



92 NOV 24 PM 1:22

Underground Contamination Investigations, Groundwater Consultants, Environmental Engineering

November 23, 1992

**Jennifer Eberle
Alameda County Health Agency
Department of Environmental Health
80 Swan Way
Room 200**

**RE: PACIFIC CRYOGENIC
2311 Magnolia Street, Oakland, CA**

Dear Ms. Eberle:

On November 12, 1992, the underground piping at the above-referenced site was removed. During the removal process, several holes were noted in both the waste oil and the gasoline underground pipelines. At one location, significant gasoline contamination was apparent in the soil (based upon odor and color).

Subsequent to the piping removal, additional excavation was conducted on November 18, 1992. The excavation extended to a depth of approximately 12 feet below ground surface and was conducted in order to mitigate the apparent subsurface gasoline contamination. The areal extent of the excavation, as well as the locations of soil sampling, are shown on the attached Figure 1 (site map). All soil sample collection was conducted in your presence on the site.

The results of the soil sampling are shown on the attached laboratory certificates. The samples labeled "SP1-SP4", "SSP1-SSP4" and "SSP5-SSP8" are composite samples of the stockpiled excavated soil. The samples labeled "SPL 1" and "SPL 2" are soil samples collected from the bottom of the trench excavation, at a depth of approximately 4 feet below the ground surface on November 12 and approximately 7 feet below ground surface on November 18.

The samples 1A through 7B are sidewall soil samples collected from the main excavation area, as shown in Figure 1. The designation "A" applies to a sample collected at the 6-foot depth and the designation "B" applies to a sample collected at the 9-foot depth. As shown on the laboratory certificate, significant gasoline contamination is still remaining at the areal limits of the excavation. The gasoline contamination appears to coincide with the capillary fringe above the water table, and appears to potentially be of considerable areal extent.

up to 1600 ppm TPH-g,
2.4 ppm benz in sample 3B-9"

Considering 1) the unknown areal extent of the subsurface contamination, 2) the structural integrity of the existing building, 3) the successful removal of the primary subsurface contamination from beneath the source (piping leak), and 4) general site safety considerations, we are planning to backfill the excavation in its entirety as soon as possible.

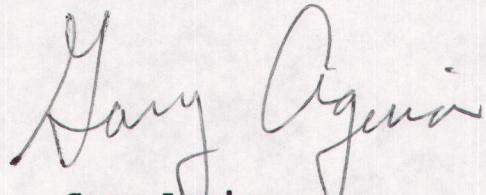
In order to facilitate future in-situ treatment technologies, such as vapor extraction and/or bioremediation, 1) the excavation shall be backfilled up to two feet below the ground surface with 3/8" pea gravel and 2) at the time of the backfill, three backfill wells shall be installed, using 4-inch PVC casing and slotted screen (0.05" slots). The locations of the backfill wells are shown on Figure 2. Please find attached a copy of the signed permit issued by Zone-7, Alameda County Flood Control and Conservation

District, for the well installations.

Following the excavation backfill, the pavement resurfacing, and the soil disposal, future activities will necessarily include subsurface investigation to determine the full extent of the subsurface gasoline contamination beneath the site. Based upon the results of such a subsurface investigation, various remediation alternatives will be investigated. In addition, a risk assessment will be conducted in order to determine site-specific clean-up criteria (applied action levels).

If you have any questions, please contact me at (415) 284-1661.

Sincerely,



Gary Aguiar
Principal Engineer

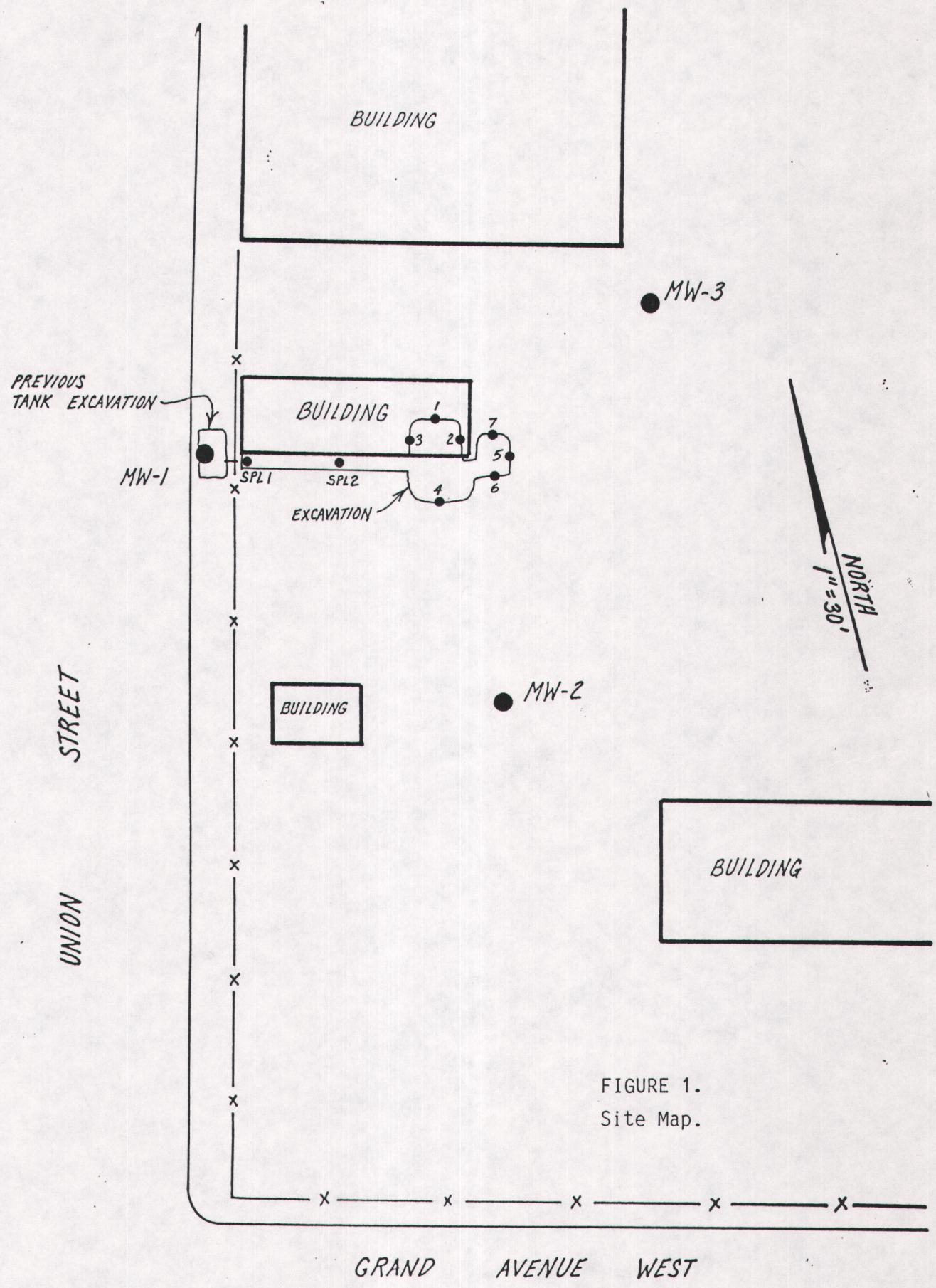


FIGURE 1.
Site Map.

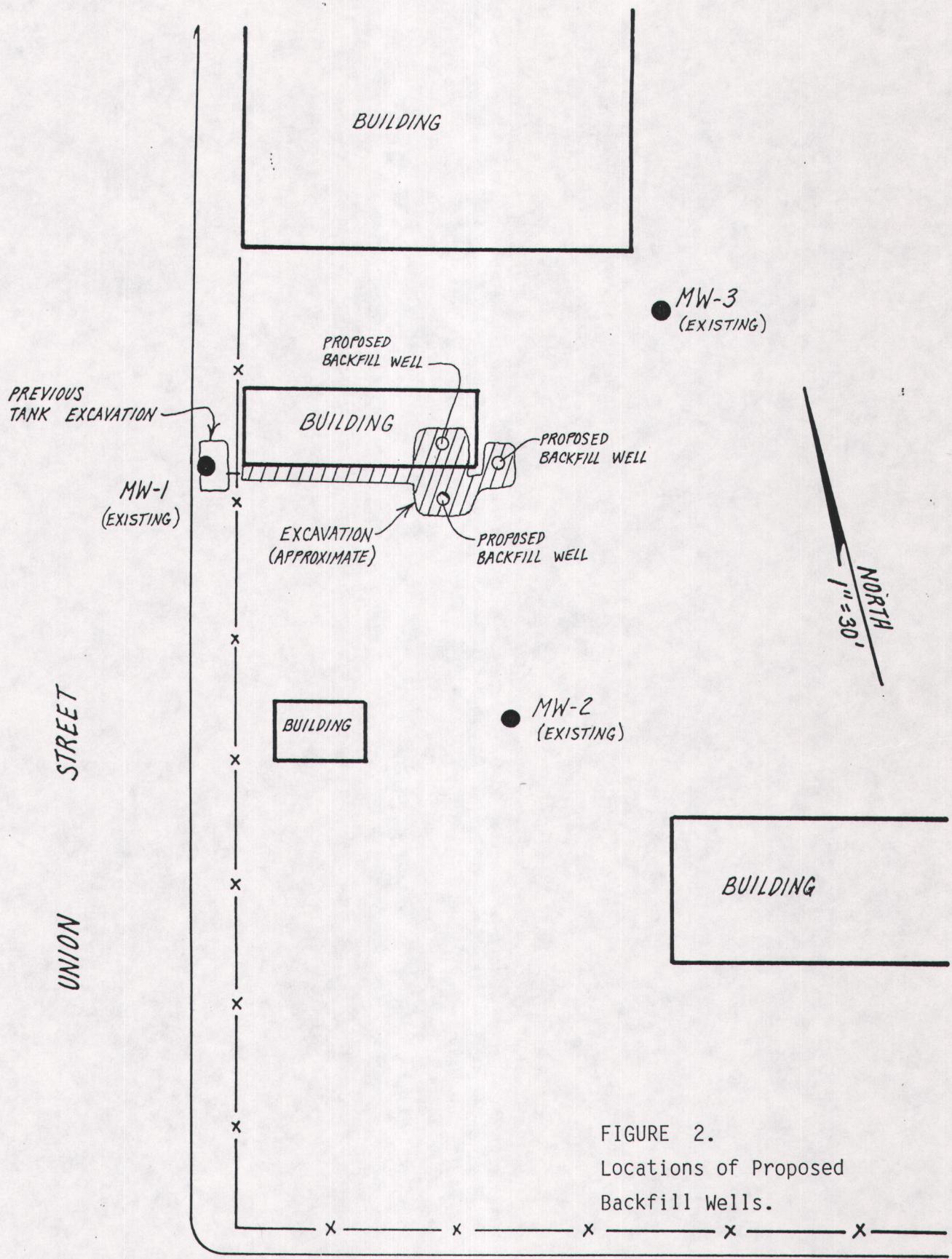


FIGURE 2.
Locations of Proposed
Backfill Wells.

GRAND AVENUE WEST



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
5997 PARKSIDE DRIVE • PLEASANTON, CALIFORNIA 94588 • (510) 484-2600

TELEFAX TRANSMITTAL

DATE: 20 Nov 92

DELIVER TO: Jary Aquia

NAME OF FIRM: Hageman - Aquia

FAX PHONE #: 284 - 1664

FROM: Wyman Hong

NUMBER OF PAGES: 2
(Including transmittal)

FOR VOICE CONTACT CALL: (510) 484-2600

FOR RETURN FAX: (510) 462-3914

REMARKS: Transmitting drilling permit 92607
for a monitoring well construction project at
2311 Magnolia Street in Oakland for Aldo
Guidotti.



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
5997 PARKSIDE DRIVE • PLEASANTON, CALIFORNIA 94566 • (415) 484-2600

GROUNDWATER PROTECTION ORDINANCE PERMIT APPLICATION

FOR APPLICANT TO COMPLETE :

LOCATION OF PROJECT Pacific Cryogenics
2311 Magnolia Street
Oakland, CA 94607

CLIENT
Name Aldo Guidotti / Estate of Jean Josephine
Address 1 Bates Blvd #300 Phone
City Orinda Zip 94536

APPLICANT
Name Hageman-Aguilar, Inc.
3732 Mt Diablo Blvd
Address Suite 372 Phone (510)284-1661
City Lafayette Zip 94549

TYPE OF PROJECT
Well Construction Geotechnical Investigation
Cathodic Protection General
Water Supply Contamination
Monitoring X Well Destruction

PROPOSED WATER SUPPLY WELL USE
Domestic I Industrial Other
Municipal I Irrigation

DRILLING METHOD: excavation backfill wells
Rod Rotary Air Rotary Auger
Table Other X

DRILLER'S LICENSE NO. NONE (excavation backfill wells)

WELL PROJECTS

Drill Hole Diameter in. Maximum
Casing Diameter 4 in. Depth 15 ft.
Surface Seal Depth 3 ft. Number 3

GEOTECHNICAL PROJECTS

Number of Borings Maximum
Hole Diameter in. Depth ft.

ESTIMATED STARTING DATE 11/19/92
ESTIMATED COMPLETION DATE 11/19/92

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

APPLICANT'S SIGNATURE Gary Aguilar Date 11/18/92

FOR OFFICE USE

PERMIT NUMBER 92607
LOCATION NUMBER

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A) GENERAL

1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 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 log and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

(B) WATER WELLS, INCLUDING PIEZOMETERS

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. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

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

4. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

5. WELL DESTRUCTION. See attached.

Approved Wyman Hong Date 19 Nov 92
Wyman Hong

121989

ATTACHMENT A

ANALYTICAL RESULTS



PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

November 16, 1992

PEL # 9211038

HAGEMAN - AGUIAR, INC.

Attn: Jeffrey Roth
Re: Three soil samples for Gasoline/BTEX, TEPH, and Oil & Grease analyses.

Project name: Pacific Oxygen

Project location: Union St., -Oakland, CA.

Date sampled: Nov 12, 1992

Date extracted: Nov 13-14, 1992

Date submitted: Nov 13, 1992

Date analyzed: Nov 13-14, 1992

RESULTS:

SAMPLE I.D.	Kerosene (mg/Kg)	Gasoline (mg/Kg)	Diesel (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)	Oil & Grease (mg/Kg)	Motor Oil (mg/Kg)
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PL 1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	1400	1100
PL 2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	16	13
SP1-SP4	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	330	180
Blank	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	95.3%	83.1%	101.4%	80.6%	85.2%	93.5%	90.7%	---	---
Duplicate Spiked Recovery	---	87.8%	92.6%	91.4%	93.6%				---
Detection limit	1.0	1.0	1.0	5.0	5.0				10
Method of Analysis	3550 / 8015	5030 / 8015	3550 / 8015	8020	8020				3550 / F 8015

Initial s.s.
collected @ 3' bgs
from pipeline
trench, before
excavation

David Duong
Laboratory Director



PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

November 16, 1992

PEL # 9211038

HAGEMAN - AGUIAR, INC.
Project name : Pacific Oxygen

Attn: Jeffrey Roth
Project location:Union St.-Oakland, CA.

Sample I.D.: SP1-SP4

Date Sampled: Nov 12, 1992
Date Analyzed: Nov 12-14, 1992

Date Submitted: Nov 12, 1992

Method of Analysis: EPA 8010

Detection limit: 5.0 ug/Kg

COMPOUND NAME	CONCENTRATION (ug/Kg)	SPIKE RECOVERY (%)
Chloromethane	N.D.	-----
Vinyl Chloride	N.D.	93.1
Bromomethane	N.D.	-----
Chloroethane	N.D.	-----
Trichlorofluoromethane	N.D.	82.7
1,1-Dichloroethene	N.D.	-----
Methylene Chloride	N.D.	101.9
1,2-Dichloroethene (TOTAL)	N.D.	-----
1,1-Dichloroethane	N.D.	-----
Chloroform	N.D.	-----
1,1,1-Trichloroethane	N.D.	-----
Carbon Tetrachloride	N.D.	103.4
1,2-Dichloroethane	N.D.	-----
Trichloroethene	N.D.	97.6
1,2-Dichloropropane	N.D.	-----
Bromodichloromethane	N.D.	-----
2-Chloroethylvinylether	N.D.	-----
Trans-1,3-Dichloropropene	N.D.	-----
Cis-1,3-Dichloropropene	N.D.	-----
1,1,2-Trichloroethane	N.D.	-----
Tetrachloroethene	N.D.	86.4
Dibromochloromethane	N.D.	-----
Chlorobenzene	N.D.	-----
Bromoform	N.D.	93.3
1,1,2,2-Tetrachloroethane	N.D.	-----
1,3-Dichlorobenzene	N.D.	-----
1,4-Dichlorobenzene	N.D.	-----
1,2-Dichlorobenzene	N.D.	-----

David Duong
Laboratory Director



PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

November 16, 1992

PEL # 9211038

HAGEMAN - AGUIAR, INC.
Project name : Pacific Oxygen

Attn: Jeffrey Roth
Project location:Union St.-Oakland, CA.

Sample I.D.: PL-1

Date Sampled: Nov 12, 1992
Date Analyzed: Nov 12-14, 1992

Date Submitted: Nov 12, 1992

Method of Analysis: EPA 8010

Detection limit: 5.0 ug/Kg

COMPOUND NAME	CONCENTRATION (ug/Kg)	SPIKE RECOVERY (%)
Chloromethane	N.D.	-----
Vinyl Chloride	N.D.	93.1
Bromomethane	N.D.	-----
Chloroethane	N.D.	-----
Trichlorofluoromethane	N.D.	82.7
1,1-Dichloroethene	N.D.	-----
Methylene Chloride	N.D.	101.9
1,2-Dichloroethene (TOTAL)	N.D.	-----
1,1-Dichloroethane	N.D.	-----
Chloroform	N.D.	-----
1,1,1-Trichloroethane	N.D.	-----
Carbon Tetrachloride	N.D.	103.4
1,2-Dichloroethane	N.D.	-----
Trichloroethene	N.D.	97.6
1,2-Dichloropropane	N.D.	-----
Bromodichloromethane	N.D.	-----
2-Chloroethylvinylether	N.D.	-----
Trans-1,3-Dichloropropene	N.D.	-----
Cis-1,3-Dichloropropene	N.D.	-----
1,1,2-Trichloroethane	N.D.	-----
Tetrachloroethene	N.D.	86.4
Dibromochloromethane	N.D.	-----
Chlorobenzene	N.D.	-----
Bromoform	N.D.	93.3
1,1,2,2-Tetrachloroethane	N.D.	-----
1,3-Dichlorobenzene	N.D.	-----
1,4-Dichlorobenzene	N.D.	-----
1,2-Dichlorobenzene	N.D.	-----

David Duong
Laboratory Director



PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

November 16, 1992

PEL # 9211038

HAGEMAN - AGUIAR, INC.
Project name : Pacific Oxygen

Attn: Jeffrey Roth
Project location:Union St.-Oakland,CA.

Sample I.D.: PL-2

Date Sampled: Nov 12, 1992
Date Analyzed: Nov 12-14, 1992

Date Submitted: Nov 12, 1992

Method of Analysis: EPA 8010

Detection limit: 5.0 ug/Kg

COMPOUND NAME	CONCENTRATION (ug/Kg)	SPIKE RECOVERY (%)
Chloromethane	N.D.	-----
Vinyl Chloride	N.D.	93.1
Bromomethane	N.D.	-----
Chloroethane	N.D.	-----
Trichlorofluoromethane	N.D.	82.7
1,1-Dichloroethene	N.D.	-----
Methylene Chloride	N.D.	101.9
1,2-Dichloroethene (TOTAL)	N.D.	-----
1,1-Dichloroethane	N.D.	-----
Chloroform	N.D.	-----
1,1,1-Trichloroethane	N.D.	-----
Carbon Tetrachloride	N.D.	103.4
1,2-Dichloroethane	N.D.	-----
Trichloroethene	N.D.	97.6
1,2-Dichloropropane	N.D.	-----
Bromodichloromethane	N.D.	-----
2-Chloroethylvinylether	N.D.	-----
Trans-1,3-Dichloropropene	N.D.	-----
Cis-1,3-Dichloropropene	N.D.	-----
1,1,2-Trichloroethane	N.D.	-----
Tetrachloroethene	N.D.	86.4
Dibromochloromethane	N.D.	-----
Chlorobenzene	N.D.	-----
Bromoform	N.D.	93.3
1,1,2,2-Tetrachloroethane	N.D.	-----
1,3-Dichlorobenzene	N.D.	-----
1,4-Dichlorobenzene	N.D.	-----
1,2-Dichlorobenzene	N.D.	-----

David Duong
Laboratory Director

PEL # 9211038

INV # 23208

CHAIN OF CUSTODY RECORD

PROJECT NAME AND ADDRESS: PACIFIC OXYGEN Union St. OAKLAND, CA					SAMPLER: (Signature) <i>J. Smith</i>	ANALYSIS REQUESTED											
					HAGEMAN - AGUIAR, INC. 3732 Mt. Diablo Blvd., Suite 372 Lafayette, CA 94549 (415)284-1661 (415)284-1664 (FAX)												
CROSS REFERENCE NUMBER	DATE	TIME	SOIL	WATER	STATION LOCATION					REMARKS							
SP1-SP4	11-12-92	1500	X		4 PT SPOON PILE COMPOSITE					X	X	X	X	X	X	X	Norm TAT
PL 1	11-12-92	1425	X		PIPE LINE TRENCH - 4'					X	X	X	X	X	X	" "	
PL 2	11-12-92	1435	X		PIPE LINE TRENCH - 4'					X	X	X	X	X	X	" "	
<p>* /ARCHIVE: "Do Not Analyze For 8240 8240 OR METALS UNTIL FURTHER NOTICE</p>																	
RELINQUISHED BY: (Signature) <i>J. Smith</i>					DATE 11-13-92 TIME 1100	RECEIVED BY: (Signature)					DATE _____ TIME _____						
RELINQUISHED BY: (Signature)					DATE _____ TIME _____	RECEIVED BY: (Signature)					DATE _____ TIME _____						
RELINQUISHED BY: (Signature)					DATE _____ TIME _____	RECEIVED BY: (Signature)					DATE _____ TIME _____						
RELINQUISHED BY: (Signature)					DATE _____ TIME _____	RECEIVED FOR LABORATORY BY: (Signature) <i>D. D. duane</i>					DATE 11/13/92 TIME 11:00						



PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

November 21, 1992

PEL # 9211047

HAGEMAN - AGUIAR, INC.

Attn: Jeffrey Roth

Re: Eighteen soil samples for Gasoline/BTEX, TEPH, and Oil & Grease analyses.

Project name: Pacific Oxygen

Project location: Union St., -Oakland, CA.

Date sampled: Nov 18, 1992

Date extracted: Nov 19-21, 1992

Date submitted: Nov 21, 1992

Date analyzed: Nov 19-21, 1992

RESULTS:

SAMPLE I.D.	Kerosene (mg/Kg)	Gasoline (mg/Kg)	Diesel (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)	Oil & Grease (ug/Kg)	Motor Oil (mg/Kg)
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SSP1-SSP4	N.D.	820	35	1300	1800	2000	7500	170	160
SSP5-SSP8	N.D.	530	N.D.	750	1300	1600	6200	28	30
SPL 1	N.D.	1.4	N.D.	5.7	6.8	6.6	13	150	240
SPL 2	N.D.	1.0	N.D.	5.0	5.2	5.4	9.0	N.D.	N.D.
1 A	N.D.	28	N.D.	22	19	33	86	N.D.	N.D.
1 B	N.D.	670	2.3	870	1400	1800	6600	22	24
2 A	N.D.	310	N.D.	480	760	1100	3500	20	18
2 B	N.D.	400	N.D.	550	940	1300	4000	11	N.D.
3 A	N.D.	29	N.D.	25	21	34	92	N.D.	N.D.
3 B	9' depth	N.D.	1600	N.D.	2400	2800	3300 18000	19	N.D.
4 A	N.D.	28	N.D.	26	20	31	89	N.D.	N.D.
4 B	N.D.	420	N.D.	520	1400	1600	5300	64	30
5 A	N.D.	26	N.D.	23	18	35	83	N.D.	N.D.
5 B	N.D.	1100	10	2000	2500	3000	16000	29	22
6 A	N.D.	8.7	N.D.	11	8.0	27	54	N.D.	N.D.
6 B	N.D.	15	N.D.	18	12	21	70	N.D.	N.D.
7 A	N.D.	27	N.D.	28	24	38	85	14	N.D.
7 B	N.D.	350	1.2	580	950	1800	4200	30	25
Blank	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked									
Recovery	89.3%	92.4%	103.1%	97.2%	95.3%	104.6%	92.0%	---	---
Duplicate									
Spiked									
Recovery	---	87.8%	100.5%	88.4%	90.2%	98.6%	86.1%	---	---
Detection									
limit	1.0	1.0	1.0	5.0	5.0	5.0	5.0	10	10
Method of	3550 /	5030 /	3550 /					5520	3550 /
Analysis	8015	8015	8015	8020	8020	8020	8020	D & F	8015

David Duong
Laboratory Director

PEL # 9211047

INV # 23217

CHAIN OF CUSTODY RECORD

PJ 1 of 2 *

PROJECT NAME AND ADDRESS: <u>PACIFIC OXYGEN</u> <u>UNION ST</u> <u>OAKLAND, CA</u>					SAMPLER (Signature) <u>JSC Smith</u>	ANALYSIS REQUESTED					
CROSS REFERENCE NUMBER	DATE	TIME	S O L	W A T E R	STATION LOCATION					REMARKS	
SSPI-SSP4	11-18-92		X		4 PT COMPOSITE - 2 ND SPOILS PILE					X X X X	
SSPE-SSP8			X		" "					X X X	
SPL 1			X		2 ND PIPELINE SAMPLE - 7'					X X X	
SPL 2			X		2 ND PIPELINE SAMPLE - 7'					X X X	
1A			X		EXCAVATION - 6'					X X X	
1B			X		- 9'					X X X	
2A			X		- 6'					X X X	
2B			X		- 9-					X X X	
3A			X		- 6-					X X X	
3B			X		- 9-					X X X	
4A			X		- 6-					X X X	
4B			X		- 9'					X X X	
5A			X		- 6'					X X X	
5B			X		- 9-					X X X	
6A	V		X		- 6'					X X X	
RELINQUISHED BY: (Signature) <u>JSC Smith</u>					DATE 11-19-92 TIME 0930	RECEIVED BY: (Signature)					DATE TIME
RELINQUISHED BY: (Signature)					DATE TIME	RECEIVED BY: (Signature)					DATE TIME
RELINQUISHED BY: (Signature)					DATE TIME	RECEIVED BY: (Signature)					DATE TIME
RELINQUISHED BY: (Signature)					DATE TIME	RECEIVED FOR LABORATORY BY: (Signature) <u>John D. Johnson</u>					DATE 11-11 TIME 04

REC # 7411047
Inv # 23217

Pg 2 of 2

CHAIN OF CUSTODY RECORD

PROJECT NAME AND ADDRESS: <u>PACIFIC OXYGEN</u> <u>UNION ST.</u> <u>OAKLAND, CA</u>					SAMPLER: (Signature) <u>J.S. Smith</u>	ANALYSIS REQUESTED					
CROSS REFERENCE NUMBER	DATE	TIME	SOIL	WATER	STATION LOCATION					REMARKS	
6B	11-18-92		X		EXCAVATION - 9-					X X X X	
7A	"		X		" - 6 -					X X X X	
7B	"		X		" - 9 -					X X X X	
RELINQUISHED BY: (Signature) <u>J.S. Smith</u>					DATE 11-19-92 TIME 0930	RECEIVED BY: (Signature)					DATE _____ TIME _____
RELINQUISHED BY: (Signature)					DATE _____ TIME _____	RECEIVED BY: (Signature)					DATE _____ TIME _____
RELINQUISHED BY: (Signature)					DATE _____ TIME _____	RECEIVED BY: (Signature)					DATE _____ TIME _____
RELINQUISHED BY: (Signature)					DATE _____ TIME _____	RECEIVED FOR LABORATORY BY: (Signature) <u>John D. Johnson</u>					DATE 11/19/92 TIME 9:30 AM