

2017 Groundwater Monitoring Well Report

**Everts Air Fuel Inc.
Block 3 Lot 11 FAI
Fairbanks, Alaska**

November 2018

ADEC File #: 100.26.141

Prepared for:

Everts Air Fuel Inc.

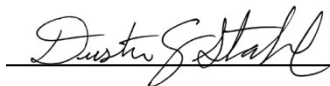
Prepared by:

**Alaska Resources and
Environmental Services, LLC.**



3520 International Street
Fairbanks, AK 99701

Prepared by:



Dustin Stahl
Project Manager / Environmental
Specialist

2017 Groundwater Monitoring Well Report
Evert's Air Fuel Inc. Property
Block 3 Lot 11 FIA

INTRODUCTION

This report was prepared on behalf of Mr. Robert Everts, who has contracted with Alaska Resources & Environmental Services (ARES) to perform the groundwater investigation associated with the petroleum release at the subject property.

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. A groundwater sampling event was conducted on August 29, 2017 in general accordance with 18 AAC 78 Underground Storage Tanks-Article 2 – amended November 2017.

SITE BACKGROUND

Site Description

The subject property is located at Fairbanks International Airport (FAI) on State of Alaska leased property. The legal description of the site is Block 3 Lot 11, FIA (ADEC file # 100.26.141). The subject property is located at Gate 5 near the end of an access road that intersects Old Airport Way (Figure 1 & 2). The subject site is located in the U.S. Geological Survey (USGS) Fairbanks D-2 quadrangle.

History

FAI (State of Alaska) is the owner of the subject property. Everts Air Fuel has leased the property from FAI since 1983. Three sets of USTs formerly existed on the subject property, however, all of the UST's have been removed. Former UST Area A, B, and C locations and monitoring well locations are included in Appendix A, Figure 3. Site history is as follows:

UST Area A – Block 3, Lot 11 FAI. Southeast of the aircraft support building one 15,000-gallon Jet B Fuel UST (Tank #3), one 15,000-gallon #2 diesel UST (Tank #2), and one 20,000-gallon #1 diesel UST (Tank #1) were permanently closed by removal in October 1994. Approximately 300 cubic yards of contaminated material were removed and stockpiled off-site on Everts Air property. The UST closure and site assessment are detailed in a January 1995 AGRA report titled *Summary Report for Tank Closure*, Issue No. 1.

UST Area B – Block 3, Lot 11 FIA. North of aircraft support building one 1500-gallon gasoline UST (Tank #9) and one 500-gallon gasoline UST (Tank #8) were permanently closed by removal in October 1993. Approximately 50 cubic yards of contaminated material were removed and temporarily stockpiled onsite. Contaminated materials were later removed from the property and stockpiled off-site for remediation by landfarming. AGRA performed the closure and site assessment. The UST closure and site assessment are detailed in the October 1993 AGRA report titled *Summary Report of Tank Removal Proceedings Everts Air Fuel*.

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UST Area C – Block 3, Lot 11 FIA. East of the aircraft support building, one 10,000-gallon diesel UST (Tank # 4), and two 15,000-gallon gasoline USTs (Tanks # 5, 6). According to the UST database the three (3) USTs that were located in Area C, were installed in 1983 and removed in August 2008. The UST closure and site assessment are detailed in the December 2008 ARES report titled *Phase II ESA/ Release Investigation, Everts Air Fuel Inc. Property*. The ADEC facility ID for the site is 425.

In June 2008, in order to assess potential impacts to groundwater at the site, ARES installed two additional permanent monitoring wells, MW-1R and MW-5 at the subject property located at Block 3 Lot 11 FAI. Monitoring well MW-5 was located up-gradient from the former UST site to determine if contaminants were migrating on-site. Monitoring well MW-1R was a replacement well for the previous monitoring well MW-1 which could not be located by Rockwell Engineering in 2006 nor by ARES in 2008. The new monitoring well MW-1R was installed in UST area A. Upon investigation by ARES staff, monitoring well MW-3 was discovered to still be a viable well, in discrepancy with a previous report by Rockwell Engineering. The monitoring well detailed in the approved Work Plan submitted in May 2008 to replace monitoring well MW-3 was not required and not installed. All other work was conducted as detailed in the approved Work Plan submitted in May 2008. Monitoring well locations are shown in Figure 3 included in Appendix A.

Topography

The United States Geological Survey (USGS) Fairbanks Quadrangle (D-2) provides topographic map coverage of the site. Fairbanks 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 1.96 miles north of the Tanana River and 0.3 miles south of the Chena River.

Regional Hydrology

The Chena and Tanana rivers are the dominant influence on ground-water flow in the subject area. Two discharge peaks characterize the Chena River: spring snowmelt runoff and late summer precipitation. The stage of 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 and historical data, regional groundwater flow direction is generally to the northwest. However, the direction of flow can vary from west to northwest depending upon the stage of the Chena River and Tanana River. Depth to groundwater in the area is generally 10-12 feet bgs, though seasonal fluctuation can range between 8-14 feet bgs. Surface waters nearby include a small lake/pond approximately 0.25 miles to the southwest of the property and the FAI airplane float pond 0.25 miles to the east.

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Site Hydrology

Groundwater elevation measurements taken during the August 29, 2017 sampling event indicated the water table was approximately 10.7-12.5 feet bgs.

GROUNDWATER SAMPLING

Scope of Work

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

- Collected groundwater elevations and water quality parameter measurements to include temperature, pH, conductivity, ORP, and dissolved oxygen;
- 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 8260C and gasoline range organics (GRO) by method AK 101; and
- Data review and report preparation.

Sampling Method

The monitoring wells were purged and sampled in accordance with the ADEC *Monitoring Well Guidance September 2013* and ADEC Field Sampling Guidance August 2017. A peristaltic pump, with new polyethylene tubing and new nitrile gloves were used during the sampling event to purge the well and to monitor groundwater parameters using low flow sampling methods. The flow rate was monitored at 0.3 L/minute. Prior to purging and prior to sampling, the groundwater elevation was measured to 0.010 feet using a Heron Sm. Oil Oil/Water Interface Meter. Water parameters were recorded every three minutes to include temperature, pH, conductivity, dissolved oxygen, and oxidation reduction potential (ORP) using a YSI Multi Parameter Water Meter Model 566 SN: 11H101295.

The following water quality parameters are considered stable when three successive readings, collected 3-5 minutes apart, are within:

- $\pm 3\%$ for temperature (minimum of $\pm 0.2^{\circ}\text{C}$);
- ± 0.1 for pH;
- $\pm 3\%$ for conductivity;
- ± 10 mv for redox potential; and
- $\pm 10\%$ for dissolved oxygen (DO).

Once the groundwater parameters stabilized, samples were collected in order of decreasing volatility using a peristaltic pump, and polyethylene tubing. The tubing was carefully lowered in to the well to avoid loss of volatiles and water collected from the bladder pump was placed directly into lab supplied sample bottles. Volatile samples were collected to avoid any bubbles in

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the tubing or 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 collected and placed in individually labeled 5-gallon buckets with lids and stored off site until receipt of analytical results. Purge water was discarded upon receipt of analytical results indicating that all analytes were either non-detect, or present at concentrations below ADEC cleanup levels.

Groundwater samples were collected from MW-1R through MW-5 on August 29, 2017. A blind duplicate sample was collected from monitoring well MW-3 for quality assurance/quality control purposes.

Analytical Results

There was no petroleum odor or sheen detected from monitoring wells or purge water during sampling activities from MW-1R through MW-5. Purge water was almost clear in appearance. No other odors were detected. Groundwater was approximately 10.7-12.5 feet below ground surface at the time of sampling.

All five monitoring wells were sampled and analyzed for GRO by method AK 101, BTEX by method EPA 8260C, and DRO by method AK 102. A summary of current sample results as well as historical results are shown in Table 1. The complete laboratory results are included in Appendix C.

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Table 1: Historical Summary of Groundwater Results

Sample Location	Sample ID	Date Sampled	EPA Method 8260C or 8021B				Alaska Method AK 101	Alaska Method AK 102
			Benzene in µg/L	Toluene in µg/L	Ethylbenzene in µg/L	Total xylenes in µg/L	GRO in µg/L	DRO in µg/L
MW-1R	MW1-608	6/23/08	ND	ND	ND	ND	ND	ND
	MW1-1009	10/14/09	ND	ND	ND	ND	ND	677
	MW1-911	9/13/11	ND	ND	ND	ND	ND	514
	MW1-1012	10/18/12	ND	ND	ND	ND	ND	501
	MW1-0813	8/01/13	ND	ND	ND	ND	ND	499
	MW1-0914	9/19/14	ND [0.090]	ND [0.10]	ND [0.070]	ND [0.32]	ND [14]	960
	MW1-0915	9/28/15	ND [0.15]	ND [0.31]	ND [0.31]	ND [0.93]	ND [31]	344 J
	DUP1-0915 (BFD to MW1-0915)	9/28/15	ND [0.15]	ND [0.31]	ND [0.31]	ND [0.93]	ND [31]	480 J
	MW1-1016	10/07/16	ND [0.15]	ND [0.31]	ND [0.31]	ND [0.93]	ND [31]	434 J
	MW1-817	8/29/17	ND [0.093]	ND [0.31]	ND [0.20]	ND [0.44]	ND [120]	130 J
MW-2	MW2-608	6/23/08	ND	ND	ND	ND	ND	2150
	MW2-1009	10/14/09	ND	ND	ND	ND	ND	1450
	MW2-911	9/13/11	ND	ND	ND	ND	ND	4370
	MW2-1012	10/18/12	ND	ND	ND	ND	ND	1500
	MW2-0813	8/01/13	ND	ND	ND	ND	ND	1270
	MW2-0914	9/19/14	ND [0.090]	ND [0.10]	ND [0.070]	ND [0.32]	ND [14]	1800
	MW2-0915	9/28/15	0.170 J	ND [0.31]	ND [0.31]	ND [0.93]	ND [31]	1680
	MW2-1016	10/07/16	ND [0.15]	ND [0.31]	ND [0.31]	ND [0.93]	ND [31]	1570
MW2-817	8/29/17	ND [0.093]	ND [0.31]	ND [0.20]	ND [0.44]	ND [120]	460	
ADEC Cleanup Level ¹			4.6	1100	15	190	2200	1500

¹ Title 18 of the Alaska Administrative Code, Chapter 75. Section 345. July 2017.

J - Sample detected above MDL but below MRL. Reported concentration is considered an estimate.

ND = Not detected above the MDL [Method Detection Limit reported in brackets].

Results above ADEC Regulatory Limit in **Bold**.

BFD=Blind Field Duplicate Sample

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Table 1: Historical Summary of Groundwater Results-Continued

Sample Location	Sample ID	Date Sampled	EPA Method 8260C or 8021B				Alaska Method AK 101	Alaska Method AK 102
			Benzene in µg/L	Toluene in µg/L	Ethylbenzene in µg/L	Total xylenes in µg/L	GRO in µg/L	DRO in µg/L
MW-3	MW3-608	6/23/08	3.91	ND	ND	ND	252	20100
	MW3-1009	10/14/09	ND	ND	ND	ND	ND	1240
	MW3-911	9/13/11	1.24	ND	ND	ND	ND	7290
	MW3-1012	10/18/12	2.24	ND	ND	ND	89.2	4330
	DUP1-1012 (BFD to MW3-1012)	10/18/12	1.76	ND	ND	ND	69.5	3680
	MW3-0813	08/01/13	3.77	ND	ND	ND	ND	5690
	DUP1-0813	08/01/13	3.39	ND	ND	ND	ND	5450
	MW3-0914	09/19/14	0.29 J	ND [0.10]	ND [0.070]	ND [0.32]	ND [14]	3900
	DUP1-0914 (BFD to MW3-0914)	09/19/14	0.27 J	ND [0.10]	ND [0.070]	ND [0.32]	ND [14]	3600
	MW3-0915	09/28/15	0.89	ND [0.31]	ND [0.31]	ND [0.93]	ND [31]	2000
	MW3-1016	10/07/16	0.580	ND [0.31]	ND [0.31]	ND [0.93]	ND [31]	3800
	DUP1-1016 (BFD to MW3-1016)	10/07/16	0.640	ND [0.31]	ND [0.31]	ND [0.93]	ND [31]	2070
	MW3-817	8/29/17	0.19 J	ND [0.31]	ND [0.20]	ND [0.44]	ND [120]	370
	DUP-817 (BFD to MW3-817)	8/29/17	0.26 J	ND [0.31]	ND [0.20]	ND [0.44]	ND [120]	440
MW-4	MW4-608	6/23/08	ND	ND	ND	ND	ND	426
	DUP2 (BFD to MW4-608)	6/23/08	ND	ND	ND	ND	ND	473
	MW4-1009	10/14/09	ND	ND	ND	ND	ND	541
	DUP-1009 (BFD to MW4-1009)	10/14/09	ND	ND	ND	ND	ND	524
	MW4-911	9/13/11	ND	ND	ND	ND	ND	594
	DUP1-911 (BFD to MW4-911)	9/13/11	ND	ND	ND	ND	ND	571
	MW4-1012	10/18/12	ND	ND	ND	ND	ND	ND
	MW4-0813	08/01/13	ND	ND	ND	ND	ND	486
	MW4-0914	09/19/14	ND [0.090]	ND [0.10]	ND [0.070]	ND [0.32]	ND [14]	470
	MW4-0915	09/28/15	ND [0.15]	ND [0.31]	ND [0.31]	ND [0.93]	ND [31]	542 J
	MW4-1016	10/07/16	ND [0.15]	ND [0.31]	ND [0.31]	ND [0.93]	34.6 J	730
MW4-817	08/29/17	ND [0.093]	ND [0.31]	ND [0.20]	ND [0.44]	ND [120]	270	
ADEC Cleanup Level ¹			4.6	1100	15	190	2200	1500

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J - Sample detected above MDL but below MRL. Reported concentration is considered an estimate.

ND = Not detected above the MDL [Method Detection Limit reported in brackets]

Results above ADEC Regulatory Limit in **Bold**.

BFD=Blind Field Duplicate Sample.

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Table 1: Historical Summary of Groundwater Results-Continued

Sample Location	Sample ID	Date Sampled	EPA Method 8260C or 8021B				Alaska Method AK 101	Alaska Method AK 102
			Benzene in µg/L	Toluene in µg/L	Ethyl-benzene in µg/L	Total xylenes in µg/L	GRO in µg/L	DRO in µg/L
MW-5	MW5-608	6/23/08	ND	ND	ND	ND	ND	849
	MW5-1009	10/14/09	ND	ND	ND	ND	ND	679
	MW5-911	9/13/11	ND	ND	ND	ND	ND	978
	MW5-1012	10/18/12	ND	ND	ND	ND	ND	ND
	MW5-0813	08/01/13	ND	ND	ND	ND	ND	434
	MW5-0914	09/19/14	ND [0.090]	ND [0.10]	ND [0.070]	ND [0.32]	ND [14]	380
	MW5-0915	09/28/15	ND [0.15]	ND [0.31]	ND [0.31]	ND [0.93]	ND [31]	450 J
	MW5-1016	10/07/16	ND [0.15]	ND [0.31]	ND [0.31]	ND [0.93]	ND [31]	325 J
MW5-817	8/29/17	ND [0.093]	ND [0.31]	ND [0.20]	ND [0.44]	ND [120]	140 J	
ADEC Cleanup Level ¹			4.6	1100	15	190	2200	1500

¹ Title 18 of the Alaska Administrative Code, Chapter 75. Section 345. July 2017.

J - Sample detected above MDL but below MRL. Reported concentration is considered an estimate.

ND = Not detected above the MDL [Method Detection Limit reported in brackets]

Results above ADEC Regulatory Limit in **Bold**.

QUALITY ASSURANCE AND QUALITY CONTROL

Blind Duplicate Samples

Field quality control (QC) procedures for this project included the collection and analysis of one blind field duplicate groundwater sample. The blind field duplicate sample was analyzed for the same compounds as the original sample. Sample ID DUP-817 is the blind field duplicate of sample ID MW3-817. The QC samples were analyzed to assess the quality of sample collection and handling, as well as the accuracy and precision of the laboratory's analytical procedures.

RPD calculations provide a comparison of two theoretically identical samples that are submitted blind to the laboratory in order to provide an un-biased measure of precision. Due to the nature of the RPD calculation, sample data for both samples must be reported in order for the RPD calculation to provide meaningful data. The RPDs are shown in Table 2 below for all analytes with calculable RPDs.

Table 2: Relative Percent Difference Calculations in Water

Sample ID / Duplicate ID	Analyte	Sample Concentration (µg/L)	Duplicate Concentration (µg/L)	RPD (Limit < 30%)
MW3-817 / DUP-817	Benzene	0.19	0.26	31.1
	DRO	370	440	17.3

Given two sample concentrations (X and Y) the formula to determine RPD is the absolute value of the following:

$$[(X - Y) / ((X + Y) / 2)] * 100 = \text{RPD}$$

Results above ADEC recommended range in **Bold**.

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The ADEC recommended RPD limit for water analysis is < 30%. The only analytes with RPDs that were calculable were benzene and DRO, due to non-detect values for both the original sample and the duplicate sample. The blind field duplicate RPD calculations fell within the ADEC recommended range for DRO, but not for benzene. Data quality is affected; however, data remains usable. Groundwater RPD results for benzene should be viewed qualitatively rather than quantitatively.

Trip Blank Samples

Field quality control (QC) procedures for this project included the analysis of one water trip blank sample which accompanied the samples in the field. The trip blank sample was analyzed to assess the quality of sample collection and handling.

In ideal conditions, the analysis of a trip blank sample should not indicate the presence of any of the tested analytes in a quantity above the limit of quantitation (LOQ). A result above the LOQ can indicate that cross-contamination occurred between samples during sample transport or analysis, or indicate laboratory contamination.

The trip blank sample for this project was analyzed for BTEX compounds by method EPA 8260C and GRO by AK 101. No compounds were detected above the LOQ in the water trip blank sample. There is no indication that cross-contamination between samples occurred.

Data Quality Data Review

The ADEC Environmental Laboratory Data Quality Assurance Requirements (ADEC 2009) and United States Environmental Protection Agency (EPA) National Functional Guidelines for Organic Review (EPA 2017) were followed in this site investigation. The data was reviewed to determine the data quality and to evaluate potential impact on the usability of the data. The review was performed using Level II reports that were provided by TestAmerica, Inc. laboratory of Spokane, WA. The analytical laboratory reports, chain-of-custody records, and ADEC Lab Quality Checklist is included in Appendix C.

The following quality control parameters were reviewed:

- Holding times
- Sample handling and receiving
- Surrogate percent recovery
- Field duplicate sample comparability
- Laboratory control sample (LCS)/Laboratory control sample duplicate (LCSD) percent recoveries and RPD
- Method blanks
- Trip blanks
- Method Sensitivity – reporting limits and limit of quantitation (LOQ)

The quality control parameters were found to be within accepted limits with the following exceptions:

- Sample results for some samples/analytes were detected above the DL, but below the LOQ. Affected data was flagged with the “J” data qualifier in the analytical report, and should be viewed as an approximate value.

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- The ground water field duplicate RPD calculation for benzene was above ADEC limits. Data quality is impacted. Groundwater results for benzene should be viewed qualitatively rather than quantitatively.

The sample data is considered usable. The ADEC lab quality checklist is included in Appendix C.

Conclusions and Recommendations

Analytic results confirm that groundwater collected from all monitoring wells was below ADEC cleanup levels for all tested analytes. Analytical results confirm that concentrations of DRO have decreased in MW-1, MW-2, MW-3, MW-4 and MW-5 since the previous sampling event. The most significant decreases in DRO concentrations occurred in MW-2 and MW-3. MW-2 and MW-3 historically were above ADEC cleanup levels for DRO but are now below ADEC cleanup levels for DRO as well as all other tested analytes. Additional sampling data is required to determine if these results are an abnormality or if the plume has stabilized and will continue to remain below cleanup levels.

ARES recommends the following:

- Schedule an annual sampling event of wells MW-1R, MW-2, MW-3, MW-4 and MW-5 during period of high seasonal groundwater conditions in August-September 2018 for DRO, GRO and BTEX analysis.
- Conduct a closed loop groundwater elevation survey and calculated the localized groundwater flow direction and gradient.

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 Mr. Robert Everts, 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.

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Qualifications & Signature of Environmental Professional

Dustin Stahl is an ADEC 'Qualified Environmental Professional' and has extensive field experience as an environmental project manager and has worked on all aspects of environmental assessments, investigations, and clean-up efforts.

Dustin Stahl
Project Manager

Sincerely,

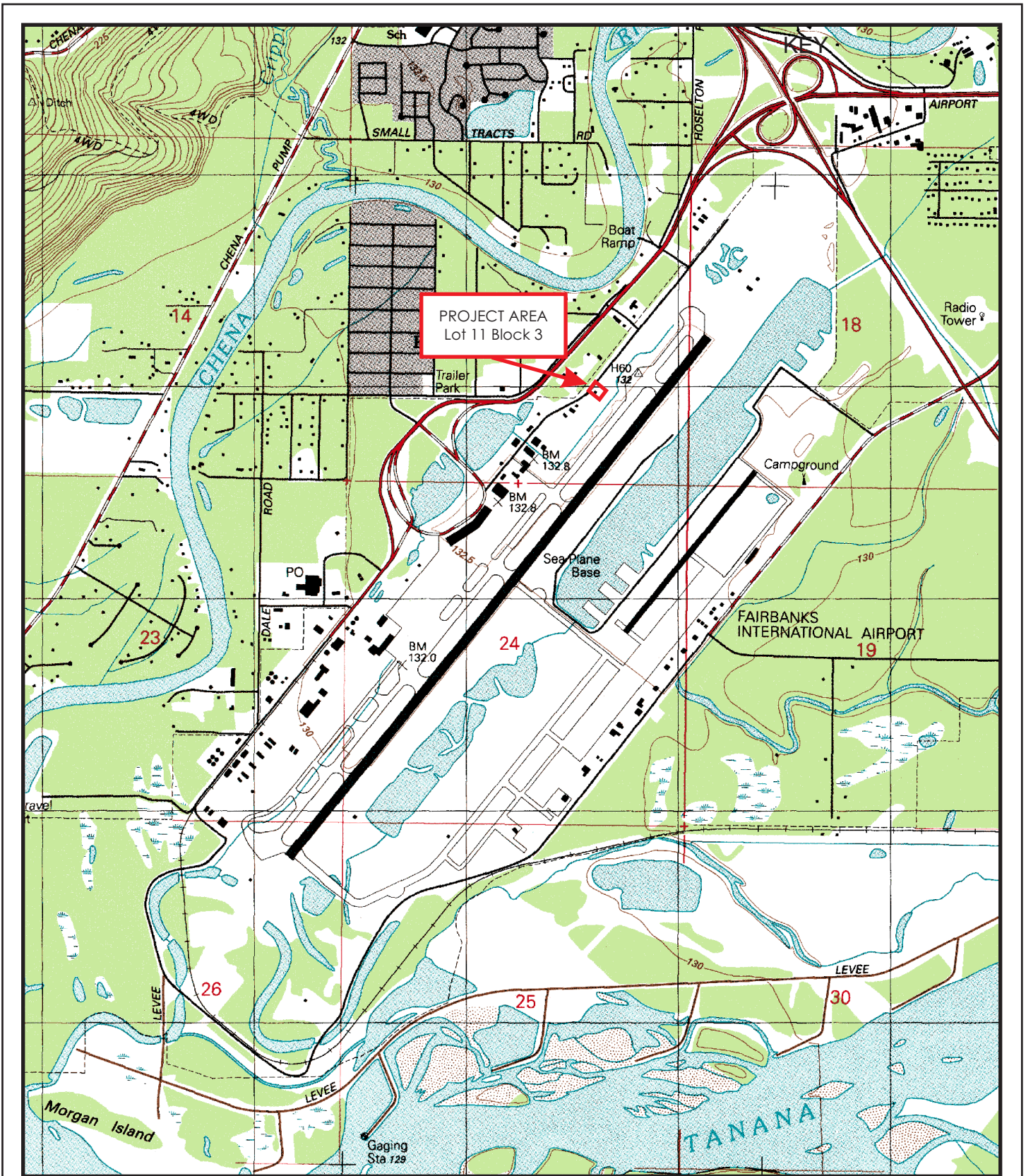


Dustin Stahl
Alaska Resources and Environmental Services, LLC

Enclosure: Appendix A – Figures
 Appendix B – Graphical Summary of DRO results over time
 Appendix C – Analytical Results and ADEC Laboratory Checklist
 Appendix D – Groundwater Sampling Field Data Sheet Appendix

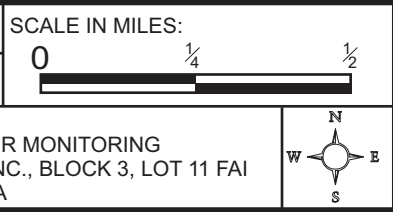
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**Appendix A:
Figures**



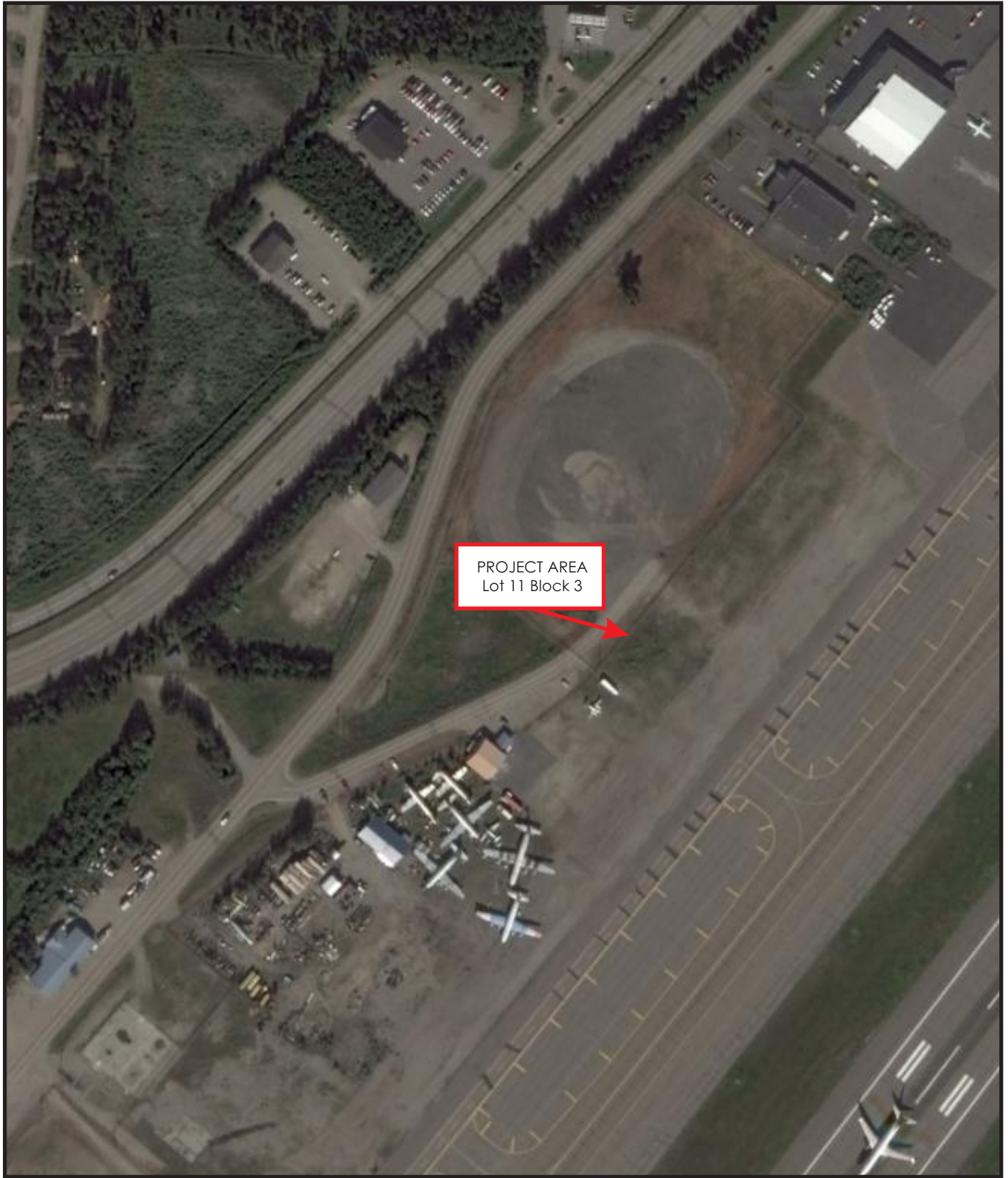
1992 TOPOGRAPHICAL
MAP
FAIRBANKS, AK
QUAD D-2

DATE: 11/28/2017
DRAWN: CEA
PROJECT:
2017 GROUNDWATER MONITORING
EVERTS AIR FUEL INC., BLOCK 3, LOT 11 FAI
FAIRBANKS, ALASKA



ALASKA RESOURCES AND
ENVIRONMENTAL SERVICES, LLC
PO BOX 83050
FAIRBANKS, AK 99708
PH. (907) 374-3226
FAX (907) 374-3219



FIGURE
1

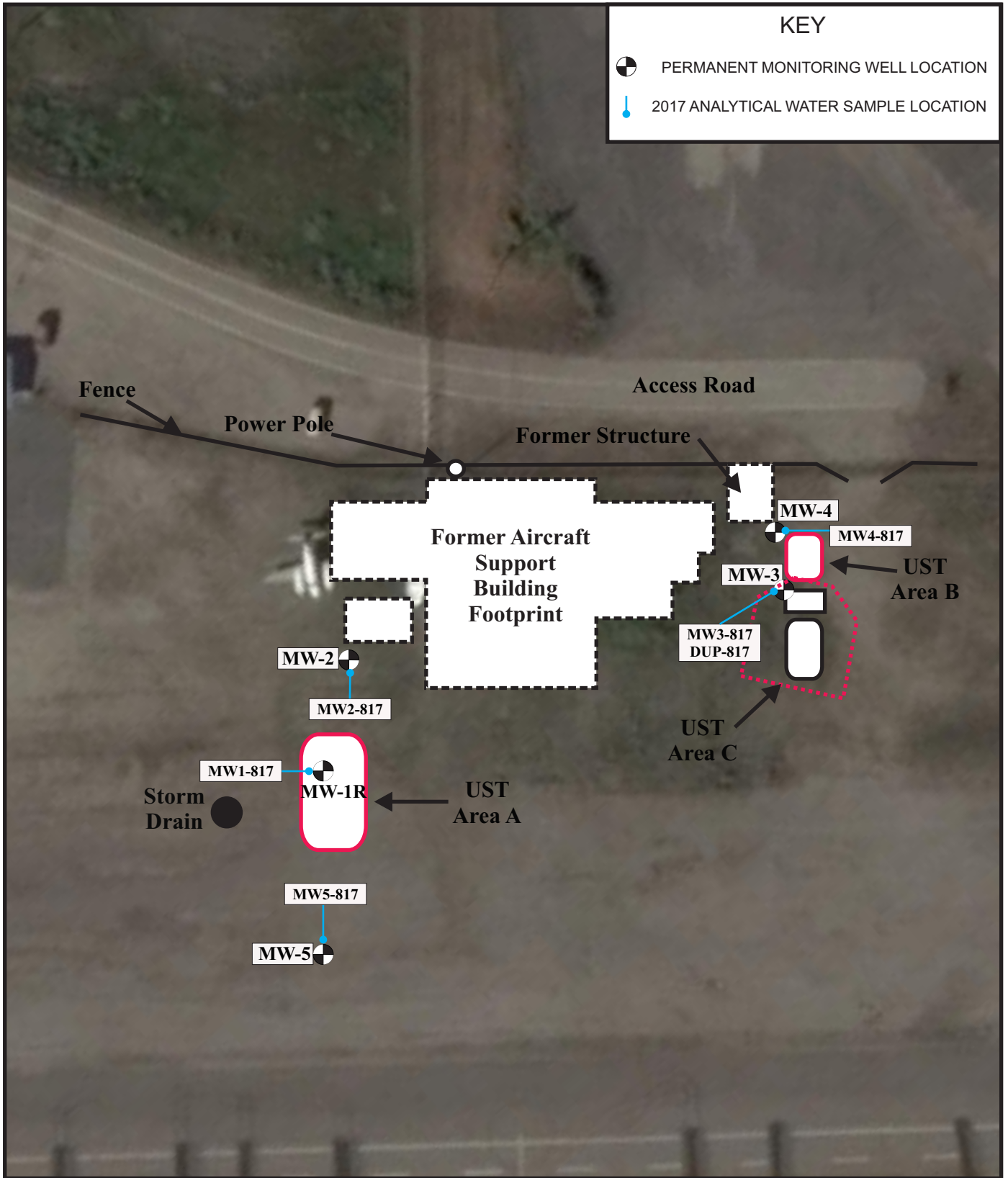



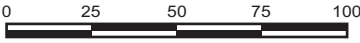

PROJECT AREA
Lot 11 Block 3

2016 AERIAL MAP FAIRBANKS, AK	DATE: 11/28/2017	SCALE IN FEET: 0 200 400	
	DRAWN: CEA		
PROJECT: 2017 GROUNDWATER MONITORING EVERTS AIR FUEL INC., BLOCK 3, LOT 11 FAI FAIRBANKS, ALASKA			ALASKA RESOURCES AND ENVIRONMENTAL SERVICES, LLC PO BOX 83050 FAIRBANKS, AK 99708 PH. (907) 374-3226 FAX (907) 374-3219
			FIGURE 2

KEY

-  PERMANENT MONITORING WELL LOCATION
-  2017 ANALYTICAL WATER SAMPLE LOCATION



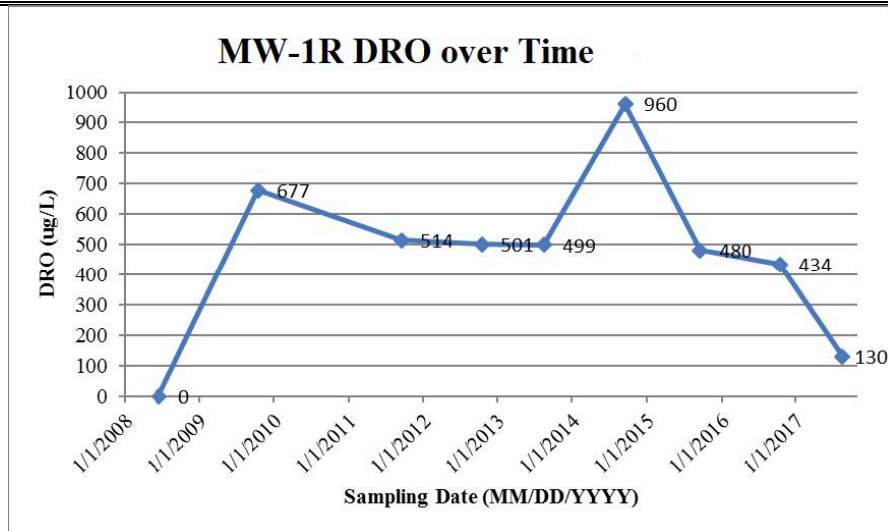
PROJECT SITE MAP FAIRBANKS, AK	DATE: 11/28/2017	SCALE IN FEET:	ALASKA RESOURCES AND ENVIRONMENTAL SERVICES, LLC PO BOX 83050 FAIRBANKS, AK 99708 PH. (907) 374-3226 FAX (907) 374-3219	
	DRAWN: DS/CA			
PROJECT: 2017 GROUNDWATER MONITORING EVERTS AIR FUEL INC., BLOCK 3, LOT 11 FAI FAIRBANKS, ALASKA			FIGURE 3	

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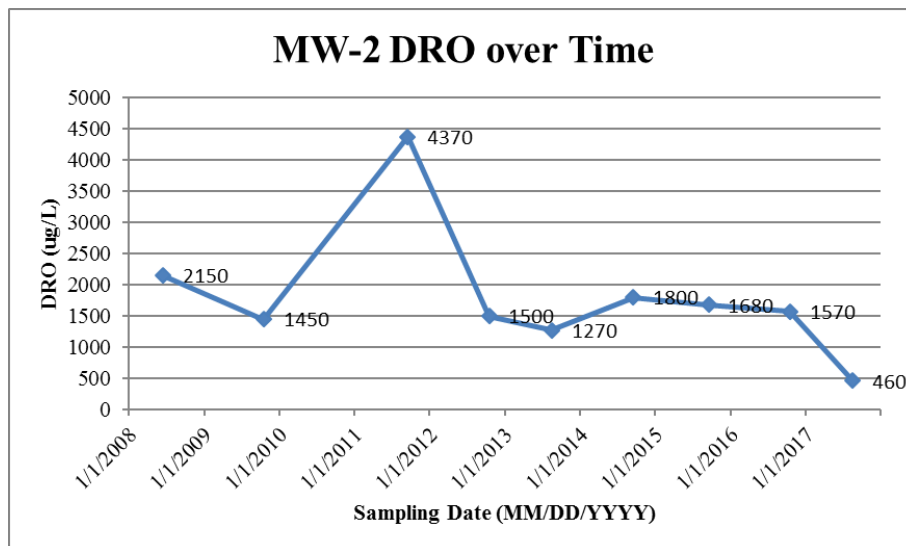
Appendix B:
Graphical Summary of DRO results over time

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Date	DRO (ug/L)
6/23/2008	ND
10/14/2009	677
9/13/2011	514
10/18/2012	501
8/1/2013	499
9/19/2014	960
9/28/2015	480
10/7/2016	434
8/29/2017	130

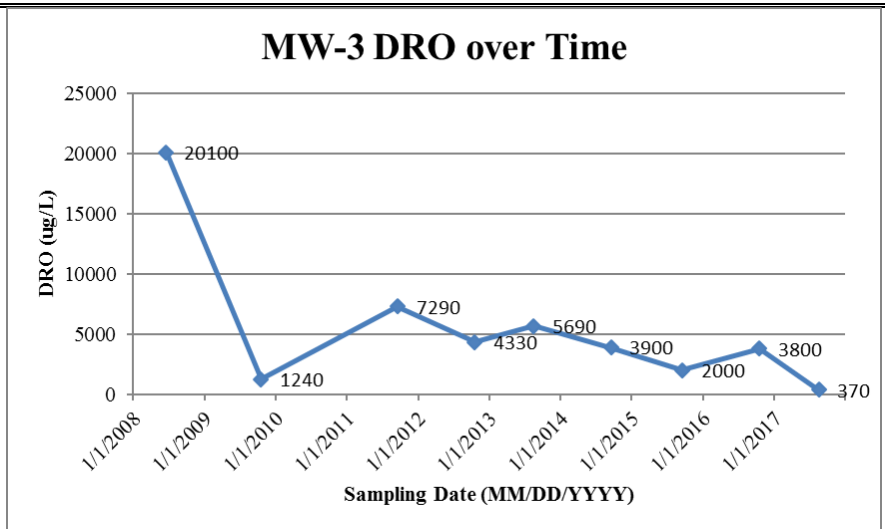


Date	DRO (ug/L)
6/23/2008	2150
10/14/2009	1450
9/13/2011	4370
10/18/2012	1500
8/1/2013	1270
9/19/2014	1800
9/28/15	1680
10/7/2016	1570
8/29/2017	460

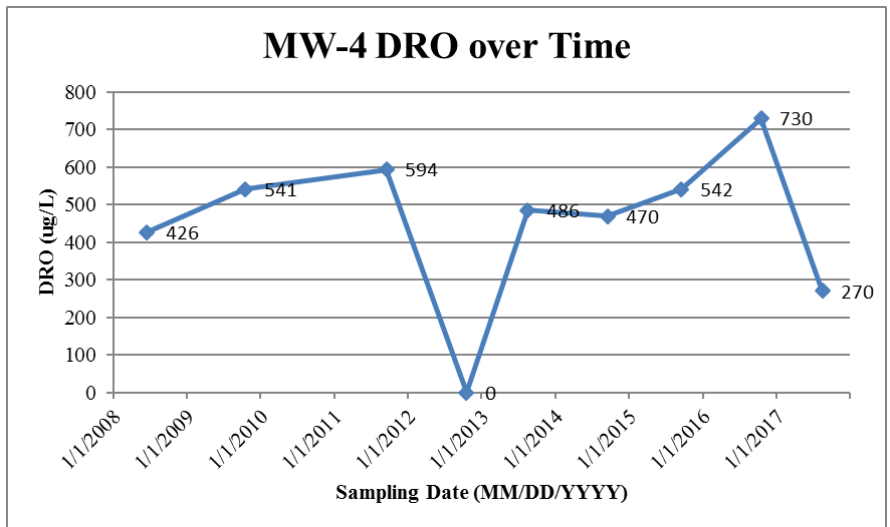


**2017 Groundwater Monitoring Well Report
Evert's Air Fuel Inc. Property
Block 3 Lot 11 FIA**

Date	DRO (ug/L)
6/23/2008	20100
10/14/2009	1240
9/13/2011	7290
10/18/2012	4330
8/1/2013	5690
9/19/2014	3900
9/28/15	2000
10/7/2016	3800
8/29/2017	370

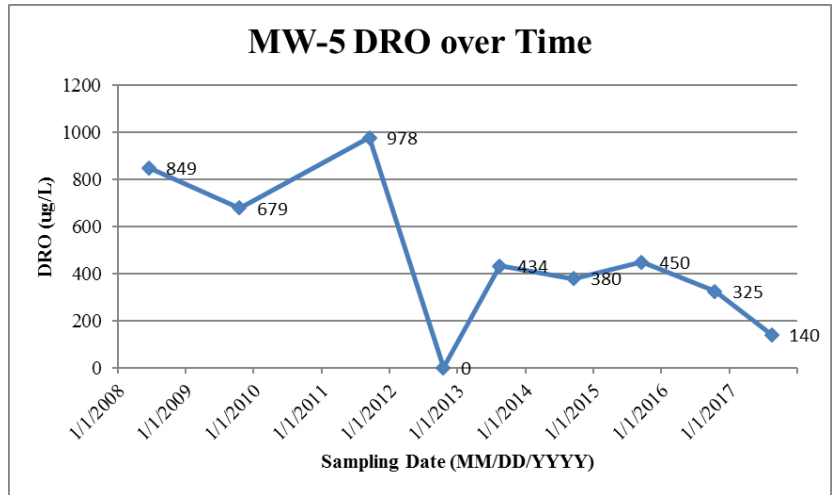


Date	DRO (ug/L)
6/23/2008	426
10/14/2009	541
9/13/2011	594
10/18/2012	ND
8/1/2013	486
9/19/2014	470
9/28/15	542
10/7/2016	730
8/29/2017	270



2017 Groundwater Monitoring Well Report
Evert's Air Fuel Inc. Property
Block 3 Lot 11 FIA

Date	DRO (ug/L)
6/23/2008	849
10/14/2009	679
9/13/2011	978
10/18/2012	ND
8/1/2013	434
9/19/2014	380
9/28/15	450
10/7/2016	325
8/29/2017	140



**2017 Groundwater Monitoring Well Report
Evert's Air Fuel Inc. Property
Block 3 Lot 11 FIA**

**Appendix C:
Analytical Results
&
ADEC Lab Quality Checklist**

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Spokane

11922 East 1st Ave

Spokane, WA 99206

Tel: (509)924-9200

TestAmerica Job ID: 590-6965-1

Client Project/Site: Everts Air Fuel 0817

For:

Alaska Resources & Environment

PO BOX 83050

Fairbanks, Alaska 99708

Attn: Lyle Gresehover

M. Elaine Walker

Authorized for release by:

9/11/2017 12:51:54 PM

Elaine Walker, Project Manager II

(253)248-4972

elaine.walker@testamericainc.com

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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: Alaska Resources & Environment
Project/Site: Everts Air Fuel 0817

TestAmerica Job ID: 590-6965-1

Job ID: 590-6965-1

Laboratory: TestAmerica Spokane

Narrative

**Job Narrative
590-6965-1**

Receipt

Seven samples were received on 9/1/2017 10:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.0° C and 3.7° C.

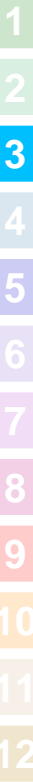
GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA

Method(s) AK102 & 103: Detected hydrocarbons for the following samples appears to be due to heavily weathered diesel and/or biogenic interference. MW1-817 (590-6965-1), MW2-817 (590-6965-2), MW3-817 (590-6965-3), MW4-817 (590-6965-4), MW5-817 (590-6965-5) and DUP-817 (590-6965-6)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



Sample Summary

Client: Alaska Resources & Environment
Project/Site: Everts Air Fuel 0817

TestAmerica Job ID: 590-6965-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-6965-1	MW1-817	Water	08/29/17 12:35	09/01/17 10:45
590-6965-2	MW2-817	Water	08/29/17 11:55	09/01/17 10:45
590-6965-3	MW3-817	Water	08/29/17 10:00	09/01/17 10:45
590-6965-4	MW4-817	Water	08/29/17 11:05	09/01/17 10:45
590-6965-5	MW5-817	Water	08/29/17 13:35	09/01/17 10:45
590-6965-6	DUP-817	Water	08/29/17 09:30	09/01/17 10:45
590-6965-7	Trip Blank	Water	08/29/17 09:00	09/01/17 10:45

Definitions/Glossary

Client: Alaska Resources & Environment
Project/Site: Everts Air Fuel 0817

TestAmerica Job ID: 590-6965-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Alaska Resources & Environment
 Project/Site: Everts Air Fuel 0817

TestAmerica Job ID: 590-6965-1

Client Sample ID: MW1-817

Lab Sample ID: 590-6965-1

Date Collected: 08/29/17 12:35

Matrix: Water

Date Received: 09/01/17 10:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			09/01/17 15:31	1
Ethylbenzene	ND		1.0	0.20	ug/L			09/01/17 15:31	1
m,p-Xylene	ND		2.0	0.28	ug/L			09/01/17 15:31	1
o-Xylene	ND		1.0	0.16	ug/L			09/01/17 15:31	1
Toluene	ND		1.0	0.31	ug/L			09/01/17 15:31	1
Xylenes, Total	ND		3.0	0.44	ug/L			09/01/17 15:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		70 - 125		09/01/17 15:31	1
4-Bromofluorobenzene (Surr)	103		69 - 120		09/01/17 15:31	1
Dibromofluoromethane (Surr)	112		80 - 120		09/01/17 15:31	1
Toluene-d8 (Surr)	101		80 - 120		09/01/17 15:31	1

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		150	120	ug/L			09/01/17 15:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		68.7 - 141		09/01/17 15:31	1
a,a,a-Trifluorotoluene					09/01/17 15:31	1

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.13	J	0.25	0.081	mg/L		09/01/17 13:23	09/01/17 17:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	95		50 - 150	09/01/17 13:23	09/01/17 17:11	1
n-Triacontane-d62	88		50 - 150	09/01/17 13:23	09/01/17 17:11	1

Client Sample ID: MW2-817

Lab Sample ID: 590-6965-2

Date Collected: 08/29/17 11:55

Matrix: Water

Date Received: 09/01/17 10:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			09/01/17 16:36	1
Ethylbenzene	ND		1.0	0.20	ug/L			09/01/17 16:36	1
m,p-Xylene	ND		2.0	0.28	ug/L			09/01/17 16:36	1
o-Xylene	ND		1.0	0.16	ug/L			09/01/17 16:36	1
Toluene	ND		1.0	0.31	ug/L			09/01/17 16:36	1
Xylenes, Total	ND		3.0	0.44	ug/L			09/01/17 16:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 125		09/01/17 16:36	1
4-Bromofluorobenzene (Surr)	104		69 - 120		09/01/17 16:36	1
Dibromofluoromethane (Surr)	110		80 - 120		09/01/17 16:36	1
Toluene-d8 (Surr)	99		80 - 120		09/01/17 16:36	1

TestAmerica Spokane

Client Sample Results

Client: Alaska Resources & Environment
Project/Site: Everts Air Fuel 0817

TestAmerica Job ID: 590-6965-1

Client Sample ID: MW2-817

Lab Sample ID: 590-6965-2

Date Collected: 08/29/17 11:55

Matrix: Water

Date Received: 09/01/17 10:45

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		150	120	ug/L			09/01/17 16:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		68.7 - 141					09/01/17 16:36	1
a,a,a-Trifluorotoluene								09/01/17 16:36	1

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.46		0.25	0.081	mg/L		09/01/17 13:23	09/01/17 17:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	94		50 - 150				09/01/17 13:23	09/01/17 17:29	1
n-Triacontane-d62	90		50 - 150				09/01/17 13:23	09/01/17 17:29	1

Client Sample ID: MW3-817

Lab Sample ID: 590-6965-3

Date Collected: 08/29/17 10:00

Matrix: Water

Date Received: 09/01/17 10:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.19	J	0.40	0.093	ug/L			09/01/17 17:42	1
Ethylbenzene	ND		1.0	0.20	ug/L			09/01/17 17:42	1
m,p-Xylene	ND		2.0	0.28	ug/L			09/01/17 17:42	1
o-Xylene	ND		1.0	0.16	ug/L			09/01/17 17:42	1
Toluene	ND		1.0	0.31	ug/L			09/01/17 17:42	1
Xylenes, Total	ND		3.0	0.44	ug/L			09/01/17 17:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		70 - 125					09/01/17 17:42	1
4-Bromofluorobenzene (Surr)	106		69 - 120					09/01/17 17:42	1
Dibromofluoromethane (Surr)	110		80 - 120					09/01/17 17:42	1
Toluene-d8 (Surr)	105		80 - 120					09/01/17 17:42	1

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		150	120	ug/L			09/01/17 17:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		68.7 - 141					09/01/17 17:42	1
a,a,a-Trifluorotoluene								09/01/17 17:42	1

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.37		0.26	0.082	mg/L		09/01/17 13:23	09/01/17 18:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	94		50 - 150				09/01/17 13:23	09/01/17 18:04	1
n-Triacontane-d62	87		50 - 150				09/01/17 13:23	09/01/17 18:04	1

TestAmerica Spokane

Client Sample Results

Client: Alaska Resources & Environment
Project/Site: Everts Air Fuel 0817

TestAmerica Job ID: 590-6965-1

Client Sample ID: MW4-817

Lab Sample ID: 590-6965-4

Date Collected: 08/29/17 11:05

Matrix: Water

Date Received: 09/01/17 10:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			09/01/17 18:04	1
Ethylbenzene	ND		1.0	0.20	ug/L			09/01/17 18:04	1
m,p-Xylene	ND		2.0	0.28	ug/L			09/01/17 18:04	1
o-Xylene	ND		1.0	0.16	ug/L			09/01/17 18:04	1
Toluene	ND		1.0	0.31	ug/L			09/01/17 18:04	1
Xylenes, Total	ND		3.0	0.44	ug/L			09/01/17 18:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		70 - 125		09/01/17 18:04	1
4-Bromofluorobenzene (Surr)	106		69 - 120		09/01/17 18:04	1
Dibromofluoromethane (Surr)	114		80 - 120		09/01/17 18:04	1
Toluene-d8 (Surr)	102		80 - 120		09/01/17 18:04	1

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		150	120	ug/L			09/01/17 18:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		68.7 - 141		09/01/17 18:04	1
a,a,a-Trifluorotoluene					09/01/17 18:04	1

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.27		0.25	0.081	mg/L		09/01/17 13:23	09/01/17 18:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	94		50 - 150	09/01/17 13:23	09/01/17 18:22	1
n-Triacontane-d62	88		50 - 150	09/01/17 13:23	09/01/17 18:22	1

Client Sample ID: MW5-817

Lab Sample ID: 590-6965-5

Date Collected: 08/29/17 13:35

Matrix: Water

Date Received: 09/01/17 10:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			09/01/17 18:47	1
Ethylbenzene	ND		1.0	0.20	ug/L			09/01/17 18:47	1
m,p-Xylene	ND		2.0	0.28	ug/L			09/01/17 18:47	1
o-Xylene	ND		1.0	0.16	ug/L			09/01/17 18:47	1
Toluene	ND		1.0	0.31	ug/L			09/01/17 18:47	1
Xylenes, Total	ND		3.0	0.44	ug/L			09/01/17 18:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 125		09/01/17 18:47	1
4-Bromofluorobenzene (Surr)	109		69 - 120		09/01/17 18:47	1
Dibromofluoromethane (Surr)	108		80 - 120		09/01/17 18:47	1
Toluene-d8 (Surr)	103		80 - 120		09/01/17 18:47	1

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		150	120	ug/L			09/01/17 18:47	1

TestAmerica Spokane

Client Sample Results

Client: Alaska Resources & Environment
Project/Site: Everts Air Fuel 0817

TestAmerica Job ID: 590-6965-1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		68.7 - 141		09/01/17 18:47	1
a,a,a-Trifluorotoluene					09/01/17 18:47	1

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.14	J	0.25	0.081	mg/L		09/01/17 13:23	09/01/17 18:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	94		50 - 150	09/01/17 13:23	09/01/17 18:39	1
n-Triacontane-d62	88		50 - 150	09/01/17 13:23	09/01/17 18:39	1

Client Sample ID: DUP-817

Date Collected: 08/29/17 09:30

Date Received: 09/01/17 10:45

Lab Sample ID: 590-6965-6

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.26	J	0.40	0.093	ug/L			09/01/17 19:09	1
Ethylbenzene	ND		1.0	0.20	ug/L			09/01/17 19:09	1
m,p-Xylene	ND		2.0	0.28	ug/L			09/01/17 19:09	1
o-Xylene	ND		1.0	0.16	ug/L			09/01/17 19:09	1
Toluene	ND		1.0	0.31	ug/L			09/01/17 19:09	1
Xylenes, Total	ND		3.0	0.44	ug/L			09/01/17 19:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 125		09/01/17 19:09	1
4-Bromofluorobenzene (Surr)	106		69 - 120		09/01/17 19:09	1
Dibromofluoromethane (Surr)	110		80 - 120		09/01/17 19:09	1
Toluene-d8 (Surr)	106		80 - 120		09/01/17 19:09	1

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		150	120	ug/L			09/01/17 19:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		68.7 - 141		09/01/17 19:09	1
a,a,a-Trifluorotoluene					09/01/17 19:09	1

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	0.44		0.26	0.082	mg/L		09/01/17 13:23	09/01/17 18:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	100		50 - 150	09/01/17 13:23	09/01/17 18:57	1
n-Triacontane-d62	95		50 - 150	09/01/17 13:23	09/01/17 18:57	1

Client Sample ID: Trip Blank

Date Collected: 08/29/17 09:00

Date Received: 09/01/17 10:45

Lab Sample ID: 590-6965-7

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			09/01/17 19:31	1
Ethylbenzene	ND		1.0	0.20	ug/L			09/01/17 19:31	1
m,p-Xylene	ND		2.0	0.28	ug/L			09/01/17 19:31	1

TestAmerica Spokane

Client Sample Results

Client: Alaska Resources & Environment
 Project/Site: Everts Air Fuel 0817

TestAmerica Job ID: 590-6965-1

Client Sample ID: Trip Blank

Lab Sample ID: 590-6965-7

Date Collected: 08/29/17 09:00

Matrix: Water

Date Received: 09/01/17 10:45

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.0	0.16	ug/L			09/01/17 19:31	1
Toluene	ND		1.0	0.31	ug/L			09/01/17 19:31	1
Xylenes, Total	ND		3.0	0.44	ug/L			09/01/17 19:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	119		70 - 125		09/01/17 19:31	1
4-Bromofluorobenzene (Surr)	104		69 - 120		09/01/17 19:31	1
Dibromofluoromethane (Surr)	111		80 - 120		09/01/17 19:31	1
Toluene-d8 (Surr)	103		80 - 120		09/01/17 19:31	1

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		150	120	ug/L			09/01/17 19:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		68.7 - 141		09/01/17 19:31	1
a,a,a-Trifluorotoluene					09/01/17 19:31	1

QC Sample Results

Client: Alaska Resources & Environment
 Project/Site: Everts Air Fuel 0817

TestAmerica Job ID: 590-6965-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 590-13640/6

Matrix: Water

Analysis Batch: 13640

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.40	0.093	ug/L			09/01/17 14:47	1
Ethylbenzene	ND		1.0	0.20	ug/L			09/01/17 14:47	1
m,p-Xylene	ND		2.0	0.28	ug/L			09/01/17 14:47	1
o-Xylene	ND		1.0	0.16	ug/L			09/01/17 14:47	1
Toluene	ND		1.0	0.31	ug/L			09/01/17 14:47	1
Xylenes, Total	ND		3.0	0.44	ug/L			09/01/17 14:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		70 - 125		09/01/17 14:47	1
4-Bromofluorobenzene (Surr)	106		69 - 120		09/01/17 14:47	1
Dibromofluoromethane (Surr)	111		80 - 120		09/01/17 14:47	1
Toluene-d8 (Surr)	105		80 - 120		09/01/17 14:47	1

Lab Sample ID: LCS 590-13640/1004

Matrix: Water

Analysis Batch: 13640

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	10.0	9.95		ug/L		99	80 - 120
Ethylbenzene	10.0	8.99		ug/L		90	80 - 120
m,p-Xylene	10.0	8.31		ug/L		83	80 - 120
o-Xylene	10.0	8.19		ug/L		82	80 - 120
Toluene	10.0	9.41		ug/L		94	80 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		70 - 125
4-Bromofluorobenzene (Surr)	94		69 - 120
Dibromofluoromethane (Surr)	99		80 - 120
Toluene-d8 (Surr)	96		80 - 120

Lab Sample ID: LCSD 590-13640/7

Matrix: Water

Analysis Batch: 13640

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	10.0	10.5		ug/L		105	80 - 120	6	25
Ethylbenzene	10.0	9.60		ug/L		96	80 - 120	7	25
m,p-Xylene	10.0	8.98		ug/L		90	80 - 120	8	25
o-Xylene	10.0	8.49		ug/L		85	80 - 120	4	25
Toluene	10.0	9.88		ug/L		99	80 - 123	5	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		70 - 125
4-Bromofluorobenzene (Surr)	101		69 - 120
Dibromofluoromethane (Surr)	100		80 - 120
Toluene-d8 (Surr)	97		80 - 120

TestAmerica Spokane

QC Sample Results

Client: Alaska Resources & Environment
 Project/Site: Everts Air Fuel 0817

TestAmerica Job ID: 590-6965-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 590-6965-1 MS
Matrix: Water
Analysis Batch: 13640

Client Sample ID: MW1-817
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		10.0	10.7		ug/L		107	50 - 150
Ethylbenzene	ND		10.0	9.45		ug/L		95	50 - 150
m,p-Xylene	ND		10.0	8.29		ug/L		83	50 - 150
o-Xylene	ND		10.0	7.85		ug/L		79	50 - 150
Toluene	ND		10.0	10.1		ug/L		101	50 - 150

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		70 - 125
4-Bromofluorobenzene (Surr)	96		69 - 120
Dibromofluoromethane (Surr)	101		80 - 120
Toluene-d8 (Surr)	95		80 - 120

Lab Sample ID: 590-6965-1 MSD
Matrix: Water
Analysis Batch: 13640

Client Sample ID: MW1-817
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		10.0	10.5		ug/L		105	50 - 150	2	35
Ethylbenzene	ND		10.0	9.64		ug/L		96	50 - 150	2	35
m,p-Xylene	ND		10.0	8.19		ug/L		82	50 - 150	1	35
o-Xylene	ND		10.0	7.72		ug/L		77	50 - 150	2	35
Toluene	ND		10.0	9.72		ug/L		97	50 - 150	4	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		70 - 125
4-Bromofluorobenzene (Surr)	98		69 - 120
Dibromofluoromethane (Surr)	96		80 - 120
Toluene-d8 (Surr)	92		80 - 120

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS)

Lab Sample ID: MB 590-13645/6
Matrix: Water
Analysis Batch: 13645

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		150	120	ug/L			09/01/17 14:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		68.7 - 141		09/01/17 14:47	1
a,a,a-Trifluorotoluene					09/01/17 14:47	1

TestAmerica Spokane

QC Sample Results

Client: Alaska Resources & Environment
Project/Site: Everts Air Fuel 0817

TestAmerica Job ID: 590-6965-1

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS) (Continued)

Lab Sample ID: LCS 590-13645/1005

Matrix: Water

Analysis Batch: 13645

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics [C6 - C10]	1000	1010		ug/L		100	60 - 120
Surrogate	%Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	104		68.7 - 141				

Lab Sample ID: LCSD 590-13645/1016

Matrix: Water

Analysis Batch: 13645

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Gasoline Range Organics [C6 - C10]	1000	1070		ug/L		107	60 - 120	7	20
Surrogate	%Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	105		68.7 - 141						

Lab Sample ID: 590-6965-2 MS

Matrix: Water

Analysis Batch: 13645

Client Sample ID: MW2-817

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics [C6 - C10]	ND		1000	1200		ug/L		120	55.6 - 126
Surrogate	%Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	106		68.7 - 141						

Lab Sample ID: 590-6965-2 MSD

Matrix: Water

Analysis Batch: 13645

Client Sample ID: MW2-817

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Gasoline Range Organics [C6 - C10]	ND		1000	1140		ug/L		114	55.6 - 126	5	20
Surrogate	%Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	105		68.7 - 141								

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Lab Sample ID: MB 590-13642/1-A

Matrix: Water

Analysis Batch: 13646

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 13642

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		0.25	0.080	mg/L		09/01/17 13:23	09/01/17 14:49	1

TestAmerica Spokane

QC Sample Results

Client: Alaska Resources & Environment
 Project/Site: Everts Air Fuel 0817

TestAmerica Job ID: 590-6965-1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
<i>o</i> -Terphenyl	100		50 - 150	09/01/17 13:23	09/01/17 14:49	1
<i>n</i> -Triacontane-d62	98		50 - 150	09/01/17 13:23	09/01/17 14:49	1

Lab Sample ID: LCS 590-13642/2-A
Matrix: Water
Analysis Batch: 13646

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 13642

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics (DRO) (C10-C25)	1.60	1.33		mg/L		83	75 - 125

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
<i>o</i> -Terphenyl	94		50 - 150
<i>n</i> -Triacontane-d62	95		50 - 150

Lab Sample ID: LCSD 590-13642/3-A
Matrix: Water
Analysis Batch: 13646

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 13642

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Diesel Range Organics (DRO) (C10-C25)	1.60	1.33		mg/L		83	75 - 125	0	20

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
<i>o</i> -Terphenyl	94		50 - 150
<i>n</i> -Triacontane-d62	97		50 - 150

Lab Chronicle

Client: Alaska Resources & Environment
Project/Site: Everts Air Fuel 0817

TestAmerica Job ID: 590-6965-1

Client Sample ID: MW1-817

Date Collected: 08/29/17 12:35

Date Received: 09/01/17 10:45

Lab Sample ID: 590-6965-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	13640	09/01/17 15:31	MRS	TAL SPK
Total/NA	Analysis	AK101		1	43 mL	43 mL	13645	09/01/17 15:31	MRS	TAL SPK
Total/NA	Prep	3510C			246.8 mL	2 mL	13642	09/01/17 13:23	NMI	TAL SPK
Total/NA	Analysis	AK102 & 103		1			13646	09/01/17 17:11	NMI	TAL SPK

Client Sample ID: MW2-817

Date Collected: 08/29/17 11:55

Date Received: 09/01/17 10:45

Lab Sample ID: 590-6965-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	13640	09/01/17 16:36	MRS	TAL SPK
Total/NA	Analysis	AK101		1	43 mL	43 mL	13645	09/01/17 16:36	MRS	TAL SPK
Total/NA	Prep	3510C			246.5 mL	2 mL	13642	09/01/17 13:23	NMI	TAL SPK
Total/NA	Analysis	AK102 & 103		1			13646	09/01/17 17:29	NMI	TAL SPK

Client Sample ID: MW3-817

Date Collected: 08/29/17 10:00

Date Received: 09/01/17 10:45

Lab Sample ID: 590-6965-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	13640	09/01/17 17:42	MRS	TAL SPK
Total/NA	Analysis	AK101		1	43 mL	43 mL	13645	09/01/17 17:42	MRS	TAL SPK
Total/NA	Prep	3510C			244.3 mL	2 mL	13642	09/01/17 13:23	NMI	TAL SPK
Total/NA	Analysis	AK102 & 103		1			13646	09/01/17 18:04	NMI	TAL SPK

Client Sample ID: MW4-817

Date Collected: 08/29/17 11:05

Date Received: 09/01/17 10:45

Lab Sample ID: 590-6965-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	13640	09/01/17 18:04	MRS	TAL SPK
Total/NA	Analysis	AK101		1	43 mL	43 mL	13645	09/01/17 18:04	MRS	TAL SPK
Total/NA	Prep	3510C			246.3 mL	2 mL	13642	09/01/17 13:23	NMI	TAL SPK
Total/NA	Analysis	AK102 & 103		1			13646	09/01/17 18:22	NMI	TAL SPK

Client Sample ID: MW5-817

Date Collected: 08/29/17 13:35

Date Received: 09/01/17 10:45

Lab Sample ID: 590-6965-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	13640	09/01/17 18:47	MRS	TAL SPK
Total/NA	Analysis	AK101		1	43 mL	43 mL	13645	09/01/17 18:47	MRS	TAL SPK

TestAmerica Spokane

Lab Chronicle

Client: Alaska Resources & Environment
 Project/Site: Everts Air Fuel 0817

TestAmerica Job ID: 590-6965-1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			246.8 mL	2 mL	13642	09/01/17 13:23	NMI	TAL SPK
Total/NA	Analysis	AK102 & 103		1			13646	09/01/17 18:39	NMI	TAL SPK

Client Sample ID: DUP-817

Lab Sample ID: 590-6965-6

Date Collected: 08/29/17 09:30

Matrix: Water

Date Received: 09/01/17 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	13640	09/01/17 19:09	MRS	TAL SPK
Total/NA	Analysis	AK101		1	43 mL	43 mL	13645	09/01/17 19:09	MRS	TAL SPK
Total/NA	Prep	3510C			243.5 mL	2 mL	13642	09/01/17 13:23	NMI	TAL SPK
Total/NA	Analysis	AK102 & 103		1			13646	09/01/17 18:57	NMI	TAL SPK

Client Sample ID: Trip Blank

Lab Sample ID: 590-6965-7

Date Collected: 08/29/17 09:00

Matrix: Water

Date Received: 09/01/17 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	43 mL	43 mL	13640	09/01/17 19:31	MRS	TAL SPK
Total/NA	Analysis	AK101		1	43 mL	43 mL	13645	09/01/17 19:31	MRS	TAL SPK

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Accreditation/Certification Summary

Client: Alaska Resources & Environment
Project/Site: Everts Air Fuel 0817

TestAmerica Job ID: 590-6965-1

Laboratory: TestAmerica Spokane

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	UST-071	10-31-17
Washington	State Program	10	C569	01-06-18

Laboratory: TestAmerica Seattle

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	UST-022	03-02-18
California	State Program	9	2901	01-31-18
L-A-B	DoD ELAP		L2236	01-19-19
L-A-B	ISO/IEC 17025		L2236	01-19-19
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-05-17
US Fish & Wildlife	Federal		LE058448-0	10-31-18
USDA	Federal		P330-14-00126	02-10-20
Washington	State Program	10	C553	02-17-18

Method Summary

Client: Alaska Resources & Environment
Project/Site: Everts Air Fuel 0817

TestAmerica Job ID: 590-6965-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL SPK
AK101	Alaska - Gasoline Range Organics (GC/MS)	ADEC	TAL SPK
AK102 & 103	Alaska - Diesel Range Organics & Residual Range Organics (GC)	ADEC	TAL SPK

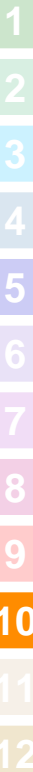
Protocol References:

ADEC = Alaska Department of Environmental Conservation

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200





ARES
P.O. Box 83050
Fairbanks, Alaska 99708
Phone: 907.374.3226
Fax: 907.374.2319

Chain of Custody Report

Client: Alaska Resources and Environmental Services		Report To: Lyle Greshover		Address: ARES P.O. Box 83050 Fairbanks, Alaska 99708		Phone: (907) 374-3226		Fax: (907) 374-3219		Project Name: Everts Air Fuel 0817		Project Number: Dustin Stahl		Sampled By: Dustin Stahl	
Released By: <i>Dustin Stahl</i>		Date: 08/29/2017		Received By: <i>Shelley</i>		Date: 8/31/17		Print Name: <i>Dustin Stahl</i>		Firm: ARES		Time: 1300		Date: 8/31/17	
Released By: <i>Tom Bland</i>		Date: 8/31/17		Received By: <i>Shelley</i>		Date: 9/1/17		Print Name: <i>Tom Bland</i>		Firm: TA Sea		Time: 1300		Date: 9/1/17	
Released By: <i>Blankinship</i>		Date: 1300		Received By: <i>Shelley</i>		Date: 10:45		Print Name: <i>Blankinship</i>		Firm: TA Sea		Time: 10:45		Date: 10:45	
Additional Remarks:		Temp:		Temp:		Temp:		Temp:		Temp:		Temp:		Temp:	

Turnaround Request
In Business Days
Organic & Inorganic Analyses
Petroleum Hydrocarbon Analyses
Specify Other: _____
Report Tier Levels: Tier II reporting requested (results + QC)
5 4 3 2 1 <1
10 7 5 4 3 2 1 <1

Sample Identification	Sampling Date/Time	Requested Analyses				Matrix (W,S,O)	# of Cont.	Location/Comments	Lab ID
		AK 101 GRO	BTEX 8260C	AK 102 DRO	Preservative				
MW1-817	08/29/2017 1235	X	X	X		W	8		
MW2-817	08/29/2017 1155	X	X	X		W	8		
MW3-817	08/29/2017 1000	X	X	X		W	8		
MW4-817	08/29/2017 1105	X	X	X		W	8		
MW5-817	08/29/2017 1335	X	X	X		W	8		
DUP-817	08/29/2017 0930	X	X	X		W	8		
Trip Blank	08/29/2017 0900	X	X	X		W	6		

TB A2 Cooler Cor 2.7 Unc 4.5
Cooler Dsc L₁ R₁ L₂ R₂ @Lab
Wet/Packs Packing oth₁ L₁
Custody Seal: Yes No

TestAmerica Seattle
Sample Receiving Triage and Labeling Guide

Priority Level/ #: G Login #: _____ Date/Time Received: 8/31/17 1145
Company Name & Sampling Site: ARES-Event Air Fuel

PM/PMA to Complete This Section at Cooler Greet:

Initials meu

TALS Project #: 58011466
Special Instructions:

DoD: Yes No Sites & Events: Yes No

Sample Archive Required: Yes No If YES: Freeze Refrigerate

Send to Spokane

Time Zone: • Guam • Hawaii • Alaska • PDT/PST • MDT/MST • CDT/CST • EDT/EST • OTHER State: AK

Document any problems or discrepancies and the actions taken to resolve them in an NCM

Sample Control to Complete This Section:

- 1. Is an NCM required for coolers outside required limits? Yes No
- 2. Were the samples sampled on the same day as receipt? Yes No (NOTE IF NOT ON ICE)

If yes to question 1 and no to question 2 above take a confirmation temperature

Comments:

Initials FL

Triage Checks:

N/A Yes No

- 1. Are there Short Holds or Rush?
- 2. Are there VOA analysis on the COC?
- 3. Are there Stir bar VOAs which need to be placed in the freezer? **Note date and time placed in freezer in logbook.**
- 4. Are there Encores or bulk soil jars for VOAs which will require MeOH preservation? **Take ASAP to VOA extractions.**

Comments:

Initials FL

Alaska.

AIR CARGO

P.O. BOX 68900 SEATTLE, WA 98168
800-225-2752 ALASKACARGO.COM

SHIPPER

Alaska Resource and Environmental S
284 Topside Dr
Fairbanks, AK 99712

CONSIGNEE

Test America Laboratories Inc
11720 North Creek Pkwy N Suite 400
Bothell, WA 98011

AWB Number	Pieces	Weight	Origin / Dest	Nature of Goods	Arriving Flight Details	Customs
027-32630673	1	38.0 Lb	FAI-SEA	WATER SAMPLES	AS 124 30-Aug-2017	

Storage Locations: COOLER 1

LOCAL CHARGES :

Bonded Warehouse

Total Local Charges:	USD	0.00
VAT 1.34%:	USD	0.00
Grand Total:	USD	0.00

PO Number

RECEIPT STATEMENT

The undersigned acknowledge the receipt of above mentioned consignment complete and in good condition.

Date: 31-Aug-2017

Time: 10:59

Driver: FRANCISCO

Registration: _____

Signature: 

Login Sample Receipt Checklist

Client: Alaska Resources & Environment

Job Number: 590-6965-1

Login Number: 6965
List Number: 1
Creator: Kratz, Sheila J

List Source: TestAmerica Spokane

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.



Laboratory Data Review Checklist

Completed By:

Caleb Aronson

Title:

Environmental Professional/Geologist

Date:

November 2017

CS Report Name:

Everts Air Fuel 2017 Groundwater Monitoring Report

Consultant Firm:

Alaska Resources and Environmental Services, LLC

Laboratory Name:

TestAmerica Laboratories, Inc.

Laboratory Report Number:

590-6965-1

ADEC File Number:

100.26.141

Hazard Identification Number:

24438

1. Laboratory

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

Yes No

Comments:

Samples were received by T.A. Seattle, and analyzed by T.A. Spokane.

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:

The samples were sub-contracted to the TestAmerica Spokane laboratory.

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 (0° to 6° 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 adverse conditions were noted.

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:

No discrepancies were noted.

e. Data quality or usability affected?

Yes No

Comments:

N/A; See above.

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?

Yes No

Comments:

The case narrative does not discuss the impact on data quality/usability

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; The sample matrix was water.

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

Yes No

Comments:

e. Data quality or usability affected?

Yes No

Comments:

No errors in sample results were detected.

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 limit of quantitation (LOQ)?

Yes No

Comments:

iii. If above LOQ, what samples are affected

Comments:

NA; No samples are affected.

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

Yes No

Comments:

No samples are affected.

v. Data quality or usability affected?

Comments:

The data quality and usability is not affected; no errors in method blank were detected.

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:

NA; Analysis and sampling for metals/inorganics was not requested or required.

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:

LCS/LCSD and MS/MSD samples RPD are below limits; no samples affected.

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

Yes No

Comments:

NA; See above.

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

Comments:

NA; See above.

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:

No samples are affected.

iv. Data quality or usability affected?

Comments:

NA; See above.

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:

The samples were transported in a single cooler.

iii. All results less than LOQ?

Yes No

Comments:

iv. If above LOQ, what samples are affected?

Yes No

Comments:

No samples are affected; no results were above the LOQ.

v. Data quality or usability affected?

Comments:

The data quality and usability is not affected; see above.

e. Field Duplicate

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

Yes No

Comments:

Sample DUP-817 is the blind field duplicate of MW3-817.

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:

The calculated RPD for Benzene was 31.1%, above the limit for water of 30%.

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

Comments:

The data quality for benzene should be viewed qualitatively rather than quantitatively.

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

Yes No Not Applicable

Comments:

No decontamination or equipment blank was required.

i. All results less than LOQ?

Yes No

Comments:

ii. If above LOQ, what samples are affected?

Comments:

NA; see above.

iii. Data quality or usability affected?

Comments:

Data quality and usability is not affected; see above.

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

a. Defined and appropriate?

Yes No

Comments:

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**2017 Groundwater Monitoring Well Report
Evert's Air Fuel Inc. Property
Block 3 Lot 11 FIA**

Appendix D:
Groundwater Sampling Field Data Sheet



ALASKA RESOURCES AND ENVIRONMENTAL SERVICES

Ground Water Monitoring Well Data Sheet

Site Name: EVERTS AIR	Well/ Sample ID: mw1 / mw1-017
Location:	Initial Depth to Water (DTW): 10.94
Client:	Total Well Depth (TD): 19.13
Sampler: DX	Well Diameter: 1.5"
Date: 8/29/17	Purge Method: PERI
Sample Method: LOW FLOW	Flow Rate: 0.3L/min

Time	ph	SC	DO	Temp (°C)	ORP	DTW (feet)	Cumulative Volume	Observations
1212	6.53	0.750	2.01	7.05	-39.9		—	PRE PURGE 1 gallon
1215	6.57	0.786	1.53	6.82	-37.1		0.9	
1218	6.62	0.803	1.56	6.70	-37.5		1.8	
1221	6.64	0.821	1.94	6.67	-37.0		2.7	
1224	6.65	0.844	2.33	6.66	-35.8		3.6	
1227	6.65	0.843	2.41	6.67	-35.5		4.5	
1230	6.64	0.851	2.43	6.67	-33.9		5.4	STABLE

Did Well Dewater? NO	Start Purge Time: 1203	DTW prior to sample:
Odor: CLEAR	Stop Purge Time:	Start Sample Time: 1235
Color: NONE	Total Purge Volume:	Total Sample Volume:
Water Quality Meter Model:	Serial ID:	
Water Level Indicator Model:	Serial ID:	

Notes:



ALASKA RESOURCES AND ENVIRONMENTAL SERVICES

Ground Water Monitoring Well Data Sheet

Site Name: ENERIS AIR	Well/ Sample ID: MW2 MW2 / MW2-817
Location: OLD BATES	Initial Depth to Water (DTW): 12.09
Client: ENERIS AIR	Total Well Depth (TD): 20.89
Sampler: DSS	Well Diameter: 2"
Date: 8/29/2017	Purge Method: PERI
Sample Method: LOW FLOW	Flow Rate: 0.3 L/min

Time	ph	SC	DO	Temp (°C)	ORP	DTW (feet)	Cumulative Volume	Observations
1130	6.51	1.009	3.20	6.30	59.0		—	PREFLOW 0.25
1135	6.50	1.001	1.96	6.34	49.4		0.9	
1136	6.52	0.987	1.59	6.35	42.0		1.8	
1139	6.55	0.973	1.23	6.34	33.7		2.7	
1142	6.56	0.963	1.02	6.30	27.4		3.6	
1145	6.58	0.949	0.74	6.37	15.8		4.5	
1148	6.58	0.947	0.71	6.38	13.3		5.4	
1151	6.59	0.942	0.67	6.38	9.2		6.3	STABLE

Did Well Dewater? No	Start Purge Time: 1125	DTW prior to sample:
Odor: NONE	Stop Purge Time:	Start Sample Time: 1155
Color: CEEN	Total Purge Volume:	Total Sample Volume:
Water Quality Meter Model:	Serial ID:	
Water Level Indicator Model:	Serial ID:	

Notes:



ALASKA RESOURCES AND ENVIRONMENTAL SERVICES

Ground Water Monitoring Well Data Sheet

Site Name: EVERTS AIR	Well/ Sample ID: MW3 · MW3-817 / DUP-817
Location: OLD GATE 5	Initial Depth to Water (DTW): 20.0 14.6
Client: EVERTS	Total Well Depth (TD): 17.02
Sampler: D. STAHL	Well Diameter: 3"
Date: 8/29/2017	Purge Method: PERF
Sample Method: LOW FLOW	Flow Rate: 0.3 L/m

Time	ph	SC	DO	Temp (°C)	ORP	DTW (feet)	Cumulative Volume	Observations
0941	6.22	1.015	1.75	7.15	132.2		-	PRE PURGE
0944	6.24	1.020	1.30	7.01	128.1		0.9 L	
0947	6.26	1.025	1.06	6.98	126.4		1.8	
0950	6.28	1.032	0.87	7.01	123.8		2.7	
0953	6.29	1.036	0.79	7.01	122.8		3.6	
0954	6.30	1.038	0.72	6.98	122.0		4.5	
0959	6.31	1.038	0.80	7.11	120.2		6.4	STABLE

0.75 gallons

Did Well Dewater? NO	Start Purge Time: 0935	DTW prior to sample:
Odor: BE NONE	Stop Purge Time:	Start Sample Time: 1000 (0930)
Color: LEMP	Total Purge Volume:	Total Sample Volume: DUP TIME
Water Quality Meter Model: VSI 556 MPS	Serial ID: 11H101295	
Water Level Indicator Model: SOLINSY 101	Serial ID: 223198	

Notes:



ALASKA RESOURCES AND ENVIRONMENTAL SERVICES

Ground Water Monitoring Well Data Sheet

Site Name: <u>EXPERTS AIR</u>	Well/ Sample ID: <u>MW4 / MW4-017</u>
Location:	Initial Depth to Water (DTW): <u>19.88</u> , <u>12.00</u>
Client:	Total Well Depth (TD): <u>↓</u>
Sampler: <u>D. STALEC</u>	Well Diameter: <u>2"</u>
Date: <u>8/29/17</u>	Purge Method: <u>PERF</u>
Sample Method: <u>LOW FLOW</u>	Flow Rate: <u>0-3 L/min</u>

Time	ph	SC	DO	Temp (°C)	ORP	DTW (feet)	Cumulative Volume	Observations
1039	6.13	0.649	1.90	6.51	116.4		-	PER PURGE 0.5 gallons
1042	6.12	0.650	1.10	6.60	113.5		0.9	
1045	6.13	0.658	0.94	6.44	114.5		1.8	
1048	6.14	0.665	0.87	6.46	112.6		2.7	
1051	6.17	0.669	0.80	6.53	110.4		3.6	
1054	6.19	0.677	0.73	6.45	108.5		4.5	
1057	6.20	0.682	0.66	6.49	107.1		5.4	
1100	6.21	0.692	0.61	6.51	106.0		6.3	
1103	6.22	0.695	0.60	6.43	104.9		7.2	STABLE

Did Well Dewater? <u>NO</u>	Start Purge Time: <u>1030</u>	DTW prior to sample:
Odor: <u>NONE</u>	Stop Purge Time: <u>1103</u>	Start Sample Time: <u>1105</u>
Color: <u>CLEAR</u>	Total Purge Volume:	Total Sample Volume:
Water Quality Meter Model:	Serial ID:	
Water Level Indicator Model:	Serial ID:	

Notes:



ALASKA RESOURCES AND ENVIRONMENTAL SERVICES

Ground Water Monitoring Well Data Sheet

Site Name: EVERTS AIR	Well/ Sample ID: MW5 / MW5-017
Location:	Initial Depth to Water (DTW): 10.70
Client:	Total Well Depth (TD): 18.40
Sampler:	Well Diameter: 1.5"
Date: 8/29/17	Purge Method: PERI
Sample Method: LOW FLOW	Flow Rate: 0.13L/min

Time	ph	SC	DO	Temp (°C)	ORP	DTW (feet)	Cumulative Volume	Observations
1302	7.04	0.031	8.82	8.32	-35.1		-	PRE PURGE 0.8
1305	6.91	0.035	8.62	7.52	-21.0		0.9	
1308	6.49	0.425	6.87	7.04	-13.4		1.8	
1311	6.58	0.521	5.06	6.95	-37.2		2.7	
1314	6.66	0.613	3.45	6.87	-68.2		3.8	
1317	6.69	0.645	2.38	7.07	-75.6		4.5	
1320	6.71	0.651	1.96	7.11	-80.2		5.4	
1323	6.74	0.667	1.25	7.22	-87.0		6.3	
1326	6.75	0.681	0.93	7.25	-90.3		7.2	
1329	6.76	0.690	0.90	7.24	-92.1		8.1	
1332	6.76	0.693	0.91	7.30	-93.2		9.0	STABLE

Did Well Dewater?	Start Purge Time: 1259	DTW prior to sample:
Odor: NONE	Stop Purge Time:	Start Sample Time: 1335
Color: CLEAR	Total Purge Volume:	Total Sample Volume:
Water Quality Meter Model:	Serial ID:	
Water Level Indicator Model:	Serial ID:	

Notes: