RO127 ✓

HerSchy Environmental, Inc.

September 17, 2004
Project A51-01

Mr. Barney Chan
Alameda County
Health Care Services Agency
Environmental Health Services
1131 Harbor Bay Parkway, Ste. 250
Alameda, CA 94502-6577

Re: Results of Extended Vapor Extraction Test and Remedial Action Plan, Alaska Gasoline Company, Oakland, California, Case #RO0000127

Dear Mr. Chan:

HerSchy Environmental is pleased to present the results of an extended soil vapor extraction test (VET) and remedial action plan (RAP) for the above-referenced site. The site is located at 6211 San Pablo Avenue, which is on the northwest corner of San Pablo Avenue and 62nd Street in Oakland, Alameda County, California (Figure 1). Thirteen vapor extraction wells and five air sparge wells were installed at the site in January, 2004. Details of well installation are included in the February 6, 2004 "*Results of Vapor Extraction, Air Sparging, and Groundwater Extraction Well Installation, Alaska Gasoline Company, Oakland, California*" report prepared by HerSchy Environmental, Inc. A VET was performed at the site in late June, 2004. However, results of the initial VET, which consisted of a series of two-hour tests, were generally negative and further investigation was recommended. Results of the initial VET can be found in the July 21, 2004 "*Results of Vapor Extraction Test and Work Plan for Additional Investigation*" report prepared by HerSchy Environmental, Inc.

METHODS OF INVESTIGATION

A 24-hour VET was performed on four of the vapor extraction wells (VE-1 through VE-3, and VE-5) using a variable speed blower with a trailer-mounted thermal oxidizer for air abatement (Figure 2). One soil vapor sample was collected from each well in a tedlar bag at the beginning, midpoint, and conclusion of each individual test and submitted to a laboratory under chain-of-custody documentation for analysis to evaluate the concentration of VOCs in the extracted air.

Soil vapor samples were analyzed for gasoline-range total petroleum hydrocarbons (TPHg), benzene, toluene, ethylbenzene, and xylenes (BTEX), and for methyl tertiary butyl ether (MTBE).

P.O. Box 229 ◆ Bass Lake, CA 93604-0229 ◆ Phone: 559 • 641-7320 ◆ Fax: 559 • 641-7340

The trailer-mounted vapor extraction and air abatement equipment used for the VET was a thermal oxidizer. The unit is equipped with a 7.5 hp positive displacement blower with a capacity of 250 cubic feet per minute with a vacuum of up to 12 inches of mercury. The maximum influent VOC concentration is 9,000 ppm with a destruction efficiency of 99 percent.

Parameters measured include relative vacuum on the extraction and observation wells, flow rates from the extraction well, and VOC concentrations in the extracted soil vapor using a photo ionization detector (PID). Concentrations of gasoline constituents were verified by collection of gas samples in tedlar bags for submittal to the laboratory. Measurements of vacuum on the extraction and observation wells were made at intervals of 15, 30, 45, 60, hourly for the next 11 hours, and just prior to conclusion.

RESULTS OF INVESTIGATION

Vapor Extraction Test (VET) Results

The VET was approved in correspondence from your office dated August 25, 2004. The VET was performed on August 30, through September 3, 2004 by extracting soil pore vapors from five previously installed two-inch vapor extraction wells (VE-1 through VE-3; and VE-5). At least four vapor extraction wells not being extracted from were used as observation wells during each test. Air sparging was performed for approximately 15 minutes per hour, beginning after the sixth hour of extraction, and ending after the twelfth hour of extraction. Groundwater extraction well EX-1 was monitored for depth to groundwater during sparging activities. Noticeable increases in groundwater elevation (~3 inches per 15 minutes of sparging) were produced during sparging activities. All well locations can be found on Figure 2.

The VET was performed at an average vacuum of 20 to 25 inches of water. The vacuum in the extraction and observation wells, air flow rates, and observed concentrations are presented below in Table 1.

Table 1
Vacuum in Wells, Alaska Gasoline Co.

Test #1:

Time (min)	VE-1	VE-2	VE-3	VE-4	VE-5	Air Flow (cfm)
0	20	0.01	0	0	0.005	6.3
15	20	0	0	0	0	7.2
30	20	0	0	0	0	6.9
45	20	0	0	0	0	7.0
60	20	0	0	0	0	7.3
120	20	0	0	0	0	9.75
180	20	0	0	0	0	4.8
240	20	0	0	0	0	8.8
300	25	0	0	0	0	8.0
360	25	0	0	0	0	8.4
420	25	0.13	0.18	0	0	10.1

Table 1
(Continued)

Time (min)	VE-1	VE-2	VE-3	VE-4	VE-5	Air Flow (cfm)
480	25	0.01	0.01	0	0	5.0
540	25	0.03	0	0	0	13.7
600	25	0	0	0	0	14.7
660	25	0	0	0	0	11.8
720	25	0	0	0	0	9.0
24 hr.	25	0	0	0	0	9.5

Vacuum expressed in inches of water
cfm = cubic feet per minute

Table 1
(Continued)

Test #2

Time (min)	VE-2	VE-1	VE-3	VE-4	VE-5	Air Flow (cfm)
0	20	0.29	0	0	0	4.41
15	20	0	0	0	0	9.05
30	20	0	0	0	0	7.5
45	20	0	0	0	0	5.0
60	20	0	0	0	0	6.9
120	20	0	0	0	0	6.75
180	20	0	0	0	0	7.5
240	20	0	0	0	0	10.0
300	25	0	0	0	0	6.5
360	25	0.02	0	0	0.01	9.2
420	25	0	0	0	0	9.1
480	25	0	0	0	0	7.25
540	25	0	0	0	0	5.5
600	25	0	0	0	0	8.75
660	25	0.01	0	0	0	9.1
720	25	0	0	0	0	6.35
24 hr.	25	0	0	0	0	5.1

Vacuum expressed in inches of water
cfm = cubic feet per minute

Table 1
(Continued)

Test #3

Time (min)	VE-3	VE-1	VE-2	VE-4	VE-5	Air Flow (cfm)
0	20	0	0	0	0	5.5
15	20	0	0	0	0	5.3
30	20	0	0	0	0	3.8
45	20	0	0	0	0.01	4.2
60	20	0	0	0	0	8.0
120	20	0	0	0.01	0.01	4.73
180	20	0.01	0.01	0.01	0.02	5.10
240	20	0	0	0.01	0.02	5.41
300	25	0	0	0.01	0.015	4.32
360	20	0.04	0	0.01	0.01	5.05
420	20	0.02	0	0.015	0.02	5.15
480	20	0.01	0	0.01	0.02	5.20
540	20	0.015	0	0.015	0.025	5.40
600	20	0.01	0	0.01	0.025	5.65
660	20	0	0.11	0	0.01	5.75
720	20	0	0.08	0	0	5.85
24 hr.	20	0	0.01	0	0.01	7.55

Vacuum expressed in inches of water
cfm = cubic feet per minute

Table 1
(Continued)

Test #4

Time (min)	VE-5	VE-1	VE-2	VE-3	VE-4	Air Flow (cfm)
0	20	0	0	0	0	16.1
15	20	0	0	0	0	15.7
30	20	0	0	0	0	17.3
45	20	0	0	0	0	17.8
60	20	0	0	0	0	18.6
120	20	0	0	0	0	22.1
180	20	0	0	0	0	22.3
240	20	0	0	0	0	22.3
300	25	0	0	0	0	22.7
360	25	0	0	0	0	24.0
420	20	0.01	0	0	0	26.0
480	20	0	0	0	0	24.5
540	20	0.04	0	0	0	26.7
600	20	0	0	0	0	26.5
660	20	0	0.02	0	0	26.8
720	20	0	0	0	0	27.5
24 hr.	20	0	0.15	0	0	27.5

Vacuum expressed in inches of water
cfm = cubic feet per minute

A soil vapor sample was collected in a tedlar bag at the initiation, midpoint, and just prior to the conclusion of each test. Certified analytical reports are presented in Appendix A and summarized in Table 2 below:

Table 2
Laboratory Analytical Results, Vapor Extraction Test

Well No.	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
VE-1 (start)	5,900	110	20	ND	ND	ND
VE-1 (mid)	5,300	110	22	ND	ND	ND
VE-1 (end)	2,800	66	ND	ND	ND	ND
VE-2 (start)	11,000	280	180	ND	100	ND
VE-2 (mid)	2,100	76	66	ND	13	200
VE-2 (end)	670	24	23	2.3	10	62
VE-3 (start)	NA	NA	NA	NA	NA	NA
VE-3 (mid)	5,200	190	ND	ND	ND	500
VE-3 (end)	4,300	180	22	10	20	370
VE-5 (start)	17,000	720	850	27	260	ND
VE-5 (mid)	8,600	290	540	58	250	ND
VE-5 (end)	5,800	190	360	44	180	ND

All results presented in parts per million volume (ppmv)
ND = below detectable concentrations
NA = no analysis

The bag sample collected at the beginning of the VE-3 test (VE-3 start) was accidentally punctured and deflated during transport to the laboratory, and therefore no analysis was performed on this sample. However, a midpoint and end sample were collected from VE-3 and submitted for laboratory analysis. The results of the VET indicate that relatively low flow rates (4 to 27 cfm) can be extracted at relatively low vacuums (20 to 25 inches of water) typical of most vapor extraction systems. At the time of the VET, the lot remained unpaved and an open excavation was present in the UST and dispenser area. According to conversations with the property owner, site construction was set to begin on September 15, 2004.

Limited radii of influence were created during the test, reflecting the tightness of the subsurface soil. However, the extended VET did illustrate that the soil vapor extraction system was capable of removing significant concentrations of VOCs from soil. Of particular concern is the southwest corner of the property. During the July, 2004 VET, only relatively low amounts of fuel constituents were detected in vapor samples collected from the vapor extraction wells located in the southwest corner of the site. This was concerning, as the southwest corner of the site is know to have floating product on groundwater. As expected, the use of lower vacuum is more efficient in removing contaminants from soil. It appears that concentrations of petroleum hydrocarbons decreased throughout the course of each test. This is possibly due to the slow recharge of the wells. As impacted groundwater is drawn into the wells, dissolved-phase hydrocarbons are also exposed to extraction. If the ability of the soil vapor extraction system (SVES) to strip VOCs from groundwater exceeds the ability of more impacted groundwater to

recharge the well, a decrease in concentrations of VOCs occurs in the vapor stream. It is expected that concentrations will decrease until equilibrium between well recharge and vapor extraction of VOCs occurs. Air sparging had little effect on observed concentrations, however, sparging did significantly raise the water table. This can be detrimental to the SVES, as rising groundwater can drown the screened intervals of the site vapor extraction wells. For this reason, air sparging at the site will only be performed at short intervals.

The method of air abatement is evaluated based on the operating costs of thermal oxidation versus granular activated carbon (GAC) filters. It appears that vapor extraction is effective in removing high concentrations of contamination. Using the four concentrations of TPHg detected in the conclusion samples (14,000, 3,500, 22,000, and 30,000 ug/l), and an average flow rate of 12 cfm, we can calculate an approximate VOC removal rate using soil vapor extraction at the site. To calculate pounds per day (lbs/day) of VOCs, the formula is as follows:

(ug/l)(gm/1,000,000)(kg/1,000 gm)(2.2 lbs/kg) = lbs/l VOCs

Converting lbs/l to lbs/day:

(lbs/l)(l/.03513 cf)(cfm)(1440 min/day) = lbs/day VOCs

Using the values stated above, an approximate average of 75 lbs of VOCs will be extracted from soil pore air in VE-1 through VE-3, and VE-5 on a daily basis. This is the equivalent of approximately 12.17 gallons of gasoline per day.

The cost of thermal oxidation is based on the following assumptions:

Monthly rental of equipment	$3,000
Cost of electricity/supplemental fuel	$5,000
Costs for monthly monitoring/O&M	$250
Total monthly O&M	**$8,250**

The cost for GAC filters is based on a loading rate of 20% and carbon costs of $400 per 180 lb drum, including disposal. Using the loading rate and an input of 75 lbs per day, the cost for GAC is as follows:

Monthly rental rate of equipment	$500
Monthly cost of GAC	$25,000
Cost of electricity	$300
Costs for weekly monitoring/O&M, per month	$1,000
Total monthly O&M	**$26,800**

Based on the significant concentrations of gasoline constituents in soil pore air extracted from the site extraction wells, it appears that the use of thermal oxidation for air abatement is appropriate for the site.

REMEDIAL ACTION PLAN

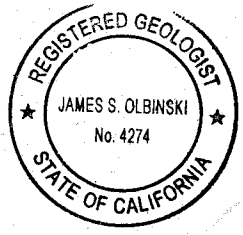
It is the recommendation of HerSchy Environmental, Inc. that a 250 scfm thermal oxidizer be installed at the site in order to remediate impacted groundwater and soil at the site. The primary area of concern is the southwest corner of the site, which was measured to contain approximately 14 inches of floating gasoline on the groundwater table in EX-1 during the extended VET. A SVES has been proven to be an effective treatment method for floating product during other remediation projects. Once floating product has been mitigated, other options for site remediation will be considered. In order to avoid creating a large smear zone, groundwater pumping will not be performed until floating product has been eliminated.

Soil vapor extraction will be performed on wells VE-1 through VE-3, and VE-4 at a vacuum of 20 inches of water. The system will be monitored monthly for flow rates, vacuum, and influent/effluent concentrations using a portable PID. Vapor samples for lab analysis will be collected upon startup and on a quarterly basis. Quarterly remedial progress reports will be included in quarterly groundwater monitoring reports. Once site construction at the site is complete, additional wells will be extracted from and monthly monitoring results will be used to determine if they are appropriate for remediation. Air sparging will be performed for 10-15 minutes per hour in order to assist volatilization and promote biodegradation of fuel contaminants. A 250 scfm thermal oxidizer will be used in order to facilitate the large number of vapor extraction wells.

If approved, it is anticipated that the SVES can be installed operational during the second quarter of 2005. If you have any questions or need additional information, please contact me at the letterhead address or at (559) 641-7320.

With best regards,
HerSchy Environmental, Inc.

Joshua A. Teves
Geologist



James S. Olbinski
Registered Geologist #4274

pc: Mr. Pritpaul Sappal
Mr. Syed Nawab, Alaska Gasoline Company
Mr. Hernan Gomez, Oakland Fire Services Agency
Mrs. Susan M. Torrence, Deputy District Attorney

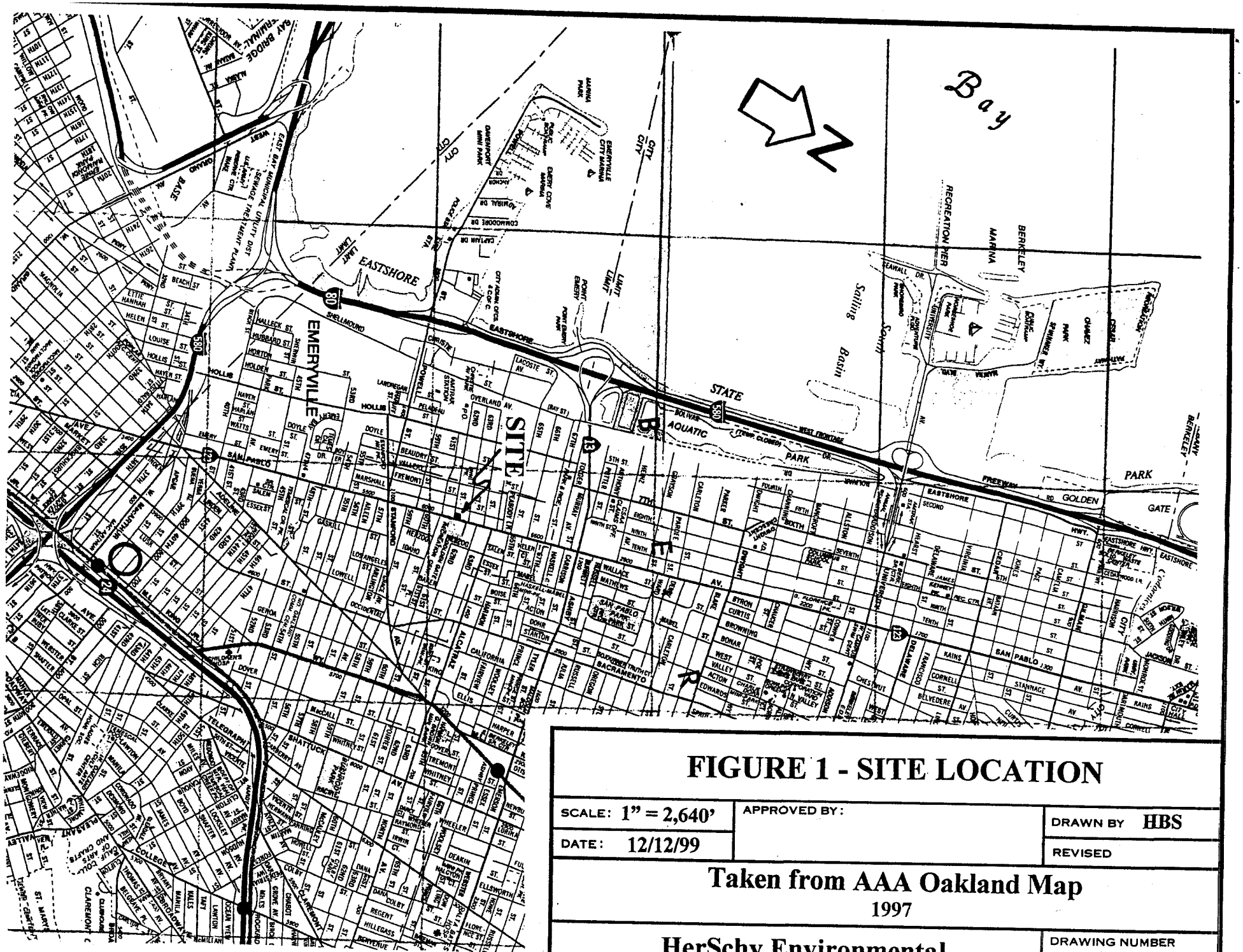


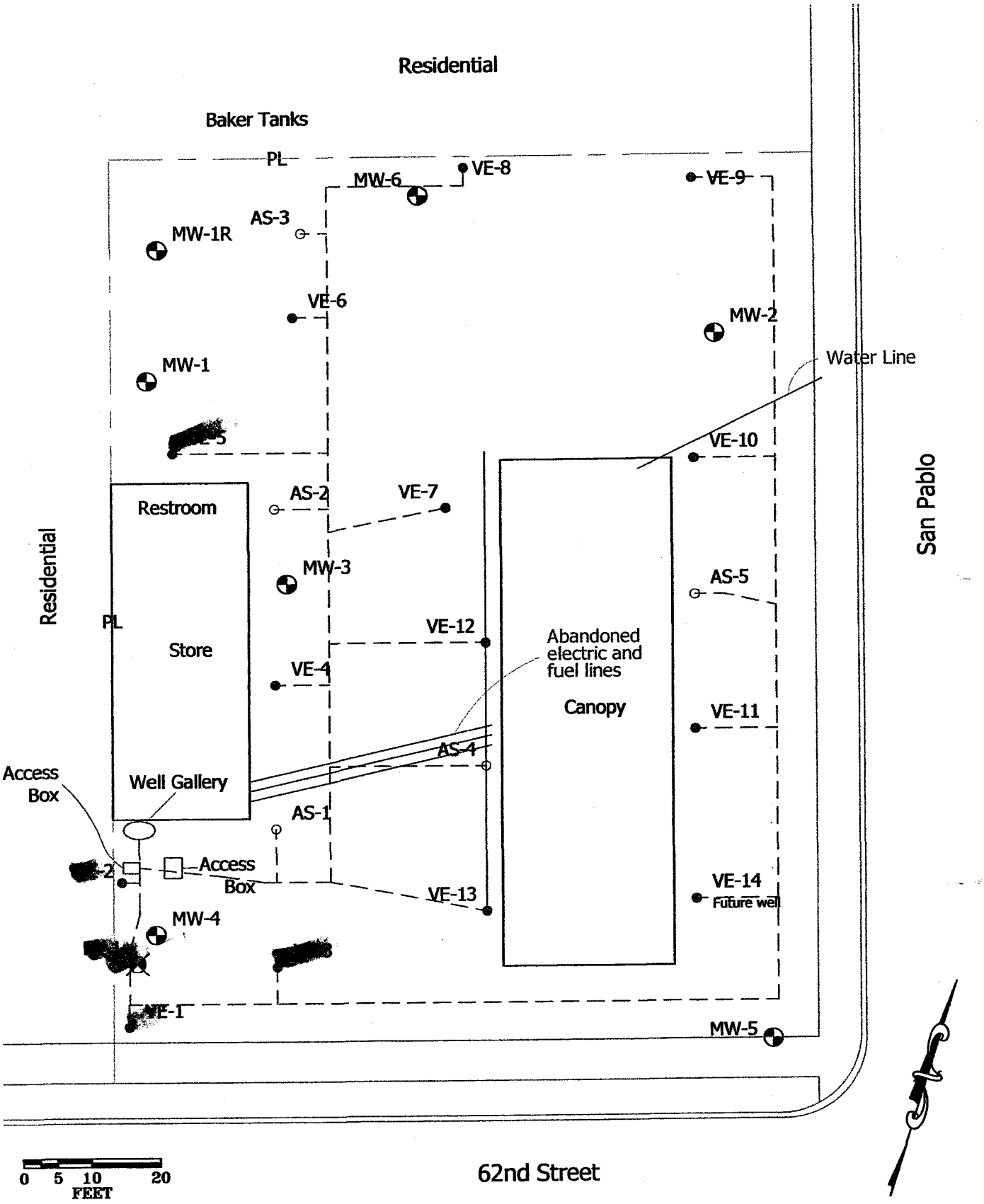
FIGURE 1 - SITE LOCATION

SCALE: 1" = 2,640'	APPROVED BY:	DRAWN BY HBS
DATE: 12/12/99		REVISED

Taken from AAA Oakland Map
1997

HerSchy Environmental

DRAWING NUMBER



HerSchy Environmental, Inc.
Environmental Consulting and Remediation
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VAPOR EXTRACTION SYSTEM LAYOUT

ALASKA GASOLINE COMPANY

6211 San Pablo Avenue, Oakland, California

DATE: July 2004

FILE NO.: A51-01.02

DRAWN BY: JSO

FIGURE 2

Appendix A

Certified Laboratory Analytical Results

With Chain of Custody

CASTLE ANALYTICAL LABORATORY

Environmental Testing Services
Certificate # 2480
2333 Shuttle Drive, Atwater, CA 95301
(209) 384-2930
(209) 384-1507

HerSchy Environmental
P.O. Box 229
Bass Lake, CA 93604
Attn: Joshua Teves

Client Project ID: Alaska Gasoline - Oakland
Reference Number: 7316
Sample Description: Air
Sample Prep/Analysis Method: 5030/8015M, 8020
Lab Number: 7316-1V
Sample ID: VE-1 Start

Sampled: 08-30-04
Received: 09-01-04
Analyzed: 09-01-04
Reported: 09-10-04

TOTAL PETROLEUM HYDROCARBONS - GASOLINE RANGE WITH BTEX DISTINCTION

ANALYTE	PQL* (ug/L)	PQL* (ppmv)	AMOUNT (ug/L)	AMOUNT (ppmv)
MTBE	50	14	ND	ND
BENZENE	50	16	350	110
TOLUENE	50	13	74	20
ETHYL BENZENE	50	11	ND	ND
TOTAL XYLENES	50	11	ND	ND
GASOLINE RANGE HYDROCARBONS	5000	970	31000	5900
Dilution Factor:	100			

Instrument ID: VAR-GC1

*PQL - Practical Quantitation Limit
Analytes reported as ND were not detected or below the Practical Quantitation Limit

APPROVED BY: _____
Clari J. Cone
Laboratory Manager

APPROVED BY: _____
James C. Phillips
Laboratory Director

CASTLE ANALYTICAL LABORATORY

Environmental Testing Services
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2333 Shuttle Drive, Atwater, CA 95301
(209) 384-2930
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HerSchy Environmental
P.O. Box 229
Bass Lake, CA 93604
Attn: Joshua Teves

Client Project ID: Alaska Gasoline - Oakland
Reference Number: 7316
Sample Description: Air
Sample Prep/Analysis Method: 5030/8015M, 8020
Lab Number: 7316-2V
Sample ID: VE-1 Mid

Sampled: 08-30-04
Received: 09-01-04
Analyzed: 09-01-04
Reported: 09-10-04

TOTAL PETROLEUM HYDROCARBONS - GASOLINE RANGE WITH BTEX DISTINCTION

ANALYTE	PQL* (ug/L)	PQL* (ppmv)	AMOUNT (ug/L)	AMOUNT (ppmv)
MTBE	50	14	ND	ND
BENZENE	50	16	350	110
TOLUENE	50	13	64	22
ETHYL BENZENE	50	11	ND	ND
TOTAL XYLENES	50	11	ND	ND
GASOLINE RANGE HYDROCARBONS	5000	968	27000	5300
Dilution Factor:	100			

Instrument ID: VAR-GC1

*PQL - Practical Quantitation Limit
Analytes reported as ND were not detected or below the Practical Quantitation Limit

APPROVED BY: _____
Clari J. Conc
Laboratory Manager

APPROVED BY: _____
James C. Phillips
Laboratory Director

CASTLE ANALYTICAL LABORATORY

Environmental Testing Services
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HerSchy Environmental
P.O. Box 229
Bass Lake, CA 93604
Attn: Joshua Teves

Client Project ID: Alaska Gasoline - Oakland
Reference Number: 7316
Sample Description: Air
Sample Prep/Analysis Method: 5030/8015M, 8020
Lab Number: 7316-3V
Sample ID: VE-1 End

Sampled: 08-31-04
Received: 09-01-04
Analyzed: 09-01-04
Reported: 09-10-04

TOTAL PETROLEUM HYDROCARBONS - GASOLINE RANGE WITH BTEX DISTINCTION

ANALYTE	PQL* (ug/L)	PQL* (ppmv)	AMOUNT (ug/L)	AMOUNT (ppmv)
MTBE	50	14	ND	ND
BENZENE	50	16	210	66
TOLUENE	50	13	ND	ND
ETHYL BENZENE	50	11	ND	ND
TOTAL XYLENES	50	11	ND	ND
GASOLINE RANGE HYDROCARBONS	5000	968	14000	2800
Dilution Factor:	100			

Instrument ID: VAR-GC1

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APPROVED BY: _____
Clari J. Corte
Laboratory Manager

APPROVED BY: _____
James C. Phillips
Laboratory Director

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(209) 384-2930
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HerSchy Environmental P.O. Box 229 Bass Lake, CA 93604 Attn: Joshua Teves	Client Project ID: Alaska Gasoline - Oakland Reference Number: 7316 Sample Description: Air Sample Prep/Analysis Method: 5030/8015M, 8020 Lab Number: 7316-4V Sample ID: VE-2 Start	Sampled: 08-31-04 Received: 09-01-04 Analyzed: 09-01-04 Reported: 09-10-04

TOTAL PETROLEUM HYDROCARBONS - GASOLINE RANGE WITH BTEX DISTINCTION

ANALYTE	PQL* (ug/L)	PQL* (ppmv)	AMOUNT (ug/L)	AMOUNT (ppmv)
MTBE	100	28	ND	ND
BENZENE	100	31	900	280
TOLUENE	100	26	660	180
ETHYL BENZENE	100	23	ND	ND
TOTAL XYLENES	100	23	440	100
GASOLINE RANGE HYDROCARBONS	10000	1900	55000	11000
Dilution Factor:	200			

Instrument ID:	VAR-GC1

*PQL - Practical Quantitation Limit
Analytes reported as ND were not detected or below the Practical Quantitation Limit

APPROVED BY: _____
Clan J. Cone
Laboratory Manager

APPROVED BY: _____
James C. Phillips
Laboratory Director

CASTLE ANALYTICAL LABORATORY

Environmental Testing Services
Certificate # 2480

2333 Shuttle Drive, Atwater, CA 95301

(209) 384-2930
(209) 384-1507

HerSchy Environmental	Client Project ID: Alaska Gasoline - Oakland	Sampled: 08-31-04
P.O. Box 229	Reference Number: 7316	Received: 09-03-04
Bass Lake, CA 93604	Sample Description: Air	Analyzed: 09-01-04
Attn: Joshua Teves	Sample Prep/Analysis Method: 5030/8015M, 8020	Reported: 09-10-04
	Lab Number: 7316-5V	
	Sample ID: VE-2 Mid	

TOTAL PETROLEUM HYDROCARBONS - GASOLINE RANGE WITH BTEX DISTINCTION

ANALYTE	PQL* (ug/L)	PQL* (ppmv)	AMOUNT (ug/L)	AMOUNT (ppmv)
MTBE	25	6.9	710	200
BENZENE	25	7.8	240	76
TOLUENE	25	6.6	250	66
ETHYL BENZENE	25	5.7	ND	ND
TOTAL XYLENES	25	5.7	59	13
GASOLINE RANGE HYDROCARBONS	2500	480	11000	2100
Dilution Factor:	50			

Instrument ID:	VAR-GC1

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APPROVED BY: _____
Clari J. Cone
Laboratory Manager

APPROVED BY: _____
James C. Phillips
Laboratory Director

CASTLE ANALYTICAL LABORATORY

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2333 Shuttle Drive, Atwater, CA 95301

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(209) 384-1507

HerSchy Environmental
P.O. Box 229
Bass Lake, CA 93604
Attn: Joshua Teves

Client Project ID: Alaska Gasoline - Oakland
Reference Number: 7316
Sample Description: Air
Sample Prep/Analysis Method: 5030/8015M, 8020
Lab Number: 7316-6V
Sample ID: VE-2 End

Sampled: 09-01-04
Received: 09-03-04
Analyzed: 09-01-04
Reported: 09-10-04

TOTAL PETROLEUM HYDROCARBONS - GASOLINE RANGE WITH BTEX DISTINCTION

ANALYTE	PQL* (ug/L)	PQL* (ppmv)	AMOUNT (ug/L)	AMOUNT (ppmv)
MTBE	5.0	1.4	230	62
BENZENE	5.0	1.6	78	24
TOLUENE	5.0	1.3	87	23
ETHYL BENZENE	5.0	1.1	10	2.3
TOTAL XYLENES	5.0	1.1	45	10
GASOLINE RANGE HYDROCARBONS	500	97	3500	670
Dilution Factor:	10			

Instrument ID: VAR-GC1

*POL - Practical Quantitation Limit
Analytes reported as ND were not detected or below the Practical Quantitation Limit

APPROVED BY: _____
Clari J. Cone
Laboratory Manager

APPROVED BY: _____
James G. Phillips
Laboratory Director

CASTLE ANALYTICAL LABORATORY

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(209) 384-2930
(209) 384-1507

HerSchy Environmental
P.O. Box 229
Bass Lake, CA 93604
Attn: Joshua Teves

Client Project ID: Alaska Gasoline - Oakland
Reference Number: 7316
Sample Description: Air
Sample Prep/Analysis Method: 5030/8015M, 8020
Lab Number: 7316-7V
Sample ID: VE-3 Mid

Sampled: 09-01-04
Received: 09-03-04
Analyzed: 09-01-04
Reported: 09-10-04

TOTAL PETROLEUM HYDROCARBONS - GASOLINE RANGE WITH BTEX DISTINCTION

ANALYTE	PQL* (ug/L)	PQL* (ppmv)	AMOUNT (ug/L)	AMOUNT (ppmv)
MTBE	100	28	1800	500
BENZENE	100	31	610	190
TOLUENE	100	26	ND	ND
ETHYL BENZENE	100	23	ND	ND
TOTAL XYLENES	100	23	ND	ND
GASOLINE RANGE HYDROCARBONS	10000	1900	27000	5200
Dilution Factor:	200			

Instrument ID: VAR-GC1

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Analytes reported as ND were not detected or below the Practical Quantitation Limit

APPROVED BY: _____
Clari J. Cons
Laboratory Manager

APPROVED BY: _____
James C. Phillips
Laboratory Director

CASTLE ANALYTICAL LABORATORY

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2333 Shuttle Drive, Atwater, CA 95301
(209) 384-2930
(209) 384-1507

HerSchy Environmental P.O. Box 229 Bass Lake, CA 93604 Attn: Joshua Teves	Client Project ID: Alaska Gasoline - Oakland Reference Number: 7316 Sample Description: Air Sample Prep/Analysis Method: 5030/8015M, 8020 Lab Number: 7316-6V Sample ID: VE-3 End	Sampled: 09-02-04 Received: 09-03-04 Analyzed: 09-01-04 Reported: 09-10-04

TOTAL PETROLEUM HYDROCARBONS - GASOLINE RANGE WITH BTEX DISTINCTION

ANALYTE	PQL* (ug/L)	PQL* (ppmv)	AMOUNT (ug/L)	AMOUNT (ppmv)
MTBE	25	6.9	1300	370
BENZENE	25	7.8	580	180
TOLUENE	25	6.6	81	22
ETHYL BENZENE	25	5.7	44	10
TOTAL XYLENES	25	5.7	87	20
GASOLINE RANGE HYDROCARBONS	2500	480	22000	4300
Dilution Factor:	50			

Instrument ID:	VAR-GC1

*POL - Practical Quantitation Limit
Analytes reported as ND were not detected or below the Practical Quantitation Limit

APPROVED BY: _____
Clari J. Cone
Laboratory Manager

APPROVED BY: _____
James C. Phillips
Laboratory Director

CASTLE ANALYTICAL LABORATORY

Environmental Testing Services
Certificate # 2480
2333 Shuttle Drive, Atwater, CA 95301
(209) 384-2930
(209) 384-1507

HerSchy Environmental	Client Project ID: Alaska Gasoline - Oakland	Sampled: 09-02-04
P.O. Box 229	Reference Number: 7316	Received: 09-03-04
Bass Lake, CA 93604	Sample Description: Air	Analyzed: 09-01-04
Attn: Joshua Teves	Sample Prep/Analysis Method: 5030/8015M, 8020	Reported: 09-10-04
	Lab Number: 7316-9V	
	Sample ID: VE-5 Start	

TOTAL PETROLEUM HYDROCARBONS - GASOLINE RANGE WITH BTEX DISTINCTION

ANALYTE	PQL* (ug/L)	PQL* (ppmv)	AMOUNT (ug/L)	AMOUNT (ppmv)
MTBE	100	28	ND	ND
BENZENE	100	31	2300	720
TOLUENE	100	26	3200	850
ETHYL BENZENE	100	23	120	27
TOTAL XYLENES	100	23	1100	260
GASOLINE RANGE HYDROCARBONS	10000	1900	90000	17000
Dilution Factor:	200			

Instrument ID: VAR-GC1

*PQL - Practical Quantitation Limit
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Laboratory Director

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HerSchy Environmental P.O. Box 229 Bass Lake, CA 93604 Attn: Joshua Teves	Client Project ID: Alaska Gasoline - Oakland Reference Number: 7316 Sample Description: Air Sample Prep/Analysis Method: 5030/8015M, 8020 Lab Number: 7316-10V Sample ID: VE-5 Mid	Sampled: 09-02-04 Received: 09-03-04 Analyzed: 09-01-04 Reported: 09-10-04

TOTAL PETROLEUM HYDROCARBONS - GASOLINE RANGE WITH BTEX DISTINCTION

ANALYTE	PQL* (ug/L)	PQL* (ppmv)	AMOUNT (ug/L)	AMOUNT (ppmv)
MTBE	50	14	ND	ND
BENZENE	50	16	910	290
TOLUENE	50	13	2000	540
ETHYL BENZENE	50	11	250	58
TOTAL XYLENES	50	11	1100	250
GASOLINE RANGE HYDROCARBONS	5000	970	44000	8600
Dilution Factor:	100			

Instrument ID: VAR-GC1

*PQL - Practical Quantitation Limit
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HerSchy Environmental
P.O. Box 229
Bass Lake, CA 93604
Attn: Joshua Teves

Client Project ID: Alaska Gasoline - Oakland
Reference Number: 7316
Sample Description: Air
Sample Prep/Analysis Method: 5030/8015M, 8020
Lab Number: 7316-11V
Sample ID: VE-5 End

Sampled: 09-03-04
Received: 09-03-04
Analyzed: 09-01-04
Reported: 09-10-04

TOTAL PETROLEUM HYDROCARBONS - GASOLINE RANGE WITH BTEX DISTINCTION

ANALYTE	PQL* (ug/L)	PQL* (ppmv)	AMOUNT (ug/L)	AMOUNT (ppmv)
MTBE	100	28	ND	ND
BENZENE	100	31	600	190
TOLUENE	100	26	1400	360
ETHYL BENZENE	100	23	190	44
TOTAL XYLENES	100	23	800	180
GASOLINE RANGE HYDROCARBONS	10000	1900	30000	5800
Dilution Factor:	200			

Instrument ID: VAR-GC1

*PQL - Practical Quantitation Limit
Analytes reported as ND were not detected or below the Practical Quantitation Limit

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