

erSchy Environmental, Inc.

October 12, 2005
Project A51-01

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

Alameda County
OCT 17 2005
Environmental Health

Re: Results of May, 2005 Quarterly Groundwater Monitoring, Alaska Gasoline Company, Oakland, California, Case #RO0000127

Dear Mr. Chan:

HerSchy Environmental Inc. is pleased to present 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 May 24 and 26, 2005.

METHODS OF INVESTIGATION

Groundwater Sampling Procedures:

Due to excavation and resurfacing work, groundwater samples were collected from only two of the six monitoring wells (MW-2 and MW-5) on May 24 and 26, 2005. A third well (MW-4) was found to have 0.48 feet of floating product, and was not sampled. Normally, all monitoring wells would be measured for static water level and total depth using an electric sounder prior to initiating sampling, on any well. However, due to a mis-communication, static water level was measured immediately prior to sampling each well. This procedure may have adversely affected the measured water levels in surrounding wells.

Depth to groundwater was recorded to the nearest 0.01 feet on field sampling data sheets. The groundwater elevation in the monitoring wells was calculated by subtracting the measured depth to groundwater from the surveyed well elevation. The depth to groundwater, total depth of the well, and well diameter were used to calculate the purge volume.

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 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 MW-4 contained floating product, no sample was collected from this well. Usually, groundwater data from wells with floating product is not used in determining the groundwater flow direction or gradient. However, with so many wells buried under the soil and gravel stockpiles, no flow direction or gradient could be estimated without using the data from MW-4. Therefore, the thickness of floating product was converted to an equivalent thickness of water based on the relative density of TPHg (assumed to be 0.74) to provide a very rough estimate of flow direction and gradient for this quarter.

Groundwater was present beneath the site at an average depth of 6.21 feet (based on MW-2 and MW-5 only) below the surveyed well elevations during the May 2005 monitoring event. Based upon the most recent survey (performed July 8, 2004) the elevation of groundwater during the May, 2005 monitoring event averaged 29.55 feet above mean sea level. Based on average depth to groundwater in MW-2 and MW-5 (the only wells with hard data in common between the two quarters), this is a decrease in groundwater elevation of about 0.84 feet since the February, 2005 monitoring event. Groundwater flow direction is estimated at South 16 degrees West at a gradient of 0.0097. Groundwater conditions are summarized in Table 1 and are presented graphically in Figure 2.

Table 1
Groundwater Conditions, Alaska Gasoline, Oakland

Well Number	Elevation	Depth to GW	GW Elevation
September 3, 2004*			
EX-1	33.28	1.2' free product	-----
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
Flow Direction = S. 55 W.; Gradient = .0075			
November 2, 2004*			
EX-1	33.28	1.25' free product	-----
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
Flow Direction = S. 63 W.; Gradient = .0083			
February 17, 2005*			
EX-1	33.28	0.34' free product	-----
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
Flow Direction = S. 55 W.; Gradient = .0036			
May 24 and 26, 2005*			
EX-1	33.28	NS	NS
MW-1R	36.67	NS	NS
MW-2	36.33	6.39	29.94
MW-3	35.12	NS	NS
MW-4	34.11	0.48' free product	28.79 (Estimated)
MW-5	35.17	6.02	29.15
MW-6	36.07	NS	NS
Flow Direction = S. 16 W.; Gradient = .0097; Estimate only			

Elevations in feet

NS = buried and not sounded or sampled

* survey conducted 7/8/04

If the floating product was in isostatic equilibrium with groundwater, the column of free floating product would have depressed the water table by an equivalent weight column of water. Since 0.48 feet of floating product was found in MW-4 this quarter, that would equate to about 0.36 feet of water. Depth to water in MW-4 was measured at 5.68, yielding a water elevation of 28.43. Adding back in the 0.36 equivalent depression from the floating product would yield an approximate equivalent water table elevation in MW-4 of 28.79.

In reality, the floating product will not be in isostatic equilibrium with groundwater. A certain amount of the floating product will be riding above the potentiometric surface. With the current data, it is impossible to determine the exact amount. The net result is the estimated water table elevation in MW-4 is higher than it should be by whatever water weight column of floating product is above the actual potentiometric surface. MW-4 was already the low point for water table elevation this quarter. Effectively, the water table elevation at MW-4 should be slightly lower than the estimate, which would divert the flow direction more to the west and steepen the gradient.

Based on the data gathered from the site monitoring wells, 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 are summarized in Table 2 below:

Table 2

Laboratory Analytical Results for Groundwater, Alaska Gasoline, Oakland

Well No.	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
September 3, 2004						
EX-1	NA	NA	NA	NA	NA	NA
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
November 2, 2004						
EX-1	NA	NA	NA	NA	NA	NA
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

Table 2
(Continued)

Well No.	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
February 17, 2005						
EX-1	NA	NA	NA	NA	NA	NA
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
May 24 and 26, 2005						
EX-1	NA	NA	NA	NA	NA	NA
MW-1R	NA	NA	NA	NA	NA	NA
MW-2	22,000	3,200	52	1,400	1,700	16,000
MW-3	NA	NA	NA	NA	NA	NA
MW-4	NA	NA	NA	NA	NA	NA
MW-5	ND	ND	ND	ND	ND	1.0
MW-6	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 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 are summarized in Table 3 below:

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

Sample	TAME	TBA	Methanol	Ethanol
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
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

**Table 3
(Continued)**

Sample	TAME	TBA	Methanol	Ethanol
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
May 24 and 25, 2005				
MW-1R	NS	NS	NS	NS
MW-2	610	ND	NA	NA
MW-3	NS	NS	NS	NS
MW-5	ND	ND	NA	NA
MW-6	NS	NS	NS	NS

ND = below detectable concentrations
All results in parts per billion (ppb)

NA = no analysis
NS = not sampled

There was no EDB, 1,2-DCA, DIPE, or ETBE detected in the groundwater samples during the May, 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 included in the laboratory analysis.

CONCLUSIONS AND RECOMMENDATIONS

All of the on-site monitoring wells sampled during the May, 2005 event were impacted, at least slightly, with gasoline constituents. No samples were collected from MW-4 due to the presence of floating product. The highest concentrations detected this quarter are from MW-2. Concentrations remain significantly lower in MW-5. This is likely due to its up gradient location relative to the USTs. Relatively high concentrations of petroleum hydrocarbons remain in soil and groundwater beneath the subject site. At the least, MW-4 continues to contain floating product.

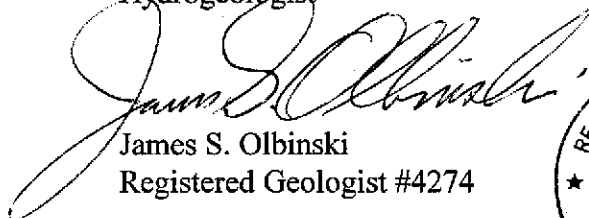
The authority to construct (ATC) for the soil vapor extraction system (SVES) has cleared the Bay Area Air Quality Management District (BAAQMD). The delay was apparently due to the retirement of the previous permit coordinator, the "heavy" workload of the new permit coordinator when the permit was reassigned, the magnitude of the public notification, as well as a filing error. The BAAQMD somehow considered the station to no longer be in business, closed the records and archived the permit to operate. Without a permit to operate in their files, they refused to approve the ATC. These issues have apparently been resolved.

If you have any questions or need additional information, please contact the undersigned at the letterhead address or at (559) 641-7320.

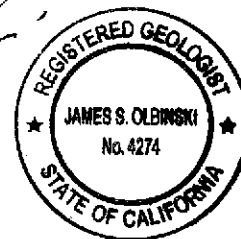
With best regards,
HerSchy Environmental, Inc.



William E. Ackland
Hydrogeologist



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

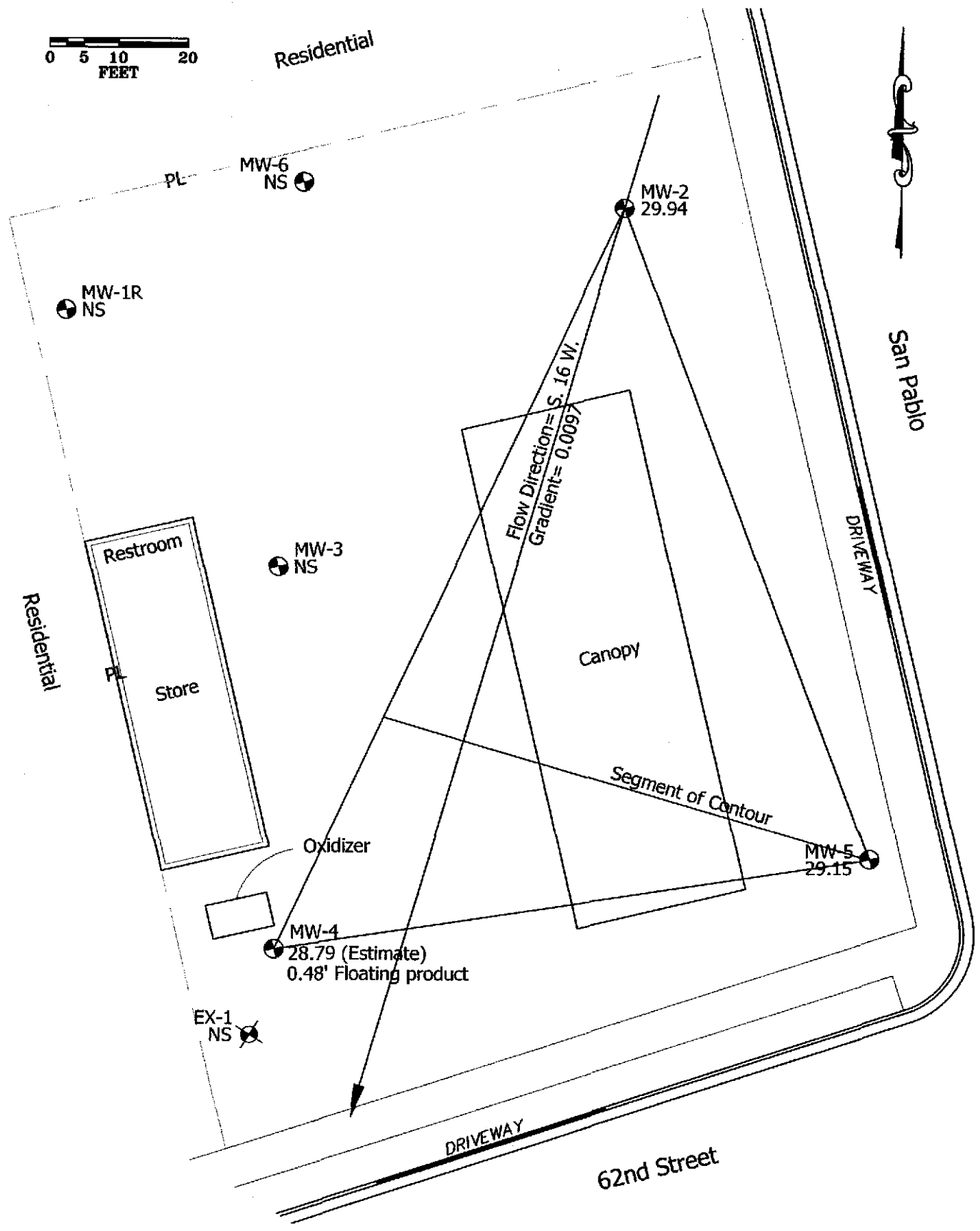
SITE LOCATION MAP
ALASKA GASOLINE COMPANY
 6211 San Pablo Avenue, Oakland, California

DATE: August 2005
 FILE NO.: A51.01
 DRAWN BY: WEA

FIGURE
 1



Residential



HerSchy Environmental, Inc.
Environmental Consulting and Remediation

P. O. Box 229
Bass Lake, California 93604-0229
Tel. (559) 641-7320, Fax (559) 641-7340

MAY, 2005 GROUNDWATER CONDITIONS

ALASKA GASOLINE COMPANY

6211 San Pablo Avenue, Oakland, California

DATE: September 2005
FILE NO.: A51-01
DRAWN BY: JSO

FIGURE
2

APPENDIX A

GROUNDWATER FIELD
SAMPLING DATA SHEETS

HerSchy Environmental WATER SAMPLE FIELD DATA SHEET

Client Name: ALASKA GAS Location: OAKLAND

Purged By: WEST Sampled by: WEST

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.):

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

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

Date Purged: 05-25-05 Date Sampled:

Table with 6 columns: TIME, VOLUME, pH, E. C., TEMP., TURBIDITY. The table is mostly empty with only a few lines of data.

Other Observations: Odor:

Purging Equipment:

Sampling Equipment:

Remarks: COULD NOT A SAMPLE DUE TO CONSTRUCTION, COVERED WITH GRAVEL (LARGE PILE) CONTRACTOR: TEC ACCUTITE 650-952-5551

Sampler's Signature: John S. [Signature] 05-24-05 - 0615:41

HerSchy WATER SAMPLE FIELD DATA SHEET

Environmental

Client Name: ALASKA GAS Location: OAKLAND

Purged By: WEST Sampled by: WEST

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

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

Casing Elevation (feet/MSL): 3633 Volume in Casing (gal.): 2.4

Depth of Well (feet): 20.90 Calculate Purge Volume (gal.): 7.1

Depth to Water (feet): 6.39 Actual Purge Volume (gal.): 8.0 1045

Date Purged: 05-26-05 Date Sampled: 05-26-05

TIME	VOLUME	pH	E. C.	TEMP.	TURBIDITY
1031	-	6.47	1034	64.2	CLEAR
1042	7.5	6.52	10.01	64.6	CLEAR

Other Observations: Odor: SLIGHT PETROLEUM

Purging Equipment: MATERRA

Sampling Equipment: WATERA

Remarks:

Sampler's Signature: John S. West

HerSchy **WATER SAMPLE FIELD DATA SHEET**
Environmental

Client Name: ALASKA GAS Location: OAKLAND

Purged By: WEST Sampled by: WEST

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

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

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

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

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

Date Purged: _____ Date Sampled: _____

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

Other Observations: _____ Odor: _____

Purging Equipment: _____

Sampling Equipment: _____

Remarks: COULD NOT SAMPLE DUE TO CONSTRUCTION
COVERED WITH DIRT (LARGE PILE)
CONTRACTOR:
TEC ACCUTITE 650-952-5551

Sampler's Signature: John X. Miller 05-24-05-0615 HR

HerSchy WATER SAMPLE FIELD DATA SHEET
Environmental

Client Name: ALASKA GAS Location: OAKLAND

Purged By: _____ Sampled by: _____

Sample ID: MW-4 Type: Groundwater Surface Water _____ Other _____

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

Casing Elevation (feet/MSL): 39.11 Volume in Casing (gal.): _____

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

Depth to Water (feet): 5.68 Actual Purge Volume (gal.): _____

Date Purged: _____ Date Sampled: _____

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

Other Observations: _____ Odor: PETROLEUM

Purging Equipment: _____

Sampling Equipment: _____

Remarks: DEPTH OF PRODUCT 5.20

.48' OF FLOATING PRODUCT

Sampler's Signature: John L. W. A.

HerSchy Environmental WATER SAMPLE FIELD DATA SHEET

Client Name: ALASKA GAS Location: OAKLAND

Purged By: WEST Sampled by: WEST

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

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

Casing Elevation (feet/MSL): 35.17 Volume in Casing (gal.): ~~22.91~~ 3.09

Depth of Well (feet): 24.90 Calculate Purge Volume (gal.): 9.27

Depth to Water (feet): 6.02 Actual Purge Volume (gal.): 10.00 ~~7.20~~

Date Purged: 05-24-05 Date Sampled: 05-24-05 7:20

TIME	VOLUME	pH	E. C.	TEMP.	TURBIDITY
<u>7:08</u>	<u>-</u>	<u>6.68</u>	<u>898</u>	<u>62.2</u>	<u>MUDDY</u>
<u>7:15</u>	<u>9.0</u>	<u>6.80</u>	<u>7264</u>	<u>65.0</u>	<u>CLOUDY</u>

Other Observations: _____ Odor: ROTTEN EGGS

Purging Equipment: ~~WATERA~~ WATERA

Sampling Equipment: ~~WATERA~~ WATERA

Remarks: _____

Sampler's Signature: John S. Miller

HerSchy **WATER SAMPLE FIELD DATA SHEET**
Environmental

Client Name: ALASKA GAS Location: OAKLAND

Purged By: WEST Sampled by: WEST

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

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

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

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

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

Date Purged: _____ Date Sampled: _____

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

Other Observations: _____ Odor: _____

Purging Equipment: _____

Sampling Equipment: _____

Remarks: COULD NOT SAMPLE DUE TO CONSTRUCTION,
COVERED WITH GRAVEL (LARGE PILE)
CONTRACTOR:
TEC ACCUTITE 650-952-5551

Sampler's Signature: John J. W... 05-24-05 - 0615 HR.

APPENDIX B

CERTIFIED ANALYTICAL REPORTS

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: William Ackland

Client Project ID: Alaska Gas - Oakland
Reference Number: 8146
Sample Description: Water
Sample Prep/Analysis Method: EPA 5030/8015M, 8020
Lab Numbers: 8146-1W, 2W

Sampled: See Below
Received: 05-26-05
Extracted: 05-27-05
Analyzed: 05-27-05
Reported: 06-08-05

TOTAL PETROLEUM HYDROCARBONS - GASOLINE WITH BTEX DISTINCTION

ANALYTE	REPORTING LIMIT µg/L	SAMPLE ID	SAMPLE ID
		MW-2 (µg/L)	MW-5 (µg/L)
MTBE	0.50	14000	0.61
BENZENE	0.50	3200	ND
TOLUENE	0.50	52	ND
ETHYLBENZENE	0.50	1400	ND
TOTAL XYLENES	0.50	1700	ND
GASOLINE RANGE HYDROCARBONS	50	22000	ND
Report Limit Multiplication Factor:		50	1
Report Limit Multiplication Factor for MTBE only:		500	
Date Sampled:		05-26-05	05-24-05

Surrogate % Recovery:

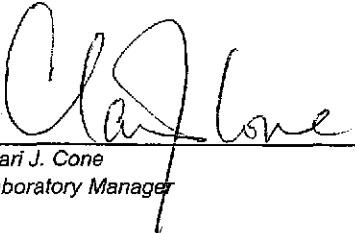
FID: 138% / PID: 118% FID: 93.3% / PID: 92.7%

Instrument ID:

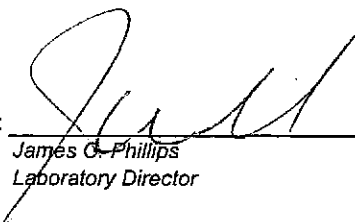
VAR-GC1 VAR-GC1

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

ANALYST:


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

Phone: (209) 384-2930
Fax: (209) 384-1507

HerSchy Environmental P.O. Box 229 Bass Lake, CA 93604 Attn: William Ackland	Client Project ID: Alaska Gas - Oakland Reference Number: 8146 Sample Description: Water Analyst: Jim Phillips	Method: EPA 5030/8015M,8020 Instrument ID: Var-GC1 Extracted: 05-27-05 Analyzed: 05-27-05 Reported: 06-08-05
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QUALITY CONTROL DATA REPORT

ANALYTE	Gasoline	MTBE	Benzene	Toluene	Ethyl Benzene	Total Xylenes
Spike Concentration:	110	2.16	1.34	7.58	1.82	8.88
Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
LCS Batch #:	VW-5275BHP2	VW-5275BHP2	VW-5275BHP2	VW-5275BHP2	VW-5275BHP2	VW-5275BHP2
LCS % Recovery:	97.5%	105%	103%	101%	108%	106%
Surrogate Recovery:	116%	112%	112%	112%	112%	112%
Control Limits:	70-130 %	70-130 %	70-130 %	70-130 %	70-130 %	70-130 %
MS/MSD Batch #:	VW-5275BHP2	VW-5275BHP2	VW-5275BHP2	VW-5275BHP2	VW-5275BHP2	VW-5275BHP2
Spike Concentration:	110	2.16	1.34	7.58	1.82	8.88
MS % Recovery:	86.6%	97.1%	100%	102%	109%	106%
Surrogate Recovery:	112%	110%	110%	110%	110%	110%
MSD % Recovery:	88.8%	96.9%	97.6%	98.6%	106%	104%
Surrogate Recovery:	110%	107%	107%	107%	107%	107%
Relative % Difference:	2.33%	0.220%	2.72%	3.74%	2.97%	1.51%
Method Blank :	ND	ND	ND	ND	ND	ND
Surrogate Recovery:	101%	101%	101%	101%	101%	101%

The LCS (Laboratory Check Sample) is a control sample of known, interferent free matrix that is fortified with representative analytes and analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery is used for validation of sample batch results. Due to matrix effects, the QC limits and recoveries for MS/MSD's are advisory only and are not used to accept or reject batch results.

ANALYST:

Clari J. Cone
Clari J. Cone

APPROVED BY:

James C. Phillips
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 P.O. Box 229 Bass Lake, CA 93604 Attn: William Ackland	Client Project ID: Alaska Gas - Oakland Reference Number: 8146 Sample Description: Water Sample Prep/Analysis Method: EPA 5030/8260 Lab Numbers: 8146-1W, 2W	Sampled: See Below Received: 05-26-05 Extracted: 05-28-05 Analyzed: 05-28-05 Reported: 06-08-05
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GASOLINE ADDITIVES BY EPA METHOD 8260 GC/MS

ANALYTE	REPORTING LIMIT (µg/L)	SAMPLE ID	
		MW-2 (µg/L)	MW-5 (µg/L)
FUEL OXYGENATES			
Methyl tert-Butyl Ether (MTBE)	0.50	16000	1.0
Di-isopropyl Ether (DIPE)	0.50	ND	ND
Ethyl tert-Butyl Ether (ETBE)	0.50	ND	ND
tert-Amyl Methyl Ether (TAME)	0.50	610	ND
tert-Butanol (TBA)	20	ND	ND
VOLATILE HALOCARBONS			
1,2-Dichloroethane (1,2-DCA)	0.50	ND	ND
Ethylene Dibromide (EDB)	0.50	ND	ND
Report Limit Multiplication Factor:		100*	1
Report Limit Multiplication Factor for MTBE:		1000	
Date Sampled:		05-26-05	05-24-05

8 Report limit raised due to matrix interference

Surrogate Recoveries		
1,2-Dichloroethane-d4	92.8%	114%
Toluene-d8	96.7%	108%

Instrument ID: Varian 2100T & HP 5972 MS

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

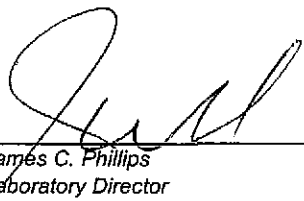
Practical Quantitation Limit = Reporting Limit x Report Limit Multiplication Factor

(µg/L) = micrograms per liter or parts per billion (ppb)

APPROVED BY:


Clari J. Cone
Laboratory Manager

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 P.O. Box 229 Bass Lake, CA 93604 Attn: Shannon Lodge	Client Project ID: Alaska Gas - Oakland Reference Number: 8146 Sample Description: Water Analyst: Scott Foster	Method: EPA 5030/8260 Instrument ID: Varian 2100T Prepared: 05-28-05 Analyzed: 05-28-05 Reported: 06-08-05
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QUALITY CONTROL DATA REPORT

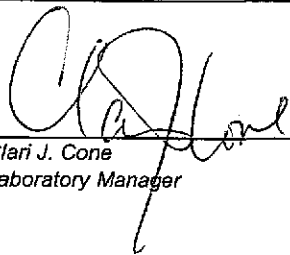
SPIKE ID: VWMS-5285

COMPOUNDS	Reporting Limit µg/L	BLANK Result µg/L	Spiking Level µg/L	Control Spike %R	%R Limits
t-Butyl Alcohol (t-BA)	20	ND	75.0	122%	57.6-163
Methyl t-butyl ether (MTBE)	0.50	ND	2.50	128%	64.7-134
Diisopropyl ether (DIPE)	0.50	ND	2.50	116%	58.2-135
Ethyl t-Butyl ether (ETBE)	0.50	ND	2.50	125%	65.0-132
t-Amyl methyl ether (TAME)	0.50	ND	2.50	117%	61.0-139
1,2-Dichloroethane (1,2-DCA)	0.50	ND	2.50	114%	70.1-145
Ethylene dibromide (EDB)	0.50	ND	2.50	105%	55.0-156
Surrogates:					
1,2-Dichloroethane-d4	1.0	120%	10.0	116%	80.0-118
Toluene-d8	1.0	110%	10.0	107%	74.1-129


COMPOUNDS	Spiking Level µg/L	MATRIX SPIKE %R	MATRIX SPIKE DUP %R	%R Limits	%RPD
t-Butyl Alcohol (t-BA)	75.0	112%	117%	39.7-178	4.01%
Methyl t-butyl ether (MTBE)	2.50	111%	121%	55.3-144	8.50%
Diisopropyl ether (DIPE)	2.50	102%	120%	54.9-135	16.5%
Ethyl t-Butyl ether (ETBE)	2.50	121%	136%	54.0-136	12.1%
t-Amyl methyl ether (TAME)	2.50	107%	111%	39.6-131	3.30%
1,2-Dichloroethane (1,2-DCA)	2.50	112%	116%	73.9-147	3.51%
Ethylene dibromide (EDB)	2.50	106%	117%	63.3-141	10.0%
Surrogate:					
1,2-Dichloroethane-d4	10.0	112%	119%	68.9-128	5.90%
Toluene-d8	10.0	97.0%	111%	68.0-128	13.5%

The LCS (Laboratory Check Sample) is a control sample of known, interferent free matrix that is fortified with representative analytes and analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery is used for validation of sample batch results. Due to matrix effects, the QC limits and recoveries for MS/MSD's are advisory only and are not used to accept or reject batch results.

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Clari J. Cone
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James C. Phillips
Laboratory Director

