

April 24, 2018

Mr. Robert Weimer Alaska Department of Environmental Conservation 555 Cordova St. Anchorage, AK 99501

Re: 2017 Groundwater Monitoring Report

Dear Mr. Weimer:

Please find the electronic copy of the 2017 Groundwater Monitoring Report for the former Hanna Car Care Center Site.

If you have any questions, please feel free to contact me at (619) 838-1657.

Respectfully Submitted,

Zack Kirk Senior Environmental Scientist Rescon Alaska, LLC

2017 GROUNDWATER MONITORING REPORT

FORMER HANNA CAR CARE CENTER 180 MULDOON ROAD ANCHORAGE, ALASKA

April 2018

Prepared for:

Mr. Tony Kim

Prepared by:



1120 Huffman Road, Suite 24-431 Anchorage, AK 99515

Prepared by:

Kynan Adams, *Environmental Scientist* Rescon Alaska, LLC

Reviewed by:

Zachary Kirk Senior Project Manager Rescon Alaska, LLC

<u>April 11, 2018</u> Date - Page Intentionally Left Blank -

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ACRONYMS AND ABBREVIATIONS

°Cdegrees Celsius	
%percent	
AACAlaska Administrative Code	
ADECAlaska Department of Environmental Conservation	
AKAlaska	
BTEXbenzene, toluene, ethylbenzene, and total xylenes	
DROdiesel-range organics	
EPAEnvironmental Protection Agency	
GCLgroundwater cleanup level	
GROgasoline range organics	
HCIhydrochloric acid	
ICinstitutional control	
mg/lmilligrams per liter	
LODlimit of detection	
LOQlimit of quantification	
PAHpolycyclic aromatic hydrocarbons	
QCquality control	
RESCONRescon Alaska LLC	
RROresidual range organics	
USTunderground storage tanks	
YSIYSI 556 meter	



1. INTRODUCTION

Rescon Alaska, LLC (Rescon) has prepared this groundwater monitoring report to detail environmental services performed at the former Hanna Car Care Property located in Anchorage, Alaska on behalf of the property owner, Mr. Tony Kim. The former Hanna Car Care property (herein referred to as the "site" or "subject property") is located at 180 Muldoon Road in Anchorage, Alaska. A site location map of the property is presented in Figure 1. The Alaska Department of Environmental Conservation (ADEC) maintains a record of the property in the Contaminated Sites database under File Number 2100.26.204.

This report presents the field activities, observations, and results of the groundwater monitoring effort performed at the site on June 12, 2017.

1.1. Site Description and History

The Hanna Car Care site is located at the northwest corner of the intersection of Peck Avenue and Muldoon Road, in the northeastern portion of Anchorage. The site layout and adjacent properties are displayed on Figure 2. The site consists of a single-story building that houses an auto repair shop, a car wash, and a coin-operated laundry facility. A convenience store and gasoline service station was formerly located on the east side of the car wash building.

In May of 1999, the ADEC requested that the responsible party perform a remedial investigation and corrective action to address the release of petroleum fuels from the formerly used underground storage tanks (UST). Four registered USTs and five unregistered USTs were removed, cleaned, and disposed of during the fall/winter of 1999. Approximately 140 cubic yards of impacted soil was also excavated from the property and treated thermally.

Soil and groundwater characterization activities performed by Restoration Science and Engineering (RS&E) in 2003 reported concentrations of gasoline range organics (GRO), diesel range organics (DRO), and benzene, toluene, ethylbenzene, and xylenes (BTEX) in the soil above cleanup levels at several boring locations. In addition, groundwater sample results detected GRO, DRO, and benzene contamination in several of the monitoring wells at the site. A subsequent report presented remedial options for the site, with the recommended approach to construct an air sparge/vapor extraction system.

In 2004, Braunstein Geological and Environmental Services (BGES) was contracted to evaluate site conditions and review previous assessments performed at the site. BGES recommended additional groundwater sampling be performed and proceeded to conduct 14 groundwater monitoring events at the site beginning in 2004. One monitoring well (MW7) consistently exhibited concentrations of GRO, DRO, and BTEX constituents exceeding the ADEC cleanup criteria. However, samples collected during the fall of 2014 and the summer of 2015 indicated contaminant concentrations at MW7 had fallen below the respective ADEC cleanup levels.



1.2. Project Objective

The ADEC requested an additional groundwater monitoring sample be collected from monitoring well MW7 to confirm that contaminant concentrations remain below ADEC cleanup levels. The contaminants of concern for this site consist of the petroleum compounds GRO, BTEX, and polynuclear aromatic hydrocarbons (PAH).

1.3. Regulatory Framework

The regulatory framework for this project were developed under consideration of the following regulations and guidance documents

- 18 Alaska Administrative Code (AAC) 75, Oil and Other Hazardous Substances Pollution Control, January 2016.
- Field Sampling Guidance, ADEC Division of Spill Prevention and Response, Contaminated Sites Program, August 2017.

The analytical results of the groundwater samples collected during this monitoring effort were evaluated using the current version of the ADEC groundwater cleanup levels (GCLs) listed in Table C of 18 AAC 75; Oil and Other Hazardous Substances Pollution Control updated in November 2017.



2. FIELD ACTIVITIES

The groundwater sampling event was conducted on June 12, 2017. The field work was performed by Ryan Burich, a Qualified Environmental Professional as defined in 18 AAC 75.990(100) (ADEC, 2016). Copies of the project field notes and groundwater monitoring forms are included in Appendix A.

2.1. Monitoring Well Condition

During the 2017 monitoring effort, Rescon discovered the flush mount monument covering monitoring well MW7 was slightly damaged. The monument appeared to be bent inward, and upon removing the cover Rescon discovered the inside of the monument was filled with sediment. The sediment was cleared to expose the monitoring well compression cap, which was found to be loose. Following removal of the compression cap, it was observed that the upper portion of the monitoring well contained a minimal amount of residual sediment on the inside of the well.

2.2. Monitoring Groundwater Quality Parameters

The field scientist purged the monitoring wells in accordance with the low-flow sampling techniques outlined in the ADEC *Field Sampling Guidance* (ADEC, 2016). The groundwater was pumped to the surface using a variable speed submersible centrifugal pump and dedicated tubing. The tubing was connected to a flow-through cell for the measurement of water quality parameters using a YSI 556 meter (YSI). Groundwater quality parameters were monitored continuously with the YSI during purging. The pumping speed was set to maintain a minimum water level drawdown of less than one tenth of a meter (< 0.1 meter or < 0.33 feet). In accordance with low-flow sampling requirements, the monitoring wells were purged until three consecutive readings of water quality parameters, collected 3-5 minutes apart, met the following stability criteria:

- ± 0.1 for pH,
- ± 3 percent (%) for conductivity,
- ± 10 millivolts for redox potential, and
- ± 10% for dissolved oxygen.

All groundwater quality measurements and field observations were documented on the groundwater monitoring data sheet (Appendix A). A water and Alconox solution, as well as a deionized water rinse, was used to decontaminate the pump after sampling activities were completed.

2.3. Groundwater Sampling

Following stabilization of the groundwater parameters, the field scientist collected one primary and one field duplicate (17-FD-1) groundwater sample from the MW7 sample location well. The groundwater samples were submitted to the laboratory for the following analyses:



- GRO using Alaska (AK) Method 101,
- BTEX using EPA Method 8021,
- PAH using EPA Method 8270D-SIM.

The GRO and BTEX samples were collected into laboratory-provided clean 40 milliliter Volatile Organic Analysis (VOA) vials containing hydrochloric (HCI) acid preservative and secured with septa lids. The sample containers were completely filled to ensure no headspace was present to prevent volatilization. After filling, the containers were immediately capped, turned over and tapped to ensure no air bubbles were present. If air bubbles were observed, the container was opened, filled further, capped and inspected again. This process was repeated until no air bubbles were observed in the container. Care was taken to avoid overfilling the VOAs to ensure HCI acid preservative did not spill out of the containers. Groundwater collected for analysis of PAH concentration was filled into a clean unpreserved one-liter amber jar.

Nitrile gloves were worn by the sampler to prevent cross-contamination. Sample containers were sealed, labeled, given a unique identification number, and preserved in accordance with the analytical method. Once the containers were appropriately filled, the containers were labeled and immediately placed into a cooler with sufficient gel ice to maintain the sample temperatures at 4° Celsius (C) \pm 2°C until arrival at the analytical laboratory. The groundwater samples, along with a temperature blank and trip blank, were submitted to SGS North America, Inc., an ADEC approved laboratory, under proper chain of custody procedures.

2.4. Investigative Derived Waste

Purge and decontamination water was containerized into a 5-gallon bucket and stored inside the service garage on the property. Rescon transported the full container to NRC Alaska for appropriate treatment and disposal. The waste manifest is included in Appendix D. All remaining sampling derived waste, including disposable sample gloves, tubing, and paper waste was disposed of in a waste receptacle for the Anchorage Municipal Landfill.



3. RESULTS AND DISCUSSION

The analytical results for the groundwater samples are summarized in Table 1. The final laboratory analytical report from SGS North America is provided in Appendix B. The ADEC Laboratory Data Review Checklist for the analytical data package is provided in Appendix C.

3.1. Groundwater Quality Parameters

Prior to collecting the analytical groundwater sample from monitoring well MW7, Rescon measured the standard water quality parameters (pH, specific conductance, redox potential, and dissolved oxygen) using a YSI 556 water quality meter equipped with a flow-through cell, and recorded the data on the groundwater monitoring form (Appendix A). Purging was considered complete when water quality parameters had stabilized. Final stabilization parameters are summarized in the table below:

Well Point ID	Volume Purged (gallons)	рН	Specific Conductance (mS/cm)	Temperature (°C)	ORP
MW7	0.7	6.52	0.238	7.07	-65.0

Stabilized Water Quality Parameters

3.2. Groundwater Sample Results

The groundwater sample results are compared against the ADEC GCLs listed in Table C of ADEC Regulation 18 AAC 75, Oil and Other Hazardous Substances Pollution Control, updated in November 2017. Laboratory analysis of the groundwater samples detected contaminant concentrations below the ADEC GCLs at monitoring well location MW7, as shown in Table 1.

- GRO was detected at MW7 with a concentration of 0.494 mg/L, which is less than the ADEC GCL of 2.2 mg/L.
- Benzene was detected at MW7 with a concentration of 0.00419 mg/l, which is below the ADEC GCL of 0.0046 mg/L.
- Ethylbenzene was detected at MW7 with a concentration of 0.0054 mg/L, which is below the ADEC GCL of 0.015 mg/L.
- The individual PAH constituents were either detected at levels below the applicable cleanup levels, or were not detected above the limit of quantification (LOQ), and all LOQs were below the applicable cleanup criteria.

3.3. Laboratory Quality Analytical Report

Rescon evaluated the precision, accuracy, sensitivity, representativeness, comparability, and completeness of the data by reviewing laboratory-supplied quality control (QC) information as well as conducting quality assurance checks on the data. The analytical



results were reported by SGS North America, Inc. in Anchorage, AK in work order 1173257. Rescon completed the ADEC data review checklist for the laboratory report, which is included as Appendix C. The following provides a brief summary of data quality for this project.

Samples were received in good condition and were delivered to the laboratory within the acceptable temperature range. There were no sample-handling discrepancies that affected data quality. Method reporting limits were below the relevant ADEC groundwater cleanup levels for each reported analyte. Sample-custody paperwork was complete with the appropriate sample analysis documentation and handling signatures. Sample holding times were met.

Laboratory QC information indicated sufficient analytical accuracy and precision. Additionally, the relative percent difference calculations for field-duplicate samples indicated adequate overall precision, as well as representativeness and comparability of the dataset.

Overall the dataset is considered complete (100%), with no data rejected during the review. The data are usable for the purposes of the project.



4. CONCLUSIONS AND RECOMMENDATIONS

Rescon performed groundwater sampling activities at the former Hanna Car Care Center on June 12, 2017. The objective of this sampling event was to assess the groundwater quality at the site. One primary sample and one field duplicate sample was collected from monitoring well MW7 for the analysis of GRO, BTEX and PAHs. Both the primary and duplicate water samples exhibited concentrations of GRO, benzene, ethylbenzene, and total xylenes below the applicable ADEC cleanup criteria. All the PAH constituents were either below the applicable ADEC cleanup levels, or were non-detectable.

Review of the analytical results from the groundwater sampling event indicates that GRO, BTEX, and PAH concentrations do not exist in the groundwater at levels above the ADEC cleanup levels at this site. The results from this sampling effort constitutes the fourth consecutive monitoring event in which, contaminant concentrations at MW7 have been below ADEC cleanup criteria. The results of the last four monitoring events indicate that the contaminant concentrations in the groundwater on the site are below ADEC cleanup levels and the remnant contamination does not pose an offsite migration exposure concern. Based on these findings, Rescon recommends that groundwater monitoring wells be decommissioned, and that this site be awarded a Cleanup Complete status with Institutional Controls. Due to the existence of remnant contaminated soil on the property, Institutional Controls would be necessary to restrict future ground disturbance or soil or groundwater extraction activities without prior ADEC approval.



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5. REFERENCES

Alaska Department of Environmental Conservation (ADEC). 2017. Title18 Alaska Administrative Code (AAC) Chapter 75 (18 AAC 75) – *Oil and hazardous Substances Pollution Control.* January.

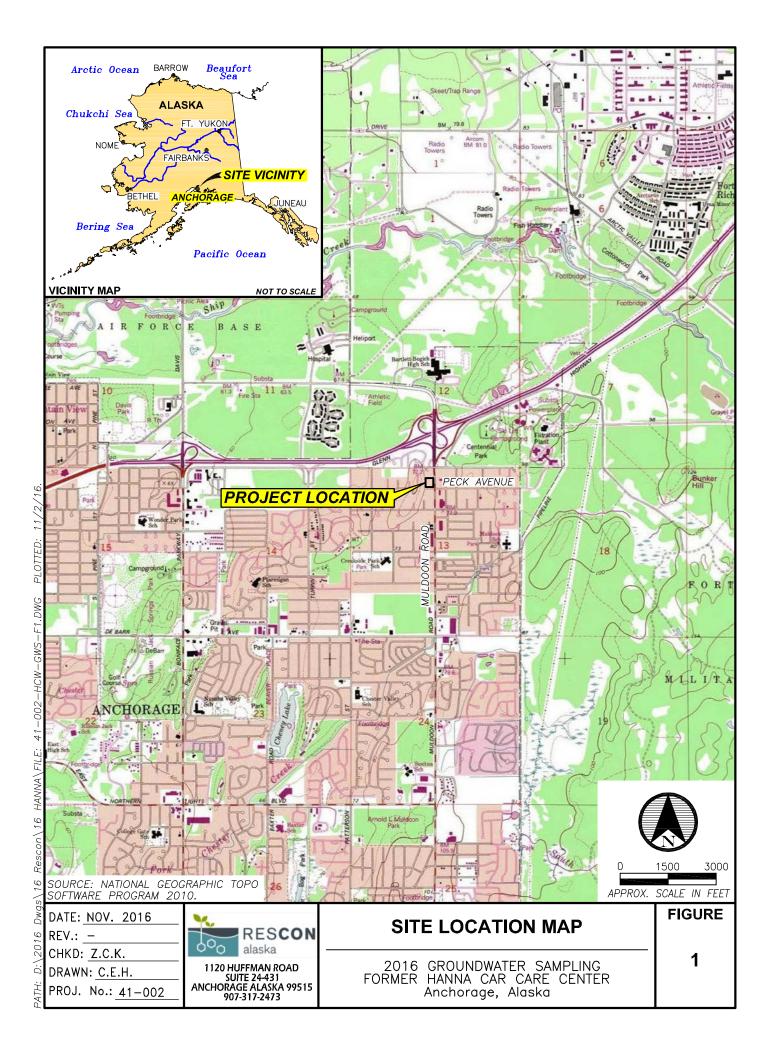
ADEC, 2017. Field Sampling Guidance. August.

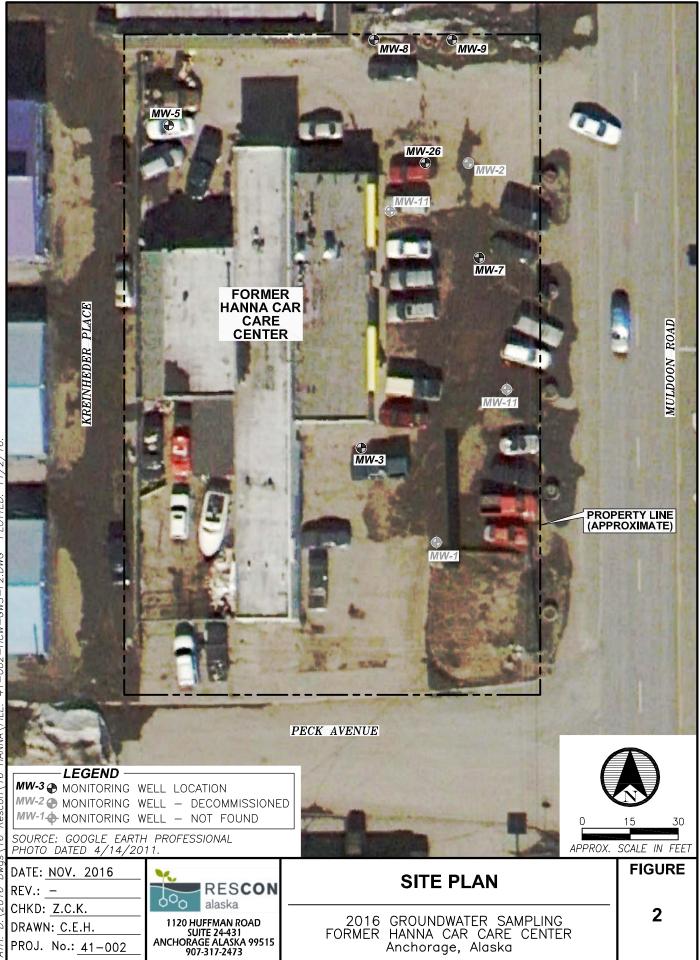
ADEC. 2015. Title 18 AAC Chapter 78 – Underground Storage Tanks. June.



FIGURES

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PATH: D:\2016 Dwgs\16 Rescon\16 HANNA\FILE: 41-002-HCW-GWS-F2.DWG PLOTTED: 11/2/16.

TABLES

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Table 1: Groundwater Analytical ResultsHanna Car Care Center

	Sample ID:	17-MW7	17-FD-1	17-EB-1	17-TB-1	
	Location ID:	M	W7	Equipment Blank	Trip Blank	
	Collect Date:	6/12/2017	6/12/2017	6/12/2017	6/12/2017	
Analyte	ADEC Cleanup Level (mg/L)		Laboratory Analy	tical Results (mg/L)		
Gasoline Range Organics	2.2	0.494	0.486	0.05 U	0.05 U	
Benzene	0.0046	0.00419	0.00422	0.000025 U	0.00025 U	
Toluene	1.1	0.0008 J	0.000910 J	0.00072 J	0.0005 U	
Ethylbenzene	0.015	0.0054	0.00578 J	0.0005 U	0.0005 U	
Total Xylenes	0.19	0.00154 J	0.00165 J	0.00143	0.001 U	
1-Methylnaphthalene	0.011	0.00378	0.00349	0.0000219 J	-	
2-Methylnaphthalene	0.036	0.000607	0.000536	0.0000377 J	-	
Acenaphthene	0.53	0.0000652	0.0000245 U	0.0000250 U	-	
Acenaphthylene	0.26	0.000024 U	0.0000245 U	0.0000250 U	-	
Anthracene	0.043	0.000024 U	0.0000245 U	0.0000250 U	-	
Benzo(a)Anthracene	0.00012	0.000024 U	0.0000245 U	0.0000250 U	-	
Benzo[a]pyrene	0.000034	0.000096 U	0.0000449	0.000010 U	-	
Benzo[b]Fluoranthene	0.00034	0.0000982	0.0000998	0.000025 U	-	
Benzo[g,h,i]perylene	0.00026	0.000115	0.00011	0.000025 U	-	
Benzo[k]fluoranthene	0.0008	0.000024 U	0.0000245 U	0.000025 U	-	
Chrysene	0.002	0.000024 U	0.0000245 U	0.000025 U	-	
Dibenzo[a,h]anthracene	0.000034	0.000096 U	0.0000098 U	0.00001 U	-	
Fluoranthene	0.26	0.0000668	0.0000748	0.000028 J	-	
Fluorene	0.29	0.0000282 J	0.0000245 U	0.000025 U	-	
Indeno[1,2,3-c,d]pyrene	0.00019	0.0000459 J	0.00006	0.000025 U	-	
Naphthalene	0.0017	0.000764	0.000599	0.0000598 J	-	
Phenanthrene	0.17	0.0000505	0.0000457 J	0.0000392 J	-	
Pyrene	0.12	0.000101	0.0000995	0.0000192 J	-	

Notes:

<u>Bolded underline red</u> values exceed ADEC limits in groundwater.

Key

AK = Alaska Method

J = Estimated value.

U = Analyte was considered not detected at or above the LOD

% = percentage

mg/L = miligram per liter

APPENDIX A

Field Notes and Groundwater Data Sheets

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Duercest Former Hanna Car Care 0 Wind Fright R. Burich 12 June 17 = 0945 - Calibrate YSI SSG (136100489) = 1142 - Onsite Speak w/owner of East Side Auto and Tire Service. -0 Owner shows location of MW-7 Monument appears to be slightly crushed. Inside is filled -0 alsochment. Dig through sediment to expose compression cop. Cop is loose. Open Cop and observe inner Surface of monitoring well Cosing is coated in sectiment. There could possibly be introduction of potential contaminants from ground su-face 1200 Collect depth-to-mater measurement. (see data sheet). 1205 Begin purging water with pump placed @ ~ 13.9' -below gound surface (in the upper 1' of water P Column). B-B-P 12 June 17 Scale: 1 square = Rite in the Rain

2 Former Hanna Car Care 12 June 17 R. Bunich 1255 Dater quality parameters ore stubilized Collect ground -Nater Sample. 1300 Collect field duplicate. 1305 Decon Submersible pump. 1310 Collect equipment blank by running distilled water through the pump. 1315 Label S-gallon bucket of purge water and leave ousite near garage extrance. 1320 Depart site

Scale: 1 square =

			GROUNDW	ATER SAMPLE D	ATA SHE	ET		-								
Project Number:				Sample Location (i	ie. MW1):	-	MW		-							
	Former +	tonna la	1 Care	Sample ID :		<u> </u>	7 - Mu		-							
Client:	Tons			Date Sample Colle	ected:	4		ne 17								
Sampler:	P. Bur			Time sampled:			129	S	-							
Sampler.	1 Day			Nell Information												
			Casing	1 /				19.29	THE .							
Groundwater:	Yes	1	Diameter (in):	din	A	a) Well Depth (ft) b) Water Depth (12.89								
						c) Water Column		Supportantial Address Television and a support of the support of t								
Other:			•			d) Pump Depth (1. 4 Miller 1.	3.9							
			± 3% FIEL	D MEASUREMEN	TS											
	Volume	10.1	Conductivity			The set of the s	± iomu Redox	± 10% Dissolved O2	DTW							
Time	(gallons)	pH	(mS)	Temperature (C)	Gry	Muderate		0.99	12.89							
1234 0.09	20033	6.30	0.307	6.83	Grey	Muchrat		0.76	12.89							
1237 0.01	for out	A.38	0.248	7.01	6-2	Micherate	-53.4	0.66	12.89							
1243 0.29		6.44	0,243	7-12	Grey	Moderat	-63,2	0.60	12.89							
12 46	0.394	6 48	0.240	7.06	67	SI-Med	-68.	0.64	12.89							
1249	0.495	6.49	0.239	7.10	Grey	SI-mod	-71,0	0.78	12.89							
1252	0.594	6.51	0.238		6~	St-med	-65.0	0.82	12.89							
1255	0.015	6.20			0											
				1					-							
					*	1	1	1	1							
Total Volume Purge	ed:		0.69.	3 2 9 1	Free Produ		A	10	- 10							
Odor: No Purge Method (dis	ne	r peristaltic n	ump submersib	le pump, etc.)	Sheen (y/r	<u>): No</u>										
	P		amp cannered													
125 ml/min																
Sample Method (d	isposable bai	Sample Method (disposable bailer, peristaltic pump, submersible pump, etc.)														
Sample Method (d	îsposable bai	ier, pensianic					Share and the		Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.) Monument slightly constrad' momment filled a/sedment.							
Sample Method (d				rly, cement seal inta	act, etc.)		1 1	1	1							
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Sample Method (d Well Integrity (cond Monor Remarks (well rec Good r Duplicate Sample Split Sample ID: Signed: Signed/reviewer	dition of casin , mon t overy, unusua t cover e ID:	19, flush-mour 51.5 h 31 conditions/o 7, No 1.7 7	the consistence of the constructions): draw a = FD - IS	lown lown lown	is e	Date:	1300	June 1								
Sample Method (d Well Integrity (cond Monor Remarks (well rec Good r Duplicate Sample Split Sample ID: Signed: Signed/reviewer	dition of casin , mon t overy, unusua t cover e ID:	19, flush-mour 51.5 h 31 conditions/o 7, No 1.7 7	the consistence of the constructions): draw a = FD - IS	lown lown lown	is e	Date:	1300	June 1								
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APPENDIX B

SGS Analytical report

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Laboratory Report of Analysis

To: ResCon Alaska 1120 Huffman Rd Ste 24-431 Anchorage, AK 99515 (907)677-7423

Report Number: 1173257

Client Project: Hanna Car Care

Dear Ryan Burich,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Forest at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely, SGS North America Inc.

Forest Taylor Project Manager Forest.Taylor@sgs.com Date

Print Date: 06/26/2017 8:22:36AM

SGS North America Inc.

200 West Potter Drive, Anchorage, AK 99518 t 907.562.2343 f 907.561.5301 www.us.sgs.com



Case Narrative

SGS Client: **ResCon Alaska** SGS Project: **1173257** Project Name/Site: **Hanna Car Care** Project Contact: **Ryan Burich**

Refer to sample receipt form for information on sample condition.

*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

Print Date: 06/26/2017 8:22:36AM

SGS North America Inc.

200 West Potter Drive, Anchorage, AK 99518 t 907.562.2343 f 907.561.5301 www.us.sgs.com

Member of SGS Group



	Report o	f Manual Integratior	IS	
Laboratory ID	Client Sample ID	Analytical Batch	Analyte	Reason
8270D SIM LV (P	AH)			
1173257001	, 17-MW7	XMS10129	Benzo[b]Fluoranthene	BLC
Manu	al Internation Dessan Code Descriptions			
wanu	al Integration Reason Code Descriptions			
Code	Description			
0	Original Chromatogram			
M	Modified Chromatogram			
SS	Skimmed surrogate			
BLG RP	Closed baseline gap			
PIR	Reassign peak name			
IT	Pattern integration required Included tail			
SP	Split peak			
RSP	Removed split peak			
FPS	Forced peak start/stop			
BLC	Baseline correction			
PNF	Peak not found by software			
All DR	O/RRO analysis are integrated per SOP.			

Print Date: 06/26/2017 8:22:37AM



Laboratory Qualifiers

tirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company der its General Conditions of Service accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx. ention is drawn to the limitation of liability, indenmification and jurisdiction issues defined therein.

y holder of this document is advised that information contained hereon reflects the Company's findings at the time of intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client d this document does not exonerate parties to a transaction from exercising all their rights and obligations under the nsaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this cument is unlawful and offenders may be prosecuted to the fullest extent of the law.

S maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan AP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 W Chemistry & Microbiology) & UST-005 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 20B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020A, 7470A, 7471B, 8015C, 8021B, 8082A, 8260C, 70D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). Except as specifically noted, all tements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable,

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
В	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
U	Indicates the analyte was analyzed for but not detected.
-	clude a result for "Total Solids" have already been adjusted for moisture content.
All DRO/RRO analyses are i	integrated per SOP.

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Note:

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Sample Summary						
Client Sample ID	Lab Sample ID	Collected	Received	Matrix		
17-MW7	1173257001	06/12/2017	06/12/2017	Water (Surface, Eff., Ground)		
17-FD-1	1173257002	06/12/2017	06/12/2017	Water (Surface, Eff., Ground)		
17-EB-1	1173257003	06/12/2017	06/12/2017	Water (Surface, Eff., Ground)		
17-TB-1	1173257004	06/12/2017	06/12/2017	Water (Surface, Eff., Ground)		
Method	Method Des	scription				

8270D SIM LV (PAH) AK101 SW8021B

8270 PAH SIM GC/MS Liq/Liq ext. LV AK101/8021 Combo. AK101/8021 Combo.

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Detectable Results Summary

Client Sample ID: 17-MW7			
Lab Sample ID: 1173257001	<u>Parameter</u>	Result	<u>Units</u>
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	3.78	ug/L
	2-Methylnaphthalene	0.607	ug/L
	Acenaphthene	0.0652	ug/L
	Benzo[b]Fluoranthene	0.0982	ug/L
	Benzo[g,h,i]perylene	0.115	ug/L
	Fluoranthene	0.0668	ug/L
	Fluorene	0.0282J	ug/L
	Indeno[1,2,3-c,d] pyrene	0.0459J	ug/L
	Naphthalene	0.764	ug/L
	Phenanthrene	0.0505	ug/L
	Pyrene	0.101	ug/L
Volatile Fuels	Benzene	4.19	ug/L
	Ethylbenzene	5.40	ug/L
	Gasoline Range Organics	0.494	mg/L
	o-Xylene	0.410J	ug/L
	P & M -Xylene	1.13J	ug/L
	Toluene	0.800J	ug/L
Client Sample ID: 17-FD-1			
Lab Sample ID: 1173257002	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	3.49	ug/L
	2-Methylnaphthalene	0.536	ug/L
	Benzo[a]pyrene	0.0449	ug/L
	Benzo[b]Fluoranthene	0.0998	ug/L
	Benzo[g,h,i]perylene	0.110	ug/L
	Fluoranthene	0.0748	ug/L
	Indeno[1,2,3-c,d] pyrene	0.0600	ug/L
	Naphthalene	0.599	ug/L
	Phenanthrene	0.0457J	ug/L
	Pyrene	0.0995	ug/L
Volatile Fuels	Benzene	4.22	ug/L
	Ethylbenzene	5.78	ug/L
	Gasoline Range Organics	0.486	mg/L
	o-Xylene	0.480J	ug/L
	P & M -Xylene	1.17J	ug/L
	Toluene	0.910J	ug/L
			-

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Detectable Results Summary

Client Sample ID: 17-EB-1			
Lab Sample ID: 1173257003	Parameter	Result	<u>Units</u>
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	0.0219J	ug/L
	2-Methylnaphthalene	0.0377J	ug/L
	Fluoranthene	0.0280J	ug/L
	Naphthalene	0.0598J	ug/L
	Phenanthrene	0.0392J	ug/L
	Pyrene	0.0192J	ug/L
Volatile Fuels	o-Xylene	0.430J	ug/L
	Toluene	0.720J	ug/L

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Results of 17-MW7

Client Sample ID: **17-MW7** Client Project ID: **Hanna Car Care** Lab Sample ID: 1173257001 Lab Project ID: 1173257

Collection Date: 06/12/17 12:55 Received Date: 06/12/17 16:52 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:

Results by Polynuclear Aromatics GC/MS

						Allowable	
Parameter	Result Qual	LOQ/CL	<u>DL</u>	<u>Units</u>	DF	<u>Limits</u>	Date Analyzed
1-Methylnaphthalene	3.78	0.0481	0.0144	ug/L	1	(06/15/17 22:52
2-Methylnaphthalene	0.607	0.0481	0.0144	ug/L	1	(06/15/17 22:52
Acenaphthene	0.0652	0.0481	0.0144	ug/L	1	(06/15/17 22:52
Acenaphthylene	0.0240 U	0.0481	0.0144	ug/L	1	(06/15/17 22:52
Anthracene	0.0240 U	0.0481	0.0144	ug/L	1	(06/15/17 22:52
Benzo(a)Anthracene	0.0240 U	0.0481	0.0144	ug/L	1	(06/15/17 22:52
Benzo[a]pyrene	0.00960 U	0.0192	0.00596	ug/L	1	(06/15/17 22:52
Benzo[b]Fluoranthene	0.0982	0.0481	0.0144	ug/L	1	(06/15/17 22:52
Benzo[g,h,i]perylene	0.115	0.0481	0.0144	ug/L	1	(06/15/17 22:52
Benzo[k]fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1	(06/15/17 22:52
Chrysene	0.0240 U	0.0481	0.0144	ug/L	1	(06/15/17 22:52
Dibenzo[a,h]anthracene	0.00960 U	0.0192	0.00596	ug/L	1	(06/15/17 22:52
Fluoranthene	0.0668	0.0481	0.0144	ug/L	1	(06/15/17 22:52
Fluorene	0.0282 J	0.0481	0.0144	ug/L	1	(06/15/17 22:52
Indeno[1,2,3-c,d] pyrene	0.0459 J	0.0481	0.0144	ug/L	1	(06/15/17 22:52
Naphthalene	0.764	0.0962	0.0298	ug/L	1	(06/15/17 22:52
Phenanthrene	0.0505	0.0481	0.0144	ug/L	1	(06/15/17 22:52
Pyrene	0.101	0.0481	0.0144	ug/L	1	(06/15/17 22:52
Surrogates							
2-Fluorobiphenyl (surr)	87.3	53-106		%	1	(06/15/17 22:52
Terphenyl-d14 (surr)	72.9	58-132		%	1	(06/15/17 22:52

Batch Information

Analytical Batch: XMS10129 Analytical Method: 8270D SIM LV (PAH) Analyst: S.G Analytical Date/Time: 06/15/17 22:52 Container ID: 1173257001-D Prep Batch: XXX37584 Prep Method: SW3520C Prep Date/Time: 06/15/17 09:11 Prep Initial Wt./Vol.: 260 mL Prep Extract Vol: 1 mL

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Client Sample ID: 17-MW7 Client Project ID: Hanna Car Care Lab Sample ID: 1173257001 Lab Project ID: 1173257	ľ	R M S	ollection Da eceived Da latrix: Water olids (%): ocation:	te: 06/12/ ⁻	17 16:52		
Results by Volatile Fuels							
<u>Parameter</u> Gasoline Range Organics	<u>Result Qual</u> 0.494	<u>LOQ/CL</u> 0.100	<u>DL</u> 0.0310	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> <u>Limits</u>	Date Analyzed 06/19/17 22:57
urrogates 4-Bromofluorobenzene (surr)	140	50-150		%	1		06/19/17 22:57
Analytical Batch: VFC13686 Analytical Method: AK101 Analyst: ST Analytical Date/Time: 06/19/17 22:57 Container ID: 1173257001-A			Prep Batch: Prep Method: Prep Date/Tir Prep Initial W Prep Extract	: SW5030B me: 06/19/1 /t./Vol.: 5 m	7 08:00		
Parameter Benzene	<u>Result Qual</u> 4.19	<u>LOQ/CL</u> 0.500	<u>DL</u> 0.150	<u>Units</u> ug/L	<u>DF</u> 1	<u>Allowable</u> Limits	Date Analyzed 06/19/17 22:57
Ethylbenzene	5.40	1.00	0.310	ug/L	1		06/19/17 22:57
o-Xylene	0.410 J	1.00	0.310	ug/L	1		06/19/17 22:57
P & M -Xylene Toluene	1.13 J 0.800 J	2.00 1.00	0.620 0.310	ug/L ug/L	1 1		06/19/17 22:57 06/19/17 22:57
urrogates	0.0000	1.00	0.010	ug, L	•		
1,4-Difluorobenzene (surr)	95.9	77-115		%	1		06/19/17 22:57
Batch Information							
Analytical Batch: VFC13686 Analytical Method: SW8021B Analyst: ST Analytical Date/Time: 06/19/17 22:57 Container ID: 1173257001-A			Prep Batch: Prep Method: Prep Date/Tir Prep Initial W Prep Extract	: SW5030B me: 06/19/1 /t./Vol.: 5 m	7 08:00		

Print Date: 06/26/2017 8:22:42AM

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Results of 17-FD-1

Client Sample ID: **17-FD-1** Client Project ID: **Hanna Car Care** Lab Sample ID: 1173257002 Lab Project ID: 1173257 Collection Date: 06/12/17 13:00 Received Date: 06/12/17 16:52 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:

Results by Polynuclear Aromatics GC/MS

						Allowable	
<u>Parameter</u>	Result Qual	LOQ/CL	<u>DL</u>	<u>Units</u>	<u>DF</u>	Limits	Date Analyzed
1-Methylnaphthalene	3.49	0.0490	0.0147	ug/L	1		06/15/17 23:15
2-Methylnaphthalene	0.536	0.0490	0.0147	ug/L	1		06/15/17 23:15
Acenaphthene	0.0245 U	0.0490	0.0147	ug/L	1		06/15/17 23:15
Acenaphthylene	0.0245 U	0.0490	0.0147	ug/L	1		06/15/17 23:15
Anthracene	0.0245 U	0.0490	0.0147	ug/L	1		06/15/17 23:15
Benzo(a)Anthracene	0.0245 U	0.0490	0.0147	ug/L	1		06/15/17 23:15
Benzo[a]pyrene	0.0449	0.0196	0.00608	ug/L	1		06/15/17 23:15
Benzo[b]Fluoranthene	0.0998	0.0490	0.0147	ug/L	1		06/15/17 23:15
Benzo[g,h,i]perylene	0.110	0.0490	0.0147	ug/L	1		06/15/17 23:15
Benzo[k]fluoranthene	0.0245 U	0.0490	0.0147	ug/L	1		06/15/17 23:15
Chrysene	0.0245 U	0.0490	0.0147	ug/L	1		06/15/17 23:15
Dibenzo[a,h]anthracene	0.00980 U	0.0196	0.00608	ug/L	1		06/15/17 23:15
Fluoranthene	0.0748	0.0490	0.0147	ug/L	1		06/15/17 23:15
Fluorene	0.0245 U	0.0490	0.0147	ug/L	1		06/15/17 23:15
Indeno[1,2,3-c,d] pyrene	0.0600	0.0490	0.0147	ug/L	1		06/15/17 23:15
Naphthalene	0.599	0.0980	0.0304	ug/L	1		06/15/17 23:15
Phenanthrene	0.0457 J	0.0490	0.0147	ug/L	1		06/15/17 23:15
Pyrene	0.0995	0.0490	0.0147	ug/L	1		06/15/17 23:15
Surrogates							
2-Fluorobiphenyl (surr)	85	53-106		%	1		06/15/17 23:15
Terphenyl-d14 (surr)	69.7	58-132		%	1		06/15/17 23:15

Batch Information

Analytical Batch: XMS10129 Analytical Method: 8270D SIM LV (PAH) Analyst: S.G Analytical Date/Time: 06/15/17 23:15 Container ID: 1173257002-D Prep Batch: XXX37584 Prep Method: SW3520C Prep Date/Time: 06/15/17 09:11 Prep Initial Wt./Vol.: 255 mL Prep Extract Vol: 1 mL

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Results of 17-FD-1 Client Sample ID: 17-FD-1 Client Project ID: Hanna Car Care Lab Sample ID: 1173257002 Lab Project ID: 1173257		R M S	ollection Da eceived Dat latrix: Water olids (%): ocation:	te: 06/12/	17 16:52		
Results by Volatile Fuels <u>Parameter</u> Gasoline Range Organics	<u>Result Qual</u> 0.486	<u>LOQ/CL</u> 0.100	<u>DL</u> 0.0310	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> <u>Limits</u>	Date Analyzed 06/19/17 23:55
Surrogates 4-Bromofluorobenzene (surr)	134	50-150		%	1		06/19/17 23:55
Batch Information Analytical Batch: VFC13686 Analytical Method: AK101 Analyst: ST Analytical Date/Time: 06/19/17 23:55 Container ID: 1173257002-A		i i	Prep Batch: Prep Method: Prep Date/Tir Prep Initial W Prep Extract	: SW5030E me: 06/19/′ ′t./Vol.: 5 m	17 08:00		
<u>Parameter</u> Benzene	<u>Result Qual</u> 4.22	<u>LOQ/CL</u> 0.500	<u>DL</u> 0.150	<u>Units</u> ug/L	<u>DF</u> 1	Allowable Limits	Date Analyzed 06/19/17 23:55
Ethylbenzene	5.78	1.00	0.310	ug/L	1		06/19/17 23:55
o-Xylene P & M -Xylene	0.480 J 1.17 J	1.00	0.310	ug/L	1		06/19/17 23:55
Toluene	0.910 J	2.00 1.00	0.620 0.310	ug/L ug/L	1 1		06/19/17 23:55 06/19/17 23:55
Surrogates				-			
1,4-Difluorobenzene (surr)	92.4	77-115		%	1		06/19/17 23:5
Batch Information							
Analytical Batch: VFC13686 Analytical Method: SW8021B Analyst: ST Analytical Date/Time: 06/19/17 23:55 Container ID: 1173257002-A		F	Prep Batch: Prep Method: Prep Date/Tir Prep Initial W Prep Extract	: SW5030E me: 06/19/′ ′t./Vol.: 5 m	17 08:00		

Print Date: 06/26/2017 8:22:42AM

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Results of 17-EB-1

Client Sample ID: **17-EB-1** Client Project ID: **Hanna Car Care** Lab Sample ID: 1173257003 Lab Project ID: 1173257 Collection Date: 06/12/17 13:10 Received Date: 06/12/17 16:52 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:

Results by Polynuclear Aromatics GC/MS

						Allowable	
Parameter	Result Qual	LOQ/CL	<u>DL</u>	<u>Units</u>	DF	Limits	Date Analyzed
1-Methylnaphthalene	0.0219 J	0.0500	0.0150	ug/L	1		06/19/17 16:46
2-Methylnaphthalene	0.0377 J	0.0500	0.0150	ug/L	1		06/19/17 16:46
Acenaphthene	0.0250 U	0.0500	0.0150	ug/L	1		06/19/17 16:46
Acenaphthylene	0.0250 U	0.0500	0.0150	ug/L	1		06/19/17 16:46
Anthracene	0.0250 U	0.0500	0.0150	ug/L	1		06/19/17 16:46
Benzo(a)Anthracene	0.0250 U	0.0500	0.0150	ug/L	1		06/19/17 16:46
Benzo[a]pyrene	0.0100 U	0.0200	0.00620	ug/L	1		06/19/17 16:46
Benzo[b]Fluoranthene	0.0250 U	0.0500	0.0150	ug/L	1		06/19/17 16:46
Benzo[g,h,i]perylene	0.0250 U	0.0500	0.0150	ug/L	1		06/19/17 16:46
Benzo[k]fluoranthene	0.0250 U	0.0500	0.0150	ug/L	1		06/19/17 16:46
Chrysene	0.0250 U	0.0500	0.0150	ug/L	1		06/19/17 16:46
Dibenzo[a,h]anthracene	0.0100 U	0.0200	0.00620	ug/L	1		06/19/17 16:46
Fluoranthene	0.0280 J	0.0500	0.0150	ug/L	1		06/19/17 16:46
Fluorene	0.0250 U	0.0500	0.0150	ug/L	1		06/19/17 16:46
Indeno[1,2,3-c,d] pyrene	0.0250 U	0.0500	0.0150	ug/L	1		06/19/17 16:46
Naphthalene	0.0598 J	0.100	0.0310	ug/L	1		06/19/17 16:46
Phenanthrene	0.0392 J	0.0500	0.0150	ug/L	1		06/19/17 16:46
Pyrene	0.0192 J	0.0500	0.0150	ug/L	1		06/19/17 16:46
Surrogates							
2-Fluorobiphenyl (surr)	99.7	53-106		%	1		06/19/17 16:46
Terphenyl-d14 (surr)	99.8	58-132		%	1		06/19/17 16:46

Batch Information

Analytical Batch: XMS10137 Analytical Method: 8270D SIM LV (PAH) Analyst: S.G Analytical Date/Time: 06/19/17 16:46 Container ID: 1173257003-D Prep Batch: XXX37584 Prep Method: SW3520C Prep Date/Time: 06/15/17 09:11 Prep Initial Wt./Vol.: 250 mL Prep Extract Vol: 1 mL

Print Date: 06/26/2017 8:22:42AM

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Results of 17-EB-1 Client Sample ID: 17-EB-1 Client Project ID: Hanna Car Care Lab Sample ID: 1173257003 Lab Project ID: 1173257		F N S	Collection Da Received Da Matrix: Water Solids (%): ocation:	te: 06/12/	17 16:52	und)	
Results by Volatile Fuels							
Parameter Gasoline Range Organics	<u>Result Qual</u> 0.0500 U	<u>LOQ/CL</u> 0.100	<u>DL</u> 0.0310	<u>Units</u> mg/L	<u>DF</u> 1	Allowable Limits	<u>Date Analyze</u> 06/20/17 02:5
u rrogates 4-Bromofluorobenzene (surr)	91.4	50-150		%	1		06/20/17 02:5
Batch Information							
Analytical Batch: VFC13686 Analytical Method: AK101 Analyst: ST Analytical Date/Time: 06/20/17 02:50 Container ID: 1173257003-A			Prep Batch: Prep Method: Prep Date/Tir Prep Initial W Prep Extract	: SW5030E me: 06/19/′ ′t./Vol.: 5 m	17 08:00		
<u>Parameter</u> Benzene	<u>Result Qual</u> 0.250 U	<u>LOQ/CL</u> 0.500	<u>DL</u> 0.150	<u>Units</u> ug/L	<u>DF</u> 1	<u>Allowable</u> <u>Limits</u>	<u>Date Analyze</u> 06/20/17 02:5
Ethylbenzene	0.230 U	1.00	0.310	ug/L	1		06/20/17 02:5
p-Xylene	0.430 J	1.00	0.310	ug/L	1		06/20/17 02:5
⊃ & M -Xylene	1.00 U	2.00	0.620	ug/L	1		06/20/17 02:5
Toluene	0.720 J	1.00	0.310	ug/L	1		06/20/17 02:5
urrogates							
1,4-Difluorobenzene (surr)	91	77-115		%	1		06/20/17 02:
Batch Information							
Analytical Batch: VFC13686 Analytical Method: SW8021B Analyst: ST Analytical Date/Time: 06/20/17 02:50 Container ID: 1173257003-A			Prep Batch: Prep Method: Prep Date/Tir Prep Initial W Prep Extract	: SW5030E me: 06/19/′ ′t./Vol.: 5 m	17 08:00		

Print Date: 06/26/2017 8:22:42AM

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Results of 17-TB-1 Client Sample ID: 17-TB-1 Client Project ID: Hanna Car Care Lab Sample ID: 1173257004 Lab Project ID: 1173257		R M S	ollection Da eceived Dat atrix: Water olids (%): ocation:	te: 06/12/	17 16:52		
Results by Volatile Fuels							
Parameter Gasoline Range Organics	<u>Result Qual</u> 0.0500 U	<u>LOQ/CL</u> 0.100	<u>DL</u> 0.0310	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> Limits	Date Analyzed 06/20/17 01:32
Surrogates 4-Bromofluorobenzene (surr)	92.1	50-150		%	1		06/20/17 01:32
Batch Information Analytical Batch: VFC13686 Analytical Method: AK101 Analyst: ST Analytical Date/Time: 06/20/17 01:32 Container ID: 1173257004-A		F	Prep Batch: ` Prep Method: Prep Date/Tir Prep Initial W Prep Extract `	: SW5030E me: 06/19/′ /t./Vol.: 5 m	17 08:00		
Parameter	Result Qual	LOQ/CL	DL	<u>Units</u>	<u>DF</u>	<u>Allowable</u> Limits	Date Analyzed
Benzene	0.250 U	0.500	0.150	ug/L	1		06/20/17 01:32
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/20/17 01:32
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/20/17 01:32
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		06/20/17 01:32
Toluene	0.500 U	1.00	0.310	ug/L	1		06/20/17 01:32
Surrogates 1,4-Difluorobenzene (surr)	92.4	77-115		%	1		06/20/17 01:32
Batch Information							
Analytical Batch: VFC13686 Analytical Method: SW8021B Analyst: ST Analytical Date/Time: 06/20/17 01:32 Container ID: 1173257004-A		F F	Prep Batch: ` Prep Method: Prep Date/Tir Prep Initial W Prep Extract `	: SW5030E me: 06/19/ [,] /t./Vol.: 5 m	17 08:00		

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Method Blank					
Blank ID: MB for HBN 17615 Blank Lab ID: 1391968	586 [VXX/30693]	Μ	atrix: Water (S	urface, Eff., Ground)	
QC for Samples: 1173257001, 1173257002					
Results by AK101					
Parameter Gasoline Range Organics	<u>Results</u> 0.0500U	<u>LOQ/CL</u> 0.100	<u>DL</u> 0.0310	<u>Units</u> mg/L	
Surrogates 4-Bromofluorobenzene (surr)	85.1	50-150		%	
Batch Information					
Analytical Batch: VFC13686 Analytical Method: AK101 Instrument: Agilent 7890 PI Analyst: ST Analytical Date/Time: 6/19/2	D/FID	Prep Prep Prep	9 Batch: VXX30 9 Method: SW50 9 Date/Time: 6/ 9 Initial Wt./Vol.: 9 Extract Vol: 5	030B 19/2017 8:00:00AM 5 mL	

Print Date: 06/26/2017 8:22:45AM



Blank Spike Summary

Blank Spike ID: LCS for HBN 1173257 [VXX30693] Blank Spike Lab ID: 1391971 Date Analyzed: 06/19/2017 16:48 Spike Duplicate ID: LCSD for HBN 1173257 [VXX30693] Spike Duplicate Lab ID: 1391972 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1173257001, 1173257002

Results by AK101									
	E	Blank Spike	e (mg/L)	S	pike Duplio	cate (mg/L)			
<u>Parameter</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>CL</u>	<u>RPD (%)</u>	RPD CL
Gasoline Range Organics	1.00	1.02	102	1.00	0.981	98	(60-120)	4.20	(< 20)
Surrogates									
4-Bromofluorobenzene (surr)	0.0500	96.2	96	0.0500	94.6	95	(50-150)	1.60	
Batch Information Analytical Batch: VFC13686 Analytical Method: AK101 Instrument: Agilent 7890 PID/ Analyst: ST	/FID			Prep Prep Spik	e Init Wt./\	SW5030B e: 06/19/20 1 /ol.: 1.00 mg	7 08:00 g/L Extract ∖ g/L Extract V		

Print Date: 06/26/2017 8:22:47AM

SGS

Method Blank

Blank ID: MB for HBN 1761586 [VXX/30693] Blank Lab ID: 1391968 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1173257001, 1173257002

Results by SW8021B

-				
Parameter	Results	LOQ/CL	<u>DL</u>	<u>Units</u>
Benzene	0.250U	0.500	0.150	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Surrogates				
1,4-Difluorobenzene (surr)	94.5	77-115		%

Batch Information

Analytical Batch: VFC13686 Analytical Method: SW8021B Instrument: Agilent 7890 PID/FID Analyst: ST Analytical Date/Time: 6/19/2017 3:50:00PM Prep Batch: VXX30693 Prep Method: SW5030B Prep Date/Time: 6/19/2017 8:00:00AM Prep Initial Wt./Vol.: 5 mL Prep Extract Vol: 5 mL

Print Date: 06/26/2017 8:22:49AM



Blank Spike Summary

Blank Spike ID: LCS for HBN 1173257 [VXX30693] Blank Spike Lab ID: 1391969 Date Analyzed: 06/19/2017 16:29 Spike Duplicate ID: LCSD for HBN 1173257 [VXX30693] Spike Duplicate Lab ID: 1391970 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1173257001, 1173257002

Results by SW8021B

		Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	<u>Rec (%)</u>	Spike	Result	<u>Rec (%)</u>	<u>CL</u>	<u>RPD (%)</u>	RPD CL	
Benzene	100	111	111	100	113	113	(80-120)	2.10	(< 20)	
Ethylbenzene	100	107	107	100	108	108	(75-125)	0.80	(< 20)	
o-Xylene	100	105	105	100	103	103	(80-120)	2.00	(< 20)	
P & M -Xylene	200	211	105	200	211	105	(75-130)	0.01	(< 20)	
Toluene	100	105	105	100	107	107	(75-120)	1.80	(< 20)	
Surrogates										
1,4-Difluorobenzene (surr)	50	104	104	50	98.2	98	(77-115)	6.00		

Batch Information

Analytical Batch: VFC13686 Analytical Method: SW8021B Instrument: Agilent 7890 PID/FID Analyst: ST Prep Batch: VXX30693 Prep Method: SW5030B Prep Date/Time: 06/19/2017 08:00 Spike Init Wt./Vol.: 100 ug/L Extract Vol: 5 mL Dupe Init Wt./Vol.: 100 ug/L Extract Vol: 5 mL

Print Date: 06/26/2017 8:22:52AM

SGS

QC for Samples: 1173257003, 1173257004					
Results by AK101					
Parameter Re	esults	LOQ/CL	<u>DL</u>	<u>Units</u>	
Gasoline Range Organics 0.	0500U	0.100	0.0310	mg/L	
Surrogates					
4-Bromofluorobenzene (surr) 87	7.8	50-150		%	
Batch Information					
Analytical Batch: VFC13686		Prep Bato	ch: VXX30694		
Analytical Method: AK101		Prep Metl	hod: SW5030B		
Instrument: Agilent 7890 PID/FID			7 8:00:00AM		
Analyst: ST Analytical Date/Time: 6/20/2017 1	12.34.00AM		al Wt./Vol.: 5 mL act Vol: 5 mL		
Analytical Date/Time. 0/20/2017			LOC VOI. OTHE		



Blank Spike Summary

Blank Spike ID: LCS for HBN 1173257 [VXX30694] Blank Spike Lab ID: 1391985 Date Analyzed: 06/20/2017 06:22 Spike Duplicate ID: LCSD for HBN 1173257 [VXX30694] Spike Duplicate Lab ID: 1391986 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1173257003, 1173257004

Results by AK101			_							
	E	Blank Spike	e (mg/L)	S	pike Duplic	cate (mg/L)				
Parameter	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>CL</u>	<u>RPD (%)</u>	RPD CL	
Gasoline Range Organics	1.00	0.981	98	1.00	0.977	98	(60-120)	0.42	(< 20)	
Surrogates										
4-Bromofluorobenzene (surr)	0.0500	92.2	92	0.0500	94.7	95	(50-150)	2.70		
Batch Information										
Analytical Batch: VFC13686				Prep	Batch: V	XX30694				
Analytical Method: AK101				Prep	Prep Method: SW5030B					
Instrument: Agilent 7890 PID	/FID			Prep Date/Time: 06/19/2017 08:00						
Analyst: ST				Spik	e Init Wt./\	/ol.: 1.00 mg	g/L Extract \	/ol: 5 mL		
<u>_</u>				Dup	e Init Wt./V	/ol.: 1.00 mg	g/L Extract V	ol: 5 mL		

Print Date: 06/26/2017 8:22:56AM

Method Blank

SG:

Blank ID: MB for HBN 1761588 [VXX/30694] Blank Lab ID: 1391982

QC for Samples:

1173257003, 1173257004

Results by SW8021B

Parameter	Results	LOQ/CL	<u>DL</u>	<u>Units</u>
Benzene	0.250U	0.500	0.150	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Surrogates				
1,4-Difluorobenzene (surr)	92.9	77-115		%

Batch Information

Analytical Batch: VFC13686 Analytical Method: SW8021B Instrument: Agilent 7890 PID/FID Analyst: ST Analytical Date/Time: 6/20/2017 12:34:00AM Prep Batch: VXX30694 Prep Method: SW5030B Prep Date/Time: 6/19/2017 8:00:00AM Prep Initial Wt./Vol.: 5 mL Prep Extract Vol: 5 mL

Matrix: Water (Surface, Eff., Ground)

Print Date: 06/26/2017 8:22:58AM



Blank Spike Summary

Blank Spike ID: LCS for HBN 1173257 [VXX30694] Blank Spike Lab ID: 1391983 Date Analyzed: 06/20/2017 06:03 Spike Duplicate ID: LCSD for HBN 1173257 [VXX30694] Spike Duplicate Lab ID: 1391984 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1173257003, 1173257004

Results by SW8021B

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	<u>Rec (%)</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>CL</u>	<u>RPD (%)</u>	RPD CL
Benzene	100	112	112	100	113	113	(80-120)	0.70	(< 20)
Ethylbenzene	100	106	106	100	107	107	(75-125)	0.81	(< 20)
o-Xylene	100	101	101	100	104	104	(80-120)	3.20	(< 20)
P & M -Xylene	200	207	103	200	210	105	(75-130)	1.60	(< 20)
Toluene	100	106	106	100	107	107	(75-120)	0.56	(< 20)
Surrogates									
1,4-Difluorobenzene (surr)	50	110	110	50	104	104	(77-115)	5.70	

Batch Information

Analytical Batch: VFC13686 Analytical Method: SW8021B Instrument: Agilent 7890 PID/FID Analyst: ST Prep Batch: VXX30694 Prep Method: SW5030B Prep Date/Time: 06/19/2017 08:00 Spike Init Wt./Vol.: 100 ug/L Extract Vol: 5 mL Dupe Init Wt./Vol.: 100 ug/L Extract Vol: 5 mL

Print Date: 06/26/2017 8:23:00AM



Method Blank

Blank ID: MB for HBN 1761085 [XXX/37584] Blank Lab ID: 1390909 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1173257001, 1173257003

Results by 8270D SIM LV (PAH)

Parameter	Results	LOQ/CL	DL	Units
1-Methylnaphthalene	0.0250U	0.0500	0.0150	ug/L
2-Methylnaphthalene	0.0250U	0.0500	0.0150	ug/L
Acenaphthene	0.0250U	0.0500	0.0150	ug/L
Acenaphthylene	0.0250U	0.0500	0.0150	ug/L
Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo(a)Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo[a]pyrene	0.0100U	0.0200	0.00620	ug/L
Benzo[b]Fluoranthene	0.0250U	0.0500	0.0150	ug/L
Benzo[g,h,i]perylene	0.0250U	0.0500	0.0150	ug/L
Benzo[k]fluoranthene	0.0250U	0.0500	0.0150	ug/L
Chrysene	0.0250U	0.0500	0.0150	ug/L
Dibenzo[a,h]anthracene	0.0100U	0.0200	0.00620	ug/L
Fluoranthene	0.0250U	0.0500	0.0150	ug/L
Fluorene	0.0250U	0.0500	0.0150	ug/L
Indeno[1,2,3-c,d] pyrene	0.0250U	0.0500	0.0150	ug/L
Naphthalene	0.0500U	0.100	0.0310	ug/L
Phenanthrene	0.0250U	0.0500	0.0150	ug/L
Pyrene	0.0250U	0.0500	0.0150	ug/L
Surrogates				
2-Fluorobiphenyl (surr)	82.8	53-106		%
Terphenyl-d14 (surr)	82.8	58-132		%

Batch Information

Analytical Batch: XMS10129 Analytical Method: 8270D SIM LV (PAH) Instrument: Agilent GC 7890B/5977A SWA Analyst: S.G Analytical Date/Time: 6/15/2017 8:15:00PM Prep Batch: XXX37584 Prep Method: SW3520C Prep Date/Time: 6/15/2017 9:11:26AM Prep Initial Wt./Vol.: 250 mL Prep Extract Vol: 1 mL

Print Date: 06/26/2017 8:23:02AM

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1173257 [XXX37584] Blank Spike Lab ID: 1390910 Date Analyzed: 06/15/2017 20:37 Spike Duplicate ID: LCSD for HBN 1173257 [XXX37584] Spike Duplicate Lab ID: 1390911 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1173257001, 1173257002, 1173257003

Results by 8270D SIM LV (PAH)

		Blank Spike (ug/L)			Spike Duplicate (ug/L)				
Parameter	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>CL</u>	<u>RPD (%)</u>	RPD CL
1-Methylnaphthalene	2	1.59	79	2	1.67	83	(41-115)	5.20	(< 20)
2-Methylnaphthalene	2	1.49	74	2	1.55	77	(39-114)	4.10	(< 20)
Acenaphthene	2	1.94	97	2	1.93	96	(48-114)	0.65	(< 20)
Acenaphthylene	2	1.61	81	2	1.63	82	(35-121)	1.20	(< 20)
Anthracene	2	1.74	87	2	1.79	90	(53-119)	2.80	(< 20)
Benzo(a)Anthracene	2	1.67	84	2	1.56	78	(59-120)	6.90	(< 20)
Benzo[a]pyrene	2	1.54	77	2	1.43	72	(53-120)	7.10	(< 20)
Benzo[b]Fluoranthene	2	1.61	81	2	1.52	76	(53-126)	5.50	(< 20)
Benzo[g,h,i]perylene	2	1.43	72	2	1.30	65	(44-128)	9.90	(< 20)
Benzo[k]fluoranthene	2	1.66	83	2	1.51	76	(54-125)	9.30	(< 20)
Chrysene	2	1.76	88	2	1.67	84	(57-120)	5.20	(< 20)
Dibenzo[a,h]anthracene	2	1.41	71	2	1.29	64	(44-131)	9.00	(< 20)
Fluoranthene	2	1.72	86	2	1.64	82	(58-120)	5.10	(< 20)
Fluorene	2	1.72	86	2	1.76	88	(50-118)	2.30	(< 20)
Indeno[1,2,3-c,d] pyrene	2	1.47	74	2	1.37	69	(48-130)	7.10	(< 20)
Naphthalene	2	1.22	61	2	1.32	66	(43-114)	7.60	(< 20)
Phenanthrene	2	1.65	82	2	1.79	89	(53-115)	8.10	(< 20)
Pyrene	2	1.81	91	2	1.70	85	(53-121)	6.60	(< 20)
Surrogates									
2-Fluorobiphenyl (surr)	2	93.2	93	2	101	101	(53-106)	8.40	
Terphenyl-d14 (surr)	2	105	105	2	103	103	(58-132)	1.90	

Batch Information

Analytical Batch: XMS10129 Analytical Method: 8270D SIM LV (PAH) Instrument: Agilent GC 7890B/5977A SWA Analyst: S.G Prep Batch: XXX37584 Prep Method: SW3520C Prep Date/Time: 06/15/2017 09:11 Spike Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL Dupe Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL

Print Date: 06/26/2017 8:23:05AM

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F083-Blank_COC_Templates_2015-03-19

http://www.sgs.com/terms-and-conditions

Section 5 Section 2 Section 1 Relinquished By: (4) Relinquished By: (3) Relinquished By: (2) RESERVED for lab use INVOICE TO: REPORTS TO: NAME: PROJECT CONTACT: CLIENT: Relinquished By: (1) R-usil Hanna Car Care Ryan Rescon 17-78-17-25-41 SAMPLE IDENTIFICATION 7- 10-17-88-Rescon Ryan Burich Burich Ryan Burich Alaska Project/ PWSID/ PERMIT#: P.O. # 41-002 QUOTE #: E-MAIL: PHONE #: rburich @ resconclosta.e Date Date Date tı/e1/1 Date +1/1/1 4-10/2 6 tiolo mm/dd/yy DATE とて 41-002 341-9305 Time 10.52 Time Time Time 1651 0800 1310 HH:MM 1300 1255 TIME Received For Laboratory B Received By: Received By: とった **Received By:** water water とれた MATRIX MATRIX CODE Summe No. Ter at S 5 S ζ ωυμε ≻ - z o o Section 3 Bunic と A Type: B Pres: ନ (Multi-incre-Comp A mental Grab Instructions: Sections 1 - 5 must be filled out. ≦ **Omissions may delay the onset of analysis** 7 GRO/BTEX X 7 (AK101/8021B) 4₀ × PAH (8270D-SIM) None Requested Turnaround Time and/or Special Instructions: Temp Blank °C: 4.5° Section 4 Cooler ID: (See attached Sample Receipt Form) Standard or Ambient [] Preservative DOD Project? Yes No NA 生りし DURNNUM (See attached Sample Receipt Form **Data Deliverable Requirements:** Chain of Custody Seal: (Circle) INTACT BROKEN Standard Trip Blank Page L of _ **REMARKS**/ ABSENT



SGS North America Inc. CHAIN OF CUSTODY RECORD



Page 25 of 27

200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557



e-Sam<u>ple Receipt Form</u>

202	SGS Workorder #:	1	1732	257		7 3 2 5	₩ ₩
Revie	w Criteria	Condition (Yes,	No, N/A	Exc	eptions Not	ed below	
Chain of C	ustody / Temperature Requir	rements	١	es Exemption pe	rmitted if samp	ler hand carries/deliv	/ers.
W	Vere Custody Seals intact? Note # & I	ocation N/A					
	COC accompanied sa	mples? Yes					
	Yes **Exemption permitted if o	chilled & colle	cted <8 ho	urs ago, or for san	ples where chi		
		Yes	Cooler ID	<mark>:</mark> 1	@	4.5 °C Therm. ID:	21
			Cooler ID	:	@	°C Therm. ID:	
Temperature	Temperature blank compliant* (i.e., 0-6 °C after CF				@	°C Therm. ID:	
			Cooler ID		@	°C Therm. ID:	
			Cooler ID	:	@	°C Therm. ID:	
*If >6°C,	were samples collected <8 hours	ago? N/A					
lf ·	<0°C, were sample containers ice	free? N/A					
If samples received	without a temperature blank, the "	'cooler					
	nented in lieu of the temperature b						
	ed to the right. In cases where ne						
temp blank nor cooler t	temp can be obtained, note "ambie cl	ent" or hilled".					
	received at non-compliant temper form FS-0029 if more space is ne						
Holding Time / Docu	umentation / Sample Condition Re	quirements	Note: Refe	er to form F-083 "S	ample Guide" f	or specific holding ti	mes.
Wer	e samples received within holding	time? Yes					
Do samples match COC**	(i.e.,sample IDs,dates/times colle	cted)? Yes					
**Note: If times diff	fer <1hr, record details & login per	COC.					
Were analyses requested una	ambiguous? (i.e., method is specif						
	analyses with >1 option for an	alysis)					
				***Exemption	permitted for m	etals (e.g,200.8/602	04)
Were proper containers (t	ype/mass/volume/preservative***)						<u></u>
	Volatile / LL-Hg Requ						
Were Trin Rlanks (i e	., VOAs, LL-Hg) in cooler with san						
	ree of headspace (i.e., bubbles ≤ 6						
	VOAs field extracted with MeOH+	-					
	Any "No", answer above indicates nor		with stands	and procedures and	t may impact d		
	היוש איט , מוזפאיבו מטטעפ ווועונמנפג 101	r-compliance	with stanua	ard procedures and	a may impact di	ata quality.	
	Additiona	l notes (if a	pplicable	e):			



Sample Containers and Preservatives

Container Id	Preservative	<u>Container</u> Condition	Container Id	Preservative	<u>Container</u> Condition
1173257001-A	HCL to pH < 2	ОК			
1173257001-B	HCL to $pH < 2$	ОК			
1173257001-C	HCL to $pH < 2$	ОК			
1173257001-D	No Preservative Required	ОК			
1173257001-E	No Preservative Required	ОК			
1173257002-A	HCL to $pH < 2$	ОК			
1173257002-B	HCL to pH < 2	ОК			
1173257002-C	HCL to $pH < 2$	ОК			
1173257002-D	No Preservative Required	ОК			
1173257002-E	No Preservative Required	ОК			
1173257003-A	HCL to pH < 2	ОК			
1173257003-В	HCL to $pH < 2$	ОК			
1173257003-C	HCL to $pH < 2$	ОК			
1173257003-D	No Preservative Required	ОК			
1173257003-E	No Preservative Required	ОК			
1173257004-A	HCL to pH < 2	ОК			
1173257004-B	HCL to pH < 2	ОК			
1173257004-C	HCL to pH < 2	ОК			

Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.

- BU The container was received with headspace greater than 6mm.
- DM- The container was received damaged.

FR- The container was received frozen and not usable for Bacteria or BOD analyses.

PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis

requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

APPENDIX C

ADEC Laboratory Data Review Checklist

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Laboratory Data Review Checklist

Completed by:	Kynan Adams
Title:	Environmental Scientist Date: 3/15/2018
CS Report Name:	2017 Groundwater Monitoring Report Report Date: March 2018
Consultant Firm:	Rescon Alaska, LLC
Laboratory Name	: SGS North America, Inc. Laboratory Report Number: 1173257
ADEC File Numb	1989210016401
	ADEC CS approved laboratory receive and <u>perform</u> all of the submitted sample analyses? Yes DNO DNA (Please explain.) Comments:
	samples were transferred to another "network" laboratory or sub-contracted to an alternate tory, was the laboratory performing the analyses ADEC CS approved? Yes \Box No X \Box NA (Please explain.) Comments:
	ody (COC) nformation completed, signed, and dated (including released/received by)? Yes DNO DNA (Please explain.) Comments:
	et analyses requested? Yes INO INA (Please explain.) Comments:
a. Sampl	Imple Receipt Documentatione/cooler temperature documented and within range at receipt $(4^\circ \pm 2^\circ C)$?Yes \square No \square NA (Please explain.)Comments:
Volati	e preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, le Chlorinated Solvents, etc.)? Yes DNO DNA (Please explain.) Comments:
c. Sampl	e condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

Samples were received in good condition.

Comments:

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.?

 \[
 \begin{bmatrix} Yes & \Box No & X \Box NA (Please explain.)
 \]
 Comments:

There were no sample-receiving discrepancies. e. Data quality or usability affected? (Please explain.) Comments: Data quality and usability were not affected. 4. Case Narrative a. Present and understandable? X□Yes \Box No \Box NA (Please explain.) Comments: b. Discrepancies, errors or QC failures identified by the lab? \Box Yes X \Box No \Box NA (Please explain.) Comments: c. d. Were all corrective actions documented? \Box Yes \Box No X \Box NA (Please explain.) Comments[.] e. What is the effect on data quality/usability according to the case narrative? Comments:

5. Samples Results

- a. Correct analyses performed/reported as requested on COC?
 - $X \square Yes \square No \square NA (Please explain.)$

Comments:

b. All applicable holding times met?

 $X \Box Yes$ \Box No $\Box NA$ (Please explain.)

Comments:

Ċ.	c. All soils reported on a dry weight basis? \Box Yes \Box No X \Box NA (Please explain.) Comments:	
d.	d. Are the reported PQLs less than the Cleanup Level or the minimum requ project?	uired detection level for th
	X \Box Yes \Box No \Box NA (Please explain.) Comment	nts:
e.	e. Data quality or usability affected?	
	Comments:	
-	- Data quality or usability were not affected.	
Sa a.	Samples a. Method Blank i. One method blank reported per matrix, analysis and 20 samples? X□Yes □ No □NA (Please explain.) Comment	
	ii. All method blank results less than PQL? $X \Box Yes$ \Box No \Box NA (Please explain.)Comment	nts:
	iii. If above PQL, what samples are affected? Comments:	
1	N/A, see above.	
	iv. Do the affected sample(s) have data flags and if so, are the data flags \Box Yes \Box No X \Box NA (Please explain.) Comments:	flags clearly defined?
	v. Data quality or usability affected? (Please explain.) Comments:	
	Data quality and usability were not affected.	
<u> </u>	b. Laboratory Control Sample/Duplicate (LCS/LCSD)	

6.

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

 \Box Yes \Box No X \Box NA (Please explain.)

Comments:

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

 $X \square Yes$ \square No \square NA (Please explain.)

Comments:

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

NA

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

See above.

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

Comments:

Data quality or usability was not affected.

c. Surrogates - Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples? $X \square Yes \square No \square NA$ (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)

 $X \Box Yes$ \Box No $\Box NA$ (Please explain.)

Comments:

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

\Box Yes \Box No X \Box NA (Please expla
--

Comments:

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

- d. Trip blank Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): <u>Water and</u> <u>Soil</u>
 - i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (If not, enter explanation below.)

 $X \Box Yes$ \Box No $\Box NA$ (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)

$X \Box Yes$ \Box No $\Box NA$ (Please explain.)Comme

One cooler was used to transport all of the samples.

iii. All results less than PQL?							
X□Yes	\square No	\Box 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 and usability were unaffected.

e. Field Duplicate

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

ii. Submitted blind to lab?

Х	K□Yes	\Box No \Box NA (Please explain.)		Comments:			
ii	iii. Precision – All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)						
	RPD (%)	= Absolute value of:	$\frac{(R_1-R_2)}{((R_1+R_2)/2)}$ x	100			
2	Where K□Yes	e R_1 = Sample Conce R_2 = Field Duplicate \Box No \Box NA (Please	ntration e Concentration	n Comments:			
iv. Data quality or usability affected? (Use the comment box to explain why or why not.							
Data q	uality or usal	bility was not affected	d.				
				Comments:			
f. Decontamination or Equipment Blank (If not used explain why).							
2	X□Yes	\Box No \Box NA (Please	e explain.)	Comments:			
i.	All results	e less than PQL?					
Х	K□Yes	\Box No \Box NA (Please	e explain.)	Comments:			
ii	i If above P	QL, what samples ar	e affected?				
11		QL, what sumples a	e unecteu:	Comments:			
Not ap	plicable (see	above)					
	<u> </u>		10 (21				
11	iii. Data quality or usability affected? (Please explain.)						
				Comments:			
Not ap	plicable (see	above)					
	Elags/Qualifient ned and approximately and approximately a	ers (ACOE, AFCEE, opriate?	Lab Specific, e	etc.)			
	11	o□NA (Please explai	in.)	Comments:			

APPENDIX D

Waste Management

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*** IN CASE OF EMERGENCY CALL 1-800-899-4672 *** 124949-PARK NON-HAZARDOUS WASTE MANIFEST

Plea	se print or type (Form designed for use on elite (1	2 pitch) typewriter)							
ą	NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No. VSQG	,		Manifest Document No.	124949A	2. Page 1 of 1		
RESCON ALASKA, LLC RESCON ALASKA, LLC 1120 HUFFMAN ROAD (24-431) ANCHORAGE, AK 99515 RESCON ALASKA FOR TONY KIM 180 MULDOON ROAD ANCHORAGE, AK 99501									
	4. Generator's Phone ()	2	ANCHURAGE, AK 990			(-			
	5. Transporter 1 Company Name CLIENT DELIVERED	5. Transporter 1 Company Name 6. US EPA ID Number				A. State Transporter's ID			
	7. Transporter 2 Company Name				B. Transporter 1 Phone				
						C. State Transporter's ID D. Transporter 2 Phone			
	9. Designated Facility Name and Site Address					E. State Facility's ID			
	NRC ALASKA LLC 2020 VIKING DRIVE ANCHORAGE, AK 99501	RC ALASKA LLC 20 VIKING DRIVE			F. Facility's Phone (907) 258-1558				
			7111000004104						
Г	11. WASTE DESCRIPTION			Coi No.	ntainers Type	13. Total Quantity	14. Unit Wt./Vol.		
+	a. Material Not Regulated by DO	Т		110.	тура	Guanny	vvi./vol.		
				1	DF	20	Р		
GUZURATOR	—— b .——								
ER						manifect them in the second second second			
AFO									
R	d								
	G. Additional Descriptions for Materials Listed Above			D1	H. Handling Cod 5077	des for Wastes Listed Above			
	CAUSOT OILT WATER				5077				
	15. Special Handling Instructions and Additional Inform								
	Shipper's Certification: This is to	certify that the abov	e-named materials are	proper	ly classifie	d, described,			
	packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation								
	etter center distant patient patient	an analar analar anala	W DIRECTO AMERICAN ARTICLES IN	Marian A	and and a	scientific seconds assess	ar Markey hores		
	16. GENERATOR'S CERTIFICATION: I hereby certif	v that the contents of this shipme	ant are fully and accurately described a	and are in a		NEW ARM ARE	T BR AN		
	in proper condition for transport. The materials de	scribed on this manifest are not s	subject to federal hazardous waste reg	ulations.					
	Printed/ftund Name			-	\square		Date		
	Printed/Typed Name	S	Signature hu		K		Day Year		
TR	17. Transporter 1 Acknowledgement of Receipt of Ma	Iterials	110M	-7			Date		
TRANSPORTER	SKYNAN ADAMS		signature Fynald			Mont 04	h Day Year		
ORTE	 Transporter 2 Acknowledgement of Receipt of Ma Printed/Typed Name 	terials	Signature			Mont	Date h Day Year		
	19. Discrepancy Indication Space								
F Iso Discrepancy indication space A C									
	20. Facility Owner or Operator: Certification of receipt	of the waste materials covered b	by this manifest, except as noted in iter	n 19.		 	Date		
τ̈́Υ	Printed/Typed Name		Signature			Mont			

NON-HAZARDOUS WASTE