June 15, 2009

Dennis Harwood
ADEC Technical Services and Risk Assessment
555 Cordova Street
Anchorage, AK 99501

Subject: Data Summary Report; Gaffney Road Area Site; Fairbanks, Alaska; NTP 18-9028-13-63B

Dear Mr. Harwood:

This data summary report is an addendum to *Additional Monitoring and Long-Term Monitoring, Gaffney Road Area, February 2009*. It contains a summary of data collected during additional characterization activities and a vapor intrusion assessment at Good News Bible and Book Store in May 2009. The fieldwork was performed in accordance with the procedures outlined in the fiscal year's work plan: *Additional Site Characterization and Long-Term Monitoring, Work Plan, Gaffney Road Area, September 2008*.

Attachment 1 contains analytical data tables and a figure of results for the vapor intrusion assessment at Good News Bible and Book Store. Attachment 2 presents analytical data tables and figures for soil and groundwater samples collected in Airport Way. Attachment 3 contains field notes and boring logs. The laboratory data reports for the samples are included as Attachment 4. Finally, Attachment 5 contains a quality assurance review of the laboratory data reports.

Please call me at 258-4880, or email me at b.martich@oasisenviro.com, if you have any questions or comments.

Sincerely,

OASIS Environmental, Inc.

Ben Martich
Project Manager

cc:

Ann Farris, ADEC Project Manager

Attachments:

1. Vapor Intrusion Assessment at Good News Bible and Book Store
2. Additional Characterization Activities in Airport Way
3. Field Notes
4. Laboratory Analytical Reports
5. Quality Assurance Review

ATTACHMENT 1

Vapor Intrusion Assessment at Good News Bible and Book Store

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Table 1-1

Air Sample Summary

Gaffney Road Area Additional Site Characterization and Long-Term Monitoring

Sample Location	Sample Number	Date	Sample Type	Duration	Description	Comments
AA-1	09GRA131AA	5/11/2009	Outdoor Air	24-hour	Behind Good News Bible and Book Store	
IA-1	09GRA132IA 09GRA133IA	5/11/2009	Indoor Air	24-hour	Retail area of Good News Bible and Book Store - near CD rack	09GRA133IA is a duplicate
SS-1	09GRA136SS 09GRA137SS	5/12/2009	Sub-Slab Air	30-minute	Boiler room in Good News Bible and Book Store	09GRA137SS is a duplicate
SS-2	09GRA135SS	5/12/2009	Sub-Slab Air	30-minute	and Book Store	
SS-3	09GRA134SS	5/12/2009	Sub-Slab Air	30-minute	Break room of Good News Bible and Book Store	

Table 1-2
Air Sample Analytical Results
Good News Bible and Book Store
Gaffney Road Area Additional Site Characterization and Long-Term Monitoring

Compound	Units	Indoor Air Target Level	Indoor Air		Outdoor Air	Sub-Slab Air				Sub-Slab Average	Indoor Air to Sub-Slab Air Attenuation Factor
			IA-1		AA-1	SS-1		SS-2	SS-3		
			Primary	Duplicate		Primary	Duplicate				
Field Parameters											
Sub-Slab Pressure	in H_2O	---	---	---	---	0.005	---	0.015	0.01	---	---
Total Volatile Hydrocarbons	ppm	---	---	---	---	150	---	300	260	---	---
Oxygen	%	---	---	---	---	20.9	---	19.3	20.9	---	---
Carbon dioxide	%	---	---	---	---	0.3	---	0.9	0	---	---
Helium	%	---	---	---	---	1.3	---	2.5	2.9	---	---
Volatile Organic Compounds											
PCE	µg/m^3	21	16	16	0.22	5,900	5,800	4,400	340	3,547	0.0044
TCE	µg/m^3	1.1	0.34	0.34	ND (0.16)	28	33	86	ND (5.2)	< 40	> 0.0085
cis-1,2-DCE	µg/m^3	150	ND (0.14)	ND (0.15)	ND (0.12)	ND (13)	ND (13)	ND (11)	ND (3.9)	NQ	NQ
trans-1,2-DCE	µg/m^3	260	ND (0.69)	ND (0.74)	ND (0.58)	ND (13)	ND (13)	ND (11)	ND (3.9)	NQ	NQ
Vinyl chloride	µg/m^3	1.1	ND (0.045)	ND (0.048)	ND (0.037)	ND (8.2)	ND (8.6)	ND (7.2)	ND (2.5)	NQ	NQ

Notes: Value in paranethesis is laboratory reporting limit.

Indoor Air Target Levels taken from *Draft Evaluation of the Vapor Intrusion Pathway at Contaminated Sites (April 2009)* .

Sub-slab average concentrations derived by averaging three primary sub-slab samples. Laboratory reporting limit used for non-detect results.

Less than sign (<) or greater than sign (>) indicates at least one sub-slab result was non-detect.

Attenuation factors are unitless percentages that are calculated by subtracting the outdoor air concentration from the indoor air concentration and dividing by the sub-slab average concentration.

Key:

% = Percent
DCE = Dichloroethene
in H_2O = inches of water
µg/m^3 = Micrograms per cubic meter
ND = Not detected
NQ = Not quantified
PCE = Tetrachloroethene
ppm = Parts per million
TCE = Trichloroethene

Table 1-3
Cumulative Air Sample Analytical Results
Good News Bible and Book Store
Gaffney Road Area Additional Site Characterization and Long-Term Monitoring

Compound	Sample Date	Heating System On	Temperature Range (˚F)	Sample Location					Sub-Slab Average ($\mu g/m^3$)	Indoor Air to Sub-Slab Air Attenuation Factor
				IA-1 ($\mu g/m^3$)	AA-1 ($\mu g/m^3$)	SS-1 ($\mu g/m^3$)	SS-2 ($\mu g/m^3$)	SS-3 ($\mu g/m^3$)		
PCE	5/12/2009	Yes	42 - 54	16	0.22	5,900	4,400	340	3,547	0.0044
	9/17/2008	Yes	36 - 44	**25**	0.31	15,000	3,400	510	6,303	0.0039
	8/2/2007	No	53 - 73	**58**	0.52	25,000	750	150	8,633	0.0067
	2/15/2007	Yes	(13) - 17	**24**	2.4	8,600	80	72	2,917	0.0074
	11/1/2006	Yes	19 - 23	**44**	0.61	9,200	2,400	83	3,894	0.0111
TCE	9/17/2008	Yes	42 - 54	0.34	ND (0.16)	28	86	ND (5.2)	< 40	> 0.0085
	9/17/2008	Yes	36 - 44	0.49	ND (0.23)	78	44	ND (4.7)	< 42	> 0.0117
	8/2/2007	No	53 - 73	**1.1**	ND (0.16)	140	10	ND (3.6)	< 51	> 0.0216
	2/15/2007	Yes	(13) - 17	0.44	ND (0.14)	36	ND (4.9)	ND (4.9)	< 15	> 0.0293
	11/1/2006	Yes	19 - 23	0.63	ND (0.14)	48	30	ND (4.5)	< 28	> 0.0225

Notes: Value in paranethesis is laboratory reporting limit.

Bolded indoor air values meet or exceed Indoor Air Target Level.

Sub-slab average concentrations derived by averaging three primary sub-slab samples. Laboratory reporting limit used for non-detect results.

Less than sign (<) or greater than sign (>) indicates at least one sub-slab result was non-detect.

Attenuation factors are unitless percentages: calculated by subtracting outdoor air concentration from indoor air concentration and dividing by sub-slab average concentration.

Key:

DCE = Dichloroethene

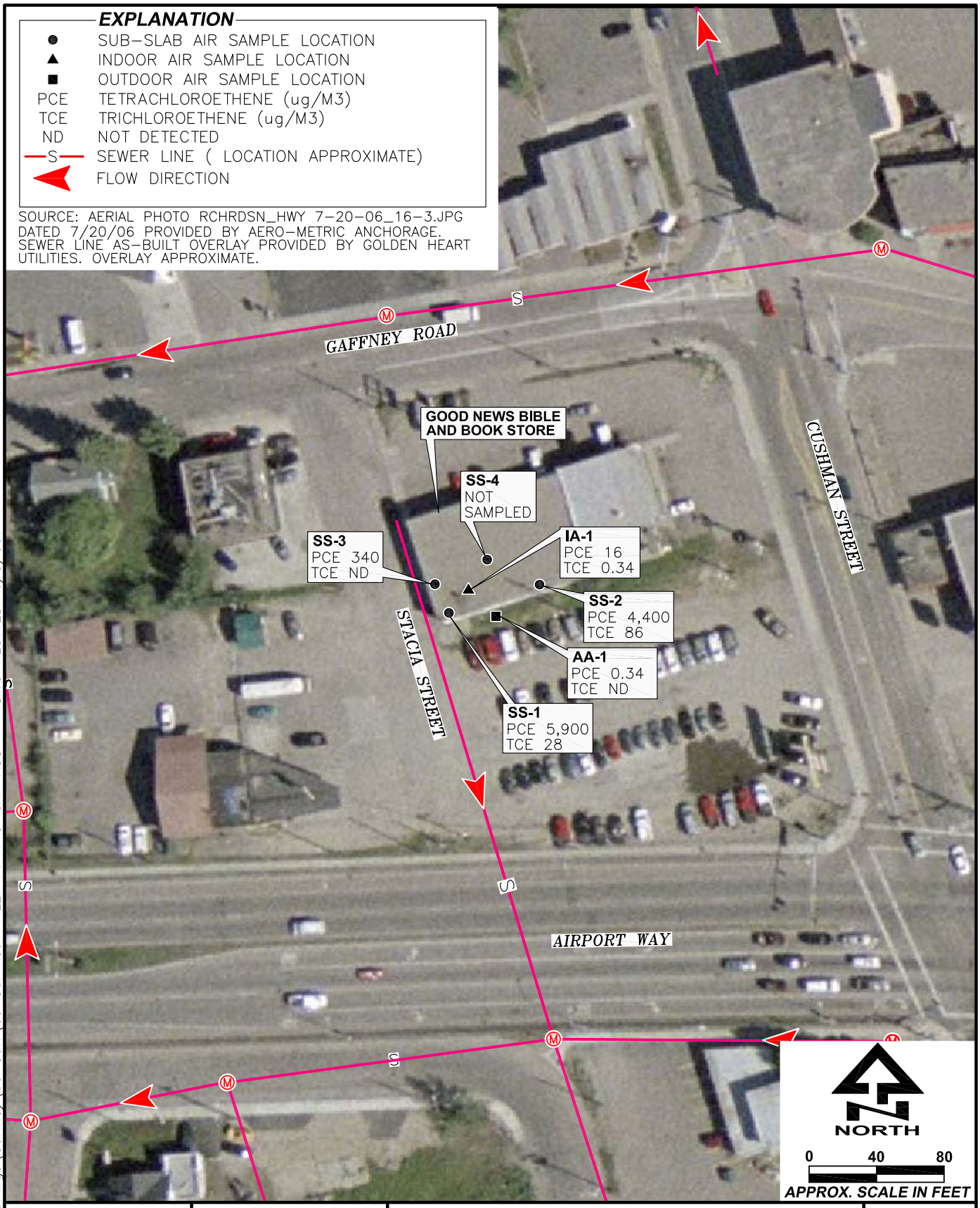
$\mu g/m^3$ = Micrograms per cubic meter

ND = Not detected

PCE = Tetrachloroethene

RME = Reasonable Maximum Exposure

TCE = Trichloroethene



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oasis ENVIRONMENTAL

DATE: JUNE 2009
CHKD: B.J.M.
DRAWN: K.J.S.
PROJ. No.: 14–145

825 W. 8th Ave., Anchorage, AK 99501, (907) 258–4880

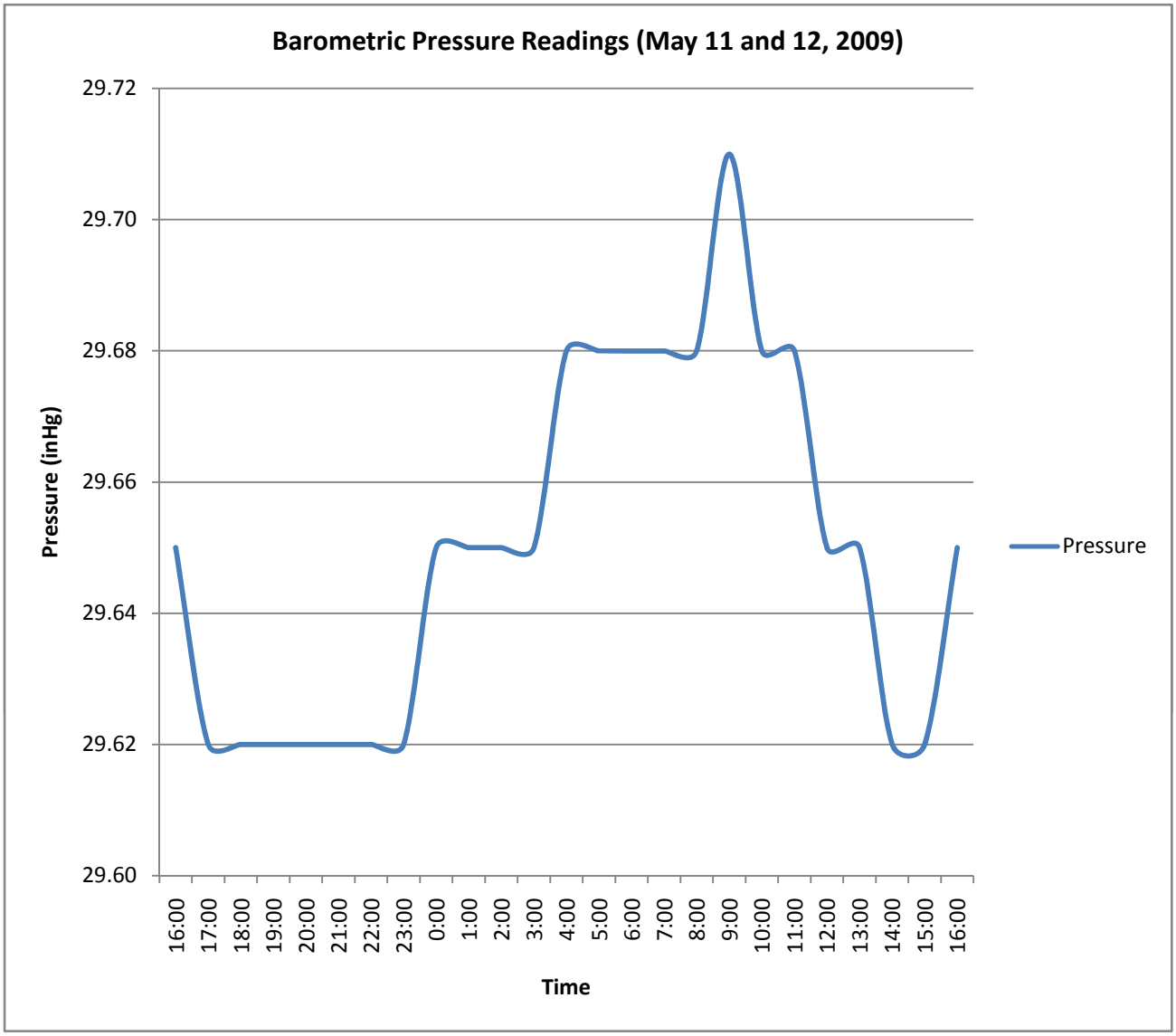
AIR SAMPLE LOCATIONS AND ANALYTICAL RESULTS

GAFFNEY ROAD AREA
ADDITIONAL SITE CHARACTERIZATION
AND LONG–TERM MONITORING
Fairbanks, Alaska

FIGURE

1-A

Figure 1-B. Barometric Readings During Air Sampling
Gaffney Road Area Additional Site Characterization and Long-Term Monitoring



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ATTACHMENT 2

Additional Characterization Activities in Airport Way

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Table 2-1

Test Boring Sample Summary

Gaffney Road Area Additional Site Characterization and Long-Term Monitoring

Test Boring	Sample Date	Boring Depth	Confirmation Samples							
			Soil				Groundwater			
			1-5 ft	3-8 ft	4-9 ft	5-10 ft	15-18 ft	25-28 ft	35-38 ft	45-48 ft
TB-113	5/12/2009	28 ft	No	No	✔	No	✔	No		
TB-114	5/12/2009	38 ft	✔	No	No	✔	✔	No	✔	
TB-115	5/12/2009	38 ft	✔	No	No	✔	✔	No	✔	
TB-116	5/13/2009	38 ft	✔	No	No	✔	✔	No	✔	
TB-117	5/13/2009	28 ft	✔	No	No	✔	✔	No		
TB-118	5/14/2009	28 ft	No	No	No	No	✔	No		
TB-119	5/14/2009	28 ft	No	✔	No	No	✔	No		
TB-120	5/14/2009	23 ft	No	✔	No	No	✔			
TB-121	5/14/2009	18 ft	No	✔	No	No	✔			
TB-122	5/14/2009	18 ft	No	✔	No	No	✔			

Note: Groundwater sample in TB-120 collected from 20-23 ft because no water was present at 15-18 ft

Key:

ft = Feet

Table 2-2

Soil Sample Analytical Results

Gaffney Road Area Additional Site Characterization and Long-Term Monitoring

Boring	Sample Depth	Sample Number	Color-Tec (ppm)	PCE (µg/kg)	TCE (µg/kg)	cis-1,2-DCE (µg/kg)	trans-1,2-DCE (µg/kg)	Vinyl Chloride (µg/kg)
TB-113	1-5 ft	---	ND	---	---	---	---	---
	3-8 ft	---	---	---	---	---	---	---
	4-9 ft	09GRA151SB	---	**82**	ND (37)	ND (37)	ND (37	ND (37)
	5-10 ft	---	ND	---	---	---	---	---
TB-114	1-5 ft	09GRA153SB	2.2	**420**	ND (31)	ND (31)	ND (31)	ND (31)
	3-8 ft	---	---	---	---	---	---	---
	4-9 ft	---	---	---	---	---	---	---
	5-10 ft	09GRA154SB	6	**6,900**	**250**	ND (45)	ND (45)	ND (45)
	duplicate	09GRA155SB	---	**10,000**	**260**	ND (42)	ND (42)	ND (42)
TB-115	1-5 ft	09GRA159SB	4	**1,500**	ND (30)	ND (30)	ND (30)	ND (30)
	3-8 ft	---	---	---	---	---	---	---
	4-9 ft	---	---	---	---	---	---	---
	5-10 ft	09GRA160SB	5	**2,400**	ND (61)	ND (61)	ND (61)	ND (61)
TB-116	1-5 ft	09GRA163SB	1.6	**310**	ND (28)	ND (28)	ND (28)	ND (28)
	3-8 ft	---	---	---	---	---	---	---
	4-9 ft	---	---	---	---	---	---	---
	5-10 ft	09GRA164SB	0.2	**210**	ND (28)	ND (28)	ND (28)	ND (28)
TB-117	1-5 ft	09GRA167SB	0.4	**190**	ND (26)	ND (26)	ND (26)	ND (26)
	3-8 ft	---	---	---	---	---	---	---
	4-9 ft	---	---	---	---	---	---	---
	5-10 ft	09GRA168SB	0.3	**360**	ND (35)	ND (35)	ND (35)	ND (35)
TB-118	1-5 ft	---	ND	---	---	---	---	---
	3-8 ft	---	---	---	---	---	---	---
	4-9 ft	---	---	---	---	---	---	---
	5-10 ft	---	ND	---	---	---	---	---
TB-119	1-5 ft	---	ND	---	---	---	---	---
	3-8 ft	09GRA171SB	---	**40**	ND (35)	ND (35)	ND (35)	ND (35)
	4-9 ft	---	---	---	---	---	---	---
	5-10 ft	---	ND	---	---	---	---	---
TB-120	1-5 ft	---	ND	---	---	---	---	---
	3-8 ft	09GRA172SB	---	**64**	ND (34)	ND (34)	ND (34)	ND (34)
	4-9 ft	---	---	---	---	---	---	---
	5-10 ft	---	ND	---	---	---	---	---
TB-121	1-5 ft	---	ND	---	---	---	---	---
	3-8 ft	09GRA177SB	---	**38**	ND (36)	ND (36)	ND (36)	ND (36)
	duplicate	09GRA178SB	---	ND (36)	ND (36)	ND (36)	ND (36)	ND (36)
	4-9 ft	---	---	---	---	---	---	---
	5-10 ft	---	ND	---	---	---	---	---
TB-122	1-5 ft	---	ND	---	---	---	---	---
	3-8 ft	09GRA179SB	---	**97**	ND (39)	ND (39)	ND (39)	ND (39)
	4-9 ft	---	---	---	---	---	---	---
	5-10 ft	---	ND	---	---	---	---	---
		ADEC SCL	**---**	**24**	**20**	**240**	**370**	**8.5**

Notes: Value in parenthesis is the laboratory reporting limit.
Bolded value indicates result exceeds ADEC SCL.

Key:

ADEC = Alaska Department of Environmental Conservation
DCE = Dichloroethene
ft = Feet
µg/kg = Micrograms per kilogram
ND = Not detected
PCE = Tetrachloroethene
ppm = Parts per million
SCL = Soil cleanup level
TCE = Trichloroethene

Table 2-3

Groundwater Sample Analytical Results

Gaffney Road Area Additional Site Characterization and Long-Term Monitoring

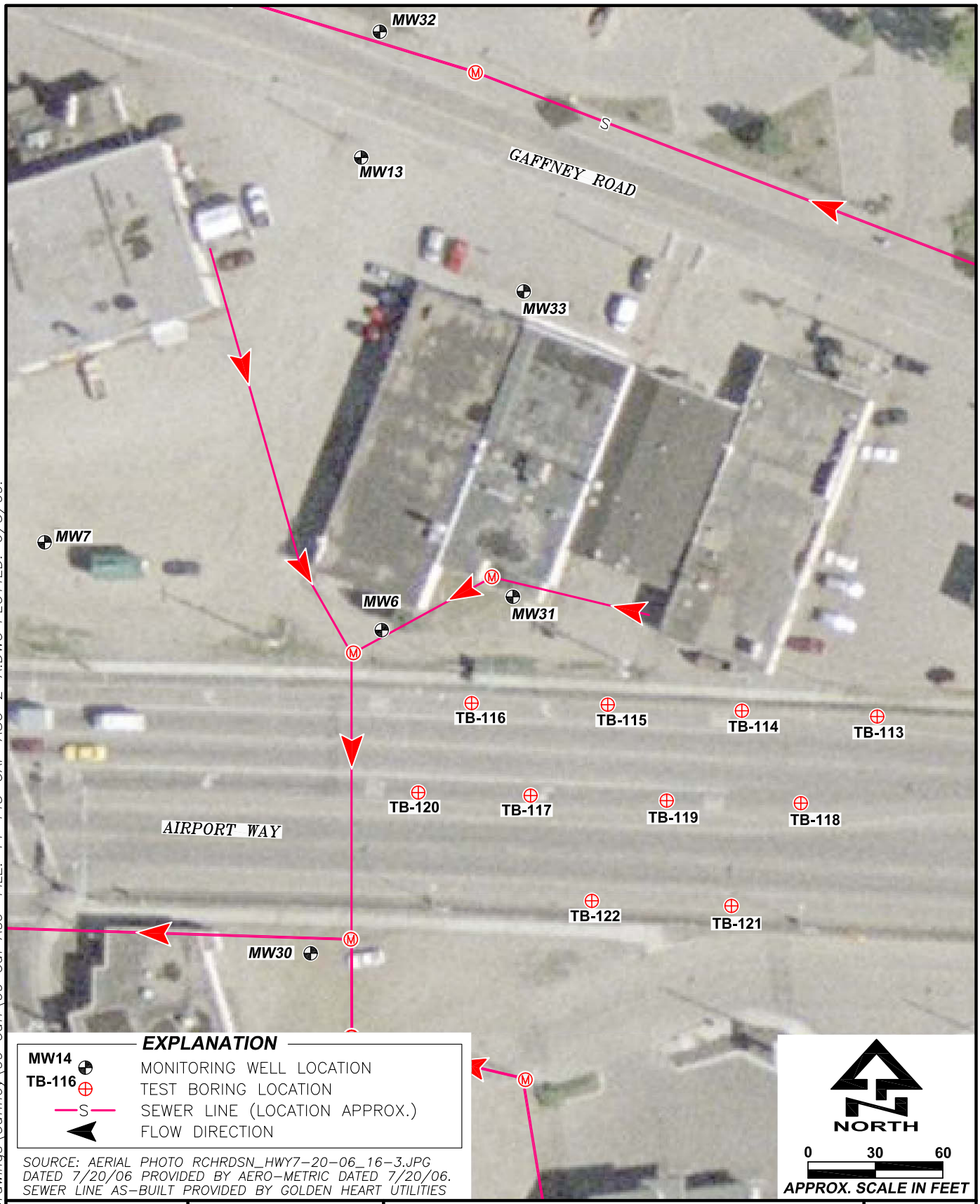
Boring	Sample Depth	Sample Number	Color-Tec (ppm)	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Vinyl chloride (µg/L)
TB-113	14-18 ft	09GRA152GW	ND	3.3	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
	24-28 ft	---	ND	---	---	---	---	---
TB-114	14-18 ft	09GRA156GW	0.3	0.37	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
	duplicate	09GRA157GW	---	0.40	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
	24-28 ft	---	0.1	---	---	---	---	---
	34-38 ft	09GRA158GW	ND	0.92	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
TB-115	14-18 ft	09GRA161GW	5	**360**	2.6	ND (2.0)	ND (2.0)	ND (2.0)
	24-28 ft	---	NM	---	---	---	---	---
	34-38 ft	09GRA162GW	ND	0.74	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
TB-116	14-18 ft	09GRA165GW	0.6	**26**	0.47	ND (0.20)	ND (0.20)	ND (0.20)
	24-28 ft	---	ND	---	---	---	---	---
	34-38 ft	09GRA166GW	ND	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
TB-117	14-18 ft	09GRA169GW	ND	3.2	0.33	ND (0.20)	ND (0.20)	ND (0.20)
	24-28 ft	---	ND	---	---	---	---	---
TB-118	15-18 ft	09GRA170GW	ND	0.30	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
	25-28 ft	---	ND	---	---	---	---	---
TB-119	15-18 ft	09GRA172GW	ND	0.57	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
	25-28 ft	---	ND	---	---	---	---	---
TB-120	20-23 ft	09GRA173GW	ND	0.90	0.65	ND (0.20)	ND (0.20)	ND (0.20)
TB-121	15-18 ft	09GRA174GW	ND	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
	duplicate	09GRA175GW	---	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
TB-122	15-18 ft	09GRA176GW	ND	0.41	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
		ADEC GCL	**---**	**5**	**5**	**70**	**100**	**2**

Note: Value in parenthesis is the laboratory reporting limit.

Bolded value indicates result exceeds ADEC GCL.

Key:

ADEC = Alaska Department of Environmental Conservation
DCE = Dichloroethene
ft = Feet
GCL = Groundwater cleanup level
µg/L = Micrograms per liter
ND = Not detected
NM Not measured
PCE = Tetrachloroethene
ppm = Parts per million
TCE = Trichloroethene



EXPLANATION

- MW14 — MONITORING WELL LOCATION
- TB-116 — TEST BORING LOCATION
- —S— SEWER LINE (LOCATION APPROX.)
- FLOW DIRECTION

SOURCE: AERIAL PHOTO RCHRDSN_HWY7-20-06_16-3.JPG DATED 7/20/06 PROVIDED BY AERO-METRIC DATED 7/20/06. SEWER LINE AS-BUILT PROVIDED BY GOLDEN HEART UTILITIES

NORTH

0 30 60

APPROX. SCALE IN FEET

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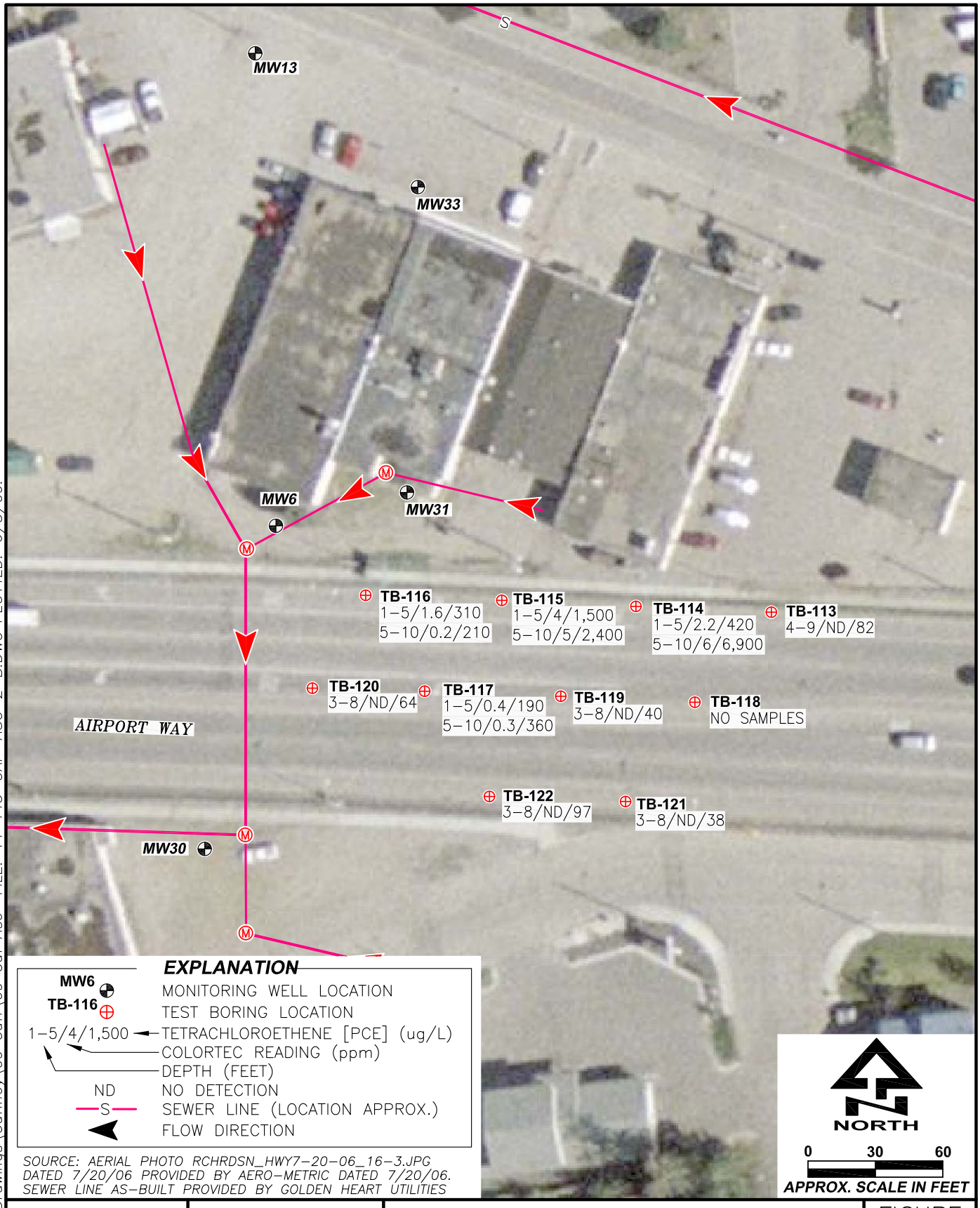
TEST BORING LOCATIONS IN AIRPORT WAY

GAFFNEY ROAD AREA
ADDITIONAL SITE CHARACTERIZATION AND LONG-TERM MONITORING
Fairbanks, Alaska

FIGURE

2-A



SOURCE: AERIAL PHOTO RCHRDSN_HWY7-20-06_16-3.JPG DATED 7/20/06 PROVIDED BY AERO-METRIC DATED 7/20/06. SEWER LINE AS-BUILT PROVIDED BY GOLDEN HEART UTILITIES

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SOIL SAMPLE ANALYTICAL RESULTS

GAFFNEY ROAD AREA
ADDITIONAL SITE CHARACTERIZATION AND LONG-TERM MONITORING
Fairbanks, Alaska

FIGURE

2-B

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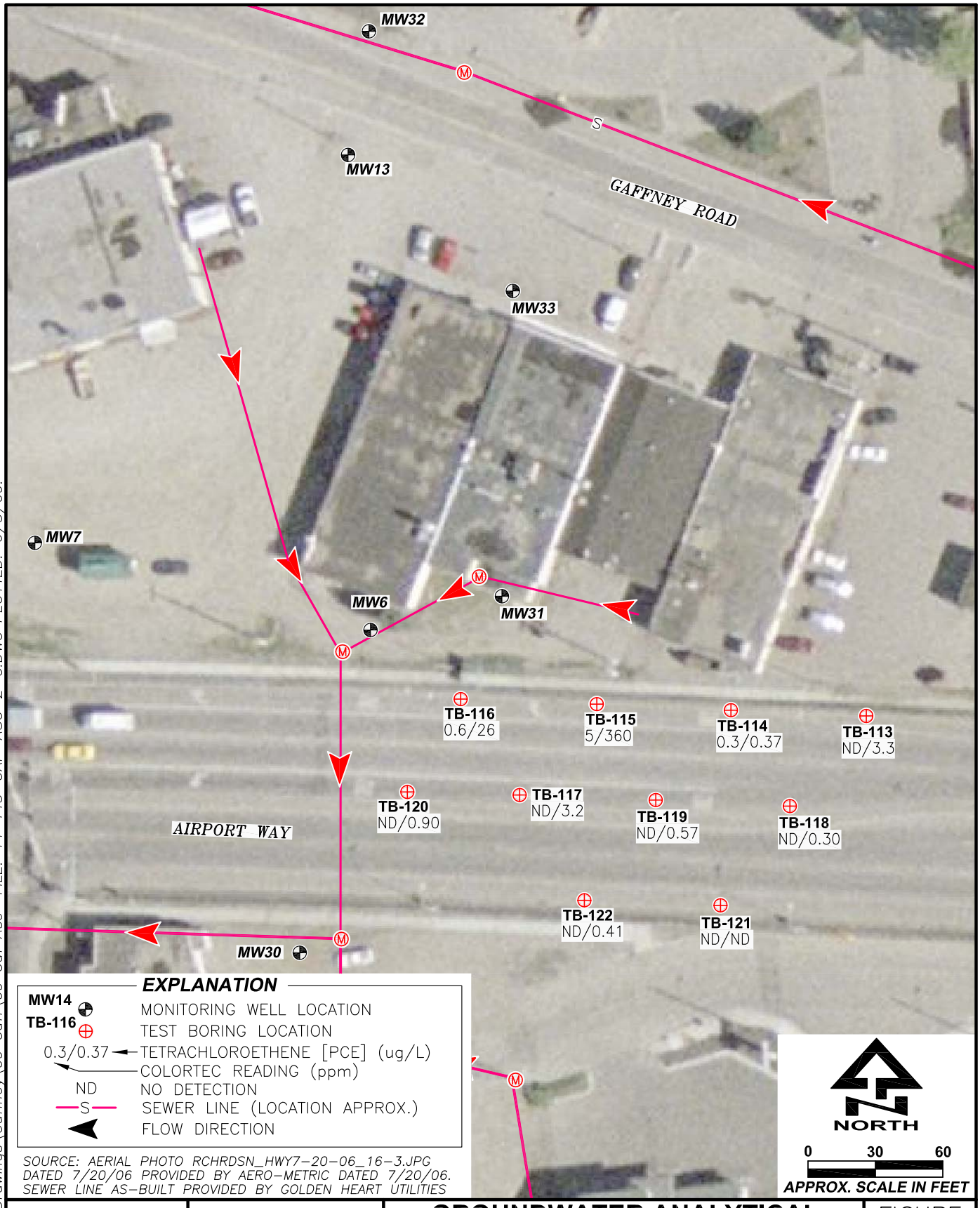

SOURCE: AERIAL PHOTO RCHRDSN_HWY7-20-06_16-3.JPG DATED 7/20/06 PROVIDED BY AERO-METRIC DATED 7/20/06. SEWER LINE AS-BUILT PROVIDED BY GOLDEN HEART UTILITIES

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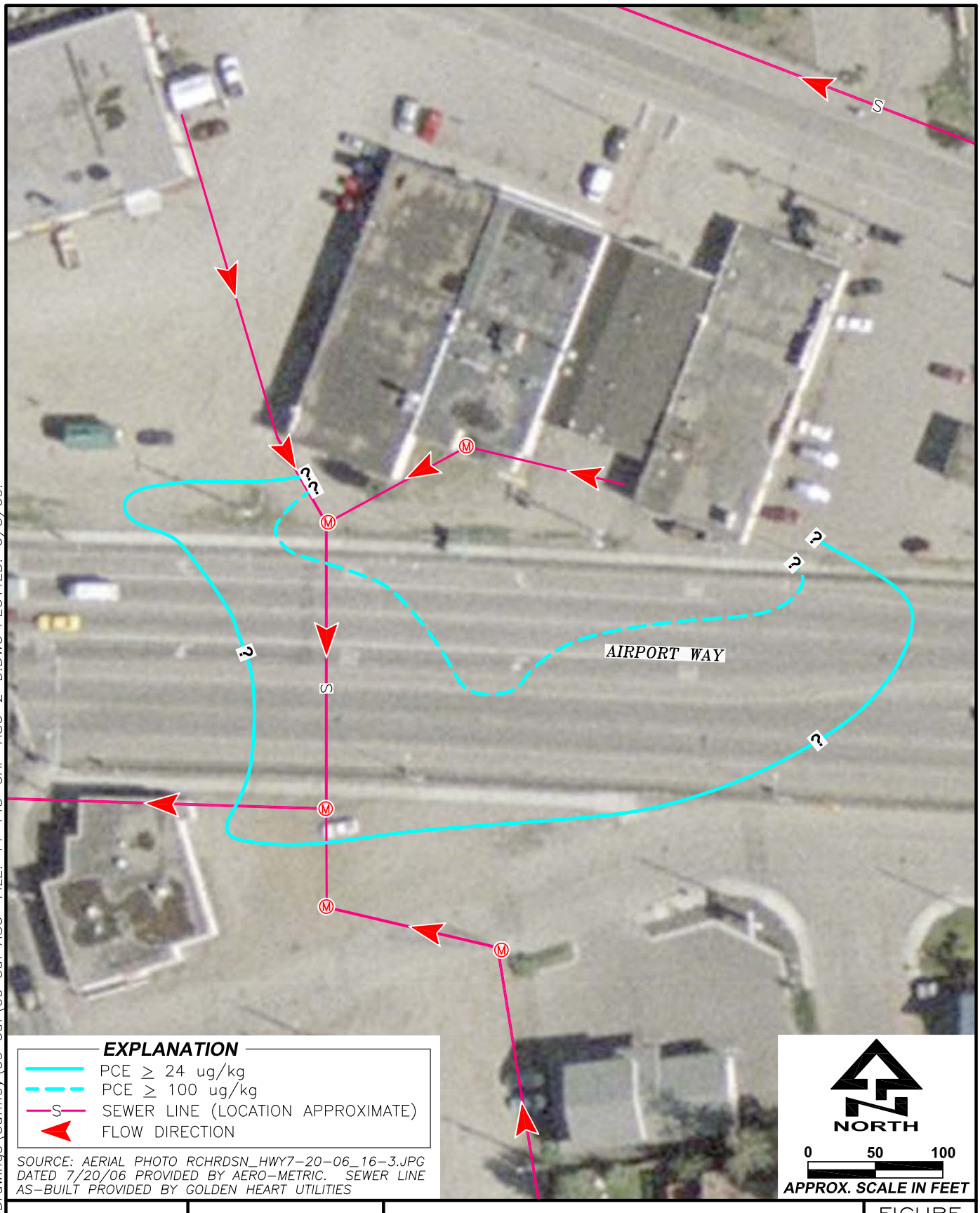
GROUNDWATER ANALYTICAL RESULTS FOR SHALLOW INTERVAL (15-18 FEET)

GAFFNEY ROAD AREA
ADDITIONAL SITE CHARACTERIZATION AND LONG-TERM MONITORING
Fairbanks, Alaska

FIGURE

2-C

PATH: V:\Project Drawings\Gaffney\09 Gaff\09 Gaf Asc FILE: 14-145-GAF-ASC-2-C.DWG PLOTTED: 6/3/09.



EXPLANATION

- PCE ≥ 24 ug/kg
- PCE ≥ 100 ug/kg
- S — SEWER LINE (LOCATION APPROXIMATE)
- FLOW DIRECTION

SOURCE: AERIAL PHOTO RCHRDSN_HWY7-20-06_16-3.JPG DATED 7/20/06 PROVIDED BY AERO-METRIC. SEWER LINE AS-BUILT PROVIDED BY GOLDEN HEART UTILITIES

NORTH

0 50 100

APPROX. SCALE IN FEET

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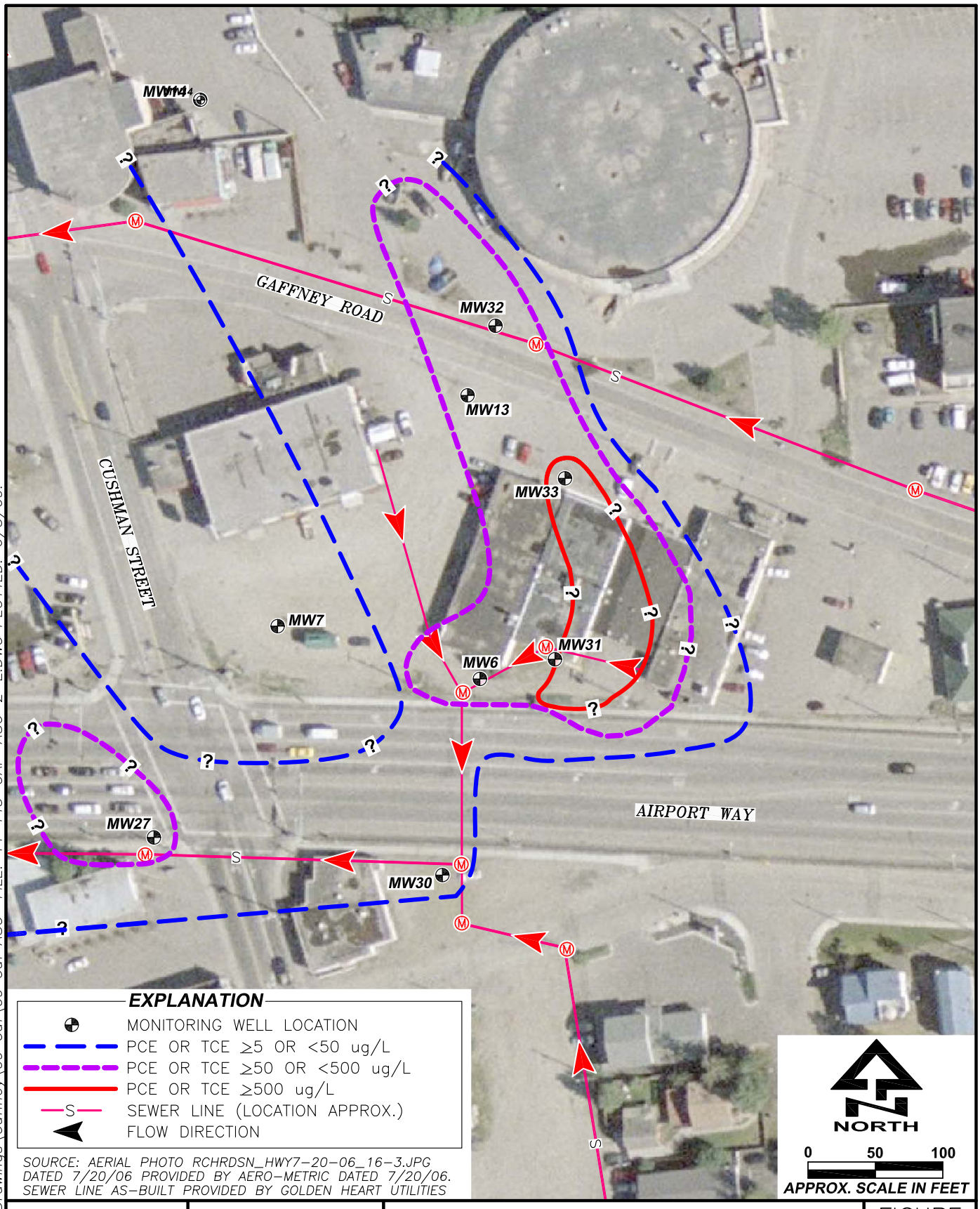
DRAWN: K.J.S.
PROJ. No.: 14-145

PCE SOURCE AREAS FOR GAFFNEY ROAD AREA-EAST

GAFFNEY ROAD AREA
ADDITIONAL SITE CHARACTERIZATION AND LONG-TERM MONITORING
Fairbanks, Alaska

FIGURE

2-D



EXPLANATION

- MONITORING WELL LOCATION
- PCE OR TCE ≥5 OR <50 ug/L
- PCE OR TCE ≥50 OR <500 ug/L
- PCE OR TCE ≥500 ug/L
- —S— SEWER LINE (LOCATION APPROX.)
- FLOW DIRECTION

SOURCE: AERIAL PHOTO RCHRDSN_HWY7-20-06_16-3.JPG DATED 7/20/06 PROVIDED BY AERO-METRIC DATED 7/20/06. SEWER LINE AS-BUILT PROVIDED BY GOLDEN HEART UTILITIES

NORTH

0 50 100

APPROX. SCALE IN FEET

oasis ENVIRONMENTAL

DATE: JUNE 2009
CHKD: B.J.M.
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PROJ. No.: 14-145

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EAST PCE PLUME

GAFFNEY ROAD AREA
ADDITIONAL SITE CHARACTERIZATION AND LONG-TERM MONITORING
Fairbanks, Alaska

FIGURE

2-E

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ATTACHMENT 3

Field Notes

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5/11/09 Gaffney Rd 14-145

2230 1030 Ben Merlich meets crew of GeoTek and Powerhouse for set up - Airport Way. Program for tonight is 4 test borings in right hand turn lane for west bound traffic.

HSE Meeting: Hazards for tonight are fatigue, darkness, traffic, drill rig safety. Will review safety precautions with GeoTek + Powerhouse.

Weather: overcast 40°, light breeze from south

2245 GeoTek onsite. Discuss safety with Powerhouse setting up traffic control.

2315 AOEC Fern visits site

2335 AOEC Fern departs site. GeoTek finishing set-up.

Note: Drillers are Rusty Blythe and Conner Simpson

0000 GeoTek begins drilling TB-113 on east side of North row

0045 Collect soil sple 09GRA1515B from 4-9 ft bgs in TB-113. Collected for VOCs short list Methanol preserved

0100 Begin purging 15-18 ft interval in TB-113.

5/12/09

Scale: 1 square = _____

14-145 Gaffney Rd 5/12/09

TB-113 15-18ft.	pH	temp	cond	DO	ORP
	6.52	2.84	0.733	3.28	52.

0110 Collect sple 09GRA1526GW from 15-18 ft interval. Three 40ml VOA vials for VOCs-sh. Color-Tec result = ND

0115 Begin purging 25-28 ft interval in TB-113

pH	temp	cond	DO	ORP
6.61	2.76	0.520	2.24	40.4

Color-Tec: ND

0135 Abandon TB-113

0150 Begin drilling TB-114

0230 Collect sple 09GRA1535B from 1-5 ft bgs. VOC-sh. Preserved w/ methol. 4-oz amber jar w/ ~150 g of soil

0245 Collect sple 09GRA1545B from 5-10 ft for VOC-sh. Collect duplicate sple (1555B) also. Time is listed as ~~0250~~ 0250.

0250 Begin purging 15-18 ft interval in TB-114

pH	temp	cond	DO	ORP
6.80	1.81	0.649	3.82	2.9

Color-Tec = 0.3 ppm

0300 Collect sple 09GRA1566W from 15-18 ft interval for VOCs-sh. Also collect duplicate sple 09GRA1576W from 15-18ft. Time is listed as 0315

5/12/09

Scale: 1 square = _____

5/12/09 Getty Rd 14-145

0305 Begin purging 25-28 ft interval.

pH	Temp	cond	DO	ORP
6.89	2.39	0.509	2.73	25.0

Color-Tec = very faint

0345 Begin purging 35-38 ft interval in TB-114

pH	Temp	cond	DO	ORP
7.00	2.50	0.478	2.32	11.4

Color-Tec = ND

0355 Collect sample 09GR41586W from 35-38 ft

Three 40-ml VOA vials for VOCs-Sh.

0400 Begin drilling TB-115

0420 BM collects sample 09GR41595B from 1-5 ft bgs.

0435 BM collects sample 09GR41605B from 5-10 ft bgs

0445 Begin purging 15-18 ft interval in TB-115

pH	Temp	cond	DO	ORP
6.70	1.86	1.003	2.95	-8.6

Color-Tec = 5

0455 Collect sample 09GR41616W from 15-18 ft interval in TB-115.

0500 Begin purging 25-28 ft interval in TB-115.

pH	Temp	cond	DO	ORP
7.03	2.39	0.484	2.05	-32.3

Color-Tec = No reading - water in tube

Reviewed 5/12/09

Scale: 1 square = _____

14-145 Getty Rd 5/12/09

0510 BM determines to ship TB-115 for the day. There isn't enough time to do a 3rd interval and clean the site before 6:00. Will return to TB-115 tonight to finish gw sampling.

0550 Finish cleanup of Airport Way. Depart for normy. Drop off decon + purge water at dmo.

0600 Leave site and return to office.

Sample Summary

No	Time	Bring	Interval	Comments
09GR41515B	0045	TB-113	4-9	
1526W	0110	TB-113	15-18	
1535B	0230	TB-114	1-5	
1545B	0245	TB-114	5-10	
1555B	0250	TB-114	5-10	dupe of 1545B
1566W	0300	TB-114	15-18	
1576W	0315	TB-114	15-18	dupe of 1566W
1586W	0355	TB-114	35-38	
1595B	0420	TB-115	1-5	
1605B	0435	TB-115	5-10	
1616W	0455	TB-115	15-18	

B Mead 5/12/09

Scale: 1 square = _____

5/12/09 Gaffney Rd 14-145

1120 Begin set-up to finish TB-115. Will complete 3rd groundwater interval.

Work Plan For Day: Will finish northern row and continue on eastern + western in middle row

HSE Meeting: Fatigue, traffic, drilling safety, cool temperatures, low visibility, chemical hazards.

2345 ~~1145~~ Begin drilling 3rd GW interval of TB-115

0000 Begin purging 35-38' interval of TB-115.

pH	Temp.	Cond.	DO	ORP
6.90	3.54	0.477	3.86	12.0

ColorTec = ND

0010 Collect sample ϕ9GRA162GW from 35-38' interval of TB-115 - 3 40mL VOAs w/ HCl for VOCs-sh.

0010 GeoTek begins drilling TB-116.

0030 JC collects sample ϕ9GRA163SB from 1-5' bags of TB-116. 1 4oz amber w/ MeOH for VOCs-sh and 1 4oz unpres. for % Moisture

0035 JC collects sample ϕ9GRA164SB from 5-10' bags of TB-116 for VOCs-sh and % moisture.

0040 Begin purging 15-18' interval of TB-116

Scale: 1 square = _____

14-145 Gaffney Road 5/13/09

Readings for 15-18' of TB-116:

pH	Temp.	Cond.	DO	ORP
6.71	3.41	0.665	2.93	100.6

ColorTec = 0.6

0050 Collect sample 09GRA165GW from 15-18' interval of TB-116 for VOC-sh analysis (3 40 mL VOAs w/ HCl).

0050 Begin purging 25-28' interval of TB-116.

pH	Temp	cond	DO	ORP
6.90	3.56	0.587	2.14	5.7

Color-Tec = ND

0120 Begin purging 35-38' interval of TB-116.

pH	Temp	Cond.	DO	ORP
6.92	3.56	0.504	2.15	-19.8

ColorTec = ND

0130 Collect sample ϕ9GRA166GW from 35-38' interval of TB-116 for VOC-sh analysis (3 40 mL VOAs w/ HCl).

0140 Abandon TB-116. GeoTek patches holes.

0200 Begin setting up in median area of Airport Way. Traffic control in place

0210 Begin drilling TB-117.

0255 Begin purging 15-18 ft interval in TB-117.

pH	cond	temp	DO	ORP
6.84	0.650	2.92	2.65	47.6

Color-Tec = ND

PR ~~must~~ 5/13/09

Scale: 1 square = _____

5/13/09 Gaffney Rd 14-145

0305 Collect sample 096RA1626W from 15-18 ft interval in TB-117. Three 40ml VOAs w/HCl & VOCs-SH.

0310 Begin purging 25:28 ft interval in TB-117.

pH	temp	cnd	DO	ORP
6.87	3.40	0.592	1.86	-27.7

Color-Tcc = NO

0330 Abandon TB-117

0350 Begin drilling TB-115

0415 B. Martich departs site.

0445 Finished soil portion of TB-118. Took longer than normal because plastic sleeve edge was crumpled inside macrocore rod. Will drill and sample GW intervals tonite/tomorrow

0540 Finish cleaning up materials/equipment from Airport Way. Drop off decon/purge water.

0545 Depart site.

Sample summary for this shift:

Sample ID	Time	Boring	Interval
096RA1626W	0010	TB-115	35-38'
1635B	0030	TB-116	1-5'
1645B	0035	TB-116	5-10'
1656W	0050	TB-116	15-18'
1666W	0130	TB-116	35-38'
1675B	0245	TB-117	1-5'

Scale: 1 square = _____

14-145 Gaffney Road 5/13/09

Sample summary cont.

Sample ID	Time	Boring	Interval
1685B	0250	TB-117	5-10'
1696W	0305	TB-117	15-18'

Julie Clark 5/13/09

Scale: 1 square = _____

5/13/09 Gaffney Road 14-145

JC to 2230 Meet GeoTek (Scott Vojta and Connor Swanson) onsite. Prep to begin drilling. HSE meeting: Traffic, fatigue, low visibility, drilling safety, chemical hazards are issues for tonight's work.
Weather: Clear, calm, ~55°F.

2245 Powerhouse setting up traffic control.

2310 Begin drilling GW intervals for TB-118.

2350 Begin purging 15-18' interval of TB-118.

Temp.	pH	Cond.	DO	ORP
2.89	6.61	0.609	2.20	75.0

ColorTec = ND

0000 Collect sample 09GRA170GW from 15-18' interval of TB-118 for VOC-sh analysis (3 40 mL VOAs w/ HCl). Collect double volume for MS/MSD.

0010 Begin purging 25-28' interval of TB-118.

Temp	pH	Cond.	DO	ORP
3.18	6.71	0.512	3.20	48.6

ColorTec = ND

0030 Terminate TB-118.

0055 Begin drilling TB-119.

0110 Collect soil sample 09GRA171SB from 3-8' bgs of TB-119, for VOC-sh & % moisture analysis. Collect double volume for MS/MSD.

JC 5/14/09

Scale: 1 square = _____

14-145 Gaffney Road 5/14/09

0115 Begin purging 15-18' interval of TB-119

pH	Temp	Cond.	DO	ORP
6.80	2.50	0.565	2.63	10.3

ColorTec = ND

0125 Collect sample 09GRA172GW from 15-18' interval of TB-119 for VOC-sh analysis (3 40 mL VOAs w/ HCl).

0130 JC Begin purging 25-28' of TB-119.

pH	Temp.	Cond.	DO	ORP
6.96	2.62	0.490	1.93	-25.8

ColorTec = ND

0150 Terminate TB-119.

0200 Begin drilling TB-120.

0225 Collect soil sample 09GRA172GW SB JC from 3-8' bgs in TB-120 for VOC-sh and % moisture analysis.

0240 Drill 15-18' GW interval of TB-120, cannot get groundwater.

0300 Re-drill 15-18' sample point. Still not getting groundwater.

0320 Drill first GW interval at TB-120 again and set screen at 20-23'. Aro in groundwater now.

0330 Begin purging 20-23' at TB-120.

pH	Temp	Cond.	DO	ORP
6.83	3.07	0.571	2.42	52.4

ColorTec = ND

Scale: 1 square = _____

5/14/09 Gaffney Road 14-145

0340 Collect sample 09GRA173GW from 20-23' at TB-120 for VOC-sh analysis.

0355 Terminate TB-120.

0415 Clean up area in middle of Airport Way - begin setting up on south side of Airport.

0430 Begin drilling TB-121 on south side of Airport Way. Since we need to be off the road by 0600 hrs., GeoTek will cap the ends of the soil cores and J. Clark will log/sample them later. This will allow time to drill GW intervals before 0600 hrs.

0455 Begin purging 15-18' of TB-121.

pH	Temp.	Cond.	DO	ORP
6.83	2.42	0.541	2.65	36.5

ColorTec = ND

0500 Begin drilling TB-122. Like TB-121, we'll cap the ends of the soil cores and they will be logged/sampled later, after we get off Airport Way.

0505 Collect sample 09GRA174GW from 15-18' of TB-121 for VOC-sh analysis. Collect duplicate sample; mark time as 0510. (Dup. ID = 09GRA175GW).

Scale: 1 square = _____

14-145 Gaffney Road 5/14/09

0520 Begin purging 15-18' of TB-122.

pH	Temp.	Cond.	DO	ORP
6.84	2.39	0.603	2.38	35.6

ColorTec = ND

0530 Collect sample 09GRA176GW from 15-18' of TB-122 for VOC-sh analysis.

0540 Terminate TB-122.

0600 Cleaned up and finished on Airport Way.

0630 Log soil cores of TB-121 and TB-122.

0710 Collect soil sample 09GRA177SB from 3-8' bgs of TB-121 for VOC-sh and % moisture analysis. Collect duplicate soil sample 09GRA178SB labeled at 0715.

0720 Collect soil sample 09GRA179SB from 3-8' bgs of TB-122 for VOC-sh and % moisture analysis.

0725 GeoTek departs site.

0740 Drop off purge water from today's activities at drum located at Meyeres Real Estate.

0750 Collect sample 09GRA180GW from drum of purge/decon water generated from this project.

Sample summary:

ID	Time	Boring	Interval	Comments
09GRA170GW	0000	TB-118	15-18'	MS/MSD
09GRA171SB	0110	TB-119	3-8'	MS/MSD

Scale: 1 square = _____

5/14/09 Gaffney Road 14-145

Sample summary cont.

ID	Time	Boring	Interval	Comments
09GRA1726W	0125	TB-119	15-18'	
1725B	0225	TB-120	3-8'	
1736W	0340	TB-120	20-23'	
1746W	0505	TB-121	15-18'	
1756W	0510	TB-121	15-18'	Dup of 1746W
1766W	0530	TB-122	15-18'	
1775B	0710	TB-121	3-8'	
1785B	0715	TB-121	3-8'	Dup of 1775B
1795B	0720	TB-122	3-8'	
1806W	0750	—	—	Purge/Decon Water
1815B		Soil		Trip blank
1826W		GW		Trip blank

1015 J. Clark to AK Airlines Goldstreak to ship samples to Onsite. Waybill #: 027-7348 5930.

1100 Call David Baumeister at Onsite to give him waybill # and ETA in Seattle.

1110 J. Clark at airport for flight to ANC.

Julie Clark
5/14/09

Scale: 1 square = _____

Scale: 1 square = _____

5/11/09 Gaffney Rd 14-145

1600 Ben Martich + Andrew Welch of Groundwork News to begin air sampling. Set out outdoor air sample 09GRA131AA. Initial vac is 29 inHg. Canister is 34315. 24-hour air sample.

1630 set out indoor air sample 09GRA132IA + 09GRA133IA (dup) in SW corner of showroom on chair

09GRA132IA canister # 34723 initial vac 28.5" Hg

09GRA133IA 5762 & canister initial vac 28.5" Hg

Andrew Welch for Ben Martich

5/11/09 Gaffney Rd 14-145

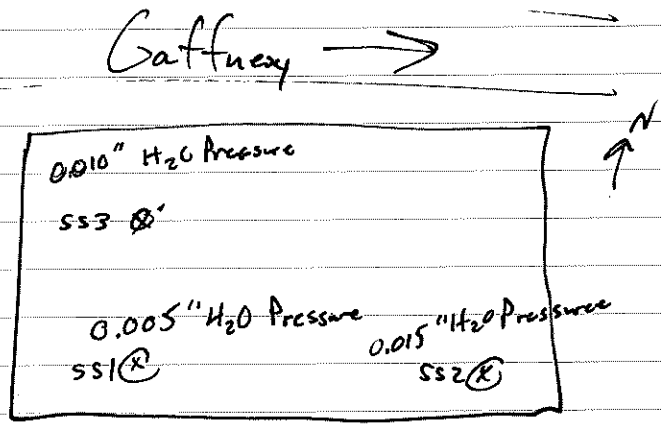
5/11/09 Time	temp	pressure	Time	temp	pressure
1600		29.65	1600	53.6	29.65
1700		29.62	1700		29.62
1800	46.2	29.62	1800	53.1 AW	29.62
1900		29.62	1900		29.59
2000		29.62	2000		29.59
2100		29.62	2100		29.59
2200		29.62	2200		29.59
2300		29.62	2300		29.59
5/12 0000		29.65	5/13 0000		29.59
0100		29.65	0100		29.59
0200		29.65	0200		29.59
0300		29.65	0300		29.56
0400		29.68	0400		29.56
0500		29.68	0500		29.53
0600		29.68	0600		29.53
0700		29.68	0700		29.53
0800		29.68	0800	44.4	29.53
0900	41.5	29.71	0900		29.56
1000		29.68	1000		29.56
1100		29.68	1100	51.6	29.53
1200		29.65	1200		29.53
1300		29.65	1300		29.50
1400		29.62	1400		29.50
1500		29.62	1500		29.50

Andrew Welch for Ben Martich

cont'd on page 54

5/12/09 Gaffney Rd 14-145

1015 A. Weller, L. Minear onsite. Purpose Subslab sampling at Goodrews



1030 Vac/Pressure check

1040 Rig up on SS3 in break room

1045 REMOVED DAVE BARNES TEST TUBE

1105 Manifold leak check - Held 8 " Hg for 1 minute - OK

- Flood hood with Helium for 1 min.
- Purge hole at 200 mL/min for 10 min while applying Helium and collecting sample in 3L Tedlar bag for last 8 minutes
- Helium check - 2.9% OK

Andrea Weller for Ben Martich

5/12/09 Gaffney Rd 14-145

Soil Gas (Hex) LEL 260 ppm
O_2 20.9%
CO_2 0.0%

Sample ID: 09GRA1345S @ 1155, 5/12, SS3

Initial Vac - 30" Hg
Final Vac - 10" Hg
canister - 11884

1150 Rig up on SS2 in work room, ~~take dup here~~ AW

- Manifold leak check - Held 15.5" Hg for 1 min - OK
- Flood hood with helium for 1 min
- Purge hole at 200 mL/min for 10 min while applying helium and collecting sample in 3L Tedlar bag for last 8 minutes
- Helium check - 2.5% OK

Soil gas: Hex (LEL) 300 ppm
O_2 19.3%
CO_2 0.9%

Sample ID: 09GRA1355S @ 1310, 5/12 SS2

Initial Vac 30" Hg
Final Vac 5" Hg
canister 35256

Andrea Weller for Ben Martich

5/12/09 Gaffney Rd 14-145

1400 Rig up on SS1 (take duplicate here) in boiler room

- Manifold leak check - Held 13" Hg for 1 minute
- Flood hood with helium for 1 minute ~~while applying~~ @ while purging Leland 200 ml/min for 10 min and collecting sample in 3L Tedlar bag for last 8 min
- helium leak check 23.1% - fail
- recheck helium leak check -1.3% OK (used bentonite around fitting)

Soil gas: Hex (LEL) 150 ppm
O_2 20.9%
CO_2 8.3%

Sample ID: 09GRA13655 @ 1530, 5/12, SS1
initial vac 30
final vac 7
canister 5677

Sample ID (duplicate): 09GRA13755 @ 1700, 5/12, SS1
initial vac 30
final vac 7
canister 34211
(flow controller for duplicate was not matched to a canister)

Andrew Wells for Bill Martich

5/12/09 Gaffney Rd 14-145

1600 Picked up outdoor air sample
09GRA131AA @ 1600 5/12
final vac -2.5 "Hg

1630 Picked up indoor air sample and duplicate from Goodwins
09GRA132IA
final Vac -6
time 1630, 5/12

09GRA133IA (dup)
final Vac -7
time 1730, 5/12

Andrew Wells for Bill Martich

5/13/09 Gaffney Rd 14-145

5/13 Time	Temp	Press	Time	Temp	Press
1600		29.50	1600		29.38
1700	54.7	29.47	1700		29.38
1800		29.47	1800		29.38
1900		29.47	1900	52.2	29.38
2000		29.44	2000		29.38
2100		29.44	2100		29.41
2200		29.44	2200		29.44
2300		29.41	2300		29.44
0000		29.41	5/15 0000		29.44
0100		29.44	0100		29.47
0200		29.44	0200		29.47
0300		29.41	0300		29.47
0400		29.44	0400		29.50
0500		29.47	0500		29.50
0600		29.44	0600		29.53
0700		29.41	0700		29.56
0800		29.44	0800	38.1	29.59
0900		29.47			
1000		29.47			
1100		29.44			
1200	50.0	29.44			
1300		29.44			
1400		29.41			
1500		29.41			

Andrew Z. Welch for Ben Martich

5/15/09 Gaffney Rd 14-145

Trip Blank ID is 09GRA138TB canister 34451. Analysis is TO-15SIM

Log of Exploratory Borehole/ Monitoring Well Details

Borehole ID: TB-113

PROJECT NAME: ADEC Gaffney Road
LOCATION: Fairbanks, Alask
PROJECT MANAGER: Ben Martich
LOGGED BY: Ben Martich
PROJECT NUMBER: 14-145
DATUM ELEVATION: NM

START TIME / END TIME: 00:00-01:35
DATE COMPLETED: May 12, 2009
TOTAL BOREHOLE DEPTH: 15.0'
DRILLING CONTRACTOR: GeoTek Alaska, Inc
DRILL RIG TYPE: Geoprobe
SAMPLING METHOD: Geoprobe

Driven/ Recovered (ft.)	In Situ PID (ppm)	Color-Tec (ppm)	Sample	GW Depth	DEPTH (ft)	Lithology Column	LITHOLOGIC DESCRIPTION
							Gravel Road Base
	0				1.0		**Sand with Gravel**
	0						15% gravel; damp
5.0'/4.5'		ND (<0.2)			2.0		
	0.1				3.0		
	0						**Silty Sand**
	0				4.0		Fine grained sands; 10% gravel; damp
	0				5.0		
	0						**Sand**
	0		09GRA1515B		6.0		Well sorted medium grained sand; dry
	0						
5.0'/5.0'		ND (<0.2)			7.0		
	0						
	0				8.0		
	0						**Sandy Silt**
					9.0		Fine grained sands; frozen; dry
	0						**Sand**
	0				10.0		Well sorted medium grained sand; dry
	0						
	0				11.0		
	0						
	0				12.0		
5.0'/3.5'							
	0				13.0		
	0						
	0				14.0		
	0						**Sand with Gravel**
					15.0		Coarse grained sands; 10% gravel

DATE: June 4, 2009
DRAWN BY: Amanda Tuttle
CHECKED BY: Ben Martich
PROJECT NUMBER: 14-145

COMMENTS: NM (not measured), ND (non detect)

oasis ENVIRONMENTAL

Log of Exploratory Borehole/ Monitoring Well Details

Borehole ID: TB-114

PROJECT NAME: ADEC Gaffney Road
LOCATION: Fairbanks, Alask
PROJECT MANAGER: Ben Martich
LOGGED BY: Ben Martich
PROJECT NUMBER: 14-145
DATUM ELEVATION: NM

START TIME / END TIME: 01:50-03:55
DATE COMPLETED: May 12, 2009
TOTAL BOREHOLE DEPTH: 15.0'
DRILLING CONTRACTOR: GeoTek Alaska, Inc
DRILL RIG TYPE: Geoprobe
SAMPLING METHOD: Geoprobe

Driven/ Recovered (ft.)	In Situ PID (ppm)	Color-Tec (ppm)	Sample	GW Depth	DEPTH (ft)	Lithology Column	LITHOLOGIC DESCRIPTION
							Gravel Road Base
	0				1.0		**Sand with Gravel**
	0						20% gravel; dry to damp
5.0'/4.5'		2.2	09GRA153SB		2.0		
	0				3.0		
	0				4.0		
	0				5.0		5.0' Becomes wet
	0.2				6.0		**Sandy Silt with Gravel**
	3.4						20% fine grained sands; 5% gravel
5.0'/4.5'		6	09GRA154SB and 09GRA155SB (duplicate)		7.0		
	3.0				8.0		
	0.8				9.0		
	0				10.0		
	0				11.0		
	0.1				12.0		**Sand**
5.0'/4.0'							Coarse grained sands; wet
	0				13.0		
	0				14.0		
	0				15.0		

DATE: June 4, 2009
DRAWN BY: Amanda Tuttle
CHECKED BY: Ben Martich
PROJECT NUMBER: 14-145

COMMENTS: NM (not measured)

oasis ENVIRONMENTAL

Log of Exploratory Borehole/ Monitoring Well Details

Borehole ID: TB-115

PROJECT NAME: ADEC Gaffney Road
LOCATION: Fairbanks, Alask
PROJECT MANAGER: Ben Martich
LOGGED BY: Ben Martich
PROJECT NUMBER: 14-145
DATUM ELEVATION: NM

START TIME / END TIME: 04:00-05:45
DATE COMPLETED: May 12, 2009
TOTAL BOREHOLE DEPTH: 15.0'
DRILLING CONTRACTOR: GeoTek Alaska, Inc
DRILL RIG TYPE: Geoprobe
SAMPLING METHOD: Geoprobe

Driven/ Recovered (ft.)	In Situ PID (ppm)	Color-Tec (ppm)	Sample	GW Depth	DEPTH (ft)	Lithology Column	LITHOLOGIC DESCRIPTION
					0		**Gravel Road Base**
	0				1.0		**Sand with Gravel** 20% gravel
	0				2.0		
5.0'/4.0'		4	09GRA159SB		3.0		
	0				4.0		
	0				5.0		**Silty Sand** Fine grained sands; 15% silts
	0				6.0		**Sandy Silt** 20% sands
	0				7.0		
5.0'/5.0'		5	09GRA160SB		8.0		**Sand** Fine grained sands
	3.9				9.0		
	0				10.0		10.0' Becomes fine to medium grained sands
	0				11.0		
	0				12.0		12.0' Wet
5.0'/4.0'					13.0		
	0				14.0		
	0				15.0		
	0						

DATE: June 4, 2009
DRAWN BY: Amanda Tuttle
CHECKED BY: Ben Martich
PROJECT NUMBER: 14-145

COMMENTS: NM (not measured)

oasis ENVIRONMENTAL

Log of Exploratory Borehole/ Monitoring Well Details

Borehole ID: TB-116

PROJECT NAME: ADEC Gaffney Road
LOCATION: Fairbanks, Alask
PROJECT MANAGER: Ben Martich
LOGGED BY: Julie Clark
PROJECT NUMBER: 14-145
DATUM ELEVATION: NM

START TIME / END TIME: 00:00-00:20
DATE COMPLETED: May 13, 2009
TOTAL BOREHOLE DEPTH: 15.0'
DRILLING CONTRACTOR: GeoTek Alaska, Inc
DRILL RIG TYPE: Geoprobe
SAMPLING METHOD: Geoprobe

Driven/ Recovered (ft.)	In Situ PID (ppm)	Color-Tec (ppm)	Sample	GW Depth	DEPTH (ft)	Lithology Column	LITHOLOGIC DESCRIPTION
					0		**Asphalt**
	0				1.0		**Sandy Gravel**
	0				2.0		Brown, tan and gray; dry
5.0'/4.5'	0	1.6	09GRA163SB		3.0		
	0				4.0		
	0				5.0		**Silt**
							Brown; wet; no odor
	0				6.0		**Sand and Silt**
	0						Tan and Grey; fine sand; damp
5.0'/5.0'	0	0.2	09GRA164SB		7.0		6.0' Becomes moist
	0				8.0		
	0				9.0		
	0				10.0		
	0				11.0		
	0				12.0		
5.0'/4.5'	0				13.0		13.5' Becomes wet
	0				14.0		
	0				15.0		

DATE: June 4, 2009
DRAWN BY: Amanda Tuttle
CHECKED BY: Ben Martich
PROJECT NUMBER: 14-145

COMMENTS: NM (not measured)

oasis ENVIRONMENTAL

Log of Exploratory Borehole/ Monitoring Well Details

Borehole ID: TB-117

PROJECT NAME: ADEC Gaffney Road
LOCATION: Fairbanks, Alask
PROJECT MANAGER: Ben Martich
LOGGED BY: Julie Clark
PROJECT NUMBER: 14-145
DATUM ELEVATION: NM

START TIME / END TIME: 02:10-02:40
DATE COMPLETED: May 13, 2009
TOTAL BOREHOLE DEPTH: 15.0'
DRILLING CONTRACTOR: GeoTek Alaska, Inc
DRILL RIG TYPE: Geoprobe
SAMPLING METHOD: Geoprobe

Driven/ Recovered (ft.)	In Situ PID (ppm)	Color-Tec (ppm)	Sample	GW Depth	DEPTH (ft)	Lithology Column	LITHOLOGIC DESCRIPTION
					0		**Asphalt**
	0				1.0		**Sandy Gravel** Tan and grey; 15% medium grained sand; dry
	0.2				2.0		
5.0'/5.0'		0.4	09GRA167SB		3.0		
	0				4.0		
	0				5.0		**Silt** Brown; very tightly consolidated; moist
	0				6.0		**Silty Sand** Tan to brown; 15% gravel; very tightly consolidated; moist
	0				7.0		
5.0'/5.0'		0.3	09GRA168SB		8.0		**Sand and Silt** Tan and grey; 50% fine sand; 50% silt; dry
	0				9.0		
	0				10.0		
	0				11.0		**Sand** Tan; medium to coarse grained sand; moist
	0				12.0		
5.0'/4.75'							
	0				13.0		13.0' Becomes wet
	0				14.0		
	0				15.0		

DATE: June 4, 2009
DRAWN BY: Amanda Tuttle
CHECKED BY: Ben Martich
PROJECT NUMBER: 14-145

COMMENTS: NM (not measured)

oasis ENVIRONMENTAL

Log of Exploratory Borehole/ Monitoring Well Details

Borehole ID: TB-118

PROJECT NAME: ADEC Gaffney Road
LOCATION: Fairbanks, Alask
PROJECT MANAGER: Ben Martich
LOGGED BY: Julie Clark
PROJECT NUMBER: 14-145
DATUM ELEVATION: NM

START TIME / END TIME: 03:50-04:45
DATE COMPLETED: May 13, 2009
TOTAL BOREHOLE DEPTH: 15.0'
DRILLING CONTRACTOR: GeoTek Alaska, Inc
DRILL RIG TYPE: Geoprobe
SAMPLING METHOD: Geoprobe

Driven/ Recovered (ft.)	In Situ PID (ppm)	Color-Tec (ppm)	Sample	GW Depth	DEPTH (ft)	Lithology Column	LITHOLOGIC DESCRIPTION
					0		**Asphalt**
	0				1.0		**Sandy Gravel** Brown, tan, and grey; 20% medium grained sand; moist
	0				2.0		
5.0'/5.0'		ND (<0.2)					
	0				3.0		
	0				4.0		
	0				5.0		**Silt** Brown; very tightly consolidated; moist
	0				6.0		**Silty Sand** Tan; 20% gravel; very tightly consolidated; damp
	0				7.0		**Sand** Tan and grey; fine sand; damp
5.0'/5.0'		ND (<0.2)					
	0				8.0		
	0				9.0		
	0				10.0		
					11.0		
					12.0		
5.0'/4.5'							12.5'-15.0' Becomes brown with trace of grey; medium coarse grained sand; saturated
					13.0		
					14.0		
					15.0		

DATE: June 4, 2009
DRAWN BY: Amanda Tuttle
CHECKED BY: Ben Martich
PROJECT NUMBER: 14-145

COMMENTS: NM (not measured); ND (non detect)

oasis ENVIRONMENTAL

Log of Exploratory Borehole/ Monitoring Well Details

Borehole ID: TB-119

PROJECT NAME: ADEC Gaffney Road
LOCATION: Fairbanks, Alask
PROJECT MANAGER: Ben Martich
LOGGED BY: Julie Clark
PROJECT NUMBER: 14-145
DATUM ELEVATION: NM

START TIME / END TIME: 00:55-01:50
DATE COMPLETED: May 14, 2009
TOTAL BOREHOLE DEPTH: 15.0'
DRILLING CONTRACTOR: GeoTek Alaska, Inc
DRILL RIG TYPE: Geoprobe
SAMPLING METHOD: Geoprobe

Driven/ Recovered (ft.)	In Situ PID (ppm)	Color-Tec (ppm)	Sample	GW Depth	DEPTH (ft)	Lithology Column	LITHOLOGIC DESCRIPTION
					0		**Asphalt**
5.0'/4.5'	0 0 0 0 0	ND (<0.2)			1.0 2.0 3.0 4.0		**Sandy Gravel** Tan and grey; 25% sand; dry
5.0'/5.0'	0 0 0 0 0	ND (<0.2)	09GRA171SB		5.0 6.0 7.0 8.0 9.0		**Silt with Gravel** Brown; 10% gravel; moist
NM	0 0 0 0 0 0				10.0 11.0 12.0 13.0 14.0 15.0		**Silt** Brown; moist **Sand** Tan and brown; fine and medium grained sand; moist 13.5' Becomes damp

DATE: June 4, 2009
DRAWN BY: Amanda Tuttle
CHECKED BY: Ben Martich
PROJECT NUMBER: 14-145

COMMENTS: NM (not measured); ND (non detect)

oasis ENVIRONMENTAL

Log of Exploratory Borehole/ Monitoring Well Details

Borehole ID: TB-120

PROJECT NAME: ADEC Gaffney Road
LOCATION: Fairbanks, Alask
PROJECT MANAGER: Ben Martich
LOGGED BY: Julie Clark
PROJECT NUMBER: 14-145
DATUM ELEVATION: NM

START TIME / END TIME: 02:00-02:20
DATE COMPLETED: May 14, 2009
TOTAL BOREHOLE DEPTH: 15.0'
DRILLING CONTRACTOR: GeoTek Alaska, Inc
DRILL RIG TYPE: Geoprobe
SAMPLING METHOD: Geoprobe

Driven/ Recovered (ft.)	In Situ PID (ppm)	Color-Tec (ppm)	Sample	GW Depth	DEPTH (ft)	Lithology Column	LITHOLOGIC DESCRIPTION
					0		**Asphalt**
	0				1.0		**Sandy Gravel** Tan and brown; ~25% medium grained sand; dry
	0				2.0		
5.0'/5.0'	0	ND (<0.2)			3.0		
	0				4.0		
	0				5.0		**Silt with Gravel** Brown; 5% gravel; moist
	0		09GRA173SB		6.0		**Sand** Tan; fine grained sand; moist
	0				7.0		
5.0'/5.0'	0	ND (<0.2)			8.0		
	0				9.0		
	0				10.0		
	0				11.0		
	0				12.0		
5.0'/4.5'	0				13.0		
	0				14.0		**Wood**
	0				15.0		**Sand** Brown; medium to coarse grained sand; saturated

DATE: June 4, 2009
DRAWN BY: Amanda Tuttle
CHECKED BY: Ben Martich
PROJECT NUMBER: 14-145

COMMENTS: NM (not measured); ND (non detect)

oasis ENVIRONMENTAL

Log of Exploratory Borehole/ Monitoring Well Details

Borehole ID: TB-121

PROJECT NAME: ADEC Gaffney Road
LOCATION: Fairbanks, Alask
PROJECT MANAGER: Ben Martich
LOGGED BY: Julie Clark
PROJECT NUMBER: 14-145
DATUM ELEVATION: NM

START TIME / END TIME: 04:30-04:55
DATE COMPLETED: May 14, 2009
TOTAL BOREHOLE DEPTH: 15.0'
DRILLING CONTRACTOR: GeoTek Alaska, Inc
DRILL RIG TYPE: Geoprobe
SAMPLING METHOD: Geoprobe

Driven/ Recovered (ft.)	In Situ PID (ppm)	Color-Tec (ppm)	Sample	GW Depth	DEPTH (ft)	Lithology Column	LITHOLOGIC DESCRIPTION
					0		**Asphalt**
5.0'/4.0'	0 0 0 0 0	ND (<0.2)			1.0 2.0 3.0 4.0		**Sandy Gravel** Tan and grey; 20% medium grained sand; dry
5.0'/5.0'	0 0 0 0 0	ND (<0.2)	09GRA177SB and 09GRA178SB (duplicate)		5.0 6.0 7.0 8.0 9.0		**Silt** Tan; moist
5.0'/3.75'	0				10.0 11.0 12.0 13.0 14.0 15.0		**Sand** Tan; fine grained sand; damp 12.0'-15.0' Brown and olive grey; medium to coarse sand; saturated

DATE: June 4, 2009
DRAWN BY: Amanda Tuttle
CHECKED BY: Ben Martich
PROJECT NUMBER: 14-145

COMMENTS: NM (not measured); ND (non detect)

oasis ENVIRONMENTAL

Log of Exploratory Borehole/ Monitoring Well Details

Borehole ID: TB-122

PROJECT NAME: ADEC Gaffney Road
LOCATION: Fairbanks, Alask
PROJECT MANAGER: Ben Martich
LOGGED BY: Julie Clark
PROJECT NUMBER: 14-145
DATUM ELEVATION: NM

START TIME / END TIME: 05:00-05:40
DATE COMPLETED: May 14, 2009
TOTAL BOREHOLE DEPTH: 15.0'
DRILLING CONTRACTOR: GeoTek Alaska, Inc
DRILL RIG TYPE: Geoprobe
SAMPLING METHOD: Geoprobe

Driven/ Recovered (ft.)	In Situ PID (ppm)	Color-Tec (ppm)	Sample	GW Depth	DEPTH (ft)	Lithology Column	LITHOLOGIC DESCRIPTION
					0		**Asphalt**
	0				1.0		**Sandy Gravel** Tan and grey; 20% sand; dry
	0				2.0		
5.0'/4.25'		ND (<0.2)			3.0		
	0				4.0		
	0				5.0		**Silt** Tan; wet
	0		09GRA179SB		6.0		**Silt and Sand** Tan and grey; 50% silt; 50% fine grained sand; moist
	0				7.0		
5.0'/4.75'		ND (<0.2)			8.0		12.0'-15.0' Brown and olive grey; medium to coarse sand; saturated
	0				9.0		
	0				10.0		**Sand** Tan and olive grey; medium to coarse grained sand; damp
	0				11.0		
	0				12.0		
5.0'/4.0'				▼			12.5' Becomes wet
	0				13.0		
	0				14.0		
	0				15.0		

DATE: June 4, 2009
DRAWN BY: Amanda Tuttle
CHECKED BY: Ben Martich
PROJECT NUMBER: 14-145

COMMENTS: NM (not measured); ND (non detect)

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ATTACHMENT 4

Laboratory Analytical Reports

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Air Toxics LTD.
Laboratory Services Since 1989

5/29/2009
Mr. Ben Martich
Oasis Environmental, Inc.
825 W. 8th Avenue
Suite 200
Anchorage AK 99501

Project Name: Gaffney Road
Project #: 14-145
Workorder #: 0905436A

Dear Mr. Ben Martich

The following report includes the data for the above referenced project for sample(s) received on 5/19/2009 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for you air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner
Project Manager

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 0905436A

Work Order Summary

CLIENT:	Mr. Ben Martich Oasis Environmental, Inc. 825 W. 8th Avenue Suite 200 Anchorage, AK 99501	**BILL TO:**	Mr. Ben Martich Oasis Environmental, Inc. 825 W. 8th Avenue Suite 200 Anchorage, AK 99501
PHONE:	907-258-4880	**P.O. #**	
FAX:		**PROJECT #**	14-145 Gaffney Road
DATE RECEIVED:	05/19/2009	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	05/27/2009		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
04A	09GRA134SS	Modified TO-15	9.4 "Hg	5 psi
05A	09GRA135SS	Modified TO-15	6.0 "Hg	5 psi
06A	09GRA136SS	Modified TO-15	5.0 "Hg	5 psi
07A	09GRA137SS	Modified TO-15	6.0 "Hg	5 psi
07AA	09GRA137SS Lab Duplicate	Modified TO-15	6.0 "Hg	5 psi
08A	Lab Blank	Modified TO-15	NA	NA
09A	CCV	Modified TO-15	NA	NA
10A	LCS	Modified TO-15	NA	NA

CERTIFIED BY: Linda D. Fruman DATE: 05/29/09

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/08, Expiration date: 06/30/09
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15
Oasis Environmental, Inc.
Workorder# 0905436A

Four 6 Liter Summa Canister (100% Certified) samples were received on May 19, 2009. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
Daily CCV	</= 30% Difference	</= 30% Difference; Compounds exceeding this criterion and associated data are flagged and narrated.
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction no performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS

Client Sample ID: 09GRA134SS

Lab ID#: 0905436A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.98	50	6.6	340

Client Sample ID: 09GRA135SS

Lab ID#: 0905436A-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	2.8	16	15	86
Tetrachloroethene	2.8	650	19	4400

Client Sample ID: 09GRA136SS

Lab ID#: 0905436A-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	3.2	5.2	17	28
Tetrachloroethene	3.2	870	22	5900

Client Sample ID: 09GRA137SS

Lab ID#: 0905436A-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	3.4	6.2	18	33
Tetrachloroethene	3.4	850	23	5800

Client Sample ID: 09GRA137SS Lab Duplicate

Lab ID#: 0905436A-07AA

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	6.7	800	45	5400

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Client Sample ID: 09GRA134SS

Lab ID#: 0905436A-04A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**y052721**	**Date of Collection: 5/12/09 11:55:00 AM**	
Dil. Factor:	**1.95**	**Date of Analysis: 5/27/09 05:30 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.98	Not Detected	2.5	Not Detected
cis-1,2-Dichloroethene	0.98	Not Detected	3.9	Not Detected
Trichloroethene	0.98	Not Detected	5.2	Not Detected
Tetrachloroethene	0.98	50	6.6	340
trans-1,2-Dichloroethene	0.98	Not Detected	3.9	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	96	70-130

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Laboratory Services Since 1989

Client Sample ID: 09GRA135SS

Lab ID#: 0905436A-05A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**y052720**	**Date of Collection: 5/12/09 1:10:00 PM**	
Dil. Factor:	**5.60**	**Date of Analysis: 5/27/09 04:52 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	2.8	Not Detected	7.2	Not Detected
cis-1,2-Dichloroethene	2.8	Not Detected	11	Not Detected
Trichloroethene	2.8	16	15	86
Tetrachloroethene	2.8	650	19	4400
trans-1,2-Dichloroethene	2.8	Not Detected	11	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	96	70-130

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Laboratory Services Since 1989

Client Sample ID: 09GRA136SS

Lab ID#: 0905436A-06A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**y052719**	**Date of Collection: 5/12/09 3:30:00 PM**	
Dil. Factor:	**6.44**	**Date of Analysis: 5/27/09 04:16 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	3.2	Not Detected	8.2	Not Detected
cis-1,2-Dichloroethene	3.2	Not Detected	13	Not Detected
Trichloroethene	3.2	5.2	17	28
Tetrachloroethene	3.2	870	22	5900
trans-1,2-Dichloroethene	3.2	Not Detected	13	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	94	70-130

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Laboratory Services Since 1989

Client Sample ID: 09GRA137SS

Lab ID#: 0905436A-07A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**y052716**	**Date of Collection: 5/12/09 5:00:00 PM**	
Dil. Factor:	**6.72**	**Date of Analysis: 5/27/09 01:53 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	3.4	Not Detected	8.6	Not Detected
cis-1,2-Dichloroethene	3.4	Not Detected	13	Not Detected
Trichloroethene	3.4	6.2	18	33
Tetrachloroethene	3.4	850	23	5800
trans-1,2-Dichloroethene	3.4	Not Detected	13	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: 09GRA137SS Lab Duplicate

Lab ID#: 0905436A-07AA

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**y052714**	**Date of Collection: 5/12/09 5:00:00 PM**	
Dil. Factor:	**13.4**	**Date of Analysis: 5/27/09 12:41 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	6.7	Not Detected	17	Not Detected
cis-1,2-Dichloroethene	6.7	Not Detected	26	Not Detected
Trichloroethene	6.7	Not Detected	36	Not Detected
Tetrachloroethene	6.7	800	45	5400
trans-1,2-Dichloroethene	6.7	Not Detected	26	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: Lab Blank

Lab ID#: 0905436A-08A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**y052705**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/27/09 06:59 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	95	70-130

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Laboratory Services Since 1989

Client Sample ID: CCV

Lab ID#: 0905436A-09A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**y052703**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/27/09 05:46 AM**	

Compound	%Recovery
Vinyl Chloride	117
cis-1,2-Dichloroethene	113
Trichloroethene	113
Tetrachloroethene	119
trans-1,2-Dichloroethene	116

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: LCS

Lab ID#: 0905436A-10A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**y052704**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/27/09 06:22 AM**	

Compound	%Recovery
Vinyl Chloride	82
cis-1,2-Dichloroethene	92
Trichloroethene	85
Tetrachloroethene	90
trans-1,2-Dichloroethene	86

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	94	70-130

Air Toxics LTD.

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and Indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Ben Martich
Collected by: (Print and Sign) Andrew Weller
Company: OASIS Environmental Email: bmartich@oasisenvironmental
Address: 825 W 8th Ave City: Anchorage State: AK Zip: 99501
Phone: 907-258-4880 Fax: A.Weller cell# 907-590-7979

Project Info:
P.O. #:
Project #: 14-145
Project Name: Gaffney Road

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psig)
	09GRA131AA	34315	5/12/09	1600	TO-15 SIM	29	2.5		
	09GRA132IA	34723	5/12/09	1630	TO-15 SIM	28.5	6		
	09GRA133IA	5762	5/12/09	1730	TO-15 SIM	28.5	7		
04A	096RA13455	11884	5/12/09	1155	TO-15	30	10		
05A	096RA13555	35256	5/12/09	1310	TO-15	30	5		
06A	096RA13655	5677	5/12/09	1530	TO-15	30	7		
07A	096RA13755	34211	5/12/09	1700	TO-15	30	7		
	09GRA138TB	34451			TO-15 SIM				

Relinquished by: (signature) Andrew Weller Date/Time 5/15/09/0900
Received by: (signature) Monica Negrete AIR Date/Time 5/15/09 905

Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fed Ex		NA	Good	Yes No (None)	0905436

Form 1858 rev.11

Air Toxics LTD.
Laboratory Services Since 1989

5/29/2009
Mr. Ben Martich
Oasis Environmental, Inc.
825 W. 8th Avenue
Suite 200
Anchorage AK 99501

Project Name: Gaffney Road
Project #: 14-145
Workorder #: 0905436B

Dear Mr. Ben Martich

The following report includes the data for the above referenced project for sample(s) received on 5/19/2009 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 SIM are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for you air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner
Project Manager

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 0905436B

Work Order Summary

CLIENT:	Mr. Ben Martich Oasis Environmental, Inc. 825 W. 8th Avenue Suite 200 Anchorage, AK 99501	**BILL TO:**	Mr. Ben Martich Oasis Environmental, Inc. 825 W. 8th Avenue Suite 200 Anchorage, AK 99501
PHONE:	907-258-4880	**P.O. #**	
FAX:		**PROJECT #**	14-145 Gaffney Road
DATE RECEIVED:	05/19/2009	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	05/29/2009		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	09GRA131AA	Modified TO-15 SIM	2.5 "Hg	5 psi
02A	09GRA132IA	Modified TO-15 SIM	7.0 "Hg	5 psi
03A	09GRA133IA	Modified TO-15 SIM	8.5 "Hg	5 psi
08A	09GRA138TB	Modified TO-15 SIM	30.0 "Hg	5 psi
09A	Lab Blank	Modified TO-15 SIM	NA	NA
10A	CCV	Modified TO-15 SIM	NA	NA
11A	LCS	Modified TO-15 SIM	NA	NA

CERTIFIED BY: Linda D. Fruman DATE: 05/29/09

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/08, Expiration date: 06/30/09
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 SIM
Oasis Environmental, Inc.
Workorder# 0905436B

Four 6 Liter Summa Canister (SIM Certified) samples were received on May 19, 2009. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode. The method involves concentrating up to 0.5 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit.
UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

Air Toxics LTD.
Laboratory Services Since 1989

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM

Client Sample ID: 09GRA131AA

Lab ID#: 0905436B-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.029	0.033	0.20	0.22

Client Sample ID: 09GRA132IA

Lab ID#: 0905436B-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.035	0.063	0.19	0.34
Tetrachloroethene	0.035	2.3	0.24	16

Client Sample ID: 09GRA133IA

Lab ID#: 0905436B-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.037	0.063	0.20	0.34
Tetrachloroethene	0.037	2.4	0.25	16

Client Sample ID: 09GRA138TB

Lab ID#: 0905436B-08A

No Detections Were Found.

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: 09GRA131AA

Lab ID#: 0905436B-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a052111**	**Date of Collection: 5/12/09 4:00:00 PM**	
Dil. Factor:	**1.46**	**Date of Analysis: 5/21/09 03:59 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.037	Not Detected
cis-1,2-Dichloroethene	0.029	Not Detected	0.12	Not Detected
Trichloroethene	0.029	Not Detected	0.16	Not Detected
Tetrachloroethene	0.029	0.033	0.20	0.22
trans-1,2-Dichloroethene	0.15	Not Detected	0.58	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	90	70-130
4-Bromofluorobenzene	96	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: 09GRA132IA

Lab ID#: 0905436B-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a052112**	**Date of Collection: 5/12/09 4:30:00 PM**	
Dil. Factor:	**1.75**	**Date of Analysis: 5/21/09 04:40 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
Trichloroethene	0.035	0.063	0.19	0.34
Tetrachloroethene	0.035	2.3	0.24	16
trans-1,2-Dichloroethene	0.18	Not Detected	0.69	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	99	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: 09GRA133IA

Lab ID#: 0905436B-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a052113**	**Date of Collection: 5/12/09 5:30:00 PM**	
Dil. Factor:	**1.87**	**Date of Analysis: 5/21/09 05:19 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.019	Not Detected	0.048	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.15	Not Detected
Trichloroethene	0.037	0.063	0.20	0.34
Tetrachloroethene	0.037	2.4	0.25	16
trans-1,2-Dichloroethene	0.19	Not Detected	0.74	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	98	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: 09GRA138TB

Lab ID#: 0905436B-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a052114**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/21/09 06:34 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	88	70-130
4-Bromofluorobenzene	81	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 0905436B-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a052105**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/21/09 10:56 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	89	70-130
4-Bromofluorobenzene	92	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: CCV

Lab ID#: 0905436B-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a052102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/21/09 08:28 AM**	

Compound	%Recovery
Vinyl Chloride	86
cis-1,2-Dichloroethene	85
Trichloroethene	86
Tetrachloroethene	92
trans-1,2-Dichloroethene	86

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	100	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 0905436B-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a052103**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/21/09 09:25 AM**	

Compound	%Recovery
Vinyl Chloride	92
cis-1,2-Dichloroethene	89
Trichloroethene	89
Tetrachloroethene	98
trans-1,2-Dichloroethene	90

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	96	70-130

@Air Toxics LTD.

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hot line (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Ben Martich
Collected by: (Print and Sign) Andrew Weller
Company OASIS Environmental Email: bmartich@oasisenviro.com
Address 825 W 8th Ave City Anchorage State AK Zip 99501
Phone 907-258-4880 Fax A.Weller cell# 907-580-7929

Project Info:
P.O. #
Project # 14-145
Project Name Gaffney Road

Turn Around Time:
☒ Normal
☐ Rush
specify

Date Cleaned
Pressurized by
Date
Pressurization Gas: N2 He

Lab ID	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psig)
01A	096RA131AA	34315	5/12/09	1600	TO-15 SIM	29	3.5		
02A	096RA132IA	34723	5/12/09	1630	TO-15 SIM	28.5	6		
03A	096RA133IA	5762	5/12/09	1730	TO-15 SIM	28.5	7		
04A	096RA13455	11884	5/12/09	1155	TO-15	30	10		
05A	096RA13555	35256	5/12/09	1310	TO-15	30	5		
06A	096RA13655	5677	5/12/09	1530	TO-15	30	7		
07A	096RA13755	34211	5/12/09	1700	TO-15	30	7		
08A	096RA138TB	34451			TO-15 SIM				

Relinquished by: (signature) Andrew Z Weller Date/Time 5/15/09/0900
Received by: (signature) Monica Green AIR Date/Time 5/15/09 905

Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Notes:

Lab Use Only
Shipper Name: Fed Ex
Air Bill #:
Temp (°C): NA
Condition: Good
Custody Seals Intact? Yes No (None)
Work Order #: 0905436

Form 1293 rev.11

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

May 26, 2009

Ben Martich
Oasis Environmental, Inc.
825 W 8th Avenue, Suite 200
Anchorage, AK 99501

Re: Analytical Data for Project 14-145
Laboratory Reference No. 0905-084

Dear Ben:

Enclosed are the analytical results and associated quality control data for samples submitted on May 15, 2009.

CS Laboratory Approval Number: UST-039

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: May 26, 2009
Samples Submitted: May 15, 2009
Laboratory Reference: 0905-084
Project: 14-145

Case Narrative

Samples were collected on May 12, 13, and 14, 2009, and received by the laboratory on May 15, 2009. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Halogenated Volatiles EPA 8260B Analysis

Sample 09GRA180GW had one surrogate recovery outside of control limits. The sample foamed excessively on purging, which is believed to have caused the out of control result.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Analyst's Signature

Stacey Duran, Volatiles Chemist — Date

Analyst's Signature

Arina Podnozova, GC Volatiles Chemist — Date

Analyst's Signature

Dana Young, GC Semi-Volatiles Chemist — Date

Analyst's Signature

William Kelsch, Inorganics Chemist — Date

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: May 26, 2009
Samples Submitted: May 15, 2009
Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-19-09
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	05-084-01
Client ID:	**09GRA151SB**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.037
(trans) 1,2-Dichloroethene	ND		0.037
(cis) 1,2-Dichloroethene	ND		0.037
Trichloroethene	ND		0.037
Tetrachloroethene	0.082		0.037

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	95	55-125
Toluene-d8	93	56-127
4-Bromofluorobenzene	89	54-130

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: May 26, 2009
Samples Submitted: May 15, 2009
Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-19-09
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	05-084-03
Client ID:	**09GRA153SB**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.031
(trans) 1,2-Dichloroethene	ND		0.031
(cis) 1,2-Dichloroethene	ND		0.031
Trichloroethene	ND		0.031
Tetrachloroethene	0.42		0.031

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	96	55-125
Toluene-d8	101	56-127
4-Bromofluorobenzene	101	54-130

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: May 26, 2009
Samples Submitted: May 15, 2009
Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-19-09
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	05-084-04
Client ID:	**09GRA154SB**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.045
(trans) 1,2-Dichloroethene	ND		0.045
(cis) 1,2-Dichloroethene	ND		0.045
Trichloroethene	0.25		0.045
Tetrachloroethene	6.9		0.045

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	98	55-125
Toluene-d8	98	56-127
4-Bromofluorobenzene	94	54-130

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: May 26, 2009
Samples Submitted: May 15, 2009
Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-19&20-09
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	05-084-05
Client ID:	**09GRA155SB**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.042
(trans) 1,2-Dichloroethene	ND		0.042
(cis) 1,2-Dichloroethene	ND		0.042
Trichloroethene	0.26		0.042
Tetrachloroethene	10		0.083

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	96	55-125
Toluene-d8	98	56-127
4-Bromofluorobenzene	97	54-130

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: May 26, 2009
Samples Submitted: May 15, 2009
Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B
METHOD BLANK QUALITY CONTROL

Date Extracted: 5-19-09
Date Analyzed: 5-19-09

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 05-084-09
Client ID: 09GRA159SB

Compound	Results	Flags	PQL
Vinyl Chloride	ND		0.030
(trans) 1,2-Dichloroethene	ND		0.030
(cis) 1,2-Dichloroethene	ND		0.030
Trichloroethene	ND		0.030
Tetrachloroethene	1.5		0.030

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	100	55-125
Toluene-d8	103	56-127
4-Bromofluorobenzene	97	54-130

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: May 26, 2009
Samples Submitted: May 15, 2009
Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 5-19-09
Date Analyzed: 5-19-09

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 05-084-10
Client ID: 09GRA160SB

Compound	Results	Flags	PQL
Vinyl Chloride	ND		0.061
(trans) 1,2-Dichloroethene	ND		0.061
(cis) 1,2-Dichloroethene	ND		0.061
Trichloroethene	ND		0.061
Tetrachloroethene	2.4		0.061

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	107	55-125
Toluene-d8	92	56-127
4-Bromofluorobenzene	97	54-130

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: May 26, 2009
Samples Submitted: May 15, 2009
Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-19-09
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	05-084-13
Client ID:	**09GRA163SB**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.028
(trans) 1,2-Dichloroethene	ND		0.028
(cis) 1,2-Dichloroethene	ND		0.028
Trichloroethene	ND		0.028
Tetrachloroethene	0.31		0.028

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	99	55-125
Toluene-d8	104	56-127
4-Bromofluorobenzene	96	54-130

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Date of Report: May 26, 2009
Samples Submitted: May 15, 2009
Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-19-09
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	05-084-14
Client ID:	**09GRA164SB**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.028
(trans) 1,2-Dichloroethene	ND		0.028
(cis) 1,2-Dichloroethene	ND		0.028
Trichloroethene	ND		0.028
Tetrachloroethene	0.21		0.028

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	101	55-125
Toluene-d8	95	56-127
4-Bromofluorobenzene	93	54-130

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Date of Report: May 26, 2009
Samples Submitted: May 15, 2009
Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-19-09
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	05-084-17
Client ID:	**09GRA167SB**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.026
(trans) 1,2-Dichloroethene	ND		0.026
(cis) 1,2-Dichloroethene	ND		0.026
Trichloroethene	ND		0.026
Tetrachloroethene	0.19		0.026

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	99	55-125
Toluene-d8	98	56-127
4-Bromofluorobenzene	97	54-130

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Samples Submitted: May 15, 2009
Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-19-09
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	05-084-18
Client ID:	**09GRA168SB**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.035
(trans) 1,2-Dichloroethene	ND		0.035
(cis) 1,2-Dichloroethene	ND		0.035
Trichloroethene	ND		0.035
Tetrachloroethene	0.36		0.035

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	99	55-125
Toluene-d8	96	56-127
4-Bromofluorobenzene	92	54-130

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Samples Submitted: May 15, 2009
Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-19-09
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	05-084-21
Client ID:	**09GRA171SB**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.035
(trans) 1,2-Dichloroethene	ND		0.035
(cis) 1,2-Dichloroethene	ND		0.035
Trichloroethene	ND		0.035
Tetrachloroethene	0.040		0.035

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	101	55-125
Toluene-d8	99	56-127
4-Bromofluorobenzene	99	54-130

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Date of Report: May 26, 2009
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Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-19-09
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	05-084-23
Client ID:	**09GRA172SB**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.034
(trans) 1,2-Dichloroethene	ND		0.034
(cis) 1,2-Dichloroethene	ND		0.034
Trichloroethene	ND		0.034
Tetrachloroethene	0.064		0.034

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	96	55-125
Toluene-d8	97	56-127
4-Bromofluorobenzene	96	54-130

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Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-19-09
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	05-084-28
Client ID:	**09GRA177SB**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.036
(trans) 1,2-Dichloroethene	ND		0.036
(cis) 1,2-Dichloroethene	ND		0.036
Trichloroethene	ND		0.036
Tetrachloroethene	0.038		0.036

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	96	55-125
Toluene-d8	102	56-127
4-Bromofluorobenzene	102	54-130

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Date of Report: May 26, 2009
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Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-20-09
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	05-084-29
Client ID:	**09GRA178SB**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.036
(trans) 1,2-Dichloroethene	ND		0.036
(cis) 1,2-Dichloroethene	ND		0.036
Trichloroethene	ND		0.036
Tetrachloroethene	ND		0.036

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	97	55-125
Toluene-d8	100	56-127
4-Bromofluorobenzene	99	54-130

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Samples Submitted: May 15, 2009
Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-20-09
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	05-084-30
Client ID:	**09GRA179SB**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.039
(trans) 1,2-Dichloroethene	ND		0.039
(cis) 1,2-Dichloroethene	ND		0.039
Trichloroethene	ND		0.039
Tetrachloroethene	0.097		0.039

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	101	55-125
Toluene-d8	95	56-127
4-Bromofluorobenzene	95	54-130

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Date of Report: May 26, 2009
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Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-19-09
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	05-084-32
Client ID:	**09GRA181SB**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.050
(trans) 1,2-Dichloroethene	ND		0.050
(cis) 1,2-Dichloroethene	ND		0.050
Trichloroethene	ND		0.050
Tetrachloroethene	ND		0.050

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	101	55-125
Toluene-d8	98	56-127
4-Bromofluorobenzene	98	54-130

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Date of Report: May 26, 2009
Samples Submitted: May 15, 2009
Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B
METHOD BLANK QUALITY CONTROL

Date Extracted: 5-19-09
Date Analyzed: 5-19-09

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0519S2

Compound	Results	Flags	PQL
Vinyl Chloride	ND		0.0010
(trans) 1,2-Dichloroethene	ND		0.0010
(cis) 1,2-Dichloroethene	ND		0.0010
Trichloroethene	ND		0.0010
Tetrachloroethene	ND		0.0010

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	108	55-125
Toluene-d8	100	56-127
4-Bromofluorobenzene	98	54-130

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Date of Report: May 26, 2009
Samples Submitted: May 15, 2009
Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B
MS/MSD QUALITY CONTROL

Date Extracted: 5-19-09
Date Analyzed: 5-19-09

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 05-084-21

Compound	Sample Amount	Spike Amount	MS	Percent Recovery	MSD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	ND	1.59	1.22	77	1.15	72	70-130	
Benzene	ND	1.59	1.39	87	1.49	94	70-130	
Trichloroethene	ND	1.59	1.34	84	1.31	82	70-124	
Toluene	ND	1.59	1.41	89	1.28	81	70-130	
Chlorobenzene	ND	1.59	1.38	87	1.43	90	72-127	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	6	14	
Benzene	7	17	
Trichloroethene	2	11	
Toluene	10	16	
Chlorobenzene	4	15	

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Date of Report: May 26, 2009
Samples Submitted: May 15, 2009
Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-19-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	05-084-02
Client ID:	**09GRA152GW**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.20
(trans) 1,2-Dichloroethene	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Trichloroethene	ND		0.20
Tetrachloroethene	3.3		0.20

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	93	71-126
Toluene-d8	90	76-116
4-Bromofluorobenzene	82	70-123

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Samples Submitted: May 15, 2009
Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-19-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	05-084-06
Client ID:	**09GRA156GW**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.20
(trans) 1,2-Dichloroethene	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Trichloroethene	ND		0.20
Tetrachloroethene	0.37		0.20

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	93	71-126
Toluene-d8	90	76-116
4-Bromofluorobenzene	83	70-123

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Samples Submitted: May 15, 2009
Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-19-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	05-084-07
Client ID:	**09GRA157GW**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.20
(trans) 1,2-Dichloroethene	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Trichloroethene	ND		0.20
Tetrachloroethene	0.40		0.20

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	94	71-126
Toluene-d8	92	76-116
4-Bromofluorobenzene	84	70-123

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Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-19-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	05-084-08
Client ID:	**09GRA158GW**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.20
(trans) 1,2-Dichloroethene	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Trichloroethene	ND		0.20
Tetrachloroethene	0.92		0.20

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	93	71-126
Toluene-d8	91	76-116
4-Bromofluorobenzene	83	70-123

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Samples Submitted: May 15, 2009
Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-19-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	05-084-11
Client ID:	**09GRA161GW**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		2.0
(trans) 1,2-Dichloroethene	ND		2.0
(cis) 1,2-Dichloroethene	ND		2.0
Trichloroethene	2.6		2.0
Tetrachloroethene	360		2.0

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	84	71-126
Toluene-d8	87	76-116
4-Bromofluorobenzene	89	70-123

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Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-19-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	05-084-12
Client ID:	**09GRA162GW**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.20
(trans) 1,2-Dichloroethene	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Trichloroethene	ND		0.20
Tetrachloroethene	0.74		0.20

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	95	71-126
Toluene-d8	90	76-116
4-Bromofluorobenzene	83	70-123

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Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-19-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	05-084-15
Client ID:	**09GRA165GW**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.20
(trans) 1,2-Dichloroethene	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Trichloroethene	0.47		0.20
Tetrachloroethene	26		0.20

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	84	71-126
Toluene-d8	87	76-116
4-Bromofluorobenzene	88	70-123

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Date of Report: May 26, 2009
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Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-19-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	05-084-16
Client ID:	**09GRA166GW**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.20
(trans) 1,2-Dichloroethene	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Trichloroethene	ND		0.20
Tetrachloroethene	ND		0.20

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	93	71-126
Toluene-d8	89	76-116
4-Bromofluorobenzene	83	70-123

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Date of Report: May 26, 2009
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Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-19-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	05-084-19
Client ID:	**09GRA169GW**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.20
(trans) 1,2-Dichloroethene	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Trichloroethene	0.33		0.20
Tetrachloroethene	3.2		0.20

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	91	71-126
Toluene-d8	90	76-116
4-Bromofluorobenzene	82	70-123

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Date of Report: May 26, 2009
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HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-21-09
Date Analyzed:	5-21-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	05-084-20
Client ID:	**09GRA170GW**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.20
(trans) 1,2-Dichloroethene	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Trichloroethene	ND		0.20
Tetrachloroethene	0.30		0.20

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	78	71-126
Toluene-d8	85	76-116
4-Bromofluorobenzene	78	70-123

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Laboratory Reference: 0905-084
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HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-19-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	05-084-22
Client ID:	**09GRA172GW**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.20
(trans) 1,2-Dichloroethene	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Trichloroethene	ND		0.20
Tetrachloroethene	0.57		0.20

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	93	71-126
Toluene-d8	91	76-116
4-Bromofluorobenzene	84	70-123

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HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-19-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	05-084-24
Client ID:	**09GRA173GW**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.20
(trans) 1,2-Dichloroethene	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Trichloroethene	0.65		0.20
Tetrachloroethene	0.90		0.20

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	93	71-126
Toluene-d8	90	76-116
4-Bromofluorobenzene	83	70-123

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Date of Report: May 26, 2009
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Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-19-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	05-084-25
Client ID:	**09GRA174GW**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.20
(trans) 1,2-Dichloroethene	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Trichloroethene	ND		0.20
Tetrachloroethene	ND		0.20

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	94	71-126
Toluene-d8	92	76-116
4-Bromofluorobenzene	83	70-123

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Date of Report: May 26, 2009
Samples Submitted: May 15, 2009
Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-19-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	05-084-26
Client ID:	**09GRA175GW**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.20
(trans) 1,2-Dichloroethene	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Trichloroethene	ND		0.20
Tetrachloroethene	ND		0.20

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	92	71-126
Toluene-d8	90	76-116
4-Bromofluorobenzene	82	70-123

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: May 26, 2009
Samples Submitted: May 15, 2009
Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-19-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	05-084-27
Client ID:	**09GRA176GW**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.20
(trans) 1,2-Dichloroethene	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Trichloroethene	ND		0.20
Tetrachloroethene	0.41		0.20

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	93	71-126
Toluene-d8	92	76-116
4-Bromofluorobenzene	83	70-123

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: May 26, 2009
Samples Submitted: May 15, 2009
Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-21-09
Date Analyzed:	5-21-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	05-084-31
Client ID:	**09GRA180GW**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.20
(trans) 1,2-Dichloroethene	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Trichloroethene	ND		0.20
Tetrachloroethene	6.5		0.20

Surrogate	**Percent Recovery**		**Control Limits**
Dibromofluoromethane	80		71-126
Toluene-d8	80		76-116
4-Bromofluorobenzene	62	Q	70-123

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: May 26, 2009
Samples Submitted: May 15, 2009
Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B

Date Extracted:	5-19-09
Date Analyzed:	5-19-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	05-084-33
Client ID:	**09GRA182GW**

Compound	**Results**	**Flags**	**PQL**
Vinyl Chloride	ND		0.20
(trans) 1,2-Dichloroethene	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Trichloroethene	ND		0.20
Tetrachloroethene	ND		0.20

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	83	71-126
Toluene-d8	87	76-116
4-Bromofluorobenzene	90	70-123

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: May 26, 2009
Samples Submitted: May 15, 2009
Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B
METHOD BLANK QUALITY CONTROL

Date Extracted:	5-19-09
Date Analyzed:	5-19-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0519W1

Compound	Results	Flags	PQL
Vinyl Chloride	ND		0.20
(trans) 1,2-Dichloroethene	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Trichloroethene	ND		0.20
Tetrachloroethene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	91	71-126
Toluene-d8	90	76-116
4-Bromofluorobenzene	80	70-123

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: May 26, 2009
Samples Submitted: May 15, 2009
Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B
METHOD BLANK QUALITY CONTROL

Date Extracted:	5-21-09
Date Analyzed:	5-21-09
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0521W1

Compound	Results	Flags	PQL
Vinyl Chloride	ND		0.20
(trans) 1,2-Dichloroethene	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Trichloroethene	ND		0.20
Tetrachloroethene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	86	71-126
Toluene-d8	86	76-116
4-Bromofluorobenzene	80	70-123

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: May 26, 2009
Samples Submitted: May 15, 2009
Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B
MS/MSD QUALITY CONTROL

Date Extracted: 5-19-09
Date Analyzed: 5-19-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: 05-084-20

Compound	Sample Amount	Spike Amount	MS	Percent Recovery	MSD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	ND	10.0	8.03	80	8.29	83	70-130	
Benzene	ND	10.0	9.16	92	9.34	93	81-125	
Trichloroethene	ND	10.0	9.07	91	9.13	91	79-116	
Toluene	ND	10.0	9.47	95	9.70	97	88-118	
Chlorobenzene	ND	10.0	9.31	93	9.42	94	75-121	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	3	22	
Benzene	2	11	
Trichloroethene	1	11	
Toluene	2	14	
Chlorobenzene	1	14	

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: May 26, 2009
Samples Submitted: May 15, 2009
Laboratory Reference: 0905-084
Project: 14-145

HALOGENATED VOLATILES
by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 5-21-09
Date Analyzed: 5-21-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB0521W1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	10.0	7.53	75	7.03	70	70-130	
Benzene	10.0	9.68	97	9.04	90	70-130	
Trichloroethene	10.0	9.36	94	8.99	90	70-123	
Toluene	10.0	9.67	97	9.20	92	77-120	
Chlorobenzene	10.0	9.96	100	9.51	95	73-115	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	7	21	
Benzene	7	18	
Trichloroethene	4	18	
Toluene	5	17	
Chlorobenzene	5	18	

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: May 26, 2009
Samples Submitted: May 15, 2009
Lab Traveler: 0905-084
Project: 14-145

% MOISTURE

Date Analyzed: 5-19-09

Client ID	Lab ID	% Moisture
09GRA151SB	05-084-01	13
09GRA153SB	05-084-03	4
09GRA154SB	05-084-04	19
09GRA155SB	05-084-05	18
09GRA159SB	05-084-09	10
09GRA160SB	05-084-10	10
09GRA163SB	05-084-13	6
09GRA164SB	05-084-14	6
09GRA167SB	05-084-17	4
09GRA168SB	05-084-18	7
09GRA171SB	05-084-21	8
09GRA172SB	05-084-23	9
09GRA177SB	05-084-28	10
09GRA178SB	05-084-29	12
09GRA179SB	05-084-30	20

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Chain of Custody

OnSite Environmental Inc.
Phone: (425) 883-3881 • Fax: (425) 885-4603

Company: OASIS Environmental
Project Number: 14-145
Project Name: Gaffney Road
Project Manager: B Martich
Sampled by: B Martich

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Day
- ☐ 3 Day
- ☒ Standard (7 working days)
  (TPH analysis 5 working days)
- ☐ _____ (other)

Laboratory Number: 05-084

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270D	PAHs by 8270D / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	% Moisture
1	09GRA151SB	5/12/09	0045	S	2				X										X
2	09GRA152GW		0110	W	3				X										
3	09GRA153SB		0230	S	2				X										X
4	09GRA154SB		0245	S	2				X										X
5	09GRA155SB		0250	S	2				X										X
6	09GRA156GW		0300	W	3				X										
7	09GRA157GW		0315	W	3				X										
8	09GRA158GW		0365	W	3				X										
9	09GRA159SB		0420	S	2				X										X
10	09GRA160SB	↓	0435	S	2				X										X

	Signature	Company	Date	Time
Relinquished by				
Received by		OSE	5/13/09	1030
Relinquished by				
Received by				
Relinquished by				
Received by				

Comments/Special Instructions:
For 8260, PCE, TCE, cDCE, tDCE, and VC only

Reviewed by/Date

Reviewed by/Date

Chromatograms with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

Chain of Custody

OnSite Environmental Inc.
Phone: (425) 883-3881 • Fax: (425) 885-4603

Company: OASIS Environmental
Project Number: 14-145
Project Name: Gaffney Road
Project Manager: B Matich
Sampled by: B Matich / J Clark

Turnaround Request (in working days)

(Check One)

- ☐ Same Day ☐ 1 Day
- ☐ 2 Day ☐ 3 Day
- ☒ Standard (7 working days)
  (TPH analysis 5 working days)
- ☐ _____ (other)

Laboratory Number: 05-084

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270D	PAHs by 8270D / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	% Moisture
11	09GRA161GW	5/12/09	0455	W	3				X										
12	09GRA162GW	5/13/09	0010	W	3				X										
13	09GRA163~~GW~~SB		0030	S	2				X										X
14	09GRA164SB		0035	S	2				X										X
15	09GRA165GW		0050	W	3				X										
16	09GRA166GW		0130	W	3				X										
17	09GRA167SB		0245	S	2				X										X
18	09GRA168SB		0250	S	2				X										X
19	09GRA169GW		0305	W	3				X										
20	09GRA170GW	5/14/09	0000	W	6				X					MS/MSD					

	Signature	Company	Date	Time
Relinquished by				
Received by		OSE	5/15/09	1030
Relinquished by				
Received by				
Relinquished by				
Received by				
Reviewed by/Date		Reviewed by/Date		

Comments/Special Instructions:
For 8260, PCE, TCE, cDCE, tDCE, and VC only

Chromatograms with final report ☐

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Chain of Custody

OnSite Environmental Inc.
Phone: (425) 883-3881 • Fax: (425) 885-4603

Company: OASIS Environmental
Project Number: 14-145
Project Name: Gaffney Road
Project Manager: Ben Martich
Sampled by: J. Clark

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Day
- ☐ 3 Day
- ☒ Standard (7 working days)
  (TPH analysis 5 working days)
- ☐ _____ (other)

Laboratory Number: 05-084

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270D	PAHs by 8270D / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	% Moisture
21	Ø9GRA171SB	5/14/08	0110	S	4				X					MS/MSD					X
22	Ø9GRA172GW		0125	W	3				X										
23	Ø9GRA172SB		0225	S	2				X										X
24	Ø9GRA173GW		0340	W	3				X										
25	Ø9GRA174GW		0505	W	3				X										
26	Ø9GRA175GW		0510	W	3				X										
27	Ø9GRA176GW		0530	W	3				X										
28	Ø9GRA177SB		0710	S	2				X										X
29	Ø9GRA178SB		0715	S	2				X										X
30	Ø9GRA179SB		0720	S	2				X										X

	Signature	Company	Date	Time
Relinquished by				
Received by	[signature]	OSE	5/15/08	1030
Relinquished by				
Received by				
Relinquished by				
Received by				
Reviewed by/Date		Reviewed by/Date		

Comments/Special Instructions:

For 8260:
PCE, TCE, cis-DCE, trans-DCE, and vinyl chloride only

Chromatograms with final report ☐

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Chain of Custody

OnSite Environmental Inc.
Phone: (425) 883-3881 • Fax: (425) 885-4603

Laboratory Number: 05-084

Company: OASIS Environmental
Project Number: Gaffney Road
Project Name: 14-145
Project Manager: Ben Martich
Sampled by: J. Clark

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Day
- ☐ 3 Day
- ☒ Standard (7 working days)
  (TPH analysis 5 working days)
- ☐ _____ (other)

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270D	PAHs by 8270D / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	% Moisture
31	Ø9GRA18Ø6W	5/14/09	0750	W	3				X										
32	Ø9GRA181 5B	—	—	S	1				X										
33	Ø9GRA1826W	—	—	W	3				X										

	Signature	Company	Date	Time
Relinquished by				
Received by		OBE	5/15/09	1030
Relinquished by				
Received by				
Relinquished by				
Received by				

Comments/Special Instructions:
For 8260:
PCE, TCE, cis-DCE, trans-DCE, and vinyl chloride only

Reviewed by/Date

Reviewed by/Date

Chromatograms with final report ☐

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ATTACHMENT 5

Quality Assurance Review

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Laboratory Data Review Checklist

Completed by:	Ben Martich
Title:	Environmental Scientist
Date:	6/1/2009
CS Report Name:	Gaffney Road Area
Report Date:	June 2009
Consultant Firm:	OASIS Environmental
Laboratory Name:	Air Toxics
Laboratory Report Number:	0905436B
ADEC File Number:	102.38.084
ADEC RecKey Number:	2919

1. Laboratory

   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

   ☐ Yes ☐ No Comments:

   NELAC lab – no ADEC approval for air labs

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

   ☐ Yes ☐ No Comments:

2. Chain of Custody (COC)

   a. COC information completed, signed, and dated (including released/received by)?

   ☑ Yes ☐ No Comments:

   b. Correct analyses requested?

   ☑ Yes ☐ No Comments:

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?

☐ Yes ☐ No Comments:

NA

b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

☐ Yes ☐ No Comments:

NA

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

☑ Yes ☐ No Comments:

No problems

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

☐ Yes ☑ No Comments:

e. Data quality or usability affected? Explain.

Comments:

4. Case Narrative

a. Present and understandable?

☑ Yes ☐ No Comments:

b. Discrepancies, errors or QC failures identified by the lab?

☑ Yes ☐ No Comments:

None

c. Were all corrective actions documented?

☐ Yes ☐ No Comments:

d. What is the effect on data quality/usability according to the case narrative?

Comments:

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

☉ Yes ☐ No Comments:

b. All applicable holding times met?

☉ Yes ☐ No Comments:

c. All soils reported on a dry weight basis?

☐ Yes ☐ No Comments:

NA

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?

☉ Yes ☐ No Comments:

e. Data quality or usability affected?

Comments:

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

☉ Yes ☐ No Comments:

ii. All method blank results less than PQL?

☉ Yes ☐ No Comments:

iii. If above PQL, what samples are affected?

Comments:

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

☐ Yes ☐ No Comments:

v. Data quality or usability affected? Explain.

Comments:

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

☑ Yes ☐ No Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

☐ Yes ☐ No Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

☑ Yes ☐ No Comments:

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

☑ Yes ☐ No Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

☐ Yes ☐ No Comments:

vii. Data quality or usability affected? (Use comment box to explain)
Comments:

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

☑ Yes ☐ No Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

☑ Yes ☐ No Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

☐ Yes ☐ No Comments:

iv. Data quality or usability affected? (Use the comment box to explain.)
Comments:

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (if not, enter explanation below.)

☑ Yes ☐ No Comments:

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

☐ Yes ☐ No Comments:

iii. All results less than PQL?

☑ Yes ☐ No Comments:

iv. If above PQL, what samples are affected?

Comments:

v. Data quality or usability affected? Explain.

Comments:

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

☉ Yes ☐ No Comments:

ii. Submitted blind to lab?

☉ Yes ☐ No Comments:

iii. Precision – All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \text{Absolute value of: } \frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$$

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

☉ Yes ☐ No Comments:

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

f. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below.)

☐ Yes ☐ No ☒ Not Applicable

i. All results less than PQL?

☐ Yes ☐ No Comments:

ii. If above PQL, what samples are affected?

Comments:

iii. Data quality or usability affected? Explain.

Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

☐ Yes ☐ No Comments:

Laboratory Data Review Checklist

Completed by:	Ben Martich
Title:	Environmental Scientist
Date:	6/1/2009
CS Report Name:	Gaffney Road Area
Report Date:	June 2009
Consultant Firm:	OASIS Environmental
Laboratory Name:	Air Toxics
Laboratory Report Number:	0905436A
ADEC File Number:	102.38.084
ADEC RecKey Number:	2919

1. Laboratory

   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

   ☐ Yes ☐ No Comments:

   NELAC lab – no ADEC approval for air labs

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

   ☐ Yes ☐ No Comments:

2. Chain of Custody (COC)

   a. COC information completed, signed, and dated (including released/received by)?

   ☑ Yes ☐ No Comments:

   b. Correct analyses requested?

   ☑ Yes ☐ No Comments:

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?

☐ Yes ☐ No Comments:

NA

b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

☐ Yes ☐ No Comments:

NA

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

☑ Yes ☐ No Comments:

No problems

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

☐ Yes ☑ No Comments:

e. Data quality or usability affected? Explain.

Comments:

4. Case Narrative

a. Present and understandable?

☑ Yes ☐ No Comments:

b. Discrepancies, errors or QC failures identified by the lab?

☑ Yes ☐ No Comments:

None

c. Were all corrective actions documented?

☐ Yes ☐ No Comments:

d. What is the effect on data quality/usability according to the case narrative?

Comments:

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

☉ Yes ☐ No Comments:

b. All applicable holding times met?

☉ Yes ☐ No Comments:

c. All soils reported on a dry weight basis?

☐ Yes ☐ No Comments:

NA

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?

☉ Yes ☐ No Comments:

e. Data quality or usability affected?

Comments:

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

☉ Yes ☐ No Comments:

ii. All method blank results less than PQL?

☉ Yes ☐ No Comments:

iii. If above PQL, what samples are affected?

Comments:

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

☐ Yes ☐ No Comments:

v. Data quality or usability affected? Explain.

Comments:

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

☑ Yes ☐ No Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

☐ Yes ☐ No Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

☑ Yes ☐ No Comments:

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

☑ Yes ☐ No Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

☐ Yes ☐ No Comments:

vii. Data quality or usability affected? (Use comment box to explain)
Comments:

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

☑ Yes ☐ No Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

☑ Yes ☐ No Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

☐ Yes ☐ No Comments:

iv. Data quality or usability affected? (Use the comment box to explain.)
Comments:

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (if not, enter explanation below.)

☑ Yes ☐ No Comments:

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

☐ Yes ☐ No Comments:

iii. All results less than PQL?

☑ Yes ☐ No Comments:

iv. If above PQL, what samples are affected?

Comments:

v. Data quality or usability affected? Explain.

Comments:

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

☉ Yes ☐ No Comments:

ii. Submitted blind to lab?

☉ Yes ☐ No Comments:

iii. Precision – All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \text{Absolute value of: } \frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$$

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

☉ Yes ☐ No Comments:

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

f. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below.)

☐ Yes ☐ No ☒ Not Applicable

i. All results less than PQL?

☐ Yes ☐ No Comments:

ii. If above PQL, what samples are affected?

Comments:

iii. Data quality or usability affected? Explain.

Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

☐ Yes ☐ No Comments:

Laboratory Data Review Checklist

Completed by:	B Martich
Title:	Environmental Scientist
Date:	6/1/2009
CS Report Name:	Gaffney Road
Report Date:	June 2009
Consultant Firm:	OASIS Environmental
Laboratory Name:	OnSite Environmental
Laboratory Report Number:	0905-084
ADEC File Number:	102.38.084
ADEC RecKey Number:	2919

1. Laboratory

   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

   ☑ Yes ☐ No Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

   ☐ Yes ☐ No Comments:

2. Chain of Custody (COC)

   a. COC information completed, signed, and dated (including released/received by)?

   ☑ Yes ☐ No Comments:

   b. Correct analyses requested?

   ☑ Yes ☐ No Comments:

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?

☑ Yes ☐ No Comments:

b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

☑ Yes ☐ No Comments:

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

☑ Yes ☐ No Comments:

No problems

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

☐ Yes ☐ No Comments:

NA

e. Data quality or usability affected? Explain.

Comments:

4. Case Narrative

a. Present and understandable?

☑ Yes ☐ No Comments:

b. Discrepancies, errors or QC failures identified by the lab?

☑ Yes ☐ No Comments:

c. Were all corrective actions documented?

☑ Yes ☐ No Comments:

d. What is the effect on data quality/usability according to the case narrative?

Comments:

One sample flagged – data still usable – see Section 6

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

☉ Yes ☐ No Comments:

b. All applicable holding times met?

☉ Yes ☐ No Comments:

c. All soils reported on a dry weight basis?

☉ Yes ☐ No Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?

☐ Yes ☉ No Comments:

PCE, TCE, and vinyl chloride exceeded SCLs for soil samples

e. Data quality or usability affected?

Comments:

Data still usable – just lacking sensitivity

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

☉ Yes ☐ No Comments:

ii. All method blank results less than PQL?

☉ Yes ☐ No Comments:

iii. If above PQL, what samples are affected?

Comments:

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

☐ Yes ☐ No Comments:

v. Data quality or usability affected? Explain.

Comments:

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

☑ Yes ☐ No Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

☐ Yes ☐ No Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

☑ Yes ☐ No Comments:

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

☑ Yes ☐ No Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

☐ Yes ☐ No Comments:

vii. Data quality or usability affected? (Use comment box to explain)

Comments:

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

☑ Yes ☐ No Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

☐ Yes ☑ No Comments:

Sample 09GRA180GW had one surrogate outside recovery limits

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

☑ Yes ☐ No Comments:

iv. Data quality or usability affected? (Use the comment box to explain.)

Comments:

No – Sample 09GRA180GW is a IDW profile sample. Surrogate failure attributed to foaming in sample from alconox.

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (if not, enter explanation below.)

☑ Yes ☐ No Comments:

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

☐ Yes ☐ No Comments:

iii. All results less than PQL?

☑ Yes ☐ No Comments:

iv. If above PQL, what samples are affected?

Comments:

v. Data quality or usability affected? Explain.

Comments:

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

☉ Yes ☐ No Comments:

ii. Submitted blind to lab?

☉ Yes ☐ No Comments:

iii. Precision – All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \text{Absolute value of: } \frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$$

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

☉ Yes ☐ No Comments:

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

f. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below.)

☐ Yes ☐ No ☒ Not Applicable

i. All results less than PQL?

☐ Yes ☐ No Comments:

ii. If above PQL, what samples are affected?

Comments:

iii. Data quality or usability affected? Explain.

Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

☒ Yes ☐ No Comments:

Analytical result for 09GRA108GW is flagged as estimate because of surrogate outside %R