

erSchy Environmental, Inc.

May 16, 2006
Project A51-01

Alameda County
MAY 22 2006
Environmental Health

2006 MAY 19 PM 12:35

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

Re: Results of February 2006 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 February 8, 2006.

METHODS OF INVESTIGATION

Groundwater Sampling Procedures:

Groundwater samples were collected from five of the seven monitoring and extraction wells on February 8, 2006. Monitoring well MW-4 and extraction well EX-1 were found to have floating product, and therefore were not sampled. All monitoring wells were measured for static water level and total depth using an electric sounder prior to initiating sampling. 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 and EX-1 contained floating product, no samples were collected from these wells. Normally, groundwater data from wells with floating product is not used in determining the groundwater flow direction or gradient. However, this quarter, EX-1 was not found to have floating product when it was initially sounded. Free product was observed after purging. For this reason, the water level data from EX-1 was used in Figure 2 this quarter.

Groundwater was present beneath the site at an average depth of 5.94 feet below the surveyed well elevations during the February 2006 monitoring event. Groundwater elevation during this quarter averaged 29.50 feet above mean sea level. This represents an increase in average groundwater elevation of about 1.48 feet since the November 2005 monitoring event, based on average depth to groundwater. This calculation uses only the wells with groundwater elevation data for both quarters. Groundwater flow direction is approximately South 48 degrees West at a gradient of 0.010. 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
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

Table 1
Groundwater Conditions, Alaska Gasoline, Oakland

Well Number	Elevation	Depth to GW	GW Elevation
MW-6	36.07	NS	NS
Flow Direction = S. 16 W.; Gradient = .0097; Estimate only			
August 15 & 17, 2005			
EX-1	33.28	0.83' free product	-----
MW-1R	36.67	8.55	28.12
MW-2	36.33	7.99	28.34
MW-3	35.12	7.71	27.41
MW-4	34.11	0.5' free product	-----
MW-5	35.17	6.75	28.42
MW-6	36.07	7.91	28.16
Flow Direction = S. 38 W.; Gradient = .013			
November 17, 2005			
EX-1	33.28	NS	NS
MW-1R	36.67	8.41	28.26
MW-2	36.33	7.88	28.45
MW-3	35.12	7.56	27.56
MW-4	34.11	0.75' free product	-----
MW-5	35.17	6.47	28.70
MW-6	36.07	7.80	28.27
Flow Direction = S. 35 W.; Gradient = .010			
February 8, 2006			
EX-1*	33.28	4.92*	28.36*
MW-1R	36.67	6.81	29.86
MW-2	36.33	6.24	30.09
MW-3	35.12	6.00	29.12
MW-4	34.11	0.27' free product	-----
MW-5	35.17	5.53	29.64
MW-6	36.07	6.16	29.91
Flow Direction = S. 48 W.; Gradient = .010			

Elevations in feet

NS = buried and not sounded or sampled

* = Screen drowned, all free product previously extracted during testing on 12/27/05

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
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
August 15 and 17, 2005						
EX-1	NA	NA	NA	NA	NA	NA
MW-1R	2,500	64	240	61	210	2,300
MW-2	2,000	66	ND	46	47	2,400
MW-3	110,000	1,500	ND	ND	ND	260,000
MW-4	NA	NA	NA	NA	NA	NA
MW-5	ND	ND	ND	ND	ND	0.88
MW-6	1,800	27	ND	6.0	23	3,800
November 17, 2005						
EX-1	NA	NA	NA	NA	NA	NA
MW-1R	2,500	66	290	75	290	1,300
MW-2	760	19	0.64	15	13	1,000
MW-3	200,000	2,400	ND	ND	ND	580,000
MW-4	NA	NA	NA	NA	NA	NA
MW-5	71	0.81	ND	1.1	ND	1.4
MW-6	1,100	30	ND	4.4	9.0	2,400
February 8, 2006						
EX-1	NA	NA	NA	NA	NA	NA
MW-1R	3,300	100	310	86	470	1,400
MW-2	10,000	1,500	7.6	660	380	4,300
MW-3	470,000	3,800	660	ND	790	490,000
MW-4	NA	NA	NA	NA	NA	NA
MW-5	50	ND	ND	ND	ND	1.0
MW-6	3,600	220	43	66	160	2,700

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. 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. Laboratory analytical results for the fuel additives and degradation products are presented in Appendix B and are summarized in Table 3 below:

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

Sample	DIPE	ETBE	TAME	TBA	1,2-DCA	EDB	Methanol	Ethanol
May 24 and 25, 2005								
MW-1R	NS	NS	NS	NS	NS	NS	NS	NS
MW-2	ND	ND	610	ND	ND	ND	NA	NA
MW-3	NS	NS	NS	NS	NS	NS	NS	NS
MW-5	ND	ND	ND	ND	ND	ND	NA	NA
MW-6	NS	NS	NS	NS	NS	NS	NS	NS
August 15 and 17, 2005								
MW-1R	ND	ND	210	ND	ND	ND	NA	NA
MW-2	ND	ND	95	880	ND	ND	NA	NA
MW-3	ND	ND	21,000	25,000	ND	ND	NA	NA
MW-5	ND	ND	ND	ND	ND	ND	NA	NA
MW-6	ND	ND	300	3,500	ND	ND	NA	NA
November 17, 2005								
MW-1R	ND	ND	110	1,600	ND	ND	NA	NA
MW-2	ND	ND	26	810	ND	ND	NA	NA
MW-3	ND	ND	24,000	49,000	ND	ND	NA	NA
MW-5	ND	ND	ND	ND	ND	ND	NA	NA
MW-6	ND	ND	190	9,500	ND	ND	NA	NA
February 8, 2006								
MW-1R	ND	ND	130	1,400	ND	ND	NA	NA
MW-2	ND	ND	120	2,800	ND	ND	NA	NA
MW-3	ND	ND	26,000	49,000	ND	ND	NA	NA
MW-5	ND	ND	ND	ND	ND	ND	NA	NA
MW-6	ND	ND	180	7,800	ND	ND	NA	NA

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

NA = no analysis
NS = not sampled

No DIPE, ETBE, EDB, or 1,2-DCA was detected in the groundwater samples during the February 2006 monitoring event. The chain-of-custody, and therefore the analytical results, list an MW-R1. This is actually MW-1R and has been referred to as such in this report.

CONCLUSIONS AND RECOMMENDATIONS

All of the on-site monitoring wells sampled during the February 2006 event were impacted, to varying degrees, with gasoline constituents. The highest concentrations detected this quarter are from MW-3, the well that historically has recorded the highest contaminant concentrations of the wells without floating product. Concentrations remain low in MW-5. This is likely due to the up-gradient location of MW-5 relative to the USTs. Relatively high concentrations of petroleum hydrocarbons remain in soil and groundwater beneath the subject site. This is clearly evident by the fact that monitoring well MW-4 and extraction well EX-1 continue to contain floating product.

Although EX-1 did not contain product upon initial sounding, free product was evident during purging activities. The free product recovery test in December 2005 removed what free product was contained in the PVC well casing. Since static groundwater level has remained above the top of screen for this well, product floating on the groundwater has not been able to enter the well.

HerSchy Environmental, Inc. previously recommended a second test of free product recovery using a Xitech or similar product pump be conducted when groundwater levels decline. Significant groundwater level fluctuation occurs seasonally in this region in response to changes in rainfall. According to the water level data gathered this quarter, water level had not yet dropped below the top of screen for EX-1. However, depth to water was close enough to the top of screen such that the test may likely be re-attempted within the next quarter.

Once product pumping has been successfully tested, recommendations can be made concerning ongoing product recovery as an interim remedial solution. At present the free product plume is not fully defined, and as a result the quantity of product cannot be determined. Off-site monitoring wells are intended to be installed near the site; however, permit issues and insurance requirements from the City of Oakland have significantly delayed this work.

Utility connections are expected from PG&E shortly so that a thermal oxidizer may be installed and operated on-site. In a recent communication, PG&E informed us that:


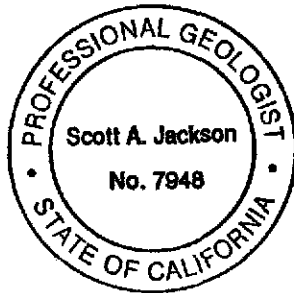
Engineering should be completed by the 3rd or 4th week of May. After engineering is completed I will prepare the contracts and provide you with the design sketch. Once signed contracts and payment has been received I will release the job to construction. Our normally [sic] timeframe to schedule our construction department is within 2 to 3 weeks once the job becomes releasable.

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



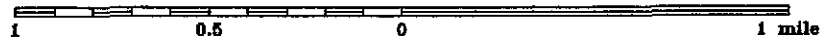
Scott Jackson
Professional Geologist #7948

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



Site Location

EMERYVILLE



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



San Pablo

DRIVEWAY

62nd Street

DRIVEWAY

Flow Direction = S. 48 W.
Gradient = 0.01

PL MW-6 29.91

MW-2 30.09

MW-1R 29.86

30.00

Residential

Restroom

MW-3 29.12

29.50

Canopy

Store

PL

29.00

MW-5 29.64

MW-4 FP

EX-1 28.36

28.50

FP = Floating Product

HerSchy Environmental, Inc.
Environmental Consulting and Remediation

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

FEBRUARY, 2006 GROUNDWATER CONDITIONS

ALASKA GASOLINE COMPANY
6211 San Pablo Avenue, Oakland, California

DATE: May 2006

FILE NO.: A51-01

DRAWN BY: WEA

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: EX-1 Type: Groundwater Surface Water Other

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

Casing Elevation (feet/MSL): _____ Volume in Casing (gal.): 14.1

Depth of Well (feet): 30.00 Calculate Purge Volume (gal.): 42.2

Depth to Water (feet): 4.92 Actual Purge Volume (gal.): 42.2+

Date Purged: 02-08-06 Date Sampled: ~~02-08-06~~

TIME	VOLUME	pH	E. C.	TEMP.	TURBIDITY
<u>0930</u>	<u>1</u>	<u>6.93</u>	<u>360</u>	<u>64.8</u>	<u>CLOUDY</u>
<u>1003</u>	<u>42.2</u>	<u>6.83</u>	<u>669</u>	<u>66.6</u>	<u>CLOUDY</u>

Sheen Y/N?: Y Odor: PETROLEUM

Purging Equipment: PURGER ES-60

Sampling Equipment: ~~BAILER~~

Remarks: AFTER PURGING 42+ GAL. HAVE EXTRACTED 3+ FEET OF PRODUCT USING BAILER NOTE 3 BAILER FULL OF PRODUCT

Sampler's Signature: John S. West

CHT 111

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 Surface Water Other

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

Casing Elevation (feet/MSL): 36.67 Volume in Casing (gal.): 2.7

Depth of Well (feet): 23.40 Calculate Purge Volume (gal.): 8.1

Depth to Water (feet): 6.81 Actual Purge Volume (gal.): 8.1x

Date Purged: 02-08-06 Date Sampled: 02-08-06 1101

TIME	VOLUME	pH	E. C.	TEMP.	TURBIDITY
<u>1051</u>	<u>1</u>	<u>6.35</u>	<u>529</u>	<u>64.0</u>	<u>CLOUDY</u>
<u>1059</u>	<u>8.1</u>	<u>6.55</u>	<u>573</u>	<u>64.6</u>	<u>CLOUDY</u>

Sheen Y/N?: N Odor: PETROLEUM

Purging Equipment: _____

Sampling Equipment: _____

Remarks: _____

Sampler's Signature: John S. West

HerSchy Environmental WATER SAMPLE FIELD DATA SHEET

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 [X] 3 4 5 6 Other

Casing Elevation (feet/MSL): 36.33 Volume in Casing (gal.): 2.4

Depth of Well (feet): 20.90 Calculate Purge Volume (gal.): 7.2

Depth to Water (feet): 6.24 Actual Purge Volume (gal.): 7.2+

Date Purged: 02-08-06 Date Sampled: 02-08-06 1212

Table with 6 columns: TIME, VOLUME, pH, E. C., TEMP., TURBIDITY. Rows include data for 1200 and 1209.

Sheen Y/N?: N Odor: SLIGHT PETROLEUM

Purging Equipment: WATERRA

Sampling Equipment: WATERRA

Remarks:

Sampler's Signature: John S. West

HerSchy Environmental WATER SAMPLE FIELD DATA SHEET

Client Name: ALASKA GAS Location: OAKLAND

Purged By: WEST Sampled by: WEST

Sample ID: NW-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.): 2.5

Depth of Well (feet): 21.20 Calculate Purge Volume (gal.): 7.5

Depth to Water (feet): 6.00 Actual Purge Volume (gal.): 7.5

Date Purged: 02-08-06 Date Sampled: 02-08-06 1035

TIME	VOLUME	pH	E. C.	TEMP.	TURBIDITY
<u>1023</u>	<u>1</u>	<u>6.89</u>	<u>658</u>	<u>68.2</u>	<u>CLOUDY</u>
<u>1032</u>	<u>7.5</u>	<u>6.54</u>	<u>906</u>	<u>67.8</u>	<u>CLOUDY</u>

Sheen Y/N?: N Odor: PETROLEUM

Purging Equipment: WATERRA

Sampling Equipment: WATERRA

Remarks: _____

Sampler's Signature: John S. West

HerSchy Environmental WATER SAMPLE FIELD DATA SHEET

Client Name: ALASKA GAS Location: OAKLAND

Purged By: WEST Sampled by: WEST

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

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

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

Depth of Well (feet): N/A Calculate Purge Volume (gal.): X

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

Date Purged: Date Sampled:

TIME	VOLUME	pH	E. C.	TEMP.	TURBIDITY
N/A					
A					

Sheen Y/N?: Odor:

Purging Equipment:

Sampling Equipment:

Remarks: FLOATING PRODUCT 3 1/4"
MEASURED WITH TAPE MEASURE, USING 1"
BAILER TO EXTRACT SAMPLE

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-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.): 7.2 3.2

Depth of Well (feet): 24.90 Calculate Purge Volume (gal.): 9.5

Depth to Water (feet): 5.53 Actual Purge Volume (gal.): 9.5

Date Purged: 02-08-06 Date Sampled: 02-08-06 1239

TIME	VOLUME	pH	E. C.	TEMP.	TURBIDITY
<u>1227</u>	<u>1</u>	<u>6.83</u>	<u>818</u>	<u>68.9</u>	<u>CLOUDY</u>
<u>1236</u>	<u>9.5</u>	<u>6.87</u>	<u>790</u>	<u>68.0</u>	<u>CLOUDY</u>

Sheen Y/N?: N Odor: PETROLEUM

Purging Equipment: WATERRA

Sampling Equipment: WATERRA

Remarks: _____

Sampler's Signature: John S. West

HerSchy Environmental WATER SAMPLE FIELD DATA SHEET

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.): 2.7

Depth of Well (feet): 23.10 Calculate Purge Volume (gal.): 8.3

Depth to Water (feet): 6.16 Actual Purge Volume (gal.): 8.3+

Date Purged: 02-08-06 Date Sampled: 02-08-06 1153

TIME	VOLUME	pH	E. C.	TEMP.	TURBIDITY
<u>1142</u>	<u>1</u>	<u>6.72</u>	<u>630</u>	<u>65.7</u>	<u>CLOUDY</u>
<u>1150</u>	<u>8.3</u>	<u>6.82</u>	<u>632</u>	<u>65.8</u>	<u>CLOUDY</u>

Sheen Y/N?: N Odor: PETROLEUM

Purging Equipment: WATERPIA

Sampling Equipment: WATERPIA

Remarks: _____

Sampler's Signature: John S. West

CASTLE ANALYTICAL LABORATORY

CHAIN OF CUSTODY

Location: 2333 Shuttle Drive, Bldg 908/909, Atwater, CA 95301

Certificate No. 2480

Mailing Address: 2333 Shuttle Drive, Atwater, CA 95301

PAGE 1 OF 1

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

Customer: <u>ALASKA GAS</u>					SAMPLE TYPE (g) grab (c) composite (d) discrete	SAMPLE MATRIX (s) solid (l) liquid (o) other	REQUESTED ANALYSES							Electronic Deliverables (EDF)	Method of Shipment:	
Address:							BTEX/TPH-GAS	MTBE	TPH-DIESEL	TPRH 418.1M	Oxy's / EDB / DCA by 8260	8260	NUMBER OF CONTAINERS		Notes:	
City/State/ZIP: <u>OAKLAND</u>															OBSERVATIONS/REMARKS	
Phone / FAX:																
Proj # / P.O. #:																
Report Attention: <u>BILL</u>																
Sampler Signature: <u>John S. West</u>																
Printed: <u>JOHN S. WEST</u>																
Lab ID#	SAMPLE ID	DATE	TIME	DESCRIPTION/LOCATION												
	MW-R1	02-08	1101		G	L	X	X		X						
	MW-2	02-08	1212													
	MW-3	02-08	1035													
	MW-5	02-08	1239													
	MW-6	02-08	1153													
Signature					Printed Name		Date	Time	Company Name		Total number of containers submitted to the laboratory					
Relinquished by: <u>John S. West</u>					JOHN S. WEST		02-08		HEARSHY ENV		15					
Received by:											Note: All special requests (e.g. quick turn times) must be cleared through authorized laboratory personnel.					
Relinquished by:																
Received by:																
Relinquished by: <u>Victoria Ambrose</u>					Victoria Ambrose		2/8/06	1610	Castle Analytical Lab		RESULTS DUE :					
Received by:											<input type="checkbox"/> VERBAL <input checked="" type="checkbox"/> WRITTEN					

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

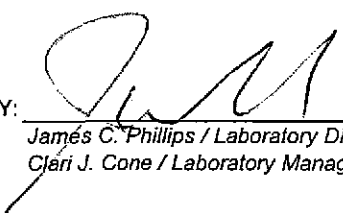
HerSchy Environmental P.O. Box 229 Bass Lake, CA 93604 Attn: William Ackland	Client Project ID: Alaska Gasoline - Oakland Reference Number: 8915 Sample Description: Water Sample Prep/Analysis Method: EPA 5030/8015M, 8020 Lab Numbers: 8915-1W, 2W, 3W, 4W, 5W	Sampled: 02-08-06 Received: 02-08-06 Extracted: 02-10-06 Analyzed: 02-10-06 Reported: 02-17-06
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TOTAL PETROLEUM HYDROCARBONS - GASOLINE WITH BTEX DISTINCTION

ANALYTE	REPORTING LIMIT µg/L	SAMPLE ID	SAMPLE ID	SAMPLE ID	SAMPLE ID	SAMPLE ID
		MW-R1 (µg/L)	MW-2 (µg/L)	MW-3 (µg/L)	MW-5 (µg/L)	MW-6 (µg/L)
MTBE	0.50	1200	3100	410000	0.97	2300
BENZENE	0.50	100	1500	3800	ND	220
TOLUENE	0.50	310	7.6	660	ND	43
ETHYLBENZENE	0.50	86	660	ND	ND	66
TOTAL XYLENES	0.50	470	380	790	ND	160
GASOLINE RANGE HYDROCARBONS	50	3300	10000	470000	50	3600
Report Limit Multiplication Factor:		10	20	1000	1	10
Report Limit Multiplication Factor for MTBE only:		100	200	20000		100

Surrogate % Recovery:	FID: 108% / PID: 100%	FID: 148% / PID: 118%	FID: 94.2% / PID: 97.9%	FID: 98.5% / PID: 101%	FID: 101% / PID: 101%
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

APPROVED BY: 
James C. Phillips / Laboratory Director or
Clari J. Cone / Laboratory Manager

CASTLE ANALYTICAL LABORATORY

Environmental Testing Services
Certificate # 2480

2333 Shuttle Drive, Atwater, CA 95301

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

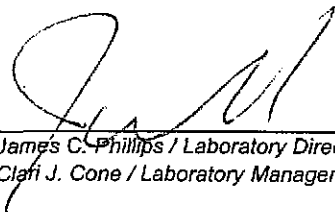
HerSchy Environmental P.O. Box 229 Bass Lake, CA 93604 Attn: William Ackland	Client Project ID: Alaska Gasoline - Oakland Reference Number: 8915 Sample Description: Water Analyst: Jim Phillips	Method: EPA 5030/8015M,8020 Instrument ID: Var-GC1 Extracted: 02-10-06 Analyzed: 02-10-06 Reported: 02-17-06
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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-2106	VW-2106	VW-2106	VW-2106	VW-2106	VW-2106
LCS % Recovery:	92.7%	97.7%	72.4%	106%	106%	106%
Surrogate Recovery:	104%	103%	103%	103%	103%	103%
Control Limits:	70-130 %	70-130 %	70-130 %	70-130 %	70-130 %	70-130 %
MS/MSD Batch #:	VW-2106	VW-2106	VW-2106	VW-2106	VW-2106	VW-2106
Spike Concentration:	110	2.16	1.34	7.58	1.82	8.88
MS % Recovery:	90.6%	66.2%	103%	104%	105%	105%
Surrogate Recovery:	103%	103%	103%	103%	103%	103%
MSD % Recovery:	92.6%	81.6%	98.6%	103%	105%	104%
Surrogate Recovery:	102%	101%	101%	101%	101%	101%
Relative % Difference:	2.10%	15.6%	3.88%	0.441%	0.162%	0.855%
Method Blank :	ND	ND	ND	ND	ND	ND
Surrogate Recovery:	95.5%	97.7%	97.7%	97.7%	97.7%	97.7%

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.

APPROVED BY:


James C. Phillips / Laboratory Director or
Cliff J. Cone / Laboratory Manager

CASTLE ANALYTICAL LABORATORY

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HerSchy Environmental P.O. Box 229 Bass Lake, CA 93604 Attn: William Ackland	Client Project ID: Alaska Gasoline - Oakland Reference Number: 8915 Sample Description: Water Sample Prep/Analysis Method: EPA 5030/8260 Lab Numbers: 8915-1W, 2W, 3W, 4W, 5W	Sampled: 02-08-06 Received: 02-08-06 Extracted: 02-10-06 Analyzed: 02-10-06 Reported: 02-17-06
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GASOLINE ADDITIVES BY EPA METHOD 8260 GC/MS

ANALYTE	REPORTING LIMIT (µg/L)	SAMPLE ID	SAMPLE ID	SAMPLE ID	SAMPLE ID	SAMPLE ID
		MW-R1 (µg/L)	MW-2 (µg/L)	MW-3 (µg/L)	MW-5 (µg/L)	MW-6 (µg/L)
FUEL OXYGENATES						
Methyl tert-Butyl Ether (MTBE)	0.50	1400	4300	490000	1.0	2700
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	130	120	26000	ND	180
tert-Butanol (TBA)	20	1400	2800	49000	ND	7800
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*	5*	2000*	1	10*
Report Limit Multiplication Factor for MTBE:		100	1000	20000		100

* Report limit raised due to matrix interference

Surrogate Recoveries						
1,2-Dichloroethane-d4		93.3%	96.8%	105%	112%	102%
Toluene-d8		93.8%	95.2%	95.0%	99.6%	99.8%


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)

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James C. Phillips / Laboratory Director or
Clari J. Cone / Laboratory Manager

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2333 Shuttle Drive, Atwater, CA 95301

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HerSchy Environmental
P.O. Box 229
Bass Lake, CA 93604
Attn: William Ackland

Client Project ID: Alaska Gasoline - Oakland
Reference Number: 8915
Sample Description: Water
Analyst: Scott Foster

Method: EPA 5030/8260
Instrument ID: HP 5972 MS
Prepared: 02-09-06
Analyzed: 02-09-06
Reported: 02-17-06

QUALITY CONTROL DATA REPORT

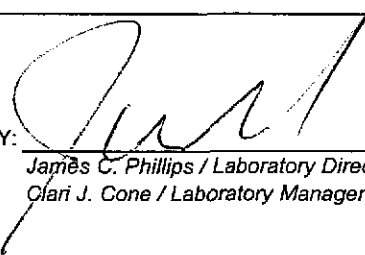
SPIKE ID: VWMS-2106

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	84.1%	57.6-163
Methyl t-butyl ether (MTBE)	0.50	ND	2.50	84.4%	64.7-134
Diisopropyl ether (DIPE)	0.50	ND	2.50	90.0%	58.2-135
Ethyl t-Butyl ether (ETBE)	0.50	ND	2.50	84.4%	65.0-132
t-Amyl methyl ether (TAME)	0.50	ND	2.50	84.8%	61.0-139
1,2-Dichloroethane (1,2-DCA)	0.50	ND	2.50	93.6%	70.1-145
Ethylene dibromide (EDB)	0.50	ND	2.50	90.0%	55.0-156
Surrogates:					
1,2-Dichloroethane-d4	1.00	99.5%	10.0	97.7%	80.0-118
Toluene-d8	1.00	98.4%	10.0	98.0%	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	96.0%	110%	39.7-178	13.2%
Methyl t-butyl ether (MTBE)	2.50	92.0%	106%	55.3-144	10.3%
Diisopropyl ether (DIPE)	2.50	90.8%	105%	54.9-135	14.7%
Ethyl t-Butyl ether (ETBE)	2.50	91.6%	102%	54.0-136	11.1%
t-Amyl methyl ether (TAME)	2.50	81.6%	95.2%	39.6-131	13.9%
1,2-Dichloroethane (1,2-DCA)	2.50	94.0%	104%	73.9-147	10.5%
Ethylene dibromide (EDB)	2.50	93.6%	103%	63.3-141	9.76%
Surrogate:					
1,2-Dichloroethane-d4	10.0	100%	104%	68.9-128	3.52%
Toluene-d8	10.0	98.9%	97.2%	68.0-128	1.73%

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.

APPROVED BY:



James C. Phillips / Laboratory Director or
Clari J. Cone / Laboratory Manager

CASTLE ANALYTICAL LABORATORY

CHAIN OF CUSTODY

Location: 2333 Shuttle Drive, Bldg 908/909, Atwater, CA 95301

Certificate No. 2480

Mailing Address: 2333 Shuttle Drive, Atwater, CA 95301

PAGE 1 OF 1

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

Customer: <u>ALISKA GAS</u>					SAMPLE TYPE (g) grab (c) composite (d) discrete	SAMPLE MATRIX (s) solid (l) liquid (o) other	REQUESTED ANALYSES										Electronic Deliverables (EDF)	Method of Shipment:	
Address:							BTEX/TPH-GAS	MTBE	TPH-DIESEL	TRPH 418.1M	Oxy's / EDB / DCA by 8260	8260	Notes:						
City/State/ZIP: <u>OAKLAND</u>													NUMBER OF CONTAINERS		OBSERVATIONS/REMARKS				
Phone / FAX:																			
Proj # / P.O. #:																			
Report Attention: <u>BILL</u>																			
Sampler Signature: <u>John S. West</u> Printed: <u>JOHN S. WEST</u>																			
Lab ID#	SAMPLE ID	DATE	TIME	DESCRIPTION/LOCATION															
<u>8915-1W</u>	<u>MW-R1</u>	<u>02-08</u>	<u>1101</u>		<u>C</u>	<u>L</u>	<u>X</u>	<u>X</u>			<u>X</u>				<u>3</u>				
<u>-2W</u>	<u>MW-2</u>	<u>02-08</u>	<u>1212</u>																
<u>-3W</u>	<u>MW-3</u>	<u>02-08</u>	<u>1035</u>																
<u>-4W</u>	<u>MW-5</u>	<u>02-08</u>	<u>1239</u>																
<u>-5W</u>	<u>MW-6</u>	<u>02-08</u>	<u>1153</u>																
Signature: <u>John S. West</u>					Printed Name: <u>JOHN S. WEST</u>		Date: <u>02-08</u>	Time:	Company Name: <u>HERSCHEY ENV</u>		Total number of containers submitted to the laboratory: <u>15</u> Note: All special requests (e.g. quick turn times) must be cleared through authorized laboratory personnel.								
Relinquished by:																			
Received by:																			
Relinquished by:																			
Received by:											RESULTS DUE: _____ <input type="checkbox"/> VERBAL <input type="checkbox"/> WRITTEN								
Relinquished by: <u>Patricia Ambroz</u>					Printed Name: <u>Patricia Ambroz</u>		Date: <u>7/8/06</u>	Time: <u>1610</u>	Company Name: <u>Castle Analytical Lab</u>										
Received by:																			