HerSchy Environmental, Inc.

March 7, 2005
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 February, 2005 Quarterly Groundwater Monitoring, and Work Plan for Interim Remedial Action, Alaska Gasoline Company, Oakland, California, Case #RO0000127

Dear Mr. Chan:

HerSchy Environmental is pleased to present a work plan for a product recovery test and the results of the most recent quarterly groundwater monitoring event 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). Groundwater monitoring was performed on February 17, 2005. Initial work included the drilling, sampling, and laboratory analysis of soil and groundwater. Details of this investigation are contained in the April 22, 1999 report titled, "*Results of Underground Storage Tank (UST) Site Assessment, Alaska Gasoline Company, Oakland, California*", prepared by HerSchy Environmental.

METHODS OF INVESTIGATION

Groundwater Sampling Procedures:

The depth to groundwater in each well was measured to the nearest 0.01 feet using an electric sounder prior to initiating groundwater sampling activities. The groundwater elevation was determined for each well by subtracting the depth to groundwater from the surveyed well elevation. The depth to groundwater, total depth of the well, and the well diameter were used to calculate the volume of groundwater within the well casing. At least three casing volumes were purged from each well prior to collecting a groundwater sample using a Waterra electric pump and dedicated hoses. Physical characteristics (temperature, electrical conductivity, and pH), were measured at the initiation of purging and then again just prior to collection of the groundwater sample. These characteristics were recorded on field sampling data sheets which are presented in Appendix A. One sample from each well was

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

collected and contained in three 40-milliliter vials. Each of the sample containers were filled completely to form a positive meniscus, capped, and checked to ensure no air bubbles were present.

Samples were sealed in a ziplock bag and placed in a cooler chest with frozen gel packs ("blue ice") immediately after sampling. Samples were maintained at or below four degrees Celsius until delivered to the laboratory. Groundwater samples were handled under chain-of-custody documentation until delivered to a California certified laboratory.

Laboratory Analysis:

Groundwater samples were analyzed for gasoline-range total petroleum hydrocarbons (TPHg), benzene, toluene, ethylbenzene, and xylenes (BTEX), and methyl tertiary butyl ether (MTBE). Samples were analyzed using EPA method 8020 for BTEX and MTBE. Groundwater samples were also analyzed for the fuel oxygenates and additives MTBE, di-isopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), tertiary butanol (TBA), 1,2-dichloroethane (1,2-DCA) and ethylene dibromide (EDB) using EPA method 8260.

RESULTS OF INVESTIGATION

Groundwater Conditions:

Because wells MW-4 and EX-1 contained floating product, no samples were collected from these wells, and groundwater data from these wells was not used in determining the groundwater flow direction or gradient. Groundwater was present beneath the site at an average depth of 5.60 feet below the surveyed well elevations during the November, 2004 monitoring event. Based upon the most recent survey (performed July 8, 2004) the elevation of groundwater during the February, 2005 monitoring event averaged 30.27 feet above mean sea level. This is an increase in groundwater elevation of 1.80 feet since the November, 2004 monitoring event. Groundwater flow direction was South 55 degrees West at a gradient of .0036 during the February, 2005 monitoring event. Groundwater conditions are summarized in Table 1 and presented graphically in Figure 2.

Table 1
Groundwater Conditions, Alaska Gasoline, Oakland

Well Number	Elevation	Depth to GW	GW Elevation
February 19-20, 2004			
MW-1R	Not Surveyed	5.45	-----
MW-2	34.94	5.81	29.13
MW-3	33.74	5.56	28.18
MW-4	32.38	0.25'free product	------
MW-5	33.75	5.11	28.64
MW-6	34.68	5.61	29.07
EX-1	Not Surveyed	3.96	------

Flow Direction = S. 42 W; Gradient = .0154

Table 1
(Continued)

Well Number	Elevation	Depth to GW	GW Elevation
May 24-25, 2004			
MW-1R	Not Surveyed	8.58	-----
MW-2	34.94	7.79	27.15
MW-3	33.74	6.99	26.75
MW-4	32.38	0.33'free product	------
MW-5	33.75	6.57	27.18
MW-6	34.68	Not Available	Not Available
EX-1	Not Surveyed	0.76' free product	------
Flow Direction = S. 71 W; Gradient = .0081			
September 3, 2004*			
MW-1R	36.67	9.15	27.52
MW-2	36.33	8.43	27.90
MW-3	35.12	7.53	27.59
MW-4	34.11	0.7'free product	------
MW-5	35.17	7.01	28.16
MW-6	36.07	8.25	27.82
EX-1	33.28	1.2' free product	------
Flow Direction = S. 55 W.; Gradient = .0075			
November 2, 2004*			
MW-1R	36.67	8.49	28.18
MW-2	36.33	7.65	28.68
MW-3	35.12	6.88	28.24
MW-4	34.11	0.63'free product	------
MW-5	35.17	6.43	28.74
MW-6	36.07	7.57	28.50
EX-1	33.28	1.25' free product	------ 28.47
Flow Direction = S. 63 W.; Gradient = .0083			
February17, 2005*			
MW-1R	36.67	6.57	30.10
MW-2	36.33	5.86	30.47
MW-3	35.12	5.01	30.11
MW-4	34.11	1.50'free product	------
MW-5	35.17	4.88	30.29
MW-6	36.07	5.70	30.37
EX-1	33.28	0.34' free product	------
Flow Direction = S. 55 W.; Gradient = .0036		5.60	30.27

Elevations in feet
* survey conducted 7/8/04

Based on the data gathered from the site monitoring wells without floating product, the groundwater flow direction is toward San Francisco Bay, located approximately 0.75 miles southwest of the site. Regional groundwater flow appears to parallel the surface grade in the area.

Groundwater Quality:

Groundwater samples were submitted to the laboratory and analyzed for the above-mentioned fuel constituents. Certified analytical reports and chain-of-custody documentation are presented in Appendix B and summarized in Table 2 below:

Table 2
Laboratory Analytical Results for Groundwater, Alaska Gasoline, Oakland

Well No.	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
February 19-20, 2004						
MW-1R	1,800	95	130	44	200	220
MW-2	21,000	4,600	120	970	2,000	15,000
MW-3	86,000	1,800	630	ND	ND	160,000
MW-4	NA	NA	NA	NA	NA	NA
MW-5	ND	ND	ND	ND	ND	1.5
MW-6	1,900	280	58	17	160	2,700
EX-1	120,000	9,500	4,300	840	3,900	150,000
May 24-25, 2004						
MW-1R	210	12	10	5.4	23	79
MW-2	1,200	120	3.0	63	67	1,900
MW-3	120,000	2,200	ND	180	220	400,000
MW-4	NA	NA	NA	NA	NA	NA
MW-5	ND	ND	ND	ND	ND	0.55
MW-6	NA	NA	NA	NA	NA	NA
EX-1	NA	NA	NA	NA	NA	NA
September 3, 2004						
MW-1R	300	1.5	7.1	9.4	42	81
MW-2	2,300	120	ND	51	70	1,700
MW-3	180,000	2,000	ND	ND	ND	510,000
MW-4	NA	NA	NA	NA	NA	NA
MW-5	100	6.4	ND	ND	0.79	4.2
MW-6	1,100	27	ND	14	27	2,200
EX-1	NA	NA	NA	NA	NA	NA

Table 2
(Continued)

Well No.	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
November 2, 2004						
MW-1R	290	14	30	9.5	45	45
MW-2	530	35	ND	17	30	520
MW-3	150,000	1,700	ND	ND	ND	350,000
MW-4	NA	NA	NA	NA	NA	NA
MW-5	ND	2.6	ND	1.7	0.87	1.0
MW-6	1,800	32	ND	5.4	11	4,100
EX-1	NA	NA	NA	NA	NA	NA
February 17, 2005						
MW-1R	530	3.4	ND	ND	2.6	1,000
MW-2	18,000	2,100	31	800	680	20,000
MW-3	130,000	2,100	420	210	730	290,000
MW-4	NA	NA	NA	NA	NA	NA
MW-5	51	0.74	ND	0.94	ND	1.5
MW-6	5,600	190	34	41	110	10,000
EX-1	NA	NA	NA	NA	NA	NA

All results presented in parts per billion (ppb)
MTBE results by EPA method 8260
NA= no analysis
ND= below detectable limits

As requested by your office, groundwater samples were also analyzed for the fuel additives MTBE, di-isopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), tertiary butanol (TBA), 1,2-dichloroethane (1,2-DCA), ethylene dibromide (EDB), methanol, and ethanol. Laboratory analytical results are presented in Appendix B and summarized in Table 3 below:

Table 3
Laboratory Analytical Results for Groundwater, Alaska Gasoline, Oakland

Sample	TAME	TBA	Methanol	Ethanol
May 24-25, 2004				
MW-1R	2.1	37	ND	ND
MW-2	ND	ND	ND	ND
MW-3	15,000	ND	ND	ND
MW-5	ND	ND	ND	ND
September 3, 2004				
MW-1R	1.6	ND	NA	NA
MW-2	26	ND	NA	NA
MW-3	14,000	ND	NA	NA
MW-5	ND	ND	NA	NA
MW-6	85	ND	NA	NA

Table 3
(Continued)

Sample	TAME	TBA	Methanol	Ethanol
November 2, 2004				
MW-1R	1.1	ND	NA	NA
MW-2	28	100	NA	NA
MW-3	31,000	140,000	NA	NA
MW-5	ND	ND	NA	NA
MW-6	170	270	NA	NA
February 17, 2005				
MW-1R	100	ND	NA	NA
MW-2	1,000	ND	NA	NA
MW-3	11,000	ND	NA	NA
MW-5	ND	ND	NA	NA
MW-6	780	2,000	NA	NA

All results in parts per billion (ppb)
ND = below detectable concentrations
NA = no analysis

There was no EDB, 1,2-DCA, DIPE, or ETBE detected in the groundwater samples during the February, 2005 monitoring event. Ethanol and methanol were not detected in any of the groundwater samples during the May, 2004 monitoring event and are no longer being analyzed.

All of the on-site monitoring wells sampled during the February, 2005 event are impacted with gasoline constituents. No samples were collected from MW-4 and EX-1 due to the presence of floating product. Other than MW-4 and EX-1, concentrations are highest in the down gradient well MW-3. Concentrations are significantly lower in MW-5 than any of the other wells, reflecting its distance from, and up gradient location relative to, the USTs.

CONCLUSIONS AND RECOMMENDATIONS

Relatively high concentrations of petroleum hydrocarbons remain in soil and groundwater beneath the subject site. Wells MW-4 and EX-1 continue to contain floating product. Currently, preparations are being made for the implementation of the approved remedial action plan (RAP), which involves vapor extraction and air sparging. Because of permit requirements and utility service waiting periods, it is anticipated that the soil vapor extraction system (SVES) will be installed and operational sometime in late April/early May, 2005. However, it is recommended that remedial action targeting the southwest corner of the site be performed in the interim. A work plan for this interim remedial action is presented below.

WORK PLAN FOR INTERIM REMEDIAL ACTION

Purpose of Work:

The appropriate permits and utilities are currently being obtained for the operation of a SVES at the site. The purpose of the SVES is to mitigate petroleum hydrocarbon impacted soil and groundwater beneath the subject site. However, in conjunction with the approved SVES, HerSchy Environmental recommends the installation of a product recovery system in order to enhance remedial efforts at the subject site. The purpose of the product recovery system (PRS) is to greatly reduce and possibly eliminate the floating product known to exist in the southwest corner of the subject site. The PRS will consist of a dedicated product pump, dedicated hoses, and a poly tank for the purpose of storing free product and highly contaminated groundwater. The PRS will require extraction from EX-1 at a rate that will not greatly decrease the groundwater elevation. A significant decrease in the groundwater elevation will create a "smear zone" in soil because of the presence of floating product in the extraction well. Prior to initiation of the PRS, a product recovery test will need to be conducted. A work plan for the product recovery test is presented below.

Product Recovery Test:

A variable-speed submersible pump equipped with shutoff switch will be used during the product recovery test. Prior to the initiation of the test, the extraction well EX-1 will be measured for depth to product and depth to groundwater using an electric interface probe. The pump will then be lowered into the extraction well EX-1 to the base of the free product. Extraction will begin at the lowest possible flow rate until no liquid is present at approximately one inch above the pump head (pump turns off when submersed in liquid one inch deep or less). Once the pump turns off it will be immediately removed and the recharge of the well will be closely monitored and timed using an electric interface probe and stopwatch. This process will be repeated numerous times at different flow rates and the data will be recorded. The purpose of the test is to find a flow rate that will allow for the continuous pumping of product and highly impacted groundwater without substantially decreasing the groundwater elevation. It is possible that a flow rate suitable for continuous extraction cannot be achieved due to slow recharge of the well. However, a product pump with a timer can be used to extract product with a duration and flow rate determined from the results of the product recovery test. Product and impacted groundwater produced during the test will be temporarily stored on site in a poly tank, sampled for characterization purposes, and removed from the site by a licensed waste hauler to be disposed of properly.

Product Recovery System:

After the completion of the product recovery test, recommendations will be made as to the operation parameters of the PRS in the form of an interim remedial action plan (IRAP). These recommendations will include pump rate and/or extraction interval duration, size of storage tank, estimates of product removal quantities, and monitoring frequency and protocol. A cost estimate for the PRS will also be included in the report. Currently, the free product plume is not fully defined and as a result the quantity of product cannot be determined.

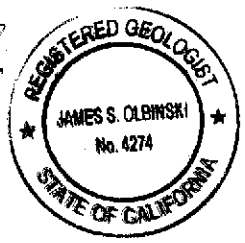
However, the PRS will operate until monitoring indicates that free product is no longer present within the capture zone of EX-1. Off-site monitoring wells are intended to be installed near the site, however, permit issues and driller availability have significantly delayed this work. If free product is discovered in off-site wells beyond the capture zone of EX-1, the PRS will be extended to these wells as part of site remediation.

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 Teves
Project Geologist

James S. Olbinski
Registered Geologist #4274



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

HerSchy Environmental, Inc.
Environmental Consulting and Remediation
P. O. Box 229
Bass Lake, California 93604-0229
Tel. (559) 641-7320, Fax (559) 641-7340

SITE LOCATION MAP

ALASKA GASOLINE COMPANY

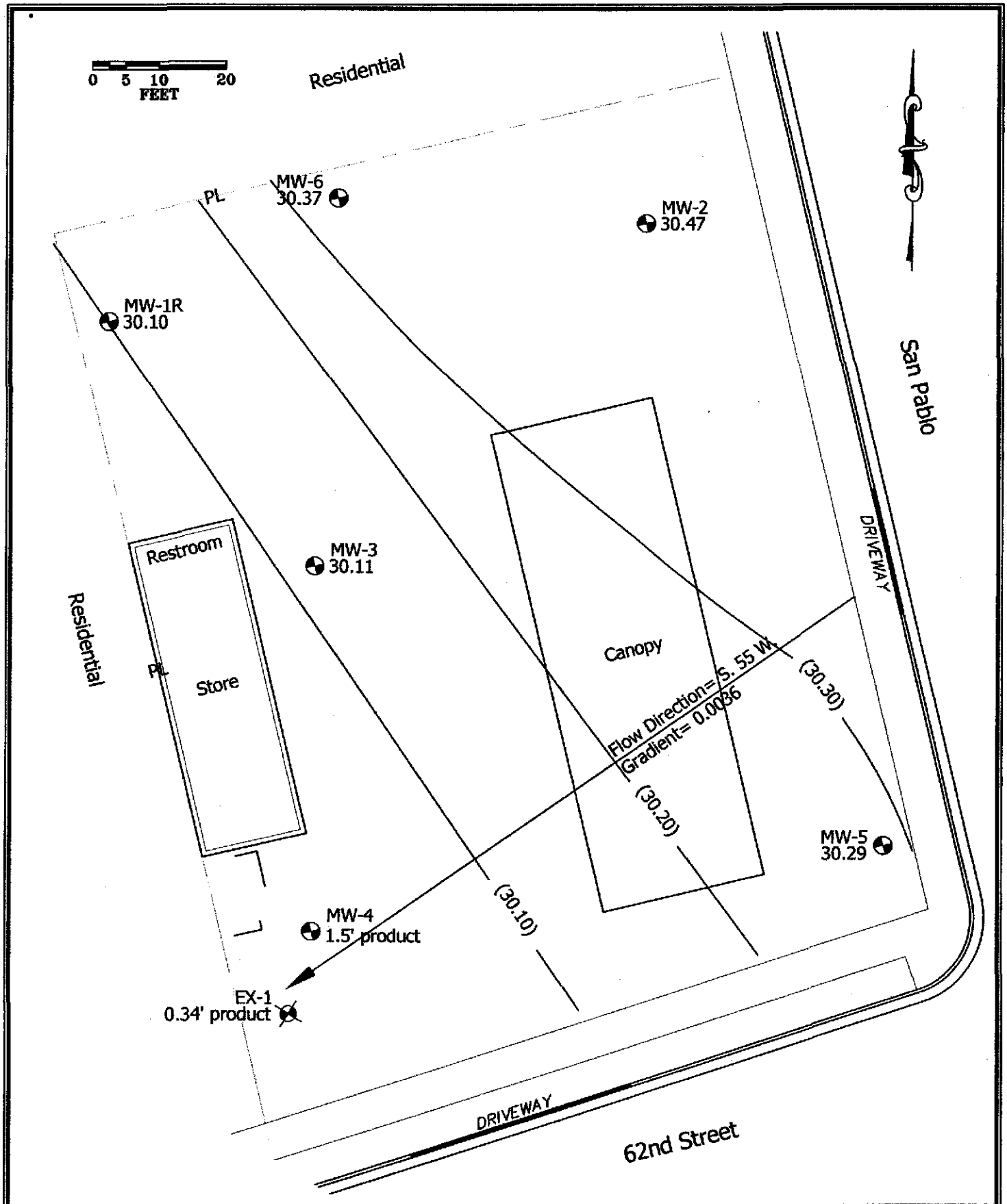
6211 San Pablo Avenue, Oakland, California

DATE: January, 2005

FILE NO.: A51-01

DRAWN BY: JAT

FIGURE 1



HerSchy Environmental, Inc. Environmental Consulting and Remediation P. O. Box 229 Bass Lake, California 93604-0229 Tel. (559) 641-7320, Fax (559) 641-7340	Feb., 2005 GROUNDWATER CONDITIONS ALASKA GASOLINE COMPANY 6211 San Pablo Avenue, Oakland, California	DATE: Feb. 2005 FILE NO.: A51-01 DRAWN BY: JSO	FIGURE 2

APPENDIX A

GROUNDWATER SAMPLING

FIELD DATA SHEETS

HerSchy Environmental

WATER SAMPLE FIELD DATA SHEET

Client Name: Alaska Gas Location: Oakland

Purged By: Gurnik Sampled by: Gurnik

Sample ID: MW-1R Type: Groundwater X Surface Water ____ Other ____

Casing Diameter (inches): 2 X 3 ____ 4 ____ 5 ____ 6 ____ Other ____

Casing Elevation (feet/MSL): 36.67 Volume in Casing (gal.): 2.76

Depth of Well (feet): 23.40 Calculate Purge Volume (gal.): 8.28

Depth to Water (feet): 6.57 Actual Purge Volume (gal.): 8.5

Date Purged: 2/17/05 Date Sampled: 2/17/05 1040

TIME	VOLUME	pH	E. C.	TEMP.	TURBIDITY
1030	~	6.90	377	61.5	Murky
1038	8.5	6.46	482	62.9	cloudy

Other Observations: ____ Odor: Petroleum

Purging Equipment: Waterra

Sampling Equipment: "

Remarks: ____

Sampler's Signature: Jeff Gurnik

/Water Sample Sheet.wpd

HerSchy **WATER SAMPLE FIELD DATA SHEET**
Environmental

Client Name: Alaska Gas Location: Oakland

Purged By: Gurule Sampled by: Gurule

Sample ID: MW-2 Type: Groundwater X Surface Water ____ Other ____

Casing Diameter (inches): 2 X 3 ____ 4 ____ 5 ____ 6 ____ Other ____

Casing Elevation (feet/MSL): 36.33 Volume in Casing (gal.): 2.47

Depth of Well (feet): 20.90 Calculate Purge Volume (gal.): 7.40

Depth to Water (feet): 5.86 Actual Purge Volume (gal.): 8+

Date Purged: 2/17/05 Date Sampled: 2/17/05 1135

TIME	VOLUME	pH	E. C.	TEMP.	TURBIDITY
~~1045~~		~~6.73~~	~~583~~	~~62.7~~	~~Cloudy~~
					C
1122	—	6.86	861	63.3	Clear
1130	8+	6.63	870	64.7	Cloudy

Other Observations: ____ Odor: Petroleum

Purging Equipment: Waterra

Sampling Equipment: "

Remarks: ____

Sampler's Signature: Jeff Gurule

/Water Sample Sheet.wpd

HerSchy Environmental

WATER SAMPLE FIELD DATA SHEET

Client Name: Alaska Gas Location: Oakland

Purged By: Gurnk Sampled by: Gurnk

Sample ID: MW-3 Type: Groundwater X Surface Water ____ Other ____

Casing Diameter (inches): 2 X 3 ____ 4 ____ 5 ____ 6 ____ Other ____

Casing Elevation (feet/MSL): 33.12 Volume in Casing (gal.): 2.66

Depth of Well (feet): 21.20 Calculate Purge Volume (gal.): 7.97

Depth to Water (feet): 5.01 Actual Purge Volume (gal.): 8

Date Purged: 2/17/05 Date Sampled: 2/17/05 1115

TIME	VOLUME	pH	E. C.	TEMP.	TURBIDITY
1103	—	6.53	1009	64.5	Clear
1112	8.0	6.55	927	65.5	Cloudy

Other Observations: ____ Odor: Petroleum

Purging Equipment: Waterra

Sampling Equipment: "

Remarks: ____

Sampler's Signature: Jeff Gurnk

/Water Sample Sheet.wpd

HerSchy Environmental

WATER SAMPLE FIELD DATA SHEET

Client Name: Alaska Gas Location: Oakland

Purged By: Gurule Sampled by: Gurule

Sample ID: MW-4 Type: Groundwater X Surface Water ____ Other ____

Casing Diameter (inches): 2 X 3 ____ 4 ____ 5 ____ 6 ____ Other ____

Casing Elevation (feet/MSL): 34.11 Volume in Casing (gal.): ____

Depth of Well (feet): NA Calculate Purge Volume (gal.): NA

Depth to Water (feet): NA Actual Purge Volume (gal.): NA

Date Purged: NA Date Sampled: NA

TIME	VOLUME	pH	E. C.	TEMP.	TURBIDITY
		NA			

Other Observations: ____ Odor: Petroleum

Purging Equipment: NA

Sampling Equipment: ____

Remarks: 1.50' floating product 2/17/05

Sampler's Signature: Jeff Gurule

/Water Sample Sheet.wpd

HerSchy Environmental

WATER SAMPLE FIELD DATA SHEET

Client Name: Alaska Gas Location: Oakland

Purged By: Gurule Sampled by: Gurule

Sample ID: MW-5 Type: Groundwater X Surface Water ____ Other ____

Casing Diameter (inches): 2 X 3 ____ 4 ____ 5 ____ 6 ____ Other ____

Casing Elevation (feet/MSL): 35.17 Volume in Casing (gal.): 3.28

Depth of Well (feet): 24.90 Calculate Purge Volume (gal.): 9.85

Depth to Water (feet): 4.88 Actual Purge Volume (gal.): 10.0

Date Purged: 2/17/05 Date Sampled: 2/17/05 1020

TIME	VOLUME	pH	E. C.	TEMP.	TURBIDITY
1007	—	7.09	796	65.9	Murky
1015	10.0	6.73	771	66.3	"

Other Observations: ____ Odor: None

Purging Equipment: Waterra

Sampling Equipment: "

Remarks: ____

Sampler's Signature: Jeff Gurule

/Water Sample Sheet.wpd

HerSchy Environmental

WATER SAMPLE FIELD DATA SHEET

Client Name: Alaska Gas Location: Oakland

Purged By: Gurule Sampled by: Gurule

Sample ID: MW-6 Type: Groundwater X Surface Water ____ Other ____

Casing Diameter (inches): 2 X 3 ____ 4 ____ 5 ____ 6 ____ Other ____

Casing Elevation (feet/MSL): 36.07 Volume in Casing (gal.): 2.85

Depth of Well (feet): 23.10 Calculate Purge Volume (gal.): 8.56

Depth to Water (feet): 5.70 Actual Purge Volume (gal.): 10+

Date Purged: 2/17/05 Date Sampled: 2/17/05 1100

TIME	VOLUME	pH	E. C.	TEMP.	TURBIDITY
1045	—	6.73	583	62.7	Cloudy
1055	10+	6.76	586	64.4	"

Other Observations: ____ Odor: Petroleum

Purging Equipment: Waterra

Sampling Equipment: "

Remarks: ____

Sampler's Signature: Jeff Gurule

/Water Sample Sheet.wpd

HerSchy Environmental

WATER SAMPLE FIELD DATA SHEET

Client Name: Alaska Gas Location: Oakland

Purged By: Gurule Sampled by: Gurule

Sample ID: EX-1 Type: Groundwater X Surface Water ____ Other ____

Casing Diameter (inches): 2 ____ 3 ____ 4 X 5 ____ 6 ____ Other ____

Casing Elevation (feet/MSL): 33.28 Volume in Casing (gal.): ____

Depth of Well (feet): NA Calculate Purge Volume (gal.): NA

Depth to Water (feet): ____ Actual Purge Volume (gal.): ____

Date Purged: NA Date Sampled: NA

TIME	VOLUME	pH	E. C.	TEMP.	TURBIDITY
		NA	NA		

Other Observations: ____ Odor: Petroleum

Purging Equipment: ____

Sampling Equipment: NA

Remarks: .34' Floating Product ! 2/17/05

Sampler's Signature: Jeff Gurule

/Water Sample Sheet.wpd

APPENDIX B

CERTIFIED ANALYTICAL RESULTS--GROUNDWATER

WITH CHAIN OF CUSTODY

CASTLE ANALYTICAL LABORATORY

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

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

Client Project ID: Alaska Gas - Oakland
Reference Number: 7823
Sample Description: Water
Sample Prep/Analysis Method: EPA 5030/8015M, 8020
Lab Numbers: 7823-1W, 2W, 3W, 4W, 5W

Sampled: 02-17-05
Received: 02-17-05
Extracted: 02-22-05
Analyzed: 02-22-05
Reported: 02-25-05

TOTAL PETROLEUM HYDROCARBONS - GASOLINE WITH BTEX DISTINCTION

ANALYTE	REPORTING LIMIT µg/L	SAMPLE ID MW-1R (µg/L)	SAMPLE ID MW-2 (µg/L)	SAMPLE ID MW-3 (µg/L)	SAMPLE ID MW-5 (µg/L)	SAMPLE ID MW-6 (µg/L)
MTBE	0.50	1000	20000	310000	2.2	15000
BENZENE	0.50	3.4	2100	2100	0.74	190
TOLUENE	0.50	ND	31	420	ND	34
ETHYLBENZENE	0.50	ND	800	210	0.94	41
TOTAL XYLENES	0.50	2.6	680	730	ND	110
GASOLINE RANGE HYDROCARBONS	50	530	16000	130000	51	5800
Report Limit Multiplication Factor:		2	50	250	1	20
Report Limit Multiplication Factor for MTBE only:		50	500	10000		500

Surrogate % Recovery:	PID: 89.5% / PID: 88.5%	PID: 107% / PID: 98.4%	PID: 87.4% / PID: 90.8%	PID: 89.5% / PID: 86.9%	PID: 88.1% / PID: 90.8%
Instrument ID:	VAR-GC1	VAR-GC1	VAR-GC1	VAR-GC1	VAR-GC1

Analytes reported as ND were not detected or below the Practical Quantitation Limit
Practical Quantitation Limit = Reporting Limit x Report Limit Multiplication Factor

ANALYST: Cleri J. Cons

APPROVED BY: James C. Phillips
Laboratory Director

CASTLE ANALYTICAL LABORATORY

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

HerSchy Environmental	Client Project ID: Alaska Gas - Oakland	Sampled: 02-17-05
P.O. Box 229	Reference Number: 7823	Received: 02-17-05
Bass Lake, CA 93604	Sample Description: Water	Extracted: 02-18-05
Attn: Joshua Teves	Sample Prep/Analysis Method: EPA 5030/8260	Analyzed: 02-18-05
	Lab Numbers: 7823-1W, 2W, 3W, 4W, 5W	Reported: 02-25-05

GASOLINE ADDITIVES BY EPA METHOD 8260 GC/MS

ANALYTE	REPORTING LIMIT (µg/L)	SAMPLE ID MW-1R (µg/L)	SAMPLE ID MW-2 (µg/L)	SAMPLE ID MW-3 (µg/L)	SAMPLE ID MW-5 (µg/L)	SAMPLE ID MW-6 (µg/L)
FUEL OXYGENATES						
Methyl tert-Butyl Ether (MTBE)	0.50	1000	20000	290000	1.5	10000
Di-isopropyl Ether (DIPE)	0.50	ND	ND	ND	ND	ND
Ethyl tert-Butyl Ether (ETBE)	0.50	ND	ND	ND	ND	ND
tert-Amyl Methyl Ether (TAME)	0.50	100	1000	11000	ND	780
tert-Butanol (TBA)	20	ND	ND	ND	ND	2000
VOLATILE HALOCARBONS						
1,2-Dichloroethane (1,2-DCA)	0.50	ND	ND	ND	ND	ND
Ethylene Dibromide (EDB)	0.50	ND	ND	ND	ND	ND
Report Limit Multiplication Factor:		5*	50*	2000*	1	20*
Report Limit Multiplication Factor for MTBE:		50	1000	20000	-	500
Report Limit Multiplication Factor for TAME:		-	-	-	-	500

** Report limit raised due to matrix interference*

Surrogate Recoveries					
1,2-Dichloroethane-d4	103%	105%	111%	112%	117%
Toluene-d8	87.8%	91.4%	95.6%	102%	86.3%

Instrument ID: HP 5972 MS
Analytes reported as ND were not detected or below the Practical Quantitation Limit
Practical Quantitation Limit = Reporting Limit x Report Limit Multiplication Factor
(µg/L) = micrograms per liter or parts per billion (ppb)

APPROVED BY: *Clari J. Cone*
Clari J. Cone
Laboratory Manager

APPROVED BY: *James C. Phillips*
James C. Phillips
Laboratory Director

CASTLE ANALYTICAL LABORATORY

CHAIN OF CUSTODY

Location: 2333 Shuttle Drive, Bldg 908/909, Atwater, CA 95301
Mailing Address: 2333 Shuttle Drive, Atwater, CA 95301
Phone: (209) 384-2930 - Fax: (209) 384-1507

Certificate No. 2480

PAGE 1 OF 1

Customer: Alaska Gas
Address:
City/State/ZIP: Oakland
Phone / FAX:
Proj # / P.O. #:
Report Attention: Josh Jones
Sampler Signature:
Printed: Jeff Gurule

Lab ID#	SAMPLE ID	DATE	TIME	DESCRIPTION/LOCATION	SAMPLE TYPE (g) grab (c) composite (d) discrete	SAMPLE MATRIX (s) solid (l) liquid (o) other	REQUESTED ANALYSES: BTEX/TPH-GAS	MTBE	TPH-DIESEL	TRPH 418.1M	Oxy's / EDB / DCA by 8260	8260					Electronic Deliverables (EDF)	NUMBER OF CONTAINERS	OBSERVATIONS/REMARKS
	MW-1R	2/17/05	1040		g	l	X	X			X							3	
	MW-2	"	1135		"	"	"	"			"							"	
	MW-3	"	1115		"	"	"	"			"							"	
	MW-5	"	1020		"	"	"	"			"							"	
	MW-6	↓	1100		↓	↓	↓	↓			↓							↓	

Method of Shipment:

Notes:

	Signature	Printed Name	Date	Time	Company Name
Relinquished by:		Jeff Gurule			Hershey Env.
Received by:					
Relinquished by:					
Received by:					
Relinquished by:					
Received by:	Yuridia Amyski	YURIDIA AMYSKI	4/7/05	1605	CASTLE ANALYTICAL

15 Total number of containers submitted to the laboratory

Note: All special requests (e.g. quick turn times) must be cleared through authorized laboratory personnel .

RESULTS DUE : _____

☐ VERBAL ☐ WRITTEN