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Sampling Report

Alaska Car & Van Rentals
(Former Olson's Gas Service #2)
854 East 36th Avenue
Anchorage, Alaska

ADEC File ID#: 2100.26. 073

February 2016

ADEC Qualified person responsible for collecting samples, interpreting the data and reporting data assigned to this project is Mr. Steven McCain

X _____ CT-PM

Steven McCain
Project Engineer

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LIST OF ABBREVIATIONS AND ACRONYMS

ADEC	Alaska Department of Environmental Conservation
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
DRO	Diesel Range Organics
GRO	Gasoline Range Organics
ND	Non Detect
MDL	Method Detection Limit
mg/L	Milligrams per Liter
PQL	Practical Quantitation Limit
RL	Laboratory Reporting Limit
Ft	Feet
UST	Underground Storage Tanks

1.0 EXECUTIVE SUMMARY

ChemTrack Alaska Inc. was contracted by Tom Prunty of Alaska Car and Van Rentals to sample four monitoring wells at 854 East 36th Avenue, Anchorage, Alaska. The monitoring wells were installed in the mid-1990s in response to petroleum contamination associated with the former gas station at the property.

The groundwater sampling took place on December 31st, 2015. The samples were submitted to and analyzed by Test America – an Alaska Department of Environmental Conservation (ADEC) approved laboratory. All samples were analyzed for diesel range organics (DRO), gasoline range organics (GRO), and benzene, toluene, ethylbenzene, and xylenes (BTEX).

None of the monitoring well's groundwater samples had laboratory analytical results above ADEC groundwater cleanup levels. One result from monitoring well G5, was reported at ADEC cleanup level of 0.0005 mg/L for benzene. Residual petroleum constituents are still present, but appear to be degrading over time.

2.0 INTRODUCTION

This report describes the field sampling, laboratory analytical methods, and procedures used during collection and analysis of groundwater samples from monitoring wells at the Alaska Car and Van Rentals 854 East 36th Avenue, Anchorage, Alaska. Sampling activities were conducted for the owner of Alaska Car and Van Rentals, Tom Prunty, on December 31, 2015. The purpose of the sampling event is to comply with an agreement with the ADEC to monitor the groundwater at the site.

Sample collection and laboratory analysis were conducted in accordance with the ADEC 18 AAC 75 Articles 3 & 9, and the ADEC Draft Field Sampling Guidance May 2010. Samples were collected by an ADEC Qualified Person.

2.1 SITE DESCRIPTION

The property is located at 854 East 36th Avenue, Anchorage, AK 99503, at the southwest corner of 36th Avenue and the Seward Highway. The property is comprised of three adjacent lots; Lot 21 is 9,978 ft², Lot 20 is 8,700 ft², and Lot 19 is 8,700 ft².

Latitude and Longitude Datum	Legal
Latitude: 61.187857 Longitude: -149.866151	**Central City** **Block 1 Lot 19** **Block 1 Lot 20** **Block 1 Lot 21** **Plat Number: 670066**

Table 1: Legal property description

The property was formerly used as a gas station and car wash. Two buildings exist onsite, a 1,600 ft² auto service shop, and a 1,920 ft² concrete block office building. The property is home to the commercial business Alaska Car and Van Rentals that has occupied the space since December of 2006.

The property operated as Olson's Gas Service Station and car wash from the early 1970s until its close around 1994. Various businesses occupied the space in between 1994 and 2006. The property was sold in 2006 to the current owner and operator of Alaska Car and Van Rentals. The property serves as office space for the business and a service center for their vehicle fleet.

2.2 SITE BACKGROUND

In the fall of 1987, significant soil and groundwater contamination was encountered at the site due to leaking underground storage tanks (USTs) and associated piping. A soil gas survey, completed by Woodward-Clyde Consultants, confirmed the presence of gasoline contaminated soil and groundwater at the property, and that contaminated groundwater had migrated offsite. The site has been listed as an ADEC UST Facility # 2287.

In 1995, the USTs, associated piping, and 95 tons of petroleum contaminated soil were excavated and removed from the Property.

A Compliance Order by Consent was issued by the State of Alaska to the Responsible Party and included another gas station (Olson's #1 on Spenard), the terms of which are binding on any future owners/operators of the property.

Three monitoring wells were installed on the property in the fall of 1992 in association with a release investigation, and an additional three were installed in August of 1995. The on-property monitoring wells have been sampled 23 times since 1992. Benzene, GRO and DRO contamination has historically ranged from non-detect to well above ADEC recommended cleanup levels. According to the ADEC case file information, the Property's monitoring wells have not been sampled since spring of 2009.

At least six monitoring wells were installed off property and indicated that contamination had travelled to neighboring properties.

A soil vapor extraction system was installed at the property in August of 1997. According to the ADEC case file information, it was sampled 14 times between its installation and the most recent sampling event in April of 2009.

3.0 FIELD WORK

3.1 PROJECT PERSONNEL

Field-sampling activities were completed by ADEC qualified persons Steven McCain and Environmental Technicians Chris McDonnel and Lorin Mills.

3.2 SCOPE OF WORK

The Scope of Work included the following:

- Sample four groundwater monitoring wells
- Submit samples to an ADEC-approved laboratory
- Compose sampling report and submit to ADEC for review

4.0 SAMPLE ANALYTICAL METHODS

4.1 LABORATORY SAMPLE COLLECTION AND GROUNDWATER ANALYTICAL METHODS

Sample containers were properly labeled to show date, time, sample number, analytical method and name of sampler. Duplicate samples were collected at a rate of 1 duplicate per 10 laboratory samples.

Samples were analyzed by TestAmerica – Anchorage, a State of Alaska ADEC-approved laboratory using ADEC required analytical methods. The following tables present a summary of analytes, analytical methods, method detection limits, and practical quantitation limits (PQL) for groundwater.

Analyte	Analytical Method	Method Detection Limit	Practical Quantitation Limit
GRO	AK101	.01 mg/L	.1 mg/L
BTEX	8260 C	0.0007 mg/L	.005 mg/L
DRO	AK 102	.08 mg/L	.8 mg/L

Table 2: Groundwater Analytes, Methods, Detection Limits

5.0 SAMPLE COLLECTION

ADEC qualified sampler Steven McCain, and environmental technicians Lorin Mills, and Chris McDonnell mobilized to 854 East 36th Avenue, Anchorage, AK on December 31st, 2015. Once at the site, the monitoring wells were identified and the covers opened. Monitoring wells OB1MW, OB2MW, and OB3MW are flush mount with locking caps, and monitoring well G5 is an above ground stand pipe with locking cap. The protective covers on all three flush mount wells were frozen and quite difficult to open. Once the covers were removed, ice and debris was chipped away and cleaned before the well caps could be removed.

Samples were collected according to the ADEC field sampling guidance. The four monitoring well locations are displayed on Figure 1 (See Appendix A).

The wells were purged and sampled using a low-flow peristaltic pump. New Teflon lined polyethylene tubing was used for each well's water intake. The purge water was collected into a bucket. Using a multi parameter water quality meter and turbidity meter, water quality parameters were recorded for each well. Analytical sample collection occurred after the water quality parameters had stabilized. Samples were collected directly into laboratory-supplies sample containers. See Appendix C for field notes, sampling logs, and record of water quality parameters for each well.

6.0 ANALYSIS OF RESULTS

The following table (Table 3) represents a summary of the monitoring wells analytical results. Monitoring wells OB2MW, and OB3MW are located to the southwest of the former fuel dispensing station and were non-detect (ND) for all analytes. The only petroleum constituents detected were in monitoring wells OB1MW and G5 which are located on the northwest corner of the property. Monitoring well OB1MW is located on the north side of the former fuel dispensing station, and monitoring well G5 is located to the west of the former fuel dispensing station. Both of these wells are located to the northwest (the direction of groundwater flow) relative to the original source of the contamination. Samples from OB2MW, and OB3MW, (including the duplicate OB30MW), had no detection for BTEX, GRO, and DRO.

Analyte	OB1MW mg/L	OB2MW mg/L	OB3MW mg/L	OB30MW mg/L	G5 mg/L	Trip Blank mg/L	ADEC (mg/L) Cleanup Level
GRO Lab Reporting Limit = 0.1mg/L	**2.9**	ND<0.1	ND<0.1	ND<0.1	**1.1**	ND<0.1	**2.2****
DRO Lab Reporting Limit = 0.00038mg/L	**0.89**	ND<0.00038	ND<0.00038	ND<0.00038	ND<0.00038	N/A	**1.5****
Benzene Lab Reporting Limit = 0.0002mg/L	**.0036**	ND<0.0002	ND<0.0002	ND<0.0002	**0.005**	ND<0.0002	**0.005****
Toluene Lab Reporting Limit = 0.001mg/L	**.0063**	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	**1.0****
Ethylbenzene Lab Reporting Limit = 0.001mg/L	**.037**	ND<0.001	ND<0.001	ND<0.001	**.044**	ND<0.001	**0.7****
Xylenes (Total) Lab Reporting Limit = 0.003mg/L	**.11**	ND<0.003	ND<0.003	ND<0.003	**.140**	ND<0.003	**10.0****

ND <RL= Not detected at the shown laboratory reporting limit.
**** = Based on 18 AAC 75.345 Table C Groundwater Cleanup Levels**

Table 3: Sample Results Summary

7.0 DATA VALIDATION AND LABORATORY QUALITY CONTROL DOCUMENTATION

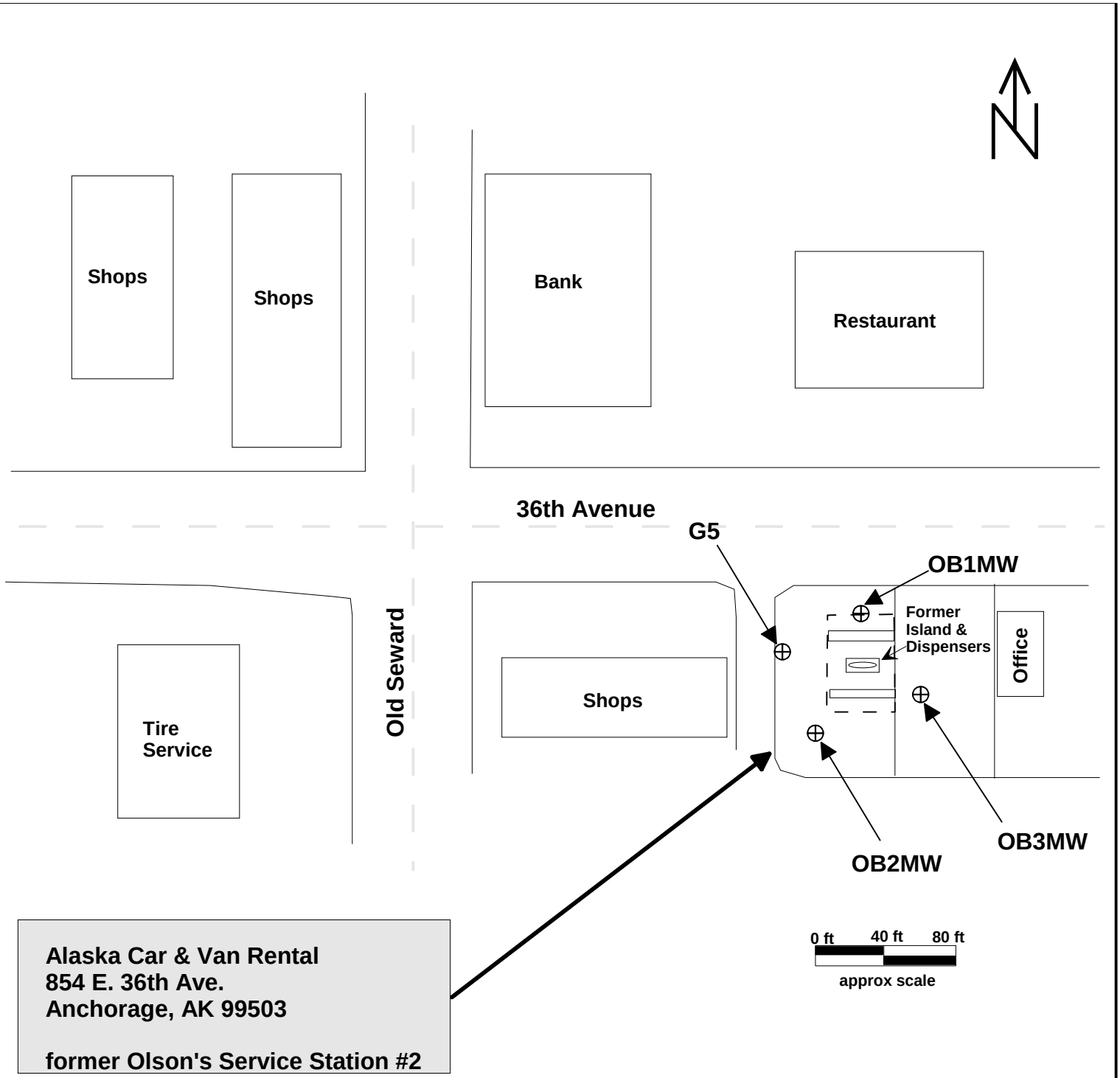
A review of the laboratory data indicates that that all samples arrived intact and property labeled. Samples were properly preserved and extracted/analyzed within the required holding times. See attached Laboratory Data Review Checklist.

8.0 CONCLUSIONS

None of the monitoring well's groundwater samples had laboratory analytical results above ADEC groundwater cleanup levels. One result from monitoring well G5, was reported at ADEC cleanup level of 0.0005 mg/L for benzene. Residual petroleum constituents are still present, but appear to be degrading over time.

Appendix A:

Site Figure



ChemTrack	11711 S. Gambell St Anchorage, AK 99515 (907) 349-2511 info@chemtrack.net	**General Site Layout** **Monitoring Wells** **Alaska Car & Van Rental** **854 East 36th Avenue** **Anchorage, AK 99503**	**Project #** 6313 **Report Date** **February 2016**	**Scale** Bar Scale **Figure #** 1

Appendix B:

Photo Log

Alaska Car and Van Rentals Monitoring Well Sampling, Anchorage, Alaska - Photo Log 31-Dec-15					
Photo. Number	**Description**	**Direction of View**	**Date**	**Time**	**Contractor/Photographer**
1	Opening monitoring well OB2MW.	To the southwest	12/31/2015	1:41pm	ChemTrack/ Lorin Mills
2	Monitoring well OB3MW with cap removed, and compacted with ice and dirt.	To the east.	12/31/2015	1:52pm	ChemTrack/ Lorin Mills
3	Cleaning ice and debris from OB3MW	To the northwest	12/31/2015	2:02pm	ChemTrack/ Lorin Mills
4	Cleaning ice and debris from OB2MW	To the northeast	12/31/2015	2:06pm	ChemTrack/ Lorin Mills
5	Vaccuming ice and debris from OB2MW	To the northeast	12/31/2015	2:09pm	ChemTrack/ Lorin Mills
6	Inspecting well cap at OB3MW	To the east	12/31/2015	2:14pm	ChemTrack/ Lorin Mills
7	Freeing cap at OB1MW.	To the northeast	12/31/2015	2:15pm	ChemTrack/ Lorin Mills
8	Chipping ice away at OB1MW	To the north	12/31/2015	2:16pm	ChemTrack/ Lorin Mills
9	Cleaning ice and debris from OB1MW	To the north	12/31/2015	2:23pm	ChemTrack/ Lorin Mills
10	Inspecting cap at OB1MW	To the north	12/31/2015	2:25pm	ChemTrack/ Lorin Mills
11	Measuring well depth at OB3MW	To the east	12/31/2015	2:33pm	ChemTrack/ Lorin Mills
12	Purging OB3MW	To the northeast	12/31/2015	3:09pm	ChemTrack/ Lorin Mills
13	Sampling OB1MW	To the north	12/31/2015	6:15pm	ChemTrack/ Lorin Mills
14	Sampling OB1MW	To the south	12/31/2015	6:16pm	ChemTrack/ Lorin Mills

Photo #1

Photo #2

Photo #3

Photo #4

Photo #5

Photo #6

Photo #7

Photo #8

Photo #9

Photo #10

Photo #11

Photo #12

Photo #13

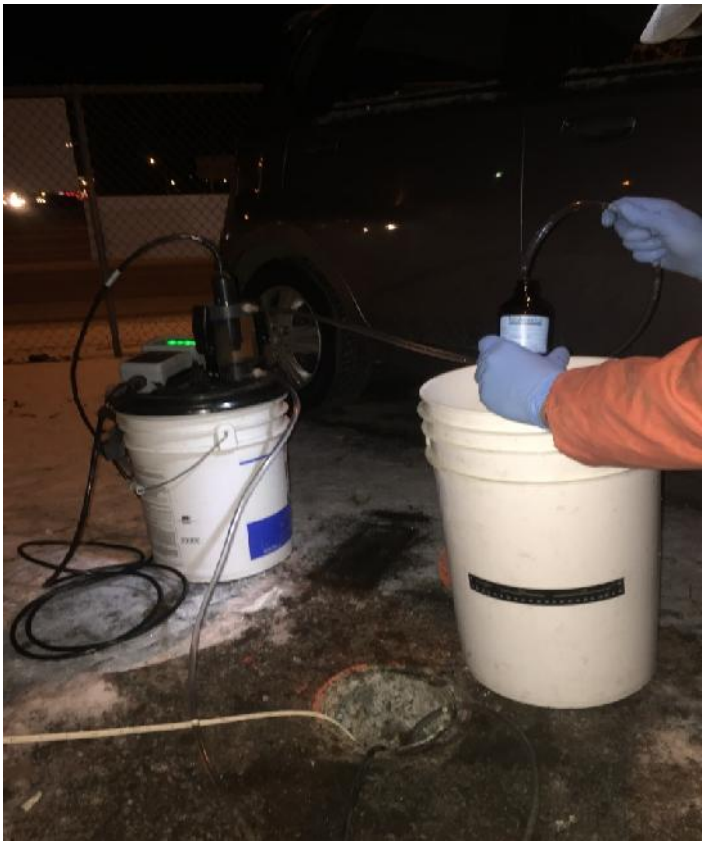


Photo #14

Appendix C:

Field Notes and Sample Logs

Rite in the Rain®
ALL-WEATHER WRITING PAPER

Name Lorin Mills
ChemTrackAlaska, INC.
Address 11711 S Gambell
Anchorage, AK 99515
Phone 907-230-9959

Project See TOC

Rite in the Rain — A patented, environmentally responsible, all-weather writing paper that sheds water and enables you to write anywhere, in any weather. Using a pencil or all-weather pen, *Rite in the Rain* ensures that your notes survive the rigors of the field, regardless of the conditions.

RiteintheRain.com

CONTENTS

PAGE	REFERENCE	DATE
1-5	6313 Ak Car & Van MW Sampling	12/31/15

Scale: 1 square = _____

Sample ID	OB3MWDec15	OB3OMWDec15
Date	12/31/15	12/31/15
Time	~~1532~~ 1542	1535
location	854 E 36th Ave	854 E 36th Ave
Depth	9.51ft	9.51ft
Equipment	YSI 5516,	Hach 2100P
PPE	Rubber gloves	safety vests
Weather	33° Cloudy	Wind 5mph
Personnel	Steven McCain Lorin Mills Chris McDonnell	steven, chris Lorin
Calibrations	Manufacturers recommendation	"
Type	Low flow	Low flow
Matrix	H_2O	→
Analysis	DRO	DRO
	GRO	GRO
	BTEX	BTEX
Preservative	HCl	→
#and type of containers	3 250ml Amber 5 40 mL	1 250 ml Amber 4 40 ml
Laboratory	Test America	→
COC #	155776	→
DATE shipped	1/4/16	1/4/16
~~Sketch~~		
Signature		

Scale: 1 square = _____

OB2MWDec15	G15	OB1MWDec15
12/31/15	12/31/15	12/31/15
~~1032~~ 1642	1731	1818
854 E 36th Ave	854 E 36th Ave	854 E 36th Ave
9.81ft	10.14ft	9.91ft
Peristaltic Pump	water Level meter	
"	"	"
steven, Chris Lorin	steven, Chris Lorin	steven, Chris Lorin
"	"	"
Low flow	Low flow	Low flow
→	→	→
DRO	DRO	DRO
GRO	GRO	GRO
BTEX	BTEX	BTEX
HCl	HCl	HCl
2 250ml Amber	2 250ml Amber	2 250ml Amber
4 40mL	5 40 mL	5 40mL
→	→	→
→	→	→
1/4/16	1/4/16	1/4/16

Scale: 1 square = _____

Rite in the Rain

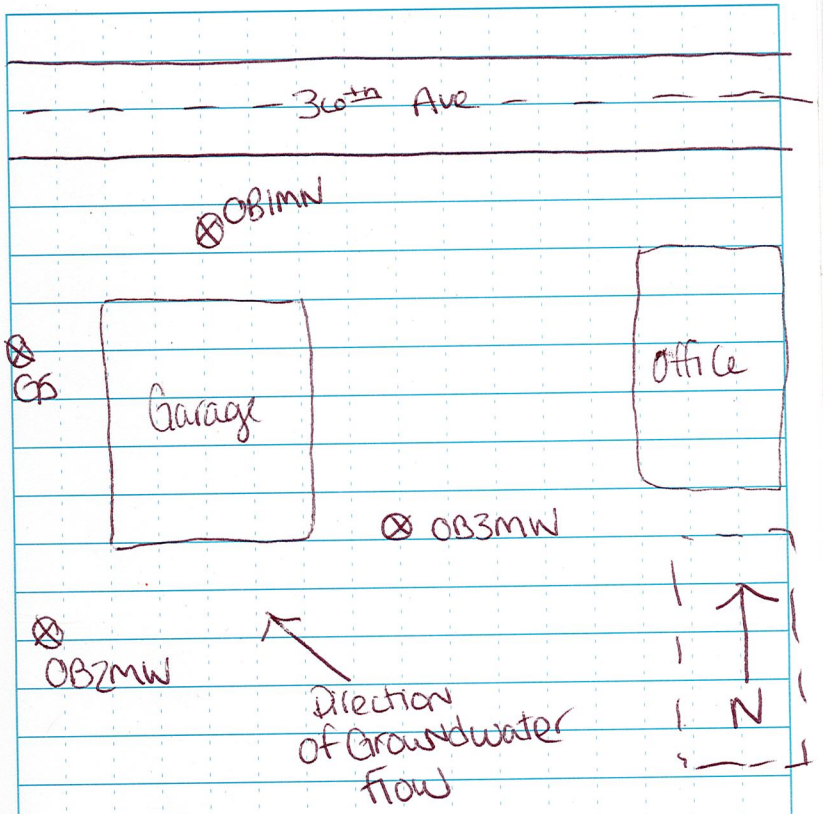
Observations

Arrived onsite at 1:25
located 4 monitoring wells
3 flush-mount wells frozen
Caps had difficulty being removed
Underneath flush mount
protective cover: ice + debris

used shop vac to clear debris from
around well casing

New G5 above ground stand pipe

Scale: 1 square = _____



Scale: 1 square = _____

Groundwater Sampling Form

Site/Client Name: Tom Prunty	**Well ID:** OB3MW
Project # : 60313 Ak Car : Van	Sample ID: OB3MWDec15
Sampled By: Steven McCain	Sample Time: 15:35 Sample Date: 12/31/15
Weather Conditions: 35° Cloudy, wind 5 mph	Duplicate ID: OB30MWDec15
Sampling Method: ☒ Low Flow ☐ Other_____	MS/MSD ☐ Yes ☒ No Trip Blank Required: ☒ Yes ☐ No

Well Information

Well Type: ☒ Permanent ☐ Temporary	Well Diameter 2 in.	Screen Interval: _____ ft BGS to _____ ft BGS
Well Condition: ☐ Good ☒ Fair ☐ Poor (if fair or poor explain in Notes)		Stickup ☐ Yes ☐ No; If yes, _____ ft above ground

Gauging/Purging Information

Depth to Water (ft BTOC): 9.51	Tubing/Pump Depth (ft. BTOC): 10.0
Total Depth (ft BTOC): 14.53	Purge Start Time (24-hr) 1455
Depth to Product (ft. BTOC) N/A	Purge End Time (24-hr) 15:27
Product Thickness (ft)	Total Purge Time (min) 24min

LOW FLOW: **Max Draw Down** = (Tubing Depth – Top of Screen Depth)_____ X 0.25 = _____(ft); if screen interval is not known or water table is below top of screen, then use default value of 0.3 ft.;

Min. purge volume if required: purge volume (gal) = volume of water/ft_____(gal/ft) X Water column thickness_____(ft) X # of casing volumes_____ =_____gal

Well Diameter – gal/ft	1" – 0.041 gal/ft	2" – 0.163 gal/ft	4' – 0.653 gal/ft	6' – 1.469 gal/ft

Water Quality Parameters

(Achieve stable parameter for 3 consecutive reading [each reading taken after pumping a minimum of 1 flow through cell volume])

Time (24-hr)	Flow Rate (gal/ minute)	Purge Volume (gal)	Temp (°C) (± 3 %)	Specific Conductance (µS/cm°) (± 3%)	DO (mg/L) (± 10%)	ORP (mV) (± 10mV)	pH (± 0.1)	Turbidity (NTU) (± 10%)	DTW (ft BTOC)	Drawdown (ft) (Max____ft)
14:55	—								9.51	
15:07	.083	1	6.84	.211	.66	210.3	4.9	103	9.72	.21
15:10	.067	.2	6.53	.190	.37	196.9	5.31	20	9.74	.23
1512	.05	.1	6.57	.188	.41	194.9	5.41	16.3	9.75	.24
15:17	.04	.2	6.60	.189	.98	190.9	5.48	8.33	9.77	.26
15:21	.037	.15	6.58	.190	.88	184.8	5.63	2.66	9.82	.31
15:24	.033	.1	6.53	.189	.75	183.5	5.69	2.56	9.81	.3
15:27	.033	.1	6.52	.188	.71	183.5	5.69	2.53	9.78	.27

Sample Color: Clear **Sample Odor:** N/A **Sheen:** N/A

Analytical Sampling

Analyses	Number/Type of Bottle	Preservative/ Comments	Analyses	Number/Type of Bottle	Preservative/ Comments
GRO/BTEX	9	HCl	Total Metals		
DRO	2	HCl	Dissolved Metals		
RRO					
VOCs					
SVOCs					
PAHs					

Notes:

Equipment: Pump Type Peristaltic Tubing (Type/Length) teflon lined Bailer Type_____
Water Level Meter Solinst Multi-Parameter Meter (Make/SN#) YSI 556
Turbidity Meter (Make/SN#) Hach 2100P Filter Lot #_____

IDW Disposal: ☐ Discharged to surface ☐ Treated (how?)_____ ☑ Other: landfill purge water held

Groundwater Sampling Form

Site/Client Name: Tom Prunty	**Well ID:** OB2MW
Project # : 6313 Alt Car & Van	Sample ID: OB2MW Dec15
Sampled By: Steven McCain	Sample Time: 16:43 Sample Date: 12/31/15
Weather Conditions: 33°F Cloudy, wind 5mph	Duplicate ID: N/A
Sampling Method: ☒ Low Flow ☐ Other_____	MS/MSD ☐ Yes ☒ No Trip Blank Required: ☒ Yes ☐ No

Well Information

Well Type: ☒ Permanent ☐ Temporary	Well Diameter 2 in.	Screen Interval: _____ ft BGS to _____ ft BGS
Well Condition: ☐ Good ☒ Fair ☐ Poor (if fair or poor explain in Notes)		Stickup ☐ Yes ☒ No; If yes, _____ ft above ground

Gauging/Purging Information

Depth to Water (ft BTOC): 9.81	Tubing/Pump Depth (ft. BTOC): 10.5
Total Depth (ft BTOC): 13.3	Purge Start Time (24-hr) 16:00
Depth to Product (ft. BTOC) N/A	Purge End Time (24-hr) 16:28
Product Thickness (ft)	Total Purge Time (min) 28

LOW FLOW: **Max Draw Down** = (Tubing Depth – Top of Screen Depth)_____ X 0.25 = _____(ft); if screen interval is not known or water table is below top of screen, then use default value of 0.3 ft.;

Min. purge volume if required: purge volume (gal) = volume of water/ft_____(gal/ft) X Water column thickness_____(ft) X # of casing volumes_____ =_____gal

Well Diameter – gal/ft	1" – 0.041 gal/ft	2" – 0.163 gal/ft	4' – 0.653 gal/ft	6' – 1.469 gal/ft

Water Quality Parameters

(Achieve stable parameter for 3 consecutive reading [each reading taken after pumping a minimum of 1 flow through cell volume])

Time (24-hr)	Flow Rate (gal/ minute)	Purge Volume (gal)	Temp (°C) (± 3 %)	Specific Conductance (µS/cm°) (± 3%)	DO (mg/L) (± 10%)	ORP (mV) (± 10mV)	pH (± 0.1)	Turbidity (NTU) (± 10%)	DTW (ft BTOC)	Drawdown (ft) (Max .33 ft)
16:00	—	—	—	—	—	—	—	—	9.81	
16:17	.065	1.10	6.29	.426	4.60	127.1	5.74	137	9.95	.14
16:21	.050	0.20	6.02	.435	.80	92.4	5.86	106.3	10	.19
16:24	.03	.10	6.00	.437	.90	89.6	5.88	100.4	10.1	~~.19~~ .29
16:28	.025	.10	5.96	.439	1.28	83.9	5.92	97.2	10.1	.29

Sample Color: light brown **Sample Odor:** None **Sheen:** None

Analytical Sampling

Analyses	Number/Type of Bottle	Preservative/ Comments	Analyses	Number/Type of Bottle	Preservative/ Comments
GRO/BTEX	~~2~~ 4	HCl	Total Metals		
DRO	2	HCl	Dissolved Metals		
RRO					
VOCs					
SVOCs					
PAHs					

Notes:

Equipment: Pump Type Peristaltic Tubing (Type/Length) teflon lined Bailer Type_____
Water Level Meter Solinst Multi-Parameter Meter (Make/SN#) YSI 556
Turbidity Meter (Make/SN#) Hach 2100P Filter Lot #_____

IDW Disposal: ☐ Discharged to surface ☐ Treated (how?)_____ ☒ Other: landfill purge water field

Groundwater Sampling Form

Site/Client Name: Tom Prouty	**Well ID:** G5
Project # : 0313 AK Carr: Van	Sample ID: G5 Dec 15
Sampled By: Steven McCain	Sample Time: 17:31 Sample Date: 12/31/16
Weather Conditions: 33°, Cloudy, 5mph wind	Duplicate ID: —
Sampling Method: ☒ Low Flow ☐ Other_____	MS/MSD ☐ Yes ☒ No Trip Blank Required: ☒ Yes ☐ No

Well Information

Well Type: ☒ Permanent ☐ Temporary	Well Diameter 2 in.	Screen Interval: _____ ft BGS to _____ ft BGS
Well Condition: ☐ Good ☒ Fair ☐ Poor (if fair or poor explain in Notes)		Stickup ☒ Yes ☐ No; If yes, _____ ft above ground

Gauging/Purging Information

Depth to Water (ft BTOC): 10.14	Tubing/Pump Depth (ft. BTOC): 10.5
Total Depth (ft BTOC): 14.35	Purge Start Time (24-hr) 17:04
Depth to Product (ft. BTOC)	Purge End Time (24-hr) 17:26
Product Thickness (ft)	Total Purge Time (min) 22 min

LOW FLOW: **Max Draw Down** = (Tubing Depth – Top of Screen Depth)_____ X 0.25 = _____(ft); if screen interval is not known or water table is below top of screen, then use default value of 0.3 ft.;

Min. purge volume if required: purge volume (gal) = volume of water/ft_____(gal/ft) X Water column thickness_____(ft) X # of casing volumes_____ =_____gal

Well Diameter – gal/ft	1" – 0.041 gal/ft	2" – 0.163 gal/ft	4' – 0.653 gal/ft	6' – 1.469 gal/ft

Water Quality Parameters

(Achieve stable parameter for 3 consecutive reading [each reading taken after pumping a minimum of 1 flow through cell volume])

Time (24-hr)	Flow Rate (gal/ minute)	Purge Volume (gal)	Temp (°C) (± 3 %)	Specific Conductance (µS/cm°) (± 3%)	DO (mg/L) (± 10%)	ORP (mV) (± 10mV)	pH (± 0.1)	Turbidity (NTU) (± 10%)	DTW (ft BTOC)	Drawdown (ft) (Max____ft)
17:04	.225								10.14	
17:08	~~.225~~ .200	.9	6.97	.470	.60	37	6.62		10.31	
17:15	~~.200~~ .133	1.4	7.08	7.11	.38	17	6.69	~~6.605~~	10.39	
17:18	.133	.4	7.33	.475	.18	-24.1	6.78	6.605	10.42	
17:22	.1	.4	7.30	.476	.24	-25.5	6.78	3.03	10.41	
17:26	.1	.4	7.29	.483	.25	-28.4	6.768	2.44	10.4	

Sample Color: Clear	**Sample Odor:** None	**Sheen:** None

Analytical Sampling

Analyses	Number/Type of Bottle	Preservative/ Comments	Analyses	Number/Type of Bottle	Preservative/ Comments
GRO/BTEX	5	HCl	Total Metals		
DRO	2 250ml Amber	HCl	Dissolved Metals		
RRO					
VOCs					
SVOCs					
PAHs					

Notes:

Equipment: Pump Type Peristaltic Tubing (Type/Length) teflon lined Bailer Type_____
Water Level Meter Solinst Multi-Parameter Meter (Make/SN#) YSI 556
Turbidity Meter (Make/SN#) Hach 2100P Filter Lot #_____

IDW Disposal: ☐ Discharged to surface ☐ Treated (how?)_____ ☒ Other: purge water held

Groundwater Sampling Form

Site/Client Name: Tom Prunty	**Well ID:** OB1MW
Project # : 6313 Air Car : Van	Sample ID: OB1MWDec15
Sampled By: Steven McCain	Sample Time: 18:18 Sample Date: 12-31-15
Weather Conditions: 35°F Cloudy wind 5mph	Duplicate ID: N/A
Sampling Method: ☒ Low Flow ☐ Other_____	MS/MSD ☐ Yes ☒ No Trip Blank Required: ☒ Yes ☐ No

Well Information

Well Type: ☒ Permanent ☐ Temporary	Well Diameter 2 in.	Screen Interval: _____ ft BGS to _____ ft BGS
Well Condition: ☐ Good ☒ Fair ☐ Poor (if fair or poor explain in Notes)		Stickup ☐ Yes ☒ No; If yes, _____ ft above ground

Gauging/Purging Information

Depth to Water (ft BTOC): 9.91 ft	Tubing/Pump Depth (ft. BTOC): 10.5
Total Depth (ft BTOC): 14 ft	Purge Start Time (24-hr) 17:05
Depth to Product (ft. BTOC) N/A	Purge End Time (24-hr) 18:16
Product Thickness (ft) N/A	Total Purge Time (min) 260

LOW FLOW: **Max Draw Down** = (Tubing Depth – Top of Screen Depth)_____ X 0.25 = _____(ft); if screen interval is not known or water table is below top of screen, then use default value of (0.3 ft.)

Min. purge volume if required: purge volume (gal) = volume of water/ft_____(gal/ft) X Water column thickness_____(ft) X # of casing volumes_____ =_____gal

Well Diameter – gal/ft	1" – 0.041 gal/ft	2" – 0.163 gal/ft	4' – 0.653 gal/ft	6' – 1.469 gal/ft

Water Quality Parameters

(Achieve stable parameter for 3 consecutive reading [each reading taken after pumping a minimum of 1 flow through cell volume])

Time (24-hr)	Flow Rate (gal/ minute)	Purge Volume (gal)	Temp (°C) (± 3 %)	Specific Conductance (µS/cm°) (± 3%)	DO (mg/L) (± 10%)	ORP (mV) (± 10mV)	pH (± 0.1)	Turbidity (NTU) (± 10%)	DTW (ft BTOC)	Drawdown (ft) (Max .33 ft)
17:50	0	0		~~498~~					9.91	0
17:58	.15	1.20	6.33	~~492~~ 2.498	1.32	39.6	6.21	18.3	10.1	.19
18:03	.10	.50	6.39	~~482~~ .492	.46	30.4	6.20	5.76	10.2	.29
18:09	.10	.60	6.46	.482	.43	18.9	6.21	4.43	10.2	.29
18:13	.10	.90	6.48	.471	.35	11.4	6.22	5.31	10.15	.24
18:16	.10	.30	6.50	.453	.29	8.1	6.33	6.47	10.11	.20

Sample Color: Clear	**Sample Odor:** NONE	**Sheen:** NONE

Analytical Sampling

Analyses	Number/Type of Bottle	Preservative/ Comments	Analyses	Number/Type of Bottle	Preservative/ Comments
GRO/BTEX	5	HCl	Total Metals		
DRO	2	HCl	Dissolved Metals		
RRO					
VOCs					
SVOCs					
PAHs					

Notes:

Equipment: Pump Type Peristaltic Tubing (Type/Length) Teflon lined Bailer Type_____

Water Level Meter Solinst Multi-Parameter Meter (Make/SN#) YSI 556

Turbidity Meter (Make/SN#) Hach 2100P Filter Lot #_____

IDW Disposal: ☐ Discharged to surface ☐ Treated (how?)_____ ☒ Other: landfill, purge water held

Appendix D:

Laboratory Data

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-56285-1
Client Project/Site: AK Car and Van

For:
Chem Track
11711 S. Gambell
Anchorage, Alaska 99515

Attn: Steven McCain

Authorized for release by:
1/18/2016 4:53:59 PM

Wendy Jonas, Project Manager I
(253)922-2310
wendy.jonas@testamericainc.com

Table of Contents

Case Narrative

Client: Chem Track
Project/Site: AK Car and Van

TestAmerica Job ID: 580-56285-1

Job ID: 580-56285-1

Laboratory: TestAmerica Seattle

Narrative

Receipt
The samples were received on 1/4/2016 3:21 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.0º C.

Receipt Exceptions
For samples 1 and 2, one 250mL amber w/HCl is provided for DRO. For GRO/BTEX, samples 2, 4, and 5 have five VOAs and samples 1 and 3 four vials for analysis.

For each sample, some of the bottle labels have a sampling time 1-2 minutes later than the time listed on the CoC. All samples have at least one bottle whose label time matches CoC time.

GC Semi VOA
Method(s) AK102 & 103: Detected hydrocarbons appear to be due to gasoline overlap as well as diesel.

OB1MWDec15 (580-56285-5)

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

Client: Chem Track
Project/Site: AK Car and Van

TestAmerica Job ID: 580-56285-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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: Chem Track
Project/Site: AK Car and Van

TestAmerica Job ID: 580-56285-1

Client Sample ID: OB30MWDec15
Date Collected: 12/31/15 15:35
Date Received: 01/04/16 15:21

Lab Sample ID: 580-56285-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.20		ug/L			01/06/16 13:53	1
Ethylbenzene	ND		1.0		ug/L			01/06/16 13:53	1
m,p-Xylene	ND		2.0		ug/L			01/06/16 13:53	1
o-Xylene	ND		1.0		ug/L			01/06/16 13:53	1
Toluene	ND		1.0		ug/L			01/06/16 13:53	1
Xylenes, Total	ND		3.0		ug/L			01/06/16 13:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 140*		*01/06/16 13:53*	*1*
4-Bromofluorobenzene (Surr)	*92*		*68.7 - 141*		*01/06/16 13:53*	*1*
Dibromofluoromethane (Surr)	*99*		*71.2 - 143*		*01/06/16 13:53*	*1*
Toluene-d8 (Surr)	*102*		*74.1 - 135*		*01/06/16 13:53*	*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		100		ug/L			01/06/16 13:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*68.7 - 141*		*01/06/16 13:53*	*1*
a,a,a-Trifluorotoluene					*01/06/16 13:53*	*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)	ND		0.38		mg/L		01/12/16 14:26	01/18/16 12:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*78*		*50 - 150*	*01/12/16 14:26*	*01/18/16 12:10*	*1*
n-Triacontane-d62	*84*		*50 - 150*	*01/12/16 14:26*	*01/18/16 12:10*	*1*

Client: Chem Track
Project/Site: AK Car and Van

TestAmerica Job ID: 580-56285-1

Client Sample ID: OB3MWDec15
Date Collected: 12/31/15 15:42
Date Received: 01/04/16 15:21

Lab Sample ID: 580-56285-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.20		ug/L			01/06/16 14:14	1
Ethylbenzene	ND		1.0		ug/L			01/06/16 14:14	1
m,p-Xylene	ND		2.0		ug/L			01/06/16 14:14	1
o-Xylene	ND		1.0		ug/L			01/06/16 14:14	1
Toluene	ND		1.0		ug/L			01/06/16 14:14	1
Xylenes, Total	ND		3.0		ug/L			01/06/16 14:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 140*		*01/06/16 14:14*	*1*
4-Bromofluorobenzene (Surr)	*90*		*68.7 - 141*		*01/06/16 14:14*	*1*
Dibromofluoromethane (Surr)	*104*		*71.2 - 143*		*01/06/16 14:14*	*1*
Toluene-d8 (Surr)	*102*		*74.1 - 135*		*01/06/16 14:14*	*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		100		ug/L			01/06/16 14:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*68.7 - 141*		*01/06/16 14:14*	*1*
a,a,a-Trifluorotoluene					*01/06/16 14:14*	*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)	ND		0.38		mg/L		01/12/16 14:26	01/18/16 12:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*79*		*50 - 150*	*01/12/16 14:26*	*01/18/16 12:27*	*1*
n-Triacontane-d62	*82*		*50 - 150*	*01/12/16 14:26*	*01/18/16 12:27*	*1*

Client: Chem Track
Project/Site: AK Car and Van

TestAmerica Job ID: 580-56285-1

Client Sample ID: OB2MWDec15
Date Collected: 12/31/15 16:42
Date Received: 01/04/16 15:21

Lab Sample ID: 580-56285-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.20		ug/L			01/06/16 14:35	1
Ethylbenzene	ND		1.0		ug/L			01/06/16 14:35	1
m,p-Xylene	ND		2.0		ug/L			01/06/16 14:35	1
o-Xylene	ND		1.0		ug/L			01/06/16 14:35	1
Toluene	ND		1.0		ug/L			01/06/16 14:35	1
Xylenes, Total	ND		3.0		ug/L			01/06/16 14:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 140*		*01/06/16 14:35*	*1*
4-Bromofluorobenzene (Surr)	*91*		*68.7 - 141*		*01/06/16 14:35*	*1*
Dibromofluoromethane (Surr)	*101*		*71.2 - 143*		*01/06/16 14:35*	*1*
Toluene-d8 (Surr)	*93*		*74.1 - 135*		*01/06/16 14:35*	*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		100		ug/L			01/06/16 14:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*68.7 - 141*		*01/06/16 14:35*	*1*
a,a,a-Trifluorotoluene					*01/06/16 14:35*	*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)	ND		0.37		mg/L		01/12/16 14:26	01/18/16 12:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*79*		*50 - 150*	*01/12/16 14:26*	*01/18/16 12:45*	*1*
n-Triacontane-d62	*85*		*50 - 150*	*01/12/16 14:26*	*01/18/16 12:45*	*1*

Client Sample ID: G5Dec15

Date Collected: 12/31/15 17:31
Date Received: 01/04/16 15:21

Lab Sample ID: 580-56285-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.50**		0.20		ug/L			01/06/16 14:57	1
Ethylbenzene	**44**		1.0		ug/L			01/06/16 14:57	1
m,p-Xylene	**140**		20		ug/L			01/06/16 16:23	10
o-Xylene	ND		10		ug/L			01/06/16 16:23	10
Toluene	ND		1.0		ug/L			01/06/16 14:57	1
Xylenes, Total	**140**		30		ug/L			01/06/16 16:23	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 140*		*01/06/16 14:57*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 140*		*01/06/16 16:23*	*10*
4-Bromofluorobenzene (Surr)	*94*		*68.7 - 141*		*01/06/16 14:57*	*1*
4-Bromofluorobenzene (Surr)	*93*		*68.7 - 141*		*01/06/16 16:23*	*10*
Dibromofluoromethane (Surr)	*92*		*71.2 - 143*		*01/06/16 14:57*	*1*
Dibromofluoromethane (Surr)	*97*		*71.2 - 143*		*01/06/16 16:23*	*10*
Toluene-d8 (Surr)	*100*		*74.1 - 135*		*01/06/16 14:57*	*1*
Toluene-d8 (Surr)	*102*		*74.1 - 135*		*01/06/16 16:23*	*10*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**1100**		100		ug/L			01/06/16 14:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*68.7 - 141*		*01/06/16 14:57*	*1*
a,a,a-Trifluorotoluene					*01/06/16 14:57*	*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)	ND		0.38		mg/L		01/12/16 14:26	01/18/16 13:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*76*		*50 - 150*	*01/12/16 14:26*	*01/18/16 13:03*	*1*
n-Triacontane-d62	*79*		*50 - 150*	*01/12/16 14:26*	*01/18/16 13:03*	*1*

Client: Chem Track
Project/Site: AK Car and Van

TestAmerica Job ID: 580-56285-1

Client Sample ID: OB1MWDec15
Date Collected: 12/31/15 18:18
Date Received: 01/04/16 15:21

Lab Sample ID: 580-56285-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	3.6		0.20		ug/L			01/06/16 15:18	1
Ethylbenzene	37		1.0		ug/L			01/06/16 15:18	1
m,p-Xylene	88		20		ug/L			01/06/16 17:05	10
o-Xylene	22		10		ug/L			01/06/16 17:05	10
Toluene	6.3		1.0		ug/L			01/06/16 15:18	1
Xylenes, Total	110		30		ug/L			01/06/16 17:05	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 140*		*01/06/16 15:18*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 140*		*01/06/16 17:05*	*10*
4-Bromofluorobenzene (Surr)	*104*		*68.7 - 141*		*01/06/16 15:18*	*1*
4-Bromofluorobenzene (Surr)	*95*		*68.7 - 141*		*01/06/16 17:05*	*10*
Dibromofluoromethane (Surr)	*90*		*71.2 - 143*		*01/06/16 15:18*	*1*
Dibromofluoromethane (Surr)	*93*		*71.2 - 143*		*01/06/16 17:05*	*10*
Toluene-d8 (Surr)	*104*		*74.1 - 135*		*01/06/16 15:18*	*1*
Toluene-d8 (Surr)	*97*		*74.1 - 135*		*01/06/16 17:05*	*10*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	2900		100		ug/L			01/06/16 15:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*68.7 - 141*		*01/06/16 15:18*	*1*
a,a,a-Trifluorotoluene					*01/06/16 15:18*	*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)	0.89		0.38		mg/L		01/12/16 14:26	01/18/16 13:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*81*		*50 - 150*	*01/12/16 14:26*	*01/18/16 13:20*	*1*
n-Triacontane-d62	*87*		*50 - 150*	*01/12/16 14:26*	*01/18/16 13:20*	*1*

Client: Chem Track
Project/Site: AK Car and Van

TestAmerica Job ID: 580-56285-1

Client Sample ID: TB
Date Collected: 12/31/15 15:30
Date Received: 01/04/16 15:21

Lab Sample ID: 580-56285-6
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.20		ug/L			01/06/16 15:40	1
Ethylbenzene	ND		1.0		ug/L			01/06/16 15:40	1
m,p-Xylene	ND		2.0		ug/L			01/06/16 15:40	1
o-Xylene	ND		1.0		ug/L			01/06/16 15:40	1
Toluene	ND		1.0		ug/L			01/06/16 15:40	1
Xylenes, Total	ND		3.0		ug/L			01/06/16 15:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 140*		*01/06/16 15:40*	*1*
4-Bromofluorobenzene (Surr)	*95*		*68.7 - 141*		*01/06/16 15:40*	*1*
Dibromofluoromethane (Surr)	*101*		*71.2 - 143*		*01/06/16 15:40*	*1*
Toluene-d8 (Surr)	*98*		*74.1 - 135*		*01/06/16 15:40*	*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		100		ug/L			01/06/16 15:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*68.7 - 141*		*01/06/16 15:40*	*1*
a,a,a-Trifluorotoluene					*01/06/16 15:40*	*1*

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

Lab Sample ID: MB 590-4986/5
Matrix: Water
Analysis Batch: 4986

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.20		ug/L			01/06/16 12:05	1
Ethylbenzene	ND		1.0		ug/L			01/06/16 12:05	1
m,p-Xylene	ND		2.0		ug/L			01/06/16 12:05	1
o-Xylene	ND		1.0		ug/L			01/06/16 12:05	1
Toluene	ND		1.0		ug/L			01/06/16 12:05	1
Xylenes, Total	ND		3.0		ug/L			01/06/16 12:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 140*		*01/06/16 12:05*	*1*
4-Bromofluorobenzene (Surr)	*89*		*68.7 - 141*		*01/06/16 12:05*	*1*
Dibromofluoromethane (Surr)	*101*		*71.2 - 143*		*01/06/16 12:05*	*1*
Toluene-d8 (Surr)	*101*		*74.1 - 135*		*01/06/16 12:05*	*1*

Lab Sample ID: LCS 590-4986/1003
Matrix: Water
Analysis Batch: 4986

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	10.7		ug/L		107	80 - 140		
Ethylbenzene			10.0	10.4		ug/L		104	80 - 120		
m,p-Xylene			10.0	10.7		ug/L		107	80 - 120		
o-Xylene			10.0	10.1		ug/L		101	80 - 120		
Toluene			10.0	11.2		ug/L		112	80 - 123		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 140*
4-Bromofluorobenzene (Surr)	*93*		*68.7 - 141*
Dibromofluoromethane (Surr)	*95*		*71.2 - 143*
Toluene-d8 (Surr)	*100*		*74.1 - 135*

Lab Sample ID: LCSD 590-4986/13
Matrix: Water
Analysis Batch: 4986

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	9.52		ug/L		95	80 - 140	12	25
Ethylbenzene			10.0	9.76		ug/L		98	80 - 120	7	25
m,p-Xylene			10.0	9.63		ug/L		96	80 - 120	10	25
o-Xylene			10.0	9.78		ug/L		98	80 - 120	3	25
Toluene			10.0	10.3		ug/L		103	80 - 123	9	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 140*
4-Bromofluorobenzene (Surr)	*93*		*68.7 - 141*
Dibromofluoromethane (Surr)	*97*		*71.2 - 143*
Toluene-d8 (Surr)	*104*		*74.1 - 135*

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

Lab Sample ID: 580-56285-1 DU
Matrix: Water
Analysis Batch: 4986

Client Sample ID: OB30MWDec15
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Benzene	ND			ND		ug/L				NC	20
Ethylbenzene	ND			ND		ug/L				NC	20
m,p-Xylene	ND			ND		ug/L				NC	20
o-Xylene	ND			ND		ug/L				NC	20
Toluene	ND			ND		ug/L				NC	20
Xylenes, Total	ND			ND		ug/L				NC	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 140*
4-Bromofluorobenzene (Surr)	*90*		*68.7 - 141*
Dibromofluoromethane (Surr)	*99*		*71.2 - 143*
Toluene-d8 (Surr)	*99*		*74.1 - 135*

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

Lab Sample ID: MB 590-4995/5
Matrix: Water
Analysis Batch: 4995

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		100		ug/L			01/06/16 12:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*68.7 - 141*		*01/06/16 12:05*	*1*
a,a,a-Trifluorotoluene					*01/06/16 12:05*	*1*

Lab Sample ID: LCS 590-4995/1004
Matrix: Water
Analysis Batch: 4995

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]			998	984		ug/L		99	60 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*68.7 - 141*

Lab Sample ID: LCSD 590-4995/1012
Matrix: Water
Analysis Batch: 4995

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
Gasoline Range Organics [C6 - C10]			998	1050		ug/L		105	60 - 120	6	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*68.7 - 141*

Lab Sample ID: 580-56285-1 DU
Matrix: Water
Analysis Batch: 4995

Client Sample ID: OB30MWDec15
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	ND			ND		ug/L				NC	35

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*68.7 - 141*
a,a,a-Trifluorotoluene			

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

Lab Sample ID: MB 590-5069/1-A
Matrix: Water
Analysis Batch: 5127

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 5069

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		0.38		mg/L		01/12/16 14:26	01/18/16 11:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*87*		*50 - 150*	*01/12/16 14:26*	*01/18/16 11:18*	*1*
n-Triacontane-d62	*90*		*50 - 150*	*01/12/16 14:26*	*01/18/16 11:18*	*1*

Lab Sample ID: LCS 590-5069/2-A
Matrix: Water
Analysis Batch: 5127

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 5069

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics (DRO) (C10-C25)			1.61	1.42		mg/L		88	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*86*		*50 - 150*
n-Triacontane-d62	*89*		*50 - 150*

Lab Sample ID: LCSD 590-5069/3-A
Matrix: Water
Analysis Batch: 5127

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 5069

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics (DRO) (C10-C25)			1.61	1.44		mg/L		90	75 - 125	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*91*		*50 - 150*
n-Triacontane-d62	*95*		*50 - 150*

Client Sample ID: OB30MWDec15 — Lab Sample ID: 580-56285-1

Date Collected: 12/31/15 15:35 — **Matrix: Water**
Date Received: 01/04/16 15:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	4986	01/06/16 13:53	MRS	TAL SPK
Total/NA	Analysis	AK101		1	4995	01/06/16 13:53	MRS	TAL SPK
Total/NA	Prep	3510C			5069	01/12/16 14:26	NMI	TAL SPK
Total/NA	Analysis	AK102 & 103		1	5127	01/18/16 12:10	NMI	TAL SPK

Client Sample ID: OB3MWDec15 — Lab Sample ID: 580-56285-2

Date Collected: 12/31/15 15:42 — **Matrix: Water**
Date Received: 01/04/16 15:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	4986	01/06/16 14:14	MRS	TAL SPK
Total/NA	Analysis	AK101		1	4995	01/06/16 14:14	MRS	TAL SPK
Total/NA	Prep	3510C			5069	01/12/16 14:26	NMI	TAL SPK
Total/NA	Analysis	AK102 & 103		1	5127	01/18/16 12:27	NMI	TAL SPK

Client Sample ID: OB2MWDec15 — Lab Sample ID: 580-56285-3

Date Collected: 12/31/15 16:42 — **Matrix: Water**
Date Received: 01/04/16 15:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	4986	01/06/16 14:35	MRS	TAL SPK
Total/NA	Analysis	AK101		1	4995	01/06/16 14:35	MRS	TAL SPK
Total/NA	Prep	3510C			5069	01/12/16 14:26	NMI	TAL SPK
Total/NA	Analysis	AK102 & 103		1	5127	01/18/16 12:45	NMI	TAL SPK

Client Sample ID: G5Dec15 — Lab Sample ID: 580-56285-4

Date Collected: 12/31/15 17:31 — **Matrix: Water**
Date Received: 01/04/16 15:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	4986	01/06/16 14:57	MRS	TAL SPK
Total/NA	Analysis	8260C		10	4986	01/06/16 16:23	MRS	TAL SPK
Total/NA	Analysis	AK101		1	4995	01/06/16 14:57	MRS	TAL SPK
Total/NA	Prep	3510C			5069	01/12/16 14:26	NMI	TAL SPK
Total/NA	Analysis	AK102 & 103		1	5127	01/18/16 13:03	NMI	TAL SPK

Client Sample ID: OB1MWDec15 — Lab Sample ID: 580-56285-5

Date Collected: 12/31/15 18:18 — **Matrix: Water**
Date Received: 01/04/16 15:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	4986	01/06/16 15:18	MRS	TAL SPK

Lab Chronicle

Client: Chem Track
Project/Site: AK Car and Van

TestAmerica Job ID: 580-56285-1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		10	4986	01/06/16 17:05	MRS	TAL SPK
Total/NA	Analysis	AK101		1	4995	01/06/16 15:18	MRS	TAL SPK
Total/NA	Prep	3510C			5069	01/12/16 14:26	NMI	TAL SPK
Total/NA	Analysis	AK102 & 103		1	5127	01/18/16 13:20	NMI	TAL SPK

Client Sample ID: TB

Date Collected: 12/31/15 15:30
Date Received: 01/04/16 15:21

Lab Sample ID: 580-56285-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	4986	01/06/16 15:40	MRS	TAL SPK
Total/NA	Analysis	AK101		1	4995	01/06/16 15:40	MRS	TAL SPK

Laboratory References:

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

Certification Summary

Client: Chem Track
Project/Site: AK Car and Van

TestAmerica Job ID: 580-56285-1

Laboratory: TestAmerica Seattle

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
L-A-B	DoD ELAP		L2236	01-19-16

Laboratory: TestAmerica Spokane

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-071	10-31-16
Washington	State Program	10	C569	01-06-17

Sample Summary

Client: Chem Track
Project/Site: AK Car and Van

TestAmerica Job ID: 580-56285-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-56285-1	OB30MWDec15	Water	12/31/15 15:35	01/04/16 15:21
580-56285-2	OB3MWDec15	Water	12/31/15 15:42	01/04/16 15:21
580-56285-3	OB2MWDec15	Water	12/31/15 16:42	01/04/16 15:21
580-56285-4	G5Dec15	Water	12/31/15 17:31	01/04/16 15:21
580-56285-5	OB1MWDec15	Water	12/31/15 18:18	01/04/16 15:21
580-56285-6	TB	Water	12/31/15 15:30	01/04/16 15:21

Chain of Custody Record

Sampler ID: Steven McCain

Temperature on Receipt: _____

Drinking Water? Yes ☐ No ☐

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124-280 (0508)

Client	Project Manager	Date	Chain of Custody Number
ChemTrack Alaska, INC.	Steven McCain	12/31/15	155776
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 1**
11711 S. Gambell	907-349-2511 / 907-522-3150		
City	**State**	**Zip Code**	**Site Contact**	**Lab Contact**
Anchorage, AK	AK	99515		
Project Name and Location (State) 854 E. 36th Ak Car and Van Anchorage, AK	**Carrier/Waybill Number**			
Contract/Purchase Order/Quote No. C0313				

Sample I.D. No. and Description (Containers for each sample may be combined on one line)		Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: DRO AK102	GRO AK101	BTEX 8260C
OB30MWDec15	5	12/31/15	1535		X						X			X	X	X
OB3MWDec15	6	12/31/15	1542		X						X			X	X	X
OB2MWDec15	6	12/31/15	1642		X						X			X	X	X
G5Dec15	7	12/31/15	1731		X						X			X	X	X
OB1MWDec15	7	12/31/15	1818		X						X			X	X	X
TB	4	12/31/15	1530		X						X				X	X
(Note: # of sample containers ↑)																

Special Instructions/ Conditions of Receipt

580-56285 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months
(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other Standard

QC Requirements (Specify)
Anc - T: 5.0°C

	Date	Time		Date	Time
1. Relinquished By: Lorin Mills	1/4/16	1521	1. Received By	1/4/16	15:21
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments
Please email results to info@chemtrack.net

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

1/18/2016

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

1/18/2016

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Jonas, Wendy L	Carrier Tracking No(s):	COC No. 580-34915.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: wendy.jonas@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc		Analysis Requested		Job #: 580-56285-1
Address: 11922 East 1st Ave, ,	Due Date Requested: 1/14/2016			Preservation Codes:
City: Spokane	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: WA, 99206				
Phone: 509-924-9200(Tel) 509-924-9290(Fax)	PO #:			Other:
Email:	WO #:			
Project Name: AK Car and Van	Project #: 58009512			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C/5030C (MOD) BTEX + MTBE & Naphthalene	AK101_MS/5030B Gasoline Range Organics	AK102_103/3510C_LVI_14d Diesel Range Organics	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
OB30MWDec15 (580-56285-1)	12/31/15	15:35 Alaskan		Water			X	X	X	5	
OB3MWDec15 (580-56285-2)	12/31/15	15:42 Alaskan		Water			X	X	X	6	
OB2MWDec15 (580-56285-3)	12/31/15	16:42 Alaskan		Water			X	X	X	6	
G5Dec15 (580-56285-4)	12/31/15	17:31 Alaskan		Water			X	X	X	7	
OB1MWDec15 (580-56285-5)	12/31/15	18:18 Alaskan		Water			X	X	X	7	
TB (580-56285-6)	12/31/15	15:30 Alaskan		Water			X	X		4	

Possible Hazard Identification

Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	1/5/16 11:02	TA-AK	Sheila Krol	1/6/16 9:00	TA-APK
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No

Custody Seal No.: 617372

Cooler Temperature(s) °C and Other Remarks: 1.6° IR001

Login Sample Receipt Checklist

Client: Chem Track

Job Number: 580-56285-1

Login Number: 56285
List Number: 1
Creator: Pilch, Andrew C

List Source: TestAmerica Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
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	Refer to Job Narrative for details.
Samples are received within Holding Time.	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	Refer to Job Narrative for details.
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Chem Track

Job Number: 580-56285-1

Login Number: 56285
List Number: 2
Creator: Kratz, Sheila J

List Source: TestAmerica Spokane
List Creation: 01/06/16 09:12 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
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?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Chem Track

Job Number: 580-56285-1

Login Number: 56285
List Number: 3
Creator: Kratz, Sheila J

List Source: TestAmerica Spokane
List Creation: 01/06/16 09:15 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
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?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Appendix E:

Laboratory QC Checklist

Laboratory Data Review Checklist

Completed by: Steven McCain

Title: Project Engineer Date: February 03, 2016

CS Report Name: Alaska Car and Van Report Date: February, 2016

Consultant Firm: ChemTrack Alaska Inc.

Laboratory Name: TestAmerica Laboratory Report Number: 580-56285-1

ADEC File Number: 2100.26. 073 ADEC RecKey Number:

1. Laboratory
   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?
      ☒Yes ☐ No ☐NA (Please explain.) Comments:

      Test America Anchorage recieve all samples under COC #155776.

   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 ☐NA (Please explain.) Comments:

      Test America Spokane received all samples under COC #580-34915.1.

2. Chain of Custody (COC)
   a. COC information completed, signed, and dated (including released/received by)?
      ☒Yes ☐ No ☐NA (Please explain.) Comments:

   b. Correct analyses requested?
      ☒Yes ☐ No ☐NA (Please explain.) Comments:

3. Laboratory Sample Receipt Documentation
   a. Sample/cooler temperature documented and within range at receipt (4° – 2° C)?
      ☒Yes ☐ No ☐NA (Please explain.) Comments:

      The cooler temperature was recorded at 2.9 degrees celcius.

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?
      ☒Yes ☐ No ☐NA (Please explain.) Comments:

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?
☒Yes ☐ No ☐NA (Please explain.) Comments:

All samples were received in good condition, properly preserved and on ice.

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 ☐NA (Please explain.) Comments:

Test America noted, "for samples 1 and 2, one 250mL amber w/HCl is provided for DRO. For GRO/BTEX, samples 2, 4, and 5 have five VOAs and samples 1 and 3 four vials for analysis. For each sample, some of the bottle labels have a sampling time 1-2 minutes later than the time listed on the CoC. All samples have at least one bottle whose label time matches CoC time."

e. Data quality or usability affected? (Please explain.)
Comments:

Data quality acceptable.

4. Case Narrative
a. Present and understandable?
☒Yes ☐ No ☐NA (Please explain.) Comments:

b. Discrepancies, errors or QC failures identified by the lab?
☒Yes ☐ No ☐NA (Please explain.) Comments:

c. Were all corrective actions documented?
☒Yes ☐ No ☐NA (Please explain.) Comments:

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

Data quality acceptable.

5. Samples Results
a. Correct analyses performed/reported as requested on COC?
☒Yes ☐ No ☐NA (Please explain.) Comments:

b. All applicable holding times met?
☒Yes ☐ No ☐NA (Please explain.) Comments:

c. All soils reported on a dry weight basis?
☒Yes ☐ No ☐NA (Please explain.) Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?
☒Yes ☐ No ☐NA (Please explain.) Comments:

e. Data quality or usability affected?
Comments:

Data quality acceptable.

6. QC Samples
   a. Method Blank
      i. One method blank reported per matrix, analysis and 20 samples?
      ☒Yes ☐ No ☐NA (Please explain.) Comments:

      ii. All method blank results less than PQL?
      ☒Yes ☐ No ☐NA (Please explain.) Comments:

      iii. If above PQL, what samples are affected?
      Comments:

No method blanks above PQL.

      iv. Do the affected sample(s) have data flags and if so, are the data flags clearly defined?
      ☐Yes ☐ No ☒NA (Please explain.) Comments:

No affected samples in this data set.

      v. Data quality or usability affected? (Please explain.)
      Comments:

Data quality acceptable.

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 ☐NA (Please explain.) Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
☐Yes ☐ No ☒NA (Please explain.) Comments:

No metals analyzed in this data set.

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 ☐NA (Please explain.) 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 ☐NA (Please explain.) Comments:

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

All %R and RPD were within the acceptable limits.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
☐Yes ☐ No ☒NA (Please explain.) Comments:

No affected samples in this data set.

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

Data quality acceptable.

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?
☒Yes ☐ No ☐NA (Please explain.) 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 ☐NA (Please explain.) Comments:

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

☒Yes ☐ No ☒NA (Please explain.) Comments:

No failed surrogate recoveries.

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

Comments:

Data quality acceptable.

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 ☐NA (Please explain.) 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 ☐NA (Please explain.) Comments:

iii. All results less than PQL?

☒Yes ☐ No ☐NA (Please explain.) Comments:

iv. If above PQL, what samples are affected?

Comments:

N/A

v. Data quality or usability affected? (Please explain.)

Comments:

Data quality acceptable.

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?
☒Yes ☐ No ☐NA (Please explain.) Comments:

ii. Submitted blind to lab?
☒Yes ☐ No ☐NA (Please explain.) Comments:

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

RPD (%) = 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 ☐NA (Please explain.) Comments:

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

Comments:

Data quality acceptable.

f. Decontamination or Equipment Blank (If not used explain why).

☐Yes ☒ No ☐NA (Please explain.) Comments:

No decontamination or equipment blank submitted, new tubing used for each sample.

i. All results less than PQL?

☒Yes ☐ No ☒NA (Please explain.) Comments:

See above.

ii. If above PQL, what samples are affected?

Comments:

N/A

iii. Data quality or usability affected? (Please explain.)

Comments:

Data quality acceptable.

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)
   a. Defined and appropriate?
      ☐Yes ☐ No ☒NA (Please explain.) Comments:

No other data flags/qualifiers.