surface
MSL = mean sea level
Elevations relative North Amercian Vertical Datum 1988-Ortho. Ht. (GEOID03)
Wells were resurveyed on 9/26/06 for horizontal and vertical control by
CSS Enviromental Services, Inc,
Novato, Califronia (Aaron N. Stessman PE No: C 054644)

TABLE 3
Groundwater Elevation Measurements
O' Reilly Auto Parts (Former Grand Auto #43)
4240 International Boulevard (East 14th Street), Oakland, California
Project Number 14151.36

Well Number	Date	Top of Well Casing Feet - MSL (1)	Depth to Groundwater Feet	Groundwater Elevation Feet - MSL
MW-1 (1)	20-Dec-11	36.55	23.99	12.56
MW-1 (1)	2-Jun-08	36.55	23.56	12.99
MW-1 (1)	27-Sep-06	36.55	23.27	13.28
MW-1	23-Jul-04	30.53	24.76	5.77
MW-1	15-May-03	30.53	25.29	5.24
MW-1	21-May-02	30.53	24.91	5.62
MW-1	19-Jun-01	30.53	25.67	4.86
MW-1	4-Nov-99	30.53	27.40	3.13
MW-1	10-May-96	30.53	28.18	2.35
MW-1	15-Sep-95	30.53	29.34	1.19
MW-1	31-Jan-95	30.53	30.83	-0.30
MW-1	20-Sep-94	30.53	32.44	-1.91
MW-1	7-Jun-94	30.53	33.04	-2.51
MW-1	18-Feb-94	30.53	34.60	-4.07
MW-1	17-Nov-93	30.53	35.30	-4.77
MW-1	4-Aug-93	30.53	34.93	-4.40
MW-1	5-May-93	30.53	35.45	-4.92
MW-2 (1)	20-Dec-11	36.43	23.85	12.58
MW-2 (1)	2-Jun-08	36.43	23.46	12.97
MW-2 (1)	27-Sep-06	36.43	23.13	13.30
MW-2	23-Jul-04	30.41	24.62	5.79
MW-2	15-May-03	30.41	25.16	5.25
MW-2	21-May-02	30.41	24.78	5.63
MW-2	19-Jun-01	30.41	25.54	4.87
MW-2	4-Nov-99	30.41	27.28	3.13
MW-2	10-May-96	30.41	28.06	2.35
MW-2	15-Sep-95	30.41	29.19	1.22
MW-2	31-Jan-95	30.41	30.71	-0.30
MW-2	20-Sep-94	30.41	32.40	-1.99
MW-2	7-Jun-94	30.41	32.92	-2.51
MW-2	18-Feb-94	30.41	34.46	-4.05
MW-2	17-Nov-93	30.41	35.18	-4.77
MW-2	4-Aug-93	30.41	34.79	-4.38
MW-2	5-May-93	30.41	35.32	-4.91
MW-3A (1)	20-Dec-11	36.71	24.13	12.58
MW-3A (1)	2-Jun-08	36.71	23.74	12.97
MW-3A (1)	27-Sep-06	36.71	23.42	13.29
MW-3A	23-Jul-04	30.70	24.90	5.80
MW-3A	15-May-03	30.70	25.43	5.27
MW-3A	21-May-02	30.70	25.04	5.66
MW-3A	19-Jun-01	30.70	25.81	4.89
MW-3	4-Nov-99	30.31	27.22	3.09
MW-3	10-May-96	30.31	27.96	2.35
MW-3	15-Sep-95	30.31	29.11	1.20
MW-3	31-Jan-95	30.31	30.62	-0.31
MW-3	20-Sep-94	30.31	32.30	-1.99
MW-3	7-Jun-94	30.31	32.83	-2.52
MW-3	18-Feb-94	30.31	34.38	-4.07
MW-3	17-Nov-93	30.31	35.13	-4.82
MW-3	4-Aug-93	30.31	34.70	-4.39
MW-3	5-May-93	30.31	35.22	-4.91

TABLE 3
Groundwater Elevation Measurements
O' Reilly Auto Parts (Former Grand Auto #43)
4240 International Boulevard (East 14th Street), Oakland, California
Project Number 14151.36

Well Number	Date	Top of Well Casing Feet - MSL (1)	Depth to Groundwater Feet	Groundwater Elevation Feet - MSL
MW-4 (1)	20-Dec-11	35.08	22.51	12.57
MW-4 (1)	2-Jun-08	35.08	22.11	12.97
MW-4 (1)	27-Sep-06	35.08	21.81	13.27
MW-4	23-Jul-04	29.08	23.30	5.78
MW-4	15-May-03	29.08	23.82	5.26
MW-4	21-May-02	29.08	23.46	5.62
MW-4	19-Jun-01	29.08	24.20	4.88
MW-4	4-Nov-99	29.08	25.92	3.16
MW-4	10-May-96	29.08	26.70	2.38
MW-4	15-Sep-95	29.08	27.86	1.22
MW-4	31-Jan-95	29.08	29.38	-0.30
MW-4	20-Sep-94	29.08	31.07	-1.99
MW-4	7-Jun-94	29.08	31.60	-2.52
MW-4	18-Feb-94	29.08	33.14	-4.06
MW-4	17-Nov-93	29.08	33.90	-4.82
MW-4	4-Aug-93	29.08	33.47	-4.39
MW-4	5-May-93	29.08	33.98	-4.90

Notes;
(1) Wells were resurveyed on September 27, 2006 to North America Vertical Datum 1988-Otrho. Mt (GEOID03)
MSL = Mean Sea Level per NAVD88 Datum

TABLE 4
Summary of Groundwater Sample Analytical Data
O'Reilly Auto Supply
(Former Grand Auto Supply #43)
4240 East 14th Street, Oakland, California
AllWest Project Number 14151.36

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	1.0	(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**	1.0	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	3.0	**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	**6.0**	**130**	**36**	NA	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	NA	NA	NA	ND (varies)	NA

TABLE 4
Summary of Groundwater Sample Analytical Data
O'Reilly Auto Supply
(Former Grand Auto Supply #43)
4240 East 14th Street, Oakland, California
AllWest Project Number 14151.36

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	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)
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**	5.0	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	1.0	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

TABLE 4
Summary of Groundwater Sample Analytical Data
O'Reilly Auto Supply
(Former Grand Auto Supply #43)
4240 East 14th Street, Oakland, California
AllWest Project Number 14151.36

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	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**	**7.4**	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
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**	5.0	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**	**6.0**	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)

TABLE 4
Summary of Groundwater Sample Analytical Data
O'Reilly Auto Supply
(Former Grand Auto Supply #43)
4240 East 14th Street, Oakland, California
AllWest Project Number 14151.36

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)
RWQCB Commercial/Industrial ESLs, current or potential drinking water		**5**	**5**	**6**	**NE**	**80**	**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**
RWQCB Commercial/Industrial ESLs, evaluation of potential vapor intrusion, fine/coarse mix		**640**	**1,300**	**26,000**	**NE**	**1,700**	**720,000 (res)**	**1,000**	**18**	**48**	**NE**	**NE**	**NE**	**Benzene 270, Toluene 95,000 (res), Xylenes 37,000 (res), MTBE 100,000, others NE or varies**	**NE**

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.

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)

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, E-1 and F1a, *Users Guide: Derivation and Application of Environmental Screening Levels* - Interim Final December 2013.

(res) - Residential ESL; commercial/industrial ESL not established, sample soil gas instead

TABLE 5

SUMMARY OF SOIL VAPOR SAMPLE ANALYTICAL DATA
O'REILLY AUTO SUPPLY
(FORMER GRAND AUTO SUPPLY #43)
OAKLAND, CALIFORNIA
AllWest Project No. 14151.36

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	1,1-Difluoroethane** µg/m^3	Ethanol µg/m^3	Ethyl-benzene µg/m^3	Ethyl Acetate µg/m^3	4-Ethyltoluene µg/m^3	Helium** (Leak detect gas) (% v/v)	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	NA	1,600	28	46	18	NA	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	NA	200	63	21	23	NA	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	NA	170	22	15	22	NA	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	NA	1,500	18	76	30	NA	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	NA	1,900	17	250	32	NA	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	NA	340	14	40	17	NA	ND <50***	20	ND <11	ND <88	670	27	26	65	22	110	ND (varies)
SVP-7	10/27/2012	<1	220	**15**	ND <4.5	ND <9.9	ND <10	NA	ND <96	17	ND <19	ND <10	0.65	NA	ND <8.3	ND <11	ND <88	1,200	60	ND <11	32	15	88	Hexane 4,200, carbon disulfide 28, others ND (varies)
SVP-7	4/19/2013	<1	1,400	ND <400	NA	ND <610	ND <620	4,400,000	ND <2,400	ND <540	NA	ND <610	NA	NA	ND <1,500	ND <6,600	NA	970	700	ND <670	ND <1,800	ND <610	ND <540/<2,200*	ND (varies)
SVP-8	10/27/2012	<1	130	**8.6**	ND <4.5	ND <9.9	23	NA	ND <96	ND <8.8	ND <19	ND <10	0.10	NA	ND <8.3	ND <11	ND <88	4,100	ND <7.7	ND <11	ND <10	ND <10	ND <27	ND (varies)
SVP-8	4/19/2013	<1	ND <190	ND <64	NA	ND <98	ND <99	640,000	ND <380	ND <87	NA	ND <98	NA	NA	ND <250	ND <1,000	NA	3,200	ND <75	ND <110	ND <290	ND <98	ND <87/<350*	ND (varies)
SVP-9	10/27/2012	<1	200	**20**	ND <4.5	ND <9.9	ND <10	NA	ND <96	ND <8.8	ND <19	ND <10	0.26	NA	ND <8.3	ND <11	ND <88	940	ND <7.7	ND <11	12	ND <10	ND <27	ND (varies)
SVP-9	4/19/2013	<1	1,200	ND <160	NA	ND <240	ND <250	3,100,000	1,100	ND <220	NA	ND <250	NA	NA	ND <610	ND <2,600	NA	650	910	ND <270	ND <740	ND <250	ND <220/<870*	730 (TBA), ND (others, reporting limits vary)
SVP-10	10/27/2012	<1	ND <120	7.8	ND <4.5	ND <9.9	16	NA	ND <96	ND <8.8	ND <19	ND <10	0.013	NA	ND <8.3	ND <11	ND <88	530	ND <7.7	ND <11	ND <10	ND <10	ND <27	ND (varies)
SVP-10	4/19/2013	<1	56	ND <1.9	NA	3.4	ND <3.0	7.9	ND <11	ND <2.6	NA	ND <3.0	NA	NA	ND <7.4	ND <32	NA	700	ND <2.3	ND <3.3	ND <8.9	ND <3.0	ND <2.6/<11*	7.3 (2-butanone), ND (others, reporting limits vary)
SVP-11	10/27/2012	<1	120	**10**	ND <4.5	ND <9.9	ND <10	NA	220	ND <8.8	ND <19	ND <10	0.020	NA	ND <8.3	ND <11	ND <88	740	ND <7.7	18	ND <10	ND <10	ND <27	ND (varies)
SVP-11	4/19/2013	<1	ND <190	ND <64	NA	ND <98	ND <99	2,500,000	ND <380	ND <87	NA	ND <98	NA	NA	ND <250	ND <1,000	NA	590	ND <75	ND <110	ND <290	ND <98	ND <87/<350*	ND, reporting limits vary
SVP-12	10/27/2012	<1	130	**10**	ND <4.5	ND <9.9	ND <10	NA	ND <96	ND <8.8	ND <19	ND <10	0.82	NA	ND <8.3	ND <11	ND <88	1,700	ND <7.7	39	ND <10	ND <10	ND <27	Hexane 560, methylene chloride 19, others ND (varies)
SVP-12-He	10/27/2012	ambient	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	90	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVP-12	4/19/2013	<1	ND <190	ND <64	NA	ND <98	ND <99	1,500,000	ND <380	ND <87	NA	ND <98	NA	NA	ND <250	ND <1,000	NA	2,300	ND <75	ND <110	ND <290	ND <98	ND <87/<350*	ND, reporting limits vary
SVP-12-DFA	4/19/2013	ambient	NA	NA	NA	NA	NA	2,800,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVP-13	9/20/2013	0.5	59	ND <1.6	NA	ND <2.4	17	ND <5.4***	170	ND <2.2	NA	ND <2.5	0.0573	ND <12***	ND <6.1	ND <26	NA	1,600	11	ND <2.7	ND <7.4	ND <2.5	ND <2.2/<8.7*	ND, reporting limits vary
SVP-13	3/14/2014	0.5	12	ND <1.6	NA	ND <2.5	170	NA	12	ND <2.2	NA	ND <2.5	ND <0.0100	NA	ND<6.3	ND<27	NA	1,400	2.5	ND<2.7	ND<7.5	ND<2.5	ND<2.2/8.9*	ND, reporting limits vary

TABLE 5

SUMMARY OF SOIL VAPOR SAMPLE ANALYTICAL DATA
O'REILLY AUTO SUPPLY
(FORMER GRAND AUTO SUPPLY #43)
OAKLAND, CALIFORNIA
AllWest Project No. 14151.36

Sample Number	Date	Sample Depth feet bgs	Acetone $\mu g/m^3$	Benzene $\mu g/m^3$	1,3-Butadiene $\mu g/m^3$	Chloroform $\mu g/m^3$	Dichloro-difluoromethane (Freon 12) $\mu g/m^3$	1,1-Difluoroethane** $\mu g/m^3$	Ethanol $\mu g/m^3$	Ethyl-benzene $\mu g/m^3$	Ethyl Acetate $\mu g/m^3$	4-Ethyltoluene $\mu g/m^3$	Helium** (Leak detect gas) (% v/v)	Isopropyl Alcohol (IPA)** $\mu g/m^3$	4-Methyl-2-pentanone (MIBK) $\mu g/m^3$	Naphthalene $\mu g/m^3$	Propene $\mu g/m^3$	Tetrachloro-ethene (PCE) $\mu g/m^3$	Toluene $\mu g/m^3$	Trichloro-ethene (TCE) $\mu g/m^3$	1,2,4-Trimethyl-benzene $\mu g/m^3$	1,3,5-Trimethyl-benzene $\mu g/m^3$	Xylenes (Total)* $\mu g/m^3$	Other VOCs $\mu g/m^3$
SVP-14	9/20/2013	0.5	ND <240	ND <81	NA	ND <120	ND <130	31,000***	ND <480	ND <110	NA	ND <130	0.114	ND <630***	ND <310	ND <1,300	NA	2,000	ND <96	ND <140	ND <380	ND <130	ND <110/<440*	ND, reporting limits vary
SVP-14	3/14/2014	0.5	19	2.7	NA	ND <2.8	130	NA	ND <11	ND <2.5	NA	ND <2.8	ND <0.0100	NA	ND <7.0	ND <30	NA	2,200	3.8	3.4	ND <8.4	ND <2.8	ND <2.5/ND <9.9*	2-Butanone 6.5, 1,1,1-trichloroethane 3.3, others ND, reporting limits vary
SVP-14-He Leak	3/14/2014	ambient	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVP-15	9/20/2013	0.5	86	**49**	NA	ND <2.9	ND <3.0	13***	130	41	NA	4.5	0.0394	ND <15***	ND <7.4	ND <31	NA	4.8	110	ND <3.2	ND <8.8	3.5	8.9/32*	2-Butanone 15, tert-butyl alcohol (TBA) 11, others ND, reporting limits vary
SVP-15-He Leak Detect	9/20/2013	ambient	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVP-15	3/14/2014	0.5	31	ND <1.8	NA	ND <2.7	ND <2.7	NA	ND <10	ND <2.4	NA	ND <2.7	ND <0.0100	NA	ND <6.8	ND <29	NA	14	4.0	5.1	8.2	ND <2.7	ND <2.4/ND <9.6*	2-Butanone 9.5, others ND, reporting limits vary
SVP-16	9/17/2013	5	45	10	NA	33	22	ND <5.4***	19	14	NA	4.5	0.0264	ND <12***	ND <6.1	ND <26	NA	**10,000**	62	200	15	5.0	28/50*	2-Butanone 4.8, others ND, reporting limits vary
SVP-17	9/16/2013	5	52	17	NA	ND <2.4	5.0	ND <5.4***	ND <9.4	14	NA	5.7	0.0120	15***	ND <6.1	ND <26	NA	570	58	25	21	7.8	18/48*	2-Butanone 8.6, carbon disulfide 14, others ND, reporting limits vary
SVP-17-He Leak Detect	9/16/2013	ambient	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	18.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVP-18	9/17/2013	5	36	16	NA	ND <2.6	200	ND <5.7***	ND <10	3.3	NA	ND <2.6	0.0146	ND <13***	ND <6.5	ND <28	NA	**16,000**	15	97	8.5	ND <2.6	5.5/13*	2-Butanone 7.0, carbon disulfide 9.9, others ND, reporting limits vary
SVP-19	9/17/2013	5	37	35	NA	ND <2.4	35	ND <5.4***	ND <9.4	34	NA	12	0.0146	ND <12***	11	ND <26	NA	**3,300**	100	9.3	33	18	38/110*	2-Butanone 9.5, carbon disulfide 32, chloromethane 1.1, others ND, reporting limits vary
SVP-19-He Leak Detect	9/17/2013	ambient	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVP-20	9/18/2013	5	64	13	NA	ND <2.7	9.8	ND <5.9	29	12	NA	5.2	NA	ND <13***	70	ND <29	NA	**3,000**	57	7.3	16	4.5	15/45*	2-Butanone 10, carbon disulfide 8.9, others ND, reporting limits vary

TABLE 5

SUMMARY OF SOIL VAPOR SAMPLE ANALYTICAL DATA
O'REILLY AUTO SUPPLY
(FORMER GRAND AUTO SUPPLY #43)
OAKLAND, CALIFORNIA
AllWest Project No. 14151.36

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	1,1-Difluoroethane** µg/m^3	Ethanol µg/m^3	Ethyl-benzene µg/m^3	Ethyl Acetate µg/m^3	4-Ethyltoluene µg/m^3	Helium** (Leak detect gas) (% v/v)	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-21	9/17/2013	5	34	8.1	NA	18	22	ND <5.4***	29	7.7	NA	3.3	0.0171	ND <12***	ND <6.1	ND <26	NA	**9,200**	34	250	12	3.7	8.6/27*	2-Butanone 6.7, others ND, reporting limits vary
SVP-22	9/17/2013	5	90	86	NA	ND <2.4	2.7	ND <5.4***	32	69	NA	24	0.0145	ND <12***	16	ND <26	NA	27	320	25	190	69	61/140*	2-Butanone 21, carbon disulfide 19, chlorobenzene 4.6, cis-1,2-dichloroethene 3.8, styrene 11, others ND, reporting limits vary
SVP-23	9/18/2013	5	26	20	NA	3.3	2.9	ND <5.4***	ND <9.4	16	NA	11	0.0188	ND <12***	ND <6.1	ND <26	NA	900	41	210	38	11	24/55*	2-Butanone 5.1, carbon disulfide 11, cis-1,2-dichloroethene 13, others ND, reporting limits vary
SVP-24	9/18/2013	5	47	58	NA	19	8.8	5.7***	ND <9.7	75	NA	26	0.0156	ND <13***	10	ND <27	NA	**5,700**	230	100	75	31	74/220*	2-Butanone 11, carbon disulfide 13, others ND, reporting limits vary
SVP-25	9/19/2013	5	ND <14	210	NA	ND <7.1	ND <7.2	ND <16	ND <27	140	NA	31	NA	ND <36***	31	ND <76	NA	77	720	ND <7.8	87	39	130/470*	1,1,1-trichloroethane 24, others ND, reporting limits vary
SVP-26	9/19/2013	5	ND <4.8	41	NA	ND <2.4	ND <2.5	ND <5.4	ND <9.4	16	NA	4.3	NA	ND <12***	10	ND <26	NA	470	40	17	13	4.6	12/33*	Carbon disulfide 41, others ND, reporting limits vary
SVP-27	9/19/2013	5	130	14	NA	ND <3.2	ND <3.2	ND <7.1***	28	10	NA	4.2	0.0204	ND <16***	9.8	ND <34	NA	**8,400**	41	31	16	4.3	13/39*	Carbon disulfide 8.9, others ND, reporting limits vary
SVP-28	9/19/2013	5	ND <5.8	22	NA	6.9	ND <3.0	ND <6.6***	17	12	NA	5.0	0.0380	ND <15***	12	ND <32	NA	**11,000**	70	140	17	5.3	15/43*	2-Butanone 14, carbon disulfide 8.6, cis-1,2-dichloroethene 2.9, 1,1,1-trichloroethene 3.6, others ND, reporting limits vary

TABLE 5

SUMMARY OF SOIL VAPOR SAMPLE ANALYTICAL DATA
O'REILLY AUTO SUPPLY
(FORMER GRAND AUTO SUPPLY #43)
OAKLAND, CALIFORNIA
AllWest Project No. 14151.36

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	1,1-Difluoroethane** μg/m^3	Ethanol μg/m^3	Ethyl-benzene μg/m^3	Ethyl Acetate μg/m^3	4-Ethyltoluene μg/m^3	Helium** (Leak detect gas) (% v/v)	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-29	9/19/2013	5	120	14	NA	ND <3.2	ND <3.2	ND <7.0***	19	12	NA	ND <3.2	0.0157	ND <16***	ND <8.0	ND <34	NA	550	27	ND <3.5	13	3.5	14/40*	2-Butanone 22, others ND, reporting limits vary
SVP-30	9/18/2013	5	96	13	NA	ND <2.4	230	250	16	6.0	NA	ND <2.5	NA	ND <12***	ND <6.1	ND <26	NA	8.5	21	ND <2.7	8.2	ND <2.5	8.5/22*	2-Butanone 23, chloromethane 5.0, others ND, reporting limits vary
SVP-31	9/18/2013	5	620	130	NA	ND <3.1	12	3,800	71	210	NA	17	NA	ND <15	29	ND <33	NA	32	260	ND <3.4	48	16	230/700*	2-Butanone 140, carbon disulfide 130, 2-hexanone 17, styrene 26, vinyl acetate 15, others ND, reporting limits vary
SVP-31-DFA Leak Detect	9/18/2013	ambient	NA	NA	NA	NA	NA	17,000,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVP-32	9/16/2013	5	310	130	NA	3.7	1,100	ND <6.0***	77	88	NA	24	0.0332	ND <14***	14	ND <29	NA	12	380	3.4	69	28	98/290*	2-Butanone 54, carbon disulfide 16, chloromethane 1.2, others ND, reporting limits vary
ESL	Commercial Soil Gas		**140,000,000**	**420**	NL	**2,300**	NL	NL	NL	**4,900**	NL	NL	NL	NL	**13,000,000**	**360**	NL	**2,100**	**1,300,000**	**3,000**	NL	NL	**440,000**	methylene chloride **26,000**, chlorobenzene **4,400,000**, chloromethane **390,000**, cis-1,2-dichloroethene **31,000**, styrene **3,900,000**, 1,1,1-trichloroethane **22,000,000**, others vary or NL
ESL	Commercial Indoor Air		**140,000**	**0.42**	NL	**2.3**	NL	NL	NL	**4.9**	NL	NL	NL	NL	**13,000**	**0.36**	NL	**2.1**	**1,300**	**3.0**	NL	NL	**440**	methylene chloride **26**, chlorobenzene **4,400**, chloromethane **390**, cis-1,2-dichloroethene **31**, styrene **3,900**, 1,1,1-trichloroethane **22,000**, others vary or NL

TABLE 5

SUMMARY OF SOIL VAPOR SAMPLE ANALYTICAL DATA
O'REILLY AUTO SUPPLY
(FORMER GRAND AUTO SUPPLY #43)
OAKLAND, CALIFORNIA
AllWest Project No. 14151.36

Sample Number	Date	Sample Depth feet bgs	Acetone µg/m³	Benzene µg/m³	1,3-Butadiene µg/m³	Chloroform µg/m³	Dichloro-difluoromethane (Freon 12) µg/m³	1,1-Difluoroethane** µg/m³	Ethanol µg/m³	Ethyl-benzene µg/m³	Ethyl Acetate µg/m³	4-Ethyltoluene µg/m³	Helium** (Leak detect gas) (% v/v)	Isopropyl Alcohol (IPA)** µg/m³	4-Methyl-2-pentanone (MIBK) µg/m³	Naphthalene µg/m³	Propene µg/m³	Tetrachloro-ethene (PCE) µg/m³	Toluene µg/m³	Trichloro-ethene (TCE) µg/m³	1,2,4-Trimethyl-benzene µg/m³	1,3,5-Trimethyl-benzene µg/m³	Xylenes (Total)* µg/m³	Other VOCs µg/m³
DTSC Sub-Slab Screening Level	Commercial Indoor Air / 0.05 sub-slab attenuation factor		**2,800,000**	**8.4**	NL	**46**	NL	NL	NL	**98**	NL	NL	NL	NL	**260,000**	**7.2**	NL	**42**	**26,000**	**60**	NL	NL	**8,800**	methylene chloride **520**, chlorobenzene **88,000**, chloromethane **7,800**, cis-1,2-dichloroethene **620**, styrene **78,000**, 1,1,1-trichloroethane **440,000**, others vary or NL
AllWest Site-Specific Sub-Slab Screening Level	Commercial Indoor Air / 0.00072 sub-slab attenuation factor		NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	**2,917**	NL	**4,167**	NL	NL	**NL**	NL

Notes:

*	Separate reporting limits for o-xylene and m,p-xylene; o-xylene / m,p-xylene values reported separately where characterized by lab analytical report, combined where total xylenes reported
VOCs	Volatile Organic Compounds by EPA Method TO-15, Calscience Environmental Laboratories, Inc., Garden Grove, CA (4/29/13), McCampbell Analytical, Inc., Pittsburg, CA (other dates)
TBA	Tertiary butyl alcohol
µg/m³	Micrograms per cubic meter = 0.001 micrograms per liter
ND	Not detected at or below laboratory reporting limit
NA	Not Analyzed
NL	Not Listed
**	Leak detection gas or agent
***	Leak detection agent analyzed, but not used for this sample
Bold Font	Detected values exceed regulatory screening levels.
ESL	Environmental Screening Level (*User's Guide: Derivation and Application of Environmental Screening Levels* , California Regional Water Quality Control Board, San Francisco Bay, INTERIM FINAL, December 2013. Table E, Shallow Soil Gas Screening Levels, For Evaluation Of Potential Vapor Intrusion Concerns, Commercial/Industrial Land Use).
DTSC Sub-Slab Screening level	Based on Appendix B, DTSC 2011 Vapor Intrusion Guidance = Indoor Air ESL/Subslab Attenuation Factor (commercial = 0.05)
AllWest Sub-Slab Screening level	Based on Appendix B, DTSC 2011 Vapor Intrusion Guidance = Indoor Air ESL/Subslab Attenuation Factor, using AllWest-derived site specific sub-slab attenuation factor (90th percentile) of 0.00072.

TABLE 6
SUMMARY OF INDOOR AIR QUALITY SAMPLE ANALYTICAL DATA
O'REILLY AUTO SUPPLY
(FORMER GRAND AUTO SUPPLY #43)
4240 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA
AllWest Project No. 14151.36

Sample ID	Sample Date	Location	Tetrachloro-ethylene (PCE) (μg/m^3)	1,1,2-Trichloro-1,2,2-Trifluoro-ethane (μg/m^3)	1,1-Difluoro-ethane (μg/m^3)	1,2,4-Trimethyl-benzene (μg/m^3)	1,2-Dichloro-ethane (1,2-DCA) (μg/m^3)	1,3,5-Trimethyl-benzene (μg/m^3)	4-Ethyl-toluene (μg/m^3)	Benzene (μg/m^3)	c-1,2-Dichloro-ethene (cis-1,2-DCE) (μg/m^3)	Carbon tetrachloride (μg/m^3)	Chloroform (μg/m^3)	Chloro-methane (μg/m^3)	Dichlorodifluro-methane (μg/m^3)	Ethyl-benzene (μg/m^3)	Methylene Chloride (μg/m^3)	o-Xylene (μg/m^3)	p/m-Xylene (μg/m3)	Toluene (μg/m3)	Trichloro-ethene (TCE) (μg/m3)	Trichloro-fluoro-methane (μg/m3)	Other VOCs (μg/m^3)
OAA-1	8/27/2013-8/28/2013	Building roof	ND <0.17	0.59	0.49	0.37	ND <0.10	ND <0.12	0.13	**0.57**	ND <0.099	**0.63**	0.20	1.1	2.8	0.40	0.28	0.48	1.4	2.2	ND <0.13	1.4	ND, reporting limits vary
OAA-1	3/14/2014	Building roof	ND <0.17	0.21	0.081	0.24	ND <0.10	ND <0.12	ND <0.12	**0.38**	ND <0.099	0.19	ND <0.12	0.36	0.69	0.23	0.17	0.29	0.82	1.7	ND <0.13	0.36	ND, reporting limits vary
IAQ-1	8/27/2013-8/28/2013	Main store area	0.74	0.62	0.70	1.7	ND <0.10	0.50	0.55	**1.2**	ND <0.099	**0.67**	0.13	1.3	2.7	1.6	1.7	1.6	4.2	13	0.44	1.7	ND, reporting limits vary
IAQ-1	3/14/2014	Main store area	0.35	0.55	0.29	2.2	ND <0.10	0.64	0.63	**1.6**	ND <0.099	**0.59**	ND <0.12	1.2	2.1	2.2	2.6	2.6	7.8	18	ND <0.13	2.9	ND, reporting limits vary
IAQ-2	8/27/2013-8/28/2013	Restroom	1.2	0.62	0.82	1.8	ND <0.10	0.59	0.65	**1.1**	0.14	**0.68**	0.34	1.4	3.0	1.7	1.3	2.0	5.3	13	1.6	1.7	ND, reporting limits vary
IAQ-2	3/14/2014	Restroom	0.37	0.56	0.54	2.8	0.20	0.81	0.81	**1.8**	ND <0.099	**0.54**	0.23	1.0	1.9	2.6	2.9	3.4	9.6	19	ND <0.13	4.5	ND, reporting limits vary
IAQ-3	8/27/2013-8/28/2013	Stockroom	0.28	0.61	0.82	2.1	0.23	0.63	0.74	**0.99**	ND <0.099	**0.62**	0.13	1.2	2.9	1.7	1.3	2.1	5.6	13	ND <0.13	1.6	ND (varies)
IAQ-3	3/14/2014	Stockroom	0.34	0.52	0.56	0.44	ND <0.10	ND <0.12	0.15	**0.98**	ND <0.099	**0.49**	ND <0.12	0.98	1.7	0.53	1.6	0.58	1.6	4.1	ND <0.13	1.4	ND, reporting limits vary
IAQ-4	8/27/2013-8/28/2013	Storeroom / former car wash area	0.24	0.63	0.80	2.3	ND <0.10	0.70	0.76	**1.0**	ND <0.099	**0.66**	ND <0.12	1.1	3.0	1.4	1.2	1.8	4.8	11	ND <0.13	1.4	ND, reporting limits vary
IAQ-4	3/14/2014	Storeroom / former car wash area	0.30	0.57	0.48	2.6	0.11	0.70	0.80	**1.8**	ND <0.099	**0.68**	0.13	1.1	1.8	3.1	1.2	3.7	12	19	ND <0.13	20	ND, reporting limits vary
SFRWQCB ESLs -Table E, Indoor Air Screening Levels,			**2.1**	**NL**	**NL**	**NL**	**0.58**	**NL**	**NL**	**0.42**	**31**	**0.29**	**2.3**	**390**	**NL**	**4.9**	**26**	**440 (total xylenes)**	**440 (total xylenes)**	**1,300**	**3.0**	**NL**	**vary or NL**

Notes:
Analytical method TO-15 SIM, reported by Calscience Analytical Laboratories, Inc., Garden Grove, CA
μg/m^3 = micrograms per cubic meter
PCE = tetrachloroethene
VOCs = volatile organic compounds

IAQ = Indoor Air Quality sample, 24-hour sampling interval (8/27/2013-8/28/2013), 8-hour sampling interval (3/14/2014)
OAA = Outdoor Ambient Air Control sample, 24-hour sampling interval (8/27/2013-8/28/2013), 8-hour sampling interval (3/14/2014)
ND = Not detected above the listed reporting limit
NL = Not listed
Bold Font = Detected values exceed regulatory screening levels.
SFRWQCB ESLs = Regional Water Quality Control Board, San Francisco Bay Region, *User's Guide: Derivation and Application of Environmental Screening Levels*, Table E. Environmental Screening Levels (ESLs), Indoor Air and Soil Gas (Vapor Intrusion Concerns), Commercial/Industrial Land Use, Interim Final - December 2013.

TABLE 7

Summary of 1/2 Mile Radius Water Supply Well Search

O'Reilly Auto Supply (Former Grand Auto Supply #43)

4240 International Boulevard (Former East 14th Street)

Oakland, California

AllWest Project No. 14151.36

Map ID Number	Distance from Site (miles)	Direction / Gradient from Subject Site	State Well Number(s)	Number of Wells	Source	Site Address	Site Name	Completed Well Depth (feet)	Well Type	Status	Date(s) Drilled / Destroyed
1	0.15?	Southeast / Cross-Gradient	2S/3W-8 (?)	1	DWR	4514 E. 14th St. (Current International Blvd.?), Oakland(?) (San Leandro?)*	Residence(?)	70	Domestic or Irrigation?	Unknown	Unknown
2	0.161	Northeast / Cross- to Up-Gradient	2S/3W-8G15	1	ACPWA	4265 Foothill Blvd., Oakland	Chevron	304	Irrigation	Unknown	1990
3	0.26	Northwest /Cross-Gradient	2S/3W-8C1	1	DWR, ACPWA	1601 39th Ave., Oakland	Trust for Public Land	30	Irrigation	Unknown	1977
4	0.355	South-Southeast / Cross-Gradient	2S/3W-8Q1, 2S/3W-8J	2	DWR, ACPWA	4701 San Leandro St., Oakland	National Lead Co.	776 (both)	Industrial	Unknown	1962 /1923?
5	0.473	Southwest / Down-Gradient	2S/3W-8M07	1	ACPWA	3801 East 8th St., Oakland	American National Can Co.	180	Irrigation	Unknown	1991
6	0.544	Northwest / Cross-Gradient	2S/3W-8D4	1	ACPWA	1500 34th Ave., Oakland	Franciscan	200	Irrigation	Unknown	1999
7	0.616	Southwest / Down-Gradient	2S/3W-8G01	1	ACPWA	499 High St., Oakland	Integrated Environmental Systems	610	Industrial	Unknown	1985

Notes:

Map ID # = Referenced to Figure 7 "1/2 Mile Radius Water Supply Well Search Map"

Distance from Site = Referenced from O'Reilly Auto Supply (Former Grand Auto Supply #43), 4240 International Boulevard (Former East 14th Street), Oakland

Because of uncertainties in estimated well locations, and the large area of the subject site, the search radius is extended slightly beyond 1/2 mile from the subject site.

Source: DWR = California Department of Water Resources, 9/24/14

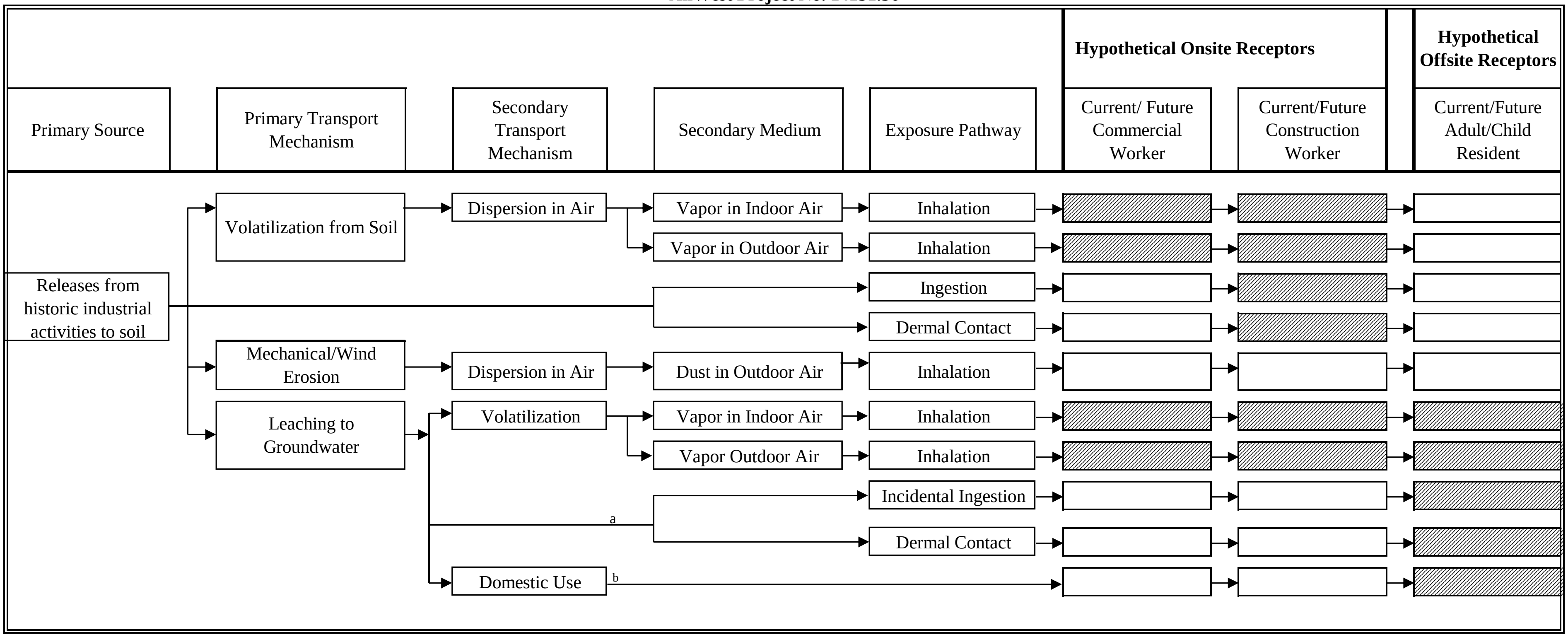
ACPWA = Alameda County Public Works Agency, 10/7/14

* = Site address unclear from DWR well log as to whether located at current East 14th St., San Leandro or current International Blvd., (former East 14th St.), Oakland.

If at 4514 East 14th Street, San Leandro, well would be located over 6 miles southeast of subject site.

Presumed regional groundwater gradient flow direction is primarily to the southwest, west and west-northwest, with local secondary component to the east-northeast.

Table 8
Conceptual Site Model Diagram
Risk Assessment
O'Reilly Auto Parts
4240 International Boulevard
Oakland, California
AllWest Project No. 14151.36



Key:

(solid black) Receptor likely to be exposed via this route, so exposure pathway is considered potentially complete and significant and will be quantitatively evaluated in risk assessment.

(hatched) Receptor may be exposed via this route, so pathway is considered potentially complete. However, pathway likely insignificant and will be qualitatively evaluated only (Tier 1).

(blank) Pathway is incomplete; no further evaluation required.

Footnotes:

[a] Groundwater is first encountered at approximately 34 to 37 feet below ground surface (ft bgs), with a static level of 22 to 24 ft bgs. The typical excavation depth evaluated in risk assessments is 10 ft bgs; therefore, direct contact with groundwater is not considered a potentially complete exposure pathway for the construction worker receptor. Due to the presence of domestic, industrial and irrigation wells within 1/2 mile of the subject site, direct contact with groundwater is considered a potentially complete but insignificant pathway for current offsite residents.

[b] Domestic water is supplied by the East Bay Municipal Utility District from purchased imported sources and first encountered groundwater is not used as a domestic water supply at the Site.

TABLE 9
INDOOR AIR VS. SUB-SLAB SOIL VAPOR PCE CONCENTRATIONS
AND SUB-SLAB ATTENUATION FACTOR CALCULATIONS
O'REILLY AUTO SUPPLY
(FORMER GRAND AUTO SUPPLY #43)
4240 INTERNATIONAL BOULEVARD
OAKLAND, CALIFORNIA
AllWest Project No. 14151.36

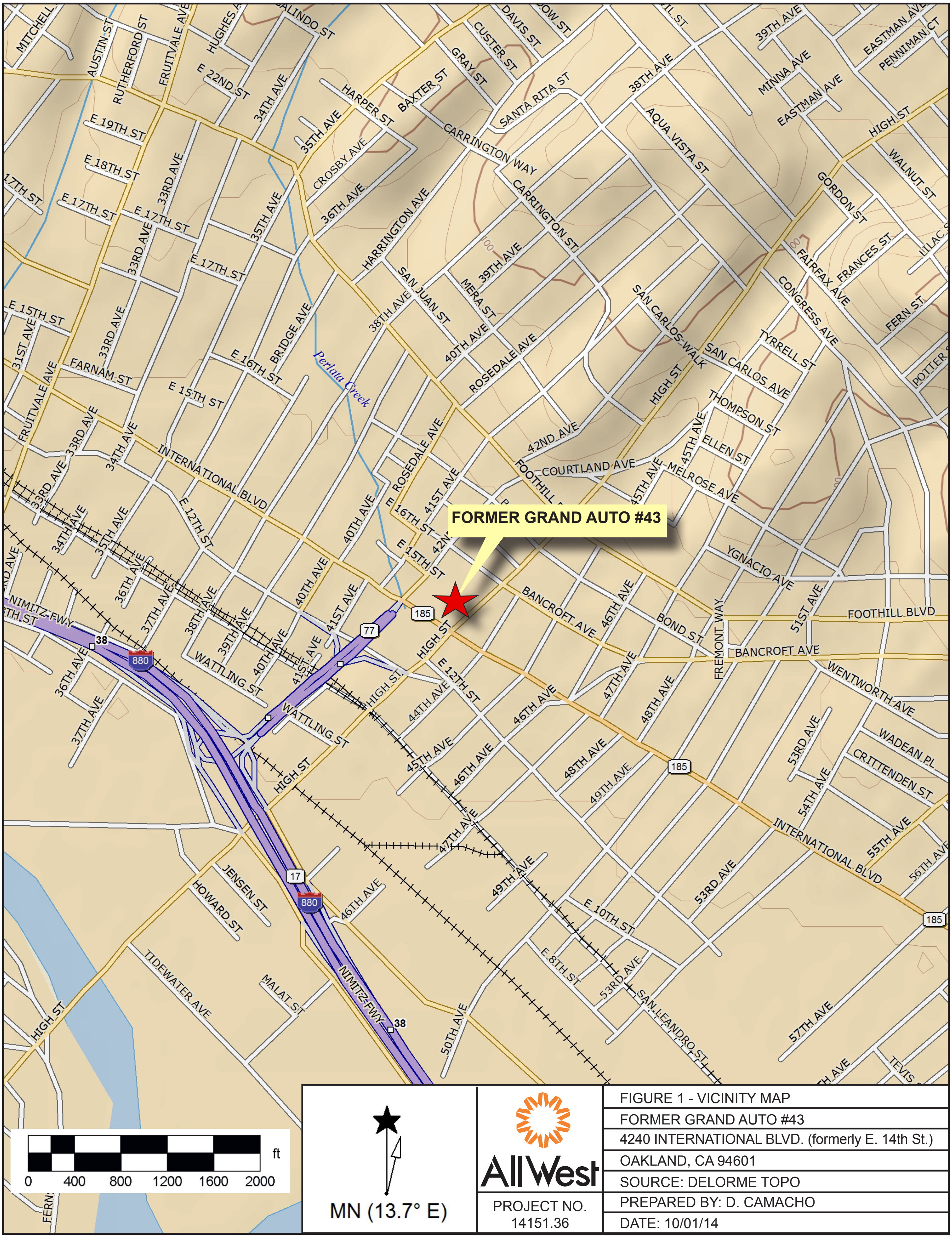
Indoor Air Quality / Soil Vapor Sample IDs	Dates	PCE Indoor Air (µg/m^3)	PCE Sub-Slab Soil Vapor (µg/m^3)	Sub-Slab Attenuation Factor
IAQ-1 / SVP-7	8/28/2013 & 4/19/2013	0.74	970	0.00076
IAQ-1 / SVP-14	8/28/2013 & 9/20/2013	0.74	2,000	0.00037
IAQ-2 / SVP-13	8/28/2013 & 9/20/2013	1.2	1,600	0.00075
IAQ-2 / SVP-14	8/28/2013 & 9/20/2013	1.2	2,000	0.00060
IAQ-3 / SVP-8	8/28/2013 & 4/19/2013	0.28	3,200	0.00009
IAQ-3 / SVP-13	8/28/2013 & 9/20/2013	0.28	1,600	0.00018
IAQ-4 / SVP-11	8/28/2013 & 4/19/2013	0.24	590	0.00041
IAQ-4 / SVP-13	8/28/2013 & 9/20/2013	0.24	1,600	0.00015
IAQ-1 / SVP-14	3/14/2014	0.35	2,200	0.00016
IAQ-2 / SVP-13	3/14/2014	0.37	1,400	0.00026
IAQ-2 / SVP-14	3/14/2014	0.37	2,200	0.00017
IAQ-3 / SVP-13	3/14/2014	0.34	1,400	0.00024
IAQ-4 / SVP-13	3/14/2014	0.30	1,400	0.00021
Average		0.51	1,705	**0.00033**
Median (50th Percentile)		0.35	1,600	**0.00024**
90th Percentile		1.11	2,200	**0.00072**

Notes:
µg/m^3 = micrograms per cubic meter
PCE = tetrachloroethene
IAQ = Indoor Air Quality sample, 8-hour or 24-hour sampling interval
ND (<) = Not detected at or above the laboratory method reporting limit (MRL) as indicated in the parenthesis.

FIGURES

DELORME

Topo USA® 8

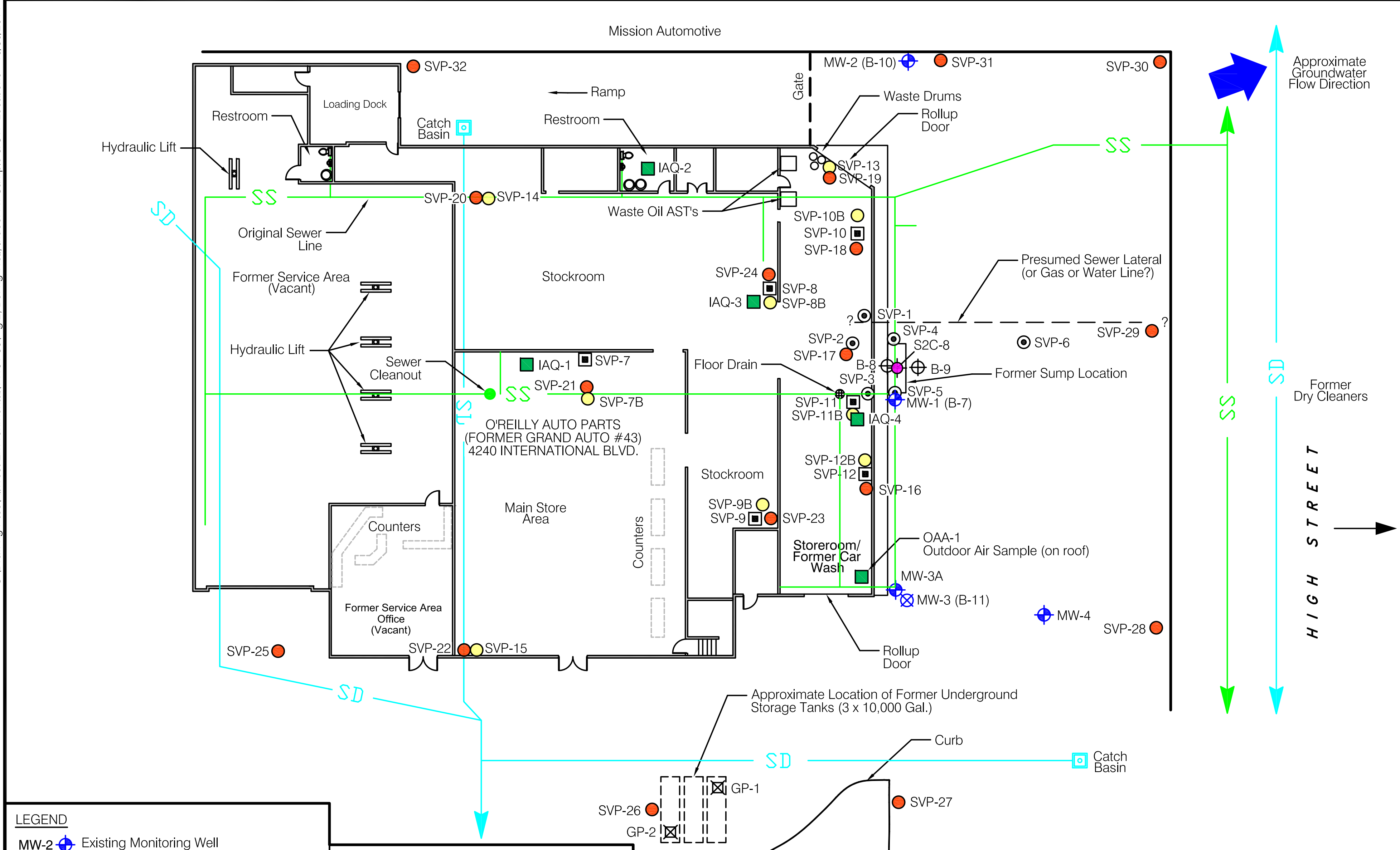


AllWest

PROJECT NO. 14151.36

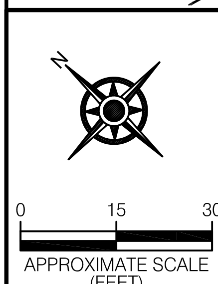
FIGURE 1 - VICINITY MAP
FORMER GRAND AUTO #43
4240 INTERNATIONAL BLVD. (formerly E. 14th St.)
OAKLAND, CA 94601
SOURCE: DELORME TOPO
PREPARED BY: D. CAMACHO
DATE: 10/01/14

C:\Drawing Files\AllWest Environmental\14151.36\Fig 2, Boring Well, Indoor Air Sample & SVP Locations - 10/30/2014



LEGEND

MW-2	Existing Monitoring Well
SVP-1	Temporary 5 feet bgs Probe Soil Vapor Sample Location (AllWest, January 2012)
SVP-25	Temporary Soil Vapor Probe Location to 5 feet bgs (AllWest, September 2013)
B-1	Boring Location (HC, 1992)
IAQ-1	Indoor/Outdoor Air Sample Location (August 2013 / March 2014)
S2C-8	Excavation Soil Sample (HC, 1992)
SVP-11	Semi-Permanent Sub-Slab Probe Soil Vapor Sample Location (AllWest, October 2012, Replaced September 2013)
SVP-15	Semi-Permanent Sub-Slab Soil Vapor Probe Location (September 2013)
GP-1	Geoprobe Boring Location (AllWest, 2012)
SS / SD	Original Sanitary Sewer and Storm Drain Lines from 1960 Utility Plans



AllWest

PROJECT NO. 14151.36

FIGURE 2

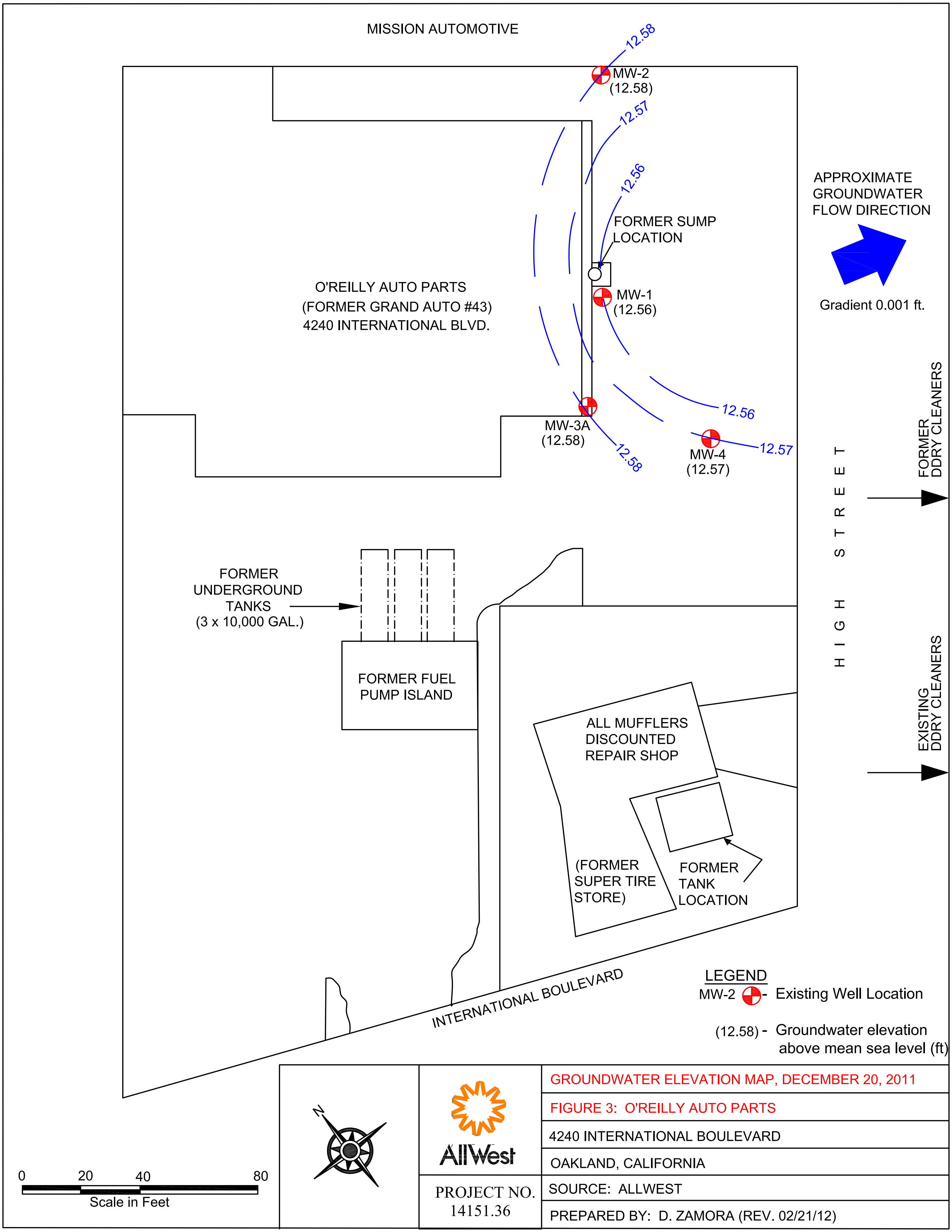
BORING, WELL, INDOOR AIR SAMPLE AND SOIL VAPOR PROBE LOCATIONS

Former Grand Auto

4240 East 14th Street (International Boulevard)

SOURCE: AllWest

DRAWN BY: CM (10/30/2014)



GROUNDWATER ELEVATION MAP, DECEMBER 20, 2011

FIGURE 3: O'REILLY AUTO PARTS

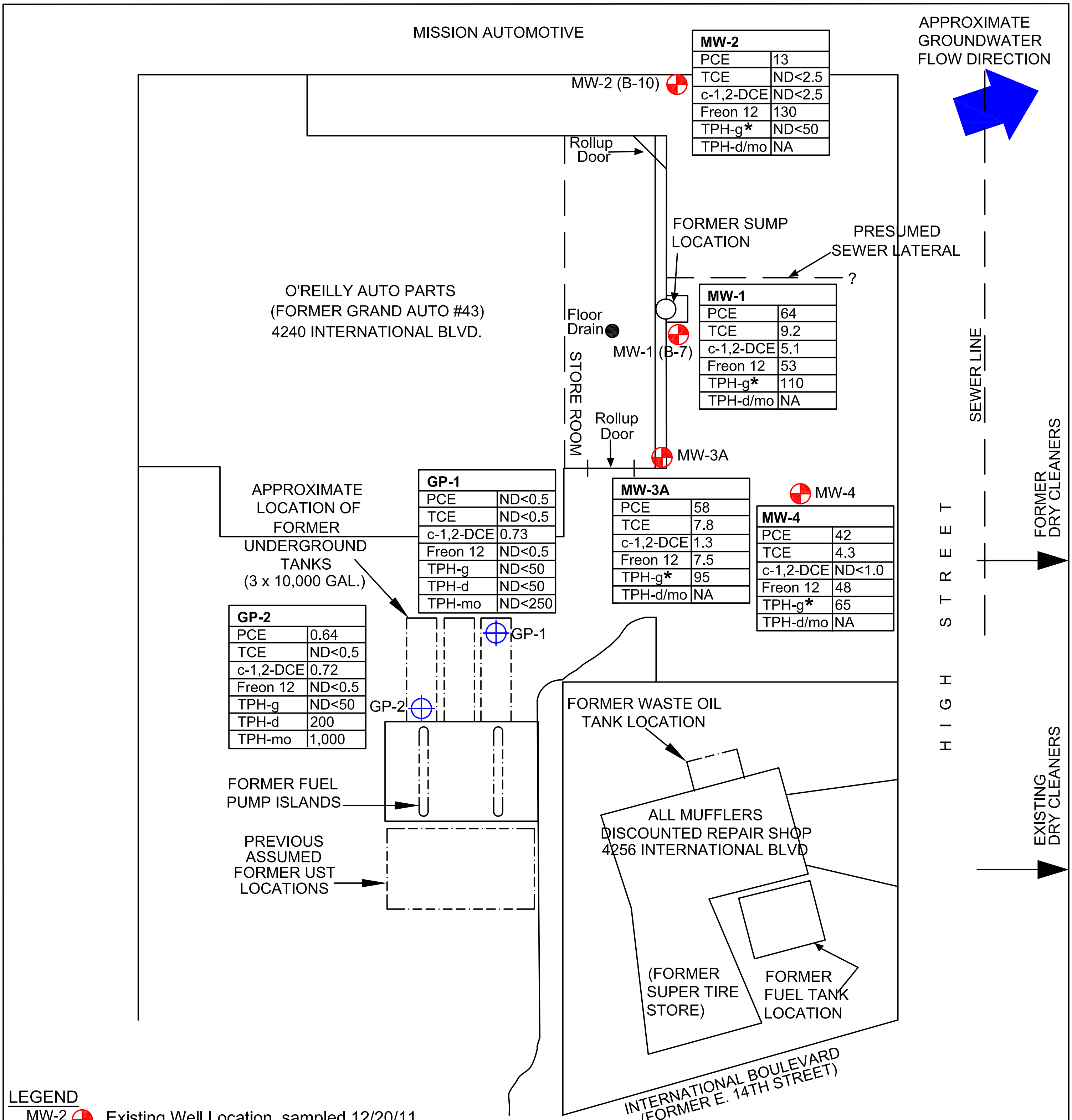
4240 INTERNATIONAL BOULEVARD

OAKLAND, CALIFORNIA

PROJECT NO. 14151.36

SOURCE: ALLWEST

PREPARED BY: D. ZAMORA (REV. 02/21/12)



MW-2	
PCE	13
TCE	ND<2.5
c-1,2-DCE	ND<2.5
Freon 12	130
TPH-g*	ND<50
TPH-d/mo	NA

MW-1	
PCE	64
TCE	9.2
c-1,2-DCE	5.1
Freon 12	53
TPH-g*	110
TPH-d/mo	NA

GP-1	
PCE	ND<0.5
TCE	ND<0.5
c-1,2-DCE	0.73
Freon 12	ND<0.5
TPH-g	ND<50
TPH-d	ND<50
TPH-mo	ND<250

MW-3A	
PCE	58
TCE	7.8
c-1,2-DCE	1.3
Freon 12	7.5
TPH-g*	95
TPH-d/mo	NA

MW-4	
PCE	42
TCE	4.3
c-1,2-DCE	ND<1.0
Freon 12	48
TPH-g*	65
TPH-d/mo	NA

GP-2	
PCE	0.64
TCE	ND<0.5
c-1,2-DCE	0.72
Freon 12	ND<0.5
TPH-g	ND<50
TPH-d	200
TPH-mo	1,000

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

N

AllWest

PROJECT NO. 14151.36

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

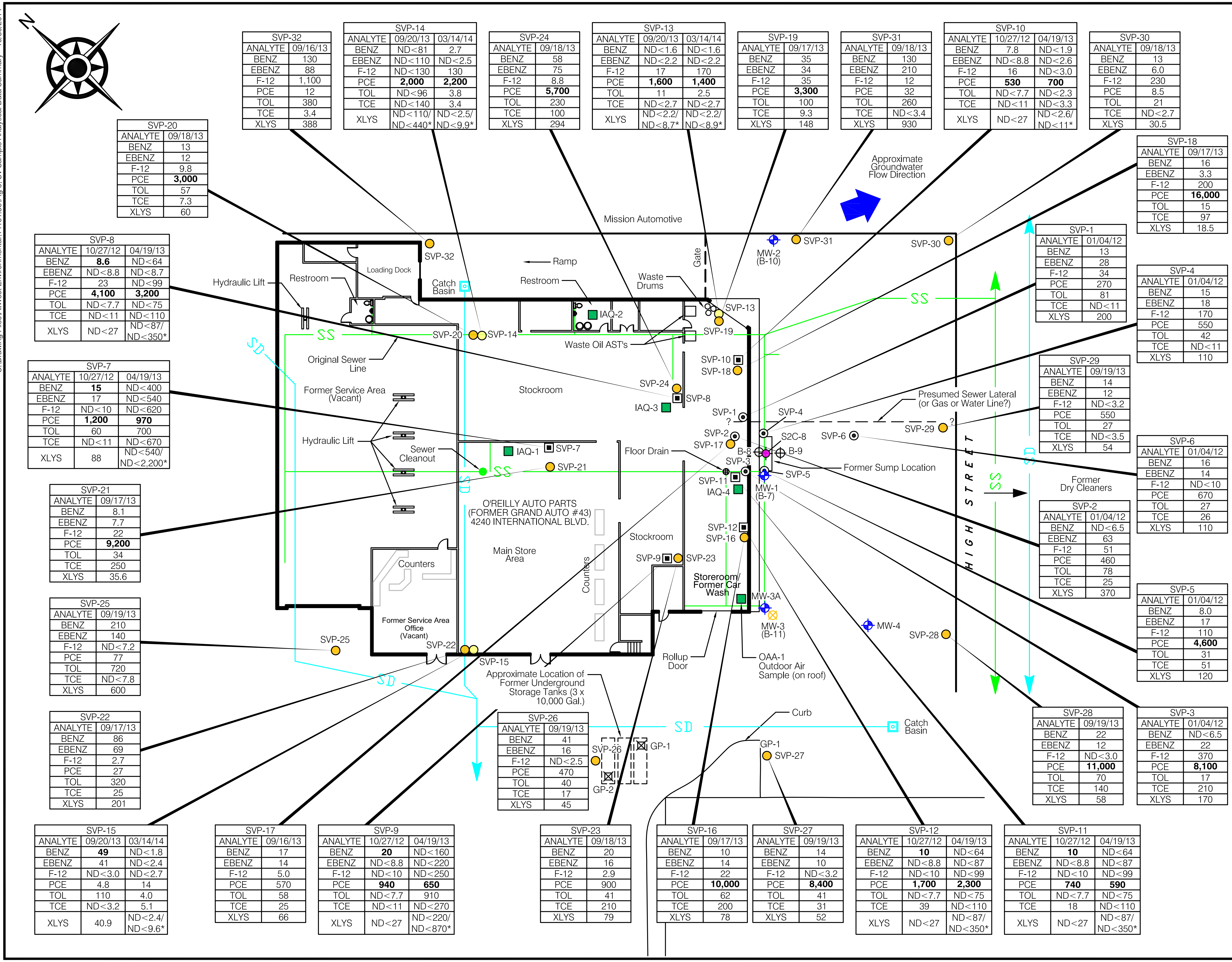
FIGURE 4: FORMER GRAND AUTO #43

4240 EAST 14TH STREET (INTERNATIONAL BOULEVARD)

OAKLAND, CALIFORNIA

SOURCE: ALLWEST

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



SVP-32	
ANALYTE	09/16/13
BENZ	130
EBENZ	88
F-12	1,100
PCE	12
TOL	380
TCE	3.4
XLYS	388

SVP-14		
ANALYTE	09/20/13	03/14/14
BENZ	ND<81	2.7
EBENZ	ND<110	ND<2.5
F-12	ND<130	130
PCE	**2,000**	**2,200**
TOL	ND<96	3.8
TCE	ND<140	3.4
XLYS	ND<110/ ND<440*	ND<2.5/ ND<9.9*

SVP-24	
ANALYTE	09/18/13
BENZ	58
EBENZ	75
F-12	8.8
PCE	**5,700**
TOL	230
TCE	100
XLYS	294

SVP-13		
ANALYTE	09/20/13	03/14/14
BENZ	ND<1.6	ND<1.6
EBENZ	ND<2.2	ND<2.2
F-12	17	170
PCE	**1,600**	**1,400**
TOL	11	2.5
TCE	ND<2.7	ND<2.7
XLYS	ND<2.2/ ND<8.7*	ND<2.2/ ND<8.9*

SVP-19	
ANALYTE	09/17/13
BENZ	35
EBENZ	34
F-12	35
PCE	**3,300**
TOL	100
TCE	9.3
XLYS	148

SVP-31	
ANALYTE	09/18/13
BENZ	130
EBENZ	210
F-12	12
PCE	32
TOL	260
TCE	ND<3.4
XLYS	930

SVP-10		
ANALYTE	10/27/12	04/19/13
BENZ	7.8	ND<1.9
EBENZ	ND<8.8	ND<2.6
F-12	16	ND<3.0
PCE	**530**	**700**
TOL	ND<7.7	ND<2.3
TCE	ND<11	ND<3.3
XLYS	ND<27	ND<2.6/ ND<11*

SVP-30	
ANALYTE	09/18/13
BENZ	13
EBENZ	6.0
F-12	230
PCE	8.5
TOL	21
TCE	ND<2.7
XLYS	30.5

SVP-20	
ANALYTE	09/18/13
BENZ	13
EBENZ	12
F-12	9.8
PCE	**3,000**
TOL	57
TCE	7.3
XLYS	60

SVP-8		
ANALYTE	10/27/12	04/19/13
BENZ	**8.6**	ND<64
EBENZ	ND<8.8	ND<8.7
F-12	23	ND<99
PCE	**4,100**	**3,200**
TOL	ND<7.7	ND<75
TCE	ND<11	ND<110
XLYS	ND<27	ND<87/ ND<350*

SVP-7		
ANALYTE	10/27/12	04/19/13
BENZ	**15**	ND<400
EBENZ	17	ND<540
F-12	ND<10	ND<620
PCE	**1,200**	**970**
TOL	60	700
TCE	ND<11	ND<670
XLYS	88	ND<540/ ND<2,200*

SVP-21	
ANALYTE	09/17/13
BENZ	8.1
EBENZ	7.7
F-12	22
PCE	**9,200**
TOL	34
TCE	250
XLYS	35.6

SVP-25	
ANALYTE	09/19/13
BENZ	210
EBENZ	140
F-12	ND<7.2
PCE	77
TOL	720
TCE	ND<7.8
XLYS	600

SVP-22	
ANALYTE	09/17/13
BENZ	86
EBENZ	69
F-12	2.7
PCE	27
TOL	320
TCE	25
XLYS	201

SVP-18	
ANALYTE	09/17/13
BENZ	16
EBENZ	3.3
F-12	200
PCE	**16,000**
TOL	15
TCE	97
XLYS	18.5

SVP-1	
ANALYTE	01/04/12
BENZ	13
EBENZ	28
F-12	34
PCE	270
TOL	81
TCE	ND<11
XLYS	200

SVP-4	
ANALYTE	01/04/12
BENZ	15
EBENZ	18
F-12	170
PCE	550
TOL	42
TCE	ND<11
XLYS	110

SVP-29	
ANALYTE	09/19/13
BENZ	14
EBENZ	12
F-12	ND<3.2
PCE	550
TOL	27
TCE	ND<3.5
XLYS	54

SVP-6	
ANALYTE	01/04/12
BENZ	16
EBENZ	14
F-12	ND<10
PCE	670
TOL	27
TCE	26
XLYS	110

SVP-2	
ANALYTE	01/04/12
BENZ	ND<6.5
EBENZ	63
F-12	51
PCE	460
TOL	78
TCE	25
XLYS	370

SVP-5	
ANALYTE	01/04/12
BENZ	8.0
EBENZ	17
F-12	110
PCE	**4,600**
TOL	31
TCE	51
XLYS	120

SVP-26	
ANALYTE	09/19/13
BENZ	41
EBENZ	16
F-12	ND<2.5
PCE	470
TOL	40
TCE	17
XLYS	45

SVP-28	
ANALYTE	09/19/13
BENZ	22
EBENZ	12
F-12	ND<3.0
PCE	**11,000**
TOL	70
TCE	140
XLYS	58

SVP-3	
ANALYTE	01/04/12
BENZ	ND<6.5
EBENZ	22
F-12	370
PCE	**8,100**
TOL	17
TCE	210
XLYS	170

SVP-15		
ANALYTE	09/20/13	03/14/14
BENZ	**49**	ND<1.8
EBENZ	41	ND<2.4
F-12	ND<3.0	ND<2.7
PCE	4.8	14
TOL	110	4.0
TCE	ND<3.2	5.1
XLYS	40.9	ND<2.4/ ND<9.6*

SVP-17	
ANALYTE	09/16/13
BENZ	17
EBENZ	14
F-12	5.0
PCE	570
TOL	58
TCE	25
XLYS	66

SVP-9		
ANALYTE	10/27/12	04/19/13
BENZ	**20**	ND<160
EBENZ	ND<8.8	ND<220
F-12	ND<10	ND<250
PCE	**940**	**650**
TOL	ND<7.7	910
TCE	ND<11	ND<270
XLYS	ND<27	ND<220/ ND<870*

SVP-23	
ANALYTE	09/18/13
BENZ	20
EBENZ	16
F-12	2.9
PCE	900
TOL	41
TCE	210
XLYS	79

SVP-16	
ANALYTE	09/17/13
BENZ	10
EBENZ	14
F-12	22
PCE	**10,000**
TOL	62
TCE	200
XLYS	78

SVP-27	
ANALYTE	09/19/13
BENZ	14
EBENZ	10
F-12	ND<3.2
PCE	**8,400**
TOL	41
TCE	31
XLYS	52

SVP-12		
ANALYTE	10/27/12	04/19/13
BENZ	**10**	ND<64
EBENZ	ND<8.8	ND<87
F-12	ND<10	ND<99
PCE	**1,700**	**2,300**
TOL	ND<7.7	ND<75
TCE	39	ND<110
XLYS	ND<27	ND<87/ ND<350*

SVP-11		
ANALYTE	10/27/12	04/19/13
BENZ	**10**	ND<64
EBENZ	ND<8.8	ND<87
F-12	ND<10	ND<99
PCE	**740**	**590**
TOL	ND<7.7	ND<75
TCE	18	ND<110
XLYS	ND<27	ND<87/ ND<350*

LEGEND

- MW-2 — Existing Monitoring Well
- SVP-1 — Temporary 5 feet bgs Probe Soil Vapor Sample Location (AllWest, January 2012)
- SVP-25 — Temporary Soil Vapor Probe Location to 5 feet bgs (AllWest, September 2013)
- B-1 — Boring Location (HC, 1992)
- IAQ-1 — Indoor/Outdoor Air Sample Location (August 2013 / March 2014)
- S2C-8 — Excavation Soil Sample (HC, 1992)
- SVP-11 — Semi-Permanent Sub-Slab Probe Soil Vapor Sample Location (AllWest, October 2012, (Replaced September 2013)
- SVP-15 — Semi-Permanent Sub-Slab Soil Vapor Probe Location (September 2013)
- GP-1 — Geoprobe Boring Location (AllWest, 2012)
- SS / SD — Original Sanitary Sewer and Storm Drain Lines from 1960 Utility Plans

NOTE:
- BENZ - Benzene
- EBENZ - Ethylbenzene
- F-12 - Freon-12, Dichlorodifluoromethane
- PCE - Tetrachloroethene
- TOL - Toluene
- TCE - Trichloroethene
- XYLS - Total Xylenes
- ND< - Below listed laboratory detection limit
- * - Separate reporting limits for o-xylene and m,p-xylene

Concentrations in micrograms per cubic meter ($\mu g/m^3$)

Bold Font - Detected values exceed regulatory agency screening levels

0 30 60

APPROXIMATE SCALE IN FEET

AllWest

FIGURE 5

SOIL VAPOR SAMPLE ANALYTICAL DATA SUMMARY

Former Grand Auto

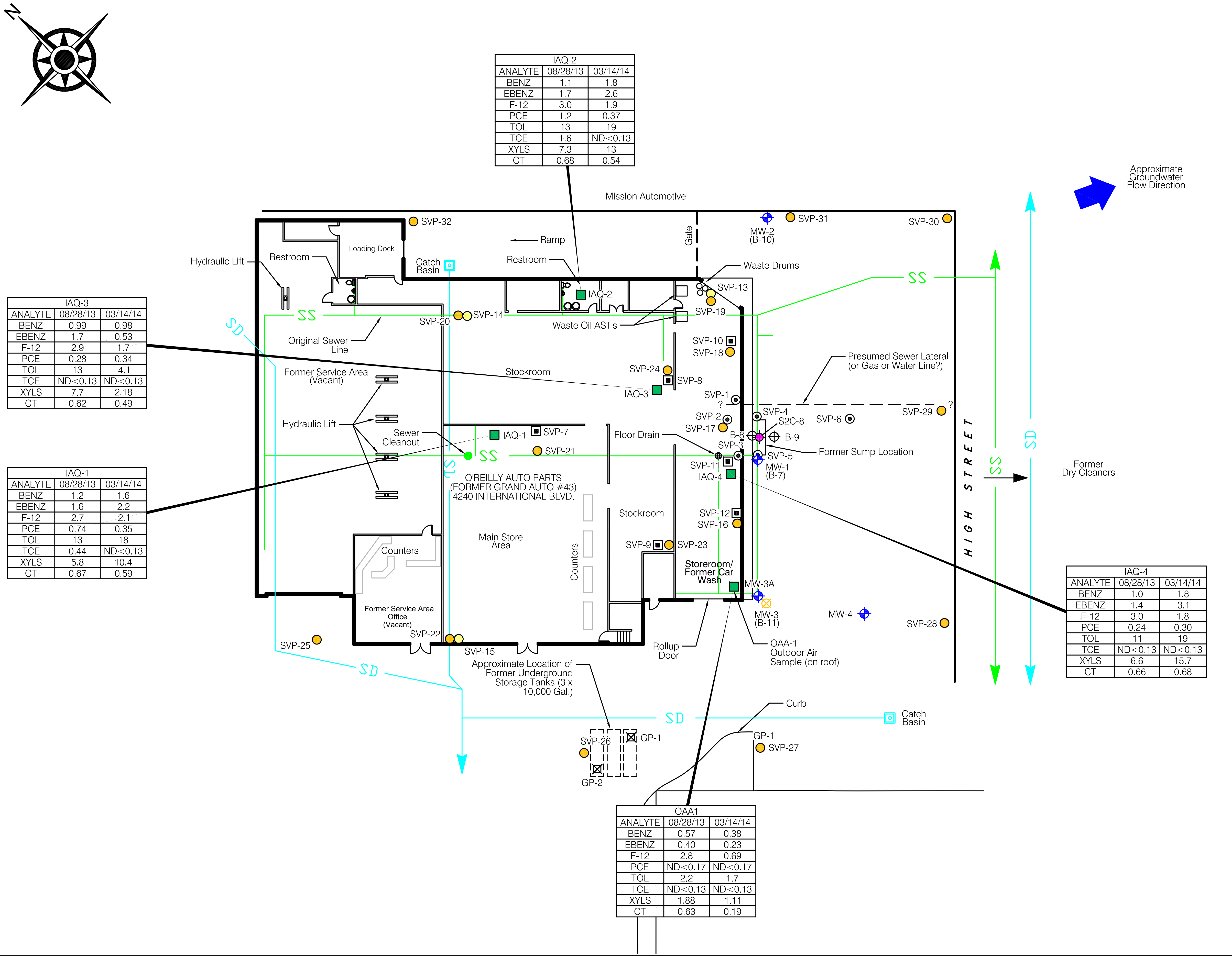
4240 East 14th Street (International Boulevard)

PROJECT NO: 14151.36

SOURCE: AllWest

DRAWN BY: CM (10/30/2014)

C:\Drawing Files\AllWest Environmental\14151.36\Fig 6, Indoor Air Sample Analytical Data Summary - 10/30/2014



IAQ-2		
ANALYTE	08/28/13	03/14/14
BENZ	1.1	1.8
EBENZ	1.7	2.6
F-12	3.0	1.9
PCE	1.2	0.37
TOL	13	19
TCE	1.6	ND<0.13
XYLS	7.3	13
CT	0.68	0.54

IAQ-3		
ANALYTE	08/28/13	03/14/14
BENZ	0.99	0.98
EBENZ	1.7	0.53
F-12	2.9	1.7
PCE	0.28	0.34
TOL	13	4.1
TCE	ND<0.13	ND<0.13
XYLS	7.7	2.18
CT	0.62	0.49

IAQ-1		
ANALYTE	08/28/13	03/14/14
BENZ	1.2	1.6
EBENZ	1.6	2.2
F-12	2.7	2.1
PCE	0.74	0.35
TOL	13	18
TCE	0.44	ND<0.13
XYLS	5.8	10.4
CT	0.67	0.59

IAQ-4		
ANALYTE	08/28/13	03/14/14
BENZ	1.0	1.8
EBENZ	1.4	3.1
F-12	3.0	1.8
PCE	0.24	0.30
TOL	11	19
TCE	ND<0.13	ND<0.13
XYLS	6.6	15.7
CT	0.66	0.68

OAA1		
ANALYTE	08/28/13	03/14/14
BENZ	0.57	0.38
EBENZ	0.40	0.23
F-12	2.8	0.69
PCE	ND<0.17	ND<0.17
TOL	2.2	1.7
TCE	ND<0.13	ND<0.13
XYLS	1.88	1.11
CT	0.63	0.19

LEGEND

- MW-2 — Existing Monitoring Well
- SVP-1 — Temporary 5 feet bgs Probe Soil Vapor Sample Location (AllWest, January 2012, Replaced September 2013)
- SVP-25 — Temporary Soil Vapor Probe Location to 5 feet bgs (AllWest, September 2013)
- B-1 — Boring Location (HC, 1992)
- IAQ-1 — Indoor/Outdoor Air Sample Location (August 2013 / March 2014)
- S2C-8 — Excavation Soil Sample (HC, 1992)
- SVP-11 — Semi-Permanent Sub-Slab Probe Soil Vapor Sample Location (AllWest, October 2012)
- SVP-15 — Semi-Permanent Sub-Slab Soil Vapor Probe Location (September 2013)
- GP-1 — Geoprobe Boring Location (AllWest, 2012)
- SS / SD — Original Sanitary Sewer and Storm Drain Lines from 1960 Utility Plans

NOTE:
BENZ - Benzene
CT - Carbon Tetrachloride
EBENZ - Ethylbenzene
F-12 - Freon-12, Dichlorodifluoromethane
PCE - Tetrachloroethene
TOL - Toluene
TCE - Trichloroethene
XYLS - Total Xylenes
ND< - Below listed laboratory detection limit
Concentrations in micrograms per cubic meter ($\mu g/m^3$)

0 30 60
APPROXIMATE SCALE IN FEET

AllWest

FIGURE 6

INDOOR AIR SAMPLE ANALYTICAL DATA SUMMARY

Former Grand Auto

4240 East 14th Street (International Boulevard)

PROJECT NO: 14151.36

SOURCE: AllWest

DRAWN BY: CM (10/30/2014)

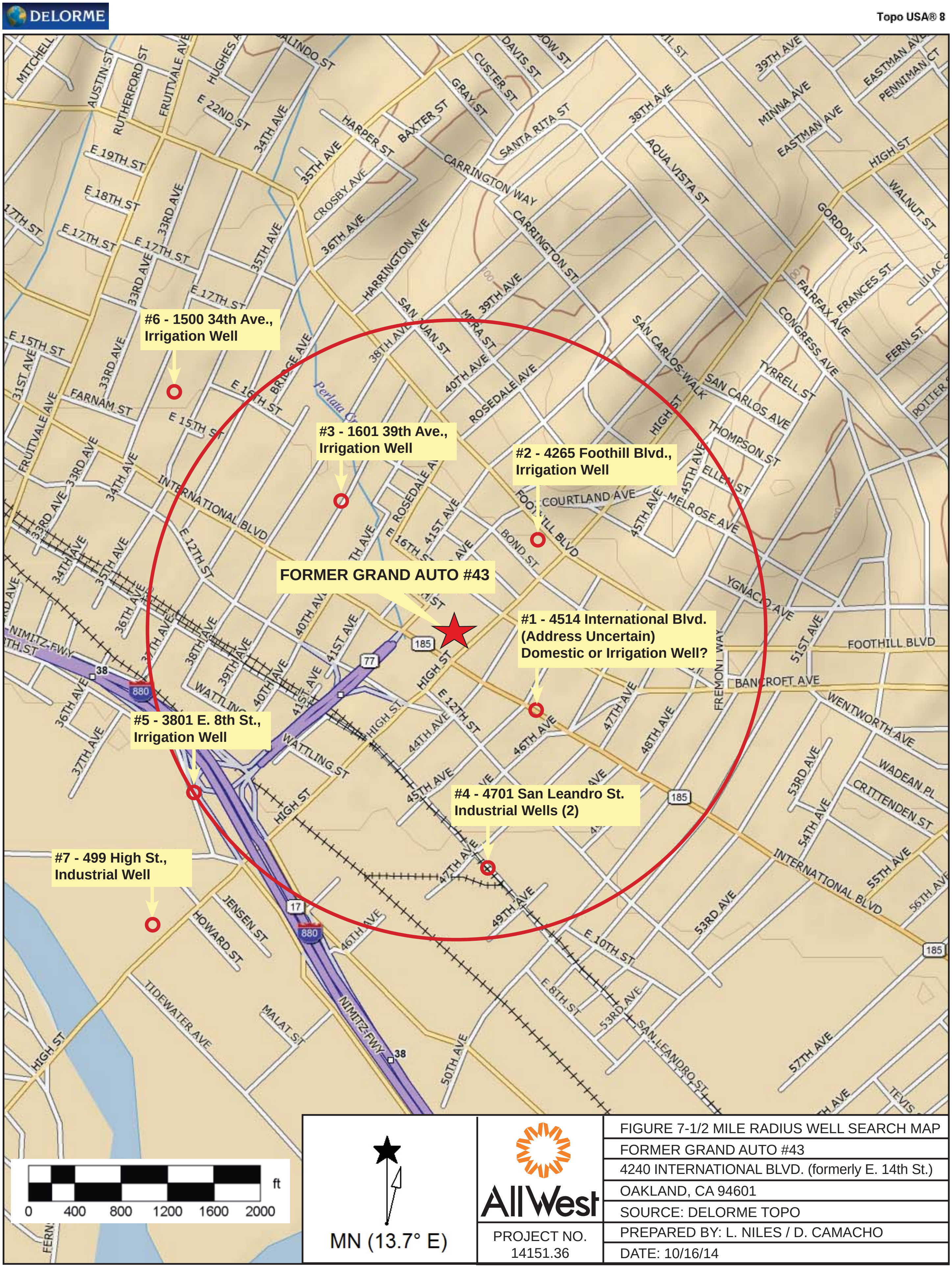


FIGURE 7-1/2 MILE RADIUS WELL SEARCH MAP
FORMER GRAND AUTO #43
4240 INTERNATIONAL BLVD. (formerly E. 14th St.)
OAKLAND, CA 94601
SOURCE: DELORME TOPO
PREPARED BY: L. NILES / D. CAMACHO
DATE: 10/16/14

PROJECT NO. 14151.36

APPENDIX A

Key to Exploration Logs

Sample Descriptions

Classification of soils in this report is based on visual field and laboratory observations which include density/consistency, moisture condition, grain size, and plasticity estimates, and should not be construed to imply field nor laboratory testing unless presented herein. Visual-manual classification methods of ASTM D 2488 were used as an identification guide.

Soil descriptions consist of the following:
Density/consistency, moisture, color, minor constituents, MAJOR CONSTITUENTS, additional remarks.

Density/Consistency

Soil density/consistency in borings is related primarily to the Standard Penetration Resistance. Soil density/consistency in test pits is estimated based on visual observation and is presented parenthetically on the test pit logs.

SAND and GRAVEL Density	Standard Penetration Resistance in Blows/Foot
Very loose	0 - 4
Loose	4 - 10
Medium dense	10 - 30
Dense	30 - 50
Very Dense	>50

SILT or CLAY Density	Standard Penetration Resistance in Blows/Foot	Approximate Sheer Strength in TSF
Very soft	0 - 2	<0.125
Soft	2 - 4	0.125 - 0.25
Medium stiff	4 - 8	0.25 - 0.5
Stiff	8 - 15	0.5 - 1.0
Very Stiff	15 - 30	1.0 - 2.0
Hard	>30	>2.0

Moisture

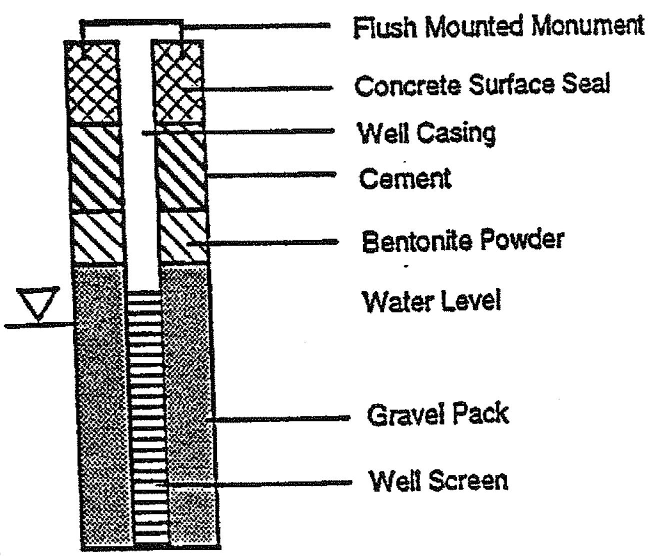
Dry	Little perceptible moisture.
Damp	Some perceptible moisture, probably below optimum.
Moist	Probably near optimum moisture content.
Wet	Much perceptible moisture, probably above optimum.

Minor Constituents

	Estimated Percentage
Not identified in description	0 - 5
Slightly (clayey, silty, etc.)	5 - 12
Clayey, silty, sandy, gravelly	12 - 30
Very (clayey, silty, etc.)	30 - 50

Legends

Groundwater Observations



Sampling

BORING SYMBOLS

- ⊠ Split Spoon
- ⧅ Shelby Tube
- ▥ Cuttings
- ◫ Core Run
- * No Sample Recovery
- P Tube Pushed, Not Driven

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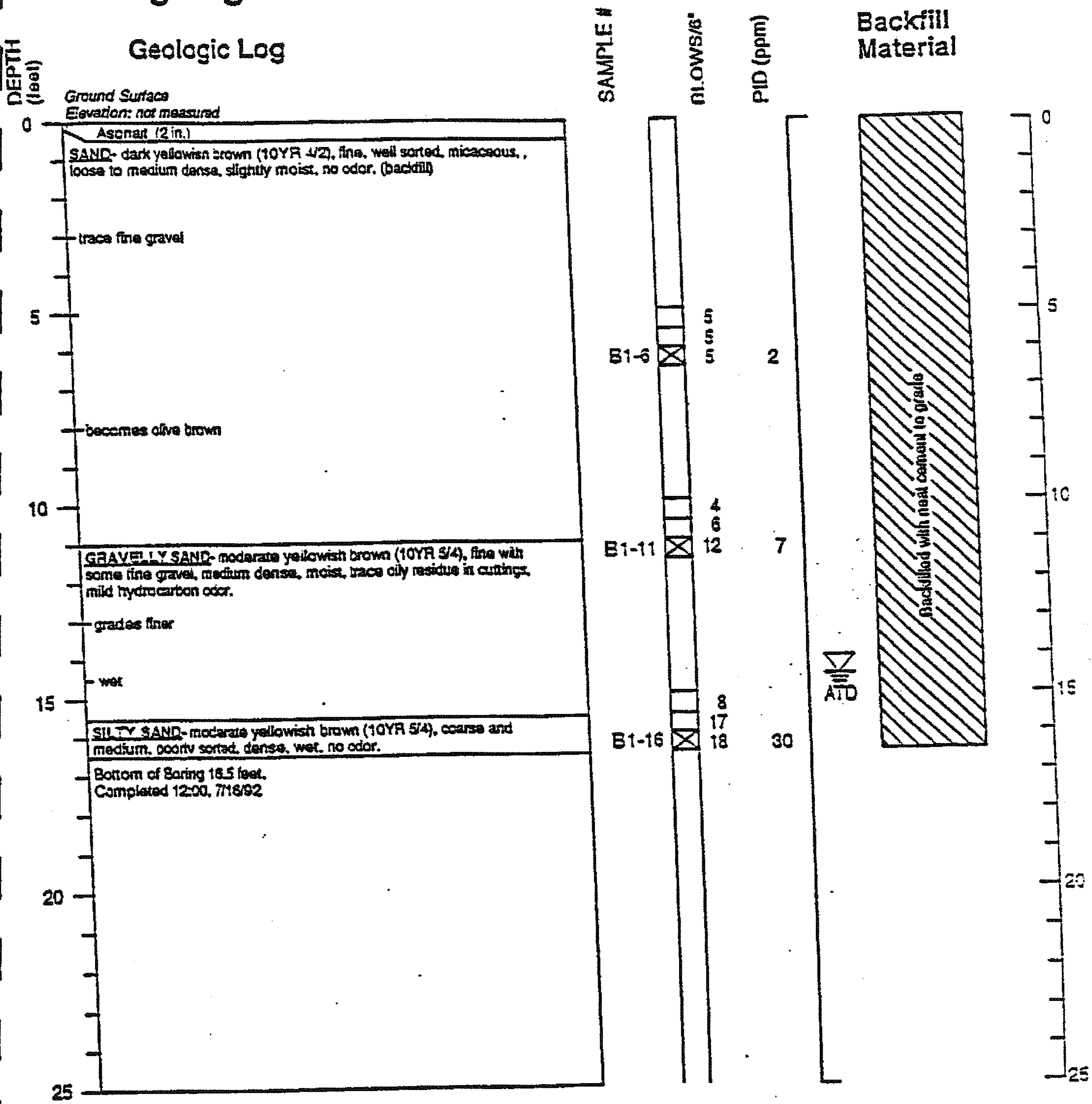
J-6077 9/92

Figure A-1

Boring Log B1



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Groundwater level is at time of drilling (ATD) for date specified. Level may vary with time.

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Figure A-2

Page 1 of 1

Boring Log B2

Geologic Log

Ground Surface
Elevation: not measured

DEPTH (feet)	Geologic Log	SAMPLE #	BLOWS/6"	PID (ppm)
0	Aschalt (2 in.)			
	SAND- dark yellowish brown (10YR 4/2), fine, well sorted, micaceous, cohesionless, loose to medium dense, slightly moist, no odor. (backfill)			
5	GRAVELLY SAND- dark gray brown to black, fine with some fine gravel, medium dense, slightly moist, no odor, (backfill).	B2-6	8 / 8 / 12	–
	- decreasing gravel			
	- wet			
10	SAND- dark yellowish brown (10YR 4/2), fine, trace medium to coarse, trace silt, loose to medium dense, wet, no odor.	B2-11	4 / 3 / 12	5
	SILTY CLAY- moderate yellowish brown (10YR 5/4), trace very fine sand, some carbon staining, plastic, wet, no odor.(perching layer)	B2-14	4 / 6 / 8	9
15	Bottom of Boring 14.5 feet. Completed 14:00, 7/16/92			
20				
25				

Groundwater: ATD (approx. 9.5 ft)

Backfill Material

Backfilled with neat cement to grade (0 to 14.5 feet)

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Groundwater level is at time of drilling (ATD) for date specified. Level may vary with time.

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Figure A-3
Page 1 of 1

Boring Log B4

Geologic Log

DEPTH (feet)

Ground Surface
Elevation: not measured

Depth (feet)	Geologic Log
0	Asphalt (2 in.)
	SILTY GRAVEL - moderate yellowish brown, angular, fine with some coarse gravel, poorly sorted sands, dry, no odor. (backfill)
	SANDY SILT- dark yellowish brown, fine, some fine gravel,dry, no odor.
	SANDY SILT- yellowish brown, some very fine to fine sand, minor clay, slightly moist to dry, no odor.
5	- lenses of gray brown clayey silt
	- increasing clay content
	CLAYEY SILT- moderate yellowish brown, some coarse rounded to subrounded sand, trace fine gravel, slightly moist, no odor.
10	CLAYEY to SILTY GRAVEL - varicolored yellowish brown, yellowish orange, and black, angular fine to trace coarse silicious gravel clasts, many are fractured, slightly moist to moist, no odor.
	SILTY CLAY- moderate yellowish brown (10YR 5/4), trace very fine sand, some carbon staining and fine root holes, wet, no odor.
15	- some coarse sand and very fine angular gravel
	- moist to wet, predominately interstitial moisture
20	SILTY SAND - light olive to light olive brown (10Y 5/4 to 5Y 5/6), poorly sorted fine to coarse sand, trace angular to subrounded gravel, trace clay, moist, no odor.
	Bottom of Boring 21.5 feet. Completed 09:10, 7/16/92
25	

SAMPLE #	BLOWS/6"	PID (ppm)
B4-6	9, 16, 28	0
B4-11	4, 5, 8	–
B4-13	8, 9, 10	6
B4-16	7, 10, 13	9
B4-21	10, 14, 19	6

Backfill Material

Backfilled with neat cement to grade

1. *Refer to Figure A-1 for explanation of descriptions and symbols.*
2. *Soil descriptions and stratum lines are interpretive and actual changes may be gradual.*
3. *Groundwater level is at time of drilling (ATD) for date specified. Level may vary with time.*

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Figure A-4
Page 1 of 1

Boring Log B5

Geologic Log

Ground Surface
Elevation: not measured

Depth (feet)	Geologic Log	Sample #	Blows/6"	PID (ppm)
0	Asphalt (2 in.)			
	SILTY GRAVEL- moderate yellowish brown, angular, fine with some coarse gravel, poorly sorted sands, slightly moist to dry, no odor. (backfill)			
	SANDY SILT- dark yellowish brown, fine, some fine gravel, dry, no odor.			
	SANDY SILT- yellowish brown, some very fine to fine sand, some clayey peds, slightly moist to dry, no odor.			
5	- lenses of gray brown clayey silt	B5-6	9, 13, 18	9
	- increasing clay content			
	CLAYEY SILT- moderate yellowish brown, some coarse rounded to subrounded sand, trace fine gravel, slightly moist, no odor.			
10	CLAYEY to SILTY GRAVEL- varicolored yellowish brown, yellowish orange, and black, angular fine to trace coarse silicious gravel clasts, many are fractured, slightly moist to moist, no odor.	B5-11	15, 29, 30	-
	SILTY CLAY- moderate yellowish brown (10YR 5/4), trace very fine sand, some carbon staining and fine root holes, wet, no odor.			
15	SILTY SAND- moderate olive brown (5Y 4/4), very fine to fine, trace clay, moist, mild hydrocarbon odor.	B5-16	7, 6, 8	30
	- some poorly sorted medium to coarse sand and angular to subrounded fine gravel, mild hydrocarbon odor	B5-19	9, 11, 15	70
20				
25				

continued next page

Backfill Material

Backfilled with neat cement to grade (0–25 feet)

1. *Refer to Figure A-1 for explanation of descriptions and symbols.*
2. *Soil descriptions and stratum lines are interpretive and actual changes may be gradual.*
3. *Groundwater level is at time of drilling (ATD) for date specified. Level may vary with time.*

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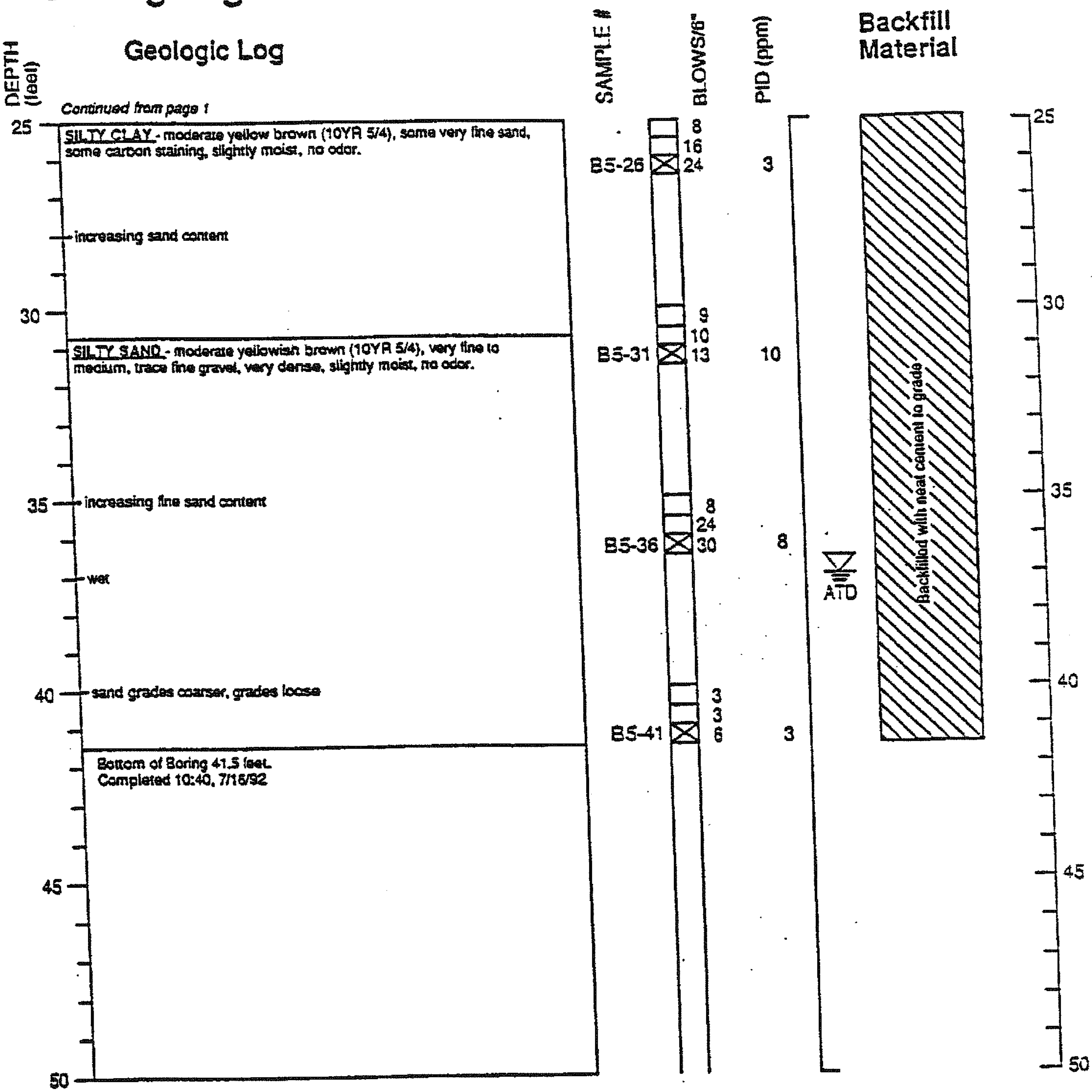
Figure A-5
Page 1 of 2

Boring Log B5



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Groundwater level is at time of drilling (ATD) for date specified. Level may vary with time.

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Figure A-5

Boring Log B7 (MW-1)

Geologic Log

DEPTH (feet)

Ground Surface
Elevation: not measured

0 ft: Asphalt (2 in.) over baserock.

SILT - moderate yellowish brown, soft, moist, no odor. (backfill)

5 ft: SILTY GRAVEL - varicolored yellowish brown, yellowish orange, and dark orange, angular fine to trace coarse gravel clasts, some are fractured, minor fine sand, slightly moist, no odor.

decreasing coarse gravel, increasing coarse to fine sand

increasing interstitial moisture, becomes very moist to wet, no free water

10 ft: SILTY CLAY - moderate yellowish brown (10YR 5/4), trace very fine sand, some carbon staining, slightly moist to moist, no odor.

SILTY GRAVEL - varicolored yellowish brown and yellowish orange, angular to subrounded fine gravel (avg 3/4 in.), some coarse and medium sand, slighty moist to moist, no odor.

15 ft

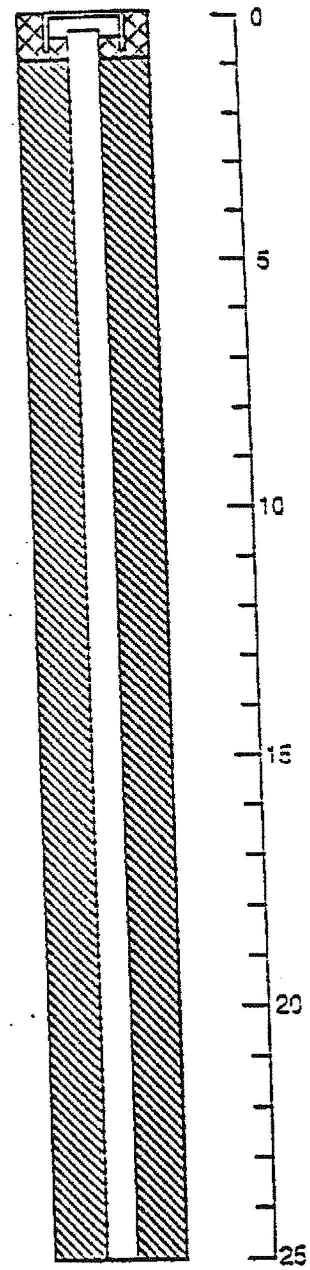
20 ft: SAND - moderate yellowish brown, very fine to fine, slightly moist to moist, no odor.

25 ft

continued next page

SAMPLE #	BLOWS/6"	PID (ppm)
B7-3.5	4, 6	0
B7-6.5	39, 30	11
B7-8	20, 22	4
B7-9.5	14, 16	5
B7-11	16, 40	5
B7-13.5	40, 40	10
B7-15	15, 22	10
B7-21.5	30, 20	5

Monitoring Well Design



1. *Refer to Figure A-1 for explanation of descriptions and symbols.*
2. *Soil descriptions and stratum lines are interpretive and actual changes may be gradual.*
3. *Groundwater level is at time of drilling (ATD) for date specified. Level may vary with time.*

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Figure A-6

Boring Log B7 (MW-1)

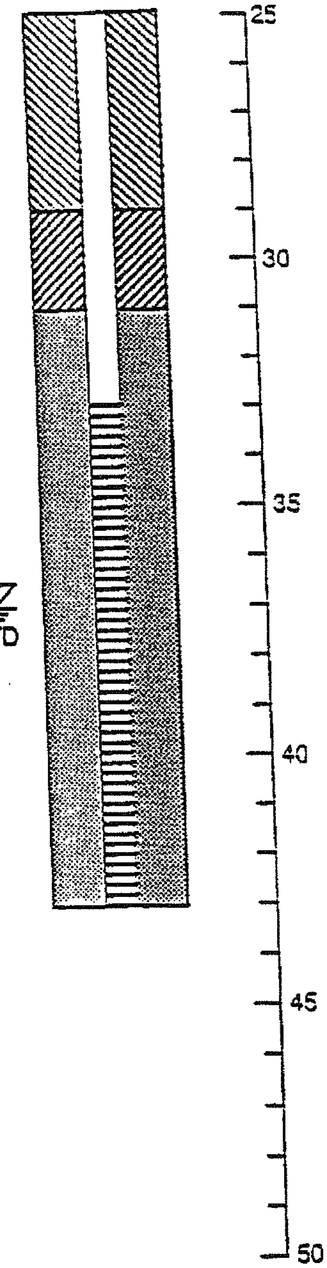
Geologic Log

Continued from page 1

DEPTH (feet)	Geologic Log	SAMPLE #	BLOWS/6"	PID (ppm)
25	SILTY CLAY - moderate yellow brown (10YR 5/4), trace medium to coarse sand, some carbon staining, slightly moist, no odor.	B7-27	20 25	5
30		B7-31	20 50	0
35	SILTY SAND - moderate yellowish brown (10YR 5/4) with light gray mottling, very fine, very dense, moist, no odor.	B7-36	25 50	10
40	SAND AND GRAVEL - moderate yellowish brown (10YR 5/4), slightly silty coarse sand and fine angular gravel to 30 mm diameter, very dense, wet, no odor.	B7-41	12 50	0
45		n/a	20 50	–
	Bottom of Boring 46.5 feet. Completed 10:00, 8/28/92			
50				

ATD

Monitoring Well Design



1. *Refer to Figure A-1 for explanation of descriptions and symbols.*
2. *Soil descriptions and stratum lines are interpretive and actual changes may be gradual.*
3. *Groundwater level is at time of drilling (ATD) for date specified. Level may vary with time.*

HARTCROWSER

J-6077 8/92

Figure A-6

Key to Exploration Logs

Sample Descriptions

Classification of soils in this report is based on visual field and laboratory observations which include density/consistency, moisture condition, grain size, and plasticity estimates, and should not be construed to imply field nor laboratory testing unless presented herein. Visual-manual classification methods of ASTM D 2488 were used as an identification guide.

Soil descriptions consist of the following:
Density/consistency, moisture, color, minor constituents, MAJOR CONSTITUENTS, additional remarks.

Density/Consistency

Soil density/consistency in borings is related primarily to the Standard Penetration Resistance. Soil density/consistency in test pits is estimated based on visual observation and is presented parenthetically on the test pit logs.

SAND and GRAVEL Density	Standard Penetration Resistance in Blows/Foot
Very loose	0 - 4
Loose	4 - 10
Medium dense	10 - 30
Dense	30 - 50
Very Dense	>50

SILT or CLAY Density	Standard Penetration Resistance in Blows/Foot	Approximate Sheer Strength in TSF
Very soft	0 - 2	<0.125
Soft	2 - 4	0.125 - 0.25
Medium stiff	4 - 8	0.25 - 0.5
Stiff	8 - 15	0.5 - 1.0
Very Stiff	15 - 30	1.0 - 2.0
Hard	>30	>2.0

Moisture

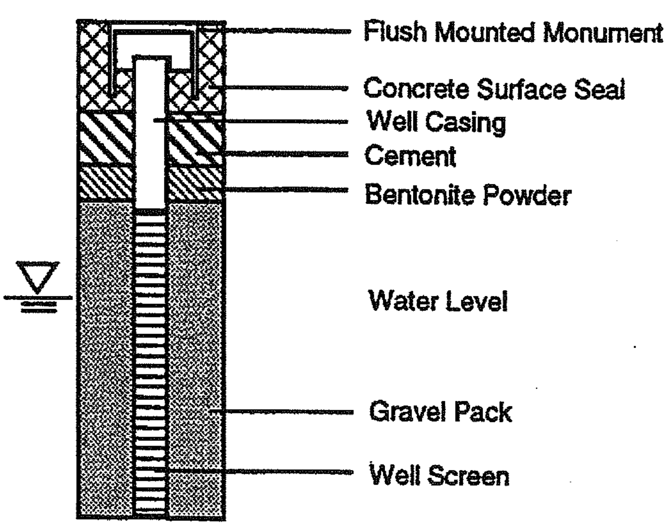
Dry	Little perceptible moisture.
Damp	Some perceptible moisture, probably below optimum.
Moist	Probably near optimum moisture content.
Wet	Much perceptible moisture, probably above optimum.

Minor Constituents

	Estimated Percentage
Not identified in description	0 - 5
Slightly (clayey, silty, etc.)	5 - 12
Clayey, silty, sandy, gravelly	12 - 30
Very (clayey, silty, etc.)	30 - 50

Legends

Groundwater Observations



Sampling

BORING SYMBOLS

- ⊠ Spilt Spoon
- ⧅ Shelby Tube
- ▥ Cuttings
- ◫ Core Run
- * No Sample Recovery
- P Tube Pushed, Not Driven

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Figure A-1

Boring Log B-8

Geologic Log

DEPTH (feet)	Description	SAMPLE	N	H-Nu
0	ASPHALT - 3 -4 inches over 4 feet of gravelly sand backfill.	B8-1	19 27 42	7.0
4	SILT - dark brown, clayey, stiff, moist, no petroleum hydrocarbon odor (backfill).	B8-5	3 7 9	10.0
10	SILT - brown, sandy (fine grained), minor clay, very stiff, very moist, no petroleum hydrocarbon odor.	B8-11	12 12 12	10.0
15	CLAY - brown, silty, gravelly, hard, very moist to wet, no petroleum hydrocarbon odor.	B8-16	20 25 26	4.0
		B8-20	19 26 28	5.0
22	SILT - brown, clayey, minor fine grained sand, very stiff, moist, no petroleum hydrocarbon odor.	B8-25	9 10 11	0

Bottom of boring 25.5 feet BGS. Completed 4/16/93.

Graphic Column

Backfilled to surface with cement grout.

1. *Refer to Figure A-1 for explanation of descriptions and symbols.*
2. *Soil descriptions and stratum lines are interpretive and actual changes may be gradual.*

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Figure A-2

Boring Log B-9

Geologic Log

DEPTH (feet)	Description	SAMPLE	N	H-Nu
0–1	ASPHALT - 3 -4 inches over 4 feet of gravelly sand backfill.			
1–11	SILT - brown to black, sandy (fine to coarse grained), clayey, minor gravels, hard, moist, no petroleum hydrocarbon odor.	B9-5	15 17 20	6.0
		B9-10.5	14 16 20	5.0
11–15.5	SILT - brown, sandy (fine grained), minor clay, very stiff, moist, no petroleum hydrocarbon odor.			
15.5–23.5	SAND - brown, coarse grained, silty, some gravels, dense, very moist, no petroleum hydrocarbon odor.	B9-15.5	18 20 21	1.0
		B9-21	18 19 20	0
23.5–25.5	CLAY - brown, silty, minor medium to coarse grained sand, stiff, moist, no petroleum hydrocarbon odor.	B9-25	9 12 15	0

Bottom of boring 25.5 feet BGS. Completed 4/16/93.

Graphic Column

Backfilled to surface with cement grout.

1. *Refer to Figure A-1 for explanation of descriptions and symbols.*
2. *Soil descriptions and stratum lines are interpretive and actual changes may be gradual.*

HARTCROWSER

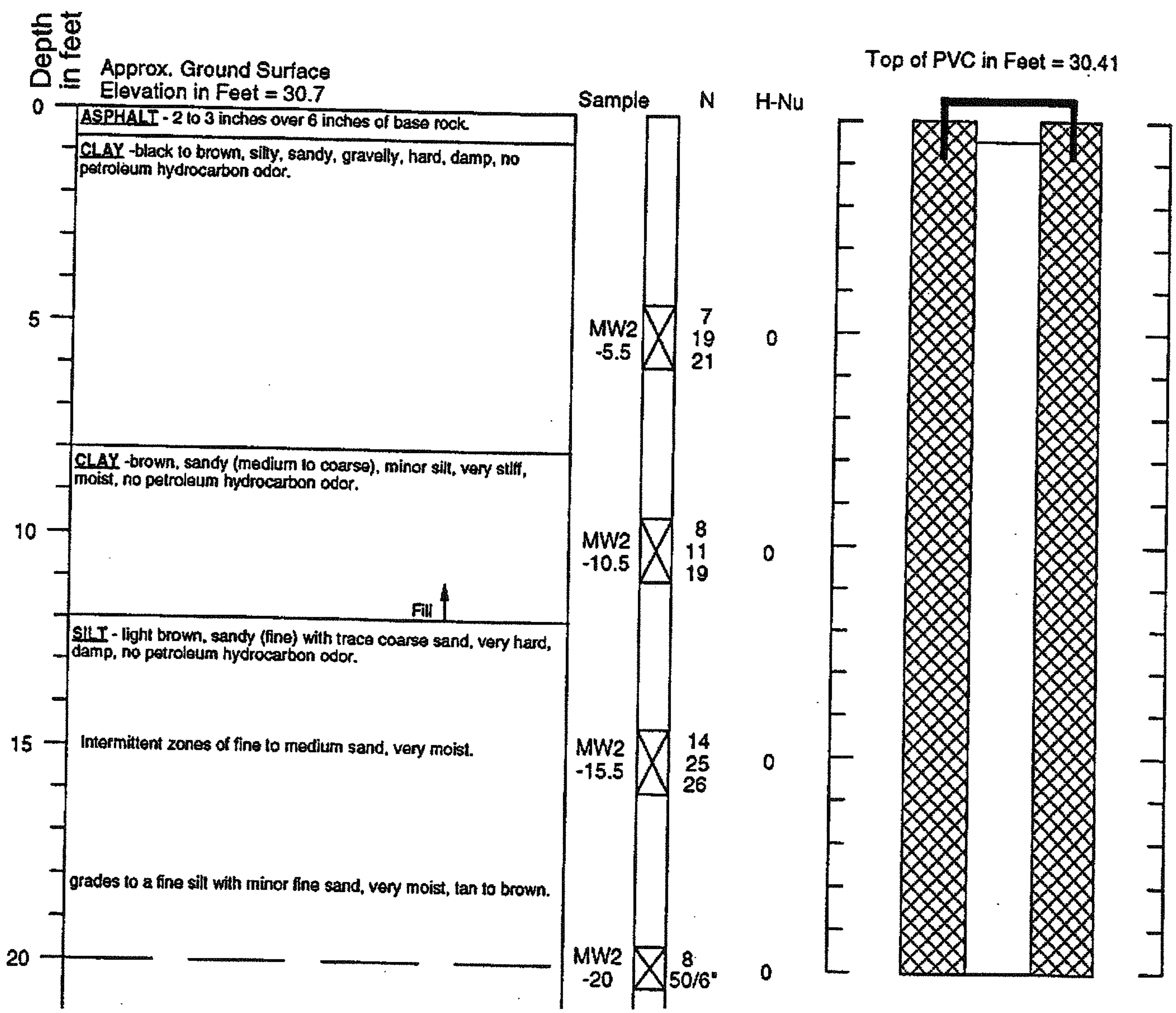
J-6077 *5/93*

Figure A-3

Boring Log and Construction Data for Monitoring Well MW-2

Geologic Log

Monitoring Well Design



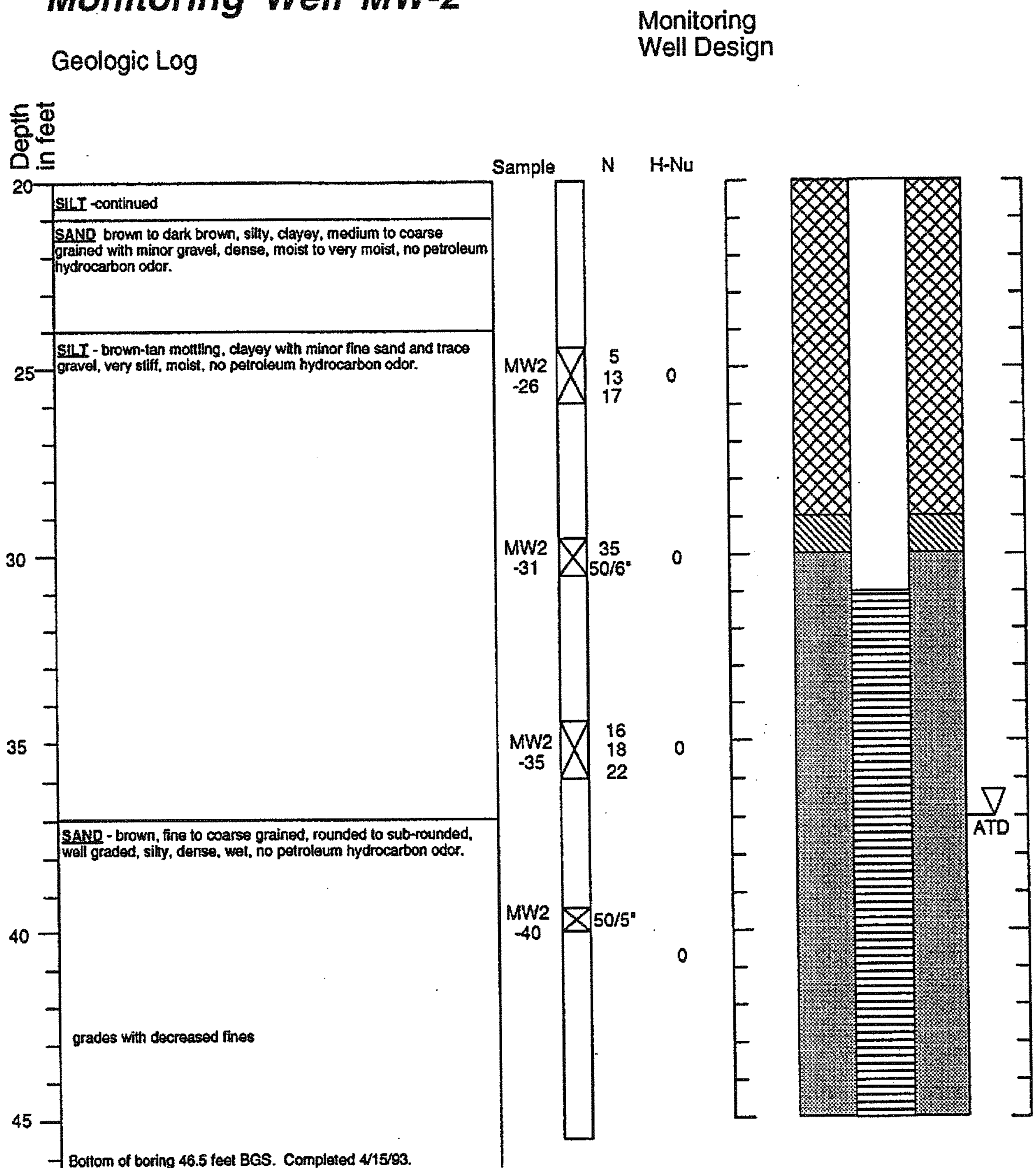
1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Ground water level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
4. Elevations referenced to the City of Oakland Datum.

HARTCROWSER

J-6077 5/93

Figure A-4

Boring Log and Construction Data for Monitoring Well MW-2



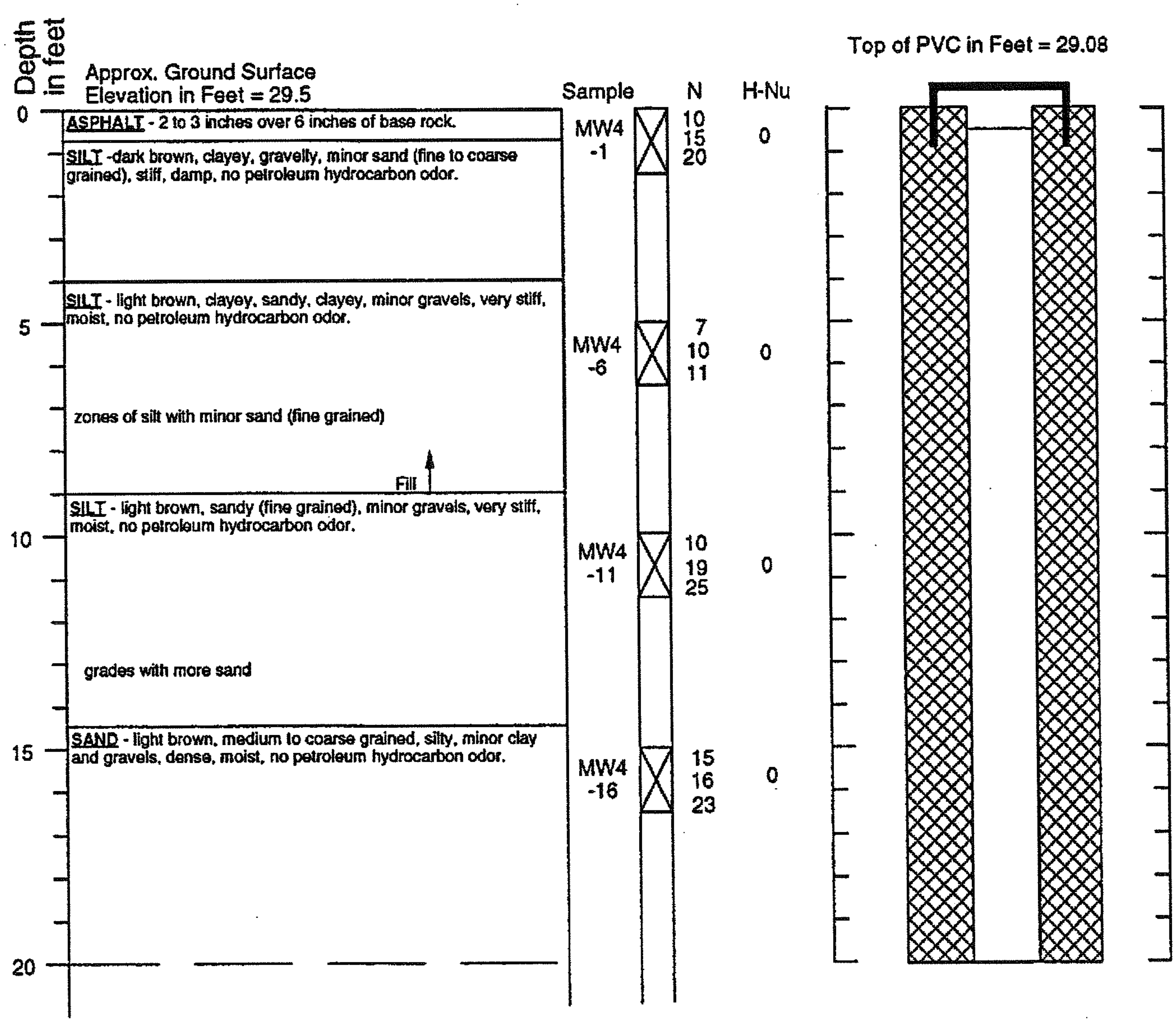
1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Ground water level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
4. Elevations referenced to the City of Oakland Datum.

HARTCROWSER

J-6077 5/93

Figure A-5

Boring Log and Construction Data for Monitoring Well MW-4



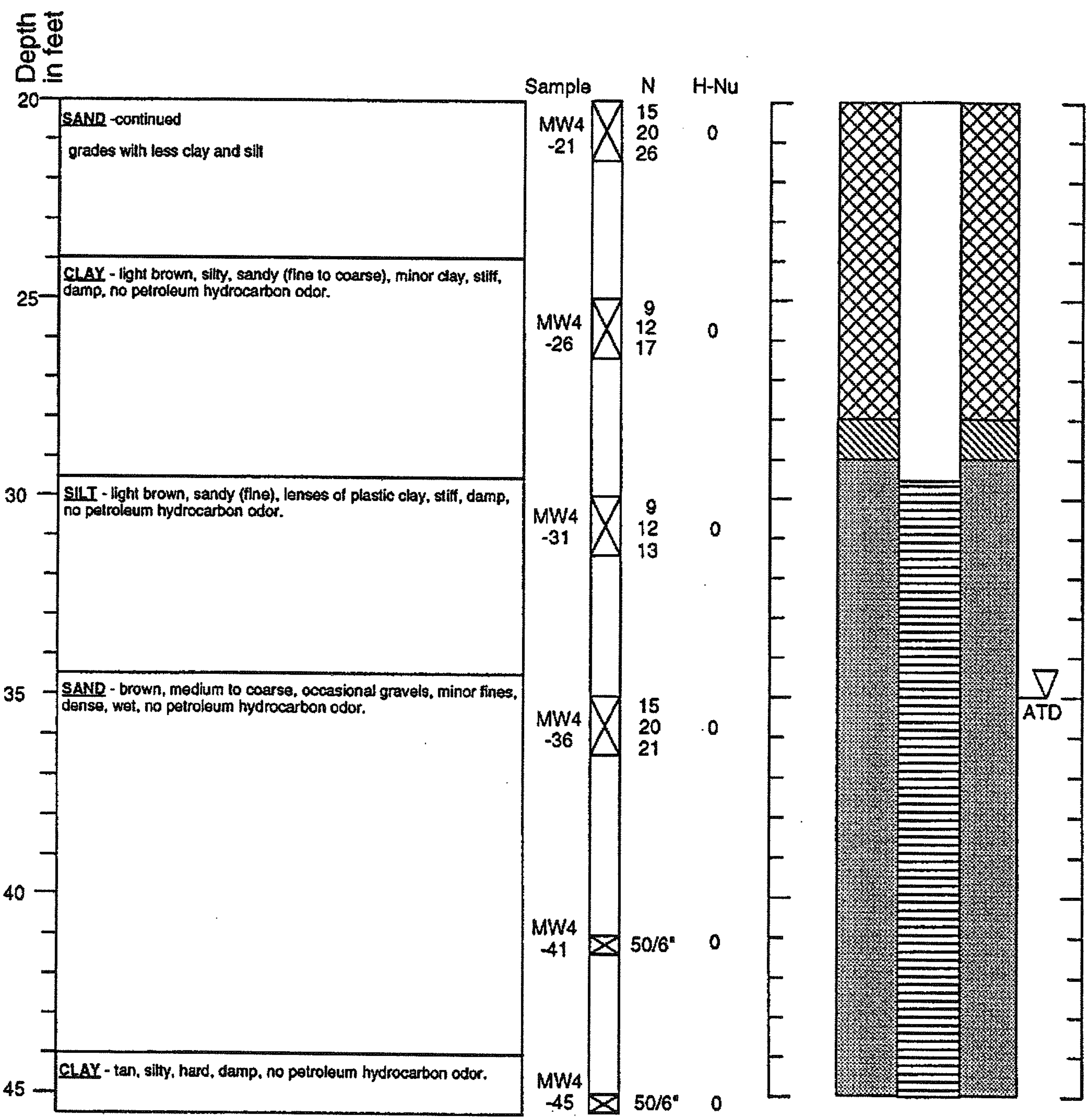
1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Ground water level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
4. Elevations referenced to the City of Oakland Datum.

HARTCROWSER
J-6077 5/93
Figure A-6

Boring Log and Construction Data for Monitoring Well MW-4

Geologic Log

Monitoring Well Design



Bottom of boring 45.5 feet BGS. Completed 4/14/93.

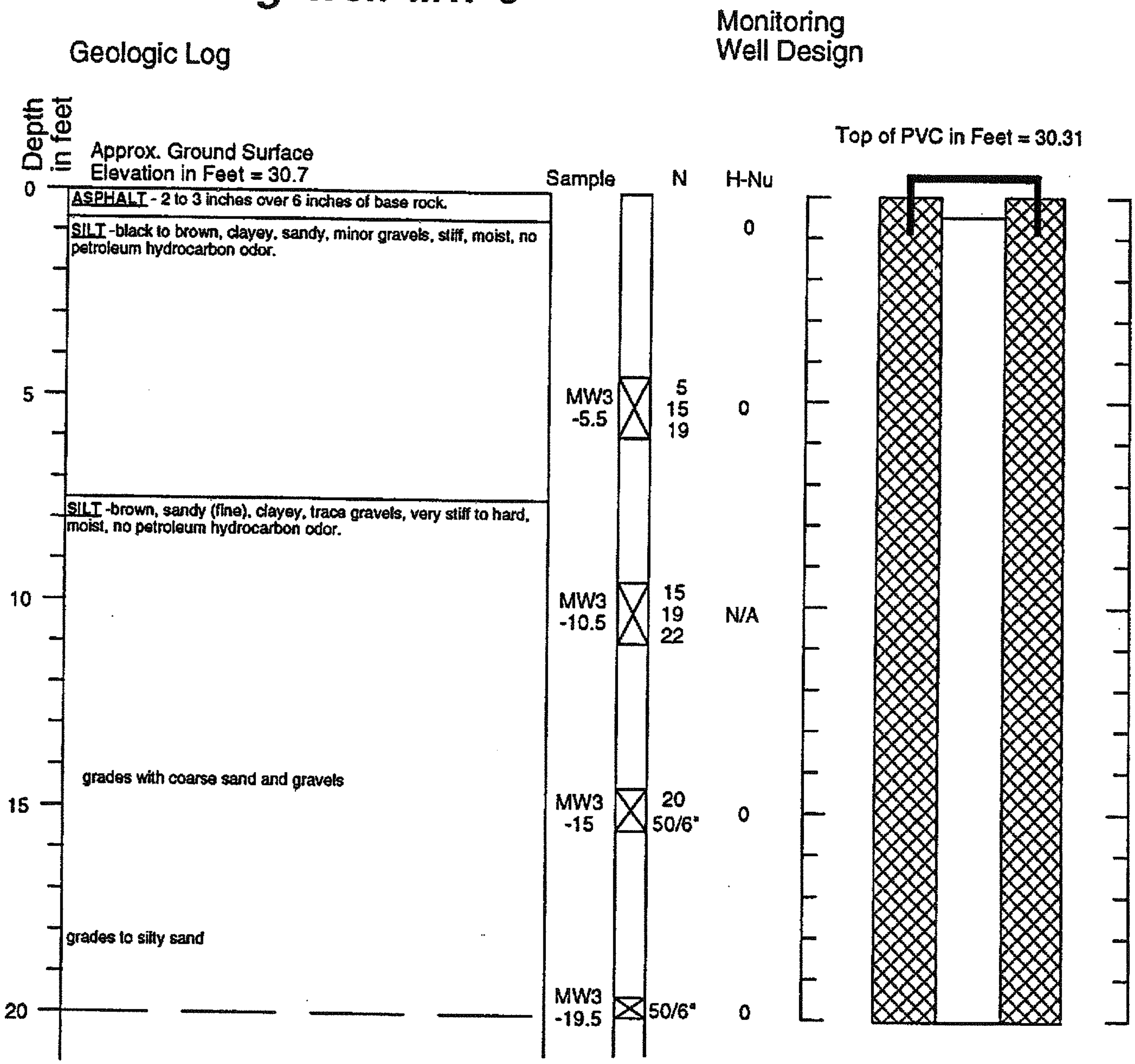
1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Ground water level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
4. Elevations referenced to the City of Oakland Datum.

HARTCROWSER

J-6077 5/93

Figure A-7

Boring Log and Construction Data for Monitoring Well MW-3



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Ground water level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
4. Elevations referenced to the City of Oakland Datum.

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Figure A-8

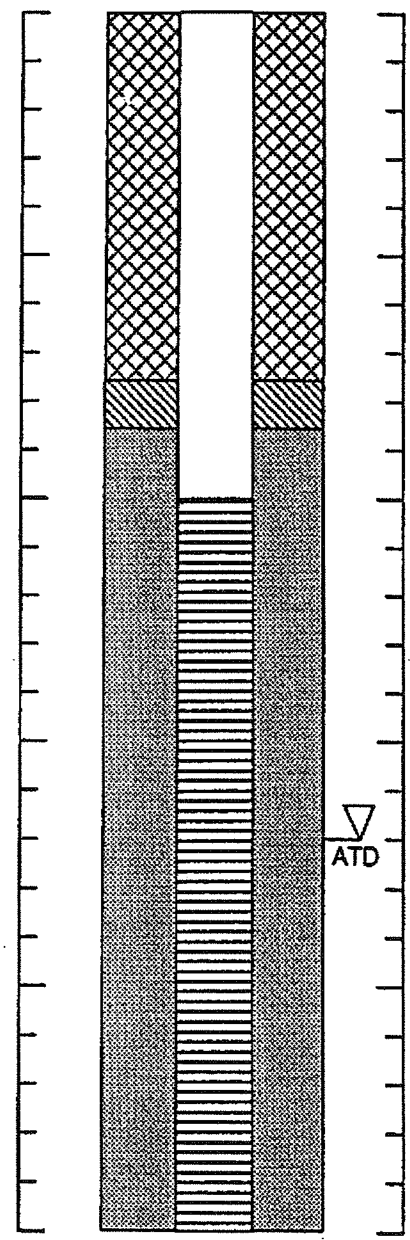
Boring Log and Construction Data for Monitoring Well MW-3

Geologic Log

Depth in feet	Description	Sample	N	H-Nu
20	SILT -continued			
	SILT - red-brown, sandy (fine), trace gravels, minor clay, very stiff, moist, no petroleum hydrocarbon odor.			
25		MW3 -25.5	18 29 41	0
30	grades with brown/gray mottling, increased clay content	MW3 -30	15 15 30	0
	SILT - gray/brown mottling, clayey, minor fine sand, very stiff, very moist, no petroleum hydrocarbon odor.			
35		MW3 -35.5	9 11 16	0
	SAND - brown, silty, gravelly, very dense, wet, no petroleum hydrocarbon odor.			
40		MW3 -40	26 50/6"	0
	CLAY - gray/brown mottling, silty, hard, damp, no petroleum hydrocarbon odor.			
45		MW3 -44.5	22 50/6"	

Bottom of boring 45 feet BGS. Completed 4/15/93.

Monitoring Well Design



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Ground water level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
4. Elevations referenced to the City of Oakland Datum.

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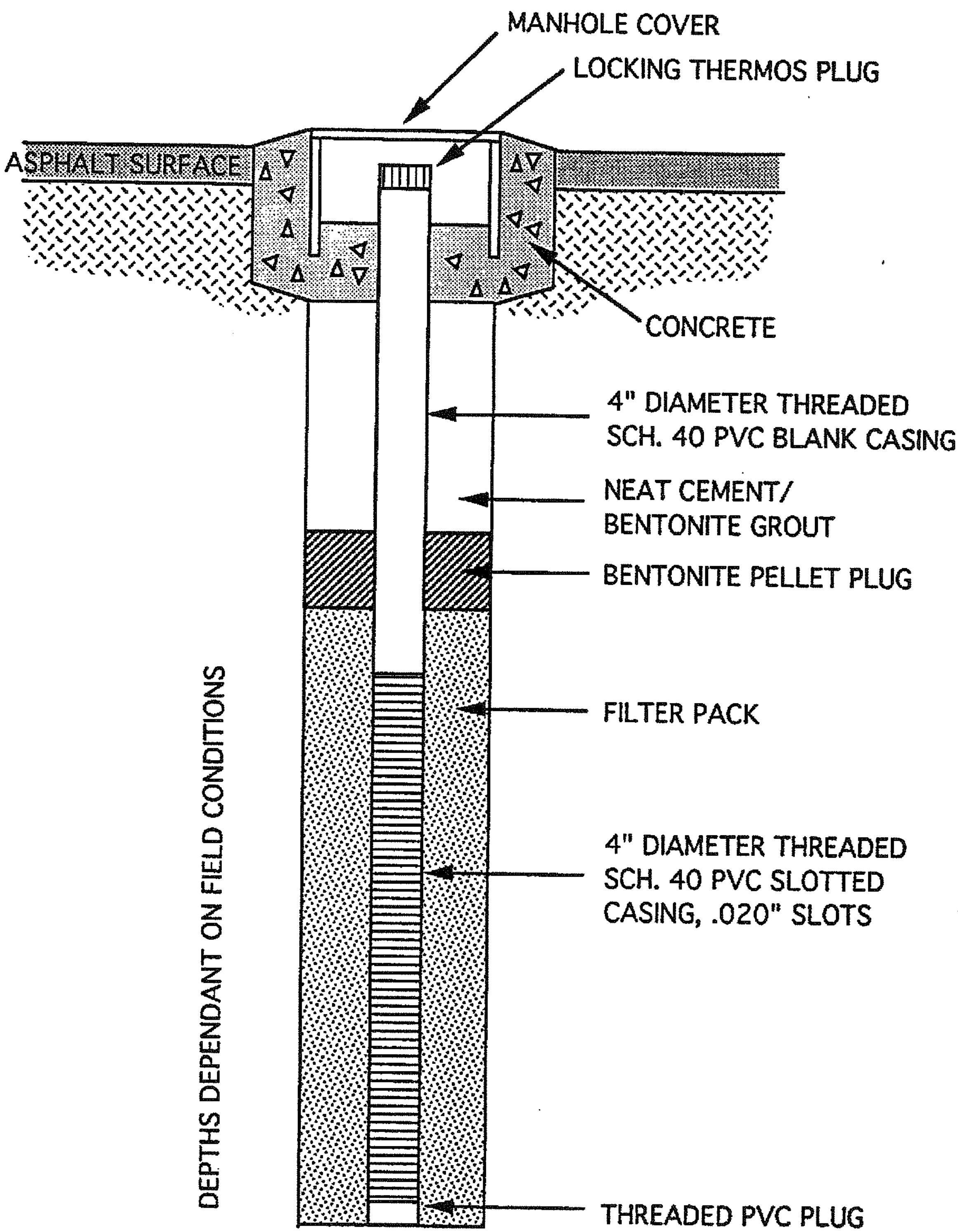
Figure A-9



TYPICAL GROUNDWATER MONITORING WELL SCHEMATIC

NOT TO SCALE

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Figure A-10

UNIFIED SOIL CLASSIFICATION SYSTEM

PRIMARY DIVISIONS			GROUP SYMBOL	SECONDARY DIVISIONS
COARSE GRAINED SOIL	GRAVELS More than half of course fraction is larger than No. 4 sieve.	Clean gravels (less than 5% of fines)	GW	Well graded gravel-sand mixtures, little or no fines.
			GP	Poorly graded gravels or gravel-sand mixtures, little or no fines.
		Gravel with fines	GM	Silty gravels or gravel-sand-silt mixtures, with non-plastic fines.
			GC	Clayey gravels or gravel-sand-clay mixtures, with plastic fines.
	SANDS More than half of course fraction is smaller than No. 4 sieve.	Clean sands (less than 5% of fines)	SW	Well graded sands or gravelly sands, little or no fines.
			SP	Poorly graded sands or gravelly sands, little or no fines.
		Sands with fines	SM	Silty sands or sand-silt mixtures, with non-plastic fines.
			SC	Clayey sands or sand-clay mixtures, with plastic fines.
FINE GRDINED SOIL	SILTS AND CLAYS Liquid Limit less than 50%		ML	Inorganic silts and very fine sands, rock flour, or clayey silts, with slight plasticity.
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
			OL	Organic silts and organic silty clays of low plasticity.
	SILTS AND CLAYS Liquid Limit greater than 50%		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS			PT	Peat and other highly organic soils.

Log of Boring: MW-3A

Project Address: 4240 East 14th Street, Oakland, California

Project Number: 99287.25A

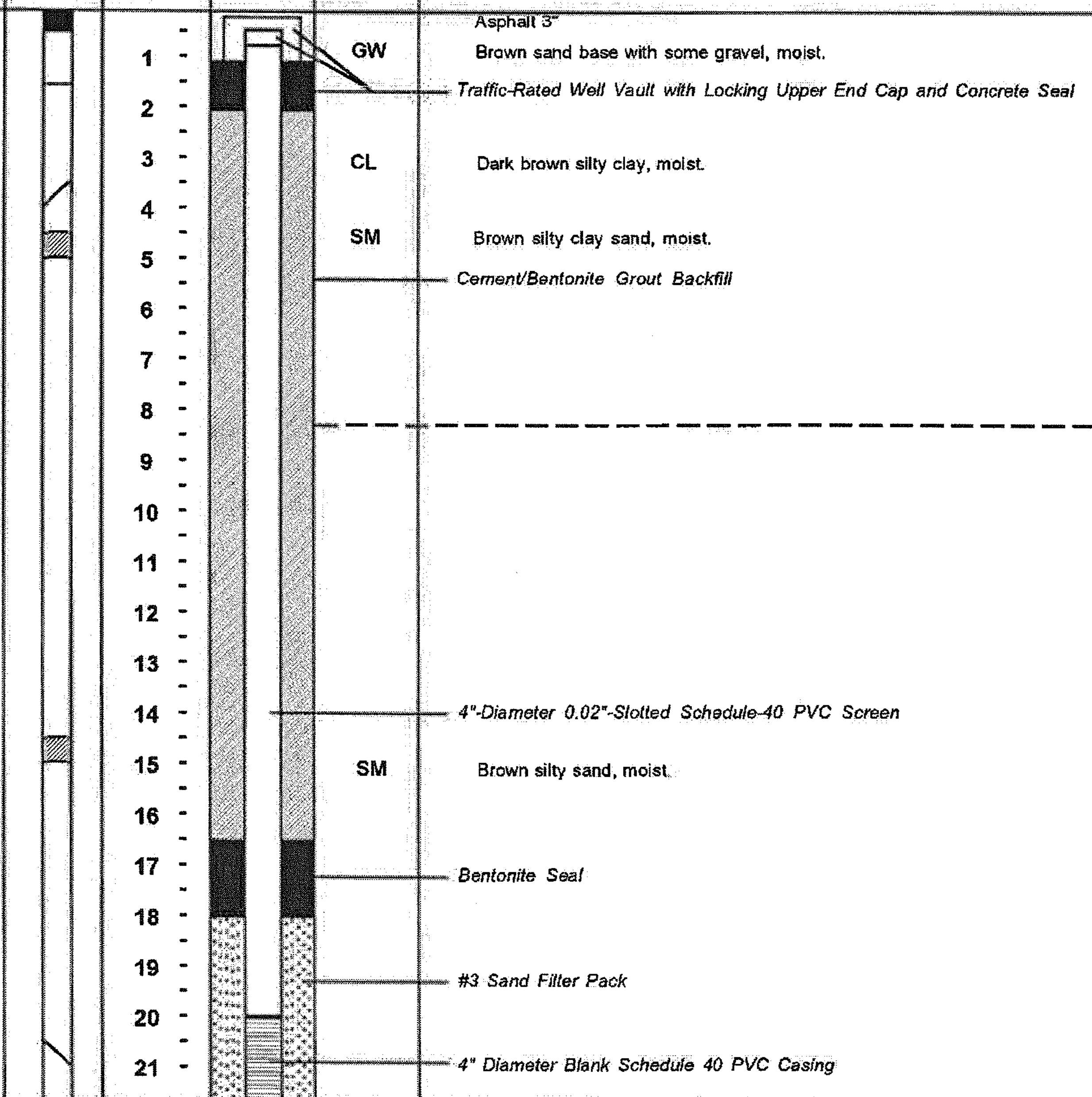
Drilling Date: 05/25/00

AllWest Environmental, Inc.

Drilling Contractor: Bay Area Exploration
Drill Rig: CME-75
Auger: 10"

Sampler: Split Spoon on 10-Foot Centers
Logged By: Rafael Ravelo

Blow Count	Sample Time	Depth in Feet	USCS Code	Soil Description
NA	10:05	0		Asphalt 3"
		1	GW	Brown sand base with some gravel, moist.
		3	CL	Dark brown silty clay, moist.
	10:22	4	SM	Brown silty clay sand, moist.
	10:39	15	SM	Brown silty sand, moist.



Notes:

Reviewed By: R. Horwath, R.G. #5925

Drawn By: J. Tingin

Log of Boring:	MW-3A
Project Address:	4240 East 14th Street, Oakland, California
Project Number:	99287.25A
Drilling Date:	05/25/00

AllWest Environmental, Inc.

Drilling Contractor: Bay Area Exploration
Drill Rig: CME-75
Auger: 10"
Sampler: Split Spoon on 10-Foot Centers
Logged By: Rafael Ravelo

Blow Counts	Sample Time	Sample Interval	Depth in Feet	Well Profile	USCS Code	Soil Description
			22			
	10:59		23		CL	Medium brown silty clay, moist, some sand and gravel particles.
			24			
			25		▼	
			26			
			27			
	11:48		28		SM	Light brown sandy silt, very moist.
			29			
			30			
			31			
			32			
	12:17		33		GW	Brown poorly graded gravel, no fines, wet.
			34			
			35			
			36			
			37			
			38			
			39			Note: Boring terminated at 41 ' bgs.
			40			
			41			*2" Diameter, 3" long, bottom PVC cap*
			42			

Notes:

Reviewed by: R. Horwath, R.G. #5925

Drawn By: JKM Tingin

UNIFIED SOIL CLASSIFICATION SYSTEM - ASTM D2488

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	**GRAVEL AND GRAVELLY SOILS** MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH * 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH * 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

NOTES:

1) Sample descriptions are based on visual field and laboratory observations using classification methods of ASTM D2488. Where laboratory data are available, classifications are in accordance with ASTM D2487.

2) Solid lines between soil descriptions indicate change in interpreted geologic unit. Dashed lines indicate stratigraphic change within the unit.

3) Fines are material passing the U.S. Std. #200 Sieve.

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

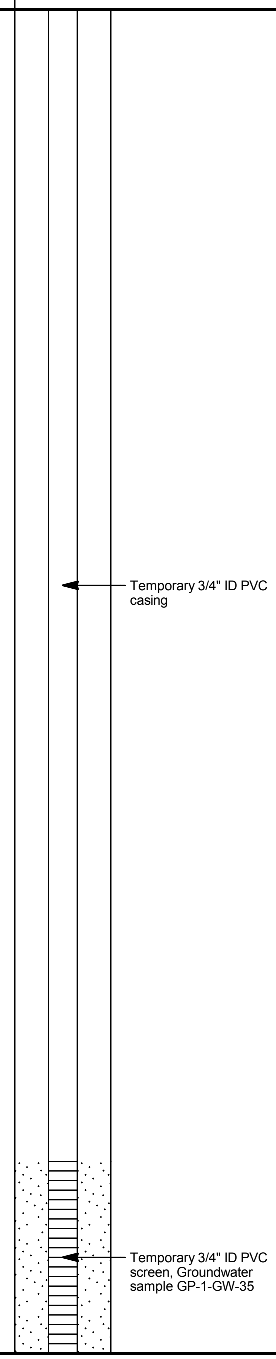
▼ **AT END OF DRILLING** 20.60 ft

NOTES Grouted with neat cement

AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Environmental Data
0	AU	100		0.3	Asphalt pavement	
			GC	2.0	(GC) Clayey gravel, baserock fill	PID = 0
			CL	4.0	(CL) Sandy clay, dark grayish brown, damp, moderate plasticity, soft, fine sand, fill	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				PID = 0
	NR	0		11.5		PID = 0
	UD	100	SC	14.0	(SC) Clayey sand, dark olive gray, fine to coarse sand, minor fine gravel, low plasticity, damp to moist - fill?	
15	NR	0	CL	16.0	(CL) Grading to sandy clay, olive brown, fine to coarse sand, low to moderate plasticity, moist	PID = 0
	UD	100	GC		(GC) Clayey gravel, olive brown to olive gray, fine to coarse sand, fine gravel, very low plasticity, very moist.	PID = 0
					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		(CL) Silty clay, yellowish brown mottled with olive gray, low to moderate plasticity, damp, <5% sand, native soil (?)	
25	NR	0				PID = 0
	UD	100			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	
					Softer at 32.5 feet, increasing silt and very fine sand, moist	
30	UD	100		32.0		PID = 0
			CL	34.0	(CL) Sandy clay, olive brown, very fine sand and silt, low to moderate plasticity, moist	
35	UD	100	SC	35.0 ▽	(SC) Clayey sand, light olive brown, very fine to fine sand, very low	PID = 0

WELL DIAGRAM



(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

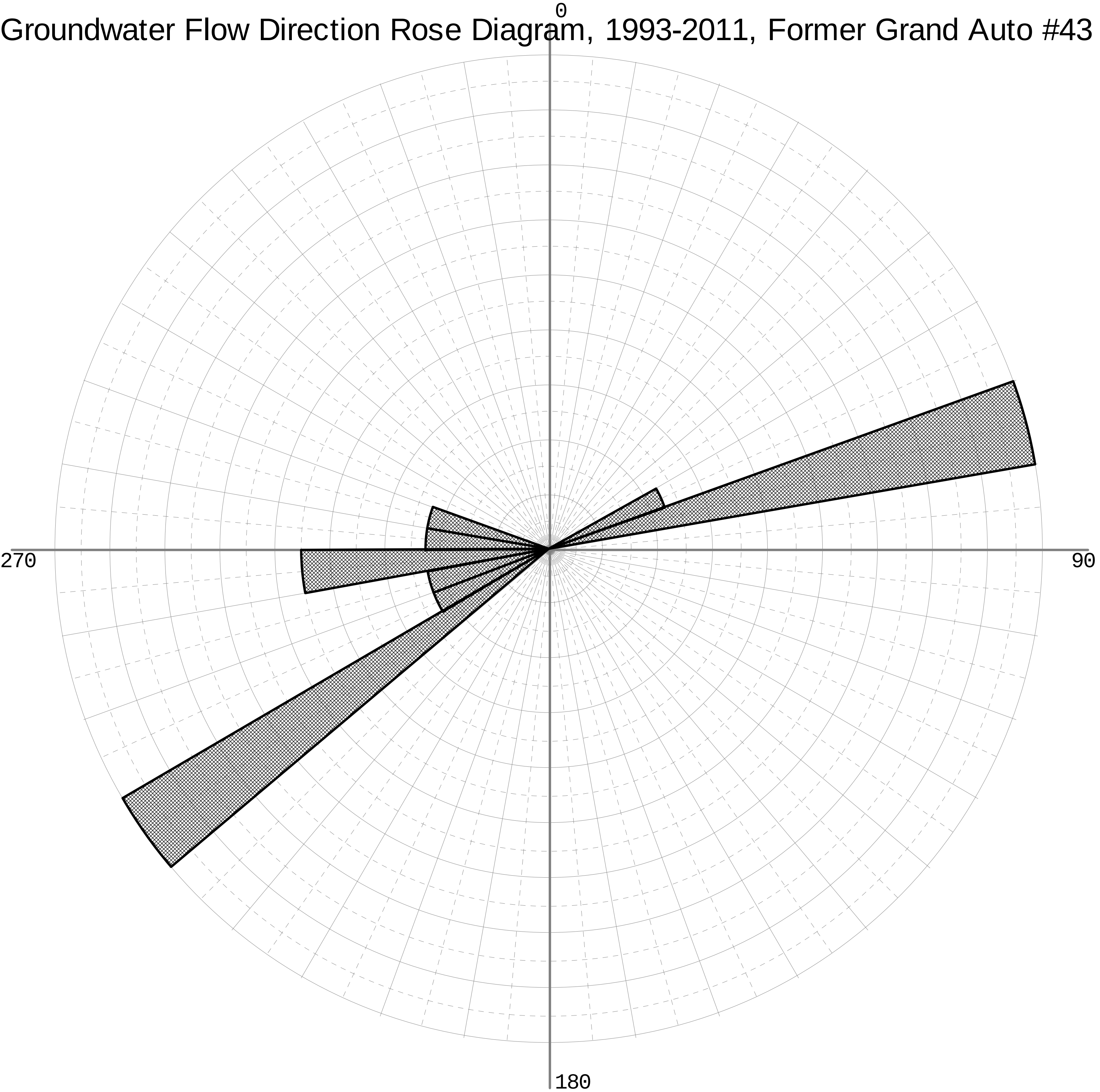
CLIENT PACCAR, Inc
PROJECT NAME PACCAR - Oakland Sub
PROJECT NUMBER 11134.23
PROJECT LOCATION O'Reilly Auto 4240 International Blvd., Oakland, CA
DATE STARTED 1/5/12 **COMPLETED** 1/5/12
GROUND ELEVATION **HOLE SIZE** 2
DRILLING CONTRACTOR Vironex
GROUND WATER LEVELS:
DRILLING METHOD Geoprobe
AT TIME 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	AU	100		0.3	Asphalt pavement		
			SP		(SP) Gravelly sand, olive gray, fine sand with 10-20% fine to coarse sub rounded to sub angular gravel, damp, fill		
5	UD	100				PID = 0	
	GP-2-5.0 - 5.5 UD	100		6.5		PID = 0	
	NR	0			No recovery from 6.5 feet to 10 feet		Temporary 3/4" ID PVC casing
					Uncertain contact at approximately 10 feet		
10	UD	100	GC	10.0	(GC) Clayey gravel, olive brown/olive gray, fine to coarse sand, fine to coarse gravel, low plasticity to very low, wet (fill?)		
	GP-2-10.0 - 10.5 UD	100		12.0		PID = 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)	PID = 0	
	NR	0			No recovery from 13 feet - 15 feet, sand sloughed from above		
15	UD	100	CL	15.0 / 15.5	(CL) Sandy clay as above		
			GC	16.0	(GC) Clayey gravel, yellowish brown, fine to coarse sand, fine to coarse gravel, moist		
			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
	UD GP-2-17.0 - 17.5	100					
20	NR	0		20.0	No recover from 17.5 feet to 20 feet		

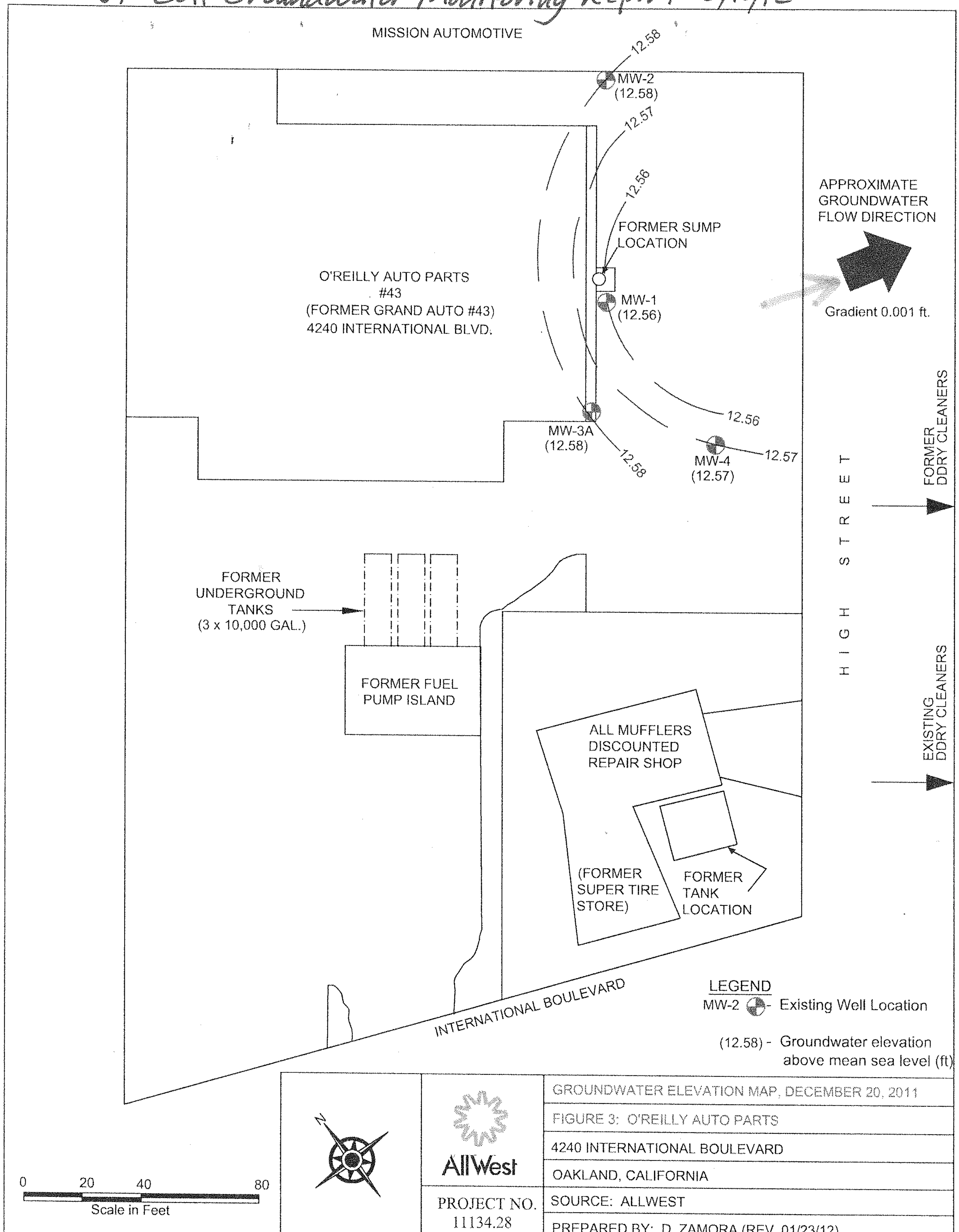
Bottom of borehole at 20.0 feet.

APPENDIX B

Groundwater Flow Direction Rose Diagram, 1993-2011, Former Grand Auto #43

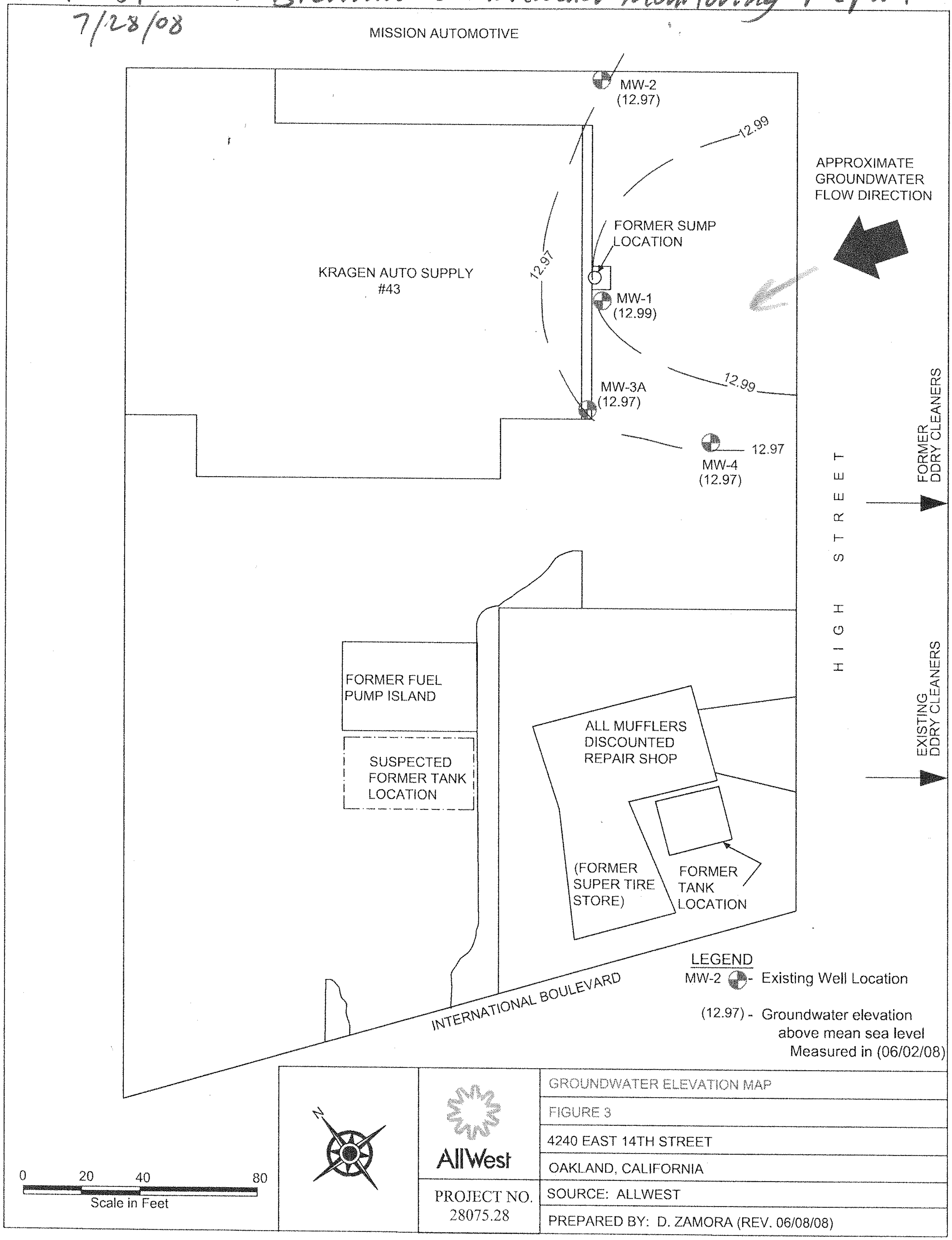


AllWest-2011 Groundwater Monitoring Report 3/16/12

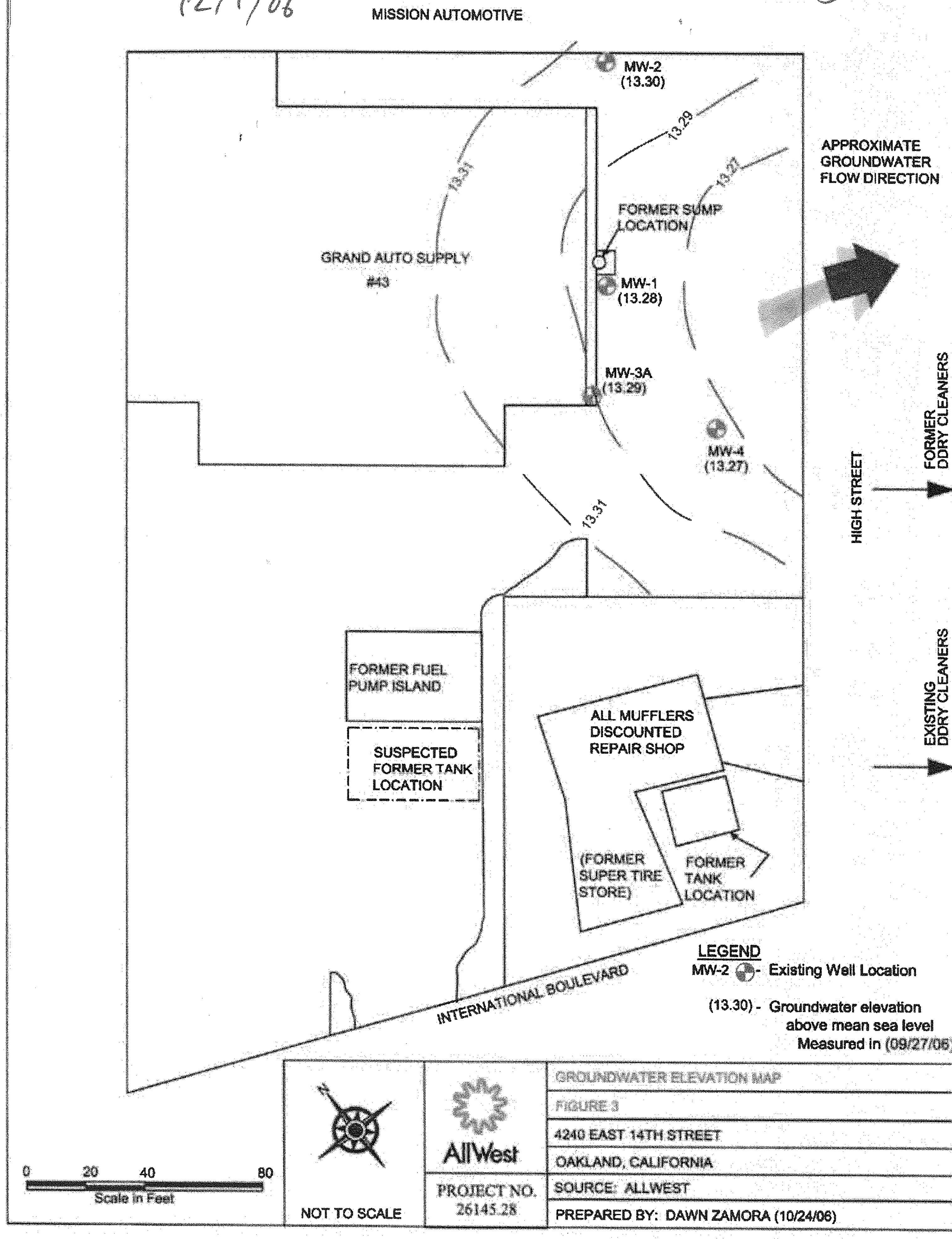


	GROUNDWATER ELEVATION MAP, DECEMBER 20, 2011
	FIGURE 3: O'REILLY AUTO PARTS
	4240 INTERNATIONAL BOULEVARD
	OAKLAND, CALIFORNIA
PROJECT NO. 11134.28	SOURCE: ALLWEST
	PREPARED BY: D. ZAMORA (REV. 01/23/12)

Allwest 2008 Biennial Groundwater Monitoring Report
7/28/08



AllWest – 2006 Biennial Groundwater Monitoring Report
12/1/06



AllWest

PROJECT NO. 26145.28

GROUNDWATER ELEVATION MAP

FIGURE 3

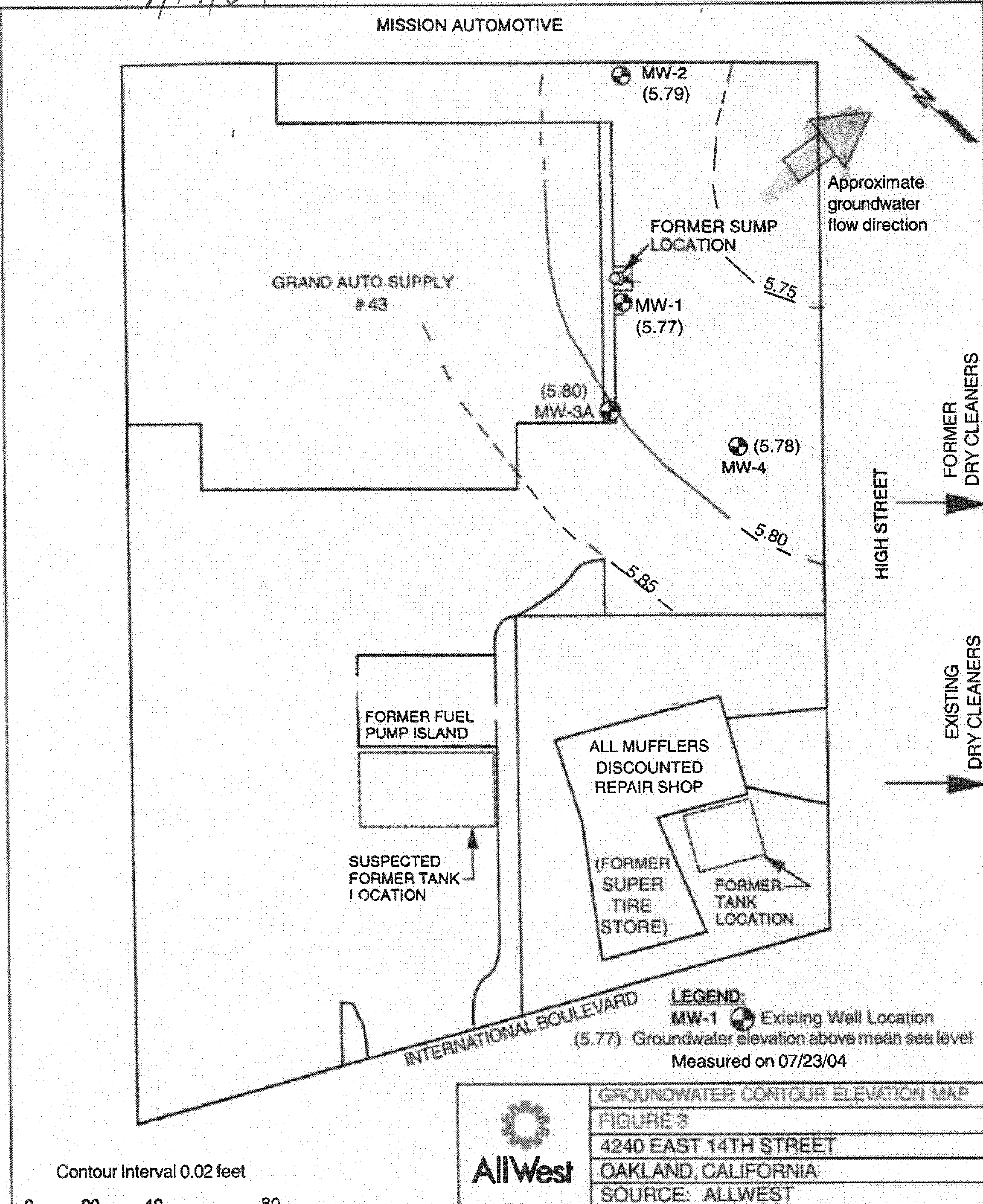
4240 EAST 14TH STREET

OAKLAND, CALIFORNIA

SOURCE: ALLWEST

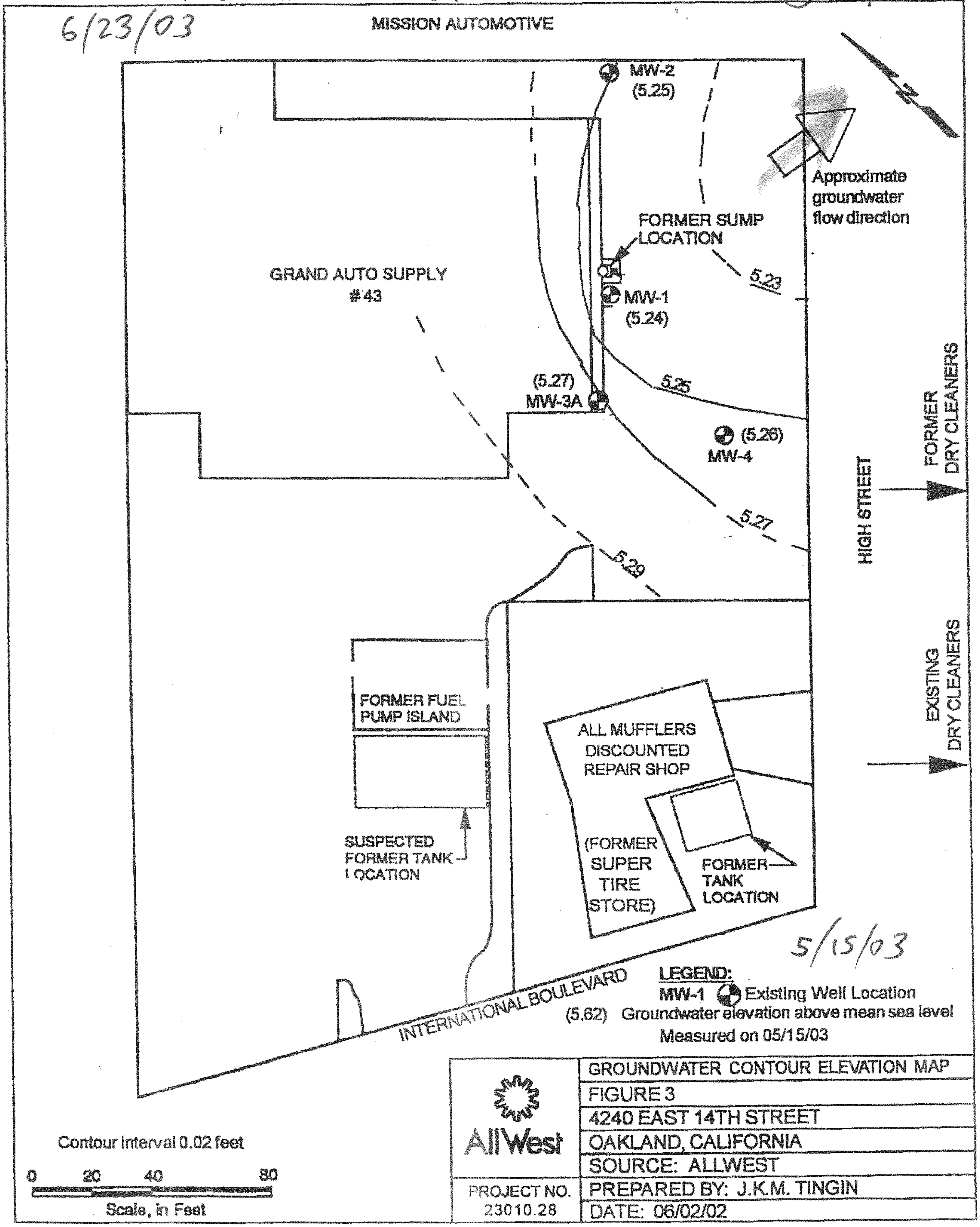
PREPARED BY: DAWN ZAMORA (10/24/06)

AllWest - 2004 Annual Groundwater Monitoring Report
9/17/04



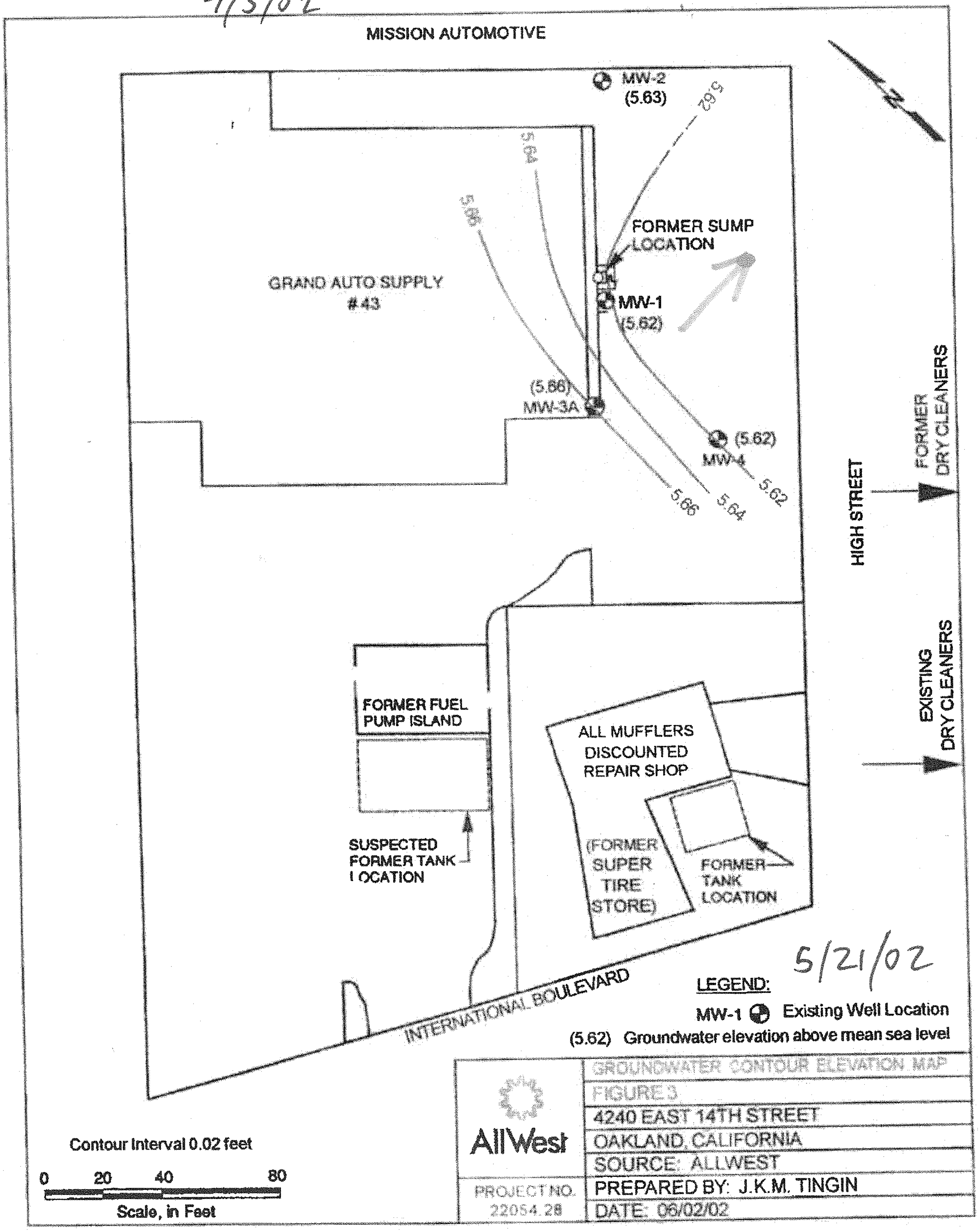
AllWest	GROUNDWATER CONTOUR ELEVATION MAP
	FIGURE 3
	4240 EAST 14TH STREET
	OAKLAND, CALIFORNIA
	SOURCE: ALLWEST
PROJECT NO. 24070.28	PREPARED BY: J.K.M. TINGIN
	DATE: 07/23/04

AllWest 2003 Annual Groundwater Monitoring Report
6/23/03

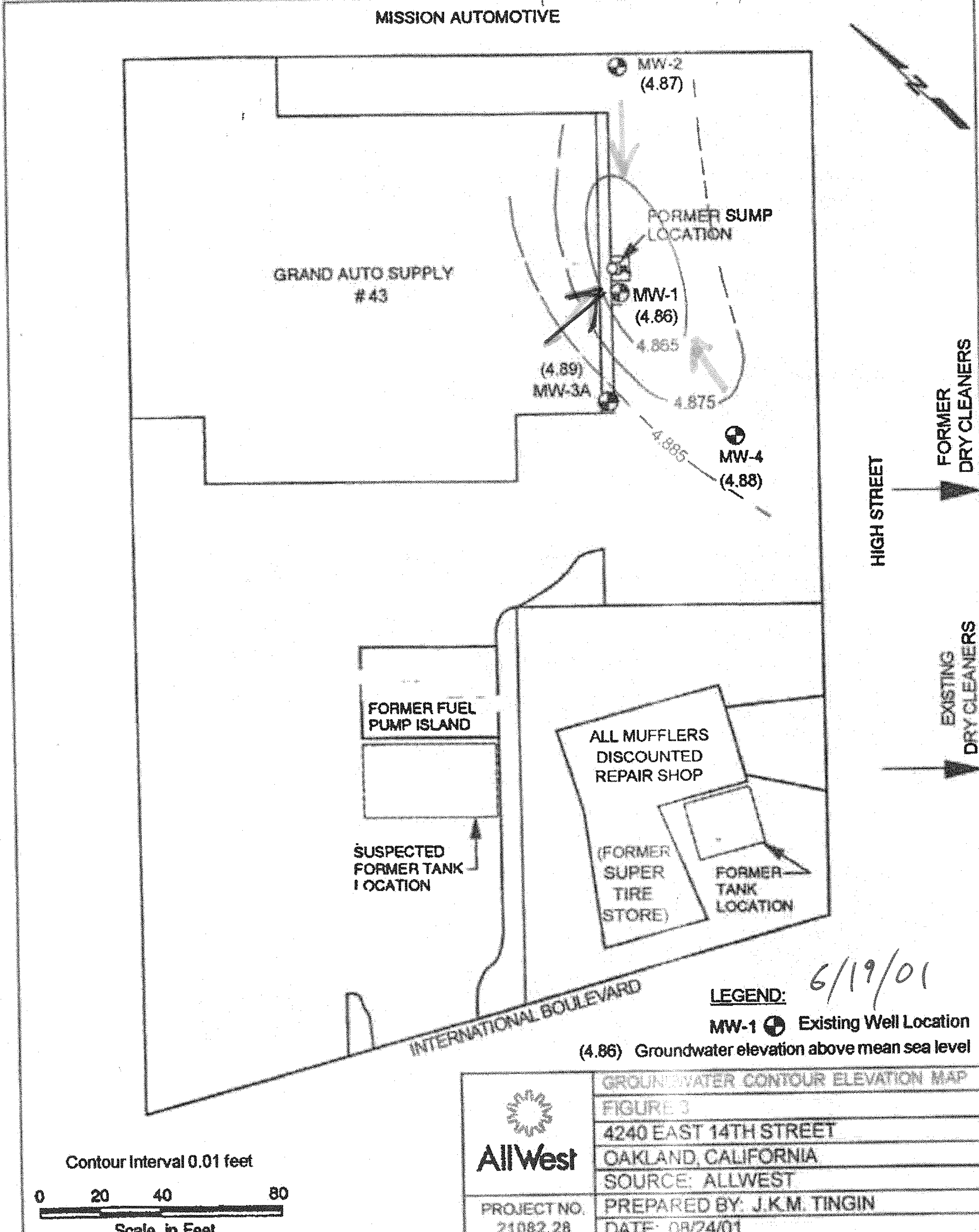


AllWest	GROUNDWATER CONTOUR ELEVATION MAP
	FIGURE 3
	4240 EAST 14TH STREET
	OAKLAND, CALIFORNIA
	SOURCE: ALLWEST
PROJECT NO. 23010.28	PREPARED BY: J.K.M. TINGIN
	DATE: 06/02/02

AllWest 2002 Annual Groundwater Monitoring Report
7/5/02

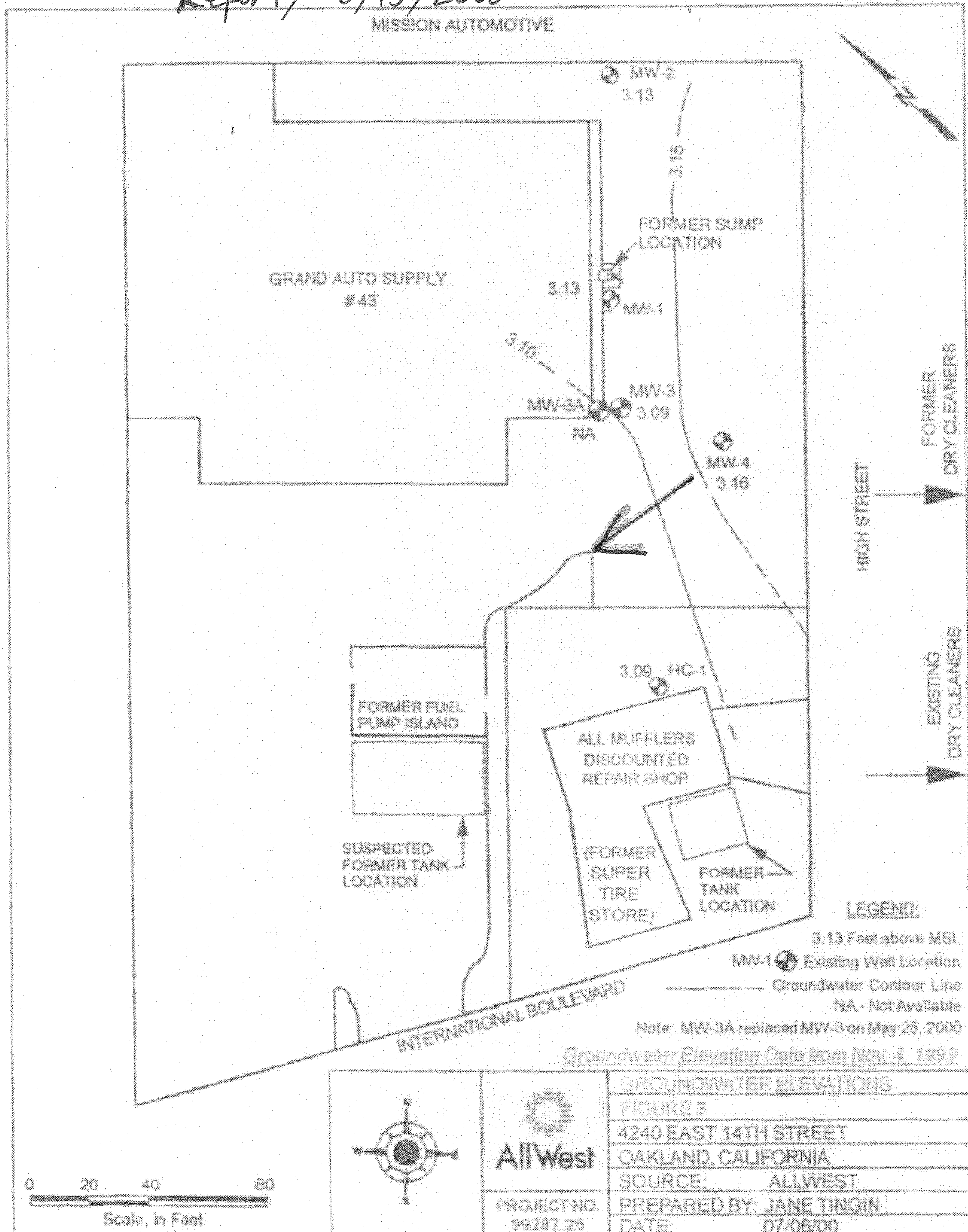


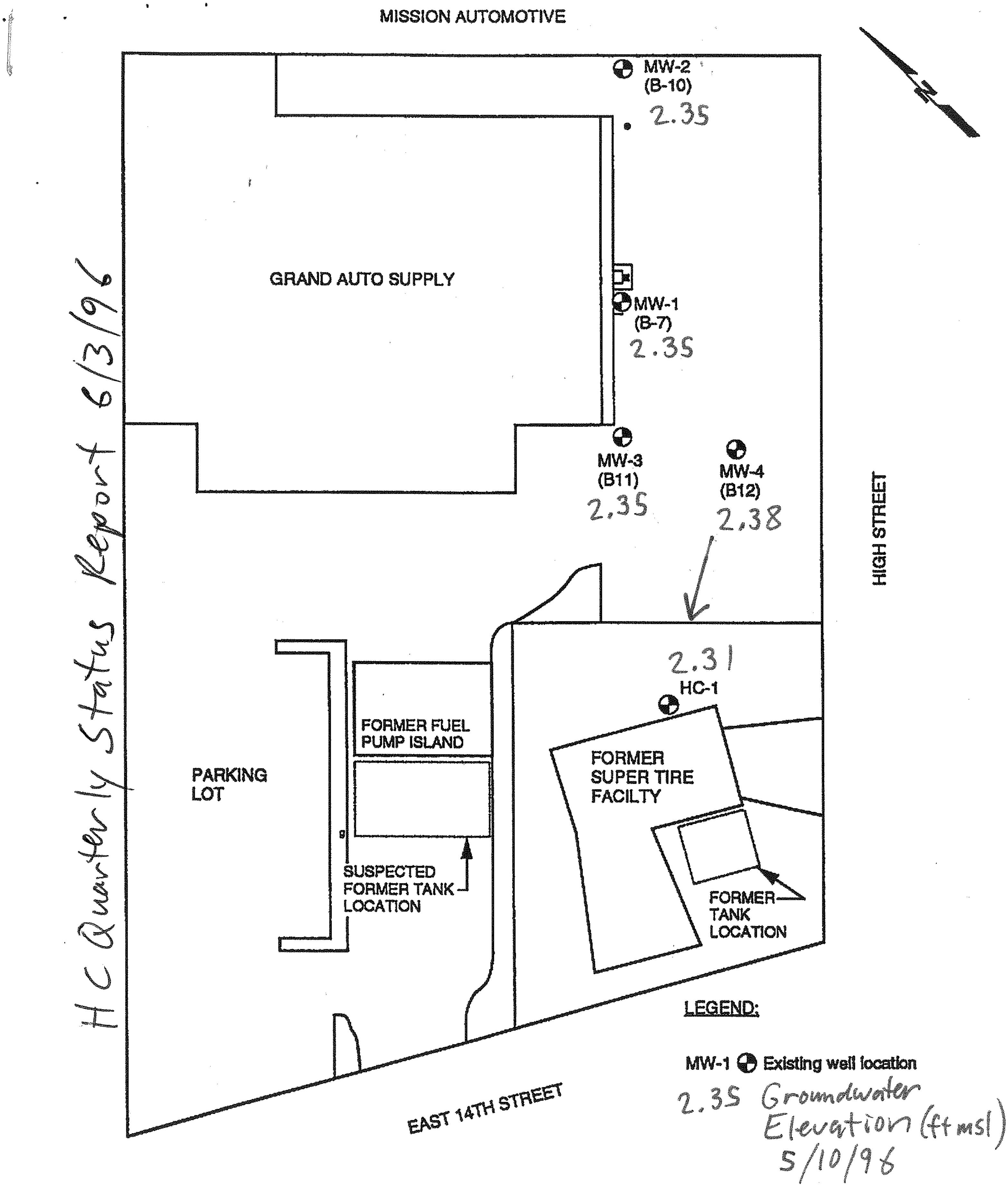
AllWest Annual Groundwater Monitoring and Well Destruction Report 8/27/01



AllWest	GROUNDWATER CONTOUR ELEVATION MAP
	FIGURE 3
	4240 EAST 14TH STREET
	OAKLAND, CALIFORNIA
	SOURCE: ALLWEST
PROJECT NO. 21082.28	PREPARED BY: J.K.M. TINGIN
	DATE: 08/24/01

AllWest Site Closure and Groundwater Monitoring Report, 8/15/2000

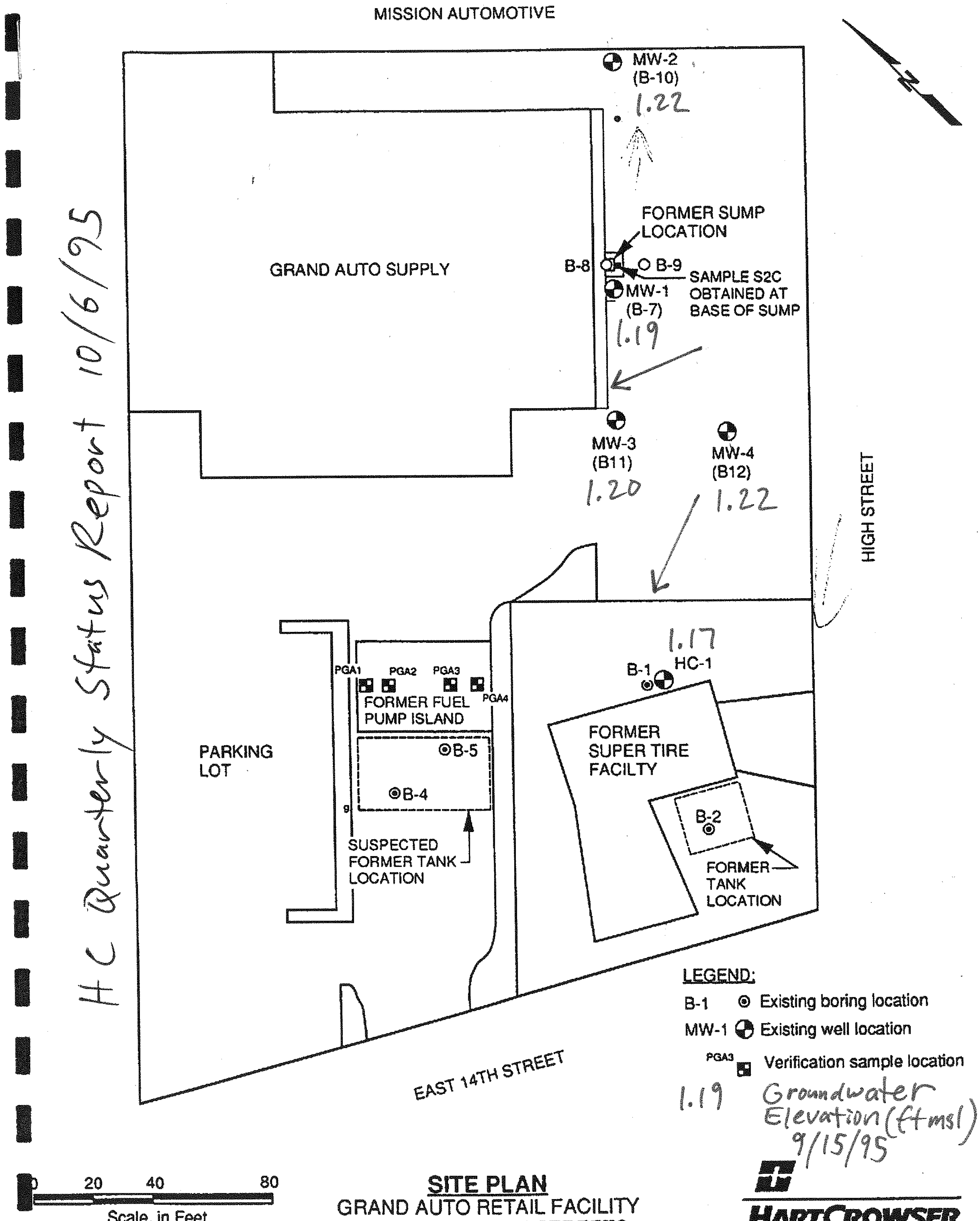




0 20 40 80
Scale, in Feet

SITE PLAN
GRAND AUTO RETAIL FACILITY
EAST 14TH & HIGH STREETS
OAKLAND, CALIFORNIA

HARTCROWSER
J-6077 5/96
Figure 1

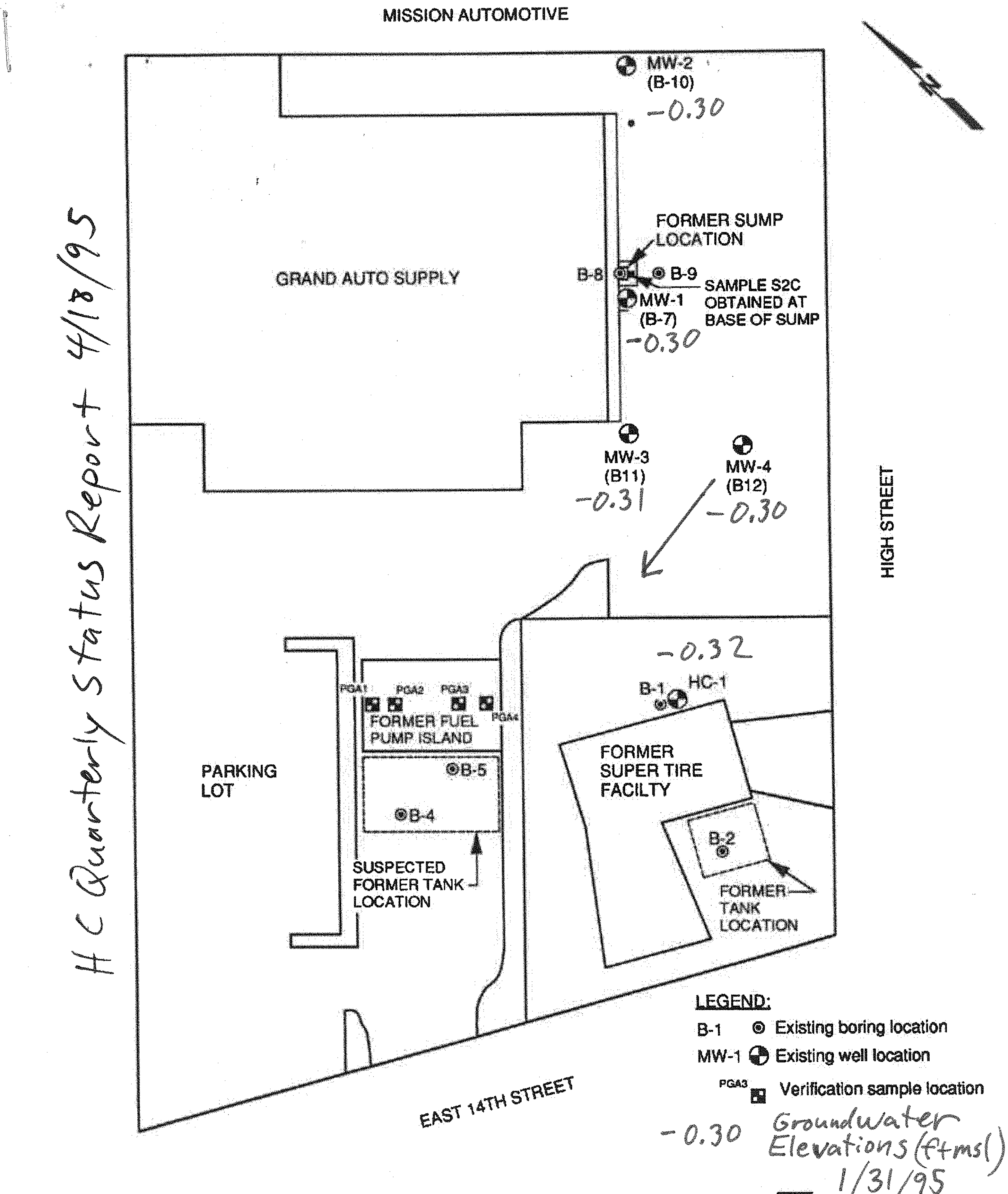


SITE PLAN
GRAND AUTO RETAIL FACILITY
EAST 14TH & HIGH STREETS
OAKLAND, CALIFORNIA

HARTCROWSER

J-6077 9/95
Figure 1

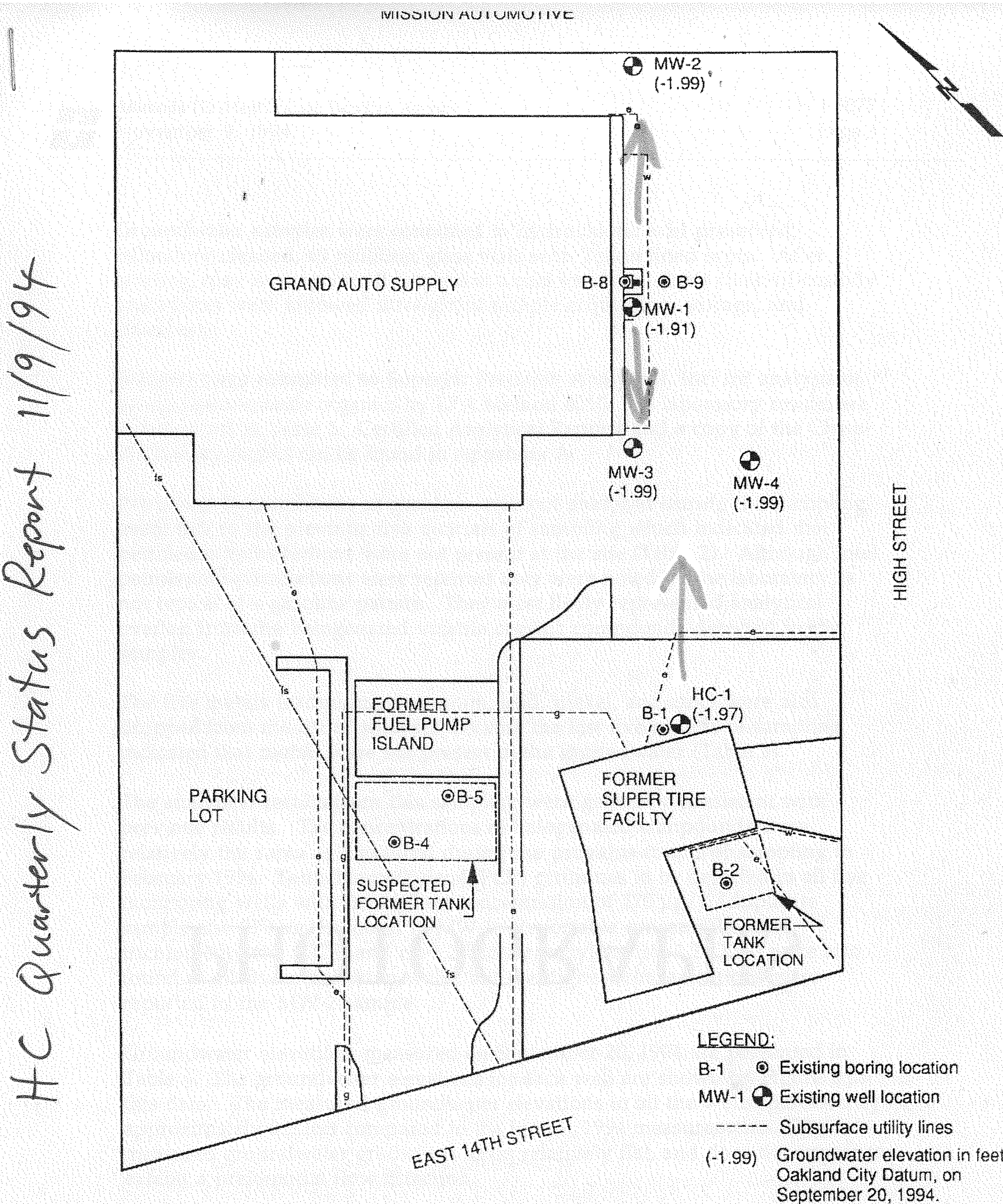
rad/pocar oakland site v.1



SITE PLAN
GRAND AUTO RETAIL FACILITY
EAST 14TH & HIGH STREETS
OAKLAND, CALIFORNIA

HARTCROWSER
J-6077 3/95
Figure 1

rad/paccar oakland site v.1



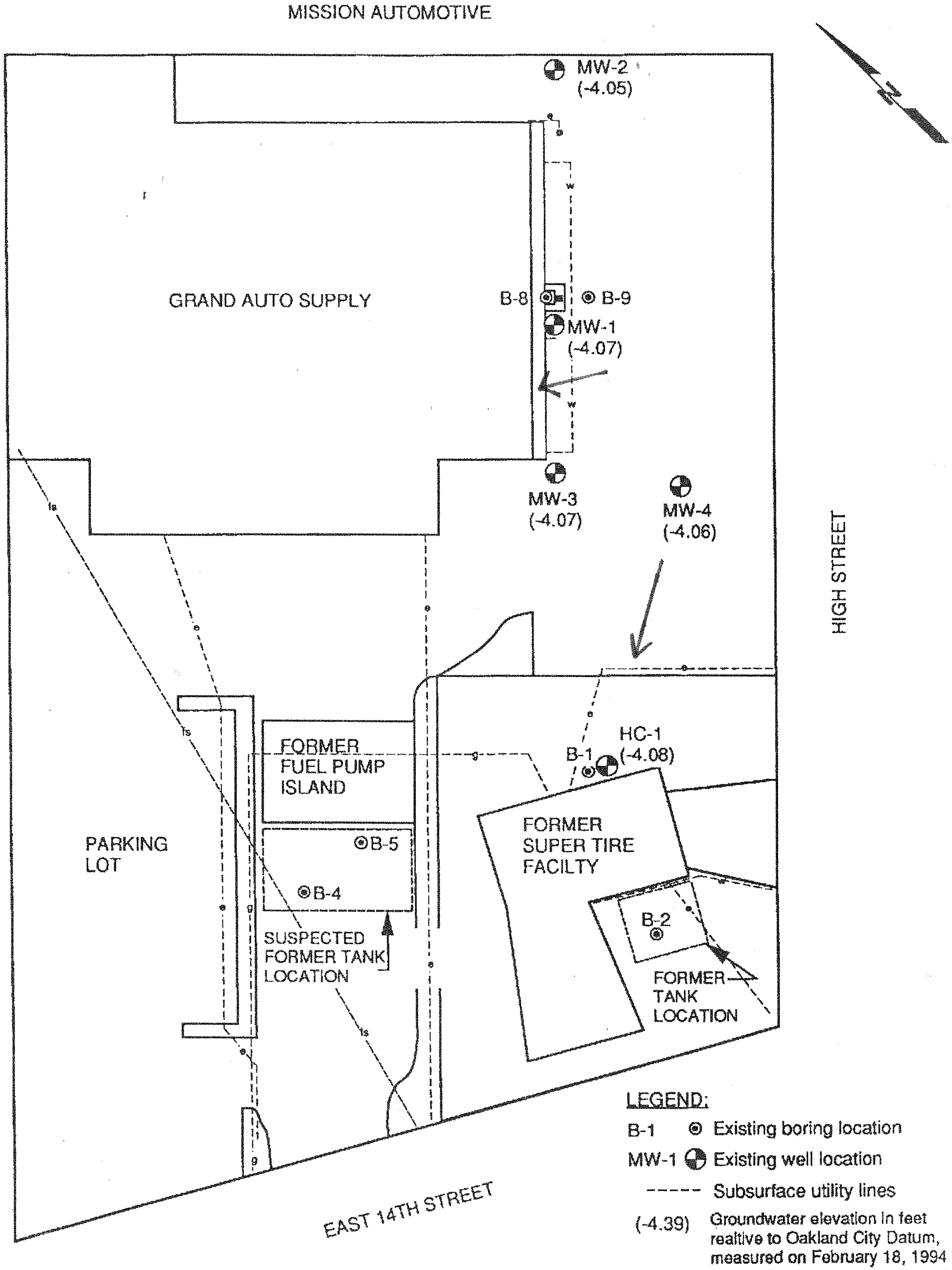
0 20 40 80
Scale, in Feet

GROUNDWATER ELEVATIONS
SUPER TIRE FACILITY
4256 EAST 14 TH STREET
OAKLAND, CALIFORNIA

HARTCROWSER
J-6077 10/94
Figure 2

rsd/parcner oakland site v.1

HC Quarterly Status Report 5/18/94



0 20 40 80

Scale, in Feet

GROUNDWATER ELEVATIONS

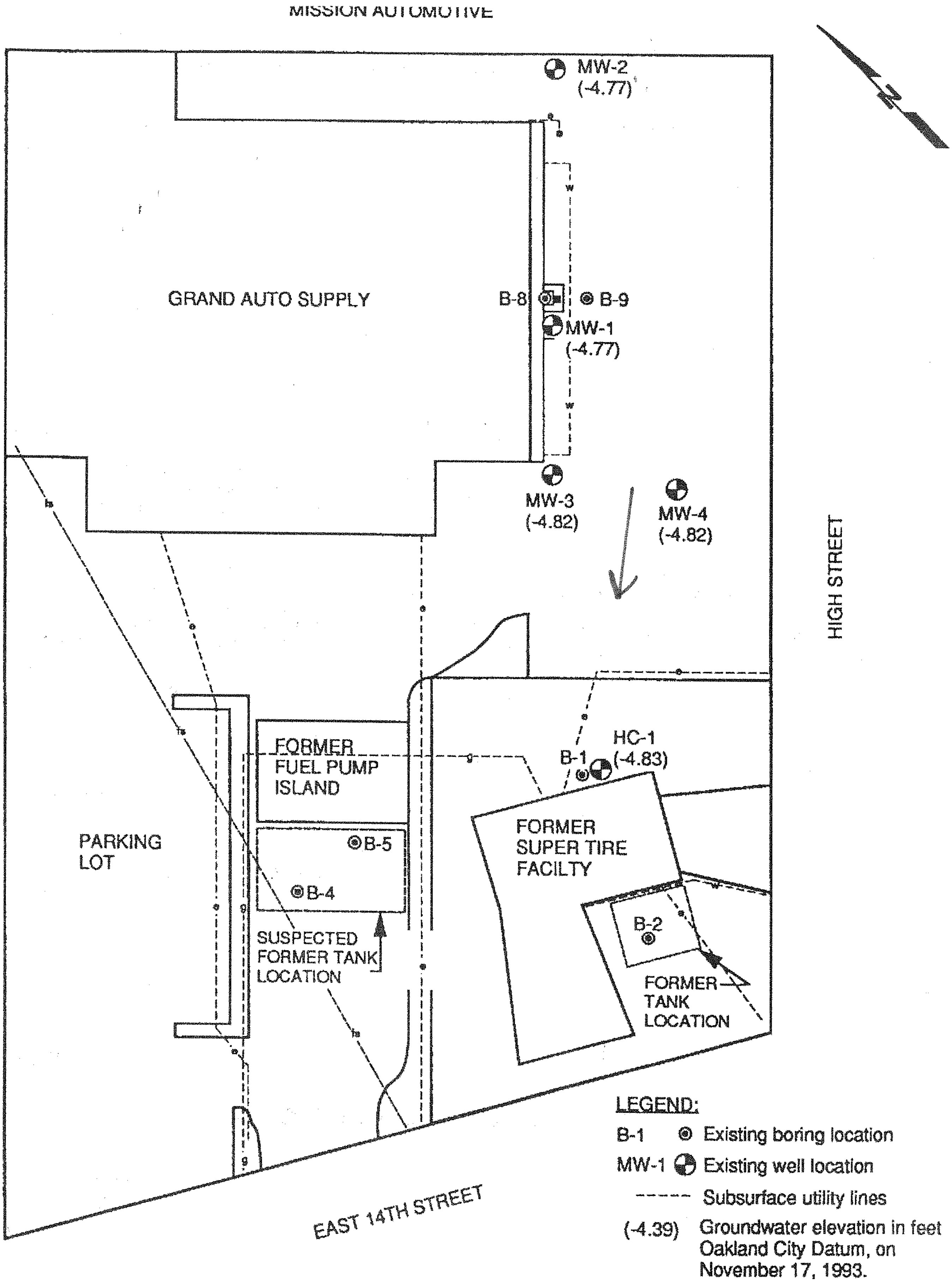
GRAND AUTO FACILITY
4256 EAST 14 TH STREET
OAKLAND, CALIFORNIA

HARTCROWSER

J-6077 *4/94*

Figure 2

HC Quarterly Status Report 1/14/94



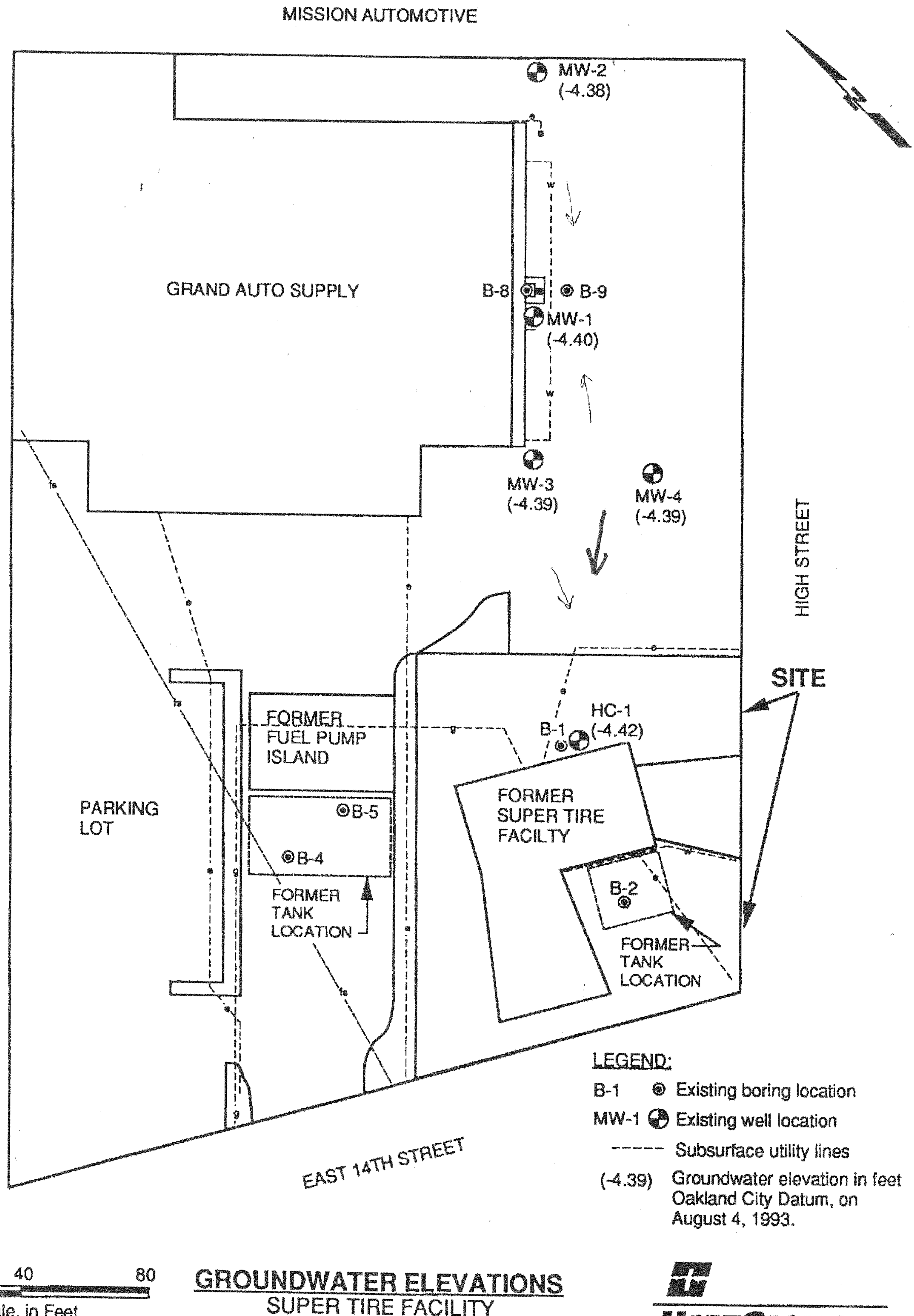
0 20 40 80
Scale, in Feet

GROUNDWATER ELEVATIONS
SUPER TIRE FACILITY
4256 EAST 14 TH STREET
OAKLAND, CALIFORNIA

HARTCROWSER
J-6077 *1/94*
Figure 2

rad/pacxxr oakland site v.1

HC Quarterly Status Report 10/8/93

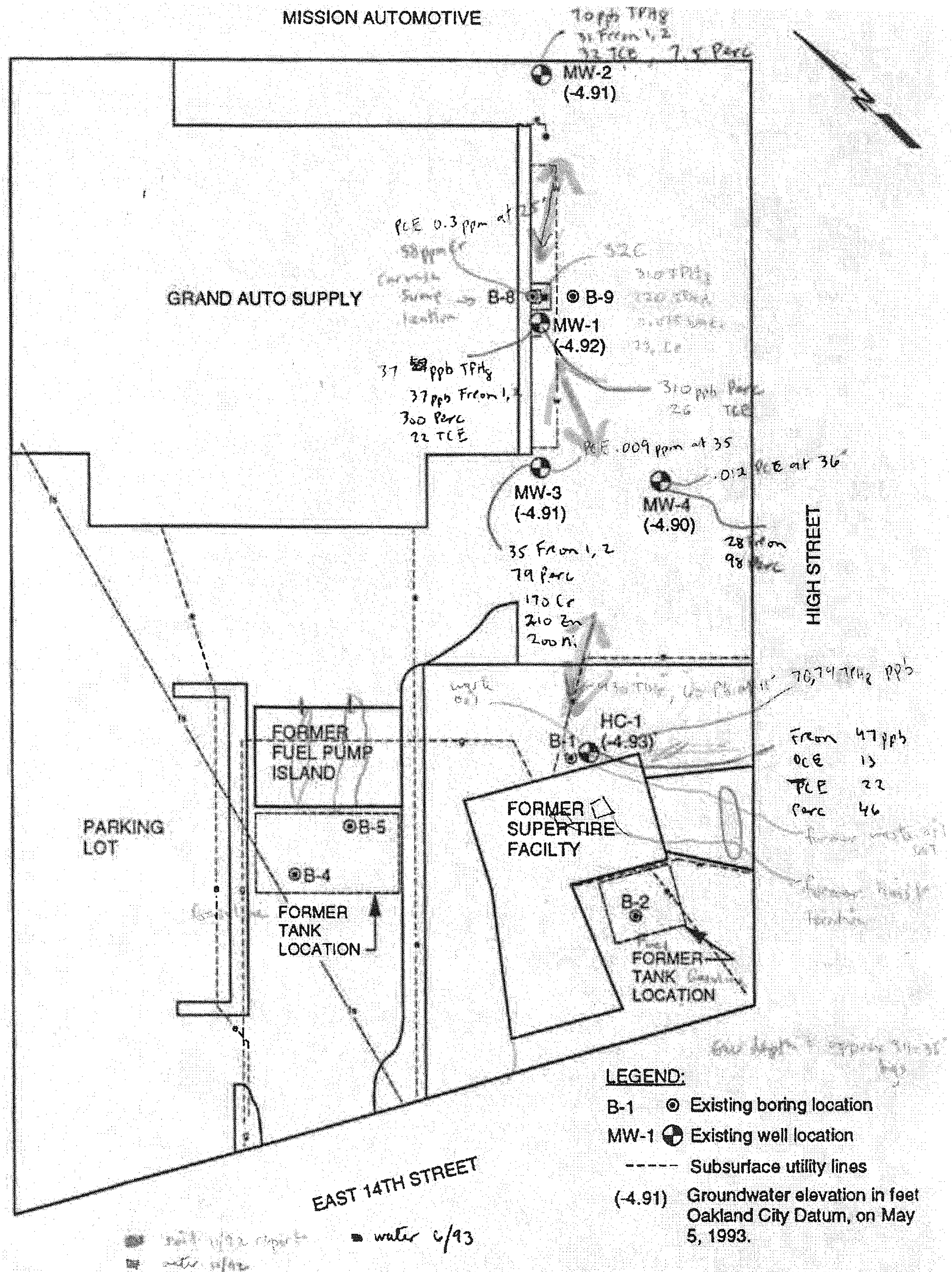


GROUNDWATER ELEVATIONS
SUPER TIRE FACILITY
4256 EAST 14 TH STREET
OAKLAND, CALIFORNIA

HARTCROWSER
J-6077 10/93
Figure 2

red/pacesr oakland site v.1

HC Supplemental Site Investigation 6/18/93



0 20 40 80

Scale, in Feet

GROUNDWATER ELEVATIONS

GRAND AUTO RETAIL FACILITY
EAST 14TH & HIGH STREETS
OAKLAND, CALIFORNIA

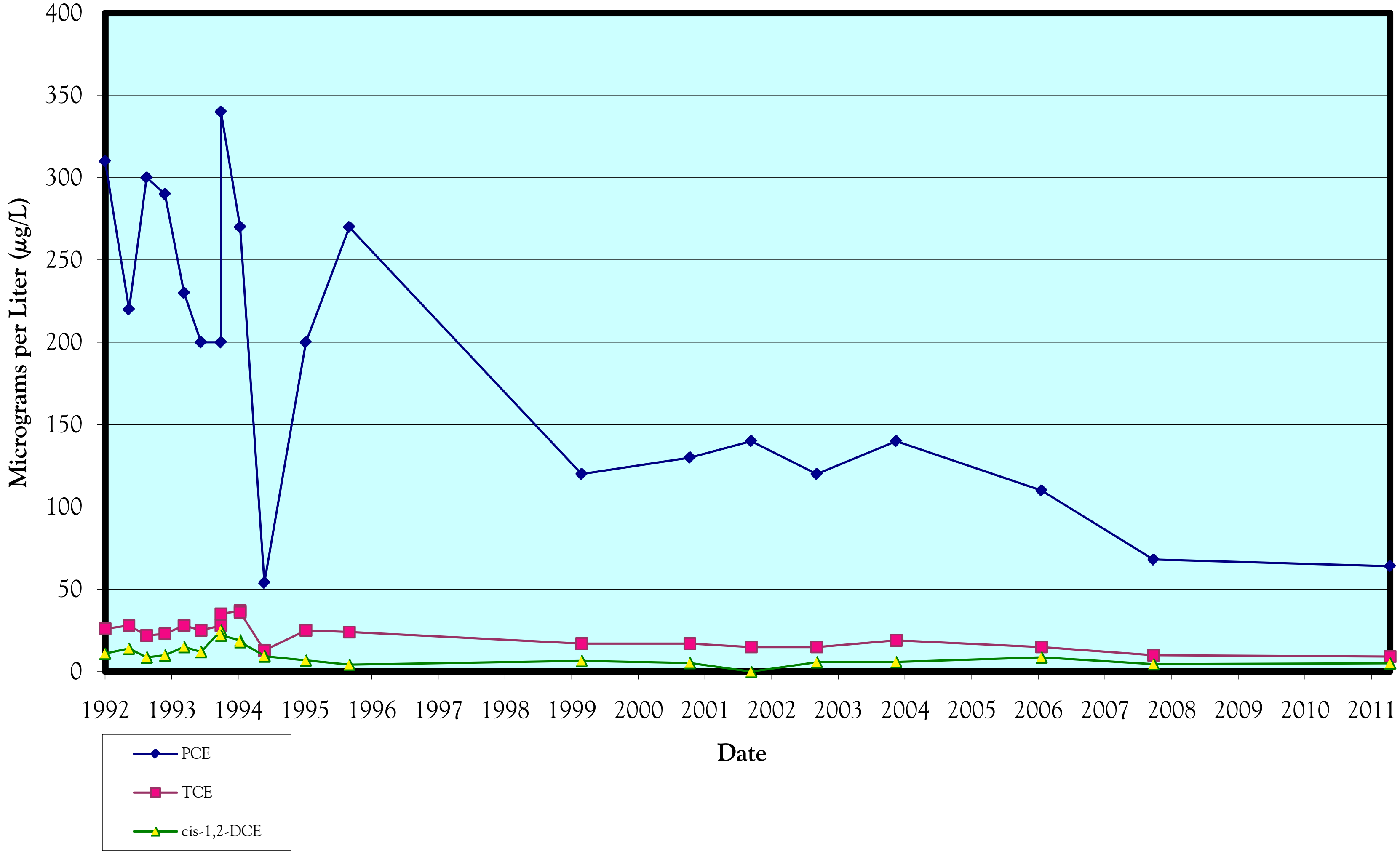
HARTCROWSER

J-6077 5/93

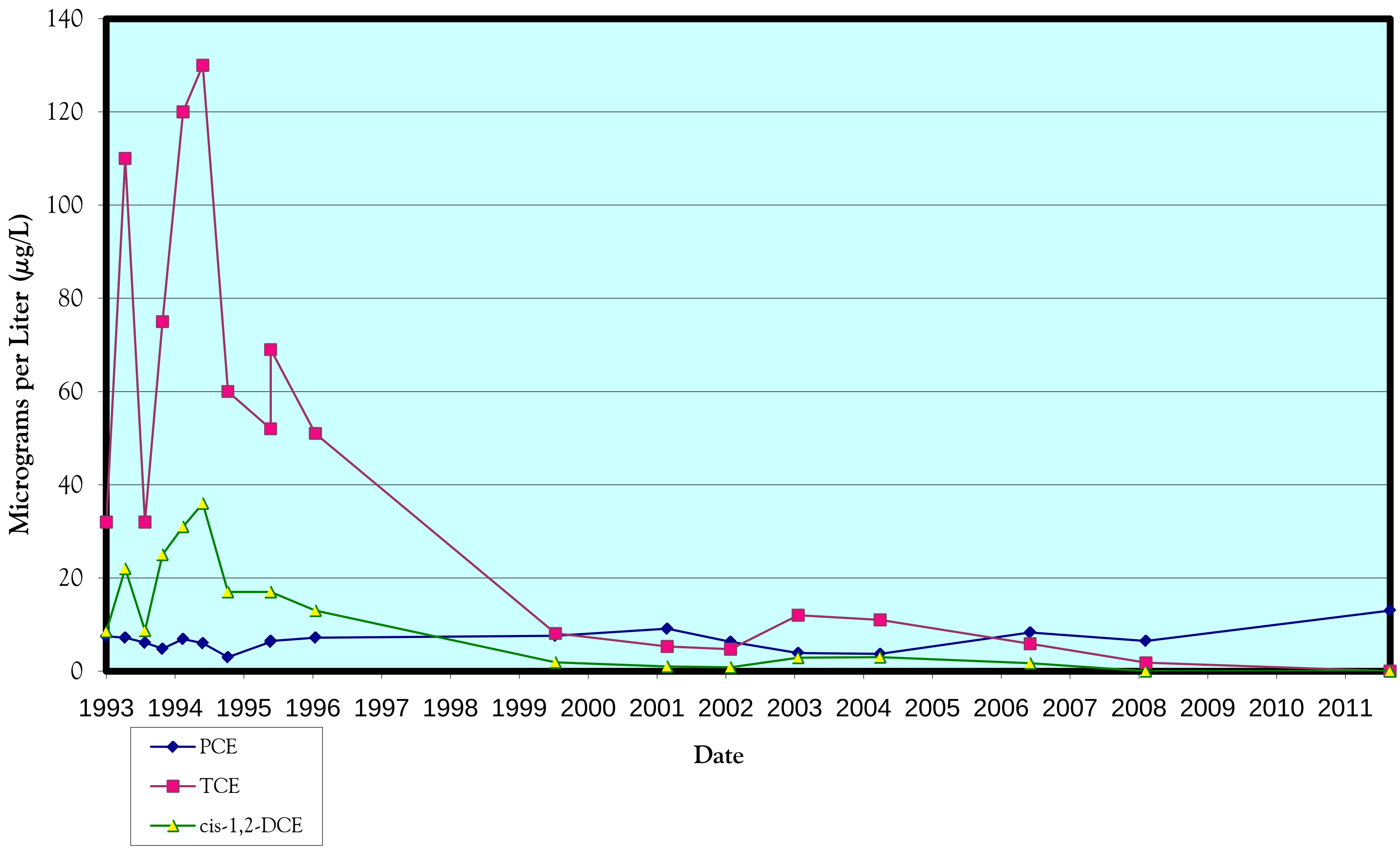
Figure 3

APPENDIX C

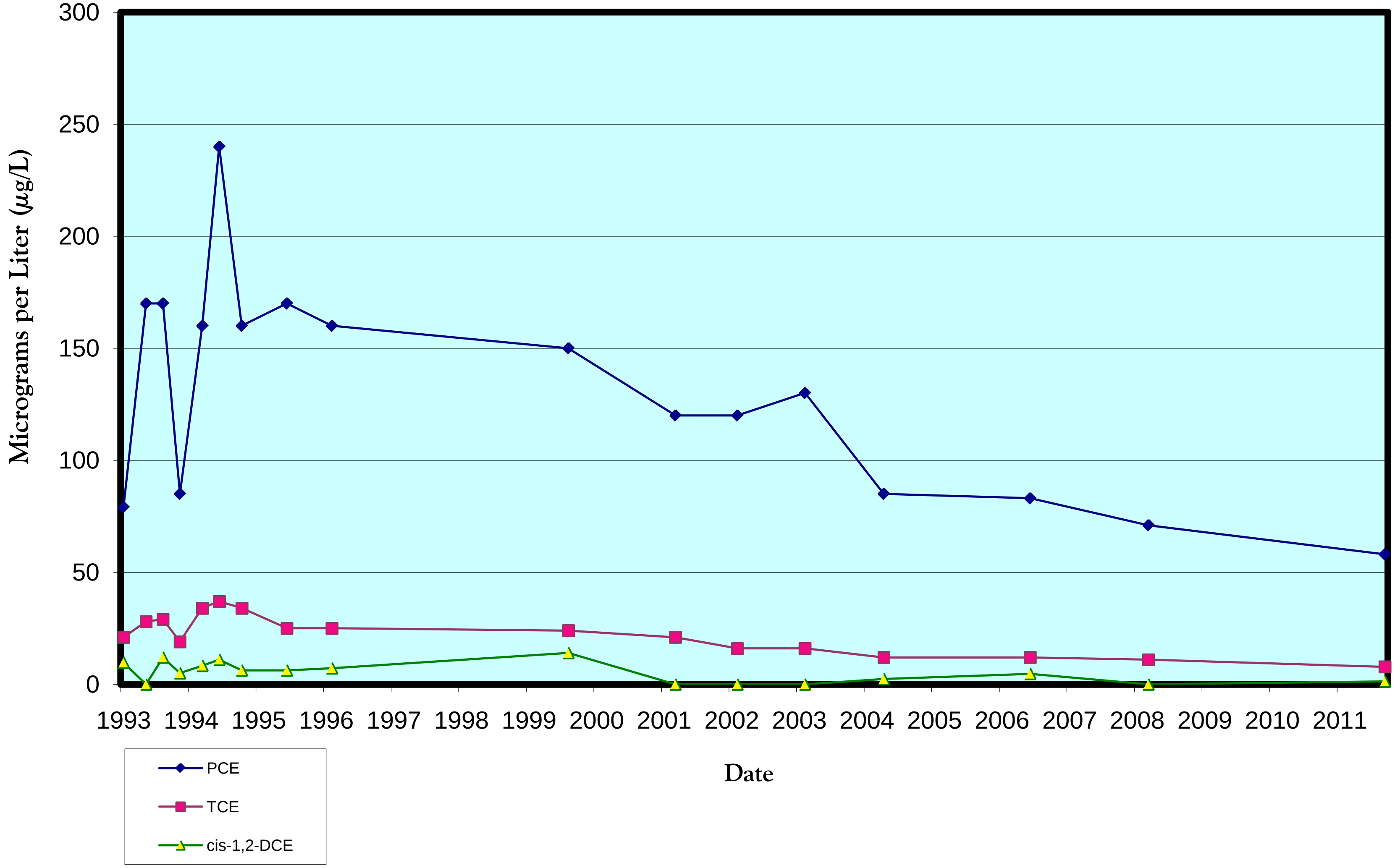
Appendix C-1
MW-1 Groundwater Samples - PCE, TCE and cis-1,2-DCE Concentration Trends



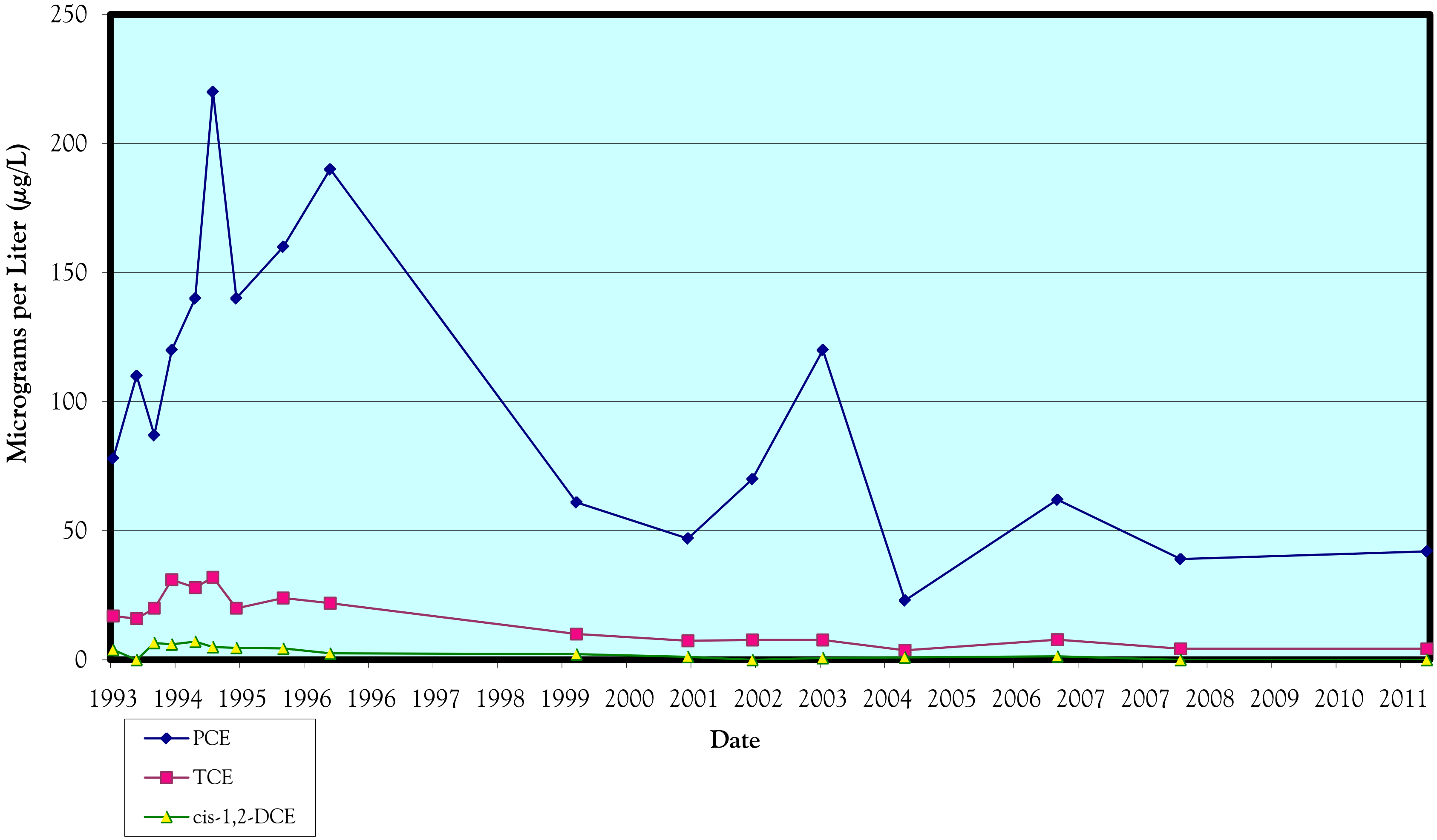
Appendix C-2
MW-2 Groundwater Samples - PCE, TCE and cis-1,2-DCE Concentration Trends



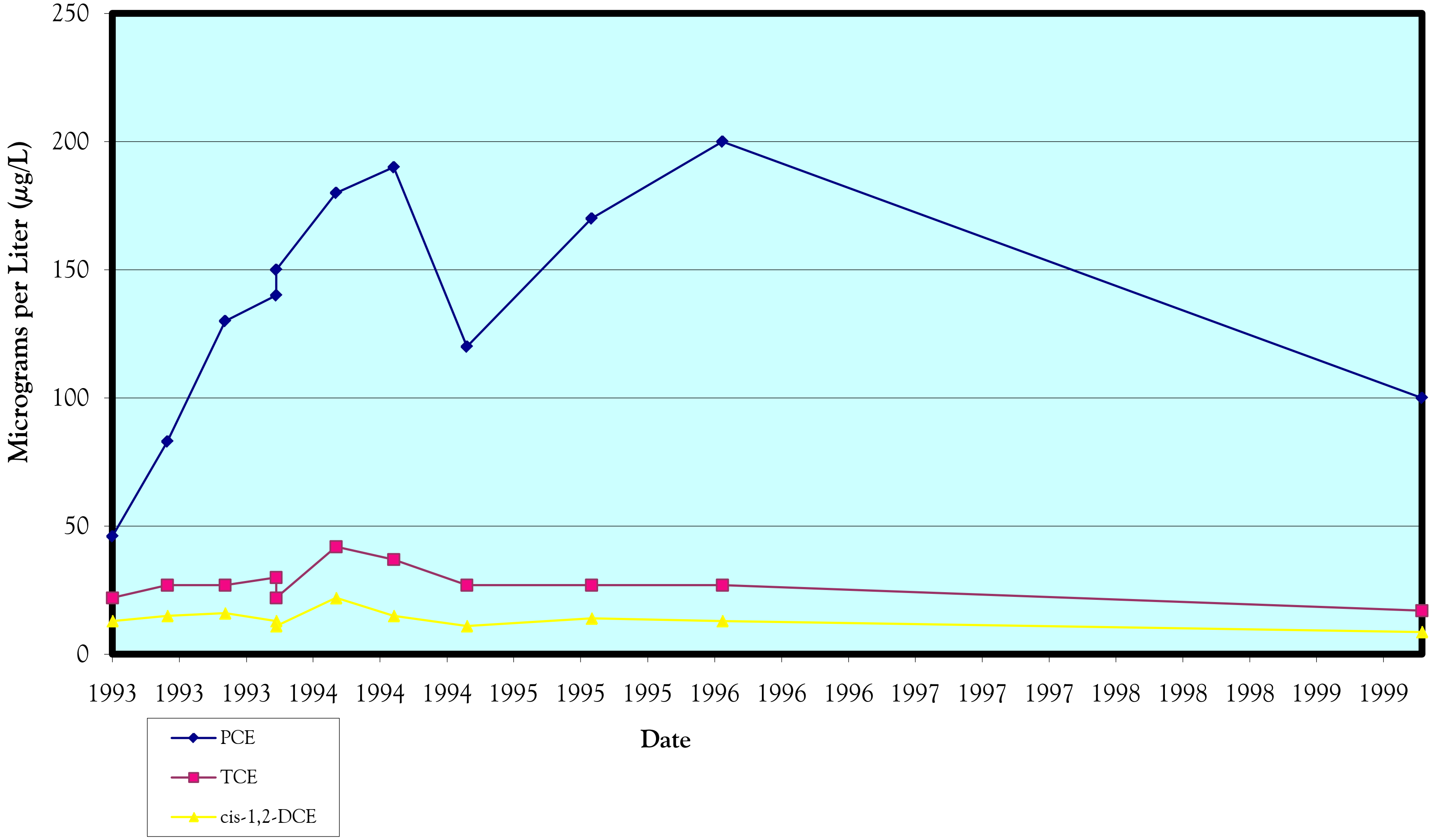
Appendix C-3
MW-3 Groundwater Samples - PCE, TCE and cis-1,2-DCE Concentration Trends



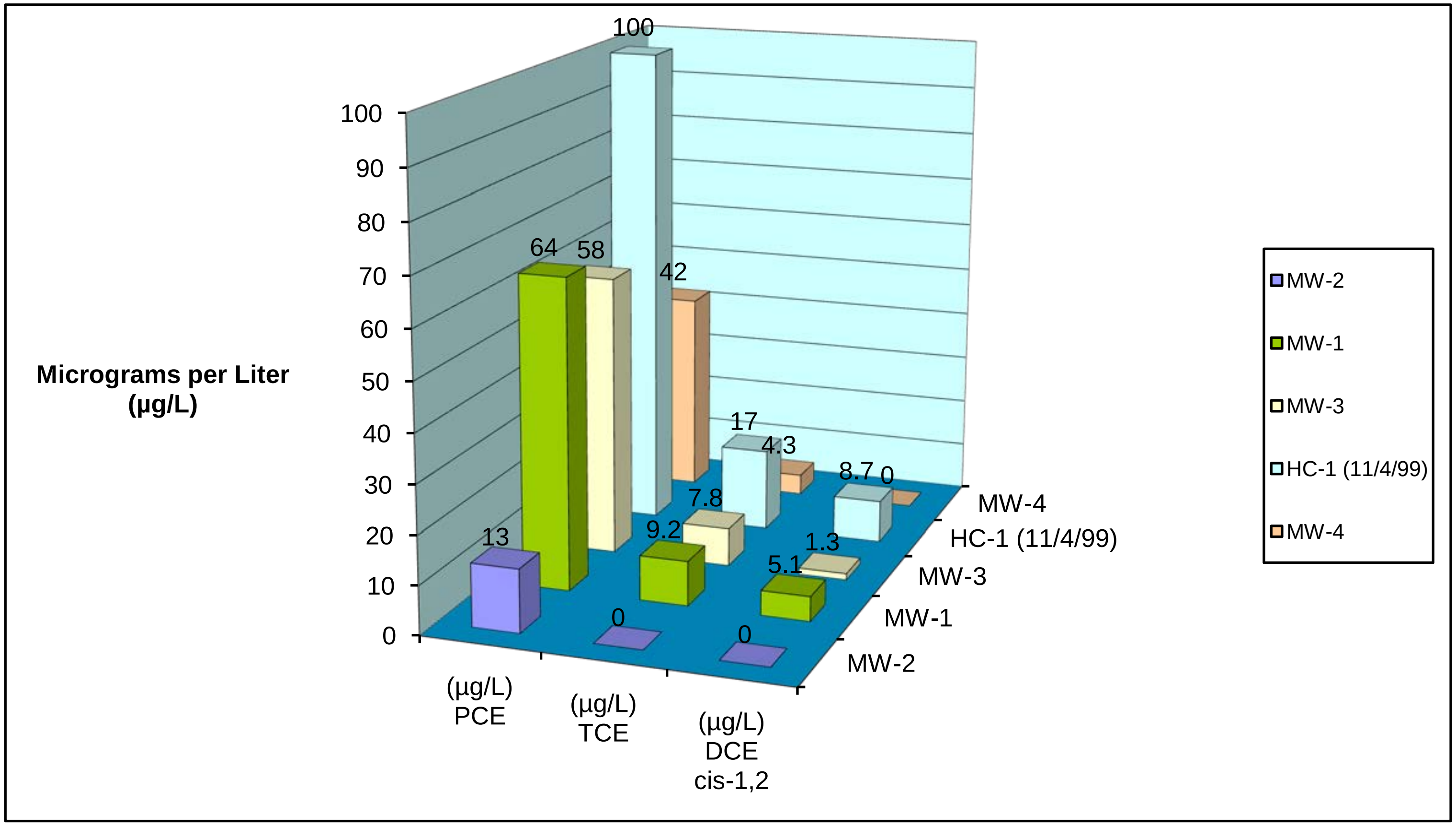
Appendix C-4
MW-4 Groundwater Samples - PCE, TCE and cis-1,2-DCE Concentration Trends



Appendix C-5
HC-1 Groundwater Samples- PCE, TCE and cis-1,2-DCE Concentration Trends



Appendix C-6
PCE vs. TCE vs. cis-1,2 DCE Concentrations
December 20, 2011



APPENDIX D

AllWest

APPLICATION FOR AUTHORIZATION TO USE

REPORT TITLE: CASE CLOSURE SUMMARY REPORT

O'Reilly Auto Parts (Former Grand Auto #43)
4240 International Boulevard
Oakland, California

PROJECT NUMBER: 14151.36

To: AllWest Environmental, Inc.
2141 Mission Street, Suite 100
San Francisco, CA 94110

From (Applicant): ______________________________

____

____

(Please clearly identify name and address of person/entity applying for permission to use or copy this document)

Ladies and Gentlemen:

Applicant states they have thoroughly reviewed the report and had the opportunity to discuss with AllWest the report's methodology, findings and conclusion(s).

Applicant hereby applies for permission to rely upon AllWest's work product, as described above, for the purpose of (state here the purpose for which you wish to rely upon the work product):

Applicant only can accept and rely upon AllWest work product under the strict understanding that Applicant is bound by all provisions in the Terms and Conditions attached to the report. Every report, recommendation, finding, or conclusion issued by AllWest shall be subject to the limitations stated in the Agreement and subject report(s). If this is agreeable, please sign below and return one copy of this letter to us along with the applicable fees. Upon receipt and if acceptable, our signed letter will be returned. AllWest may withhold permission at its sole discretion or require additional re-use fees or terms.

FEES: A $1,500 coordination and reliance fee, payable in advance, will apply. If desired, for an additional $150 report reproduction fee, we will reissue the report in the name of the Applicant; the report date, however, will remain the same. All checks will be returned if your request for reliance is not approved.

REQUESTED BY	**APPROVED BY**
______________________ Applicant Company	**AllWest Environmental, Inc.**
______________________ Print Name and Title	______________________ Print Name and Title
______________________ Signature and Date	______________________ Signature and Date

GENERAL CONDITIONS TO THE WORK AUTHORIZATION AGREEMENT

It is hereby agreed that the Client retains AllWest to provide services as set forth in the Work Authorization attached hereto (the "Work"). This contract shall be controlled by the following terms and conditions, and these terms and conditions shall also control any further assignments performed pursuant to this Work Authorization. Client's signature on this Work Authorization constitutes Client's agreement to the all terms to this contract, including these General Conditions.

FEES AND COSTS

1. AllWest shall charge for work performed by its personnel at the rates identified in the Work Authorization. These rates are subject to reasonable increases by AllWest upon giving Client 30 days advance notice. Reimbursable Costs will be charged to the Client in addition to the fees for the basic services under this Agreement and all Additional Services (defined below) under the Agreement. Reimbursable Costs include, but are not limited to, expenses for travel, including transportation, meals, lodging, long distance telephone and other related expenses, as well as the costs of reproduction of all drawings for the Client's use, costs for specifications and type-written reports, permit and approval fees, automobile travel reimbursement, costs and fees of subcontractors, and soil and other materials testing. No overtime is accrued for time spent in travel. All costs incurred which relate to the services or materials provided by a contractor or subcontractor to AllWest shall be invoiced by AllWest on the basis of cost plus twenty percent (20%). Automobile travel reimbursement shall be at the rate of fifty- eight cents ($0.58) per mile. All other reimbursable costs shall be invoiced and billed by AllWest at the rate of 1.1 times the direct cost to AllWest. Reimbursable costs will be charged to the client only as outlined in the Work Authorization if the scope of work is for Phase I Environmental Site Assessment, Property Condition Assessment, Seismic Assessment or ALTA survey. Invoices for work performed shall be submitted monthly. Payment will be due upon receipt of invoice. Client shall pay interest on the balance of unpaid invoices which are overdue by more than 30 days, at a rate of 18% per annum as well as all attorney fees and costs incurred by AllWest to secure payment of unpaid invoices. AllWest may waive such fees at its sole discretion.

STANDARD OF CARE

2. AllWest will perform its work in accordance with the standard of care of its industry, as it is at the time of the work being performed, and applicable in the locale of the work being performed. AllWest makes no other warranties, express or implied regarding its work.

LIMITATION OF REMEDIES

3. Client expressly agrees that to the fullest extent permitted by law, Client's remedies for any liability incurred by AllWest, and/or its employees or agents, for any and all claims arising from AllWest's services, shall be $50,000 or its fees, whichever is greater.

Client may request a higher limitation of remedies, but must do so in writing. Upon such written request, AllWest may agree to increase this limit in exchange for a mutually negotiated higher fee commensurate with the increased risk to AllWest. Any such agreed increase in fee and limitation of remedies amount must be memorialized by written agreement which expressly amends the terms of this clause.

As used in this section, the term "limitation of remedies" shall apply to claims of any kind, including, but not limited to, claims brought in contract, tort, strict liability, or otherwise, for any and all injuries, claims, losses, expenses, or damages whatsoever arising out of or in any way related to AllWest's services or the services of AllWest's subcontractors, consultants, agents, officers, directors, and employees from any cause(s). AllWest shall not be liable for any claims of loss of profits or any other indirect, incidental, or consequential damages of any nature whatsoever. Client & AllWest have specifically negotiated this limitation.

INDEMNIFICATION

4. Notwithstanding any other provision of this Agreement, Client agrees, to the fullest extent permitted by law, to waive any claim against, release from any liability or responsibility for, and , indemnify and hold harmless AllWest, its employees, agents and sub-consultants (collectively, Consultant) from and against any and all damages, liabilities, claims, actions or costs of any kind, including reasonable attorney's fees and defense costs, arising or alleged to arise out of or to be in any way connected with the Project or the performance or non-performance of Consultant of any services under this Agreement, excepting only any such liabilities determined by a court or other forum of competent jurisdiction to have been caused by the negligence or willful misconduct of Consultant. This provision shall be in addition to any rights of indemnity that Consultant may have under the law and shall survive and remain in effect following the termination of this Agreement for any reason. Should any part of this provision be determined to be unenforceable, AllWest and Client agree that the rest of the provision shall apply to the maximum extent permitted by law. The Client's duty to defend AllWest shall arise immediately upon tender of any matter potentially covered by the above obligations to indemnify and hold harmless.

MEDIATION & JUDICIAL REFERENCE

5. In an effort to resolve any conflicts or disputes that arise regarding the performance of this agreement, the Client & AllWest agree that all such disputes shall be submitted to non-binding mediation, using a mutually agreed upon mediation service experienced in the resolution of construction disputes. Unless the parties mutually agree otherwise, such mediation shall be a condition precedent to the initiation of any other adjudicative proceedings. It is further agreed that any dispute that is not settled pursuant to such mediation shall be adjudicated by a court appointed referee in accordance with the Judicial Reference procedures as set forth in California Code of Civil Procedure Section 638 et seq. The parties hereby mutually agree to waive any right to a trial by jury regarding any dispute arising out of this agreement.

The parties further agree to include a similar mediation, Judicial Reference & waiver of jury trial provision in their agreements with other independent contractors & consultants retained for the project and require them to similarly agree to these dispute resolution procedures. The cost of said Mediation shall be split equally between the parties. This agreement to mediate shall be specifically enforceable under the prevailing law of the jurisdiction in which this agreement was signed.

HAZARDOUS WASTE

6. Client acknowledges that AllWest and its sub-contractors have played no part in the creation of any hazardous waste, pollution sources, nuisance, or chemical or industrial disposal problem, which may exist, and that AllWest has been retained for the sole purpose of performing the services set out in the scope of work within this Agreement, which may include, but is not necessarily limited to such services as assisting the Client in assessing any problem which may exist and in assisting the

Client in formulating a remedial program. Client acknowledges that while necessary for investigations, commonly used exploration methods employed by AllWest may penetrate through contaminated materials and serve as a connecting passageway between the contaminated material and an uncontaminated aquifer or groundwater, possibly inducing cross contamination. While back-filling with grout or other means, according to a state of practice design is intended to provide a seal against such passageway, it is recognized that such a seal may be imperfect and that there is an inherent risk in drilling borings of performing other exploration methods in a hazardous waste site.

AllWest will not sign or execute hazardous waste manifests or other waste tracking documents on behalf of Client unless Client specifically establishes AllWest as an express agent of Client under a written agency agreement approved by AllWest. In addition, Client agrees that AllWest shall not be required to sign any documents, no matter requested by whom, that would have the effect of AllWest providing any form of certification, guarantee, or warranty as to any matter or to opine on conditions for which the existence AllWest cannot ascertain. Client also agrees that it shall never seek or otherwise attempt to have AllWest provide any form of such certification, guarantee or warranty in exchange for resolution of any disputes between Client and AllWest, or as a condition precedent to making payment to AllWest for fees and costs owing under this Agreement.

Client understands and agrees that AllWest is not, and has no responsibility as, a generator, operator, treater, storer, transporter , arranger or disposer of hazardous or toxic substances found or identified at the site, including investigation-derived waste. The Client shall undertake and arrange for the removal, treatment, storage, disposal and/or treatment of hazardous material and investigation derived waste (such as drill cuttings) and further, assumes full responsibility for such wastes to the complete exclusion of any responsibility, duty or obligation upon AllWest. AllWest's responsibilities shall be limited to recommendations regarding such matters and assistance with appropriate arrangements if authorized by Client.

FORCE MAJUERE

7. Neither party shall be responsible for damages or delays in performance under this Agreement caused by acts of God, strikes, lockouts, accidents or other events or condition (other than financial inability) beyond the other Party's reasonable control.

TERMINATION

8. This Agreement may be terminated by either party upon ten (10) days' written notice should the other party substantially fail to perform in accordance with its duties and responsibilities as set forth in this Agreement and such failure to perform is through no fault of the party initiating the termination. Client agrees that if it chooses to terminate AllWest for convenience, and AllWest has otherwise satisfactorily performed its obligations under this Agreement to that point, AllWest shall be paid no less than eighty percent (80%) of the contract price, provided, however, that if AllWest shall have completed more than eighty percent of the Work at the time of said termination, AllWest shall be compensated as provided in the Work Authorization for all services performed prior to the termination date which fall within the scope of work described in the Work Authorization and may as well, at its sole discretion and in accordance with said Schedule of Fees, charge Client, and Client agrees to pay AllWest's reasonable costs and labor in winding up its files and removing equipment and other materials from the Project.

Upon notice of termination by Client to AllWest, AllWest may issue notice of such termination to other consultants, contractors, subcontractors and to governing agencies having jurisdiction over the Project, and take such other actions as are reasonably necessary in order to give notice that AllWest is no longer associated with the Project and to protect AllWest from claims of liability from the work of others.

DOCUMENTS

9. Any documents prepared by AllWest, including, but not limited to proposals, project specifications, drawings, calculations, plans and maps, and any ideas and designs incorporated therein, as well as any reproduction of the above are instruments of service and shall remain the property of AllWest and AllWest retains copyrights to these instruments of service. AllWest grants to Client a non-exclusive license to use these instruments of service for the purpose of completing and maintaining the Project. The Client shall be permitted to retain a copy of any instruments of service, but Client expressly agrees and acknowledges that the instruments of service may not be used by the Client on other projects, or for any other purpose, except the project for which they were prepared, unless Client first obtains a written agreement expanding the license to such use from AllWest, and with appropriate compensation to AllWest. Client further agrees that such instruments of service shall not be provided to any third parties without the express written permission of AllWest.

Client shall furnish, or cause to be furnished to AllWest all documents and information known to Client that relate to the identity, location, quantity, nature, or characteristics of any asbestos, PCBs, or any other hazardous materials or waste at, on or under the site. In addition, Client will furnish or cause to be furnished such reports, data, studies, plans, specifications, documents and other information on surface or subsurface site conditions, e.g., underground tanks, pipelines and buried utilities, required by AllWest for proper performance of its services. IF Client fails to provide AllWest with all hazardous material subject matter reports including geotechnical assessments in its possession during the period that AllWest is actively providing its services (including up to 30 days after its final invoice), Client shall release AllWest from any and all liability for risks and damages the Client incurs resulting from its reliance on AllWest's professional opinion. AllWest shall be entitled to rely upon Client - provided documents and information in performing the services required in this Agreement; however, AllWest assumes no responsibility or liability for the accuracy or completeness of Client-provided documents. Client-provided documents will remain the property of the Client.

ACCESS TO PROJECT

10. Client grants to AllWest the right of access and entry to the Project at all times necessary for AllWest to perform the Work. If Client is not the owner of the Project, then Client represents that Client has full authority to grant access and right of entry to AllWest for the purpose of AllWest's performance of the Work. This right of access and entry extends fully to any agents, employees, contractors or subcontractors of AllWest upon reasonable proof of association with AllWest. Client's failure to provide such timely access and permission shall constitute a material breach of this Agreement excusing AllWest from performance of its duties under this Agreement.

CONFIDENTIAL INFORMATION

11. Both Client and AllWest understand that in conjunction with AllWest's performance of the Work on the project, both Client and AllWest may receive or be exposed to Proprietary Information of the other. As used herein, the term "Proprietary Information" refers to any and all information of a confidential, proprietary or secret nature which may be either applicable to, or relate in any way to: (a) the personal, financial or other affairs of the business of each of the Parties, or (b) the

research and development or investigations of each of the Parties. Proprietary Information includes, for example and without limitation, trade secrets, processes, formulas, data, know-how, improvements, inventions, techniques, software technical data, developments, research projects, plans for future development, marketing plans and strategies. Each of the Parties agrees that all Proprietary Information of the other party is and shall remain exclusively the property of that other party. The parties further acknowledge that the Proprietary Information of the other party is a special, valuable and unique asset of that party, and each of the Parties agrees that at all times during the terms of this Agreement and thereafter to keep in confidence and trust all Proprietary Information of the other party, whether such Proprietary Information was obtained or developed by the other party before, during or after the term of this Agreement. Each of the Parties agrees not to sell, distribute, disclose or use in any other unauthorized manner the Proprietary Information of the other party. AllWest further agrees that it will not sell, distribute or disclose information or the results of any testing obtained by AllWest during the performance of the Work without the prior written approval of Client unless required to do so by federal, state or local statute, ordinance or regulation.

INDEPENDENT CONTRACTOR

12. Both Client and AllWest agree that AllWest is an independent contractor in the performance of the Work under this Agreement. All persons or parties employed by AllWest in connection with the Work are the agents, employees or subcontractors of AllWest and not of Client. Accordingly, AllWest shall be responsible for payment of all taxes arising out of AllWest's activities in performing the Work under this Agreement.

ENTIRE AGREEMENT

13. This Agreement contains the entire agreement between the Parties pertaining to the subject matter contained in it and supersedes and replaces in its entirety all prior and contemporaneous proposals, agreements, representations and understandings of the Parties. The Parties have carefully read and understand the contents of this Agreement and sign their names to the same as their own free act.

INTEGRATION

14. This is a fully integrated Agreement. The terms of this Agreement may be modified only by a writing signed by both Parties. The terms of this Agreement were fully negotiated by the Parties and shall not be construed for or against the Client or AllWest but shall be interpreted in accordance with the general meaning of the language in an effort to reach the intended result.

MODIFICATION / WAIVER / PARTIAL INVALIDITY

15. Failure on the part of either party to complain of any act or omission of the other, or to declare the other party in default, shall not constitute a waiver by such party of its rights hereunder. If any provision of this Agreement or its application be unenforceable to any extent, the Parties agree that the remainder of this Agreement shall not be affected and shall be enforced to the greatest extent permitted by law.

INUREMENT / TITLES

16. Subject to any restrictions on transfers, assignments and encumbrances set forth herein, this Agreement shall inure to the benefit of and be binding upon the undersigned Parties and their respective heirs, executors, legal representatives, successors and assigns. Paragraph titles or captions contained in this Agreement are inserted only as a matter of convenience, and for reference only, and in no way limit, define or extend the provisions of any paragraph. , et al., incurred in that action or proceeding, in addition to any other relief to which it or they may be entitled.

AUTHORITY

17. Each of the persons executing this Agreement on behalf of a corporation does hereby covenant and warrant that the corporation is duly authorized and existing under the laws of its respective state of incorporation, that the corporation has and is qualified to do business in its respective state of incorporation, that the corporation has the full right and authority to enter into this Agreement, and that each person signing on behalf of the corporation is authorized to do so. If the Client is a joint venture, limited liability company or a partnership, the signatories below warrant that said entity is properly and duly organized and existing under the laws of the state of its formation and pursuant to the organizational and operating document of the entity, and the laws of the state of its formation, said signatory has authority act on behalf of and commit the entity to this Agreement.

COUNTERPARTS

18. This Agreement may be signed in counterparts by each of the Parties hereto and, taken together, the signed counterparts shall constitute a single document.

THIRD PARTY BENEFICIARIES / CONTROLLING LAW

19. There are no intended third party beneficiaries of this Agreement. The services, data & opinions expressed by AllWest are for the sole use of the client, are for a particular project and may not be relied upon by anyone other than the client. This Agreement shall be controlled by the laws of the State of California and any action by either party to enforce this Agreement shall be brought in San Francisco County, California.

TIME BAR TO LEGAL ACTION

20. Any legal actions by either party against the other related to this Agreement, shall be barred after one year has passed from the time the claimant knew or should have known of its claim, and under no circumstances shall be initiated after two years have passed from the date by which AllWest completes its services.