

Groundwater Monitoring Well Report
Ettari Residence
204 Cross Way
North Pole, Alaska

November 2008

ALASKA RESOURCES & ENVIRONMENTAL SERVICES, LLC



SUBMITTED TO:
Alaska Department of Environmental Conservation
Northern Regional Office
Spill Prevention and Response
610 University Avenue
Fairbanks, Alaska 99709-3643

BY:
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INTRODUCTION

This report was prepared on behalf of Anthony Ettari, who has contracted with Alaska Resources & Environmental Services (ARES) to perform the groundwater investigation associated with the petroleum release at the subject property. The work was conducted as detailed in the approved Work Plan submitted in September 2008.

The objective of our work was to obtain groundwater sample data near the site of a former petroleum release in order to determine if groundwater contamination exists on the property and/or is migrating off-site. Monitoring wells MW-1, and MW-2 were installed and sampled in October 2008 in general accordance with ADEC Oil and Other Hazardous Substances Pollution Control Regulations (18 AAC 75 – amended December 30, 2006).

SITE BACKGROUND

Site Description

The subject property (spill release site) is situated at 204 Cross Way, North Pole, Alaska. The site is located in the U.S. Geological Survey (USGS) Fairbanks C-1 quadrangle.

History

According to the maintenance manager Mr. Robert Vaughn, a 300-gallon UST located at the residence and used for storage of home heating fuel was closed in place due to high fuel usage and suspected leak based on the opinion of a contractor. A 250-gallon AST was installed in January 2008 as a replacement. According to Mr. Vaughn, the tank was initially filled with 100-gallons of fuel and a drain plug gave way during the night, and released all 100-gallons of #1 diesel fuel onto the surrounding ground surface.

The 250-gallon AST was removed by Mr. Vaughn prior to field work on June 11th, 2008 in preparation of excavation activities. Initial excavation was halted on June 11th, 2008 when frozen soils were encountered at approximately 3' bgs. Site investigation and excavation was resumed on July 1st, 2008. The UST and associated piping was removed and all contaminated material was excavated and transported to OIT inc. for thermal remediation. Approximately 8 cubic yards (10.28 tons) of petroleum-contaminated soils were removed and hauled off-site for thermal remediation to OIT Inc Moose Creek facility.

As confirmed by laboratory samples, petroleum contaminated soils remained in place above ADEC cleanup levels. Soil samples collected outside the limits of excavation directly underneath the residence near the source area, were found to be above ADEC target cleanup levels for DRO and BTEX compounds excluding benzene. Complete removal of contaminated soils adjacent to and underneath the structure was not possible due to structural limitations of the residence. Analytical results from excavated areas

were found to be below ADEC target cleanup levels for DRO and BTEX compounds in the vicinity of the excavation. Groundwater was not encountered during excavation and impacts to groundwater were unknown at the time. Additional site information can be found in the *Release Investigation Report July 2008*.

Topography

The United States Geological Survey (USGS) Fairbanks C-1 quadrangle provides topographic map coverage of the spill release site. North Pole is located in the northern part of the Tanana Basin, which is a relatively flat floodplain of the Tanana River. The subject property is situated approximately 1.0 miles northeast of the Tanana River. Based upon the topographic map of the Fairbanks Quadrangle, the site elevation is approximately 435 feet above the mean sea level.

Regional Hydrology

The Tanana River is the dominant influence on ground-water flow in the subject area. Two discharge peaks characterize the Tanana River: spring snowmelt runoff and late summer precipitation. The stage of nearby water bodies such as Badger Slough and Chena River typically rises and falls in response to stage changes of the Tanana River. The depth to groundwater varies in response to these controlling factors. Based on interpretation of USGS data, regional groundwater flow direction is generally to the northwest. However, the direction of flow can vary depending upon the stage of the Tanana River.

Site Hydrology

The groundwater table at the time of sampling was approximately 7' bgs.

GROUNDWATER SAMPLING

Scope of Work

To achieve the stated objectives, ARES performed the following tasks:

- Installed and developed groundwater monitoring wells MW-1 and MW-2;
- Collected groundwater elevations and water quality parameter measurements to include temperature, pH, conductivity, turbidity, dissolved oxygen, and salinity;
- Collection of groundwater samples and duplicate sample. Samples were analyzed for diesel range organics (DRO) by method AK 102 and benzene, toluene, ethylbenzene and xylenes (BTEX) constituents by method EPA 8021b and gasoline range organics (GRO) by method AK 101; and
- Data review and report preparation.

Installation of Monitoring Wells

In order to assess potential impacts to groundwater at the site, ARES installed two permanent monitoring wells, MW-1, and MW-2 at the subject property located at 204 Cross Way. Monitoring well MW-1 was located at the source area to access groundwater conditions at the spill site. Monitoring well MW-2 was located down-gradient from the spill site to determine if contaminants are migrating off-site. Monitoring well locations are shown in Figure 1.

Well Installation

Groundwater monitoring wells MW-1 and MW-2 were direct-push wells installed by The Drilling Company. Placement of the well screen was roughly centered at the soil/groundwater interface. The monitoring well casing was set above grade. Monitoring well design characteristics for all installed wells are as follows:

Material = galvanized pipe
Well screen = 5 ft
Slot size = 0.010 in.
Inside diameter = 1.0 in.
Outside diameter = 1.25 in.

Sampling Method

The monitoring wells were developed, purged and sampled in accordance with the UST Procedures Manual and standard procedures. A peristaltic pump, with new polyethylene tubing and new nitrile gloves were used during the sampling event. Before sampling, the groundwater elevation was measured to 0.010 feet using a Heron Model D-T Interface Meter. Well volume was then calculated, and at least three times the well volume was purged prior to sampling. Recharge rates were observed during purging, and water levels measurements taken following sampling. Water parameters were recorded to include temperature, pH, conductivity, turbidity, dissolved oxygen, and salinity using a Horiba Water Meter Model U-10.

Once a well was sufficiently recharged and groundwater parameters stabilized, samples were collected in order of decreasing volatility. The tubing was carefully lowered in to the well to avoid loss of volatiles and water collected from the peristaltic pump was placed directly into lab supplied sample bottles. Volatile samples were collected to avoid any headspace in the bottle. All bottles were labeled and placed in a pre-chilled cooler (at approximately 4°C) and submitted to ADEC approved laboratory following chain of custody (COC) procedures.

Purge water was placed in drums and stored at an off-site location pending laboratory results.

Groundwater samples were collected from MW-1 and MW-2 on October 21, 2008. A blind duplicate sample was collected from monitoring well MW-1 for quality assurance/quality control purposes.

Analytical Results

There was no petroleum odor or sheen detected from monitoring well or purge water during sampling activities from MW-1 and MW-2. Purge water was almost clear in appearance. No other odors were detected. Groundwater was approximately 7' below ground surface at the time of sampling.

All three monitoring wells were sampled and analyzed for GRO by method AK 101, BTEX by method EPA 8260b, and DRO by method AK 102. A summary of current sample results are shown in Table 1. Complete laboratory results are included in Appendix A.

**Groundwater Monitoring Well Report
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**Table 1
Summary of groundwater results**

Sample Location	Sample ID	Date Sampled	Matrix	EPA Method 8260B				Alaska Method AK 101	Alaska Method AK 102
				Benzene in mg/l	Toluene in mg/l	Ethyl-benzene in mg/l	Total xylenes in mg/l	GRO in mg/l	DRO in mg/l
MW-1	MW1-X-1008	10/21/08	Water	ND	ND	ND	ND	ND	ND
MW-2	MW2-X-1008	10/21/08	Water	ND	ND	.0836	.220	.991	ND
Field Duplicate Sample to MW-1	DUP-X-1008	10/21/08	Water	ND	ND	ND	ND	ND	ND
ADEC Cleanup Level ¹			Water	0.005	1.0	0.7	10.0	1.3	1.5

¹ Title 18 of the Alaska Administrative Code, Chapter 75. Section 341.
 ND = Not detected at the concentration shown (Method Reporting Limit).
 N/A = Not Analyzed.
 Results above ADEC Regulatory Limit in **Bold**.

Quality Assurance / Quality Control

Field quality control (QC) procedures for this project included the collection and analysis of a field duplicate and trip blank, which accompanied the samples in the field. One field duplicate (DUP-X-1008) was collected for quality control purposes. Sample ID DUP-X-1008 was a blind duplicate to MW1-X-1008. The QC sample was analyzed to assess the quality of sample collection and handling, as well as the accuracy and precision of the laboratory's analytical procedures.

Precision, expressed as the relative percent difference (RPD) between field duplicate sample results, is an indication of the consistency of sampling, sample handling, preservation, and laboratory analysis. As required by the 18AAC 78 and the UST Procedures Manual, field quality control sampling consisted of 10% field duplicates and 5% trip blanks. The RPD's for duplicates collected as part of this investigation were not calculable. Analysis of the trip blanks showed no analytes above the practical quantitation limit (PQL). Thus, there is no indication that cross-contamination among samples occurred.

The following blind field duplicates and associated RFD calculations are as follows:

No RPD calculations were possible due to non-detect values for one or more of the analytes for both samples.

The recommended range for RPD for water analysis is < 30%. The RPD was non-calculable for all analytes.

Laboratory quality assurance included the procedures outlined in the laboratory's ADEC-approved standard operating procedures documentation. As presented in the laboratory report's QC summary sheet, the laboratory QC parameters fell within the acceptable limits.

Conclusions and Recommendations

Groundwater samples collected from monitoring well MW-1 and MW-2 were found to be below ADEC cleanup standards for groundwater for GRO, BTEX, and DRO.

ARES recommends the following:

- Schedule an annual sampling event of wells MW-1, MW-2, during period of high seasonal groundwater conditions in August 2009 for DRO and BTEX analysis. Groundwater results will be used for trend analysis to determine if the plume has stabilized or is in a decreasing or increasing trend. Three sampling events are recommended for trend analysis.

Limitations

This report presents the analytical results from a limited number of groundwater samples, and should not be construed as a comprehensive study of groundwater quality at the site. The samples were intended to evaluate the presence or absence of contaminants at the locations selected. Detectable levels of petroleum hydrocarbons may be present at other locations. It was also not the intent of our sampling and testing to detect the presence of groundwater affected by contaminants other than those for which laboratory analysis were performed. No conclusions can be drawn on the presence or absence of other contaminants. This is not a geotechnical study.

The data presented in this report should be considered representative of the time of our site observations and sample collection. Changes in site conditions can occur with time because of natural forces or human activity. ARES reserves the right to modify or alter conclusions and recommendations should additional data become available.

This report was prepared for the exclusive use of Anthony Ettari, and his representatives. If it is made available to others, it should be for information on factual data only and not as a warranty of subsurface conditions.

Qualifications & Signature of Environmental Professional

Lyle Gresehover is an ADEC 'Qualified Person' and has extensive field experience as an environmental project manager and has worked on all aspects of environmental assessments, investigations, and clean-up efforts.

Lyle Gresehover
Project Manager

Sincerely,



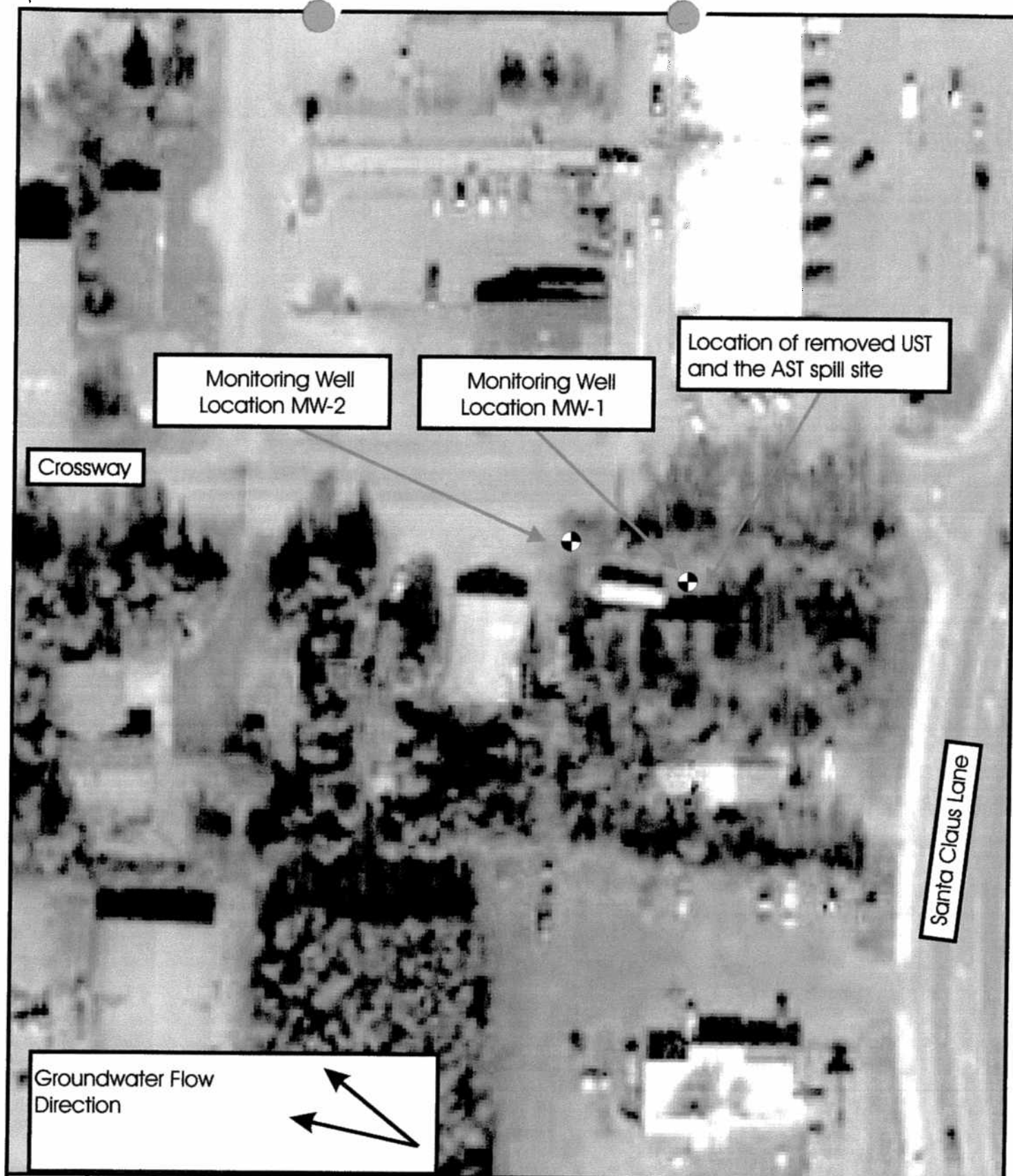
Lyle Gresehover
Alaska Resources and Environmental Services, LLC

Enclosure: Figure 1 – Monitor Well Locations
 Appendix A – Test America Laboratory Results

- CSM
- are there drinking water wells in the area?

Groundwater Monitoring Well Report
Ettari Residence
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November 2008

FIGURES



	2003 Aerial Photograph, North Pole Alaska	Monitoring Well Installation Report 204 Cross Way North Pole, AK 99705 November 2008	FIGURE 1	
Scale in Feet: 25 0 50 100			ARES Alaska Resources and Environmental Services, LLC 284 Topside Fairbanks AK 99701	

Groundwater Monitoring Well Rep
Ettari Residence
204 Cross Way
November 2008

APPENDIX A



November 10, 2008

Lyle Gresehover
Alaska Resources & Environmental Services
P.O. Box 83050
Fairbanks, AK 99708

RE: 204 Crossway

Enclosed are the results of analyses for samples received by the laboratory on 10/24/08 12:05.
The following list is a summary of the Work Orders contained in this report, generated on 11/10/08 11:24.

If you have any questions concerning this report, please feel free to contact me.

<u>Work Order</u>	<u>Project</u>	<u>ProjectNumber</u>
ARJ0107	204 Crossway	[none]

TestAmerica Anchorage

Troy J. Engstrom, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Alaska Resources & Environmental Services

P.O. Box 83050
Fairbanks, AK 99708

Project Name: **204 Crossway**
Project Number: [none]
Project Manager: Lyle Gresehover

Report Created:
11/10/08 11:24

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW1-X-1008	ARJ0107-01	Water	10/21/08 15:17	10/24/08 12:05
MW2-X-1008	ARJ0107-02	Water	10/21/08 16:23	10/24/08 12:05
DUP-X-1008	ARJ0107-03	Water	10/21/08 07:30	10/24/08 12:05
Trip Blank	ARJ0107-04	Water	10/21/08 07:30	10/24/08 12:05

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Alaska Resources & Environmental Services

P.O. Box 83050
Fairbanks, AK 99708

Project Name: **204 Crossway**

Project Number: [none]

Project Manager: Lyle Greshover

Report Created:

11/10/08 11:24

Diesel Range Organics (C10-C25) per AK102

TestAmerica Anchorage

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
ARJ0107-01 (MW1-X-1008)		Water			Sampled: 10/21/08 15:17						
Diesel Range Organics	AK 102	ND	----	0.391	mg/l	1x	8100076	10/27/08 14:48	10/28/08 12:21	JN	
Surrogate(s): 1-Chlorooctadecane		97.4%			50 - 150 %		"		"		
ARJ0107-02 (MW2-X-1008)		Water			Sampled: 10/21/08 16:23						
Diesel Range Organics	AK 102	ND	----	0.391	mg/l	1x	8100076	10/27/08 14:48	10/28/08 12:52	JN	
Surrogate(s): 1-Chlorooctadecane		109%			50 - 150 %		"		"		
ARJ0107-03 (DUP-X-1008)		Water			Sampled: 10/21/08 07:30						
Diesel Range Organics	AK 102	ND	----	0.391	mg/l	1x	8100076	10/27/08 14:48	10/28/08 13:24	JN	
Surrogate(s): 1-Chlorooctadecane		110%			50 - 150 %		"		"		

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Troy Engstrom

Troy J. Engstrom, Lab Director

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Alaska Resources & Environmental Services

P.O. Box 83050
Fairbanks, AK 99708

Project Name: **204 Crossway**
Project Number: [none]
Project Manager: Lyle Gresehover

Report Created:
11/10/08 11:24

Selected Volatile Organic Compounds per EPA Method 8260B

TestAmerica Anchorage

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
ARJ0107-01 (MW1-X-1008)		Water		Sampled: 10/21/08 15:17							
Benzene	EPA 8260B	ND	----	0.500	ug/l	1x	8100085	10/30/08 08:44	10/31/08 14:10	ds	
Toluene	"	ND	----	0.500	"	"	"	"	"	ds	
Ethylbenzene	"	ND	----	0.500	"	"	"	"	"	ds	
Xylenes (total)	"	ND	----	1.50	"	"	"	"	"	ds	
Gasoline Range Organics	"	ND	----	50.0	"	"	"	"	"	ds	C

Surrogate(s):	4-BFB	98.6%	80 - 120 %	"	"
	Dibromofluoromethane	114%	80 - 120 %	"	"
	Toluene-d8	95.1%	80 - 120 %	"	"

ARJ0107-02 (MW2-X-1008)		Water		Sampled: 10/21/08 16:23							
Benzene	EPA 8260B	ND	----	0.500	ug/l	1x	8100085	10/30/08 08:44	10/31/08 14:44	ds	
Toluene	"	ND	----	0.500	"	"	"	"	"	ds	
Surrogate(s):	4-BFB	97.8%	80 - 120 %	"	"					"	
	Dibromofluoromethane	114%	80 - 120 %	"	"					"	
	Toluene-d8	93.4%	80 - 120 %	"	"					"	

ARJ0107-02RE1 (MW2-X-1008)		Water		Sampled: 10/21/08 16:23								RL7
Ethylbenzene	EPA 8260B	83.6	----	5.00	ug/l	10x	8110001	11/01/08 11:40	11/02/08 17:31	ds		
Xylenes (total)	"	220	----	15.0	"	"	"	"	"	ds		
Gasoline Range Organics	"	991	----	500	"	"	"	"	"	DCS		
Surrogate(s):	4-BFB	99.6%	80 - 120 %	"	"					"		
	Dibromofluoromethane	110%	80 - 120 %	"	"					"		
	Toluene-d8	102%	80 - 120 %	"	"					"		

ARJ0107-03 (DUP-X-1008)		Water		Sampled: 10/21/08 07:30							
Benzene	EPA 8260B	ND	----	0.500	ug/l	1x	8110001	11/01/08 11:40	11/02/08 18:05	ds	
Toluene	"	ND	----	0.500	"	"	"	"	"	ds	
Ethylbenzene	"	ND	----	0.500	"	"	"	"	"	ds	
Xylenes (total)	"	ND	----	1.50	"	"	"	"	"	ds	
Gasoline Range Organics	"	ND	----	50.0	"	"	"	"	"	ds	
Surrogate(s):	4-BFB	100%	80 - 120 %	"	"					"	
	Dibromofluoromethane	113%	80 - 120 %	"	"					"	
	Toluene-d8	102%	80 - 120 %	"	"					"	

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Troy J. Engstrom, Lab Director

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P.O. Box 83050
Fairbanks, AK 99708

Project Name: **204 Crossway**
Project Number: [none]
Project Manager: Lyle Gresehover

Report Created:
11/10/08 11:24

Selected Volatile Organic Compounds per EPA Method 8260B

TestAmerica Anchorage

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
ARJ0107-04	(Trip Blank)	Water			Sampled: 10/21/08 07:30						
Benzene	EPA 8260B	ND	----	0.500	ug/l	1x	8110017	10/30/08 08:44	10/31/08 01:44	DCS	
Toluene	"	ND	----	0.500	"	"	"	"	"	DCS	
Ethylbenzene	"	ND	----	0.500	"	"	"	"	"	DCS	
Xylenes (total)	"	ND	----	1.50	"	"	"	"	"	DCS	
Gasoline Range Organics	"	ND	----	50.0	"	"	"	"	"	DCS	
<hr/>											
Surrogate(s):	4-BFB		100%		80 - 120 %	"				"	
	Dibromofluoromethane		114%		80 - 120 %	"				"	
	Toluene-d8		93.4%		80 - 120 %	"				"	

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Tracy Engstrom

Troy J. Engstrom, Lab Director

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Alaska Resources & Environmental Services

P.O. Box 83050
Fairbanks, AK 99708

Project Name: **204 Crossway**
Project Number: [none]
Project Manager: Lyle Gresechover

Report Created:
11/10/08 11:24

Diesel Range Organics (C10-C25) per AK102 - Laboratory Quality Control Results

TestAmerica Anchorage

QC Batch: 8100076

Water Preparation Method: EPA 3510

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8100076-BLK1)														
Extracted: 10/27/08 14:48														
Diesel Range Organics	AK 102	ND	---	0.500	mg/l	1x	--	--	--	--	--	--	10/28/08 11:50	
Surrogate(s): 1-Chlorooctadecane		Recovery: 103%		Limits: 50-150%		"								10/28/08 11:50
LCS (8100076-BS1)														
Extracted: 10/27/08 14:48														
Diesel Range Organics	AK 102	11.6	---	0.500	mg/l	1x	--	10.3	113%	(75-125)	--	--	10/28/08 12:21	
Surrogate(s): 1-Chlorooctadecane		Recovery: 106%		Limits: 60-120%		"								10/28/08 12:21
LCS Dup (8100076-BSD1)														
Extracted: 10/27/08 14:48														
Diesel Range Organics	AK 102	11.7	---	0.500	mg/l	1x	--	10.3	113%	(75-125)	0.657% (20)		10/28/08 12:52	
Surrogate(s): 1-Chlorooctadecane		Recovery: 103%		Limits: 60-120%		"								10/28/08 12:52
Duplicate (8100076-DUP1)														
QC Source: ARJ0107-01														
Extracted: 10/27/08 14:48														
Diesel Range Organics	AK 102	ND	---	0.391	mg/l	1x	ND	--	--	--		(20)	10/28/08 11:50	
Surrogate(s): 1-Chlorooctadecane		Recovery: 107%		Limits: 50-150%		"								10/28/08 11:50

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Troy Engstrom

Troy J. Engstrom, Lab Director

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Fairbanks, AK 99708

Project Name: **204 Crossway**

Project Number: [none]

Project Manager: Lyle Greshover

Report Created:

11/10/08 11:24

Selected Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Anchorage

QC Batch: 8100085

Water Preparation Method: EPA 5030B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	---------------	-----------	-------	----------	-------	----------	----------	-------

Blank (8100085-BLK1)

Extracted: 10/30/08 08:44

Benzene	EPA 8260B	ND	---	0.500	ug/l	1x	--	--	--	--	--	--	10/30/08 23:30	
Toluene	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	1.50	"	"	--	--	--	--	--	--	"	
Gasoline Range Organics	"	ND	---	50.0	"	"	--	--	--	--	--	--	"	
<i>Surrogate(s): 4-BFB Recovery: 101% Limits: 80-120% "</i>														
<i>Dibromofluoromethane 110% 80-120% "</i>														
<i>Toluene-d8 95.0% 80-120% "</i>														

10/30/08 23:30

"

"

LCS (8100085-BS1)

Extracted: 10/30/08 08:44

Benzene	EPA 8260B	7.31	---	0.500	ug/l	1x	--	7.60	96.2%	(78.8-131)	--	--	10/30/08 22:22	
Toluene	"	47.3	---	0.500	"	"	--	49.6	95.4%	(80-120)	--	--	"	
Ethylbenzene	"	9.35	---	0.500	"	"	--	10.7	87.4%	"	--	--	"	
Xylenes (total)	"	53.3	---	1.50	"	"	--	50.8	105%	"	--	--	"	
Gasoline Range Organics	"	635	---	50.0	"	"	--	550	115%	(60-120)	--	--	"	
<i>Surrogate(s): 4-BFB Recovery: 99.6% Limits: 80-120% "</i>														
<i>Dibromofluoromethane 113% 80-120% "</i>														
<i>Toluene-d8 94.7% 80-120% "</i>														

10/30/08 22:22

"

"

LCS Dup (8100085-BSD1)

Extracted: 10/30/08 08:44

Benzene	EPA 8260B	7.30	---	0.500	ug/l	1x	--	7.60	96.1%	(78.8-131)	0.137% (10)		10/30/08 22:56	
Toluene	"	47.1	---	0.500	"	"	--	49.6	94.9%	(80-120)	0.551% "		"	
Ethylbenzene	"	9.21	---	0.500	"	"	--	10.7	86.1%	"	1.51% "		"	
Xylenes (total)	"	52.4	---	1.50	"	"	--	50.8	103%	"	1.63% "		"	
Gasoline Range Organics	"	618	---	50.0	"	"	--	550	112%	(60-120)	2.71% (20)		"	
<i>Surrogate(s): 4-BFB Recovery: 100% Limits: 80-120% "</i>														
<i>Dibromofluoromethane 111% 80-120% "</i>														
<i>Toluene-d8 95.6% 80-120% "</i>														

10/30/08 22:56

"

"

Duplicate (8100085-DUP1)

QC Source: ARJ0082-04

Extracted: 10/30/08 08:44

Gasoline Range Organics	EPA 8260B	ND	---	50.0	ug/l	1x	ND	--	--	--	16.3% (12)		10/31/08 12:28	R4, C
<i>Surrogate(s): 4-BFB Recovery: 100% Limits: 80-120% "</i>														
<i>Dibromofluoromethane 113% 80-120% "</i>														
<i>Toluene-d8 93.8% 80-120% "</i>														

10/31/08 12:28

"

"

TestAmerica Anchorage

Troy Engstrom

Troy J. Engstrom, Lab Director

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Alaska Resources & Environmental Services

P.O. Box 83050
Fairbanks, AK 99708

Project Name: **204 Crossway**
Project Number: [none]
Project Manager: Lyle Gresehover

Report Created:
11/10/08 11:24

Selected Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Anchorage

QC Batch: 8100085

Water Preparation Method: EPA 5030B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike (8100085-MS1)		QC Source: ARJ0087-01					Extracted: 10/30/08 08:44							
Benzene	EPA 8260B	22.8	---	0.500	ug/l	1x	ND	20.2	113%	(62.4-154)	--	--	10/31/08 13:02	
Toluene	"	20.9	---	0.500	"	"	ND	20.7	101%	(80-127)	--	--	"	
Ethylbenzene	"	21.6	---	0.500	"	"	ND	20.8	104%	(80-131)	--	--	"	
Xylenes (total)	"	62.6	---	1.50	"	"	ND	61.9	101%	(80-135)	--	--	"	
Surrogate(s): 4-BFB		Recovery: 98.8%		Limits: 80-120%		"		10/31/08 13:02						
Dibromofluoromethane		113%		80-120%		"		"						
Toluene-d8		93.3%		80-120%		"		"						

Matrix Spike Dup (8100085-MSD1)

QC Source: ARJ0087-01

Extracted: 10/30/08 08:44

Benzene	EPA 8260B	23.5	---	0.500	ug/l	1x	ND	20.2	116%	(62.4-154)	3.03% (10.7)	10/31/08 13:36
Toluene	"	21.2	---	0.500	"	"	ND	20.7	103%	(80-127)	1.71% (11.1)	"
Ethylbenzene	"	22.3	---	0.500	"	"	ND	20.8	107%	(80-131)	3.10% (10.1)	"
Xylenes (total)	"	64.1	---	1.50	"	"	ND	61.9	104%	(80-135)	2.43% (11)	"
<hr/>												
Surrogate(s):	4-BFB	Recovery:	97.3%	Limits:	80-120%	"						10/31/08 13:36
	Dibromofluoromethane		115%		80-120%	"						"
	Toluene-d8		93.6%		80-120%	"						"

QC Batch: 8110001

Water Preparation Method: EPA 5030B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8110001-BLK1)		Extracted: 11/01/08 11:40												
Benzene	EPA 8260B	ND	---	0.500	ug/l	1x	--	--	--	--	--	--	11/02/08 01:58	
Toluene	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	1.50	"	"	--	--	--	--	--	--	"	
Gasoline Range Organics	"	ND	---	50.0	"	"	--	--	--	--	--	--	"	
Surrogate(s): 4-BFB		Recovery: 102%		Limits: 80-120%		"		11/02/08 01:58						
Dibromofluoromethane		108%		80-120%		"		"						
Toluene-d8		101%		80-120%		"		"						

LCS (8110001-BS1)

Extracted: 11/01/08 11:40

Benzene	EPA 8260B	6.81	---	0.500	ug/l	1x	--	7.60	89.6%	(78.8-131)	--	--	11/02/08 00:51	
Toluene	"	48.0	---	0.500	"	"	--	49.6	96.7%	(80-120)	--	--	"	
Ethylbenzene	"	9.51	---	0.500	"	"	--	10.7	88.9%	"	--	--	"	
Xylenes (total)	"	53.3	---	1.50	"	"	--	50.8	105%	"	--	--	"	
Gasoline Range Organics	"	556	---	50.0	"	"	--	550	101%	(60-120)	--	--	"	
Surrogate(s): 4-BFB		Recovery: 102%		Limits: 80-120%		"		11/02/08 00:51						
Dibromofluoromethane		107%		80-120%		"		"						

TestAmerica Anchorage

Troy Engstrom

Troy J. Engstrom, Lab Director

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Alaska Resources & Environmental Services

P.O. Box 83050
Fairbanks, AK 99708

Project Name: **204 Crossway**
Project Number: [none]
Project Manager: Lyle Gresehover

Report Created:
11/10/08 11:24

Selected Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Anchorage

QC Batch: 8110001

Water Preparation Method: EPA 5030B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	---------------	-----------	-------	----------	-------	----------	----------	-------

LCS (8110001-BS1)

Extracted: 11/01/08 11:40

Surrogate(s): Toluene-d8 Recovery: 101% Limits: 80-120% 1x 11/02/08 00:51

LCS Dup (8110001-BSD1)

Extracted: 11/01/08 11:40

Benzene	EPA 8260B	6.70	---	0.500	ug/l	1x	--	7.60	88.2%	(78.8-131)	1.63%	(10)	11/02/08 01:25	
Toluene	"	47.8	---	0.500	"	"	--	49.6	96.4%	(80-120)	0.355%	"	"	
Ethylbenzene	"	9.41	---	0.500	"	"	--	10.7	87.9%	"	1.06%	"	"	
Xylenes (total)	"	53.7	---	1.50	"	"	--	50.8	106%	"	0.654%	"	"	
Gasoline Range Organics	"	552	---	50.0	"	"	--	550	100%	(60-120)	0.639%	(20)	"	

Surrogate(s): 4-BFB Recovery: 98.8% Limits: 80-120% " 11/02/08 01:25
Dibromofluoromethane 109% 80-120% " "
Toluene-d8 100% 80-120% " "

Duplicate (8110001-DUP1)

QC Source: ARJ0091-02

Extracted: 11/01/08 11:40

Gasoline Range Organics	EPA 8260B	ND	---	50.0	ug/l	1x	ND	--	--	--	2.06%	(12)	11/01/08 21:27	
Surrogate(s): 4-BFB		Recovery: 102%		Limits: 80-120%	"								11/01/08 21:27	
Dibromofluoromethane		105%		80-120%	"								"	
Toluene-d8		101%		80-120%	"								"	

Matrix Spike (8110001-MS1)

QC Source: ARJ0091-03

Extracted: 11/01/08 11:40

Benzene	EPA 8260B	20.9	---	0.500	ug/l	1x	ND	20.2	104%	(62.4-154)	--	--	11/01/08 22:35	
Toluene	"	21.5	---	0.500	"	"	ND	20.7	104%	(80-127)	--	--	"	
Ethylbenzene	"	22.1	---	0.500	"	"	ND	20.8	106%	(80-131)	--	--	"	
Xylenes (total)	"	64.0	---	1.50	"	"	ND	61.9	103%	(80-135)	--	--	"	

Surrogate(s): 4-BFB Recovery: 101% Limits: 80-120% " 11/01/08 22:35
Dibromofluoromethane 109% 80-120% " "
Toluene-d8 102% 80-120% " "

Matrix Spike Dup (8110001-MSD1)

QC Source: ARJ0091-03

Extracted: 11/01/08 11:40

Benzene	EPA 8260B	21.3	---	0.500	ug/l	1x	ND	20.2	105%	(62.4-154)	1.71%	(10.7)	11/01/08 23:09	
Toluene	"	21.4	---	0.500	"	"	ND	20.7	103%	(80-127)	0.280%	(11.1)	"	
Ethylbenzene	"	22.4	---	0.500	"	"	ND	20.8	108%	(80-131)	1.53%	(10.1)	"	
Xylenes (total)	"	64.1	---	1.50	"	"	ND	61.9	104%	(80-135)	0.219%	(11)	"	

Surrogate(s): 4-BFB Recovery: 101% Limits: 80-120% " 11/01/08 23:09
Dibromofluoromethane 108% 80-120% " "
Toluene-d8 102% 80-120% " "

TestAmerica Anchorage

Troy Engstrom

Troy J. Engstrom, Lab Director

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Alaska Resources & Environmental Services

P.O. Box 83050
Fairbanks, AK 99708

Project Name: **204 Crossway**
Project Number: [none]
Project Manager: Lyle Greschover

Report Created:
11/10/08 11:24

Notes and Definitions

Report Specific Notes:

- C - Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
- C8 - Calibration Verification recovery was above the method control limit for this analyte.
- R4 - Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.
- RL7 - Sample required dilution due to high concentrations of target analyte.

Laboratory Reporting Conventions:

- DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
- ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
- NR/NA - Not Reported / Not Available
- dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
- wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
- RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
- MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
- MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
- Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
- Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
- Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

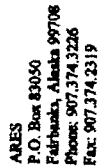
TestAmerica Anchorage



Troy J. Engstrom, Lab Director

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AR-50107

5529

Test America Anchorage Cooler Receipt Form

(Army Corps. Compliant)

WORK ORDER # ARJ007 CLIENT: ARES PROJECT: 204 Crossway

Date /Time Cooler Arrived 10 / 24 / 08 12:05 Cooler signed for by: Johanna Dreher
(Print name)

Preliminary Examination Phase:

Date cooler opened: ☒ same as date received or / /

Cooler opened by (print) Johanna Dreher (sign) Johanna Dreher

1. Delivered by ☒ ALASKA AIRLINES ☐ Fed-Ex ☐ UPS ☐ NAC ☐ LYNDEN ☐ CLIENT ☐ Other:

Shipment Tracking # if applicable 7247 2562 (include copy of shipping papers in file)

2. Number of Custody Seals 1 Signed by Jason Grishover Date 10 / 23 / 08

Were custody seals unbroken and intact on arrival? ☒ Yes ☐ No

3. Were custody papers sealed in a plastic bag? ☒ Yes ☐ No

4. Were custody papers filled out properly (ink, signed, etc.)? ☒ Yes ☐ No

5. Did you sign the custody papers in the appropriate place? ☒ Yes ☐ No

6. Was ice used? ☒ Yes ☐ No Type of ice: ☐ blue ice ☒ gel ice ☐ real ice ☐ dry ice Condition of ice: soft

Temperature by Digi-Thermo Probe 4.1 °C Thermometer # REL #3
Acceptance Criteria: 0 - 6°C

7. Packing in Cooler: ☒ bubble wrap ☐ styrofoam ☒ cardboard ☐ Other:

8. Did samples arrive in plastic bags? ☐ Yes ☒ No

9. Did all bottles arrive unbroken, and with labels in good condition? ☒ Yes ☐ No

10. Are all bottle labels complete (ID, date, time, etc.) ☒ Yes ☐ No

11. Do bottle labels and Chain of Custody agree? ☒ Yes ☐ No

12. Are the containers and preservatives correct for the tests indicated? ☒ Yes ☐ No

13. Conoco Phillips, Alyeska, BP H2O samples only: pH < 2? ☐ Yes ☐ No ☒ N/A

14. Is there adequate volume for the tests requested? ☒ Yes ☐ No

15. Were VOA vials free of bubbles? ☐ N/A ☒ Yes ☐ No

If "NO" which containers contained "head space" or bubbles?

Log-in Phase:

Date of sample log-in 10 / 24 / 08

Samples logged in by (print) Johanna Dreher (sign) Johanna Dreher

1. Was project identifiable from custody papers? ☒ Yes ☐ No

2. Do Turn Around Times and Due Dates agree? ☒ Yes ☐ No

3. Was the Project Manager notified of status? ☒ Yes ☐ No

4. Was the Lab notified of status? ☒ Yes ☐ No

5. Was the COC scanned and copied? ☒ Yes ☐ No

WO #s ARJ0106 ARJ0108
ARJ0107 ARJ0109

ARJ0110
ARJ0111

arrived in the same cooler

TestAmerica
647682
283449
THE LEADER IN ENVIRONMENTAL TESTING

Custody Seal 10/23/08
DATE
Signature
SIGNATURE

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
283449

ARJ 0107

10/24/08

ARJ 0106
ARJ 0107
ARJ 0108
ARJ 0109
ARJ 0110

CONTAMINATED SITES - SITE INTAKE FORM
PART I: SITE, LOCATION, AND AFFILIATE INFORMATION

Rec'd
12-16-08

Completed By: **Paul Lhotka**
Date: 12/11/2008

Site Name: 204 Cross Way

Site Type (Operation/Land Use Associated w/ Release): **Residential Rental Property**

CS Facility Name: {Leave Blank - For Future Use}

CS Facility Type: {Leave Blank - For Future Use}

Spill or Discovery Date (Month/Day/Year): 1/3/2008

Site Transferred from PERP? ☒ **PERP Spill Number:** 08309900301 **PERP File Number:** 100.02.306

Substance(s): **Quantity Released:** **Source Description:**

Release From Regulated Source? ☐ **UST Facility ID:** **UST Tank #:** **IPP Facility ID:**

Physical Address of Site: 204 Cross Way

City: North Pole **Near?** ☐ (check if more than 10 miles from city limits) **Zip Code:**

Lot: 16 **Block:** 1 **Subdivision:** Sequoia **Quadrangle:**

Section: **Township:** 2 S **Range:** 2 E **Meridian:** Fairbanks

Other Legal Address Info (Survey #, Plat #, etc):

Latitude: **Longitude:** **Collection Date:** **Source:**

Datum: Click For List **Measurement Method:** **Scale:**

Accuracy: **Units:** Click For List

Primary Billing Party Name: Anthony Ettari

Primary Billing Party Address: 28371 Greenfield Lane

City: Highland **State:** CA **Zip Code:** 92346

Primary Billing Party Contact Name: Same **Telephone:** (909) 864-8871

Landowner Name: Anthony Ettari

Landowner Address: 28371 Greenfield Lane

City: Highland **State:** CA **Zip Code:** 92346

Landowner Contact Name: Anthony Ettari **Telephone:** (909) 864-8871

RP Name: Anthony Ettari

RP Address: 28371 Greenfield Lane

City: Highland **State:** CA **Zip Code:** 92346

RP Contact Name: Anthony Ettari **Telephone:** (909) 864-8871

CS Staff Assigned: **Status:** Click For List **CS File #:** **Please Assign File #** ☐

Collocation Code: **Ledger Code:** **Please Assign LC** ☐

Confirmed Contaminants of Concern (CoC) and Associated Media (Ground Water, Indoor Air, Outdoor Air, Sediment (Freshwater or Marine), Soil, Soil Gas, Surface Water (Fresh or Marine)):

Primary CoC: **Media:**

Secondary CoC: **Media:**

Tertiary CoC: **Media:**

Problem / Comments:

100.38.221

CONTAMINATED SITES - SITE INTAKE FORM

PART 2: PATHWAY EVALUATION AND RANKING DATA (Fill Out For Each Source Area)

Source Area Name / Description: _____

SURFACE SOIL

Highest Level Of Each Contaminant Remaining In Surface Soil (between 0-2 feet bgs) (Include Units):

SUB-SURFACE SOIL

Highest Level Of Each Contaminant Remaining In Sub-Surface Soil (2-15 feet bgs) (Include Units):

Excavation, Other Than Cleanup Work, Planned Within The Next Two Years? Click For List

GROUND WATER / DRINKING WATER

Ground Water Well(s) In Vicinity? Click For List Well Depth(s): Distance(s) From Source Area:

Ground Water Well(s) Used For Drinking Water? Click For List Depth To Ground Water:

Describe Ground Water Use, If Not Drinking Water (Irrigation, Household Use, Commercial/Industrial, etc.):

Highest Level Of Each Contaminant Remaining In Ground Water (Include Units):

Have Taste Or Odor Problems In Drinking Water Been Reported? Click For List

Public Utility Provides Drinking Water To Site and Surrounding Area? Click For List

Highest Level Of Each Contaminant Remaining In Drinking Water (Include Units):

SURFACE WATER

Surface Water Intake(s) In Vicinity? Click For List Distance(s) From Source Area:

Surface Water Used For Drinking Water? Click For List

Describe Surface Water Use, If Not Drinking Water (Irrigation, Household Use, Commercial/Industrial, etc.):

Name / Description Of Nearest Surface Water: Distance(s) From Source Area:

Highest Level Of Each Contaminant Remaining In Surface Water (Include Units):

INDOOR AIR

Occupied Building(s) On Site? Click For List Distance From Source Area:

Describe Occupancy (Residence, Office, School, Child Care, Elder Care, etc.):

Contamination Known Or Expected Beneath Building(s)? Click For List Odors In Building(s) Reported? ☐

Highest Level Of Each Contaminant Remaining In Indoor Air (Include Units and Collection Method):

Highest Level Of Each Contaminant Remaining In Soil Gas (Include Units and Collection Method):

OUTDOOR AIR

Highest Level Of Each Contaminant Remaining In Ambient Air (Include Units and Collection Method):

WILD OR FARMED FOODS INGESTION

Bioaccumulative Contaminants Present Or Expected? Click For List (e.g. Metals, PAHs, PCBs, Pesticides/Herbicides)

Describe:

AQUATIC AND TERRESTRIAL

Direct Ecological Impacts Reported Or Suspected? Click For List (e.g. Stressed Vegetation, Sick or Dead Animals)

Describe:

OTHER

Land Use: Residential ☐; Commercial/Industrial ☐; Occasional (<6 Mo/Yr) ☐; Remote (<10 Days/Yr) ☐

Sensitive Receptors Present? Click For List (e.g. Children, Elders, Pregnant Women) Free Product Observed? ☐