

SITE CHARACTERIZATION REPORT

Scooter's Auto Repair
3600 MacArthur Boulevard
Oakland, California

1. Why wasn't soil sample from B-1 @ 2' bgs
analyzed (ovm at 166ppm)

PREPARED BY:

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Project 97-0187.1

December 1998

82 4 11 11 030 85

ENVIRONMENTAL
LABORATORY

INTRODUCTION

This report summarizes the site characterization activities performed by HK2, Inc./SEMCO in October and November 1998 at Scooter's Auto Repair at 3600 MacArthur Boulevard in Oakland, California. The site location is shown in Figure 1. Figure 2 is a site plan. The work was performed to evaluate the lateral and vertical extent of hydrocarbon-affected soil and groundwater in accordance with the work plan dated July 21, 1998, and the Alameda County Health Care Services Agency (ACHCSA) work plan approval letter dated August 3, 1998. A copy of the work plan approval letter is in Appendix A.

SITE DESCRIPTION

The site is on the southeastern corner of the intersection of MacArthur Boulevard and Magee Avenue, approximately 0.2 mile northeast of Interstate 580 and 0.5 mile northwest of High Street. The elevation of the site is approximately 200 feet above mean seal level (Figure 1). It is approximately 0.23 acre in area and currently owned by Estate of Henry Hall (Alameda County Assessor's Parcel Number 30-1903-15-1). The property is currently used as an automobile repair facility (no underground storage tanks are present). However, Mr. Hall operated the site as a service station from approximately 1973 to 1988. Prior to approximately 1973 the site was a Phillips 66 service station. Underground tanks used to store gasoline, diesel, and waste oil existed onsite until March 1994. The site is zoned for commercial use. The surrounding parcels are zoned for commercial (northwest and southwest) and residential (northeast and southeast) use.

The property is in the East Bay Plain groundwater basin according to the Water Quality Control Plan prepared by the California Regional Water Quality Control Board (CRWQCB; 1995). Groundwater in this basin is designated beneficial for municipal, industrial, and agricultural uses. No water supply wells exist within 1,000 feet of the site according to records obtained from the California Department of Water Resources (CDWR) and Alameda County Public Works Agency (ACPWA). However, these records indicate up to 25 groundwater monitoring wells have been installed at service stations 350 to 500 feet northwest and west of the site. In addition, SEMCO observed groundwater monitoring wells at the Chevron station approximately 50 feet northwest of the site. The use and condition of these monitoring wells was not established. The nearest surface water body is Peralta Creek. It is approximately 1,000 feet northwest of the site.

According to the regional geologic map published by the California Department of Conservation (1991), the site is underlain by Quaternary alluvium (thickness not established) deposited on the Mesozoic cherts, shales, sandstones, conglomerates, and ultramafic rocks of the Franciscan Complex. The map also indicates the site is less than 1,000 feet southwest of the Hayward Fault Zone.

PREVIOUS WORK

In March 1994 SEMCO removed two 8,000-gallon underground gasoline storage tanks, one 6,000-gallon underground diesel storage tank, and one 100 gallon underground waste oil tank from the site (Figure 2). Soil samples collected along the perimeter of the former fuel tank cavity at approximately 7 feet below grade (fbg; Samples A through D of Figure 2) contained up to 5,000 mg/kg total petroleum hydrocarbons (TPH) as gasoline (TPH-G; Sample B), 330 mg/kg TPH as diesel (TPH-D; Sample B), and 1.2 mg/kg benzene (Sample B). A soil sample collected from the perimeter of the waste oil tank cavity at approximately 5 fbg contained 1.4 mg/kg TPH-G, <1 mg/kg TPH-D, and <0.005 mg/kg benzene. Groundwater samples collected from the fuel tank cavity contained 2 mg/l TPH-G, 75 mg/l TPH-D, and 0.016 mg/l benzene. Groundwater samples collected from the waste oil tank cavity contained 0.6 mg/l TPH-G, 69 mg/l TPH-D, and 0.0006 mg/l benzene. The halogenated volatile organic compound (HVOC) and semi-volatile organic compound (SVOC) concentrations in soil and groundwater samples collected from the waste oil tank cavity were below laboratory reporting limits. These laboratory results are summarized in Tables 1 and 4. The soil excavated from each tank cavity was used to backfill the excavation it was removed from. Additional details are in the June 1994 Tank Removal Report prepared by SEMCO.

Based on the concentrations of petroleum hydrocarbons encountered during tank removal activities, the ACHCSA, in a letter dated June 3, 1994, requested a Preliminary Site Assessment to evaluate the lateral and vertical extent of hydrocarbon-affected soil and groundwater. A copy of this letter is in Appendix A. In addition, the ACHCSA requested the removal of the remaining product piping (fuel tank cavity to dispenser island) and the excavation and disposal of the soil used to backfill the waste oil tank cavity (former waste oil tank cavity backfill).

On May 21, 1997, SEMCO submitted the requested work plan to the ACHCSA, which approved the plan on May 29, 1997. On June 12, 1998, Ms. Wannetta Hall contracted SEMCO to implement the approved plan. During site markout activities, SEMCO observed that Figure 2 of the approved plan incorrectly showed the location of the waste oil tank cavity. Because the proposed scope of work would have to be modified to accommodate the revised location of the former waste oil tank cavity, SEMCO, at no cost to Ms. Hall, submitted a revised work plan to the ACHCSA on July 21, 1998. The revised work plan was conditionally approved by the ACHCSA in a letter dated August 3, 1998 (Appendix A). The implementation of the revised work plan is described below.

IMPLEMENTATION OF THE REVISED WORK PLAN

Soil Sampling and Well Installation

On October 6, 1998, SEMCO drilled one 2.5-inch-diameter percussion boring in the vicinity of the former dispenser island up to approximately 15 fbg (B1; Figure 2). Soil samples were collected by periodically driving an 2-foot-long, plastic tube-lined, split-spoon sampler. The samples were screened with an organic vapor analyzer, described using the Unified Soil Classification System,

capped with Teflon tape and plastic caps, labeled, and placed in an ice chest chilled to approximately 4°C. SEMCO then reamed the boring with 6-inch-diameter solid-stem auger and attempted to convert the boring to a groundwater monitoring well. However, soil repeatedly caved into the borehole as the auger was withdrawn. Therefore, the boring was backfilled with Portland cement (1 to 14 fbg) and concrete (0 to 1 fbg). A copy of the drilling permit is in Appendix A. General field procedures and the boring logs are in Appendix B.

*only not the SS from 2' logs
which had highest
OUM reading*

Two of the soil samples collected from B1 were submitted to the state-certified North State Environmental (NSE) laboratory for analysis of TPH-G (EPA Methods 5030/Modified 8015), TPH-D (EPA Methods 3550/Modified 8015), TPH as motor oil (TPH-MO; EPA Methods 3550/Modified 8015), benzene, toluene, ethylbenzene, and total xylenes (BTEX; EPA Method 8020), and methyl tert-butyl ether (MTBE; EPA Methods 8020). In addition, the sample containing the greatest TPH-G concentration was analyzed for total lead (EPA Methods 3050/7420). The laboratory results of these analyses are summarized in Table 2. The laboratory report and chain of custody record is in Appendix C.

On November 4, 1998, SEMCO mobilized a hollow-stem auger drilling rig to the site to complete the preliminary site assessment. The hollow-stem auger method was selected because of the caving conditions encountered in Boring B1. **Three 8.25-inch-diameter hollow-stem auger borings were drilled up to approximately 14 fbg (B2 through B4; Figure 2).** Soil samples were collected by periodically driving an 18-inch-long, metal tube-lined, split-spoon sampler. The samples were screened with an organic vapor analyzer, described using the Unified Soil Classification System, capped with Teflon tape and plastic caps, labeled, and placed in an ice chest chilled to approximately 4°C. Following sample collection, the borings were converted to **2-inch-diameter PVC groundwater monitoring wells (MW-1 through MW-3).** Monitoring Wells MW-1 and MW-2 were developed with a surge block after the filter pack was installed to improve hydraulic contact with the formation. MW-3 was not developed because less than 2 feet of groundwater entered this well during its completion. A copy of the drilling permit is in Appendix A. Our general field procedures, boring logs, and well construction details are in Appendix B.

The well proposed in Magee Avenue in the revised work plan was not installed because the City of Oakland would not issue a permit for the work without a copy of the grant deed listing Ms. Hall as the property owner. This requirement could not be met because the Estate (current owner) is being probated in Superior Court. Therefore, HK2 moved this well to the southwest side of the dispenser island (MW-1) because: 1) soil samples collected from B1 contained hydrocarbons, 2) we previously were unable to convert B1 to a monitoring well as planned, and 3) this location appeared to be downgradient of the former tank cavity and dispenser island based on our review of the USGS topographic map covering this area.

Three samples from B2, B3, and B4 were submitted to NSE for analysis of TPH-G (EPA Methods 5030/Modified 8015), TPH-D (EPA Methods 3550/Modified 8015), TPH-MO (EPA Methods 3550/Modified 8015), BTEX (EPA Method 8020), and MTBE (EPA Methods 8020). In addition, the sample containing the greatest TPH-G concentration in the vicinity of the former fuel tank cavity

(B3) and dispenser island (B2) was analyzed for total lead (EPA Methods 3050/7420). The laboratory results of these analyses are summarized in Table 2. The laboratory report and chain of custody record is in Appendix C. Figure 3 is a cross-section showing site stratigraphy and soil sample TPH-G and TPH-D results from Sample A towards MW-1 (refer to Figure 2).

No soil samples were submitted for physical testing, as proposed in the revised work plan. Vadose zone samples were not submitted because this zone is of limited extent (<3 fbg). No saturated zone samples were submitted because the target zone (approximately 7 fbg) contained hydrocarbons and the August 3, 1998, work plan approval letter stipulated such tests should only be performed on soil samples that do not contain hydrocarbons.

Following well completion, SEMCO hand augered one boring over the former waste oil tank cavity to approximately 2 fbg (B5; Figure 2) then collected a soil sample by driving a metal tube-lined, slide hammer sampler from approximately 2 to 2.5 fbg. This work was performed to evaluate the suitability of leaving the existing soil in the excavation (soil excavated from the former tank cavity). The sample was screened with an organic vapor analyzer, described using the Unified Soil Classification System, capped with Teflon tape and plastic caps, labeled, placed in an ice chest chilled to approximately 4°C, and submitted to NSE for analysis of TPH-MO (EPA Methods 3550/Modified 8015) and soluble chromium (EPA Methods 3050/7190). The laboratory results of these analyses are summarized in Table 2. The laboratory report and chain of custody record is in Appendix C. Figure 4 shows the estimated lateral extent of hydrocarbon-affected soil exceeding 100 mg/kg TPH.

Groundwater Monitoring and Sampling

On November 12, 1998, a Registered Civil Engineer surveyed the site (including the top of casing elevation of each well) and SEMCO measured the depth to groundwater in each well with an electronic probe coated with product indicator paste. The survey was referenced to the City of Oakland Bench Mark located on the top of the southern curb return on the southeast corner of the intersection of MacArthur Boulevard and Magee Avenue. The elevations were converted from City of Oakland datum to NGVD-1929 by adding 3.00 feet. The figures in this report are based on this survey. Table 3 summarizes the fluid-level monitoring and well survey data. The fluid-level monitoring field data form is in Appendix D. Figure 5 is a groundwater elevation contour map based on the monitoring data.

After the wells were surveyed and monitored, SEMCO purged 7 to 12.5 gallons of groundwater from each well (approximately 3.3 to 5.6 casing volumes) and collected groundwater samples from each well with a disposable bailer. The samples were labeled, placed in an ice chest chilled to approximately 4°C, and submitted to NSE for analysis of TPH-G (EPA Methods 5030/Modified 8015), TPH-D (EPA Methods 3510/8015), TPH-MO (EPA Methods 3510/8015), BTEX (EPA Method 8020), MTBE (EPA Methods 8020), and total lead (EPA Method 7420). In addition, one sample from MW-3 was analyzed for total dissolved solids (EPA Method 160.1), halogenated volatile organic compounds (EPA Method 8010), and cadmium, chromium, nickel, and zinc (EPA 7000 Series Methods). Appendix D contains the well purging field data forms. The laboratory results of

groundwater sample analysis and summarized in Table 4. The laboratory report and chain of custody record is in Appendix C. Figure 6 is benzene isoconcentration map based on the laboratory results.

PRODUCT LINE REMOVAL

No product lines were removed during this investigation. This work will be performed in January 1999. Approximately 60 feet of unused piping remains onsite.

WASTE MANAGEMENT

The soil cuttings generated during drilling (approximately 1 cubic yard) are temporarily stockpiled onsite and covered with plastic sheeting. This stockpile will be transported to a licensed disposal facility in January 1999. A copy of the waste manifest will be submitted to the ACHCSA at that time.

The equipment wash and well purge water was placed in 55-gallon drums which were also temporarily stored onsite. On November 30, 1998, Clearwater Environmental Management transported the drummed water (approximately 90 gallons) to the Alviso Independent Oil facility in Alviso, California. A copy of the waste manifest is in Appendix E.

FINDINGS

- The site is in the East Bay Plain groundwater basin. Groundwater in this basin is designated beneficial for municipal, agricultural, and industrial uses. The depth to groundwater was approximately 3 to 3.5 fbg on November 12, 1998, and groundwater gradient was directed toward S19°W at 0.027 foot/foot. No free product was observed in any of the wells or borings. No water supply wells exist within 1,000 feet of the site according to CDWR and ACPWA records.
- Clayey silt and silty clay with a trace amount of sand was typically encountered between approximately 1 and 4.5 fbg. These soil textures were generally underlain by clayey gravels; gravelly, clayey, silty sands; or gravelly, sandy, silty clays up to approximately 12 fbg. Sandy, clayey silts/silty clays with minor amounts of gravel were generally encountered between approximately 12 and 15 fbg.
- Soil sample TPH-G and benzene concentrations were less than 100 and 1 mg/kg, respectively, except in Boring B2 at approximately 7 fbg (930 mg/kg TPH-G and 10 mg/kg benzene). Soil TPH concentrations were greatest at approximately 7 fbg.
- The chromatograms of the TPH-D soil analyses do not match the diesel pattern, except for the sample collected from B1 at approximately 7 fbg (24 mg/kg TPH-D).

- Soil sample TPH-MO concentrations were below the laboratory reporting limit (10 mg/kg), except in Boring B5 (200 mg/kg TPH-MO; former waste oil tank cavity backfill). The soluble chromium concentration from the B5 sample was 0.08 mg/l.
- Soil sample MTBE concentrations were below the laboratory reporting limit (0.005 to 0.125 mg/kg). The concentration of total lead measured in the soil samples was ≤ 13 mg/kg.
- The hydrocarbon and lead concentrations measured in the groundwater samples collected from MW-2 and MW-3 were below laboratory reporting limits (0.05 mg/l for TPH-G, TPH-D, and lead, 0.5 mg/l for TPH-MO, and ≤ 0.001 mg/l for BTEX and MTBE). The HVOC concentrations measured in MW-3 groundwater were also below laboratory reporting limits (≤ 0.001 mg/l).
- Groundwater samples collected from MW-1 contained 6.2 mg/l TPH-G, 0.54 mg/l TPH-D, and 0.420 mg/l of benzene. The TPH-MO, ethylbenzene, MTBE, and lead concentrations measured in these samples were below laboratory reporting limits (0.5 mg/l for TPH-MO, 0.05 mg/l for lead, and 0.0005 mg/l for ethylbenzene and MTBE).
- The concentration of total dissolved solids measured in MW-3 groundwater was 1,200 mg/l.
- The dissolved-phase benzene concentration measured in MW-1 and the TDS concentration measured in MW-3 exceeds the municipal supply water quality objectives listed for these substances in the CRWQCB Water Quality Control Plan (1995).

CONCLUSIONS

- The vertical extent of hydrocarbon-affected soil has been adequately assessed except within the former fuel tank cavity near Sample B and within the former waste oil tank cavity in the vicinity of Boring B5. The majority of the release appears to have occurred when groundwater depths approximated 7 fbg. These conclusions are based on the location of soil samples and the laboratory results of soil sample analysis.
- The lateral extent of hydrocarbon-affected soil has been adequately assessed except southeast of Sample B (TPH-G and TPH-D), south, west, and east of the former dispenser island (TPH-G and benzene), and north and southwest of the former waste oil tank cavity (TPH-G, TPH-D, and TPH-MO). This conclusion is also based on the location of soil samples and the laboratory results of soil sample analysis.

- The lateral extent of dissolved-phase hydrocarbons has not been assessed north and southwest of the former fuel tank cavity (TPH-G, TPH-D, and benzene), down- and cross-gradient of the former dispenser island (TPH-G and benzene), and north and southwest of the former waste oil tank cavity (TPH-G, TPH-D, and TPH-MO). This conclusion is based on the groundwater gradient direction and the laboratory results of groundwater samples collected from the monitoring wells and the former tank cavities.
- MTBE and lead do not appear to be substances of concern at this site based on the laboratory analysis of soil and groundwater samples.
- The soil in the former waste oil tank cavity is technically not suitable for backfill because it contains >100 mg/kg TPH and the soil is in contact with groundwater. However, because the soil TPH concentrations are not excessive (<5 mg/kg TPH-G/TPH-D and ≤200 mg/kg TEPH/TPH-MO), the benzene, HVOC, and SVOC concentrations are below laboratory reporting limits, and the laboratory results of groundwater samples from MW-3 are below reporting limits, HK2 considers it reasonable to leave this soil in place to bioremediate, providing the hydrocarbon concentrations in groundwater downgradient of the former waste oil tank cavity do not exceed risk based screening levels or CRWQCB water quality objectives. We consider this a more reasonable alternative to excavation and disposal.
- Based on the groundwater gradient direction and a comparison of the laboratory results from soil and groundwater sample analysis, it appears hydrocarbons were released from both UST cavities. However, we cannot establish at this time if the hydrocarbons encountered in B2/MW-1 originated from the former fuel tank cavity, product lines, or dispenser island.

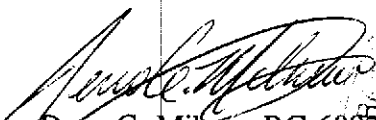
RECOMMENDATIONS

HK2 recommends drilling 9 borings and converting 3 of the borings to monitoring wells to further assess the lateral and vertical extent of hydrocarbon-affected soil and groundwater. The borings are recommended near Sample B (vertical assessment), near Boring B5 (vertical assessment), and approximately 15 feet southeast of Sample B, 10 feet southwest of Sample E, 15 feet west of MW-1, and at the southeastern end of the dispenser island. The monitoring wells are recommended approximately 25 feet north of Sample D, 20 feet southwest of Sample C, and 25 feet south of MW-1.

LIMITATIONS AND CERTIFICATION

The activities summarized in this report have been conducted in accordance with current practice and the standard of care exercised by geologists and engineers performing similar tasks in this area. No warranty, expressed or implied, is made regarding the conclusions and professional opinions presented in this report. The conclusions are based solely upon an interpretation of the observed conditions. If actual conditions differ from those described in this report, our office should be notified and additional recommendations, if necessary, will be provided.

HK2, Inc./SEMCO


Deno G. Milano, RG 6093
Senior Geologist

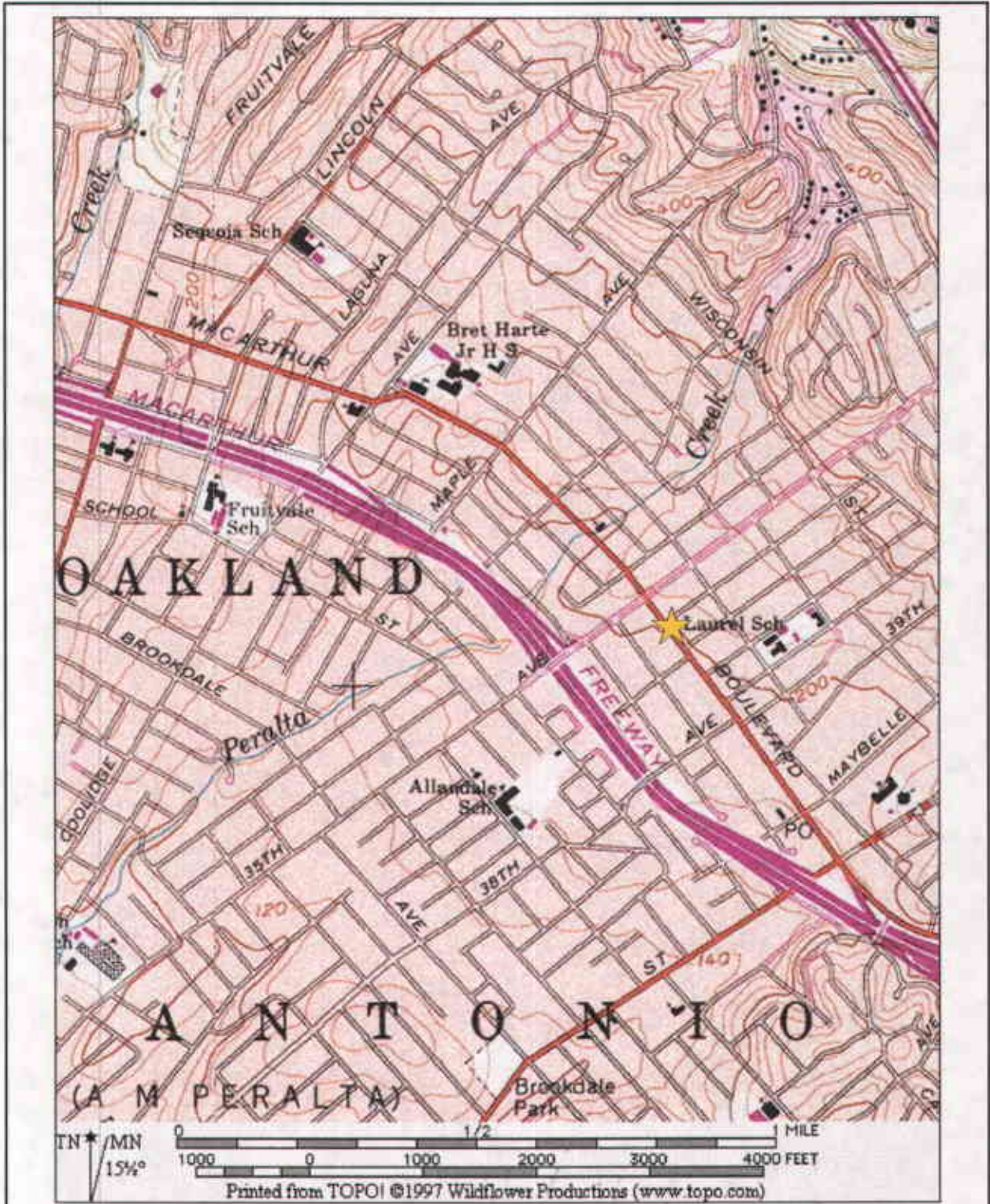


REFERENCES

California Department of Conservation, Division of Mines and Geology, 1991. Geologic Map of the San Francisco-San Jose Quadrangle by Wagner, D.L., Bortugno, E.J., and McJunkin, R.D. Map No. 5A.

California Regional Water Quality Control Board, San Francisco Bay Region, 1995. Water Quality Control Plan, San Francisco Bay Basin (Region 2).

SEMCO, 1994. Tank Removal Activity Report, 3600 MacArthur Boulevard, Oakland, California. June/Project 94-3571.



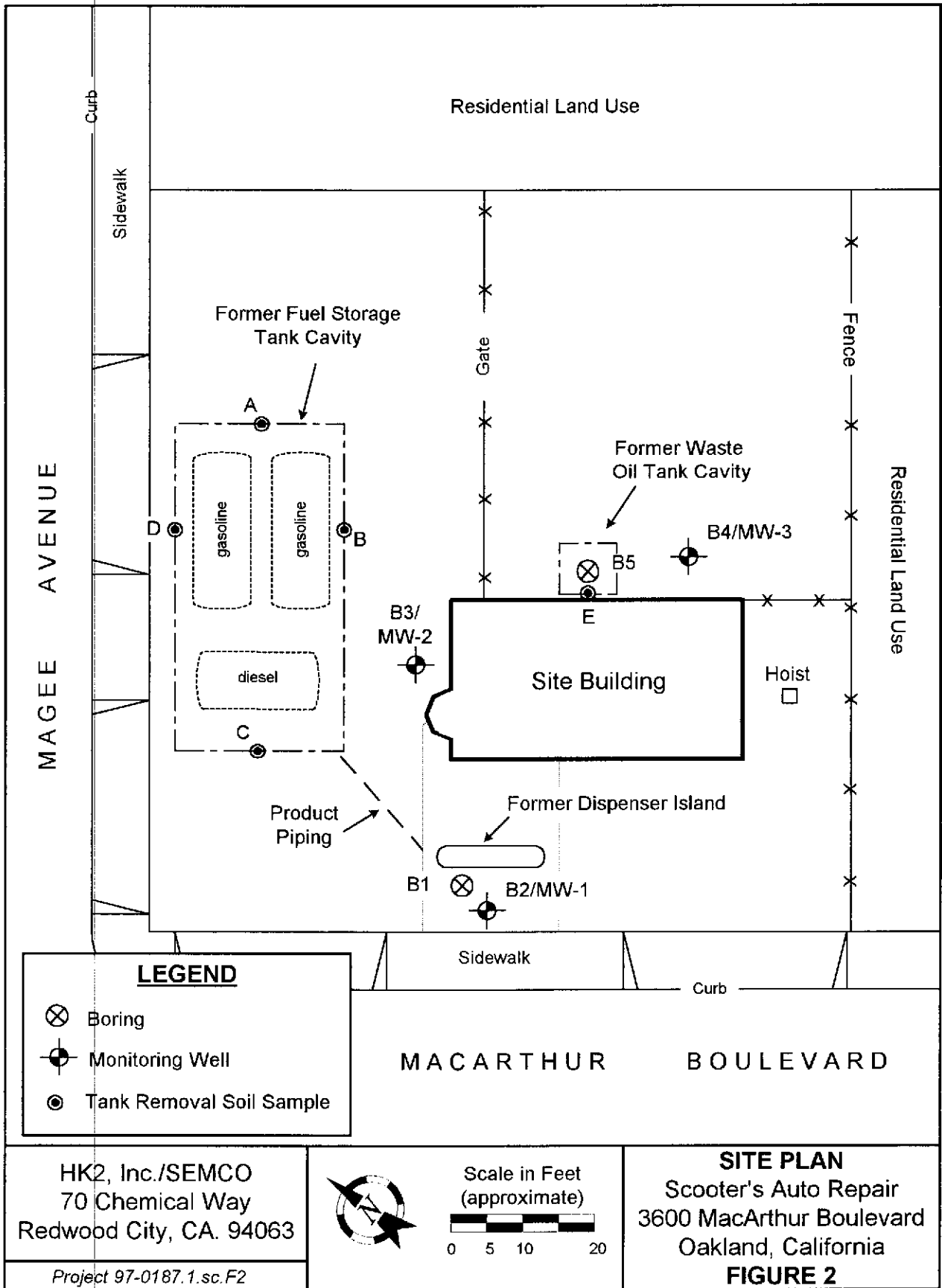
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 **SITE LOCATION**

SITE LOCATION
 Scooter's Auto Repair
 3600 MacArthur Boulevard
 Oakland, California
FIGURE 1



LEGEND

- ⊗ Boring
- ⊕ Monitoring Well
- ⊙ Tank Removal Soil Sample

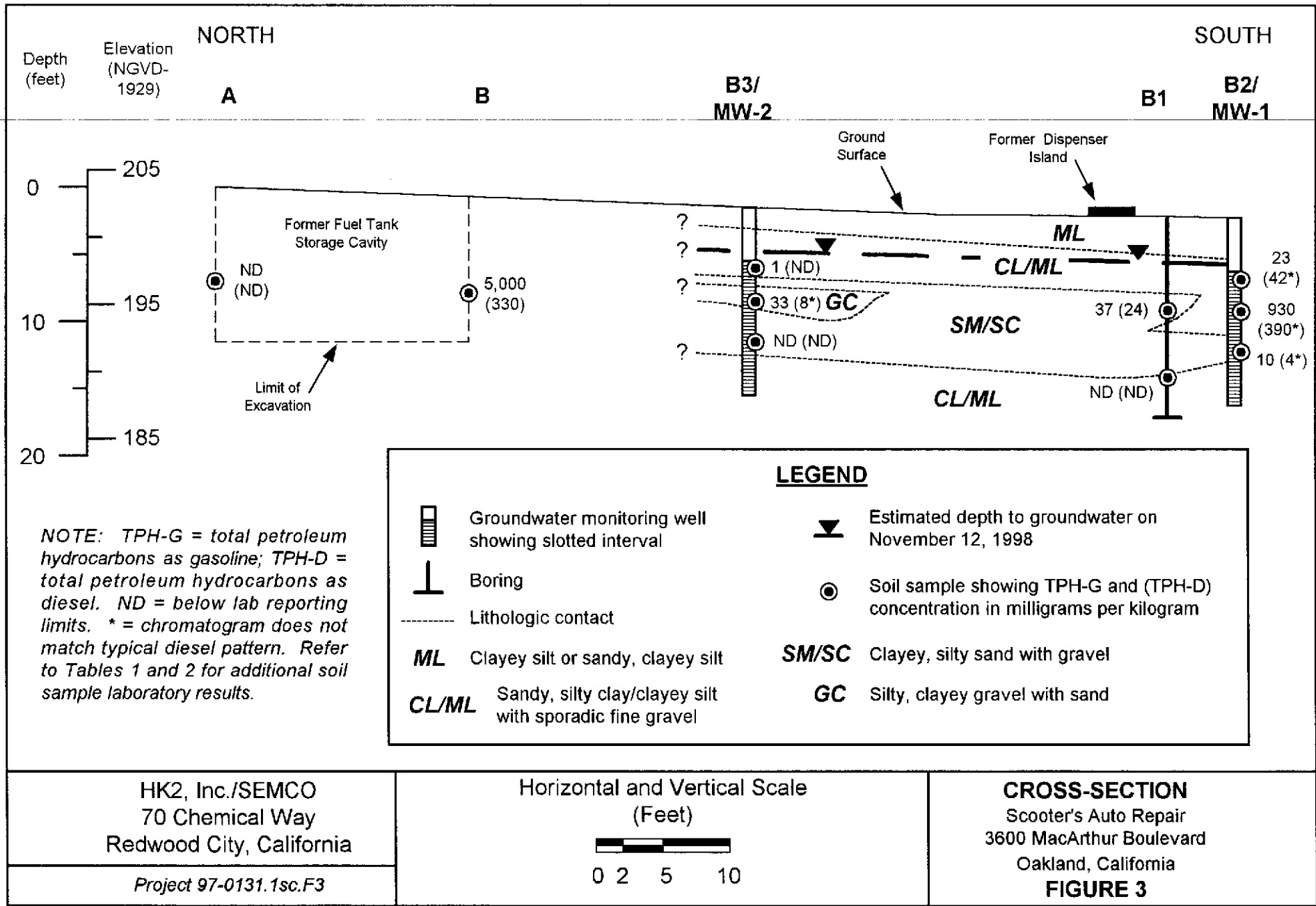
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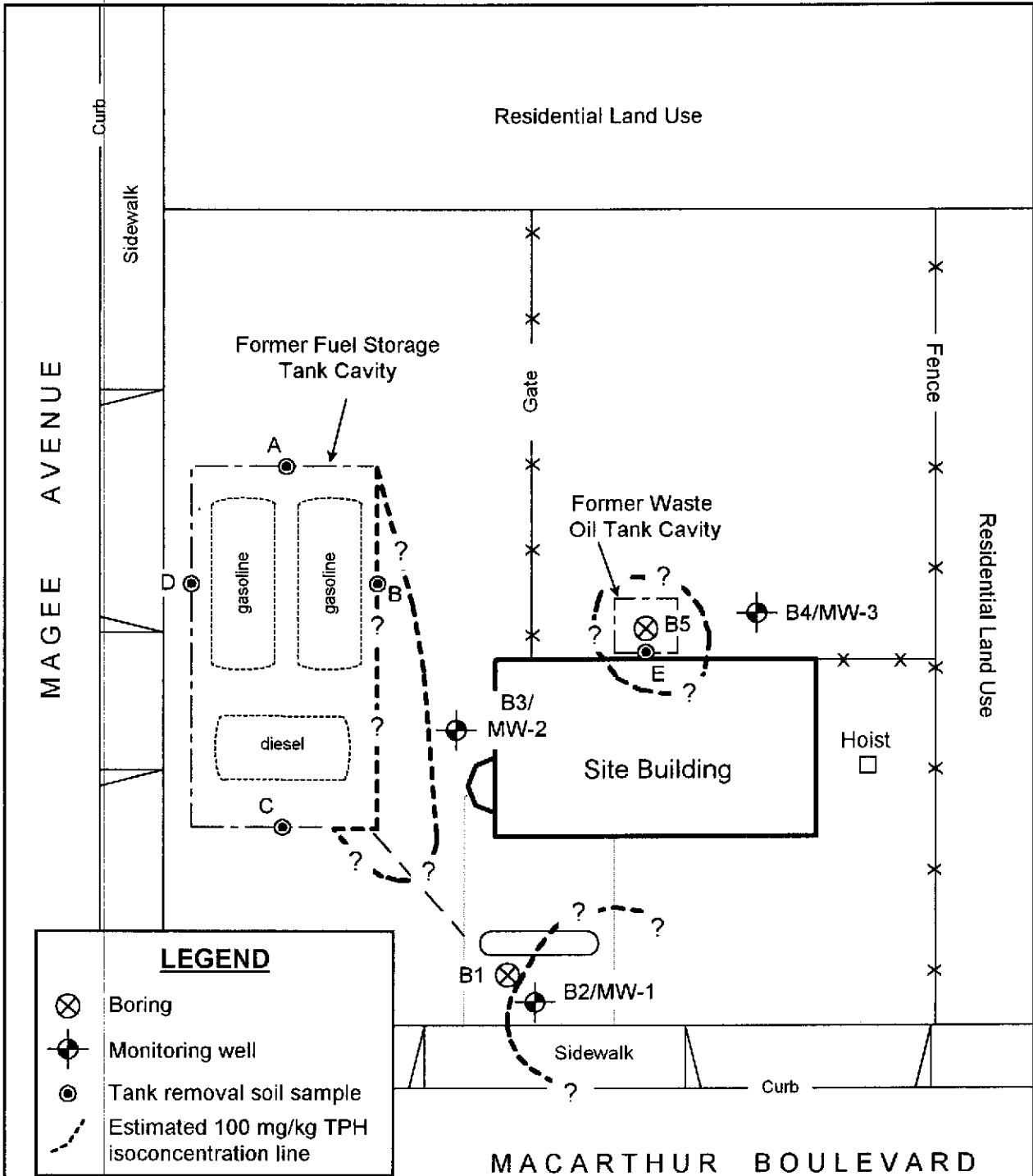
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Scale in Feet
 (approximate)

SITE PLAN
 Scooter's Auto Repair
 3600 MacArthur Boulevard
 Oakland, California
FIGURE 2





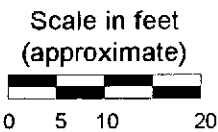
LEGEND

- ⊗ Boring
- ⊕ Monitoring well
- ⊙ Tank removal soil sample
- - - Estimated 100 mg/kg TPH isoconcentration line

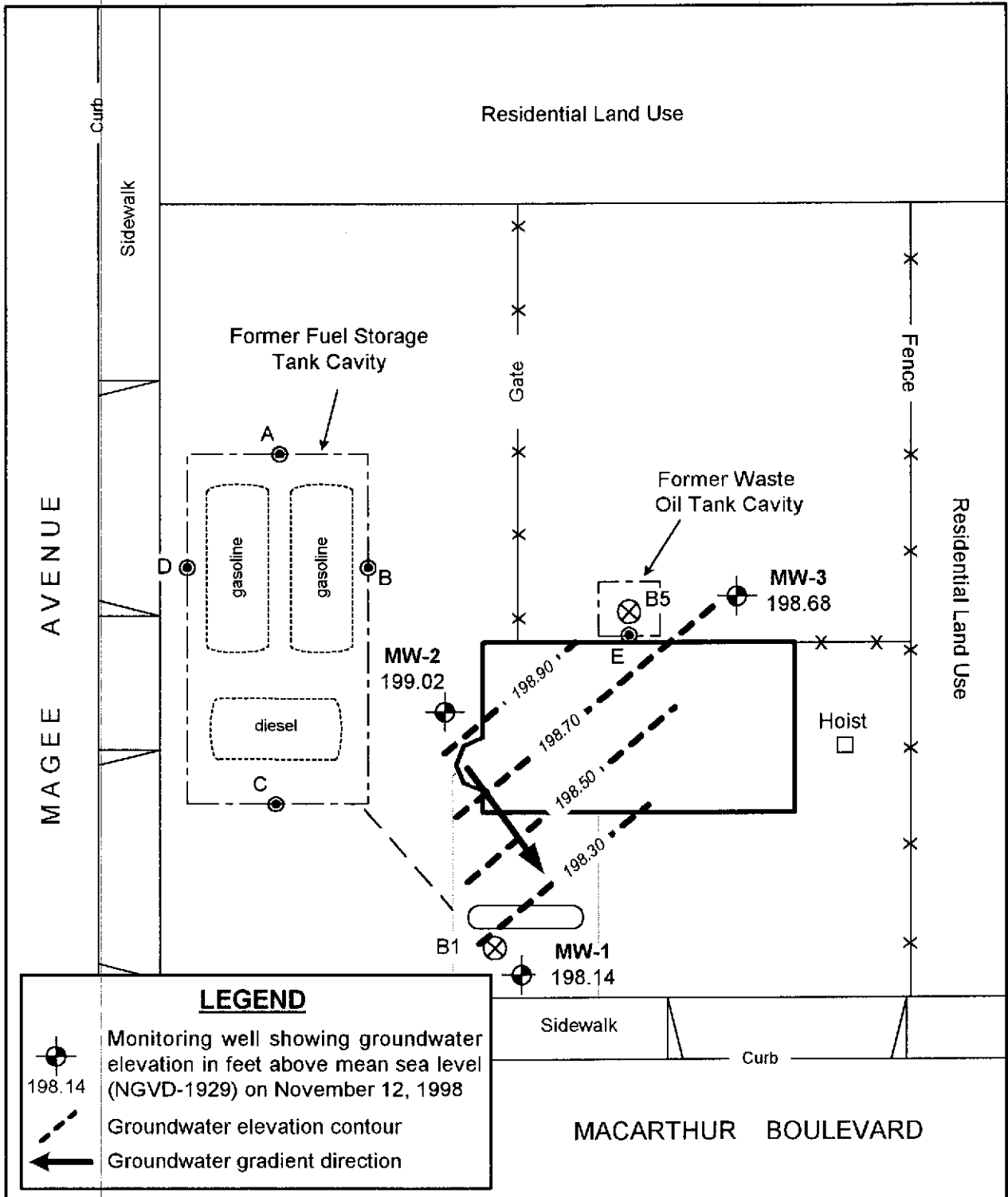
Note: TPH = total petroleum hydrocarbons as gasoline, diesel, and motor oil (cumulative concentration)

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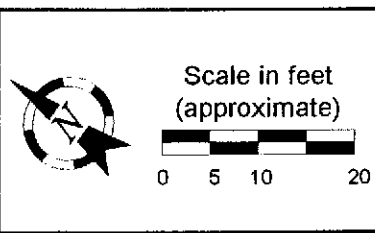


SOIL TPH ISOCONCENTRATION MAP
 Scooter's Auto Repair
 3600 MacArthur Boulevard
 Oakland, California
FIGURE 4



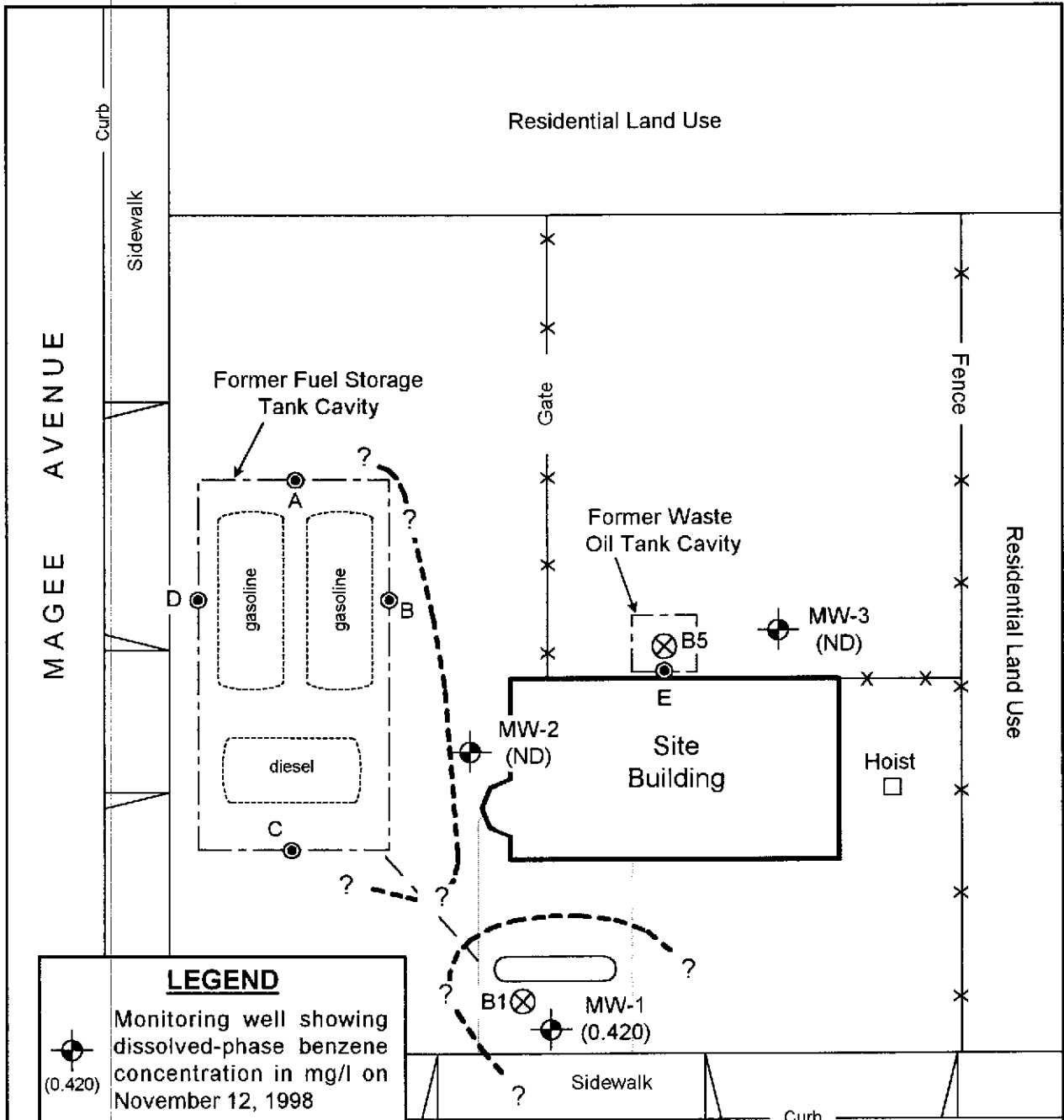
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GROUNDWATER ELEVATION CONTOUR MAP
 Scooter's Auto Repair
 3600 MacArthur Boulevard
 Oakland, California

FIGURE 5



LEGEND

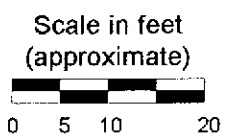
 Monitoring well showing dissolved-phase benzene concentration in mg/l on November 12, 1998

 Estimated 0.001 mg/l dissolved-phase benzene isoconcentration line

Note: ND = benzene concentration less than the laboratory reporting limit (0.0005 mg/l)

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GROUNDWATER BENZENE ISOCONCENTRATION MAP
Scooter's Auto Repair
3600 MacArthur Boulevard
Oakland, California
FIGURE 6

Table 1
Laboratory Analysis of Soil Samples
Collected During Tank Removal Activities
 Scooter's Auto Repair
 3600 MacArthur Boulevard, Oakland, California

Sample Location	Depth (fbg)	TPH-G (mg/kg)	TPH-D (mg/kg)	TEPH (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	HVOCs (mg/kg)	SVOCs (mg/kg)	Lead (mg/kg)	Sample Date
A	7	ND	ND	--	ND	ND	ND	ND	--	--	ND	3-31-94
B	7	5,000*	330	--	1.2	26	27	75	--	--	ND	
C	7	5.8	ND	--	0.013	0.047	0.035	0.18	--	--	ND	
D	7	2.3*	ND	--	ND	ND	ND	ND	--	--	ND	
E	5	1.4	ND	87	ND	0.012	0.038	0.081	ND	ND	ND**	
Fuel Tank Cavity Stockpile		ND	ND	--	ND	ND	ND	ND	--	--	ND	
Waste Oil Tank Cavity Stockpile		2.5	4	177	ND	0.007	ND	0.032	ND	ND	31**	
Laboratory Reporting Limit		0.5	1	50	0.005	0.005	0.005	0.010	≤0.01	≤1.7	5	

LEGEND:

TPH-G = total petroleum hydrocarbons as gasoline (EPA Methods 5030/Modified 8015); TPH-D = total petroleum hydrocarbons as diesel (EPA Methods 3550/Modified 8015); TEPH = total extractable petroleum hydrocarbons (Standard Method 5520E&F); B,T,E,X = benzene, toluene, ethylbenzene, and total xylenes (EPA Method 8020); HVOCs = halogenated volatile organic compounds (EPA Method 8010); SVOCs = semi-volatile organic compounds (EPA Method 8270); fbg = feet below grade; mg/kg = milligrams per kilogram (parts per million); ND = concentration below the laboratory reporting limit; -- = sample not analyzed for this substance; * = chromatogram did not match typical diesel pattern; ** = sample also contained 57 mg/kg of chromium (Sample E) and 61 mg/kg of chromium (waste oil stockpile sample). Metal results from EPA 6000/7000 Series Methods.

Table 2
Laboratory Analysis of Soil Samples Collected from Borings
Scooter's Auto Repair
3600 MacArthur Boulevard, Oakland, California

Sample Location	Depth (fbg)	TPH-G (mg/kg)	TPH-D (mg/kg)	TPH-MO (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	MTBE (mg/kg)	Lead (mg/kg)	Sample Date
B1	7	37	24	ND	0.03	0.018	0.2	0.32	ND	ND (10)	10-6-98
	12	ND	ND	ND	ND	ND	ND	ND	ND	--	
B2 <i>MW-1</i>	4.5	23	42*	ND	0.054	0.065	1	2	ND	--	11-4-98
	7	930*	390*	ND	10	4	25	27	ND (0.125)	13	
	10	10	4*	ND	0.11	ND	0.075	0.07	ND	--	
B3 <i>MW-2</i>	4.5	1	ND	ND	ND	ND	ND	ND	ND	--	
	7	33	8*	ND	0.32	0.03	0.12	0.5	ND	11	
	10	ND	ND	ND	ND	ND	ND	ND	ND	--	
B4 <i>MW-3</i>	4.5	ND	4*	ND	ND	ND	ND	ND	ND	--	
	7	1	ND	ND	ND	ND	0.02	0.02	ND	--	
	10	1	ND	ND	ND	ND	ND	ND	ND	--	
B5	2.5	--	--	200	--	--	--	--	--	--**	
Laboratory Reporting Limit		0.5	1	10	0.005	0.005	0.005	0.010	0.005	1	

LEGEND:

TPH-G = total petroleum hydrocarbons as gasoline (EPA Methods 5030/Modified 8015); TPH-D = total petroleum hydrocarbons as diesel (EPA Methods 3550/Modified 8015); TPH-MO = total petroleum hydrocarbons as motor oil (EPA Methods 3550/Modified 8015); B,T,E,X = benzene, toluene, ethylbenzene, and total xylenes (EPA Method 8020); MTBE = methyl tert-butyl ether (EPA Method 8020); fbg = feet below grade; mg/kg = milligrams per kilogram (parts per million); ND = concentration below the laboratory reporting limit; () = laboratory reporting limit if different from value listed in last row of table; -- = sample not analyzed for this substance; * = chromatogram did not match typical diesel pattern; ** = sample also contained a soluble chromium concentration of 0.08 mg/l. Lead results from EPA Method 7420.

Table 3
Fluid-Level Monitoring Data
 Scooter's Auto Repair

1299 San Pablo Avenue, Berkeley, California

Parameter Measured	Date	Well Number		
		MW-1	MW-2	MW-3
Depth to groundwater (feet below top of casing)	11-12-98	3.24	2.85	3.43
Relative groundwater elevation (feet)	11-12-98	198.14	199.02	198.68
Groundwater gradient direction & magnitude	11-12-98	S19°W at 0.027 foot/foot		
Elevation of the top of the well casing (feet)	11-12-98	201.38	201.87	202.11

LEGEND:

Top of casing elevation referenced to City of Oakland Bench Mark located on the top of the southern curb return on the southeast corner of the intersection of MacArthur Boulevard and Magee Avenue. Elevations in feet above mean sea level and based on NGVD-1929 (City of Oakland datum + 3.00 feet).

Table 4
Laboratory Analysis of Groundwater Samples
 Scooter's Auto Repair
 3600 MacArthur Boulevard, Oakland, California

Sample Location	TPH-G (mg/l)	TPH-D (mg/l)	TPH-MO (mg/l)	TEPH (mg/l)	B (mg/l)	T (mg/l)	E (mg/l)	X (mg/l)	MTBE (mg/l)	HVOCs (mg/l)	SVOCs (mg/l)	Lead (mg/l)	TDS (mg/l)	Date
Fuel Tank Cavity	2	75	--	--	0.016	0.047	0.008	0.29	--	--	--	ND (0.1)	--	3-31-94
W.O. Tank Cavity	0.6	69	--	ND	0.0006	0.002	0.005	0.056	--	ND	ND	ND (0.1)	--	
MW-1	0.2	0.54	ND	--	0.420	0.047	ND	0.210	ND	--	--	ND	--	11-12-98
MW-2	ND	ND	ND	--	ND	ND	ND	ND	ND	--	--	ND	--	
MW-3	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	--	ND**	1,200	
CRWQCB MSWQO	none	none	none	none	0.001	0.15	0.7	1.75	0.014*	varies	varies	0.050	500	
Laboratory Reporting Limit	0.050	0.050	0.5	5	0.0005	0.0005	0.0005	0.001	0.0005	≤0.001	≤0.1	0.05	1	

LEGEND:

TPH-G = total petroleum hydrocarbons as gasoline (EPA Methods 5030/Modified 8015); TPH-D = total petroleum hydrocarbons as diesel (EPA Methods 3510/Modified 8015); TPH-MO = total petroleum hydrocarbons as motor oil (EPA Methods 3510/Modified 8015); TEPH = total extractable petroleum hydrocarbons (Standard Method 5520E&F); B,T,E,X = benzene, toluene, ethylbenzene, and total xylenes (EPA Method 8020); MTBE = methyl tert-butyl ether (EPA Method 8020); HVOCs = halogenated volatile organic compounds (EPA Method 8010); SVOCs = semi-volatile organic compounds (EPA Method 8270); TDS = total dissolved solids (EPA Method 160.1); CRWQCB MSWQO = California Regional Water Quality Control Board municipal supply water quality objective; mg/l = milligrams per liter; ND = concentration below the laboratory reporting limit; () = laboratory reporting limit if different from value listed in last row of table; -- = sample not analyzed for this substance; * = public health goal proposed by the California Office of Environmental Health Hazard Assessment (the California Department of Health Services has proposed establishing a secondary maximum contaminant level of 0.005 mg/l for MTBE); ** = dissolved cadmium, chromium, nickel, and zinc concentrations in this sample were also below the laboratory reporting limit. Metal results from EPA 6000/7000 Series Methods.

APPENDIX A
REGULATORY CORRESPONDENCE
AND PERMITS

ALAMEDA COUNTY
HEALTH CARE SERVICES



AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES

1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
(510) 337-9335 (FAX)

StID 1289

August 3, 1998

Ms. Wanetta Hall
Scooter Wilson's Auto Repair
3600 MacArthur Blvd
Oakland, CA 94619

RE: Work Plan Approval for 3600 MacArthur Blvd, Oakland, CA

Dear Ms. Hall:

I have completed review of SEMCO's July 1998 "Revised Work Plan for Preliminary Stie Assessment" prepared for the above referenced site. The proposal to advance soil borings and complete three into groundwater monitoring wells is acceptable. Because groundwater at an adjacent site is encountered at ~2' to 5' bgs, the following changes/additions are recommended:

1. groundwater monitoring well, MW-1, proposed through the former waste oil tank pit should be relocated so it is south, southeast of the former excavation;
2. boring B-4 should be moved so it is south, southeast of former soil sample B;
3. soil which will be collected and analyzed for various soil parameters should be collected from native soil which is free of petroleum hydrocarbons; and,
4. wells should be surveyed and groundwater elevation measured to the nearest hundredth of an inch.

Field work should commence within 60 days of the date of this letter. Please notify me at least 72 hours prior to the start of field activities.

If you have any questions, I can be reached at (510) 567-6762.

eva chu
Hazardous Materials Specialist

c: Deno Milano
Semco
70 Chemical Way
Redwood City, CA 94063

scooter1

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY

DAVID J. KEARS, Agency Director



Post-It™ brand fax		mittal memo 7671	# of pages > 4
To	Deno Milano	From	Juliet Shin
Co.	SEMCO/HKZ	Co.	Alameda County
Dept.		Phone #	570-567-6763
Fax #	415-572-9734	Fax #	510-337-9335

June 3, 1994

Ms. Wannetta Hall
Scooter Wilson's Auto Repair
3600 MacArthur Blvd.
Oakland, CA 94619

State Water Resources Control Board
Division of Clean Water Programs
UST Local Oversight Program
80 Swan Way, Rm 200
Oakland, CA 94621
(510) 271-4530

STID 1289

Re: Required investigations at 3600 MacArthur Blvd., Oakland, California

Dear Ms. Hall,

On March 31, 1994, four underground storage tanks (USTs) were removed from the above site: two 8,000-gallon gasoline USTs, one 6,000-gallon diesel UST, and one 100-gallon waste oil UST. Soil and ground water samples were collected from the tank pits. Analysis of samples identified up to 5,000 parts per million (ppm) Total Petroleum Hydrocarbons as gasoline (TPHg) and 330 ppm Total Petroleum Hydrocarbons as diesel (TPHd) in the tank pit soil samples, and up to 2,000 parts per billion (ppb) TPHg in the ground water samples.

Guidelines established by the California Regional Water Quality Control Board (RWQCB) require that soil and ground water investigations be conducted when there is evidence to indicate that a release has impacted the ground water.

You are required to conduct a Preliminary Site Assessment (PSA) to determine the lateral and vertical extent and severity of both soil and ground water contamination resulting from the release at the site. The information gathered by the PSA will be used to determine an appropriate course of action to remediate the site, if deemed necessary. The PSA must be conducted in accordance with the RWQCB's Staff Recommendations for the Initial Evaluation and Investigation of Underground Tanks, and be consistent with requirements set forth in Article 11 of Title 23, California Code of Regulations. The major elements of such an investigation are summarized in the attached Appendix A. The major elements of the guidelines include, but are not limited to, the following:

- o At least one ground water monitoring well must be installed within 10 feet of the observed soil contamination, oriented in the confirmed downgradient direction relative to ground water flow. In the absence of neighboring monitoring wells located within 100 feet of the site, or any other data identifying the confirmed downgradient direction, a minimum of three wells will be required to verify gradient

Wannetta Hall
Re: 3600 MacArthur
June 3, 1994
Page 2 of 4

direction. During the installation of these wells, soil samples are to be collected at five-foot-depth intervals and any significant changes in lithology.

- o Subsequent to the installation of the monitoring wells, these wells must be surveyed to an established benchmark, (i.e., Mean Sea Level) with an accuracy of 0.01 foot. Ground water samples are to be collected and analyzed quarterly, and water level measurements are to be collected monthly for the first three months, and then quarterly thereafter. If the initial ground water elevation contours indicate that ground water flow directions vary greatly than you will be required to continue monthly water level measurements until the ground water gradient behavior is known. Both soil and ground water samples must be analyzed for TPHg, TPHd, TOG, and BTEX.

This Department will oversee the assessment and remediation of your site. Our oversight will include the review of and comment on work proposals and technical guidance on appropriate investigative approaches and monitoring schedules. The issuance of well drilling permits, however, will be through the Alameda County Flood Control and Water Conservation District, Zone 7, in Pleasanton. The RWQCB may choose to take over as lead agency if it is determined, following the completion of the initial assessment, that there has been a substantial impact to ground water.

In order to properly conduct a site investigation, you are required to obtain professional services of a reputable environmental consultant. All reports and proposals must be submitted under seal of a California-Registered Geologist, -Certified Engineering Geologist, or -Registered Civil Engineer.

The PSA proposal is due within 60 days of the date of this letter. Once the proposal is approved, field work should commence within 60 days. A report must be submitted within 45 days after the completion of this phase of work at the site. Subsequent reports are to be submitted quarterly until this site qualifies for final RWQCB "sign-off". Such quarterly reports are due the first day of the second month of each subsequent quarter.

The referenced initial and quarterly reports must describe the status of the investigation and must include, among others, the following elements:

Wannetta Hall
RE: 3600 MacArthur
June 3, 1994
Page 3 of 4

- o Details and results of all work performed during the designated period of time: records of field observations and data, boring and well construction logs, water level data, chain-of-custody forms, laboratory results for all samples collected and analyzed, tabulations of free product thicknesses and dissolved fractions, etc.
- o Status of ground water contamination characterization.
- o Interpretations of results: water level contour maps showing gradients, free and dissolved product plume definition maps for each target component, geologic cross sections, etc.
- o Recommendations or plans for additional investigative work or remediation.

Please be advised that this is a formal request for a work plan pursuant to Section 2722 (c)(4) of Title 23 California Code of Regulations. Any extensions of the stated deadlines, or modifications of the required tasks, must be confirmed in writing by either this agency or RWQCB.

Lastly, it is the understanding of this office that the product piping at the site has not yet been removed. You are required to remove this piping and collect samples beneath this piping (one sample per every 20 feet of piping). Additionally, unacceptable contaminant levels were identified in the excavated soil from the waste oil tank pit. You are required to properly dispose of this soil at a certified facility and remove the piping within 45 days of the date of this letter. You must notify this office at least one week in advance of this work so that a County representative can be present at the site to observe this work.

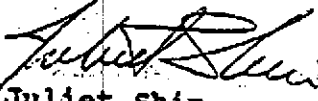
The State Water Resources Control Board has a Petroleum Underground Storage Tank Cleanup Fund available to sites to assist in investigations and cleanup. This office encourages you to look into applying to this fund. The address and phone number of the trust fund is:

Wannetta Hall
Re: 3600 MacArthur
June 3, 1994
Page 4 of 4

State Water Resources Control Board
Division of Clean Water Programs
UST Cleanup Fund Program
2014 T Street, Ste 130
P.O. Box 944212
Sacramento, CA 94244-2120
(916) 227-4307

If you have any questions about the fund, you can contact Blessey Torres at (916) 227-4535. Any other questions can be directed to me at (510) 271-4530.

Sincerely,



Juliet Shin
Hazardous Materials Specialist

cc: Terry Hamilton
SEMCO
1741 Leslie St.
San Mateo, CA 94402
Edgar Howell-File(JS)



ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION

951 TURNER COURT, SUITE 300, HAYWARD, CA 94545-2661
PHONE (510) 670-5575 ANDREAS GODFREY FAX (510) 670-5262
(510) 670-5248 ALVIN KAN

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT
SCOOTER'S AUTO REPAIR
3600 MACARTHUR BL, OAKLAND, CA.

PERMIT NUMBER 98WR387
WELL NUMBER _____
APN _____

California Coordinates Source _____ ft. Accuracy ± _____ ft.
CCN _____ ft. CCE _____ ft.
APN 43724735 N., 122° 11' 58" W

PERMIT CONDITIONS

Circled Permit Requirements Apply

CLIENT
Name WANNETTA HALL
Address 3600 MACARTHUR BL. Phone 510-532-1643
City OAKLAND, CA. Zip 94619

- A. GENERAL**
 1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
 2. Submit to ACPWA within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects.
 3. Permit is void if project not begun within 90 days of approval date.

APPLICANT
Name HK2/SEMCO
Address 70 CHEMICAL WAY Fax 510-261-0735
City REDWOOD CITY, CA Phone 650-261-1960
Zip 94063

- B. WATER SUPPLY WELLS**
 1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
 2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

TYPE OF PROJECT

Well Construction	<input type="checkbox"/>	Geotechnical Investigation	<input type="checkbox"/>
Cathodic Protection	<input type="checkbox"/>	General	<input type="checkbox"/>
Water Supply	<input type="checkbox"/>	Contamination	<input checked="" type="checkbox"/>
Monitoring	<input checked="" type="checkbox"/>	Well Destruction	<input type="checkbox"/>

- C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS**
 1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
 2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

PROPOSED WATER SUPPLY WELL USE

New Domestic	<input type="checkbox"/>	Replacement Domestic	<input type="checkbox"/>
Municipal	<input type="checkbox"/>	Irrigation	<input type="checkbox"/>
Industrial	<input type="checkbox"/>	Other	<input type="checkbox"/>

- D. GEOTECHNICAL**
Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremie cement grout shall be used in place of compacted cuttings.

DRILLING METHOD:

Mud Rotary	<input type="checkbox"/>	Air Rotary	<input type="checkbox"/>	Auger	<input checked="" type="checkbox"/>
Cable	<input type="checkbox"/>	Other	<input checked="" type="checkbox"/>	(Percussion)	

- E. CATHODIC**
Fill hole above anode zone with concrete placed by tremie.

DRILLER'S LICENSE NO. C-57 719103

- F. WELL DESTRUCTION**
See attached.

WELL PROJECTS

Drill Hole Diameter	<u>6 to 8</u> in.	Maximum Depth	<u>20</u> ft.
Casing Diameter	<u>3</u> in.	Number	<u>4</u>
Surface Seal Depth	<u>3.5</u> ft.		

- G. SPECIAL CONDITIONS**

GEOTECHNICAL PROJECTS

Number of Borings	<u>3</u>	Maximum Depth	<u>20</u> ft.
Hole Diameter	<u>2.5</u> in.		

ESTIMATED STARTING DATE SEPT. 15, 1998
ESTIMATED COMPLETION DATE SEPT. 16, 1998

APPROVED Alvin Kan DATE 9/14/98

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [Signature] DATE 8.24.98

NOTE: DEPTH TO GROUNDWATER REPORTED 2 TO 5 FEET BELOW GRADE IN WELLS ~ 100 FEET NORTH OF PROJECT LOCATION.

APPENDIX B

**GENERAL FIELD PROCEDURES, BORING LOGS, AND
CDWR WELL COMPLETION REPORTS**

GENERAL FIELD PROCEDURES

SOIL SAMPLING

Borings are either hand augered, percussion drilled (typically 2.5-inch-diameter borings) or drilled with solid- or hollow-stem augers (typically 6- to 8-inch-diameter borings). In percussion drilling soil samples are collected by hydraulically hammering a 2-foot-long, 1-inch-inner-diameter split-spoon sampler lined with a plastic tube. The plastic tube is removed from the sampler, cut, and the open ends covered with Teflon tape and plastic caps. If a hand auger or solid-stem auger is used, then the soil samples are either collected by hand driving a metal-tube-lined slide hammer into the bottom of the borehole after the auger is withdrawn (borings <6 feet) or by driving a metal tube into the soil cuttings adhering to the auger flight. The tubes are then capped with teflon tape and plastic caps. If hollow-stem augers are used, soil samples are typically collected by driving a metal-tube-lined split-spoon sampler with a 140-pound hammer falling 30 inches. Again, the samples are capped with teflon tape and plastic caps.

Soil samples are collected at a minimum frequency of once every 5 feet, but may also be collected at changes in lithology and within the capillary fringe. The date, project number, and sample identification number are written on each sample and a chain of custody form and the sample is placed in a cooler chilled to approximately 4° C. Soil adjacent to the sample is screened by an organic vapor analyzer and described using the Unified Soil Classification System. Drilling rods, augers, and samplers are cleaned in a hot water pressure washer or cleaned with a phosphate free TSP or Alconox cleaning solution and rinsed with potable water prior to drilling each boring or collecting each sample.

FLUID-LEVEL MONITORING AND GROUNDWATER SAMPLING

Fluid-levels in monitoring wells are measured using an electronic probe or fiberglass tape coated with pastes that indicate the presence of water or free product. Depth to fluid is measured from the top of the well casing which is typically surveyed to a local Bench Mark.

Monitoring wells are sampled in accordance with the guidelines established by the local oversight agency. If well purging is required before the well water can be sampled, then the temperature, pH, and specific conductance of the well water is measured before the well is purged and after every ½ casing or borehole volume of groundwater is purged from the well. Well purging is terminated when successive physical parameter measurements vary by less than 10%, the well does not recharge to 80% of its pre-purged volume within two hours, or when three well casing or borehole volumes of fluid have been removed. The purged water is either pumped directly into a vacuum truck or into labeled drums which are temporarily stored onsite.

Groundwater samples are collected immediately after purging is terminated. The samples are generally collected by lowering a bottom-fill, check-valve-equipped, stainless steel or disposable

Teflon bailer into the well to just below the water level. However, a peristaltic pump may be used to collect groundwater samples from wells <2 inches in diameter. The samples are carefully transferred to 40-milliliter to 1-liter glass containers, filled to zero-headspace, and fitted with Teflon-lined caps. The project and sample number, date of collection, and sampler's initials are written on each sample and the chain of custody record. The samples are placed in a cooler and chilled to approximately 4° C until they are delivered to a state-certified laboratory for analysis.

WASTE GENERATION AND DISPOSAL

Soil cuttings generated during drilling activities are either temporarily stored onsite in 55-gallon drums or stockpiled onsite. If the cuttings are drummed, then a label is affixed to each drum indicating contents, accumulation date, consultant, consultant phone number, and site address. If the cuttings are stockpiled, then they are placed on and covered by visqueen secured with sandbags. The drummed or stockpiled soil is either disposed of onsite (if permitted by the local oversight agency) or transported to an appropriate disposal facility based on the laboratory results of soil sample analysis. A copy of each waste manifest is submitted to the local oversight agency.

Well purge water and equipment wash and rinse water is pumped into a vacuum truck or temporarily stored onsite in labeled 55-gallon drums. The label indicates drum contents, accumulation date, consultant, consultant phone number, and site address. The fluid in the drums is either discharged onsite (if permitted by the local oversight agency), discharged to the sewer (if permitted by the local wastewater agency), or transported to an appropriate disposal facility based on the laboratory results of groundwater sample analysis. A copy of each waste manifest is submitted to the local oversight agency.

Depth (fbg)	Recovery/ Sample ID	Blow Counts	Organic Vapor (ppm)	USCS Soil Type	Description	Boring Backfill Detail
1		(Hand Auger)			Concrete (6 inches) Pea gravel	Concrete
	B1-2		166	ML	Moist, olive gray (5Y 3/2), clayey SILT	Portland Type I-II Cement
5	NR				Rock fragments in split-spoon shoe	
	B1-7		87	SM/SC	Moist, grayish olive (10Y 4/2), clayey, silty SAND with gravel	
	NR				Rock fragments in split-spoon shoe	
10	NR				Rock fragments in split-spoon shoe	
	B1-12		0	SM/SC	Moist, moderate olive brown (5Y 4/4), clayey, silty SAND with gravel	Native Soil (Caved Formation)
	NR				Rock fragments in split-spoon shoe	
15	B1-14		0	ML/CL	Moist, moderate yellowish brown (10YR 5/4) to dark yellowish orange (10YR 6/6), sandy, clayey, SILT / silty CLAY with gravel (rock fragments)	
					Total Boring Depth = 15 fbg	2 inches
20						
25						

BORING NUMBER: B1

LOCATION: Scooter's Auto Repair
3600 MacArthur Blvd., Oakland, CA

PROJECT NO: 97-0187.1

DRILLING CONTRACTOR: HK2, Inc./SEMCO

DRILLING METHOD: Percussion

DRILLING DATE: October 6, 1998

LOGGED BY: B. Wheeler / D. Milano

LEGEND:

fbg = feet below grade

ppm = parts per million

NR = no recovery

Depth (fbg)	Recovery/ Sample ID	Blow Counts	Organic Vapor (ppm)	USCS Soil Type	Description	Well Construction Detail
1		(Hand Auger)			Concrete (5 inches)	
	B2-2.5		0	ML	Moist, brownish black (5YR 2/1), slightly clayey SILT	
	B2-4.5		0	ML	Moist, olive gray (5Y 3/2), clayey SILT	
5			0	CL	Moist, moderate olive brown (5Y 4/4), silty CLAY	
	B2-7	10,21,26	7,300	CL	Moist, stiff to hard, moderate olive brown (5Y 4/4) to light olive gray (5Y 5/2), sandy, silty CLAY with gravel	
10	B2-10	13,15,15	767	SM/SC	Wet, medium dense, pale yellowish brown (10YR 6/2) and grayish yellow (5Y 8/4), clayey, silty SAND with gravel	
	B2-13	13,13,23	0	CL	Wet, very stiff, light brown (5YR 5/6), sandy, silty CLAY	
15					Total Depth of Boring = 14 fbg Total Well Depth = 14 fbg	8.25 inches
20						
25						

BORING / WELL NUMBER: B2 / MW-1

LOCATION: Scooter's Auto Repair
3600 MacArthur Blvd., Oakland, CA

PROJECT NO: 97-0187.1

DRILLING CONTRACTOR: V&W Drilling, Inc.

DRILLING METHOD: 4.25-inch-I.D. Hollow-stem Auger

DRILLING DATE: November 4, 1998

LOGGED BY: B. Wheeler / D. Milano

LEGEND:

fbg = feet below grade

ppm = parts per million

▼ = approximate depth to groundwater
measured on November 12, 1998.

Depth (fbg)	Recovery/ Sample ID	Blow Counts	Organic Vapor (ppm)	USCS Soil Type	Description	Well Construction Detail
1					Asphalt (4 inches)	
	B3-2.5	(Hand Auger)	0	CL	Moist, moderate yellowish brown (10YR 5/4), silty CLAY with trace sand	
5	B3-4.5		0	CL	Moist, pale olive (10Y 6/2), silty CLAY with trace sand and fine gravel	
	B3-7	16,30,35	313	GC	Moist to wet, silty, clayey GRAVEL with sand; matrix predominantly grayish olive (10Y 4/2)	
10	B3-10	18,14,10	0	SM/SC	Wet, medium dense, moderate yellowish brown (10YR 5/4), clayey, silty SAND with gravel	
	B3-13	14,18,20	0	ML	Moist to wet, very stiff to hard, dark yellowish orange (10YR 6/6) to light brown (5YR 5/6), sandy, clayey SILT with trace gravel	
15					Total Depth of Boring = 14 fbg Total Well Depth = 14 fbg	8.25 inches
20						
25						

BORING / WELL NUMBER: B3 / MW-2

LOCATION: Scooter's Auto Repair
3600 MacArthur Blvd., Oakland, CA

PROJECT NO: 97-0187.1

DRILLING CONTRACTOR: V&W Drilling, Inc.

DRILLING METHOD: 4.25-inch-I.D. Hollow-stem Auger

DRILLING DATE: November 4, 1998

LOGGED BY: B. Wheeler / D. Milano

LEGEND:

fbg = feet below grade

ppm = parts per million

▼ = approximate depth to groundwater measured on November 12, 1998.

Depth (fbg)	Recovery/ Sample ID	Blow Counts	Organic Vapor (ppm)	USCS Soil Type	Description	Well Construction Detail
1	B4-2.5	(Hand Auger)	0	SM	Asphalt (3 inches) Silty SAND with gravel	
			0	CL	Damp, moderate yellowish brown (10YR 5/4), silty CLAY with trace sand	
5	B4-4.5		0	GC	Moist, moderate yellowish brown (10YR 5/4), silty, clayey GRAVEL with a trace amount of sand and moist, dusky yellow (5Y 6/4), silty, clayey SAND with gravel	
			0	SC		
	B4-7	15,17,21	0	SC	Moist, medium dense, moderate yellowish brown (10YR 5/4), clayey, fine- to coarse-grained SAND with gravel	
10	B4-10	11,14,26	0	SM/SC	Moist, very stiff to hard, dark yellowish orange (10YR 6/6), clayey, silty SAND with gravel (Rock fractured with split spoon?)	
			0	ML		
	B4-13	9,11,13	0	CL	Wet, very stiff, moderate yellowish brown (10YR 5/4), sandy, clayey SILT with trace gravel and sandy, silty CLAY with a trace amount of gravel	
15					Total Depth of Boring = 14 fbg Total Well Depth = 14 fbg	
20						
25						

BORING / WELL NUMBER: B4 / MW-3

LOCATION: Scooter's Auto Repair
3600 MacArthur Blvd., Oakland, CA

PROJECT NO: 97-0187.1

DRILLING CONTRACTOR: V&W Drilling, Inc.

DRILLING METHOD: 4.25-inch-I.D. Hollow-stem Auger

DRILLING DATE: November 4, 1998

LOGGED BY: B. Wheeler / D. Milano

LEGEND:

fbg = feet below grade

ppm = parts per million

▼ = approximate depth to groundwater measured on November 12, 1998.

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

APPENDIX C

LABORATORY REPORTS AND CHAIN OF CUSTODY RECORDS



C E R T I F I C A T E O F A N A L Y S I S

Lab Number: 98-1297
Client: Semco
Project: #97-0187.1 / Wannetta Hall
3600 MacArthur Blvd, Oakland, CA
Date Reported: 10/30/98

Gasoline, BTEX and MTBE by Methods 8015M and 8020
Diesel, Motor Oil Hydrocarbons by Method 8015M

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 98-1297-01 Client ID: B1-7				10/06/98	SOIL
Gasoline	8015M	37	mg/Kg		10/13/98
Benzene	8020	0.03	mg/Kg		
Ethylbenzene	8020	0.2	mg/Kg		
MTBE	8020	ND			
Toluene	8020	0.018	mg/Kg		
Xylenes	8020	0.32	mg/Kg		
Diesel	8015M	24	mg/Kg		10/13/98
Motor Oil	8015M	ND			
Sample: 98-1297-02 Client ID: B1-12				10/06/98	SOIL
Gasoline	8015M	ND			10/13/98
Benzene	8020	ND			
Ethylbenzene	8020	ND			
MTBE	8020	ND			
Toluene	8020	ND			
Xylenes	8020	ND			
Diesel	8015M	ND			10/13/98
Motor Oil	8015M	ND			



North State Environmental
Chemical Waste Disposal · Trucking · Consulting

CERTIFICATE OF ANALYSIS

Quality Control/Quality Assurance

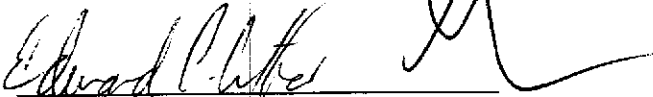
Lab Number: 98-1297
Client: Semco
Project: #97-0187.1 / Wannetta Hall
3600 MacArthur Blvd, Oakland, CA
Date Reported: 10/30/98

Gasoline, BTEX and MTBE by Methods 8015M and 8020
Diesel, Motor Oil Hydrocarbons by Method 8015M

Analyte	Method	Reporting Limit	Unit	Blank	MS/MSD Recovery	RPD
Gasoline	8015M	0.5	mg/Kg	ND	112	6
Benzene	8020	.005	mg/Kg	ND	106	9
Ethylbenzene	8020	.005	mg/Kg	ND	91	9
Toluene	8020	.005	mg/Kg	ND	92	11
Xylenes	8020	.010	mg/Kg	ND	99	12
MTBE	8020	.005	mg/Kg	ND	120	9
Diesel	8015M	1	mg/Kg	ND	90	1
Motor Oil	8015M	10	mg/Kg	ND	90	1

ELAP Certificate NO:1753

Reviewed and Approved


John A. Murphy, Laboratory Director

Page 2 of 2



North State Environmental Analytical Laboratory

Phone: (415) 588-9652 Fax: (415) 588-1950

98-1297

Chain of Custody / Request for Analysis

Lab Job No.: _____ Page 1 of 1

Client: HRZ, INC.	Report to: D. MILANO	Phone: 650.261.1968	Turnaround Time
Mailing Address: 70 CHEMICAL WAY REDWOOD CITY, CA 94063	Billing to: SEMCO MODESTO, CA	Fax: 650.261.0735	STANDARD
		PO# / Billing Reference: 97-0187.1	Date: 10/7/98
			Sampler: B WHEELER

Project / Site Address: **WANNETTA HALL
3600 MACARTHUR BLVD.
OAKLAND, CA**

Analysis Requested

Sample ID	Sample Type	Container No. / Type	Pres.	Sampling Date / Time	TPH-G (5000/8015M)	TPH-D/140 (3550/8015M)	STEX/140 (8020)	Comments/Hazards
1 2 131-7	SOIL	PLASTIC TUBE	4°C	10/6/98 11:51	X	X	X	SAMPLE END OF TUBE AS MARKED
131-12	SOIL	PLASTIC TUBE	4°C	10/6/98 12:20	X	X	X	
* ANALYZE HIGHEST TPH-G FOR TOTAL LEAD, UNLESS TPH-G = ND								

Relinquished by: <i>[Signature]</i>	Date: 10/7/98	Time: 1:15 PM	Received by: <i>[Signature]</i>	Lab Comments
Relinquished by:	Date:	Time:	Received by:	
Relinquished by:	Date:	Time:	Received by:	

EMSL ANALYTICAL, INC

1720 S. Amphlett Blvd. Suite 130 San Mateo, CA 94402
Phone (650)570-5401 Fax (650)570-5402



EMSL

North State Environmental
90 South Spruce Ave., Suite W
South San Francisco, CA 94080

10/30/98

Reference number: CA987499

Attention: John Stetz


ATOMIC ABSORPTION SPECTROMETRY (AAS) LEAD (Pb) IN SOIL SAMPLES METHOD SW846-3050-7420

Project:

Sample ID	Sample Weight (g)	Volume (ml)	Dilution Factor	Concentration (mg/l)	Results (mg/kg) (ppm)
98-1297-1B1-7	1.3749	50	1	0.2	< 10
EMSL Blank	0	50	1	0.0	< 10 mg/kg

mg/kg-milligrams per kilogram

ppm-parts per million

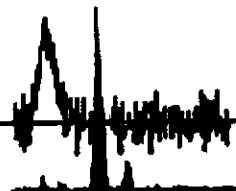


Analyst



Approved Signature

ACCREDITATIONS: CA ELAP #1620, AIHA ELPAT/PAT #11128





CA987499

North State Environmental Analytical Laboratory

Phone: (415) 588-9652 Fax: (415) 588-1950

To: EMSL

Chain of Custody / Request for Analysis

Lab Job No.: _____ Page ___ of ___

Client: NSE	Report to: S. Murphy	Phone: 650.266.4563	Turnaround Time
Mailing Address: 905 Spruce Ave. STEW SSF CA 94083	Billing to:	Fax: 650.266.4560	STD 5-day
		PO# / Billing Reference: 98-1297	Date: 10/23/98
			Sampler:

Project / Site Address:					Analysis Requested				Comments/Hazards
Sample ID	Sample Type	Container No. / Type	Pres.	Sampling Date / Time	Total Lead				
98-1297-1/B1-2	Soil	1G5	—	10/6/98	X				

Relinquished by: Edward [Signature]	Date: 10/23 Time: 11:27	Received by: [Signature] 10/23 11:31 AM	Lab Comments
Relinquished by:	Date: Time:	Received by:	
Relinquished by:	Date: Time:	Received by:	



North State Environmental
Chemical Waste Disposal • Trucking • Consulting

C E R T I F I C A T E O F A N A L Y S I S

Lab Number: 98-1459
Client: Semco
Project: #97-0187.1 / Wannetta Hall
3600 MacArthur Blvd, Oakland, CA
Date Reported: 11/12/98

Gasoline, BTEX and MTBE by Methods 8015M and 8020
Diesel, Motor Oil Hydrocarbons by Method 8015M
California WET Extraction and Chromium by AA Spectroscopy

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 98-1459-01 Client ID: B2-4.5				11/04/98	SOIL
Gasoline	8015M	23	mg/Kg		11/06/98
Benzene	8020	0.054	mg/Kg		
Ethylbenzene	8020	1	mg/Kg		
MTBE	8020	ND			
Toluene	8020	0.065	mg/Kg		
Xylenes	8020	2	mg/Kg		
Diesel	8015M	*42	mg/Kg		11/06/98
Motor Oil	8015M	ND			
Sample: 98-1459-02 Client ID: B2-7				11/04/98	SOIL
Gasoline	8015M	930	mg/Kg		11/06/98
Benzene	8020	10	mg/Kg		
Ethylbenzene	8020	25	mg/Kg		
MTBE	8020	ND<0.125	mg/Kg		
Toluene	8020	4	mg/Kg		
Xylenes	8020	27	mg/Kg		
Lead	7420	13	mg/Kg		11/23/98
Diesel	8015M	*390	mg/Kg		11/06/98
Motor Oil	8015M	ND			



North State Environmental
Chemical Waste Disposal - Trucking - Consulting

C E R T I F I C A T E O F A N A L Y S I S

Lab Number: 98-1459
Client: Semco
Project: #97-0187.1 / Wannetta Hall
3600 MacArthur Blvd, Oakland, CA
Date Reported: 11/12/98

Gasoline, BTEX and MTBE by Methods 8015M and 8020
Diesel, Motor Oil Hydrocarbons by Method 8015M
California WET Extraction and Chromium by AA Spectroscopy

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 98-1459-03 Client ID: B2-10					
Gasoline	8015M	10	mg/Kg	11/04/98	11/06/98
Benzene	8020	0.11	mg/Kg		
Ethylbenzene	8020	0.075	mg/Kg		
MTBE	8020	ND			
Toluene	8020	ND			
Xylenes	8020	0.07	mg/Kg		
Diesel	8015M	*4	mg/Kg		11/06/98
Motor Oil	8015M	ND			
Sample: 98-1459-04 Client ID: B3-4.5					
Gasoline	8015M	1	mg/Kg	11/04/98	11/06/98
Benzene	8020	ND			
Ethylbenzene	8020	ND			
MTBE	8020	ND			
Toluene	8020	ND			
Xylenes	8020	ND			
Diesel	8015M	ND			11/06/98
Motor Oil	8015M	ND			



North State Environmental
Chemical Waste Disposal • Trucking • Consulting

C E R T I F I C A T E O F A N A L Y S I S

Lab Number: 98-1459
Client: Semco
Project: #97-0187.1 / Wannetta Hall
3600 MacArthur Blvd, Oakland, CA
Date Reported: 11/12/98

Gasoline, BTEX and MTBE by Methods 8015M and 8020
Diesel, Motor Oil Hydrocarbons by Method 8015M
California WET Extraction and Chromium by AA Spectroscopy

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 98-1459-05 Client ID: B3-7				11/04/98	SOIL
Gasoline	8015M	33	mg/Kg		11/06/98
Benzene	8020	0.32	mg/Kg		
Ethylbenzene	8020	0.12	mg/Kg		
MTBE	8020	ND			
Toluene	8020	0.03	mg/Kg		
Xylenes	8020	0.5	mg/Kg		
Lead	7420	11	mg/Kg		11/23/98
Diesel	8015M	*8	mg/Kg		11/06/98
Motor Oil	8015M	ND			
Sample: 98-1459-06 Client ID: B3-10				11/04/98	SOIL
Gasoline	8015M	ND			11/06/98
Benzene	8020	ND			
Ethylbenzene	8020	ND			
MTBE	8020	ND			
Toluene	8020	ND			
Xylenes	8020	ND			
Diesel	8015M	ND			11/06/98
Motor Oil	8015M	ND			



North State Environmental
Chemical Waste Disposal Trucking Consulting

C E R T I F I C A T E O F A N A L Y S I S

Lab Number: 98-1459
Client: Semco
Project: #97-0187.1 / Wannetta Hall
3600 MacArthur Blvd, Oakland, CA
Date Reported: 11/12/98

Gasoline, BTEX and MTBE by Methods 8015M and 8020
Diesel, Motor Oil Hydrocarbons by Method 8015M
California WET Extraction and Chromium by AA Spectroscopy

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 98-1459-07 Client ID: B4-4.5					
Gasoline	8015M	ND		11/04/98	11/06/98
Benzene	8020	ND			
Ethylbenzene	8020	ND			
MTBE	8020	ND			
Toluene	8020	ND			
Xylenes	8020	ND			
Diesel	8015M	*4	mg/Kg		11/06/98
Motor Oil	8015M	ND			
Sample: 98-1459-08 Client ID: B4-7					
Gasoline	8015M	1	mg/Kg	11/04/98	11/06/98
Benzene	8020	ND			
Ethylbenzene	8020	0.02	mg/Kg		
MTBE	8020	ND			
Toluene	8020	ND			
Xylenes	8020	0.02	mg/Kg		
Diesel	8015M	ND			11/06/98
Motor Oil	8015M	ND			



North State Environmental
Chemical Waste Disposal • Trucking • Consulting

C E R T I F I C A T E O F A N A L Y S I S

Lab Number: 98-1459
Client: Semco
Project: #97-0187.1 / Wannetta Hall
3600 MacArthur Blvd, Oakland, CA
Date Reported: 11/12/98

Gasoline, BTEX and MTBE by Methods 8015M and 8020
Diesel, Motor Oil Hydrocarbons by Method 8015M
California WET Extraction and Chromium by AA Spectroscopy

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 98-1459-09 Client ID: B4-10				11/04/98	SOIL
Gasoline	8015M	1	mg/Kg		11/06/98
Benzene	8020	ND			
Ethylbenzene	8020	ND			
MTBE	8020	ND			
Toluene	8020	ND			
Xylenes	8020	ND			
Diesel	8015M	ND			11/06/98
Motor Oil	8015M	ND			
Sample: 98-1459-10 Client ID: B5-2.5				11/04/98	SOIL
STLC Chromium	7190	0.08	mg/L		11/11/98
Motor Oil	8015M	200	mg/Kg		11/06/98



North State Environmental
Chemical Waste Disposal · Trucking · Consulting

CERTIFICATE OF ANALYSIS

Quality Control/Quality Assurance

Lab Number: 98-1459
Client: Semco
Project: #97-0187.1 / Wannetta Hall
3600 MacArthur Blvd, Oakland, CA
Date Reported: 11/12/98

Gasoline, BTEX and MTBE by Methods 8015M and 8020
Diesel, Motor Oil Hydrocarbons by Method 8015M
California WET Extraction and Chromium by AA Spectroscopy

Analyte	Method	Reporting Limit	Unit	Blank	MS/MSD Recovery	RPD
Gasoline	8015M	0.5	mg/Kg	ND	97	2
Benzene	8020	.005	mg/Kg	ND	88	1
Ethylbenzene	8020	.005	mg/Kg	ND	74	1
Toluene	8020	.005	mg/Kg	ND	76	9
Xylenes	8020	.010	mg/Kg	ND	78	2
MTBE	8020	.005	mg/Kg	ND	84	0
Diesel	8015M	1	mg/Kg	ND	91	0.1
Motor Oil	8015M	10	mg/Kg	ND	85	6
STLC Chromium	7190	0.05	mg/L	ND	97/90	7
Lead	7420	1.0	mg/Kg	ND	122/128	5

ELAP Certificate NO:1763

Reviewed and Approved

John A. Murphy, Laboratory Director

Page 6 of 6

P. O. Box 5624 • South San Francisco, California 94083 • 650-588-2838 FAX 588-1950



North State Environmental Analytical Laboratory

Phone: (415) 588-9652 Fax: (415) 588-1950

98-1459

Chain of Custody / Request for Analysis

Lab Job No.: _____ Page ____ of ____

Client: HRZ, INC.	Report to: D. MILANO	Phone: 650.241.1968	Turnaround Time
Mailing Address: 70 CHEMICAL WAY REDWOOD CITY, CA 94063	Billing to: SIEMCO MODESTO, CA	Fax: 650.241.0735	STANDARD
		PO# / Billing Reference: 97-0187.1	Date: 11/05/98
			Sampler: B. WHITELER

Project / Site Address: **WANNETTA HALL
3600 MACARTHUR BLD.
OAKLAND, CA**

Analysis Requested

Sample ID	Sample Type	Container No. / Type	Pres.	Sampling Date / Time	TPH-G (500/2015H)	TPH-D/MO (500/2015H)	STRENGTH (8020)	TPH-MO (2550/2015H)	SOLUBLE CR (TABLE 22.207)	Comments/Hazards
1 32-4.5	SOIL	1 B.T.	4°C	11/4/98 - 11:35	X	X	X			* PLEASE RETURN ALL SAMPLES AFTER FIELD COMPLETION. SEE ATTACHED ADDITIONAL NOTES.
2 32-7				11:50	X	X	X			
3 32-10				11:55	X	X	X			
4 33-4.5					X	X	X			
5 33-7				10:15	X	X	X			
6 33-10				10:25	X	X	X			
7 34-4.5				14:30	X	X	X			
8 34-7				14:45	X	X	X			
9 34-10				14:50	X	X	X			
10 35-2.5				15:15				X	X	

① ~~ANALYZE HIGHEST TPH-G CONCENTRATION OF SAMPLES 32-, 33-, AND 34- FOR TOTAL PB IF TPH-G > 5,000 mg/kg.~~

② ANALYZE HIGHEST TPH-D/MO CONCENTRATION OF SAMPLES 32-, 33-, AND 34- FOR PAHS IF TPH-D/MO > 1,000 mg/kg.

Relinquished by: [Signature]	Date: 11/4/98 Time: 10:10	Received by: [Signature]	Lab Comments
Relinquished by:	Date: Time:	Received by:	
Relinquished by:	Date: Time:	Received by:	

NSR LABS



North State Environmental
 Chemical Waste Disposal • Trucking • Consulting

C E R T I F I C A T E O F A N A L Y S I S

Lab Number: 98-1503
 Client: Semco
 Project: Wannetta Hall /97-0187

Date Reported: 11/30/98

Gasoline, BTEX and MTBE by Methods 8015M and 8020
 Diesel, Motor Oil Range Hydrocarbons by Method 8015M
 Total Cd, Cr, Ni, Pb, Zn by AA Spectroscopy
 Total Dissolved Solids by Method 160.1
 Lead by Method 7420 AA Spectroscopy

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 98-1503-01 Client ID: MW1-W				11/12/98	WATER
Gasoline	8015M	6200	ug/L		11/19/98
Benzene	8020	420	ug/L		
Ethylbenzene	8020	ND			
MTBE	8020	ND			
Toluene	8020	47	ug/L		
Xylenes	8020	210	ug/L		
Lead	7420	ND			11/19/98
Diesel	8015M	0.54	mg/L		
Motor Oil	8015M	ND			
Sample: 98-1503-02 Client ID: MW2-W				11/12/98	WATER
Gasoline	8015M	ND			11/19/98
Benzene	8020	ND			
Ethylbenzene	8020	ND			
MTBE	8020	ND			
Toluene	8020	ND			
Xylenes	8020	ND			
Lead	7420	ND			11/19/98
Diesel	8015M	ND			11/20/98
Motor Oil	8015M	ND			



North State Environmental
 Chemical Waste Disposal • Trucking • Consulting

C E R T I F I C A T E O F A N A L Y S I S

Lab Number: 98-1503
 Client: Semco
 Project: Wannetta Hall /97-0187

Date Reported: 11/30/98

Gasoline, BTEX and MTBE by Methods 8015M and 8020
 Diesel, Motor Oil Range Hydrocarbons by Method 8015M
 Total Cd, Cr, Ni, Pb, Zn by AA Spectroscopy
 Total Dissolved Solids by Method 160.1
 Lead by Method 7420 AA Spectroscopy

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 98-1503-03		Client ID: MW3-W		11/12/98	WATER
Cadmium	7130	ND			11/19/98
Chromium	7190	ND			
Lead	7420	ND			
Nickel	7520	ND			
Zinc	7950	ND			
Gasoline	8015M	ND			11/19/98
Benzene	8020	ND			
Ethylbenzene	8020	ND			
MTBE	8020	ND			
Toluene	8020	ND			
Xylenes	8020	ND			
Solids	160.1	1200	mg/L		11/19/98
Diesel	8015M	ND			11/20/98
Motor Oil	8015M	ND			



North State Environmental
Chemical Waste Disposal · Trucking · Consulting

CERTIFICATE OF ANALYSIS

Quality Control/Quality Assurance

Lab Number: 98-1503
Client: Semco
Project: Wannetta Hall /97-0187

Date Reported: 11/30/98

Gasoline, BTEX and MTBE by Methods 8015M and 8020
Diesel, Motor Oil Range Hydrocarbons by Method 8015M
Total Cd, Cr, Ni, Pb, Zn by AA Spectroscopy
Total Dissolved Solids by Method 160.1
Lead by Method 7420 AA Spectroscopy

Analyte	Method	Reporting Limit	Unit	Blank	MS/MSD Recovery	RPD
Gasoline	8015M	50	ug/L	ND	97	3
Benzene	8020	0.5	ug/L	ND	104	4
Ethylbenzene	8020	0.5	ug/L	ND	104	3
Toluene	8020	0.5	ug/L	ND	104	16
Xylenes	8020	1.0	ug/L	ND	109	5
MTBE	8020	0.5	ug/L	ND	95	1
Cadmium	7130	0.05	mg/L	ND	102/99	3
Chromium	7190	0.05	mg/L	ND	103/103	0
Nickel	7520	0.05	mg/L	ND	98/98	0
Lead	7420	0.05	mg/L	ND	102/102	0
Solids	160.1	1	mg/L	ND	99/102	3
Zinc	7950	0.05	mg/L	ND	103/100	3
Diesel	8015M	0.05	mg/L	ND	89	1
Motor Oil	8015M	0.5	mg/L	ND	89	1

ELAP Certificate NO:1753

Reviewed and Approved

John A. Murphy, Laboratory Director

P. O. Box 5624 • South San Francisco, California 94083 • 650-588-2838 FAX 588-1950



North State Environmental
Chemical Waste Disposal • Trucking • Consulting

C E R T I F I C A T E O F A N A L Y S I S

Job Number: 98-1503
Client : Semco
Project : Wannetta Hall /97-0187

Date Sampled : 11/12/98
Date Analyzed: 11/19/98
Date Reported: 11/30/98

8010 Volatile Organics by GC/MS

Laboratory Number:	98-1503-01
Client ID	MW3-W
Matrix	WATER
Analyte	ug/l.
Chloromethane	ND<5
Vinyl Chloride	ND<0.5
Bromomethane	ND<5
Chloroethane	ND<5
Trichlorofluoromethane	ND<1
1,1-Dichloroethene	ND<1
Methylene Chloride	ND<1
t-1,2-Dichloroethene	ND<1
1,1-Dichloroethane	ND<1
c-1,2-Dichloroethene	ND<1
Chloroform	ND<1
1,1,1-Trichloroethane	ND<0.5
Carbon Tetrachloride	ND<0.5
1,2-Dichloroethane	ND<0.5
Trichloroethene	ND<0.5
Bromodichloromethane	ND<1
t-1,3-Dichloropropene	ND<1
c-1,3-Trichloropropene	ND<1
1,1,2-Trichloroethane	ND<1
Tetrachloroethene	ND<0.5
Dibromobenzene	ND<1
Chlorobenzene	ND<1
1,1,2,2-Tetrachloroethane	ND<1
1,3-Dichlorobenzene	ND<1
1,4-Dichlorobenzene	ND<1
1,2-Dichlorobenzene	ND<1
Trichlorotrifluoroethane	ND<1
1,2-Dibromoethane	ND<0.5
SUR-Dibromofluoromethane	90.3% Rec
SUR-Toluene d8	106.3% Rec
SUR-4-Bromofluorobenzene	113.6% Rec



North State Environmental
Chemical Waste Disposal - Tracking - Consulting

C E R T I F I C A T E O F A N A L Y S I S

Job Number: 98-1503
Client : Semco
Project : Wannetta Hall /97-0187

Date Sampled : 11/12/98
Date Analyzed: 11/19/98
Date Reported: 11/30/98

8010 Volatile Organics by GC/MS
Quality Control/Quality Assurance Summary

Laboratory Number	98-1503	MS/MSD	RPD
Client ID	Blank	Recovery	
Matrix	WATER	WATER	
Analyte	Results	%Recoveries	
	ug/L		
Chloromethane	ND<5		
Vinyl Chloride	ND<0.5		
Bromomethane	ND<5		
Chloroethane	ND<5		
Trichlorofluoromethane	ND<1		
1,1-Dichloroethene	ND<1	42/48	15
Methylene Chloride	ND<1		
t-1,2-Dichloroethene	ND<1		
1,1-Dichloroethane	ND<1		
c-1,2-Dichloroethene	ND<1		
Chloroform	ND<1		
1,1,1-Trichloroethane	ND<0.5		
Carbon Tetrachloride	ND<0.5		
1,2-Dichloroethane	ND<0.5		
Trichloroethene	ND<0.5	78/81	4
Bromodichloromethane	ND<1		
t-1,3-Dichloropropene	ND<1		
c-1,3-Trichloropropene	ND<1		
1,1,2-Trichloroethane	ND<1		
Tetrachloroethene	ND<0.5		
Dibromobenzene	ND<1		
Chlorobenzene	ND<1	98/102	5
1,1,2,2-Tetrachloroethane	ND<1		
1,3-Dichlorobenzene	ND<1		
1,4-Dichlorobenzene	ND<1		
1,2-Dichlorobenzene	ND<1		
Trichlorotrifluoroethane	ND<1		
1,2-Dibromoethane	ND<0.5		
SUR-Dibromofluoromethane	74% Rec	91/93	2
SUR-Toluene d8	101% Rec	103/103	9
SUR-4-Bromofluorobenzene	108% Rec	106/107	1

Reviewed and Approved

John A. Murphy
Laboratory Director



North State Environmental Analytical Laboratory

Phone: (415) 588-9652 Fax: (415) 588-1950

JUL 21 11 48-1503

Chain of Custody / Request for Analysis

Lab Job No.: _____ Page 1 of 1

Dec-02-98 05:16P

Client: HKE, INC. / SEMCO	Report to: D. MILANO	Phone: 650.261.1908	Turnaround Time
Mailing Address: 70 CHEMICAL WAY REDWOOD CITY, CA 94063	Billing to: SEMCO MODOESTO, CA	Fax: 650.261.0735	STANDARD
		PO# / Billing Reference: 97-0187	Date: 11/12/98
		Sampler: B WHEELER	

Project / Site Address: **WAINWETA HALL
SCOOTER'S AUTO REPAIR
3600 MAR ARTAR BLD., OAKLAND, CA**

Analysis Requested

Sample ID	Sample Type	Container No. / Type	Pres.	Sampling Date / Time	THP-2 (503/503A)	THP-3 (503/503A)	THP-4 (503/503A)	THP-5 (503/503A)	THP-6 (503/503A)	THP-7 (503/503A)	THP-8 (503/503A)	THP-9 (503/503A)	THP-10 (503/503A)	THP-11 (503/503A)	THP-12 (503/503A)	THP-13 (503/503A)	THP-14 (503/503A)	THP-15 (503/503A)	THP-16 (503/503A)	THP-17 (503/503A)	THP-18 (503/503A)	THP-19 (503/503A)	THP-20 (503/503A)	Comments/Hazards		
MW1-W	WATER	3-40ml Vials	HKE/AC	11/12/98 13:30	X	X																				
MW2-W		1-LITER BOTTLE	4°C	13:30			X																			
MW1-W		1-250ml Poly	4°C	13:30								X													FILTER BEFORE ACIDIFICATION	
MW2-W		3-40ml Vials	HKE/AC	11:20	X	X																				
MW2-W		1-LITER BOTTLE	4°C	11:20			X																			
MW2-W		1-250ml Poly	4°C	11:20								X														FILTER BEFORE ACIDIFICATION
MW3-W		3-40ml Vials	HKE/AC	14:00	X	X																				
MW3-W		2-1 LITER BOTTLES	4°C	14:00				X	X																	FILTER BEFORE ACIDIFICATION
MW3-W		1-250ml Poly	4°C	14:00																						

* PLEASE ANALYZE MW3-W FOR LUT & METALS HAVING THE FOLLOWING REPORTING LIMITS IN MG/L'S
Cd = 0.005 ; Cr, Pb, Ni, AND Zn = 0.05

Relinquished by: [Signature]	Date: 11/12/98	Time: 4:15	Received by: [Signature]	NSE LABS	Lab Comments
Relinquished by:	Date:	Time:	Received by:		
Relinquished by:	Date:	Time:	Received by:		

P.02

APPENDIX D

FLUID-LEVEL MONITORING AND WELL PURGING RECORDS

HK2, Inc./SEMCO

FLUID-LEVEL MONITORING DATA

Project No: 97-0187.1 Date: 11/12/98
 Site Location: SCOOTER'S AUTO REPAIR } 3600 MACARTHUR BLVD.
OAKLAND, CA
 Technician: B. WHEELER Method: _____

(9:45 - 10:10)

WELL	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Total Well Depth (feet)	Comments
MW-1	3.24	—	—	14.05	NO PRODUCT (ADB PASTE) (TD = 14.33 FBG)
MW-2	2.85	—	—	14.0	NO PRODUCT (ADB PASTE) (TD = 14.3 FBG)
MW-3	3.43	—	—	13.83	NO PRODUCT (ADB PASTE) (TD = 14.14 FBG)

Measurements referenced to top of well casing.

HK2 WELL PURGING/SAMPLING DATA FORM

Project No.: 97-0187.1 Date: 11/12/98 Page 1 of 2
 Site Address: SCOOTER'S AUTO REPAIR, 3600 MACARTHUR BLD, OAK.
 Technician(s): B. WHEELER Agency Rep: _____

Casing/Borehole Diameter (inches)	2/8	4/8	4/10	6/10	6/12
Casing/Borehole Volumes (gallons/foot)	0.2/0.9	0.7/1.2	0.7/1.6	1.5/2.2	1.5/3.1

WELL # MW-1

a. Total Well Depth 14.05 ft.
 b. Depth to Water 3.24 ft.
 c. Water Height (a - b) 10.81 ft.
 d. Well Casing Diameter 7 in.
 e. Casing or Borehole Constant from above table 0.2
 f. (3) Casing or Borehole Volumes (c x e x 3) 6.69 gal.
 g. 80 Percent Recharge Level [b + (0.2 x c)] 5.40 ft.

PURGE EVENT #1:
 a. Start Time 13:02
 b. Finish Time 13:15
 c. Volume Purged 8 gal.
RECHARGE #1:
 a. Depth to Water 3.70 ft.
 b. Time Measured 13:25

PURGE EVENT #2:
 a. Start Time _____
 b. Finish Time _____
 c. Volume Purged _____ gal.
RECHARGE #2:
 a. Depth to Water _____ ft.
 b. Time Measured _____

PURGE EVENT #3:
 a. Start Time _____
 b. Finish Time _____
 c. Volume Purged _____ gal.
RECHARGE #3:
 a. Depth to Water _____ ft.
 b. Time Measured _____

WELL FLUID PARAMETERS:

	(Casing or Borehole Volumes)					
t=0	2 1/2	3 1/2	14	24.5	30	
a. pH	8.18	8.18	8.21	8.10	7.77	8.20
b. Temp.	67.1	68.1	70.0	70.2	70.3	68.9
c. Cond.	18.11	7.77	6.68	6.19	5.88	5.67
d. DO	_____					

7.8 = 6.9 / 5.57 8 / 8.21 = 70.1 / 5.36

SUMMARY DATA:
 Total Gallons Purged 8
 Purging Device Used DIAPHRAGM PUMP
 Sampling Device Used BAILER
 Time Sample Collected 13:30
 Sample Appearance SLIGHTLY TURBID
 NO APPARENT SIGNS OF CONTAMINATION

WELL # MW-2

a. Total Well Depth 14.0 ft.
 b. Depth to Water 2.85 ft.
 c. Water Height (a - b) 11.15 ft.
 d. Well Casing Diameter 8 in.
 e. Casing or Borehole Constant from above table 0.2
 f. (3) Casing or Borehole Volumes (c x e x 3) 6.69 gal.
 g. 80 Percent Recharge Level [b + (0.2 x c)] 5.08 ft.

PURGE EVENT #1:
 a. Start Time 10:45
 b. Finish Time 11:05
 c. Volume Purged 12.5 gal.
RECHARGE #1:
 a. Depth to Water 6.85 ft.
 b. Time Measured 11:10

PURGE EVENT #2:
 a. Start Time _____
 b. Finish Time _____
 c. Volume Purged _____ gal.
RECHARGE #2:
 a. Depth to Water 5.0 ft.
 b. Time Measured 11:18

PURGE EVENT #3:
 a. Start Time _____
 b. Finish Time _____
 c. Volume Purged _____ gal.
RECHARGE #3:
 a. Depth to Water _____ ft.
 b. Time Measured _____

WELL FLUID PARAMETERS:

	(Casing or Borehole Volumes)					
t=0	2 1/2	3 1/2	14	24.5	30	
a. pH	9.29	9.71	9.48	9.32	9.13	9.78
b. Temp.	63.2	64.6	68.2	68.7	68.0	66.3
c. Cond.	7.00	5.07	5.52	6.08	6.11	5.87
d. DO	_____					

8.07 / 6.5 / 5.26 5.8 / 6.0 / 7.4 / 8.0

SUMMARY DATA:
 Total Gallons Purged 12.5
 Purging Device Used DIAPHRAGM PUMP
 Sampling Device Used BAILER
 Time Sample Collected 11:20
 Sample Appearance CLEAR
 NO APPARENT SIGNS OF CONTAMINATION

Number of Drums stored onsite 2 Total Gallons Stored ~ 85 Gallons
 Location of Drums NORTHEAST SIDE OF PROPERTY
 Borehole volume based on annular sand pack porosity of 30 percent.

C 7.5
8.09 8.7
66.4 66
5.56 5.4
12.5 / 6.7 / 7.3
11 12
8.95 8.4
66.5 66
7.94 4.9
12.5
8.95
66.5
4.9

HK2 WELL PURGING/SAMPLING DATA FORM

Project No.: 97-0137.1 Date: 11/12/95 Page 2 of 2
 Site Address: SCOOTERS AUTO REPAIR 3600 MACARTHUR BLVD, OAK.
 Technician(s): B. WHEELER Agency Rep: _____

Casing/Borehole Diameter (inches)	2/8	4/8	4/10	6/10	6/12
Casing/Borehole Volumes (gallons/foot)	0.2/0.9	0.7/1.2	0.7/1.6	1.5/2.2	1.5/3.1

WELL # MW-3

a. Total Well Depth 13.83 ft.
 b. Depth to Water 3.43 ft.
 c. Water Height (a - b) 10.45 ft.
 d. Well Casing Diameter 2 in.
 e. Casing or Borehole Constant from above table 0.2
 f. (3) Casing or Borehole Volumes (c x e x 3) 6.27 gal.
 g. 80 Percent Recharge Level [b + (0.2 x c)] 5.52 ft.

PURGE EVENT #1:
 a. Start Time 12:00
 b. Finish Time 12:15
 c. Volume Purged 7 gal. 7 Gal.

RECHARGE #1:
 a. Depth to Water 10.02 ft.
 b. Time Measured 12:15

PURGE EVENT #2:
 a. Start Time _____
 b. Finish Time _____
 c. Volume Purged _____ gal.

RECHARGE #2:
 a. Depth to Water 9.65 ft.
 b. Time Measured 12:30

PURGE EVENT #3:
 a. Start Time _____
 b. Finish Time _____
 c. Volume Purged _____ gal.

RECHARGE #3:
 a. Depth to Water 9.91 ft. 8.31
 b. Time Measured 13:20 13:55

WELL FLUID PARAMETERS:

	(Casing or Borehole Volumes)					
	t=0	1.5	2.4	3.1	3.8	4.5
a. pH	7.86	7.72	7.60	7.75	7.90	7.82
b. Temp.	67.3	66.7	66.7	66.3	66.4	66.7
c. Cond.	2.33	1.95	0.80	2.06	2.30	1.90
d. DO	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

SUMMARY DATA:
 Total Gallons Purged 7
 Purging Device Used DIAPHRAGM PUMP
 Sampling Device Used BAILOUT
 Time Sample Collected 14:00
 Sample Appearance CLEAR
NO APPARENT SIGNS OF CONTAMINATION

WELL # _____

a. Total Well Depth _____ ft.
 b. Depth to Water _____ ft.
 c. Water Height (a - b) _____ ft.
 d. Well Casing Diameter _____ in.
 e. Casing or Borehole Constant from above table _____
 f. (3) Casing or Borehole Volumes (c x e x 3) _____ gal.
 g. 80 Percent Recharge Level [b + (0.2 x c)] _____ ft.

PURGE EVENT #1:
 a. Start Time _____
 b. Finish Time _____
 c. Volume Purged _____ gal.

RECHARGE #1:
 a. Depth to Water _____ ft.
 b. Time Measured _____

PURGE EVENT #2:
 a. Start Time _____
 b. Finish Time _____
 c. Volume Purged _____ gal.

RECHARGE #2:
 a. Depth to Water _____ ft.
 b. Time Measured _____

PURGE EVENT #3:
 a. Start Time _____
 b. Finish Time _____
 c. Volume Purged _____ gal.

RECHARGE #3:
 a. Depth to Water _____ ft.
 b. Time Measured _____

WELL FLUID PARAMETERS:

	(Casing or Borehole Volumes)					
	t=0	1	1.4	2	2.4	3
a. pH	_____	_____	_____	_____	_____	_____
b. Temp.	_____	_____	_____	_____	_____	_____
c. Cond.	_____	_____	_____	_____	_____	_____
d. DO	_____	_____	_____	_____	_____	_____

SUMMARY DATA:
 Total Gallons Purged _____
 Purging Device Used _____
 Sampling Device Used _____
 Time Sample Collected _____
 Sample Appearance _____

Number of Drums stored onsite 2 Total Gallons Stored 295 Gallons
 Location of Drums NORTHWEST CORNER OF PROPERTY
 Borehole volume based on annular sand pack porosity of 30 percent.

**NON-HAZARDOUS
WASTE MANIFEST**

1. Generator's US EPA ID No.

2. Page 1
of

1

3. Document Number

NH- No 46124

4. Generator's Name and Mailing Address

C/O SEMCO / SCOOTERS AUTO REPAIR
3600 MACARTHUR BL
OAKLAND, CA

Generator's Phone

5. Transporter Company Name

CLEARWATER ENVIRONMENTAL

6.

US EPA ID Number

CAR000007013

7. Transporter Phone

(510) 797-8511

8. Designated Facility Name and Site Address

ALVISO INDEPENDENT OIL
5002 ARCHER STREET
ALVISO, CA 95002

9.

US EPA ID Number

CAL000161743

10. Facility's Phone

(510) 797-8511

11. Waste Shipping Name and Description

a. Non-Hazardous waste, liquid

12. Containers

No.

Type

13. Total
Quantity

14. Unit
Wt/Vol

002 DM
~~001~~ ~~IT~~

0090

G

15. Special Handling Instructions and Additional Information

Wear PPE
Emergency Contact
(510) 797-8511
Attn: Kirk Hayward

Handling Codes for Wastes Listed Above

11a.

11b.

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to state or federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name

Signature

KIRK HAYWARD

[Signature]

Month Day Year
11 30 99

17. Transporter Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

DAVID MORRISON

[Signature]

Month Day Year
11 30 99

18. Discrepancy Indication Space

19. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 18.

Printed/Typed Name

Signature

Vicky Stone

[Signature]

Month Day Year
11 30 98

GENERATOR

TRANSPORTER

FACILITY