



July 17, 2019

ADEC CSP
Attn: Paul Horwath
43335 Kalifornsky Beach Rd., Ste. 11
Soldotna, AK 99669

Re: Kasilof Tesoro/Kasilof Riverview Lodge Monitoring Well Sampling; ADEC File Number 2319.26.002

Dear Mr. Horwath:

The purpose of this letter is to provide you with information you need to be informed to make regulatory decisions regarding the monitoring well sampling event that EHX performed at the Kasilof Riverview Lodge, which is also a Tesoro gas station, in July 5, 2019. The Kasilof Riverview Lodge gas station is located adjacent to the Kasilof River at 57440 Sterling Highway at approximately milepost 109.5.

Three monitoring wells remain at the site; however, only monitor well #1 was sampled during this sampling event. Only 5 gallons of water was bailed from the well prior to sampling. After bailing 5 gallons the water remained somewhat turbid. The sampling equipment we used was stainless steel 1 inch bailers. The well we were primarily concerned with was monitoring well #1 due to its history of benzene contamination.

As each monitoring well cap was removed we used a photoionization detector (PID) to determine if there were any hydrocarbon gasses retained in the well. The PID reading for every well was zero parts per million.

The primary contaminant of concern at this site is benzene. Analytical sampling was performed in monitoring well #1 for GRO and BTEX. The analytical processes undertaken by the laboratory were AK101 and EPA 8021B for both respectively.

One sample was collected for laboratory analysis along with a trip blank. The results of that analytical testing, performed by SGS laboratories in Anchorage, Alaska, is shown in the Table 1 below. All of the parameters tested for were not detected.



KASILOF TESORO - Monitoring Well Results

	GRO	Benzene	Toluene	Ethylbenzene	Xylene
KT-1	ND	ND	ND	ND	ND

Table 1

The static groundwater level was determined for as three wells. A Google Earth image is included in this report that provides the water depth of each well. There are two Google Earth images included showing the general location of the Kasilof Riverview Lodge and the locations of all three monitoring wells.

The sample results from this sampling event and the prior sampling event performed in August 2018 were both below the ADEC regulatory cleanup level. ADEC Regulations require a series of sampling events whose results fall below the regulatory cleanup level prior to regulatory closure being permitted. This site may meet that standard.

Please feel free to contact me if you have any questions regarding this or any other related matter. My contact information is included in the footer below.

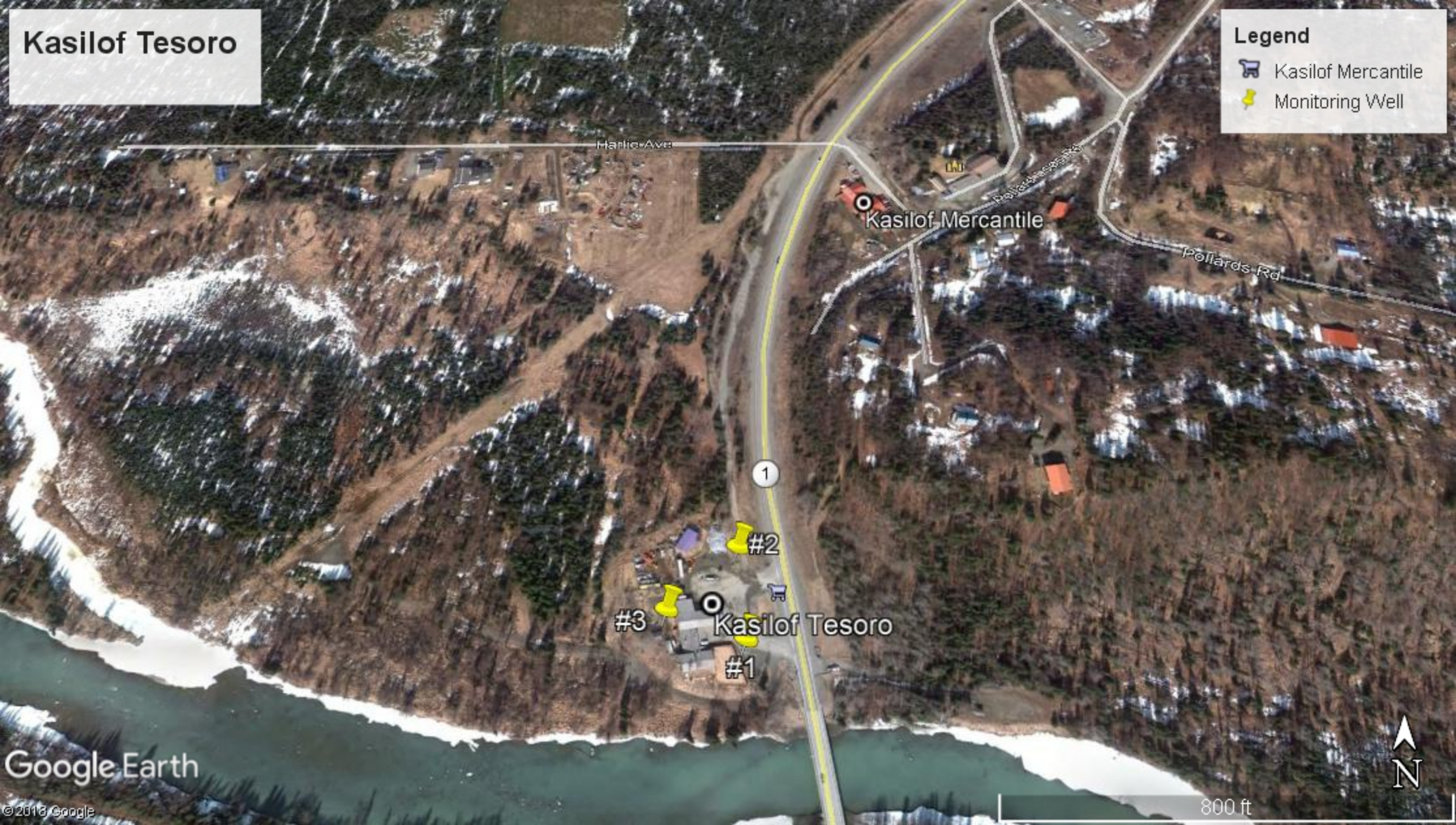
Sincerely,

Eric Henry

Kasilof Tesoro


Legend

-  Kasilof Mercantile
-  Monitoring Well



Kasilof Tesoro

Legend

 Monitoring Well

3 - 30.42'

#2 - 33.01'

#1 - 32.35'

Sterling Hwy





Laboratory Report of Analysis

To: EHX Alaska
52785 Birch Tree Avenue
Kenai, AK 99611
(907)350-9008

Report Number: **1193614**

Client Project: **Kasilof Tesoro**

Dear Eric Henry,

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 Jillian 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.

Jillian Janssen
Project Manager
Jillian.Janssen@sgs.com

Date

Case Narrative

SGS Client: **EHX Alaska**
SGS Project: **1193614**
Project Name/Site: **Kasilof Tesoro**
Project Contact: **Eric Henry**

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: 07/11/2019 12:20:16PM

Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

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

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry (DW Chemistry (Provisionally Certified as of 6/20/19 for Turbidity by SM 2130B, and Copper by EPA 200.8) & Microbiology) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020A, 7470A, 7471B, 8015C, 8021B, 8082A, 8260C, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

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.
B	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.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.

Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
KT-1	1193614001	07/05/2019	07/08/2019	Water (Surface, Eff., Ground)
Trip Blank	1193614002	07/05/2019	07/08/2019	Water (Surface, Eff., Ground)

<u>Method</u>	<u>Method Description</u>
AK101	AK101/8021 Combo.
SW8021B	AK101/8021 Combo.

Print Date: 07/11/2019 12:20:17PM



Results of **KT-1**

Client Sample ID: **KT-1**
Client Project ID: **Kasilof Tesoro**
Lab Sample ID: 1193614001
Lab Project ID: 1193614

Collection Date: 07/05/19 10:35
Received Date: 07/08/19 08:31
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.100 U	0.100	0.0310	mg/L	1		07/10/19 03:01

Surrogates

4-Bromofluorobenzene (surr)	86.8	50-150		%	1		07/10/19 03:01
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Batch Information

Analytical Batch: VFC14810
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/10/19 03:01
Container ID: 1193614001-A

Prep Batch: VXX34394
Prep Method: SW5030B
Prep Date/Time: 07/09/19 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.500 U	0.500	0.150	ug/L	1		07/10/19 03:01
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		07/10/19 03:01
o-Xylene	1.00 U	1.00	0.310	ug/L	1		07/10/19 03:01
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		07/10/19 03:01
Toluene	1.00 U	1.00	0.310	ug/L	1		07/10/19 03:01
Xylenes (total)	3.00 U	3.00	0.930	ug/L	1		07/10/19 03:01

Surrogates

1,4-Difluorobenzene (surr)	96.3	77-115		%	1		07/10/19 03:01
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Batch Information

Analytical Batch: VFC14810
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 07/10/19 03:01
Container ID: 1193614001-A

Prep Batch: VXX34394
Prep Method: SW5030B
Prep Date/Time: 07/09/19 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/11/2019 12:20:19PM



Results of Trip Blank

Client Sample ID: **Trip Blank**
Client Project ID: **Kasilof Tesoro**
Lab Sample ID: 1193614002
Lab Project ID: 1193614

Collection Date: 07/05/19 10:35
Received Date: 07/08/19 08:31
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.100 U	0.100	0.0310	mg/L	1		07/10/19 01:32

Surrogates

4-Bromofluorobenzene (surr)	83.8	50-150		%	1		07/10/19 01:32
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Batch Information

Analytical Batch: VFC14810
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/10/19 01:32
Container ID: 1193614002-A

Prep Batch: VXX34394
Prep Method: SW5030B
Prep Date/Time: 07/09/19 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.500 U	0.500	0.150	ug/L	1		07/10/19 01:32
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		07/10/19 01:32
o-Xylene	1.00 U	1.00	0.310	ug/L	1		07/10/19 01:32
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		07/10/19 01:32
Toluene	1.00 U	1.00	0.310	ug/L	1		07/10/19 01:32
Xylenes (total)	3.00 U	3.00	0.930	ug/L	1		07/10/19 01:32

Surrogates

1,4-Difluorobenzene (surr)	97.1	77-115		%	1		07/10/19 01:32
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Batch Information

Analytical Batch: VFC14810
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 07/10/19 01:32
Container ID: 1193614002-A

Prep Batch: VXX34394
Prep Method: SW5030B
Prep Date/Time: 07/09/19 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/11/2019 12:20:19PM



Method Blank

Blank ID: MB for HBN 1796050 [VXX/34394]

Blank Lab ID: 1517597

QC for Samples:

1193614001, 1193614002

Matrix: Water (Surface, Eff., Ground)

Results by AK101

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Gasoline Range Organics	0.0500U	0.100	0.0310	mg/L
Surrogates				
4-Bromofluorobenzene (surr)	91.3	50-150		%

Batch Information

Analytical Batch: VFC14810

Analytical Method: AK101

Instrument: Agilent 7890A PID/FID

Analyst: ST

Analytical Date/Time: 7/9/2019 2:24:00PM

Prep Batch: VXX34394

Prep Method: SW5030B

Prep Date/Time: 7/9/2019 8:00:00AM

Prep Initial Wt./Vol.: 5 mL

Prep Extract Vol: 5 mL

Print Date: 07/11/2019 12:20:20PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1193614 [VXX34394]
 Blank Spike Lab ID: 1517600
 Date Analyzed: 07/09/2019 21:39

Spike Duplicate ID: LCSD for HBN 1193614 [VXX34394]
 Spike Duplicate Lab ID: 1517601
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1193614001, 1193614002

Results by AK101

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Gasoline Range Organics	1.00	1.12	112	1.00	1.09	109	(60-120)	2.50	(< 20)

Surrogates

4-Bromofluorobenzene (surr)	0.0500	93.7	94	0.0500	87.8	88	(50-150)	6.50	
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Batch Information

Analytical Batch: **VFC14810**
 Analytical Method: **AK101**
 Instrument: **Agilent 7890A PID/FID**
 Analyst: **ST**

Prep Batch: **VXX34394**
 Prep Method: **SW5030B**
 Prep Date/Time: **07/09/2019 08:00**
 Spike Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL
 Dupe Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL

Print Date: 07/11/2019 12:20:21PM

Method Blank

Blank ID: MB for HBN 1796050 [VXX/34394]
 Blank Lab ID: 1517597

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
 1193614001, 1193614002

Results by SW8021B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<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
Xylenes (total)	1.50U	3.00	0.930	ug/L
Surrogates				
1,4-Difluorobenzene (surr)	96.4	77-115		%

Batch Information

Analytical Batch: VFC14810
 Analytical Method: SW8021B
 Instrument: Agilent 7890A PID/FID
 Analyst: ST
 Analytical Date/Time: 7/9/2019 2:24:00PM

Prep Batch: VXX34394
 Prep Method: SW5030B
 Prep Date/Time: 7/9/2019 8:00:00AM
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1193614 [VXX34394]
 Blank Spike Lab ID: 1517598
 Date Analyzed: 07/09/2019 21:21

Spike Duplicate ID: LCSD for HBN 1193614 [VXX34394]
 Spike Duplicate Lab ID: 1517599
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1193614001, 1193614002

Results by SW8021B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	100	102	102	100	109	109	(80-120)	7.30	(< 20)
Ethylbenzene	100	102	102	100	101	101	(75-125)	1.10	(< 20)
o-Xylene	100	99.6	100	100	97.5	98	(80-120)	2.20	(< 20)
P & M -Xylene	200	203	101	200	198	99	(75-130)	2.10	(< 20)
Toluene	100	103	103	100	106	106	(75-120)	2.60	(< 20)
Xylenes (total)	300	302	101	300	296	99	(79-121)	2.10	(< 20)

Surrogates

1,4-Difluorobenzene (surr)	50	100	100	50	101	101	(77-115)	0.50	
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Batch Information

Analytical Batch: **VFC14810**
 Analytical Method: **SW8021B**
 Instrument: **Agilent 7890A PID/FID**
 Analyst: **ST**

Prep Batch: **VXX34394**
 Prep Method: **SW5030B**
 Prep Date/Time: **07/09/2019 08:00**
 Spike Init Wt./Vol.: 100 ug/L Extract Vol: 5 mL
 Dupe Init Wt./Vol.: 100 ug/L Extract Vol: 5 mL



SGS
CHAIN

1193614




Locations Nationwide

Alaska	Maryland
New Jersey	New York
North Carolina	Indiana
West Virginia	Kentucky

www.us.sgs.com

CLIENT: EHX					Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.										Page ____ of ____					
Section 1	CONTACT: ERIC HENRY				PHONE NO: 907-350-9008		Section 3	Preservative												
	PROJECT NAME: KASILOF TESLO				PROJECT/ PWSID/ PERMIT#:		# C O N T A I N E R S	Type C = COMP G = GRAB M = Multi Incremental Soils												
	REPORTS TO: EHXALASKA@HOTMAIL.COM				E-MAIL:															
	INVOICE TO: EHX - ERIC HENRY				QUOTE #:															
				P.O. #:																
Section 2	RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE											REMARKS/ LOC ID				
	① A-F	KT-1	7-5-19	10:35	WATER															
	② A-E	TRIP BLANK																		
Section 5	Relinquished By: (1) ERIC HENRY		Date 7/5/19	Time 1300	Received By:		Section 4		DOD Project? Yes <input checked="" type="checkbox"/>				Data Deliverable Requirements:							
	Relinquished By: (2)		Date	Time	Received By:		Cooler ID:		Requested Turnaround Time and/or Special Instructions: Profile # 3481719M											
	Relinquished By: (3)		Date	Time	Received By:		NOELMAC		Temp Blank °C: 2.4/052				Chain of Custody Seal: (Circle)							
	Relinquished By: (4)		Date 7/8/19	Time 0831	Received For Laboratory By: [Signature]		or Ambient []		(See attached Sample Receipt Form)				INTACT <input type="checkbox"/> BROKEN <input type="checkbox"/> ABSENT <input checked="" type="checkbox"/>							

Shipper's
 Name and ERIC HENRY EXCAVATING 0
 Address
 PO 209
 KENAI, AK 99611
 907, 2509008

	RAVN AIR 4700 OLD INTERNATIONAL ROAD ANCHORAGE, AK. 99502
	<small>It is agreed that the goods described herein are accepted in good order and undamaged condition (except as noted) for carriage SUBJECT TO THE "TERMS OF CONTRACT". The Shippers attention is drawn to the "TERMS OF CONTRACT LIMIT OF LIABILITY". The maximum liability by declaring a value of the goods and paying a supplemental charge of \$0.75 per \$100.00 up to a maximum of \$5,000.00 declared value.</small>
Accounting Information GEN - GENERAL FREIGHT	

Consignee: SGS ENVIRONMENTAL 50012
 200 W POTTER DR
 ANCHORAGE, AK 99518
 562, 2343

Origin	ENA	Currency	USD
Destination	ANC	Charge Code	PP
Handling Information	THIS SIDE UP	Declared Value for Carriage	0

Pieces	Gross Weight	Nature of Goods	Chargeable Weight	Rate/Charge	Total	Length	Width	Height	Dim Weight
1	10	WATER SAMPLES	10		38.59				10



1	10	10	38.59	10
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Fee	Prepaid	Collect	Other Charges			
Weight Charge	38.59		FSC Fee	0.00	SSC Fee	0.00
Valuation Charge	0.00		DOC Fees	0.00	DG Fee	0.00
Tax	2.41		OTH Fees	0.00	P/U Fee	0.00
Total Other Charges Due Agent	0.00		DEL Fees	0.00	TSC Fees	0.00
Total Other Charges Due Carrier	0.00		<small>The shipper certifies that the particulars on the face hereof are correct, and that the shipment does not contain dangerous goods, and that all ITEMS ARE ACCEPTED AT SHIPPER'S RISK.</small>			
Total	41.00					
Signature of Issuing Carrier or its Agent	WB Date	WB Time	eric henry dl# 6559695 (Shipper's printed name and signature)			
			<small>The consignee certifies that the shipment is received in good order except where noted below.</small>			
MICHAEL HICKS	05-JUL-19	1329	(Consignee's printed name and signature)			

CARRIAGE SUBJECT TO "TERMS OF CONTRACT" found at <https://www.flyravn.com/cargo-services/cargo-contract-carrage>

Alert Expeditors Inc.

#395623

Citywide Delivery • 440-3351
8421 Flamingo Drive • Anchorage, Alaska 99502

Date 7-8-19

From Eric Henry

To 565 Labs Ave

Collect Prepay Advance Charges
Account

Job # FNA PO# Room 1049-9576

Samples



Shipped Signature [Signature]

Received By: [Signature] Total Charge _____ 13 of 15



e-Sample Receipt Form

SGS Workorder #:

1193614



1 1 9 3 6 1 4

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
Chain of Custody / Temperature Requirements		
Were Custody Seals intact? Note # & location	N/A	N/A Exemption permitted if sampler hand carries/delivers.
COC accompanied samples?	Yes	
DOD: Were samples received in COC corresponding coolers?	N/A	
Temperature blank compliant* (i.e., 0-6 °C after CF)?	N/A	**Exemption permitted if chilled & collected <8 hours ago, or for samples where chilling is not required
If samples received without a temperature blank, the "cooler temperature" will be documented instead & "COOLER TEMP" will be noted to the right. "ambient" or "chilled" will be noted if neither is available.	Yes	Cooler ID: 1 @ 2.4 °C Therm. ID: D52
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
*If >6°C, were samples collected <8 hours ago?	N/A	
If <0°C, were sample containers ice free?	N/A	
Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.		
Holding Time / Documentation / Sample Condition Requirements		
Note: Refer to form F-083 "Sample Guide" for specific holding times.		
Were samples received within holding time?	Yes	
Do samples match COC** (i.e., sample IDs, dates/times collected)?	Yes	
Note: If times differ <1hr, record details & login per COC. *Note: If sample information on containers differs from COC, SGS will default to COC information		
Were analytical requests clear? (i.e., method is specified for analyses with multiple option for analysis (Ex: BTEX, Metals)	No	BTEX method unspecified, Logging in as GRO/BTEX combo per PM
Were proper containers (type/mass/volume/preservative***) used?	Yes	N/A ***Exemption permitted for metals (e.g, 200.8/6020A).
Volatile / LL-Hg Requirements		
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	Yes	
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?	Yes	
Were all soil VOAs field extracted with MeOH+BFB?	N/A	
Note to Client: Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.		
Additional notes (if applicable):		



Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1193614001-A	HCL to pH < 2	OK			
1193614001-B	HCL to pH < 2	OK			
1193614001-C	HCL to pH < 2	OK			
1193614001-D	HCL to pH < 2	OK			
1193614001-E	HCL to pH < 2	OK			
1193614001-F	HCL to pH < 2	OK			
1193614002-A	HCL to pH < 2	OK			
1193614002-B	HCL to pH < 2	OK			
1193614002-C	HCL to pH < 2	OK			

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.

IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.

NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.

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.

Laboratory Data Review Checklist

Completed By:

EHX. Eric Henry

Title:

Qualified Sampler

Date:

7.17.2019

CS Report Name:

Kasilof Tesoro/Kasilof Riverview Lodge Monitor Well Sampling; ADEC File Number:
2319.26.002

Report Date:

7.17.2019

Consultant Firm:

EHX

Laboratory Name:

SGS

Laboratory Report Number:

1193614

ADEC File Number:

2319.26.002

Hazard Identification Number:

22950

1. Laboratory

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

 Yes No

Comments:

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

 Yes No

Comments:

2. Chain of Custody (CoC)

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

 Yes No

Comments:

- b. Correct Analyses requested?

 Yes No

Comments:

3. Laboratory Sample Receipt Documentation

- a. Sample/cooler temperature documented and within range at receipt (0° to 6° C)?

 Yes No

Comments:

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

 Yes No

Comments:

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

 Yes No

Comments:

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

Yes No

Comments:

- e. Data quality or usability affected?

Comments:

Unaffected

4. Case Narrative

- a. Present and understandable?

Yes No

Comments:

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

Yes No

Comments:

None

- c. Were all corrective actions documented?

Yes No

Comments:

None

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

Comments:

No effect.

5. Samples Results

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

Yes No

Comments:

- b. All applicable holding times met?

Yes No

Comments:

c. All soils reported on a dry weight basis?

Yes No

Comments:

N/A. Water samples

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

Yes No

Comments:

e. Data quality or usability affected?

Yes No

Comments:

Not affected

6. QC Samples

a. Method Blank

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

Yes No

Comments:

AK101 & SW8021B

ii. All method blank results less than limit of quantitation (LOQ)?

Yes No

Comments:

iii. If above LOQ, what samples are affected?

Comments:

None

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

Yes No

Comments:

N/A

v. Data quality or usability affected?

Comments:

Unaffected

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

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

Yes No

Comments:

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

Yes No

Comments:

N/A

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

Yes No

Comments:

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

Yes No

Comments:

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

Comments:

N/A

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

Yes No

Comments:

N/A

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

Comments:

Unaffected

c. Surrogates – Organics Only

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

Yes No

Comments:

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

Yes No

Comments:

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

Yes No

Comments:

iv. Data quality or usability affected?

Comments:

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

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples?

(If not, enter explanation below.)

Yes No

Comments:

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

Yes No

Comments:

iii. All results less than LOQ?

Yes No

Comments:

iv. If above LOQ, what samples are affected?

Comments:

None

v. Data quality or usability affected?

Comments:

Unaffected

e. Field Duplicate

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

Yes No

Comments:

No field duplicate collected

ii. Submitted blind to lab?

Yes No

Comments:

iii. Precision – All relative percent differences (RPD) less than specified DQOs?

(Recommended: 30% water, 50% soil)

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

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Yes No

Comments:

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

Comments:

Not affected

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

Yes No Not Applicable

No decon or equipment blank QC sampling performed

i. All results less than LOQ?

Yes No

Comments:

ii. If above LOQ, what samples are affected?

Comments:

None

iii. Data quality or usability affected?

Comments:

Unaffected

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

a. Defined and appropriate?

Yes No

Comments: