HARTCROWSER

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San Francisco, California 94111
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Earth and Environmental Technologies

May 18, 1994

Ms. Madhula Logan
Hazardous Materials Division
Alameda County Health Care Services Agency
80 Swan Way, Room 200
Oakland, California 94621

Reference: Quarterly Status Report
Grand Auto Facility
4240 East 14th Street
Oakland, California J-6077

Dear Ms. Logan:

Hart Crowser, Inc. has prepared this Quarterly Status Report on behalf of PACCAR Automotive, Inc. for the above-referenced site. The following sections present summaries of environmental activities completed at the site prior to December 31, 1993 (Previous Site Activities), during the period of January 1, 1994 to March 31, 1994 (Current Activities), and the activities planned for the next quarter, April 1994 to June 1994 (Proposed Activities).

PREVIOUS SITE ACTIVITIES

The Grand Auto retail facility is located on an approximate 1.2 acre site. The site is currently used as an auto service and retail merchandise facility. The site was previously used for retail gasoline sales, with underground fuel storage tanks and a car wash with an associated drainage sump. The underground fuel tanks were removed in 1986. In July 1992, Hart Crowser

performed a site investigation as outlined in "Sampling and Analysis Plan, Grand Auto/Super Tire Facilities," July 6, 1992. The investigation included drilling two borings (B-4 and B-5) in the vicinity of the former location of the underground fuel storage tanks (Figure 1). Analytical results of soil samples from these borings did not show significant petroleum hydrocarbon concentrations.

The car wash drainage sump was removed on August 7, 1992. A soil sample (S2C) was collected from beneath the sump at a depth of 8.5 feet below ground surface (BGS) (Figure 1). Analytical results indicated the presence of petroleum hydrocarbons, halogenated hydrocarbons, and some metals in the soil beneath the sump. A groundwater monitoring well (MW-1) was installed within ten feet southwest of the sump, which, according to regional information, is the downgradient direction. Despite some slightly wet conditions encountered at eight feet BGS, free groundwater was not encountered until approximately 36 feet BGS. There appears to be a discontinuous perching layer at the site at approximately 8 feet BGS. The results of this phase of the investigation were summarized in the report, "Preliminary Site Investigation Report," dated November 20, 1992.

During April 1993, Hart Crowser drilled five soil borings (B-8 to B-12) and converted three of them to groundwater monitoring wells (MW-2, MW-3, MW-4). Hart Crowser also installed an off-site groundwater monitoring well (HC-1) at the adjacent Super Tire facility. We have included the results from this well as part of the assessment for the Grand Auto site. The wells were developed and then sampled in April 1993. The results of this phase of the assessment were summarized in a report, "Supplemental Site Investigation", June 18, 1993.

During October 1993, fuel conveyance piping associated with the former underground fuel storage tanks was excavated and removed from the site. Verification soil samples were taken from the base of the excavation at the four locations shown on Figure 1. Each sample was analyzed for TPH as gasoline with BTEX distinction, and all samples reported non-detectable concentrations of all compounds.

CURRENT ACTIVITIES

On February 18, 1994, Hart Crowser measured groundwater elevations in, and collected groundwater samples from, all five groundwater monitoring wells onsite (MW-1, MW-2, MW-3, and MW-4) and from the offsite well (HC-1).

Approximately three to four well volumes of water were purged from each monitoring well before the sample was collected. Field parameters including pH, conductivity and temperature were recorded to verify stabilization prior to sampling. Pre-cleaned disposable bailers (single-use) were used to obtain samples from each well. All sampling equipment was decontaminated before use and between wells to minimize the potential for cross-contamination.

Groundwater samples for analysis of TPH as gasoline (TPH-G) with benzene, toluene, ethylbenzene, and xylene (BTEX) distinction by EPA Methods 5030/8015/8020 were collected in hydrochloric acid preserved, laboratory cleaned, 40 milliliter glass vials with Teflon lined septa. Groundwater samples for analysis of halogenated volatile organics by EPA Methods 5030/8010 were collected in laboratory cleaned, 40 milliliter glass vials with Teflon lined septa. Groundwater samples for analysis for cadmium, chromium, lead, nickel and zinc by EPA Method 6010 were collected in preserved laboratory cleaned, one liter plastic bottles. Groundwater samples for analysis of oil and grease by Standard Method 5520F were collected in laboratory prepared one-liter amber bottles.

After labeling, each sample was promptly stored in a cold ice chest. Strict chain-of-custody procedures were followed throughout sample acquisition, storage, and transport. Samples were submitted to Superior Precision Analytical, Inc. for analysis. The laboratory results are summarized in Table 1. Certified Analytical Reports and a copy of the Chain-of-Custody record can be found in Appendix A.

An historic record of petroleum hydrocarbon analytical results for individual wells is presented in Table 2. The analytical results from this sampling were generally consistent with previous results. Oil and grease was not detected in the sample from HC-1. TPH-G was detected in all five wells at concentrations ranging from 90 to 110 µg/L, however, the laboratory reported that the chromatograph for these samples did not match a typical gasoline pattern. During the previous quarter TPH-G was detected only in MW-1 at a concentration of 99 µg/L. The levels of TPH-G remain inconsistent with the levels of BTEX concentrations in these wells. BTEX compounds were not detected in any wells during the quarter. The reported concentrations of TPH-G measured in groundwater samples is attributed to the presence of halogenated hydrocarbons in the groundwater samples.

An historic record of halogenated hydrocarbon analytical results for individual wells is presented in Table 3. The concentrations of halogenated compounds were relatively the same as measured during previous quarters.

Tetrachloroethylenene (PCE) continues to be detected in all five monitoring wells with the highest concentration of 200 µg/L found in MW-1. Data trends indicate that the PCE concentration in groundwater is decreasing in MW-1 and increasing in monitoring well HC-1. Reportable concentrations of trichloroethylene (TCE) and cis-1,2-Dichloroethylene (cis-1,2-DCE) are also found in all five monitoring wells, but the highest concentrations are reported in MW-2 samples. MW-2 is the upgradient monitoring well. Groundwater monitoring results therefore indicate that an offsite source of halogenated hydrocarbons exists.

An historic record of metal analytical results for individual wells is presented in Table 4. The results of metal analysis reported non-detectable concentrations of cadmium, chromium, lead, nickel, and zinc in samples from all five wells. These results are consistent with results from the previous three sampling rounds.

Groundwater elevations measured on February 18, 1994 are presented in Table 5. The groundwater elevations for each well are shown on Figure 2 for this date. The measured groundwater elevations in all the wells increased by 0.68 to 0.76 feet compared to the November 17, 1993 measurements. The measured groundwater gradient is again relatively flat, however, there does appear to be a slight southwesterly flow direction, as previously observed.

PROPOSED ACTIVITIES

Future activities proposed for the site include the continuation of quarterly groundwater monitoring. Based on the results of the past four quarters we recommend that future groundwater monitoring be limited to halogenated organics. The results of BTEX and metals analysis indicate that these compounds are not present in site groundwater at concentrations of concern. As indicated in previous reports the positive detections of TPH as gasoline in groundwater have been noted to be inconsistent with the gasoline standard used in the method, and the reported concentration has been attributed to the presence of the halogenated compounds which coelute with gasoline range hydrocarbons during analysis.

If you have any questions regarding work at this site, please contact our office at your earliest convenience.

Sincerely,

HART CROWSER, INC.

Patrick G. Lynch, P.E.
Senior Project Engineer

for Dharmé Rathnayake, P.E.
Technical Manager

PGL/DR:pr

Attachments:

Figure 1 - Site Plan
Figure 2 - Groundwater Elevation Map 2/18/93

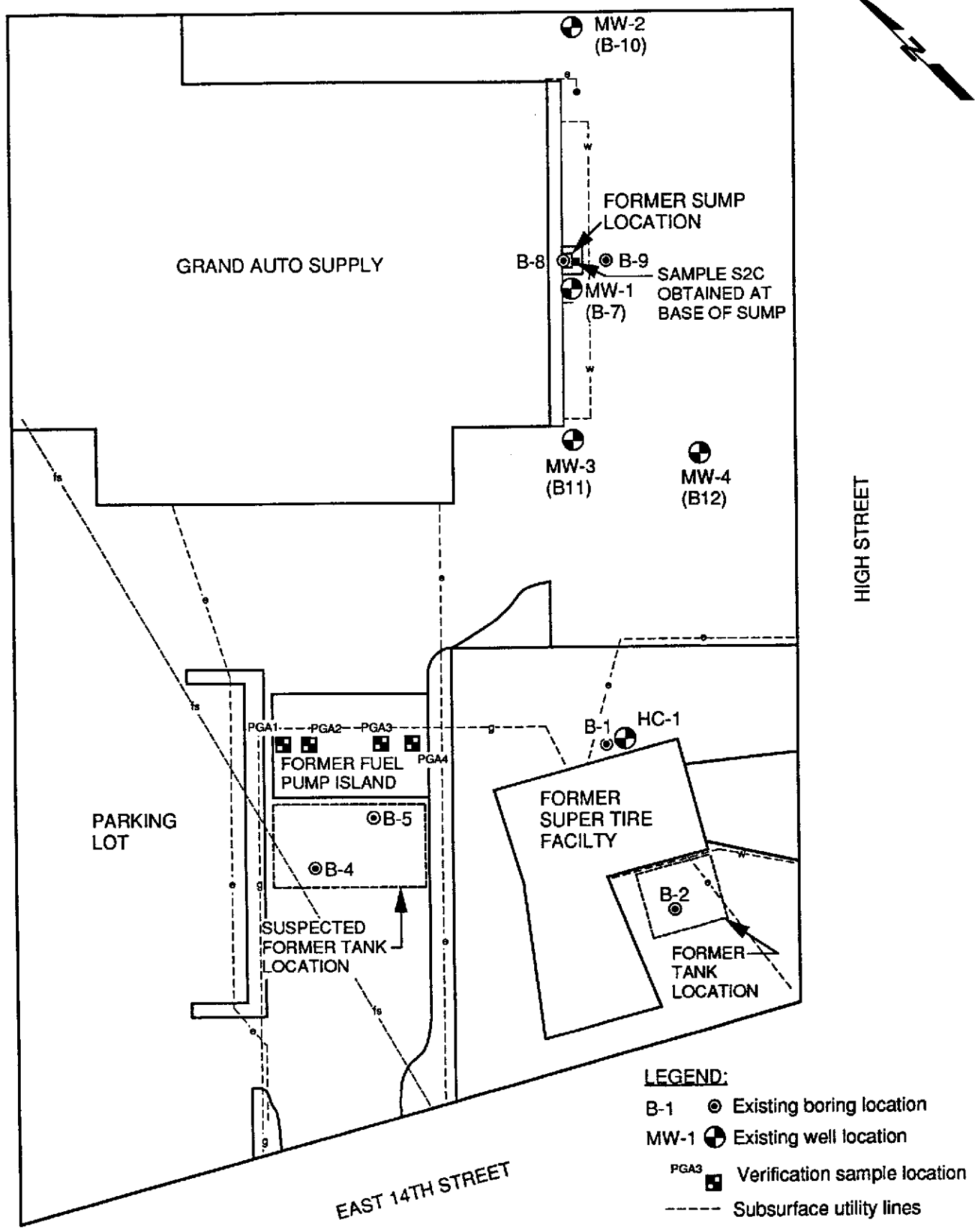
Table 1 - Results of Lab. Analysis of GW Samples
Table 2 - Historical Groundwater Quality Data - Petroleum Hydrocarbons
Table 3 - Historical Groundwater Quality Data - Halogenated Hydrocarbons
Table 4 - Historical Groundwater Quality Data - Metals
Table 5 - Monitoring Well Data

Appendix A - Certified Analytical Reports

cc: Ms. Lisa Robbins, PACCAR, Inc.
Mr. Raymond Elliott, PACCAR, Inc.
Mr. Richard Hiett, Regional Water Quality Control Board

FIGURES

MISSION AUTOMOTIVE



0 20 40 80

Scale, in Feet

SITE PLAN

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

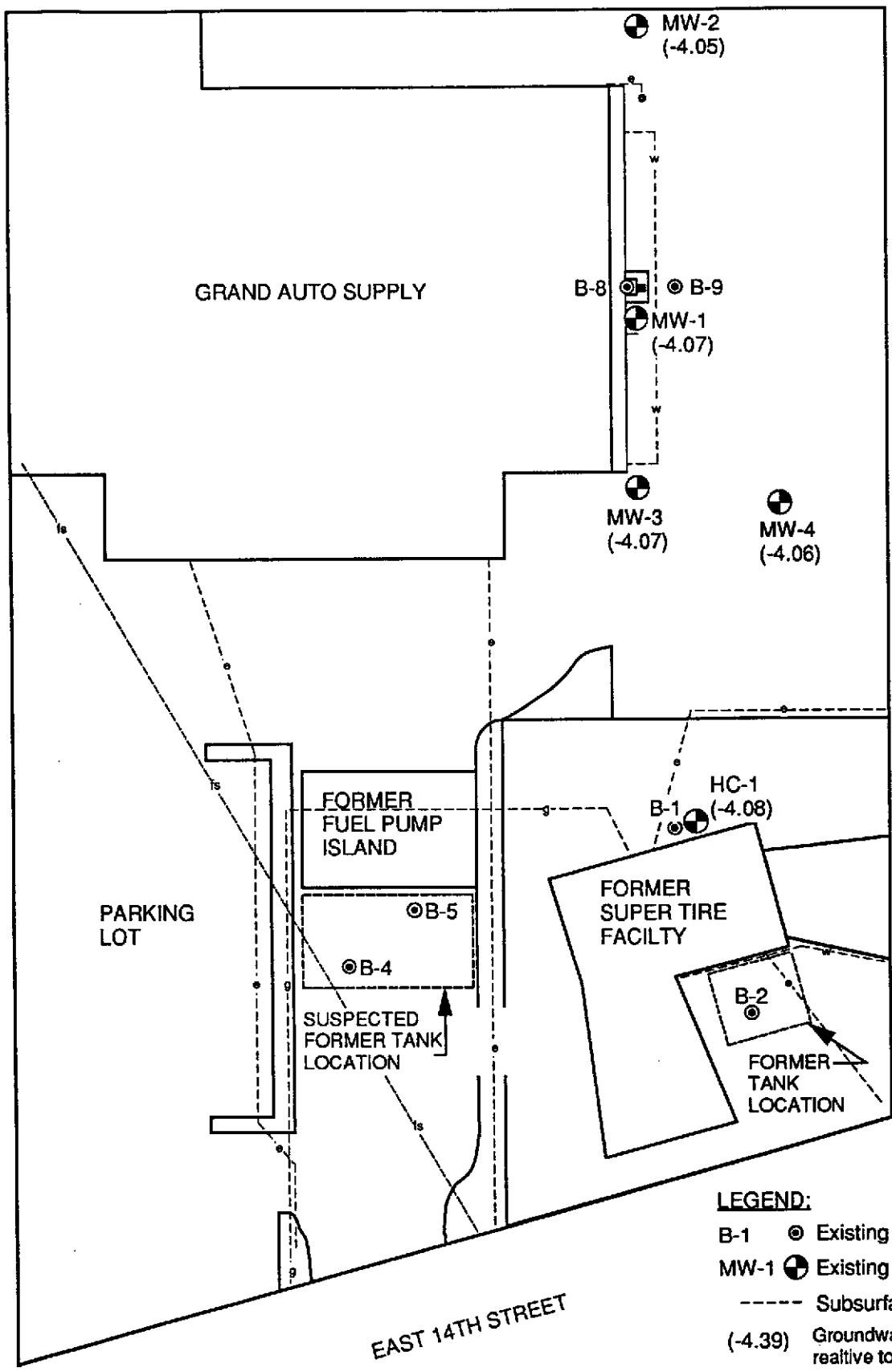
HARTCROWSER

J-6077 1/94

Figure 1

rad/pacoar oakland site v.1

MISSION AUTOMOTIVE



LEGEND:

B-1 ◉ Existing boring location

MW-1 ⊕ Existing well location

----- Subsurface utility lines

(-4.39) Groundwater elevation in feet realtive to Oakland City Datum, measured on February 18, 1994

0 20 40 80

Scale, in Feet

GROUNDWATER ELEVATIONS

GRAND AUTO FACILITY
4256 EAST 14 TH STREET
OAKLAND, CALIFORNIA

HARTCROWSER

J-6077 *4/94*

Figure 2

TAKERS

TABLE 1

Summary of Groundwater Sample Results
Grand Auto Facility, Oakland, California
February 18, 1994
(in µg/L)

Analyte	Method	MW-1	MW-2	MW-3	MW-4	HC-1	HC-1A
TPH as Gasoline	8015 mod	110*	58*	64*	95*	96*	90*
Benzene	8020	ND 0.5	ND 0.5	ND 0.5	ND 0.5	ND 0.5	ND 0.5
Toluene	8020	ND 0.5	ND 0.5	ND 0.5	ND 0.5	0.5	ND 0.5
Ethyl Benzene	8020	ND 0.5	ND 0.5	ND 0.5	ND 0.5	ND 0.5	ND 0.5
Xylenes	8020	ND 0.5	ND 0.5	ND 0.5	ND 0.5	ND 0.5	ND 0.5
Oil and Grease	SM5520F	NT	NT	NT	NT	ND 5000	NT
Chlorinated VOC's	8010						
cis 1,2 - Dichloroethene		12	25	5.0	6.0	13	11
Trichloroethene		25	75	19	31	30	22
Tetrachloroethene		200	4.8	85	120	140	150
Chloroform		1.0	ND 0.5	0.7	1.9	0.7	0.6
1,1,1-Trichloroethane		ND 0.5	ND 0.5	ND 0.5	0.7	ND 0.5	ND 0.5
1,2-Dichloroethane		ND 0.5	1.5	ND 0.5	ND 0.5	ND 0.5	ND 0.5
Metals							
Cadmium	6010	ND 50	ND 50	ND 50	ND 50	ND 50	ND 50
Chromium		ND 50	ND 50	ND 50	ND 50	ND 50	ND 50
Lead		ND 100	ND 100	ND 100	ND 100	ND 100	ND 100
Nickel		ND 50	ND 50	ND 50	ND 50	ND 50	ND 50
Zinc		ND 50	ND 50	ND 50	ND 50	ND 50	ND 50

Note: * - does not match typical gasoline pattern. ND X - Denotes chemical not detected at a level of X. Sample HC-1A is a duplicate sample of HC-1. NT denotes indicated analysis not performed on sample.

TABLE 2
HISTORICAL GROUNDWATER QUALITY DATA - PETROLEUM HYDROCARBONS
GRAND AUTO, OAKLAND

WELL	DATE	TPH AS GASOLINE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL BENZENE (ug/L)	XYLENES (ug/L)	Oil &GREASE (ug/L)
MW-1	9/10/92	150*	ND 0.3	ND 0.3	ND 0.3	ND 0.3	NT
GC/MS	1/19/93	160	ND 1	ND 3	ND 3	ND 3	NT
	4/26/93	57*	ND 0.3	ND 0.3	ND 0.3	ND 0.9	NT
(d)	4/26/93	74*	ND 0.3	ND 0.3	ND 0.3	ND 0.9	NT
	8/4/93	150*	ND 0.3	0.3	ND 0.3	ND 0.9	NT
	11/17/93	99*	ND 0.5	ND 0.5	ND 0.5	ND 0.5	NT
	2/18/94	110*	ND 0.5	ND 0.5	ND 0.5	ND 0.5	NT
MW-2	4/26/93	70	0.8	1.1	ND 0.3	1.0	ND 5,000
	8/4/93	120*	ND 0.3	0.3	ND 0.3	ND 0.9	NT
	11/17/93	ND 50	ND 0.5	ND 0.5	ND 0.5	ND 0.5	NT
	2/18/94	58*	ND 0.5	ND 0.5	ND 0.5	ND 0.5	NT
MW-3	4/26/93	ND 50	ND 0.3	ND 0.3	ND 0.3	ND 0.9	NT
	8/4/93	170*	0.3	0.4	ND 0.3	ND 0.9	NT
	11/17/93	ND 50	ND 0.5	ND 0.5	ND 0.5	ND 0.5	NT
	2/18/94	64 *	ND 0.5	ND 0.5	ND 0.5	ND 0.5	NT
MW-4	4/26/93	ND 50	ND 0.3	ND 0.3	ND 0.3	ND 0.9	NT
	8/4/93	110*	ND 0.3	0.4	ND 0.3	ND 0.9	NT
	11/17/93	ND 50	ND 0.5	ND 0.5	ND 0.5	ND 0.5	NT
	2/18/94	95*	ND 0.5	ND 0.5	ND 0.5	ND 0.5	NT

TABLE 2
HISTORICAL GROUNDWATER QUALITY DATA - PETROLEUM HYDROCARBONS
GRAND AUTO, OAKLAND

WELL	DATE	TPH AS GASOLINE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL BENZENE (ug/L)	XYLENES (ug/L)	OIL & GREASE (ug/L)
HC-1	4/26/93	ND 50	ND 0.3	ND 0.3	ND 0.3	ND 0.9	ND 5,000
	8/4/93	100*	ND 0.3	ND 0.3	ND 0.3	ND 0.9	NT
	11/17/93	ND 50	ND 0.5	ND 0.5	ND 0.5	ND 0.5	NT
	2/18/94	96*	ND 0.5	0.5	ND 0.5	ND 0.5	ND 5,000
(d)	2/18/94	90*	ND 0.5	ND 0.5	ND 0.5	ND 0.5	NT

Notes: ND X denotes analyte was not detected at a detection limit X.
GC/MS - denotes that EPA Method 8240 was used, all other results for EPA Method 8020.
(d) - denotes results are for a duplicate sample.
* - indicates that laboratory qualified result as not matching the standard gasoline chromatogram.
NT denotes that sample was not tested for indicated analyte.

TABLE 3
HISTORICAL GROUNDWATER QUALITY DATA - HALOGENATED HYDROCARBONS
GRAND AUTO, OAKLAND

WELL	DATE	FREON 1,2	cis-1,2-DCE (ug/L)	CLOROFORM (ug/L)	1,1,1-TCA (ug/L)	1,2-DCA (ug/L)	TCE (ug/L)	PCE (ug/L)
MW-1	9/10/92	NR	11	1.1	ND 0.5	ND 0.5	26	310
GC/MS	1/19/93	NR	14	ND 3	ND 3	ND 1	28	220
	4/26/93	37	8.7	1	ND 0.5	ND 0.5	22	300
(d)	4/26/93	110	9.6	1.1	0.6	ND 0.5	25	290
	8/4/93	NR	10	ND 5	ND 5	ND 5	23	290
	11/17/93	NR	15	1.8	ND 0.5	ND 0.5	28	230
	2/18/94	NR	12	1	ND 0.5	ND 0.5	25	200
MW-2	4/26/93	31	8.5	0.9	0.6	0.6	32	7.5
	8/4/93	NR	22	ND 1.2	ND 1.2	ND 1.2	110	7.2
	11/17/93	NR	8.7	ND 0.5	ND 0.5	ND 0.5	32	6.1
	2/18/94	NR	25	ND 0.5	ND 0.5	1.5	75	4.8
MW-3	4/26/93	35	9.7	ND 0.5	0.8	ND 0.5	21	79
	8/4/93	NR	ND 5	ND 5	ND 5	ND 5	28	170
	11/17/93	NR	12	1.3	0.8	ND 0.5	29	170
	2/18/94	NR	5	0.7	ND 0.5	ND 0.5	19	85
MW-4	4/26/93	28	3.9	0.6	ND 0.5	ND 0.5	17	98
	8/4/93	NR	ND 5	ND 5	ND 5	ND 5	16	110
	11/17/93	NR	6.6	1	ND 0.5	ND 0.5	20	87
	2/18/94	NR	6	1.9	0.7	ND 0.5	31	120

TABLE 3
HISTORICAL GROUNDWATER QUALITY DATA - HALOGENATED HYDROCARBONS
GRAND AUTO, OAKLAND

WELL	DATE	FREON 1,2	cis-1,2-DCE (ug/L)	CLOROFORM (ug/L)	1,1,1-TCA (ug/L)	1,2-DCA (ug/L)	TCE (ug/L)	PCE (ug/L)
HC-1	4/26/93	47	13	ND 0.5	ND 0.5	ND 0.5	22	46
	8/4/93	NR	15	ND 0.5	ND 0.5	ND 0.5	27	83
	11/17/93	NR	16	1.1	0.7	ND 0.5	27	130
	2/18/94	NR	13	0.7	ND 0.5	ND 0.5	30	140
(d)	2/18/94	NR	11	0.6	ND 0.5	ND 0.5	22	150

Notes: ND X denotes analyte was not detected at a detection limit X.
GC/MS - denotes that EPA Method 8240 was used, all other results for EPA Method 8010.
(d) - denotes results are for a duplicate sample.
NR denotes that results for analyte were not reported.

TABLE 4
HISTORICAL GROUNDWATER QUALITY DATA - METALS
GRAND AUTO, OAKLAND

WELL	DATE	CADMIUM (ug/L)	CHROMIUM (ug/L)	LEAD (ug/L)	NICKEL (ug/L)	ZINC (ug/L)
MW-1	9/10/92	NT	NT	NT	NT	NT
	1/19/93	ND 50	ND 50	ND 100	ND 50	ND 50
	4/26/93	ND 50	ND 50	ND 100	ND 50	ND 50
(d)	4/26/93	NT	NT	NT	NT	NT
	8/4/93	NT	ND 50	NT	NT	NT
	11/17/93	NT	ND 50	ND 100	ND 50	ND 50
	2/18/94	ND 50	ND 50	ND 100	ND 50	ND 50
MW-2	4/26/93	ND 50	ND 50	ND 100	ND 50	ND 50
	8/4/93	NT	ND 50	NT	NT	NT
	11/17/93	NT	ND 50	ND 100	ND 50	ND 50
	2/18/94	ND 50	ND 50	ND 100	ND 50	ND 50
MW-3	4/26/93	ND 50	170	ND 100	200	210
	8/4/93	NT	ND 50	NT	NT	NT
	11/17/93	NT	ND 50	ND 100	ND 50	ND 50
	2/18/94	ND 50	ND 50	ND 100	ND 50	ND 50
MW-4	4/26/93	ND 50	60	ND 100	ND 50	80
	8/4/93	NT	ND 50	NT	NT	NT
	11/17/93	NT	ND 50	ND 100	ND 50	ND 50
	2/18/94	ND 50	ND 50	ND 100	ND 50	ND 50
HC-1	4/26/93	ND 50	ND 50	ND 100	ND 50	ND 50
	8/4/93	NT	ND 50	NT	NT	NT
	11/17/93	NT	ND 50	ND 100	ND 50	ND 50
	2/18/94	ND 50	ND 50	ND 100	ND 50	ND 50
(d)	2/18/94	ND 50	ND 50	ND 100	ND 50	ND 50

Notes: ND X - Not detected at detection limit X.
NT denotes that sample was not tested for indicated analyte.

Table 5
Monitoring Well Data
February 18, 1994
Grand Auto Supply
Oakland, California

WELL	TOTAL DEPTH (feet BGS)	SCREENED INTERVAL (feet BGS)	SURFACE ELEVATION (feet)	TOP OF CASING ELEVATION (feet)	DEPTH TO GROUNDWATER (feet BGS)	GROUNDWATER ELEVATION (feet)
MW-1	43	33-43	30.8	30.53	34.60	-4.07
MW-2	45	31-45	30.7	30.41	34.46	-4.05
MW-3	45	30-45	30.7	30.31	34.38	-4.07
MW-4	45	30-45	29.5	29.08	33.14	-4.06
HC-1	42	30-42	28.7	28.33	32.41	-4.08

Notes:
1. See Figure 1 for well locations.
2. BGS = below ground surface.
3. Elevations relative to City of Oakland datum.

APPENDIX A
Certified Analytical Reports

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

RECEIVED MAR 3 1994

HARTCROWSER Inc
Attn: PAT LYNCH

Project J6077
Reported 03/01/94

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed	Matrix
91173- 1	MW-1	02/18/94	02/25/94	Water
91173- 2	MW-2	02/18/94	02/25/94	Water
91173- 3	MW-3	02/18/94	02/25/94	Water
91173- 4	MW-4	02/18/94	02/25/94	Water
91173- 5	HC-1	02/18/94	02/25/94	Water
91173- 6	HC-1A	02/18/94	02/25/94	Water

RESULTS OF ANALYSIS

Laboratory Number:	91173- 1	91173- 2	91173- 3	91173- 4	91173- 5
Gasoline:	110*	58*	64*	95*	96*
Benzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Toluene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	0.5
Ethyl Benzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Total Xylenes:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Oil and Grease:	NA	NA	NA	NA	ND<5000
Concentration:	ug/L	ug/L	ug/L	ug/L	ug/L

Laboratory Number:	91173- 6
Gasoline:	90*
Benzene:	ND<0.5
Toluene:	ND<0.5
Ethyl Benzene:	ND<0.5
Total Xylenes:	ND<0.5
Oil and Grease:	NA
Concentration:	ug/L

* Gasoline range concentration reported. The chromatogram shows only a single peak in the gasoline range.

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

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

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

QA/QC INFORMATION
SET: 91173

NA = ANALYSIS NOT REQUESTED
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT
ug/L = parts per billion (ppb)

OIL AND GREASE ANALYSIS By Standard Methods Method 5520F:
Minimum Detection Limit in Water: 5000ug/L

Modified EPA SW-846 Method 8015 for Extractable Hydrocarbons:
Minimum Quantitation Limit for Diesel in Water: 50ug/L

EPA SW-846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Water: 50ug/L

EPA SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Water: 0.5ug/L

ANALYTE	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline:	119/86	32%	70-130
Benzene:	101/98	3%	70-130
Toluene:	97/98	1%	70-130
Ethyl Benzene:	94/94	0%	70-130
Total Xylenes:	103/104	1%	70-130
Oil and Grease:	107/107	0%	56-130

Senior Chemist

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 ▪ Martinez, California 94553 ▪ (510) 229-1512 / fax (510) 229-1526

HARTCROWSER Inc
Attn: PAT LYNCH

Project J6077
Reported 01-March-1994

ANALYSIS FOR CADMIUM, CHROMIUM, LEAD, NICKEL, & ZINC
by EPA Method SW-846 6010

Chronology — Laboratory Number 91173

Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #
MW-1	02/18/94	02/22/94	02/25/94	03/01/94		1
MW-2	02/18/94	02/22/94	02/25/94	03/01/94		2
MW-3	02/18/94	02/22/94	02/25/94	03/01/94		3
MW-4	02/18/94	02/22/94	02/25/94	03/01/94		4
HC-1	02/18/94	02/22/94	02/25/94	03/01/94		5
HC-1A	02/18/94	02/22/94	02/25/94	03/01/94		6

RECEIVED MAR 3 1994

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 ▪ Martinez, California 94553 ▪ (510) 229-1512 / fax (510) 229-1526

HARTCROWSER Inc
Attn: PAT LYNCH

Project J6077
Reported 01-March-1994

ANALYSIS FOR CADMIUM, CHROMIUM, LEAD, NICKEL, & ZINC

Laboratory Number	Sample Identification	Matrix
91173- 1	MW-1	Water
91173- 2	MW-2	Water
91173- 3	MW-3	Water
91173- 4	MW-4	Water
91173- 5	HC-1	Water
91173- 6	HC-1A	Water

RESULTS OF ANALYSIS

Laboratory Number:		91173- 1	91173- 2	91173- 3	91173- 4	91173- 5
Cadmium	(Cd):	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05
Chromium	(Cr):	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05
Lead	(Pb):	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1
Nickel	(Ni):	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05
Zinc	(Zn):	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND<0.05
Concentration:		mg/L	mg/L	mg/L	mg/L	mg/L

Laboratory Number:		91173- 6
Cadmium	(Cd):	ND<0.05
Chromium	(Cr):	ND<0.05
Lead	(Pb):	ND<0.1
Nickel	(Ni):	ND<0.05
Zinc	(Zn):	ND<0.05
Concentration:		mg/L

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 ▪ Martinez, California 94553 ▪ (510) 229-1512 / fax (510) 229-1526

ANALYSIS FOR CADMIUM, CHROMIUM, LEAD, NICKEL, & ZINC
Quality Assurance and Control Data - Water

Laboratory Number 91173

Compound		Method Blank (mg/L)	RL (mg/L)	Spike Recovery (%)	Limits (%)	RPD (%)
Cadmium	(Cd):	ND<0.05	0.05	100/101	75-125	1%
Chromium	(Cr):	ND<0.05	0.05	95/93	75-125	2%
Lead	(Pb):	ND<0.1	0.1	99/97	75-125	2%
Nickel	(Ni):	ND<0.05	0.05	95/96	75-125	1%
Zinc	(Zn):	ND<0.05	0.05	99/96	75-125	3%

Definitions:
ND = Not Detected
RPD = Relative Percent Difference
RL = Reporting Limit
mg/L = Parts per million (ppm)
QC File No. 91173

Hsaneh Sahi
Senior Chemist
Account Manager

RECEIVED MAR 3 1994

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HARTCROWSER Inc
Attn: PAT LYNCH

Project J6077
Reported 01-March-1994

HALOGENATED VOLATILE ORGANICS by EPA SW-846 Methods 5030/8010.

Chronology Laboratory Number 91173

Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #
MW-1	02/18/94	02/22/94	/ /	02/25/94		1
MW-2	02/18/94	02/22/94	/ /	02/25/94		2
MW-3	02/18/94	02/22/94	/ /	02/25/94		3
MW-4	02/18/94	02/22/94	/ /	02/25/94		4
HC-1	02/18/94	02/22/94	/ /	02/25/94		5
HC-1A	02/18/94	02/22/94	/ /	02/25/94		6
TB	02/18/94	02/22/94	/ /	02/26/94		7

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HARTCROWSER Inc
Attn: PAT LYNCH

Project J6077
Reported 01-March-1994

HALOGENATED VOLATILE ORGANICS by EPA SW-846 Methods 5030/8010.

Laboratory Number	Sample Identification	Matrix
91173- 1	MW-1	Water
91173- 2	MW-2	Water
91173- 3	MW-3	Water
91173- 4	MW-4	Water
91173- 5	HC-1	Water

RESULTS OF ANALYSIS

Laboratory Number:	91173- 1	91173- 2	91173- 3	91173- 4	91173- 5
Chloromethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Vinyl Chloride:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Bromomethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Chloroethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Trichlorofluoromethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,1-Dichloroethene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Dichloromethane:	ND<1.5	ND<1.5	ND<1.5	ND<1.5	ND<1.5
t-1,2-Dichloroethene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,1-Dichloroethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
c-1,2-Dichloroethene:	12	25	5.0	6.0	13
Chloroform:	1	ND<0.5	0.7	1.9	0.7
1,1,1-Trichloroethane:	ND<0.5	ND<0.5	ND<0.5	0.7	ND<0.5
Carbon tetrachloride:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,2-Dichloroethane:	ND<0.5	1.5	ND<0.5	ND<0.5	ND<0.5
Trichloroethene:	25	75	19	31	30
c-1,3-Dichloropropene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,2-Dichloropropane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
t-1,3-Dichloropropene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Bromodichloromethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,1,2-Trichloroethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Tetrachloroethene:	200	4.8	85	120	140
Dibromochloromethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Chlorobenzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Bromoform:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,1,2,2-Tetrachloroeth:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,3-Dichlorobenzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,2-Dichlorobenzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,4-Dichlorobenzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Concentration:	ug/L	ug/L	ug/L	ug/L	ug/L

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HARTCROWSER Inc
Attn: PAT LYNCH

Project J6077
Reported 01-March-1994

HALOGENATED VOLATILE ORGANICS by EPA SW-846 Methods 5030/8010.

Laboratory Number	Sample Identification	Matrix
91173- 6	HC-1A	Water
91173- 7	TB	Water

RESULTS OF ANALYSIS

Laboratory Number:	91173- 6	91173- 7
Chloromethane:	ND<0.5	ND<0.5
Vinyl Chloride:	ND<0.5	ND<0.5
Bromomethane:	ND<0.5	ND<0.5
Chloroethane:	ND<0.5	ND<0.5
Trichlorofluoromethane:	ND<0.5	ND<0.5
1,1-Dichloroethene:	ND<0.5	ND<0.5
Dichloromethane:	ND<1.5	ND<1.5
t-1,2-Dichloroethene:	ND<0.5	ND<0.5
1,1-Dichloroethane:	ND<0.5	ND<0.5
c-1,2-Dichloroethene:	11	ND<0.5
Chloroform:	0.6	ND<0.5
1,1,1-Trichloroethane:	ND<0.5	ND<0.5
Carbon tetrachloride:	ND<0.5	ND<0.5
1,2-Dichloroethane:	ND<0.5	ND<0.5
Trichloroethene:	22	ND<0.5
c-1,3-Dichloropropene:	ND<0.5	ND<0.5
1,2-Dichloropropane:	ND<0.5	ND<0.5
t-1,3-Dichloropropene:	ND<0.5	ND<0.5
Bromodichloromethane:	ND<0.5	ND<0.5
1,1,2-Trichloroethane:	ND<0.5	ND<0.5
Tetrachloroethene:	150	ND<0.5
Dibromochloromethane:	ND<0.5	ND<0.5
Chlorobenzene:	ND<0.5	ND<0.5
Bromoform:	ND<0.5	ND<0.5
1,1,2,2-Tetrachloroeth:	ND<0.5	ND<0.5
1,3-Dichlorobenzene:	ND<0.5	ND<0.5
1,2-Dichlorobenzene:	ND<0.5	ND<0.5
1,4-Dichlorobenzene:	ND<0.5	ND<0.5
Concentration:	ug/L	ug/L

Superior Precision Analytical, Inc.
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HALOGENATED VOLATILE ORGANICS by EPA SW-846 Methods 5030/8010.
Quality Assurance and Control Data - Water

Laboratory Number 91173

Compound	Method Blank (ug/L)	RL (ug/L)	Spike Recovery (%)	Limits (%)	RPD (%)
Chloromethane:	ND<0.5	0.5			
Vinyl Chloride:	ND<0.5	0.5			
Bromomethane:	ND<0.5	0.5			
Chloroethane:	ND<0.5	0.5			
Trichlorofluoromethane:	ND<0.5	0.5			
1,1-Dichloroethene:	ND<0.5	0.5	114/122	45-173	7%
Dichloromethane:	ND<1.5	1.5			
t-1,2-Dichloroethene:	ND<0.5	0.5			
1,1-Dichloroethane:	ND<0.5	0.5			
c-1,2-Dichloroethene:	ND<0.5	0.5			
Chloroform:	ND<0.5	0.5			
1,1,1-Trichloroethane:	ND<0.5	0.5			
Carbon tetrachloride:	ND<0.5	0.5			
1,2-Dichloroethane:	ND<0.5	0.5			
Trichloroethene:	ND<0.5	0.5	92/94	68-147	2%
c-1,3-Dichloropropene:	ND<0.5	0.5			
1,2-Dichloropropane:	ND<0.5	0.5			
t-1,3-Dichloropropene:	ND<0.5	0.5			
Bromodichloromethane:	ND<0.5	0.5			
1,1,2-Trichloroethane:	ND<0.5	0.5			
Tetrachloroethene:	ND<0.5	0.5			
Dibromochloromethane:	ND<0.5	0.5			
Chlorobenzene:	ND<0.5	0.5	92/98	81-150	6%
Bromoform:	ND<0.5	0.5			
1,1,2,2-Tetrachloroeth:	ND<0.5	0.5			
1,3-Dichlorobenzene:	ND<0.5	0.5			
1,2-Dichlorobenzene:	ND<0.5	0.5			
1,4-Dichlorobenzene:	ND<0.5	0.5			

Definitions:
ND = Not Detected
RPD = Relative Percent Difference
RL = Reporting Limit
ug/L = Parts per billion (ppb)
QC File No. 91173

Senior Chemist
Account Manager

HCISF

Sample Custody Record

DATE 2/18/94 — 91173 — PAGE 1 OF 1

HART CROWSER

Hart Crowser, Inc.
353 Sacramento Street, Suite 1140
San Francisco, California 94111

JOB NUMBER J6077 — LAB NUMBER

PROJECT MANAGER PAT LYNCH

PROJECT NAME PACCAR — OAKLAND

SAMPLED BY: ERB / BB

LAB NO.	SAMPLE	TIME	STATION	MATRIX	TESTING: TPH-d & BTEX	TESTING: 8010	TESTING: TOG-5520F	TESTING: Cr, Cd, Pb, Ni, Zn	NO. OF CONTAINERS
	MW-1	PM 2/18/94		H_2O	X	X	X	X	5
	MW-2	↓		↓	X	X	X	X	5
	MW-3				X	X	X	X	5
	MW-4				X	X	X	X	5
	HC-1				X	X	X	X	6
	HC-1A				X	X		X	5
	TB					X			1

Please Initial:
Samples Stored Ice. ✓
Appropriate containers ✓
Samples preserved ✓
VOA's without headspace ✓
Comments: HW 4°C

OBSERVATIONS / COMMENTS / COMPOSITING INSTRUCTIONS

RELINQUISHED BY	DATE	RECEIVED BY	DATE
SIGNATURE	2/15/94	SIGNATURE	2/18
PRINTED NAME: ERIC SCHNEIDER	TIME	PRINTED NAME: V Eskenlo	TIME
COMPANY: HCI	3:17	COMPANY	3:17
RELINQUISHED BY	DATE	RECEIVED BY	DATE
SIGNATURE		SIGNATURE: Helen Amparo	2/22/94
PRINTED NAME	TIME	PRINTED NAME: HELEN AMPARO	TIME
COMPANY		COMPANY: SDP. MTZ	11:15

TOTAL NUMBER OF CONTAINERS 32

METHOD OF SHIPMENT

SPECIAL SHIPMENT / HANDLING OR STORAGE REQUIREMENTS: NORMAL TAT

DISTRIBUTION:
1. PROVIDE WHITE AND YELLOW COPIES TO LABORATORY
2. RETURN PINK COPY TO PROJECT MANAGER
3. LABORATORY TO FILL IN SAMPLE NUMBER AND SIGN FOR RECEIPT
4. LABORATORY TO RETURN WHITE COPY TO HART CROWSER

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Earth and Environmental Technologies

Hart Crowser, Inc.
353 Sacramento Street, Suite 1140
San Francisco, California 94111

Alameda County
Dept. of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, CA 94621

Attn: Ms. Madhula Logan