



# North State Environmental

Laboratory Services • Waste Management • Consulting

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January 23, 2001

Ms. Eva Chu  
Alameda County Health Care Services Agency  
Environmental Health Services  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502

ENVIRONMENTAL  
PROTECTION  
00 JAN 24 PM 3:04

RE: Second Quarter 2000 Groundwater Sampling Activities - Scooter's Auto Repair, 3600 MacArthur Boulevard, Oakland, California (StID 1289, NSE Project 00-0022C)

Dear Ms. Chu:

This report summarizes the activities, findings, and conclusions of the Second Quarter 2000 groundwater monitoring and sampling activities performed by North State Environmental (NSE) at Scooter's Auto Repair facility located at 3600 MacArthur Boulevard in Oakland, California. The Alameda County Health Care Services Agency (ACHCSA) requested the groundwater monitoring activities in their letter dated July 28, 2000. The site location is shown in Figure 1. Figure 2 is a site plan of the subject property. A copy of the aforementioned ACHCSA letter is in Appendix A.

## SITE DESCRIPTION

The site is on the southeastern corner of the intersection of MacArthur Boulevard and Magee Avenue in Oakland, California. It lies approximately 0.2 mile northeast of Interstate 580 and 0.5 mile northwest of High Street. The site elevation is approximately 200 feet above mean sea level (NGVD, 1929). It is approximately 0.23 acre in area and currently owned by the Estate of Mr. Henry Hall (Alameda County Assessor's Parcel Number 30-1903-15-1). The property is currently used as an automobile repair facility. Mr. Hall operated the site as a service station from approximately 1973 to 1988. Prior to this, the site was a Phillips 66 service station. Underground storage tanks used to store gasoline, diesel, and waste oil existed on site 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 subject property lies in the East Bay Plain groundwater basin. Groundwater in this basin is designated beneficial for municipal, industrial, and agricultural uses according to the Water Quality Control Plan prepared by the California Regional Water Quality Control Board (CRWQCB; 1995). The approximate depth to groundwater at the site is between 1.5 to 4 feet below grade (fbg), as measured in three onsite groundwater monitoring wells. The nearest surface water body is Peralta Creek, flowing southwesterly and located approximately 1,000 feet northwest of the site.

According to a geologic map published by California Department of Conservation, Division of Mines and Geology (1991), the site is underlain by an unknown thickness of Quaternary alluvium deposited on sandstone, shales, conglomerates, and possibly serpetinized ultramafic rock of the Mesozoic Franciscan Complex (thicknesses not established). The geologic map also indicates that the site lies approximately 1,000 feet southwest of the Hayward Fault Zone.

## PREVIOUS WORK

In March 1994, SEMCO Environmental Contractors (SEMCO) removed two 8,000-gallon underground gasoline storage tanks (USTs), one 6,000-gallon diesel UST, and one 100-gallon waste oil UST from the subject property (Figure 2). Based on elevated petroleum hydrocarbon concentrations measured in soil and groundwater samples collected during tank removal activities, the ACHCSA, in a letter dated June 3, 1994, requested that Ms. Wannetta Hall perform a preliminary site assessment to evaluate the lateral and vertical extent of hydrocarbons in both soil and groundwater.

During preliminary site assessment activities in October and November 1998, SEMCO drilled five soil borings (B1 to B5; Figure 2) and converted three of the borings to 2-inch-diameter, groundwater monitoring wells (MW-1 to MW-3) to evaluate the extent of dissolved-phase hydrocarbons in the vicinity of the former USTs. The wells were subsequently surveyed, monitored, and sampled. The concentrations of total petroleum hydrocarbons (TPH) as gasoline (TPH-G), TPH as diesel and motor oil (TPH-D/MO), benzene, toluene, ethylbenzene, and total xylenes (BTEX), methyl tertiary-butyl ether (MTBE), and total lead measured in the groundwater samples collected in MW-1 through MW-3 were below the respective laboratory reporting limit except in MW-1 (6,200 micrograms per liter [ug/l] for TPH-G, 540 ug/l TPH-D, 420 ug/l benzene, 47 ug/l toluene, and 210 ug/l total xylenes). Groundwater flow was directed 19° west of south @ 0.027 foot/foot. Associated fluid-level monitoring data recorded during this event are summarized in Table 1. Laboratory analytical results of groundwater samples collected in MW-1 through MW-3 are summarized in Table 2. Additional details are provided in *SEMCO's December 1998 Site Characterization Report*.

On April 6, 1999, SEMCO conducted First Quarter 1999 groundwater monitoring and sampling activities at the subject property. The groundwater sample collected in MW-1 contained 4,400 ug/l TPH-G, 320 ug/l benzene, 33 ug/l toluene, and 240 ug/l ethylbenzene and total xylenes. The TPH-G, TPH-D/MO, BTEX, and MTBE concentrations measured in the samples collected in MW-2 and MW-3 were below the respective laboratory reporting limit. Tables 1 and 2 include the First Quarter 1999 fluid-level monitoring data and groundwater sample analytical results, respectively. Details are in *SEMCO's First Quarter 1999 Report of Groundwater Sampling Activities* (June 1999).

On October 1, 1999, SEMCO conducted Second Quarter 1999 groundwater sampling activities at the subject property. Also, as per the request of the ACHCSA, SEMCO performed an off-site, subsurface utility survey (June 1999 through January 2000) to evaluate the potential of off-site migration of dissolved-phase hydrocarbons via subsurface utility corridors. The concentrations of TPH-G, BTEX, and MTBE measured in the groundwater samples collected in MW-1 through MW-3 were below the respective laboratory reporting limit except in MW-1 (2,600 ug/l TPH-G, 290 ug/l benzene, 20 ug/l toluene, 190 ug/l ethylbenzene, and 46 ug/l total xylenes). The groundwater samples collected in MW-1 through MW-3 contained 190 ug/l, 110 ug/l, and 80 ug/l TPH-D, respectively. The fluid-level monitoring data recorded for this event and the groundwater sample analytical results for each well are located in Tables 1 and 2, respectively. Details are provided in *the Second Quarter 1999 Report of Groundwater Sampling and Off-Site Underground Utility Survey Activities*, prepared and submitted by NSE in June 1999.

## SECOND QUARTER 2000 GROUNDWATER MONITORING

On June 30, 2000, NSE removed the locking well plug from the top of each well casing to depressurize the well system (if required) and allow the well water level to stabilize. After approximately 30 minutes, NSE measured and recorded the depth to groundwater (DTW) and the presence of free product in monitoring wells MW-1 through MW-3 with an electronic water level indicator smeared with product and water indicator pastes. NSE then purged approximately 8 gallons of groundwater from each monitoring well (@ 3 well casing volumes) using an ISCO® peristaltic pump (low purge rate) and 0.5-inch-diameter, polyethylene purge tubing. NSE periodically measured and recorded the pH, temperature, and specific conductivity of the purged groundwater. NSE then collected groundwater samples from each well using a factory-sealed, disposable, polyethylene bailer. The samples were labeled, placed in a cooler chilled to 4°C, and transported to NSE's State-certified Laboratory (CA ELAP #1753) for analysis of TPH-G (EPA Methods 5030/Modified 8015), TPH-D (EPA Methods 3510/Modified 8015), BTEX (EPA Methods 5030/8020), MTBE (EPA Methods 5030/8020), and fuel oxygenates (EPA Method 8260). Table 1 includes the 2<sup>nd</sup> Quarter 2000 fluid-level monitoring data recorded for these wells. The laboratory results of groundwater samples collected during the June 2000 sampling event are included in Table 2. Figure 3 presents a groundwater elevation contour map based on both the June 2000 fluid-level monitoring data and the wellhead elevation survey performed onsite in November 1998. Figure 4 presents an isoconcentration map for both dissolved-phase TPH-G and benzene constituents based on analytical results of the associated June 2000 groundwater samples collected in MW-1 through Mw-3. A copy of the associated fluid level monitoring and purge/sampling data sheets is in Appendix A.

As result of an exceeded hold time for dissolved-phase TPH-D analysis, the groundwater samples collected in each well were not analyzed for this constituent. On July 14, 2000, NSE returned to the site and resampled (collected grab groundwater samples without initial well purging) MW-1 through MW-3. The samples were labeled, placed in a cooler chilled to 4°C, and resubmitted to NSE Laboratory for TPH-D analysis. The laboratory results of groundwater samples collected during the

July 2000 sampling event are included in Table 2. The laboratory reports and chain of custody records are in Appendix B.

## WASTE MANAGEMENT

NSE transferred the equipment wash and well purge water (approximately 30 gallons) to a 55-gallon, D.O.T.-approved, steel drum. NSE subsequently labeled, secured, and stored the drum onsite in an enclosed area. As of January 15, 2001, the drum remains onsite for future monitoring and sampling events, if warranted by the ACHCSA.

## FINDINGS

- The DTW measured in MW-1, MW-2, and MW-3 in June 2000 was 2.96, 2.74, and 1.83 feet below the top of well casing (TOC), respectively. Free product was not detected in any of the wells during the initial water level monitoring activities. No surface sheen or free product was observed in the purge water or groundwater samples collected in each well.
- As shown in Table 1 and the appended Fluid-Level Monitoring Sheets, the relative groundwater elevations corresponding to the DTW measured in MW-1 through MW-3 during June 2000 monitoring activities are 198.42, 199.13, and 200.28 feet above mean sea level, respectively. The groundwater gradient established for this event was directed 74° west of north at 0.031 foot/foot.
- The groundwater sample collected in MW-1 contained 4,100 ug/l TPH-G, 260 ug/l benzene, 69 ug/l toluene, 320 ug/l ethylbenzene, and 510 ug/l total xylenes. The MTBE and other fuel oxygenate concentrations measured in this sample was below the respective laboratory reporting limit (0.5 ug/l for MTBE and  $\leq$ 100 ug/l for fuel oxygenates). The groundwater sample collected in MW-1 (July 2000) also contained 1,500 ug/l TPH-D. As noted and confirmed by the laboratory, this TPH-D detection does not match the typical diesel pattern shown on the associated chromatogram (predominant diesel carbon range: C10 to C20) but reflects low level hydrocarbon concentrations overlapping from the neighboring gasoline carbon range (C4 to C12).
- The TPH-G, TPH-D, and MTBE concentrations reported in the groundwater samples collected in MW-2 and MW-3 were below the respective laboratory reporting limit (50 ug/l for TPH-G/D and  $<$ 0.5 ug/l for MTBE), except in MW-2 (130 ug/l for TPH-G). The groundwater sample collected in MW-2 contained 0.7 ug/l benzene,  $<$  0.5 ug/l toluene, 1 ug/l ethylbenzene, and 2 ug/l total xylenes. The groundwater sample collected in MW-3 contained 0.8 ug/l benzene, 0.5 ug/l toluene, 0.9 ug/l ethylbenzene, and 3 ug/l total xylenes.

- The dissolved-phase benzene concentration measured in MW-1 does not exceed the California  $10^{-4}$  commercial Risk-Based Screening Levels listed in Designation E 1739-95 published by the American Society for Testing and Materials. However, this benzene concentration exceeds the municipal supply numerical water quality objective (1 ug/l) listed in the Water Quality Control Plan prepared by the California Regional Water Quality Control Board (CRWQCB), San Francisco Bay Region.

## CONCLUSIONS

- Compared to the October 1999 groundwater monitoring and sampling event, the dissolved-phase TPH-G and BTEX concentrations measured in MW-1 have generally increased, however, the benzene concentration had decreased slightly from 290 to 260 ug/l but continues to exceed the municipal supply numerical water quality objective (1 ug/l) listed in the Water Quality Control Plan prepared by the San Francisco Bay Region of the CRWQCB. The TPH-G concentration measured in MW-2 increased from  $\leq 50$  to 130 ug/l and the dissolved-phase BTEX concentrations measured in MW-2 and MW-3 slightly increased, as compared to the October 1999 sampling event.
- The TPH-D concentration measured in the groundwater sample collected in MW-1 reflects an increase from 190 to 1,500 ug/l. Furthermore, as noted above and in the appended laboratory report, the detected concentration does not match the typical diesel pattern shown on the associated chromatogram (predominant diesel carbon range: C10 to C20), but reflects low level hydrocarbon concentrations overlapping from the neighboring gasoline carbon range (C4 to C12). The TPH-D measured in MW-2 and MW-3 during this event decreased to non-detectable amounts as compared to the findings reported for the previous monitoring event.
- In comparison with the groundwater gradient measured during the January 2000 monitoring event (N88W @ 0.025 ft/ft; See Table 1), the June 2000 groundwater flow direction shifted approximately  $14^\circ$  further to the north with a slightly steeper gradient difference of 0.006 foot/foot.

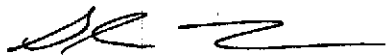
In a letter dated January 2, 2001, the ACHCSA requested that Ms. Wannetta Hall perform a Tier 1 Risk-Based Corrective Action (RBCA) analysis at the site to evaluate whether residual hydrocarbon-affected soil and groundwater would potentially pose a risk to human health and/or the environment. Following receipt of a contract to complete the aforementioned RBCA, NSE will prepare and submit the RBCA for the subject property by March 15, 2001. A copy of the ACHCSA January 2001 letter is included in Appendix A.

## LIMITATIONS AND CERTIFICATION

This report has been prepared in accordance with generally accepted environmental practices exercised by professional geologists, scientists, and engineers. No warranty, either expressed or implied, is made as to the professional advice presented herein. The findings and conclusions contained in this report are based upon information contained in previous reports of soil assessment activities performed at the subject property and based upon site conditions as they existed at the time of the investigation, and are subject to change.

The conclusions presented in this report are professional opinions based solely upon visual observations of the subject property and vicinity, and interpretation of available information as described in this report. The scope of services conducted in execution of this investigation may not be appropriate to satisfy the needs of other users and any use or reuse of this document and any of its information presented herein is at the sole risk of said user.

### *North State Environmental*



Glen T. Leverich  
Staff Environmental Scientist



Brent A. Wheeler, E.I.T.  
Consultant/ Project Manager



John Carver, C.E.

cc: Ms. Wannee [unclear]



## REFERENCES

American Society for Testing and Materials (ASTM, 1995). Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites - Designation E 1739-95.

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.

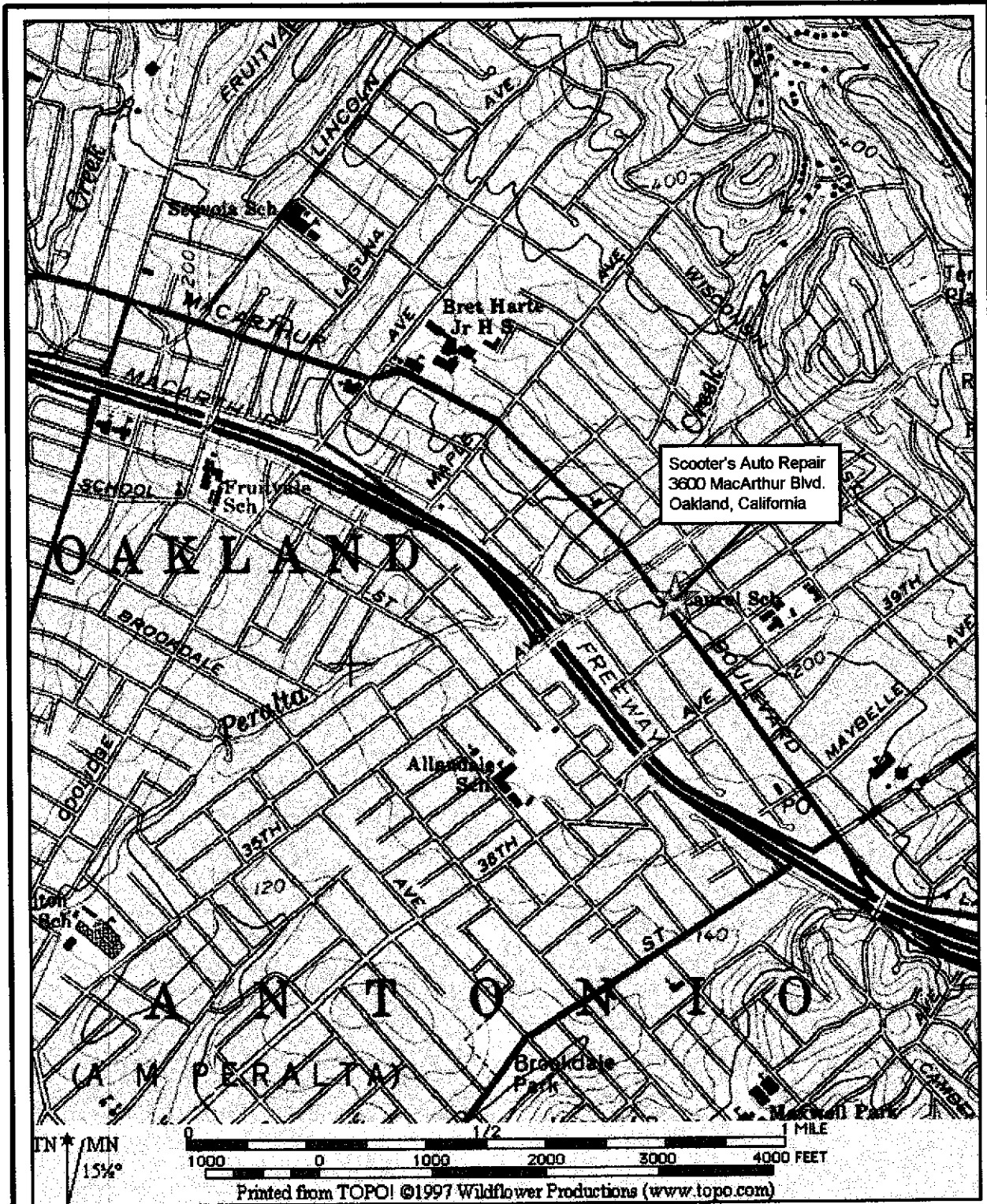
California Regional Water Quality Control Board, San Francisco Bay Region, 1995. Water Quality Control Plan, San Francisco Bay Basin (Region 2).

Freeze, R. Allen & Cherry, John A., Groundwater, Prentice-Hall, Inc., 1979.

NSE, 2000; Second Quarter 1999 Groundwater Sampling and Off-Site Underground Utility Survey Activities at Scooter's Auto Repair, 3600 MacArthur Boulevard, Oakland, California. Project 00-0022C, September 2000.

SEMCO, 1998; Site Characterization Report, Scooter's Auto Repair, 3600 MacArthur Boulevard, Oakland, California. Project 97-0187.1, December 1998.

SEMCO, 1999; Report of First Quarter 1999 Groundwater Sampling Activities, Scooter's Auto Repair, 3600 MacArthur Boulevard, Oakland, California. Project 99-0101.1, June 1999.



Scooter's Auto Repair  
 3600 MacArthur Blvd.  
 Oakland, California

15°



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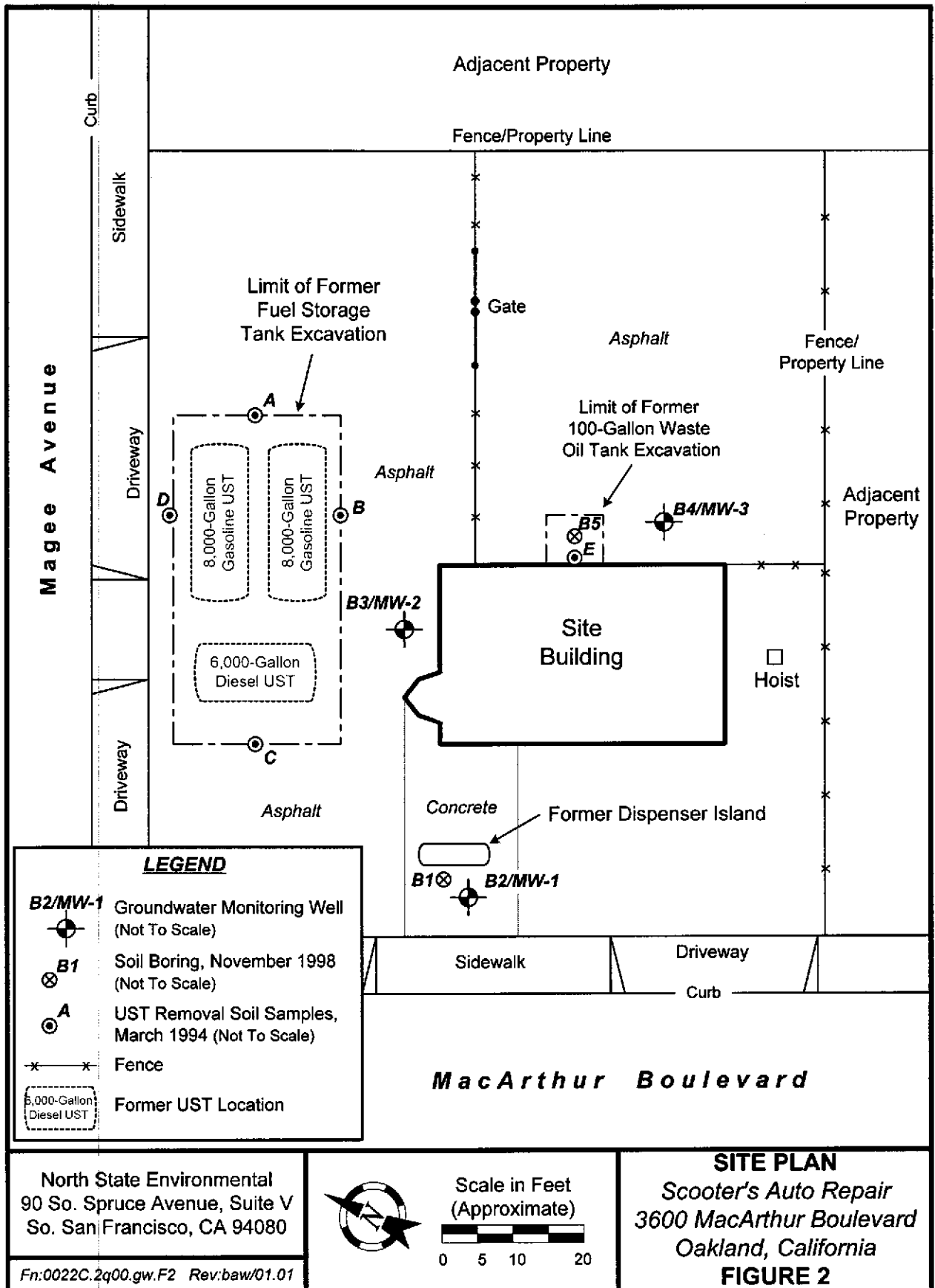
North State Environmental  
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 So. San Francisco, CA 94080

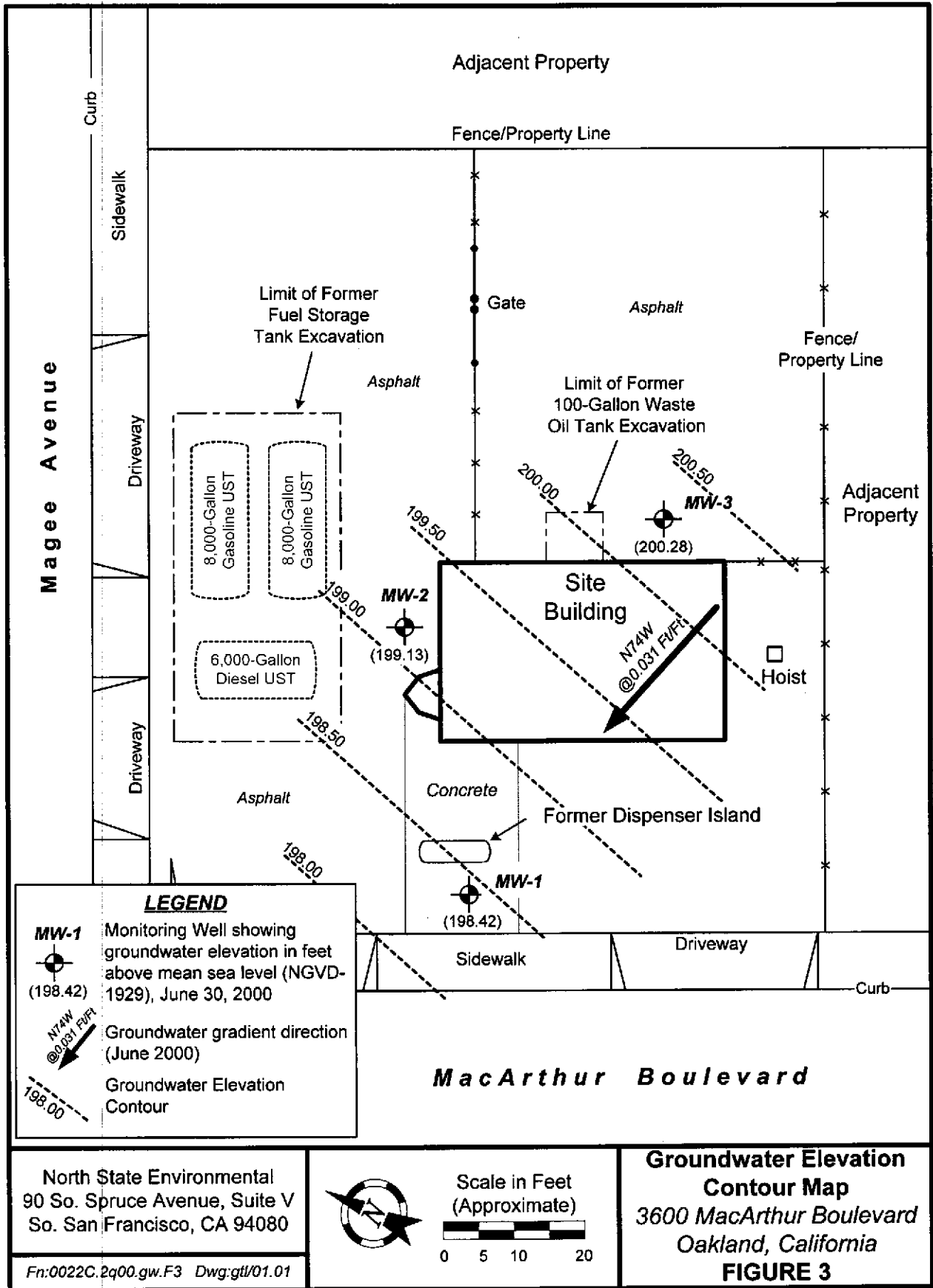
★ SITE LOCATION

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

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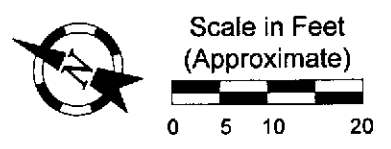


**LEGEND**

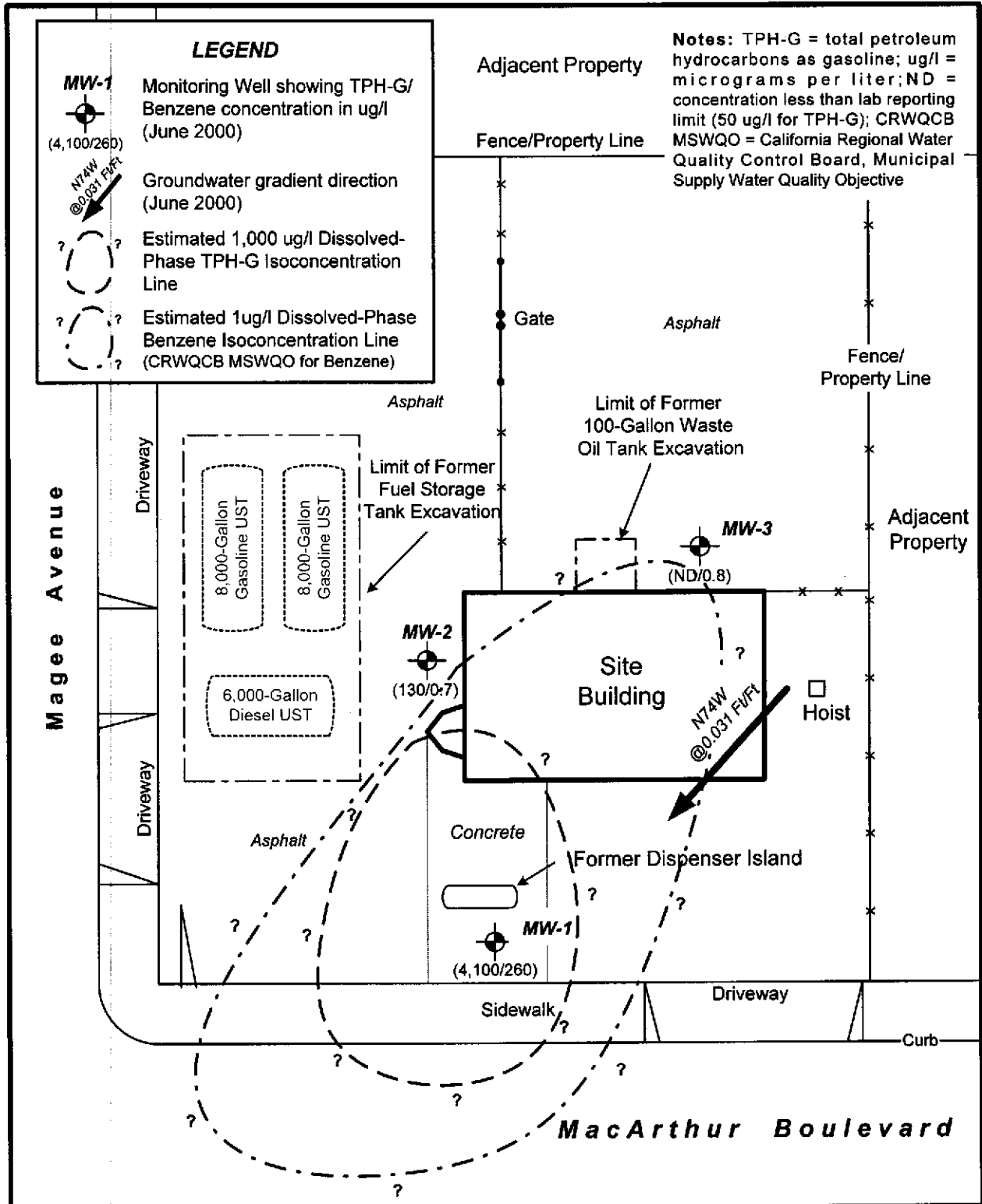
- MW-1** Monitoring Well showing groundwater elevation in feet above mean sea level (NGVD-1929), June 30, 2000
- NTAW @0.031 F/Ft** Groundwater gradient direction (June 2000)
- 198.00** Groundwater Elevation Contour

North State Environmental  
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**Groundwater Elevation Contour Map**  
 3600 MacArthur Boulevard  
 Oakland, California  
**FIGURE 3**

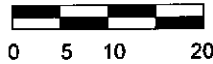


North State Environmental  
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 So. San Francisco, CA 94080

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Scale in Feet  
 (Approximate)



**Dissolved-Phase TPH-G & Benzene Isoconcentration Map**  
 3600 MacArthur Boulevard  
 Oakland, California  
**FIGURE 4**

**Table 1**  
**Fluid-Level Monitoring Data**  
*Scooter's Auto Repair*  
*3600 MacArthur Boulevard, Oakland, California*

Parameter Measured	Date	MW-1	MW-2	MW-3
DTW (Feet Below TOC)	11/12/98	3.24	2.85	3.43
	4/6/99	1.76	1.43	2.91
	10/1/99	3.51	3.29	8.42
	1/31/00	1.88	1.61	1.12
	<b>6/30/00</b>	<b>2.96</b>	<b>2.74</b>	<b>1.83</b>
Free Product Thickness (Feet)	11/12/98	0	0	0
	4/6/99	0	0	0
	10/1/99	0	0	0
	1/31/00	0	0	0
	<b>6/30/00</b>	<b>0</b>	<b>0</b>	<b>0</b>
Relative Elevation of TOC* (Feet)	5/6/98	201.38	201.87	202.11
Relative Groundwater Elevation (Feet)	11/12/98	198.14	199.02	198.68
	4/6/99	199.62	200.44	199.20
	10/1/99	197.87	198.58	193.69
	1/31/00	199.50	200.26	200.99
	<b>6/30/00</b>	<b>198.42</b>	<b>199.13</b>	<b>200.28</b>
Groundwater Gradient & Direction	11/12/98	S19°W at 0.027 foot/foot		
	4/6/99	S18°E at 0.030 foot/foot		
	10/1/99	--		
	1/31/00	N88°W at 0.025 foot/foot		
	<b>6/30/00</b>	<b>N74°W at 0.031 foot/foot</b>		

**Notes:**

DTW = Depth to Groundwater  
TOC = Top of Well Casing

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

-- = Not calculated during this event; The significant difference in DTW and relative groundwater elevation in MW-3 as compared to MW-1 and MW-2 suggests that the localized groundwater was unstable at the time of measurement.

**Table 2**  
**Laboratory Results of Groundwater Sample Analyses**  
*Scooter's Auto Repair*  
*3600 MacArthur Boulevard, Oakland, California*

WELL	DATE	TPH-G (ug/l)	TPH-D (ug/l)	TPH-MO (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	HVOCs (ug/l)	LEAD (ug/l)	Oxygenates (ug/l)
MW-1	11-12-98	6,200	540	ND	420	47	ND	210	ND	--	ND	--
	4-9-99	4,400	ND	--	320	33	240	240	ND*	--	--	--
	10-1-99	2,600	190	--	290	20	190	46	ND*	--	--	--
	6-30-00	<b>4,100</b>	--	--	<b>260</b>	<b>69</b>	<b>320</b>	<b>510</b>	<b>ND*</b>	--	--	<b>ND</b>
	7-14-00	--	1,500 <sup>1</sup>	--	--	--	--	--	--	--	--	--
MW-2	11-12-98	ND	ND	ND	ND	ND	ND	ND	ND	--	ND	--
	4-9-99	ND	ND	--	ND	ND	ND	ND	ND	--	--	--
	10-1-99	ND	110	--	ND	ND	ND	ND	ND	--	--	--
	6-30-00	<b>130</b>	--	--	<b>0.7</b>	<b>ND</b>	<b>1</b>	<b>2</b>	<b>ND</b>	--	--	--
	7-14-00	--	ND	--	--	--	--	--	--	--	--	--
MW-3	11-12-98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND <sup>2</sup>	--
	4-9-99	ND	ND	--	ND	ND	ND	ND	ND	--	--	--
	10-1-99	ND	80	--	ND	ND	ND	ND	ND	--	--	--
	6-30-00	<b>ND</b>	--	--	<b>0.8</b>	<b>0.5</b>	<b>0.9</b>	<b>3</b>	<b>ND*</b>	--	--	--
	7-14-00	--	ND	--	--	--	--	--	--	--	--	--
CRWQCB MSWQO	None	None	None	1	150	700	1,750	14 <sup>3</sup>	Varies	50	Varies	
Lab Reporting Limit	50	50	50	0.5	0.5	0.5	1	0.5	<5	50	<100	

**NOTES:**

- TPH-G = total petroleum hydrocarbons as gasoline (EPA Methods 5030/Modified 8015)
- TPH-D and TPH-MO = total petroleum hydrocarbons as diesel and motor oil, respectively (EPA Methods 3510/Modified 8015)
- B, T, E, X = benzene, toluene, ethylbenzene, and total xylenes (EPA Methods 5030/ 8020); MTBE = methyl tertiary-butyl ether (EPA Methods 5030/8020)
- HVOCs =halogenated volatile organic compounds (EPA Method 8010)
- Oxygenates = fuel oxygenates (EPA Method 8260), including MTBE, di-isopropyl ether, tert-butyl alcohol, ethyl tert-butyl ether, and tert-amyl methyl ether
- ug/L = micrograms per liter (parts per billion); ND = concentration less than the laboratory reporting limit; \* = confirmed by EPA Method 8260
- = sample not analyzed for this constituent; <sup>1</sup> = Does not match diesel pattern
- <sup>2</sup> = cadmium, chromium, nickel, and zinc concentrations in this sample were also below the laboratory reporting limit
- <sup>3</sup> = 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)
- CRWQCB MSWQO = California Regional Water Quality Control Board municipal supply water quality objective

**APPENDIX A**

**REGULATORY CORRESPONDENCE AND  
WELL MONITORING AND SAMPLING DATA SHEETS**

FROM :

FAX NO. :

Aug. 10 2000 02:31PM P1

ALAMEDA COUNTY  
HEALTH CARE SERVICES



AGENCY

DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES  
ENVIRONMENTAL PROTECTION  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577  
(510) 567-8700  
FAX (510) 337-9335

StdID 1289

July 28, 2000

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

RE: QMR for 3600 MacArthur Blvd., Oakland, CA

Dear Ms. Hall:

I was reviewing the file for the above referenced site and noted that this office is not in receipt of a quarterly monitoring report (QMR) since June 1999. At that time groundwater from Well MW-1 contained 6,300 parts per billion (ppb) total petroleum hydrocarbons as gasoline (TPHg), 540ppb TPH as diesel, and 420ppb benzene.

At this time you should continue with quarterly monitoring of all onsite wells. After two more sampling events, I will review the case to determine if further work is required or if case closure should be recommended. The next sampling event should be in **August 2000**. A QMR is due 60 days upon completion of field work.

Please be advised that this is a formal request for technical reports pursuant to Title 23, CCR, Section 2722(c). Any extensions of the stated deadlines, or modifications of the required tasks, must be confirmed in writing by this agency.

Should you have any questions about the content of this letter, please contact me at (510) 567-6762.

eva chu  
Hazardous Materials Specialist

scooter3

ALAMEDA COUNTY  
HEALTH CARE SERVICES



AGENCY

DAVID J. KEARS, Agency Director

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

StID 1289

January 2, 2001

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

**RE: Risk Analysis for 3600 MacArthur Blvd., Oakland, CA**

Dear Ms. Hall:

I have completed review of the fascimile of analytical results of groundwater sampling conducted at the above referenced site in June 2000. It is my understanding that a formal quarterly monitoring report is forthcoming. Petroleum hydrocarbon concentrations detected in groundwater from Well MW-1 were comparable with historic results. An underground utility survey has also been conducted for the site vicinity. It appears that utility trenches could act as preferential pathways for the migration of contaminants from the site.

At this time, a risk analysis should be prepared to determine if residual hydrocarabons in soil and groundwater would pose a risk to human health and or the environment. Representative site concentrations can be compared with the Regional Water Quality Control Board's Tier 1 Risk Based Screening Levels (RBSLs). If the Tier 1 RBSLs are exceeded, a Tier 2 analysis should be prepared.

The risk analysis is due within 60 days of the date of this letter, or by **March 5, 2001**. If you have any questions, I can be reached at (510) 567-6762.

eva chu  
Hazardous Materials Specialist

✓ c: Brent Wheeler, North State Environmental, P.O. Box 5624, South San Francisco,  
CA 94083

scooter4



COPY

NORTH STATE ENVIRONMENTAL

FLUID-LEVEL MONITORING DATA

Project No: SO-0022 C Date: 6-30-00

Site Location: 3600 MACARTHUR BLVD., OAKLAND CA

Technician: JOE SANDRA Method: \_\_\_\_\_

Boring Well	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Total Well Depth (feet)	Comments
MW-3	1.83			13.84	
MW-2	2.74			14.00	
MW-1	2.96			14.03	small gas.

Measurements referenced to top of well casing.

# COPY NORTH STATE ENVIRONMENTAL

## WELL PURGING/SAMPLING DATA

Project No.: 00-002 LC Date: 6-30-00

Project Name/Location: SCOOTERS AUTO REPAIR  
3600 MACARTHUR BLVD OAKLAND CA

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

<p><b>Well No.</b> <u>LW-1</u></p> <p>A. Total Well Depth <u>14.03</u> Ft.(toc)          B. Depth To Water <u>2.96</u> Ft.          C. Water Height (A-B) <u>11.07</u> Ft.          D. Well Casing Diameter <u>2.0</u> In.          E. Casing Volume Constant (from above table) <u>0.2</u>          F. Three (3) Casing or Borehole Volumes (CxEx3) <u>6.64</u> Gal.          G. 80% Recharge Level [B+(ExC)] <u>5.17</u> Ft.</p> <p><u>Purge Event #1</u>          Start Time: <u>12:30</u>          Finish Time: <u>12:40</u>          Purge Volume: <u>8.0 gal</u></p> <p><u>Recharge #1</u>          Depth to Water: <u>3.37</u>          Time Measured: <u>13:07</u></p> <p><u>Purge Event #2</u>          Start Time:          Finish Time:          Purge Volume:</p> <p><u>Recharge #2</u>          Depth to Water:          Time Measured:</p> <p><b>Well Fluid Parameters:</b>          (Casing or Borehole Volumes)</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;"><u>1</u></td> <td style="text-align: center;"><u>1.5</u></td> <td style="text-align: center;"><u>2</u></td> <td style="text-align: center;"><u>2.5</u></td> <td style="text-align: center;"><u>3</u></td> </tr> <tr> <td>pH</td> <td><u>7.61</u></td> <td><u>7.52</u></td> <td><u>7.38</u></td> <td><u>7.35</u></td> <td><u>7.34</u></td> <td><u>7.34</u></td> </tr> <tr> <td>T(°C)</td> <td><u>68.0</u></td> <td><u>70.1</u></td> <td><u>70.1</u></td> <td><u>70.1</u></td> <td><u>70.2</u></td> <td><u>70.1</u></td> </tr> <tr> <td>Cond.</td> <td><u>3.05</u></td> <td><u>2.40</u></td> <td><u>2.29</u></td> <td><u>2.20</u></td> <td><u>2.18</u></td> <td><u>2.20</u></td> </tr> <tr> <td>DO</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p><b>Summary Data:</b>          Total Gallons Purged: <u>8.0 gal</u>          Purge device: <u>ISCO #1</u>          Sampling Device: <u>BAILER</u>          Sample Collection Time: <u>13:35</u>          Sample Appearance: <u>CLOUDY / STRONG ODOUR</u></p>		<u>0</u>	<u>1</u>	<u>1.5</u>	<u>2</u>	<u>2.5</u>	<u>3</u>	pH	<u>7.61</u>	<u>7.52</u>	<u>7.38</u>	<u>7.35</u>	<u>7.34</u>	<u>7.34</u>	T(°C)	<u>68.0</u>	<u>70.1</u>	<u>70.1</u>	<u>70.1</u>	<u>70.2</u>	<u>70.1</u>	Cond.	<u>3.05</u>	<u>2.40</u>	<u>2.29</u>	<u>2.20</u>	<u>2.18</u>	<u>2.20</u>	DO							<p><b>Well No.</b> _____</p> <p>A. Total Well Depth _____ Ft.(toc)          B. Depth To Water _____ Ft.          C. Water Height (A-B) _____ Ft.          D. Well Casing Diameter _____ In.          E. Casing Volume Constant (from above table) _____          F. Three (3) Casing or Borehole Volumes (CxEx3) _____ Gal.          G. 80% Recharge Level [B+(ExC)] _____ Ft.</p> <p><u>Purge Event #1</u>          Start Time:          Finish Time:          Purge Volume:</p> <p><u>Recharge #1</u>          Depth to Water:          Time Measured:</p> <p><u>Purge Event #2</u>          Start Time:          Finish Time:          Purge Volume:</p> <p><u>Recharge #2</u>          Depth to Water:          Time Measured:</p> <p><b>Well Fluid Parameters:</b>          (Casing or Borehole Volumes)</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;"><u>1</u></td> <td style="text-align: center;"><u>1.5</u></td> <td style="text-align: center;"><u>2</u></td> <td style="text-align: center;"><u>2.5</u></td> <td style="text-align: center;"><u>3</u></td> </tr> <tr> <td>pH</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>T(°C)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Cond.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>DO</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p><b>Summary Data:</b>          Total Gallons Purged:          Purge device:          Sampling Device:          Sample Collection Time:          Sample Appearance:</p>		<u>0</u>	<u>1</u>	<u>1.5</u>	<u>2</u>	<u>2.5</u>	<u>3</u>	pH							T(°C)							Cond.							DO						
	<u>0</u>	<u>1</u>	<u>1.5</u>	<u>2</u>	<u>2.5</u>	<u>3</u>																																																																	
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x 100

# NORTH STATE ENVIRONMENTAL WELL PURGING/SAMPLING DATA

Project No.: 00-0022 C Date: 6-30-00

Project Name/Location: SCOTT'S AUTO REPAIR  
3600 MACARTHUR BLVD OAKLAND CA.

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

<p><b>Well No. <u>MW-3</u></b></p> <p>A. Total Well Depth <u>13.84</u> Ft.(toc)          B. Depth To Water <u>1.83</u> Ft.          C. Water Height (A-B) <u>12.01</u> Ft.          D. Well Casing Diameter <u>2.0</u> In.          E. Casing Volume Constant (from above table) <u>0.2</u>          F. Three (3) Casing or Borehole Volumes (CxEx3) <u>7.21</u> Gal.          G. 80% Recharge Level [B+(ExC)] <u>4.2</u> Ft.</p> <p><u>Purge Event #1</u>          Start Time: <u>11:45</u>          Finish Time: <u>11:59</u>          Purge Volume: <u>8.0 gal</u></p> <p><u>Recharge #1</u>          Depth to Water: <u>10.45</u>          Time Measured: <u>14:35</u></p> <p><u>Purge Event #2</u>          Start Time:          Finish Time:          Purge Volume:</p> <p><u>Recharge #2</u>          Depth to Water:          Time Measured:</p> <p><b>Well Fluid Parameters:</b>          (Casing or Borehole Volumes)</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;"><u>1</u></td> <td style="text-align: center;"><u>1.5</u></td> <td style="text-align: center;"><u>2</u></td> <td style="text-align: center;"><u>2.5</u></td> <td style="text-align: center;"><u>3</u></td> </tr> <tr> <td>pH</td> <td><u>6.99</u></td> <td><u>6.95</u></td> <td><u>7.06</u></td> <td><u>7.15</u></td> <td><u>7.17</u></td> <td><u>7.29</u></td> </tr> <tr> <td>T (°C)</td> <td><u>67.1</u></td> <td><u>69.1</u></td> <td><u>68.0</u></td> <td><u>66.6</u></td> <td><u>65.6</u></td> <td><u>65.6</u></td> </tr> <tr> <td>Cond.</td> <td><u>0.62</u></td> <td><u>0.69</u></td> <td><u>0.62</u></td> <td><u>0.60</u></td> <td><u>0.60</u></td> <td><u>0.58</u></td> </tr> <tr> <td>DO</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p><b>Summary Data:</b>          Total Gallons Purged: <u>8.0</u>          Purge device: <u>ISCO #1</u>          Sampling Device: <u>BAILER</u>          Sample Collection Time: <u>1440</u>          Sample Appearance: <u>CLEAR</u>          *WELL DID NOT COMPLETELY RECHARGE</p>		<u>0</u>	<u>1</u>	<u>1.5</u>	<u>2</u>	<u>2.5</u>	<u>3</u>	pH	<u>6.99</u>	<u>6.95</u>	<u>7.06</u>	<u>7.15</u>	<u>7.17</u>	<u>7.29</u>	T (°C)	<u>67.1</u>	<u>69.1</u>	<u>68.0</u>	<u>66.6</u>	<u>65.6</u>	<u>65.6</u>	Cond.	<u>0.62</u>	<u>0.69</u>	<u>0.62</u>	<u>0.60</u>	<u>0.60</u>	<u>0.58</u>	DO							<p><b>Well No. <u>MW-2</u></b></p> <p>A. Total Well Depth <u>14.00</u> Ft.(toc)          B. Depth To Water <u>2.74</u> Ft.          C. Water Height (A-B) <u>11.26</u> Ft.          D. Well Casing Diameter <u>2.0</u> In.          E. Casing Volume Constant (from above table) <u>0.2</u>          F. Three (3) Casing or Borehole Volumes (CxEx3) <u>6.76</u> Gal.          G. 80% Recharge Level [B+(ExC)] <u>4.99</u> Ft.</p> <p><u>Purge Event #1</u>          Start Time: <u>12:08</u>          Finish Time: <u>12:19</u>          Purge Volume: <u>8.0 gal</u></p> <p><u>Recharge #1</u>          Depth to Water: <u>2.99</u>          Time Measured: <u>13:05</u></p> <p><u>Purge Event #2</u>          Start Time:          Finish Time:          Purge Volume:</p> <p><u>Recharge #2</u>          Depth to Water:          Time Measured:</p> <p><b>Well Fluid Parameters:</b>          (Casing or Borehole Volumes)</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;"><u>1</u></td> <td style="text-align: center;"><u>1.5</u></td> <td style="text-align: center;"><u>2</u></td> <td style="text-align: center;"><u>2.5</u></td> <td style="text-align: center;"><u>3</u></td> </tr> <tr> <td>pH</td> <td><u>7.97</u></td> <td><u>7.56</u></td> <td><u>7.43</u></td> <td><u>7.29</u></td> <td><u>7.31</u></td> <td><u>7.31</u></td> </tr> <tr> <td>T (°C)</td> <td><u>65.8</u></td> <td><u>66.4</u></td> <td><u>66.2</u></td> <td><u>66.4</u></td> <td><u>66.6</u></td> <td><u>66.5</u></td> </tr> <tr> <td>Cond.</td> <td><u>2.13</u></td> <td><u>1.94</u></td> <td><u>1.93</u></td> <td><u>1.92</u></td> <td><u>1.93</u></td> <td><u>1.91</u></td> </tr> <tr> <td>DO</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p><b>Summary Data:</b>          Total Gallons Purged: <u>8.0</u>          Purge device: <u>ISCO #1</u>          Sampling Device: <u>BAILER</u>          Sample Collection Time: <u>1350</u>          Sample Appearance: <u>CLEAR</u></p>		<u>0</u>	<u>1</u>	<u>1.5</u>	<u>2</u>	<u>2.5</u>	<u>3</u>	pH	<u>7.97</u>	<u>7.56</u>	<u>7.43</u>	<u>7.29</u>	<u>7.31</u>	<u>7.31</u>	T (°C)	<u>65.8</u>	<u>66.4</u>	<u>66.2</u>	<u>66.4</u>	<u>66.6</u>	<u>66.5</u>	Cond.	<u>2.13</u>	<u>1.94</u>	<u>1.93</u>	<u>1.92</u>	<u>1.93</u>	<u>1.91</u>	DO						
	<u>0</u>	<u>1</u>	<u>1.5</u>	<u>2</u>	<u>2.5</u>	<u>3</u>																																																																	
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**APPENDIX B**

**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: 00-0948  
 Client: Henry's Towing  
 Project: SCOOTER'S AUTO REPAIR, 3600 MACARTHUR AV

Date Reported: 08/02/2000

Gasoline, BTEX and MTBE by Methods 8015M and 8020.

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 00-0948-01		Client ID: MW1-W		06/30/2000	WATER
Gasoline	8015M	4100	ug/L		07/11/2000
Benzene	8020	260	ug/L		
Ethylbenzene	8020	320	ug/L		
MTBE	8020	*ND			
Toluene	8020	69	ug/L		
Xylenes	8020	510	ug/L		
Sample: 00-0948-02		Client ID: MW2-W		06/30/2000	WATER
Gasoline	8015M	130	ug/L		07/11/2000
Benzene	8020	0.7	ug/L		
Ethylbenzene	8020	1	ug/L		
MTBE	8020	ND			
Toluene	8020	ND			
Xylenes	8020	2	ug/L		
Sample: 00-0948-03		Client ID: MW3-W		06/30/2000	WATER
Gasoline	8015M	ND			07/11/2000
Benzene	8020	0.8	ug/L		
Ethylbenzene	8020	0.9	ug/L		
MTBE	8020	*ND			
Toluene	8020	0.5	ug/L		
Xylenes	8020	3	ug/L		

\*Confirmed by GC/MS method 8260.



CERTIFICATE OF ANALYSIS

Quality Control/Quality Assurance

Lab Number: 00-0948
Client: Henry's Towing
Project: SCOOTER'S AUTO REPAIR, 3600 MACARTHUR AV

Date Reported: 08/02/2000

Gasoline, BTEX and MTBE by Methods 8015M and 8020

Table with 7 columns: Analyte, Method, Reporting Limit, Unit, Blank, Avg MS/MSD Recovery, RPD. Rows include Gasoline, Benzene, Ethylbenzene, Toluene, Xylenes, and MTBE.

ELAP Certificate NO. 1753

Reviewed and Approved

Handwritten signature of John A. Murphy

John A. Murphy, Laboratory Director





COPY

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

Job Number: 00-0948 Date Sampled : 06/30/2000
Client : Henry's Towing Date Analyzed: 07/13/2000
Project : SCOOTER'S AUTO REPAIR, 3600 MACARTHUR Date Reported: 08/02/2000

Volatile Organics by GC/MS Method 8260
Quality Control/Quality Assurance Summary

Table with columns: Laboratory Number, Client ID, Matrix, Analyte, Results, %Recoveries, RPD. Rows include Ethanol, Methyl-t-Butyl Ether, Di-isopropyl Ether, etc.

Reviewed and Approved
[Signature]
John A. Murphy
Laboratory Director





# North State Environmental Analytical Laboratory

90 South Spruce Avenue, Suite W, South San Francisco, CA 94080

Phone: (650) 266-4563 Fax: (650) 266-4560

00-0948

Chain of Custody / Request for Analysis

Lab Job No.: \_\_\_\_\_ Page 1 of 1

Client: <u>WANNETTA HALL</u>	Report to: <u>B. WHEELER</u>	Phone: <u>510.535.2249</u>	Turnaround Time <u>5 DAY</u>
Mailing Address: <u>10378</u> <u>C/O HENRY'S TOWING</u> <u>4414 FLEMING AVE</u> <u>OAKLAND, CA 94619</u>	Billing to: <u>SAME</u>	Fax: <u>510.533.0787</u>	
		PO# / Billing Reference: <u>NSE 00-0022C</u>	Date: <u>6/30/00</u>
			Sampler: <u>BB</u>

Project / Site Address: SCOUTER'S AUTO REPAIR Analysis  
3600 MACARTHUR BLVD. Requested  
OAKLAND, CA

Sample ID	Sample Type	Container No. / Type	Pres.	Sampling Date / Time	TPH-V (5030/8074)	TPH-D (350/8074)	BTEX/PAH (5030/8074)	OTHER (8240)	Comments / Hazards
MW1-W	WATER	3-40ml VBS	4°C / HCL	6/30/00 13:35	X		X	X	
MW1-W		1-LITER BOTTLE	4°C	13:35		X			DO NOT ANALYZE
MW2-W		3-40ml VBS	4°C / HCL	13:50	X		X		
MW2-W		1-LITER BOTTLE	4°C	13:50		X			DO NOT ANALYZE
MW3-W		3-40ml VBS	4°C / HCL	14:40	X		X		
MW3-W		1-LITER BOTTLE	4°C	14:40		X			DO NOT ANALYZE
1) CONFIRM ALL METAL CONCENTRATIONS > ND USING EPA 8260B									
2) FOR OXYGENATE ANALYSIS INCLUDE THME, ETBE, DIPE, TBA									
* HOLDING TIME (7 DAYS) EXCEEDED FOR ALL DIESEL SAMPLES									

Relinquished by: <u>Brian A. Clark</u>	Date: <u>6/30/00</u> Time: <u>15:30</u>	Received by: <u>[Signature]</u>	Lab Comments
Relinquished by:	Date: _____ Time: _____	Received by:	
Relinquished by:	Date: _____ Time: _____	Received by:	



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

Lab Number: 00-0978  
Client: Henry's Towing  
Project: SCOOTER'S AUTO REPAIR, 3600 MACARTHUR  
OAKLAND  
Date Reported: 07/26/2000

Diesel Range Hydrocarbons by Method 8015M

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 00-0978-01	Client ID: MW1-W			07/14/2000	WATER
Diesel	8015M	*1.5	mg/L		07/18/2000
Sample: 00-0978-02	Client ID: MW2-W			07/14/2000	WATER
Diesel	8015M	ND			07/18/2000
Sample: 00-0978-03	Client ID: MW3-W			07/14/2000	WATER
Diesel	8015M	ND			07/18/2000

\*Does not match diesel pattern.



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

Quality Control/Quality Assurance

Lab Number: 00-0978  
 Client: Henry's Towing  
 Project: SCOOTER'S AUTO REPAIR, 3600 MACARTHUR  
 OAKLAND  
 Date Reported: 07/26/2000  
 Diesel Range Hydrocarbons by Method 8015M

Analyte	Method	Reporting Limit	Unit	Blank	Avg MS/MSD Recovery	RPD
Diesel	8015M	0.05	mg/L	ND	87	14

ELAP Certificate NO:1753

Reviewed and Approved

John A. Murphy, Laboratory Director



# North State Environmental Analytical Laboratory

90 South Spruce Avenue, Suite W, South San Francisco, CA 94080

Phone: (650) 266-4563 Fax: (650) 266-4560

00-0978

Chain of Custody / Request for Analysis

Lab Job No.: \_\_\_\_\_ Page 1 of 1

Client: <u>WANNETTA HALL</u>	Report to: <u>BRET WHITELOR</u>	Phone: <u>510 533 2249</u>	Turnaround Time
Mailing Address: <u>16 HENRY'S TOWER</u> <u>4414 FLEMING AVE</u> <u>OAKLAND, CA 94619</u>	Billing to: <u>SAME</u>	Fax: <u>510 533 0787</u>	<u>5 Day</u>
		PO# / Billing Reference: <u>NSE 00-0022C</u>	Date: <u>7/14/00</u>
			Sampler: <u>JACOB JS</u>

Project / Site Address: SCOOTER'S AUTO REPAIR Analysis  
3600 MACARTHUR BLVD. Requested  
OAKLAND, CA

TYPED  
 X 10/11/00  
 (10/11/00)

Sample ID	Sample Type	Container No. / Type	Pres.	Sampling Date / Time											Comments / Hazards
MW1-W	WATER	1-LITER BOTTLE	PC	7/14/00 11:00	X										
MW2-W	"	"	"	10:30	X										
MW3-W	"	"	"	10:45	X										

Relinquished by: <u>[Signature]</u>	Date: <u>7/14/00</u> Time: <u>12:00</u>	Received by: <u>[Signature]</u> NSE	Lab Comments
Relinquished by:	Date: _____ Time: _____	Received by:	
Relinquished by:	Date: _____ Time: _____	Received by:	