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December 07, 2023

Laurel Anderson
ECMC
1120 Lincoln St
STE 801
Denver, CO 80203

Work Order: **HS23111246**

Laboratory Results for: **Petro DR Counter 1-AD**

Dear Laurel Anderson,

ALS Environmental received 1 sample(s) on Nov 17, 2023 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL

Tyler Monroe

Client: ECMC
Project: Petro DR Counter 1-AD
Work Order: HS23111246

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS23111246-01	SB-01 @ 4"	Soil		16-Nov-2023 14:15	17-Nov-2023 09:40	<input type="checkbox"/>

Client: ECMC
Project: Petro DR Counter 1-AD
Work Order: HS23111246

CASE NARRATIVE

Work Order Comments

- The analysis for Hot Water Soluble Boron was subcontracted to ALS Environmental in Holland, MI. Final report attached.
- The analyses for Total Metals (as, Cd, Se) were subcontracted to ALS Environmental in Kelso, WA. Final report attached.
- Sample received outside method holding time for pH. pH is an immediate test. Sample results are flagged with an "H" qualifier.
The temperature at the time of pH is reported. Please note that all pH results are already normalized to a temperature of 25 °C.

GC Semivolatiles by Method SW8015M**Batch ID: 203889****Sample ID: HS23111252-06MS**

- MS and MSD are for an unrelated sample

Sample ID: SB-01 @ 4" (HS23111246-01)

- Surrogate recoveries were outside of the control limits due to matrix interference.

GC Volatiles by Method SW8015**Batch ID: R452698****Sample ID: SB-01 @ 4" (HS23111246-01)**

- Surrogate failed due to sample matrix. This was conformed by reanalysis.

GCMS Semivolatiles by Method SW8270**Batch ID: 203826****Sample ID: HS23111028-01MS**

- MS and MSD are for an unrelated sample

Sample ID: SB-01 @ 4" (HS23111246-01)

- The GCMS semi-volatile extract of this sample was run at a dilution due to a high level of matrix interference.

GCMS Volatiles by Method SW8260**Batch ID: R452384**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Metals by Method La29B SAR**Batch ID: R453363**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Metals by Method La29B-6020A**Batch ID: 204311**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Client: ECMC
Project: Petro DR Counter 1-AD
Work Order: HS23111246

CASE NARRATIVE

Metals by Method SW6020A

Batch ID: 204058

Sample ID: HS23111237-01MS

- MS and MSD are for an unrelated sample

WetChemistry by Method SW9050M

Batch ID: R453287

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9045D

Batch ID: R453062

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW7196

Batch ID: 204484

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.
-

Client: ECMC
 Project: Petro DR Counter 1-AD
 Sample ID: SB-01 @ 4"
 Collection Date: 16-Nov-2023 14:15

ANALYTICAL REPORT

WorkOrder:HS23111246
 Lab ID:HS23111246-01
 Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260		Analyst: WLR			
1,2,4-Trimethylbenzene	73		0.97	4.8	ug/Kg	1	21-Nov-2023 12:19
1,3,5-Trimethylbenzene	30		0.78	4.8	ug/Kg	1	21-Nov-2023 12:19
Benzene	U		0.48	4.8	ug/Kg	1	21-Nov-2023 12:19
Ethylbenzene	8.4		0.68	4.8	ug/Kg	1	21-Nov-2023 12:19
Naphthalene	U		0.78	4.8	ug/Kg	1	21-Nov-2023 12:19
Toluene	9.5		0.58	4.8	ug/Kg	1	21-Nov-2023 12:19
Xylenes, Total	45		0.97	15	ug/Kg	1	21-Nov-2023 12:19
Surr: 1,2-Dichloroethane-d4	85.3			70-126	%REC	1	21-Nov-2023 12:19
Surr: 4-Bromofluorobenzene	95.4			70-130	%REC	1	21-Nov-2023 12:19
Surr: Dibromofluoromethane	90.6			70-130	%REC	1	21-Nov-2023 12:19
Surr: Toluene-d8	102			70-130	%REC	1	21-Nov-2023 12:19
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: TS			
Gasoline Range Organics	5.7		0.0097	0.048	mg/Kg	1	22-Nov-2023 18:16
Surr: 4-Bromofluorobenzene	1060	S		70-123	%REC	1	22-Nov-2023 18:16
SEMIVOLATILES		Method:SW8270		Prep:SW3541 / 21-Nov-2023		Analyst: GEY	
1-Methylnaphthalene	U		340	1600	ug/Kg	10	28-Nov-2023 17:58
2-Methylnaphthalene	U		270	1600	ug/Kg	10	28-Nov-2023 17:58
Acenaphthene	U		150	1600	ug/Kg	10	28-Nov-2023 17:58
Anthracene	U		120	1600	ug/Kg	10	28-Nov-2023 17:58
Benz(a)anthracene	U		99	1600	ug/Kg	10	28-Nov-2023 17:58
Benzo(a)pyrene	U		120	1600	ug/Kg	10	28-Nov-2023 17:58
Benzo(b)fluoranthene	U		120	1600	ug/Kg	10	28-Nov-2023 17:58
Benzo(k)fluoranthene	U		150	1600	ug/Kg	10	28-Nov-2023 17:58
Chrysene	U		170	1600	ug/Kg	10	28-Nov-2023 17:58
Dibenz(a,h)anthracene	U		150	1600	ug/Kg	10	28-Nov-2023 17:58
Fluoranthene	U		140	1600	ug/Kg	10	28-Nov-2023 17:58
Fluorene	U		170	1600	ug/Kg	10	28-Nov-2023 17:58
Indeno(1,2,3-cd)pyrene	U		140	1600	ug/Kg	10	28-Nov-2023 17:58
Pyrene	U		420	1600	ug/Kg	10	28-Nov-2023 17:58
Surr: 2,4,6-Tribromophenol	76.6			36-126	%REC	10	28-Nov-2023 17:58
Surr: 2-Fluorobiphenyl	82.3			43-125	%REC	10	28-Nov-2023 17:58
Surr: 2-Fluorophenol	48.0	J		37-125	%REC	10	28-Nov-2023 17:58
Surr: 4-Terphenyl-d14	79.3			32-125	%REC	10	28-Nov-2023 17:58
Surr: Nitrobenzene-d5	64.5			37-125	%REC	10	28-Nov-2023 17:58
Surr: Phenol-d6	53.7			40-125	%REC	10	28-Nov-2023 17:58

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: ECMC
 Project: Petro DR Counter 1-AD
 Sample ID: SB-01 @ 4"
 Collection Date: 16-Nov-2023 14:15

ANALYTICAL REPORT

WorkOrder:HS23111246
 Lab ID:HS23111246-01
 Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TPH DRO/ORO BY SW8015C		Method:SW8015M		Prep:SW3541 / 22-Nov-2023		Analyst: SAM	
TPH (Oil Range)	66		9.0	17	mg/Kg	5	28-Nov-2023 16:08
TPH (Diesel Range)	720		25	42	mg/Kg	25	28-Nov-2023 18:04
Surr: 2-Fluorobiphenyl	180	S		60-129	%REC	5	28-Nov-2023 16:08
Surr: 2-Fluorobiphenyl	181	S		60-129	%REC	25	28-Nov-2023 18:04
LA29B SODIUM ADSORPTION RATIO		Method:La29B SAR		Prep:La29B-6020A / 01-Dec-2023		Analyst: JHD	
Sodium Adsorption Ratio	1.41		0.0100	0.0100	meq/meq	1	06-Dec-2023 12:27
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		Method:La29B-6020A		Prep:La29B-6020A / 01-Dec-2023		Analyst: JC	
Calcium	161		5.00	5.00	mg/L	10	05-Dec-2023 12:15
Magnesium	28.4		5.00	5.00	mg/L	10	05-Dec-2023 12:15
Sodium	73.8		5.00	5.00	mg/L	10	05-Dec-2023 12:15
METALS BY SW6020A		Method:SW6020A		Prep:SW3050B / 01-Dec-2023		Analyst: JC	
Barium	527		1.47	24.5	mg/Kg	50	04-Dec-2023 17:29
Copper	5.28		0.0372	0.196	mg/Kg	1	02-Dec-2023 01:09
Lead	4.89		0.0127	0.490	mg/Kg	1	02-Dec-2023 01:09
Nickel	4.36		0.0470	0.490	mg/Kg	1	02-Dec-2023 01:09
Silver	0.0333	J	0.0147	0.490	mg/Kg	1	02-Dec-2023 01:09
Zinc	24.5		0.167	0.490	mg/Kg	1	02-Dec-2023 01:09
HEXAVALENT CHROMIUM BY SW7196A		Method:SW7196		Prep:SW3060A / 07-Dec-2023		Analyst: MZD	
Chromium, Hexavalent	0.800	J	0.300	2.00	mg/kg	1	07-Dec-2023 11:50
PH SOIL BY SW9045D		Method:SW9045D		Prep:SW3060A / 07-Dec-2023		Analyst: MR	
pH	8.25	H	0.100	0.100	pH Units	1	01-Dec-2023 14:04
Temp Deg C @pH	22.5	H	0	0	°C	1	01-Dec-2023 14:04
SPECIFIC CONDUCTIVITY, SOIL 10X EXTRACT		Method:SW9050M		Prep:SW3060A / 07-Dec-2023		Analyst: CD	
Conductance, Soil Extract	1,890		50.0	50.0	umhos/cm	10	05-Dec-2023 15:12
SUBCONTRACT ANALYSIS - METALS ANALYSIS		Method:NA		Prep:SW3060A / 07-Dec-2023		Analyst: SUBK	
Subcontract Analysis	See Attached		0		NA	1	05-Dec-2023 08:35
SUBCONTRACTED ANALYSIS		Method:NA		Prep:SW3060A / 07-Dec-2023		Analyst: SUBHO	
Miscellaneous Analysis	See Attached		0		NA	1	05-Dec-2023 08:46

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: ECMC
Project: Petro DR Counter 1-AD
WorkOrder: HS23111246

Batch ID: 6558 **Start Date:** 20 Nov 2023 11:34 **End Date:** 20 Nov 2023 11:34
Method: VOLATILES BY SW8260C

Sample ID	Container	Sample Wt/Vol	Final Volume	Weight Factor	Container Type
HS23111246-01	1	5.139 (g)	5 (mL)	0.97	Bulk (5030B)

Batch ID: 6563 **Start Date:** 22 Nov 2023 12:36 **End Date:** 22 Nov 2023 12:36
Method: GASOLINE RANGE ORGANICS BY SW8015C **Prep Code:**

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23111246-01	1	5.146 (g)	5 (mL)	0.97	Bulk (5030B)

Batch ID: 203826 **Start Date:** 21 Nov 2023 09:00 **End Date:** 21 Nov 2023 09:00
Method: SV SOXHLET EXTRACTION - SW3541 **Prep Code:** 3541_B

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23111246-01		30.38 (grams)	1 (mL)	0.03292	4-oz glass, Neat

Batch ID: 203889 **Start Date:** 22 Nov 2023 07:00 **End Date:** 22 Nov 2023 07:00
Method: SOPREP: 3541 TPH **Prep Code:** 8015SPR_LL

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23111246-01		30.14 (g)	1 (mL)	0.03318	4-oz glass, Neat

Batch ID: 204058 **Start Date:** 01 Dec 2023 09:00 **End Date:** 01 Dec 2023 09:00
Method: METALS PREP - SOLIDS - SW3050B **Prep Code:** 3050_I_LOW

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23111246-01		0.5102 (g)	50 (mL)	98	4-oz glass, Neat

Batch ID: 204311 **Start Date:** 01 Dec 2023 13:00 **End Date:** 01 Dec 2023 13:00
Method: LA29B SAR CATION PREP **Prep Code:** LA29B SAR CATPR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23111246-01		100.05 (g)	100 (mL)	0.9995	4-oz glass, Neat

Batch ID: 204484 **Start Date:** 07 Dec 2023 09:00 **End Date:** 07 Dec 2023 09:00
Method: CR6 PREP - SOIL **Prep Code:** CR6_S_PR3060A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23111246-01		2.5012 (g)	100 (mL)	39.98	4-oz glass, Neat

Client: ECMC
Project: Petro DR Counter 1-AD
WorkOrder: HS23111246

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 203826 (1)		Test Name : SEMIVOLATILES			Matrix: Soil	
HS23111246-01	SB-01 @ 4"	16 Nov 2023 14:15		21 Nov 2023 09:00	28 Nov 2023 17:58	10
Batch ID: 203889 (0)		Test Name : TPH DRO/ORO BY SW8015C			Matrix: Soil	
HS23111246-01	SB-01 @ 4"	16 Nov 2023 14:15		22 Nov 2023 07:00	28 Nov 2023 18:04	25
HS23111246-01	SB-01 @ 4"	16 Nov 2023 14:15		22 Nov 2023 07:00	28 Nov 2023 16:08	5
Batch ID: 204058 (0)		Test Name : METALS BY SW6020A			Matrix: Soil	
HS23111246-01	SB-01 @ 4"	16 Nov 2023 14:15		01 Dec 2023 09:00	04 Dec 2023 17:29	50
HS23111246-01	SB-01 @ 4"	16 Nov 2023 14:15		01 Dec 2023 09:00	02 Dec 2023 01:09	1
Batch ID: 204311 (0)		Test Name : LA 29B - 1:1 SOLUBLE CATIONS FOR SAR			Matrix: Soil	
HS23111246-01	SB-01 @ 4"	16 Nov 2023 14:15		01 Dec 2023 13:00	05 Dec 2023 12:15	10
Batch ID: 204484 (0)		Test Name : HEXAVALENT CHROMIUM BY SW7196A			Matrix: Soil	
HS23111246-01	SB-01 @ 4"	16 Nov 2023 14:15		07 Dec 2023 09:00	07 Dec 2023 11:50	1
Batch ID: R452384 (0)		Test Name : VOLATILES BY SW8260C			Matrix: Soil	
HS23111246-01	SB-01 @ 4"	16 Nov 2023 14:15			21 Nov 2023 12:19	1
Batch ID: R452698 (0)		Test Name : GASOLINE RANGE ORGANICS BY SW8015C			Matrix: Soil	
HS23111246-01	SB-01 @ 4"	16 Nov 2023 14:15			22 Nov 2023 18:16	1
Batch ID: R453062 (0)		Test Name : PH SOIL BY SW9045D			Matrix: Soil	
HS23111246-01	SB-01 @ 4"	16 Nov 2023 14:15			01 Dec 2023 14:04	1
Batch ID: R453221 (0)		Test Name : SUBCONTRACT ANALYSIS - METALS ANALYSIS			Matrix: Soil	
HS23111246-01	SB-01 @ 4"	16 Nov 2023 14:15			05 Dec 2023 08:35	1
Batch ID: R453223 (0)		Test Name : SUBCONTRACTED ANALYSIS			Matrix: Soil	
HS23111246-01	SB-01 @ 4"	16 Nov 2023 14:15			05 Dec 2023 08:46	1
Batch ID: R453287 (0)		Test Name : SPECIFIC CONDUCTIVITY, SOIL 10X EXTRACT			Matrix: Soil	
HS23111246-01	SB-01 @ 4"	16 Nov 2023 14:15			05 Dec 2023 15:12	10
Batch ID: R453363 (0)		Test Name : LA29B SODIUM ADSORPTION RATIO			Matrix: Soil	
HS23111246-01	SB-01 @ 4"	16 Nov 2023 14:15			06 Dec 2023 12:27	1

Client: ECMC
Project: Petro DR Counter 1-AD
WorkOrder: HS23111246

QC BATCH REPORT

Batch ID: 203889 (0)		Instrument: FID23		Method: TPH DRO/ORO BY SW8015C						
MBLK	Sample ID: MBLK-203889	Units: mg/Kg		Analysis Date: 28-Nov-2023 15:45						
Client ID:	Run ID: FID23_452805		SeqNo: 7696555		PrepDate: 22-Nov-2023		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Oil Range)	U	3.4								
TPH (Diesel Range)	U	1.7								
Surr: 2-Fluorobiphenyl	2.232	0.10	3.33	0	67.0	60 - 129				
LCS	Sample ID: LCS-203889	Units: mg/Kg		Analysis Date: 28-Nov-2023 16:08						
Client ID:	Run ID: FID23_452805		SeqNo: 7696556		PrepDate: 22-Nov-2023		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Oil Range)	30.36	3.4	33.33	0	91.1	70 - 130				
TPH (Diesel Range)	26.8	1.7	33.33	0	80.4	70 - 130				
Surr: 2-Fluorobiphenyl	3.089	0.10	3.33	0	92.8	60 - 129				
MS	Sample ID: HS23111252-06MS	Units: mg/Kg		Analysis Date: 28-Nov-2023 16:54						
Client ID:	Run ID: FID23_452805		SeqNo: 7696558		PrepDate: 22-Nov-2023		DF: 200			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Oil Range)	2856	680	33.2	2134	2180	70 - 130				SO
TPH (Diesel Range)	1198	340	33.2	808	1170	70 - 130				SO
Surr: 2-Fluorobiphenyl	U	20	3.317	0	0	60 - 129				JS
MSD	Sample ID: HS23111252-06MSD	Units: mg/Kg		Analysis Date: 28-Nov-2023 17:18						
Client ID:	Run ID: FID23_452805		SeqNo: 7696559		PrepDate: 22-Nov-2023		DF: 200			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Oil Range)	3349	670	33.02	2134	3680	70 - 130	2856	15.9	30	SO
TPH (Diesel Range)	1395	340	33.02	808	1780	70 - 130	1198	15.2	30	SO
Surr: 2-Fluorobiphenyl	U	20	3.299	0	0	60 - 129	0	0	30	JS

The following samples were analyzed in this batch: HS23111246-01

Client: ECMC
Project: Petro DR Counter 1-AD
WorkOrder: HS23111246

QC BATCH REPORT

Batch ID: R452698 (0)		Instrument: FID-20		Method: GASOLINE RANGE ORGANICS BY SW8015C						
MBLK	Sample ID: MBLK-231122	Units: mg/Kg		Analysis Date: 22-Nov-2023 15:23						
Client ID:	Run ID: FID-20_452698	SeqNo: 7693904		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	U	0.050								
Surr: 4-Bromofluorobenzene	0.08082	0.0050	0.1	0	80.8	75 - 121				
LCS	Sample ID: LCS-231122	Units: mg/Kg		Analysis Date: 22-Nov-2023 14:52						
Client ID:	Run ID: FID-20_452698	SeqNo: 7693902		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	1.163	0.050	1	0	116	72 - 121				
Surr: 4-Bromofluorobenzene	0.08812	0.0050	0.1	0	88.1	75 - 121				
LCSD	Sample ID: LCSD-231122	Units: mg/Kg		Analysis Date: 22-Nov-2023 15:08						
Client ID:	Run ID: FID-20_452698	SeqNo: 7693903		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	1.103	0.050	1	0	110	72 - 121	1.163	5.27	30	
Surr: 4-Bromofluorobenzene	0.08794	0.0050	0.1	0	87.9	75 - 121	0.08812	0.202	30	

The following samples were analyzed in this batch: HS23111246-01

Client: ECMC
Project: Petro DR Counter 1-AD
WorkOrder: HS23111246

QC BATCH REPORT

Batch ID: 204058 (0)		Instrument: ICPMS06		Method: METALS BY SW6020A					
MBLK	Sample ID: MBLK-204058	Units: mg/Kg		Analysis Date: 04-Dec-2023 17:15					
Client ID:	Run ID: ICPMS06_453163	SeqNo: 7706037		PrepDate: 01-Dec-2023		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Barium	U	0.498							
Copper	U	0.199							
Lead	U	0.498							
Nickel	U	0.498							
Silver	U	0.498							
Zinc	U	0.498							

LCS	Sample ID: LCS-204058	Units: mg/Kg		Analysis Date: 02-Dec-2023 00:39					
Client ID:	Run ID: ICPMS06_453017	SeqNo: 7704329		PrepDate: 01-Dec-2023		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Barium	11.2	0.498	9.962	0	112	80 - 120			
Copper	10.6	0.199	9.962	0	106	80 - 120			
Lead	11.03	0.498	9.962	0	111	80 - 120			
Nickel	10.24	0.498	9.962	0	103	80 - 120			
Silver	11.1	0.498	9.962	0	111	80 - 120			
Zinc	10.59	0.498	9.962	0	106	80 - 120			

MS	Sample ID: HS23111237-01MS	Units: mg/Kg		Analysis Date: 02-Dec-2023 00:44					
Client ID:	Run ID: ICPMS06_453017	SeqNo: 7704332		PrepDate: 01-Dec-2023		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Barium	113.4	0.485	9.692	111.5	19.5	75 - 125			SO
Copper	20.84	0.194	9.692	11.32	98.3	75 - 125			
Lead	18.83	0.485	9.692	9.262	98.7	75 - 125			
Nickel	26.29	0.485	9.692	16.86	97.3	75 - 125			
Silver	9.821	0.485	9.692	0.04347	101	75 - 125			
Zinc	45.58	0.485	9.692	36.25	96.3	75 - 125			

Client: ECMC
Project: Petro DR Counter 1-AD
WorkOrder: HS23111246

QC BATCH REPORT

Batch ID: 204058 (0)		Instrument: ICPMS06		Method: METALS BY SW6020A						
MSD		Sample ID: HS23111237-01MSD		Units: mg/Kg		Analysis Date: 02-Dec-2023 00:46				
Client ID:		Run ID: ICPMS06_453017		SeqNo: 7704333		PrepDate: 01-Dec-2023		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	125.1	0.488	9.752	111.5	140	75 - 125	113.4	9.83	20	SO
Copper	21.37	0.195	9.752	11.32	103	75 - 125	20.84	2.5	20	
Lead	19.7	0.488	9.752	9.262	107	75 - 125	18.83	4.54	20	
Nickel	27.06	0.488	9.752	16.86	105	75 - 125	26.29	2.89	20	
Silver	9.849	0.488	9.752	0.04347	101	75 - 125	9.821	0.291	20	
Zinc	46.8	0.488	9.752	36.25	108	75 - 125	45.58	2.66	20	
PDS		Sample ID: HS23111237-01PDS		Units: mg/Kg		Analysis Date: 02-Dec-2023 00:48				
Client ID:		Run ID: ICPMS06_453017		SeqNo: 7704334		PrepDate: 01-Dec-2023		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	121	0.466	9.328	111.5	101	75 - 125				O
Copper	20.91	0.187	9.328	11.32	103	75 - 125				
Lead	19.17	0.466	9.328	9.262	106	75 - 125				
Nickel	25.86	0.466	9.328	16.86	96.4	75 - 125				
Silver	9.309	0.466	9.328	0.04347	99.3	75 - 125				
Zinc	46.58	0.466	9.328	36.25	111	75 - 125				
SD		Sample ID: HS23111237-01SD		Units: mg/Kg		Analysis Date: 02-Dec-2023 00:43				
Client ID:		Run ID: ICPMS06_453017		SeqNo: 7704331		PrepDate: 01-Dec-2023		DF: 5		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Barium	111.6	2.33					111.5	0.0229	10	
Copper	12.15	0.933					11.32	7.37	10	
Lead	9.435	2.33					9.262	1.88	10	
Nickel	17.66	2.33					16.86	4.73	10	
Silver	U	2.33					0.04347	0	10	
Zinc	38.54	2.33					36.25	6.34	10	

The following samples were analyzed in this batch: HS23111246-01

Client: ECMC
Project: Petro DR Counter 1-AD
WorkOrder: HS23111246

QC BATCH REPORT

Batch ID: 204311 (0)		Instrument: ICPMS06		Method: LA 29B - 1:1 SOLUBLE CATIONS FOR SAR					
MBLK	Sample ID: MBLK-204311	Units: mg/L		Analysis Date: 05-Dec-2023 12:11					
Client ID:	Run ID: ICPMS06_453246		SeqNo: 7707478		PrepDate: 01-Dec-2023		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Calcium	U	0.500							
Magnesium	U	0.500							
Sodium	U	0.500							

DUP	Sample ID: HS23111797-01DUP	Units: mg/L		Analysis Date: 05-Dec-2023 12:22					
Client ID:	Run ID: ICPMS06_453246		SeqNo: 7707484		PrepDate: 01-Dec-2023		DF: 10		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Calcium	47.9	5.00					47.18	1.51	30
Magnesium	10.03	5.00					9.908	1.19	30
Sodium	467.3	5.00					462.6	1.02	30

The following samples were analyzed in this batch: HS23111246-01

Client: ECMC
 Project: Petro DR Counter 1-AD
 WorkOrder: HS23111246

QC BATCH REPORT

Batch ID: 203826 (1)		Instrument: SV-4		Method: SEMIVOLATILES					
MBLK	Sample ID: MBLK-203826	Units: ug/Kg		Analysis Date: 21-Nov-2023 14:58					
Client ID:	Run ID: SV-4_452680	SeqNo: 7693948		PrepDate: 21-Nov-2023		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
1-Methylnaphthalene	U	170							
2-Methylnaphthalene	U	170							
Acenaphthene	U	170							
Anthracene	U	170							
Benz(a)anthracene	U	170							
Benzo(a)pyrene	U	170							
Benzo(b)fluoranthene	U	170							
Benzo(k)fluoranthene	U	170							
Chrysene	U	170							
Dibenz(a,h)anthracene	U	170							
Fluoranthene	U	170							
Fluorene	U	170							
Indeno(1,2,3-cd)pyrene	U	170							
Pyrene	U	170							
Surr: 2,4,6-Tribromophenol	2314	170	3333	0	69.4	36 - 126			
Surr: 2-Fluorobiphenyl	2542	170	3333	0	76.3	43 - 125			
Surr: 2-Fluorophenol	2274	170	3333	0	68.2	37 - 125			
Surr: 4-Terphenyl-d14	2465	170	3333	0	74.0	32 - 125			
Surr: Nitrobenzene-d5	2715	170	3333	0	81.5	37 - 125			
Surr: Phenol-d6	2348	170	3333	0	70.4	40 - 125			

Client: ECMC
 Project: Petro DR Counter 1-AD
 WorkOrder: HS23111246

QC BATCH REPORT

Batch ID: 203826 (1)		Instrument: SV-4		Method: SEMIVOLATILES						
LCS		Sample ID: LCS-203826		Units: ug/Kg		Analysis Date: 21-Nov-2023 15:19				
Client ID:		Run ID: SV-4_452680		SeqNo: 7693949		PrepDate: 21-Nov-2023		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1-Methylnaphthalene	1190	170	1667	0	71.4	55 - 120				
2-Methylnaphthalene	1192	170	1667	0	71.5	55 - 120				
Acenaphthene	1223	170	1667	0	73.4	55 - 120				
Anthracene	1317	170	1667	0	79.0	55 - 120				
Benz(a)anthracene	1230	170	1667	0	73.8	55 - 125				
Benzo(a)pyrene	1269	170	1667	0	76.2	55 - 120				
Benzo(b)fluoranthene	1443	170	1667	0	86.5	55 - 125				
Benzo(k)fluoranthene	1106	170	1667	0	66.3	55 - 130				
Chrysene	1254	170	1667	0	75.2	55 - 125				
Dibenz(a,h)anthracene	1217	170	1667	0	73.0	55 - 120				
Fluoranthene	1268	170	1667	0	76.1	55 - 125				
Fluorene	1210	170	1667	0	72.6	55 - 120				
Indeno(1,2,3-cd)pyrene	1233	170	1667	0	74.0	55 - 125				
Pyrene	1274	170	1667	0	76.4	55 - 125				
Surr: 2,4,6-Tribromophenol	2363	170	3333	0	70.9	36 - 126				
Surr: 2-Fluorobiphenyl	2467	170	3333	0	74.0	43 - 125				
Surr: 2-Fluorophenol	2351	170	3333	0	70.5	37 - 125				
Surr: 4-Terphenyl-d14	2386	170	3333	0	71.6	32 - 125				
Surr: Nitrobenzene-d5	2540	170	3333	0	76.2	37 - 125				
Surr: Phenol-d6	2379	170	3333	0	71.4	40 - 125				

Client: ECMC
 Project: Petro DR Counter 1-AD
 WorkOrder: HS23111246

QC BATCH REPORT

Batch ID: 203826 (1)		Instrument: SV-4		Method: SEMIVOLATILES					
MS		Sample ID: HS23111028-01MS		Units: ug/Kg		Analysis Date: 21-Nov-2023 16:24			
Client ID:		Run ID: SV-4_452680		SeqNo: 7693951		PrepDate: 21-Nov-2023		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
1-Methylnaphthalene	1177	170	1664	0	70.7	55 - 120			
2-Methylnaphthalene	1156	170	1664	0	69.5	55 - 120			
Acenaphthene	1183	170	1664	0	71.1	55 - 120			
Anthracene	1237	170	1664	0	74.3	55 - 120			
Benz(a)anthracene	1280	170	1664	0	76.9	55 - 125			
Benzo(a)pyrene	1211	170	1664	0	72.7	55 - 120			
Benzo(b)fluoranthene	1525	170	1664	0	91.7	55 - 125			
Benzo(k)fluoranthene	1003	170	1664	0	60.3	55 - 130			
Chrysene	1243	170	1664	0	74.7	55 - 125			
Dibenz(a,h)anthracene	1183	170	1664	0	71.1	55 - 120			
Fluoranthene	1211	170	1664	0	72.8	55 - 125			
Fluorene	1183	170	1664	0	71.1	55 - 120			
Indeno(1,2,3-cd)pyrene	1190	170	1664	0	71.5	55 - 125			
Pyrene	1215	170	1664	0	73.0	55 - 125			
Surr: 2,4,6-Tribromophenol	2240	170	3327	0	67.3	36 - 126			
Surr: 2-Fluorobiphenyl	2379	170	3327	0	71.5	43 - 125			
Surr: 2-Fluorophenol	2269	170	3327	0	68.2	37 - 125			
Surr: 4-Terphenyl-d14	2250	170	3327	0	67.6	32 - 125			
Surr: Nitrobenzene-d5	2467	170	3327	0	74.1	37 - 125			
Surr: Phenol-d6	2341	170	3327	0	70.4	40 - 125			

Client: ECMC
 Project: Petro DR Counter 1-AD
 WorkOrder: HS23111246

QC BATCH REPORT

Batch ID: 203826 (1)		Instrument: SV-4		Method: SEMIVOLATILES						
MSD		Sample ID: HS23111028-01MSD		Units: ug/Kg		Analysis Date: 21-Nov-2023 16:45				
Client ID:		Run ID: SV-4_452680		SeqNo: 7693952		PrepDate: 21-Nov-2023		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1-Methylnaphthalene	1095	170	1653	0	66.3	55 - 120	0	200	30	R
2-Methylnaphthalene	1082	170	1653	0	65.4	55 - 120	0	200	30	R
Acenaphthene	1130	170	1653	0	68.4	55 - 120	1183	4.55	30	
Anthracene	1183	170	1653	0	71.6	55 - 120	1237	4.48	30	
Benz(a)anthracene	1298	170	1653	0	78.5	55 - 125	1280	1.35	30	
Benzo(a)pyrene	1162	170	1653	0	70.3	55 - 120	1211	4.1	30	
Benzo(b)fluoranthene	1460	170	1653	0	88.4	55 - 125	1525	4.36	30	
Benzo(k)fluoranthene	1260	170	1653	0	76.2	55 - 130	1003	22.7	30	
Chrysene	1094	170	1653	0	66.2	55 - 125	1243	12.7	30	
Dibenz(a,h)anthracene	1133	170	1653	0	68.6	55 - 120	1183	4.31	30	
Fluoranthene	1144	170	1653	0	69.2	55 - 125	1211	5.73	30	
Fluorene	1117	170	1653	0	67.6	55 - 120	1183	5.79	30	
Indeno(1,2,3-cd)pyrene	1137	170	1653	0	68.8	55 - 125	1190	4.56	30	
Pyrene	1183	170	1653	0	71.6	55 - 125	1215	2.68	30	
Surr: 2,4,6-Tribromophenol	2137	170	3304	0	64.7	36 - 126	2240	4.66	30	
Surr: 2-Fluorobiphenyl	2228	170	3304	0	67.4	43 - 125	2379	6.58	30	
Surr: 2-Fluorophenol	2138	170	3304	0	64.7	37 - 125	2269	5.94	30	
Surr: 4-Terphenyl-d14	2154	170	3304	0	65.2	32 - 125	2250	4.37	30	
Surr: Nitrobenzene-d5	2335	170	3304	0	70.7	37 - 125	2467	5.48	30	
Surr: Phenol-d6	2197	170	3304	0	66.5	40 - 125	2341	6.34	30	

The following samples were analyzed in this batch: HS23111246-01

Client: ECMC
 Project: Petro DR Counter 1-AD
 WorkOrder: HS23111246

QC BATCH REPORT

Batch ID: R452384 (0)		Instrument: VOA8		Method: VOLATILES BY SW8260C					
MBLK		Sample ID: VBLKS1-112123		Units: ug/Kg		Analysis Date: 21-Nov-2023 10:51			
Client ID:		Run ID: VOA8_452384		SeqNo: 7686917		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
1,2,4-Trimethylbenzene	U	5.0							
1,3,5-Trimethylbenzene	U	5.0							
Benzene	U	5.0							
Ethylbenzene	U	5.0							
Naphthalene	U	5.0							
Toluene	U	5.0							
Xylenes, Total	U	15							
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>41.44</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>82.9</i>	<i>76 - 125</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>52.14</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>104</i>	<i>80 - 120</i>			
<i>Surr: Dibromofluoromethane</i>	<i>42.68</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>85.4</i>	<i>80 - 119</i>			
<i>Surr: Toluene-d8</i>	<i>49.87</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>99.7</i>	<i>81 - 118</i>			

LCS		Sample ID: VLCSS1-112123		Units: ug/Kg		Analysis Date: 21-Nov-2023 10:08			
Client ID:		Run ID: VOA8_452384		SeqNo: 7686916		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
1,2,4-Trimethylbenzene	47.67	5.0	50	0	95.3	74 - 126			
1,3,5-Trimethylbenzene	48.52	5.0	50	0	97.0	76 - 126			
Benzene	47.52	5.0	50	0	95.0	75 - 124			
Ethylbenzene	48.02	5.0	50	0	96.0	70 - 123			
Naphthalene	48.85	5.0	50	0	97.7	71 - 128			
Toluene	51.09	5.0	50	0	102	76 - 122			
Xylenes, Total	145.9	15	150	0	97.3	77 - 128			
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>57.39</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>115</i>	<i>76 - 125</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.74</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>99.5</i>	<i>80 - 120</i>			
<i>Surr: Dibromofluoromethane</i>	<i>49.08</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>98.2</i>	<i>80 - 119</i>			
<i>Surr: Toluene-d8</i>	<i>49.59</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>99.2</i>	<i>81 - 118</i>			

Client: ECMC
Project: Petro DR Counter 1-AD
WorkOrder: HS23111246

QC BATCH REPORT

Batch ID: R452384 (0)		Instrument: VOA8		Method: VOLATILES BY SW8260C					
MS		Sample ID: HS23111245-01MS		Units: ug/Kg		Analysis Date: 21-Nov-2023 14:08			
Client ID:		Run ID: VOA8_452384		SeqNo: 7688329		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
1,2,4-Trimethylbenzene	50.05	5.0	50	0	100	70 - 130			
1,3,5-Trimethylbenzene	45.93	5.0	50	0	91.9	70 - 130			
Benzene	46.81	5.0	50	0	93.6	70 - 130			
Ethylbenzene	47.21	5.0	50	0	94.4	70 - 130			
Naphthalene	46.81	5.0	50	0	93.6	70 - 130			
Toluene	50.24	5.0	50	0	100	70 - 130			
Xylenes, Total	142.5	15	150	0	95.0	70 - 130			
Surr: 1,2-Dichloroethane-d4	56.46	0	50	0	113	70 - 126			
Surr: 4-Bromofluorobenzene	49.7	0	50	0	99.4	70 - 130			
Surr: Dibromofluoromethane	51.1	0	50	0	102	70 - 130			
Surr: Toluene-d8	49.92	0	50	0	99.8	70 - 130			

MSD		Sample ID: HS23111245-01MSD		Units: ug/Kg		Analysis Date: 21-Nov-2023 14:30			
Client ID:		Run ID: VOA8_452384		SeqNo: 7688330		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
1,2,4-Trimethylbenzene	48.34	5.1	51	0	94.8	70 - 130	50.05	3.47	30
1,3,5-Trimethylbenzene	47.31	5.1	51	0	92.8	70 - 130	45.93	2.97	30
Benzene	47.89	5.1	51	0	93.9	70 - 130	46.81	2.27	30
Ethylbenzene	48.07	5.1	51	0	94.3	70 - 130	47.21	1.81	30
Naphthalene	44.87	5.1	51	0	88.0	70 - 130	46.81	4.22	30
Toluene	51.44	5.1	51	0	101	70 - 130	50.24	2.37	30
Xylenes, Total	146.4	15	153	0	95.7	70 - 130	142.5	2.69	30
Surr: 1,2-Dichloroethane-d4	52.72	0	51	0	103	70 - 126	56.46	6.85	30
Surr: 4-Bromofluorobenzene	50.15	0	51	0	98.3	70 - 130	49.7	0.908	30
Surr: Dibromofluoromethane	52.04	0	51	0	102	70 - 130	51.1	1.83	30
Surr: Toluene-d8	50.97	0	51	0	99.9	70 - 130	49.92	2.07	30

The following samples were analyzed in this batch: HS23111246-01

Client: ECMC
Project: Petro DR Counter 1-AD
WorkOrder: HS23111246

QC BATCH REPORT

Batch ID: 204484 (0)		Instrument: UV-2450		Method: HEXAVALENT CHROMIUM BY SW7196A						
MBLK	Sample ID: MBLK-204484	Units: mg/kg		Analysis Date: 07-Dec-2023 11:50						
Client ID:		Run ID: UV-2450_453476		SeqNo: 7712531		PrepDate: 07-Dec-2023		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Chromium, Hexavalent	U	2.00								
LCS	Sample ID: LCS-204484	Units: mg/kg		Analysis Date: 07-Dec-2023 11:50						
Client ID:		Run ID: UV-2450_453476		SeqNo: 7712530		PrepDate: 07-Dec-2023		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Chromium, Hexavalent	8.88	2.00	10	0	88.8	81 - 115				
MS	Sample ID: HS23111246-01MS	Units: mg/kg		Analysis Date: 07-Dec-2023 11:50						
Client ID: SB-01 @ 4"		Run ID: UV-2450_453476		SeqNo: 7712528		PrepDate: 07-Dec-2023		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Chromium, Hexavalent	9.144	2.00	9.982	0.7996	83.6	81 - 115				
MSD	Sample ID: HS23111246-01MSD	Units: mg/kg		Analysis Date: 07-Dec-2023 11:50						
Client ID: SB-01 @ 4"		Run ID: UV-2450_453476		SeqNo: 7712529		PrepDate: 07-Dec-2023		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Chromium, Hexavalent	9.144	2.00	9.982	0.7996	83.6	81 - 115	9.144	0.00399	20	
The following samples were analyzed in this batch: HS23111246-01										

Client: ECMC
Project: Petro DR Counter 1-AD
WorkOrder: HS23111246

QC BATCH REPORT

Batch ID: R453062 (0)		Instrument: WetChem_HS		Method: PH SOIL BY SW9045D					
DUP	Sample ID: HS23111259-01DUP	Units: pH Units		Analysis Date: 01-Dec-2023 14:06					
Client ID:	Run ID: WetChem_HS_453062		SeqNo: 7702467		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
pH	5.75	0.100					5.72	0.523	10
Temp Deg C @pH	22.8	0					22.7	0.44	10

The following samples were analyzed in this batch: HS23111246-01

Client: ECMC
Project: Petro DR Counter 1-AD
WorkOrder: HS23111246

QC BATCH REPORT

Batch ID: R453287 (0)		Instrument: WetChem_HS		Method: SPECIFIC CONDUCTIVITY, SOIL 10X EXTRACT					
MBLK	Sample ID: MBLK-R453287	Units: umhos/cm		Analysis Date: 05-Dec-2023 15:12					
Client ID:	Run ID: WetChem_HS_453287		SeqNo: 7707905		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Conductance, Soil Extract	U	5.00							
LCS	Sample ID: LCS-R453287	Units: umhos/cm		Analysis Date: 05-Dec-2023 15:12					
Client ID:	Run ID: WetChem_HS_453287		SeqNo: 7707904		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Conductance, Soil Extract	1213	5.00	1413	0	85.8	85 - 115			
DUP	Sample ID: HS23111246-01DUP	Units: umhos/cm		Analysis Date: 05-Dec-2023 15:12					
Client ID: SB-01 @ 4"	Run ID: WetChem_HS_453287		SeqNo: 7707906		PrepDate:		DF: 10		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Conductance, Soil Extract	1889	50.0					1886	0.159	20
The following samples were analyzed in this batch: HS23111246-01									

Client: ECMC
Project: Petro DR Counter 1-AD
WorkOrder: HS23111246

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	88-00356	27-Mar-2024
California	2919; 2024	30-Apr-2024
Dept of Defense	L23-358	31-May-2025
Florida	E87611-38	30-Jun-2024
Illinois	2000322023-11	30-Jun-2024
Kansas	E-10352 2023-2024	31-Jul-2024
Louisiana	03087 2023-2024	30-Jun-2024
Maryland	343; 2023-2024	30-Jun-2024
North Carolina	624-2023	31-Dec-2023
North Dakota	R-193 2023-2024	30-Apr-2024
Oklahoma	2023-140	31-Aug-2024
Texas	T104704231-23-32	30-Apr-2024
Utah	TX026932023-14	31-Jul-2024

Sample Receipt Checklist

Work Order ID: HS23111246

Date/Time Received: 17-Nov-2023 09:40

Client Name: ECMC

Received by: Corey Grandits

Completed By: /S/ Corey Grandits

18-Nov-2023 11:05

Reviewed by:

eSignature

Date/Time

eSignature

Date/Time

Matrices: S

Carrier name: FedEx

Shipping container/cooler in good condition?

Yes ☒No ☐Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☐No ☐Not Present ☒

Custody seals intact on sample bottles?

Yes ☐No ☐Not Present ☒

VOA/TX1005/TX1006 Solids in hermetically sealed vials?

Yes ☐No ☐Not Present ☒

Chain of custody present?

Yes ☒No ☐

1 Page(s)

Chain of custody signed when relinquished and received?

Yes ☒No ☐

Samplers name present on COC?

Yes ☒No ☐

Chain of custody agrees with sample labels?

Yes ☒No ☐

Samples in proper container/bottle?

Yes ☒No ☐

Sample containers intact?

Yes ☒No ☐

Sufficient sample volume for indicated test?

Yes ☒No ☐

All samples received within holding time?

Yes ☒No ☐

Container/Temp Blank temperature in compliance?

Yes ☒No ☐

Temperature(s)/Thermometer(s):

2.0UC/1.9C

IR31

Cooler(s)/Kit(s):

Red

Date/Time sample(s) sent to storage:

11/18/23

Water - VOA vials have zero headspace?

Yes ☐No ☐No VOA vials submitted ☒

Water - pH acceptable upon receipt?

Yes ☐No ☐N/A ☒

pH adjusted?

Yes ☐No ☐N/A ☒

pH adjusted by:

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:



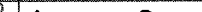


Comments:

Corrective Action:

Spill Response Chain of Custody

[illegible]

Comments: ECMC SAMPLE OF STAINED SOIL ON DIET ACCESS ROAD NEAR REPORTED SPILL OF OIL BASED MUD ON WCR 18 SPILL ID TBD PID 39.4	QC PACKAGE (check below)	
	x	LEVEL II (Standard QC)
		LEVEL III (Std QC + forms)
		LEVEL IV (Std QC + forms + raw data)

	PRINTED NAME	SIGNATURE	DATE	TIME
RELINQUISHED BY	LAUREL ANDERSON		11/16/23	
RECEIVED BY		Tyler Monroe	11/16/23	1535
RELINQUISHED BY		Tyler Monroe	11/16/23	1600
RECEIVED BY		15	11-17-23	0940
RELINQUISHED BY				

Cooling Red Temp 2.0 2RA 31
UT-00

Red NOV 17 2023

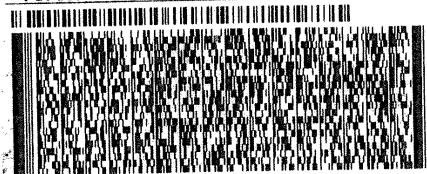
ORIGIN ID:GXVA (281) 530-5656
SAMPLE RECEIVING
ALS
10450 STANCLIFF RD
SUITE 210
HOUSTON, TX 77099
UNITED STATES US

SHIP DATE: 16NOV23
ACTWGT: 10.90 LB
CAD: 0760439/CAFE3709
DIMS: 11x8x7 IN
BILL THIRD PARTY

TO **SAMPLE RECEIVING**
ALS HOUSTON
10450 STANCLIFF RD
SUITE 210
HOUSTON TX 77099

Red

(281) 530-5656
PO: 967554812



FedEx
Express



5835/F082/FE20

TRK# 7122 9261 5400
0201

FRI - 17 NOV 10:30A
PRIORITY OVERNIGHT

NA SGRA

77099
TX-US IAH

Part # 167077-43J MTW EXP 08/22





05-Dec-2023

Tyler Monroe
ALS Environmental
10450 Stancliff Rd
Suite 210
Houston, TX 77099

Re: **HS23111246**

Work Order: **23111912**

Dear Tyler,

ALS Environmental received 1 sample on 21-Nov-2023 09:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 8.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

Chelsey Cook

Electronically approved by: Chelsey Cook

Chelsey Cook
Project Manager

Report of Laboratory Analysis

Certificate No: FL E871106

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Client: ALS Environmental
Project: HS23111246
Work Order: 23111912

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
23111912-01	SB-01 @ 4'	Soil	HS23111246-01	11/16/2023 14:15	11/21/2023 09:00	<input type="checkbox"/>

Client: ALS Environmental
Project: HS23111246
WorkOrder: 23111912

QUALIFIERS, ACRONYMS, UNITS

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Analyte accreditation is not offered
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
mg/Kg	Milligrams per Kilogram

Client: ALS Environmental
Project: HS23111246
Work Order: 23111912

Case Narrative

Samples for the above noted Work Order were received on 11/21/2023. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting. A copy of the laboratory's scope of accreditation is available upon request.

With the following exceptions, all sample analyses achieved analytical criteria.

Metals:

No deviations or anomalies were noted.

ALS Group, USA

Date: 05-Dec-2023

Client: ALS Environmental
Project: HS23111246
Sample ID: SB-01 @ 4'
Collection Date: 11/16/2023 02:15 PM

Work Order: 23111912
Lab ID: 23111912-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
HOT WATER SOLUBLE BORON BY ICP-MS			SW6020B		Prep: EXTRACT 11/22/23 13:50	Analyst: STP
Boron (Hot Water Soluble)	0.40		0.39	mg/Kg	10	11/27/2023 04:44 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: ALS Environmental

Work Order: 23111912

Project: HS23111246

QC BATCH REPORT

Batch ID: 229703

Instrument ID ICPMS3

Method: SW6020B

MBLK		Sample ID: MBLK-229703-229703				Units: mg/Kg		Analysis Date: 11/27/2023 04:40 PM		
Client ID:		Run ID: ICPMS3_231127B				SeqNo: 10249278		Prep Date: 11/22/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron (Hot Water Soluble)	0.0083	0.040								J

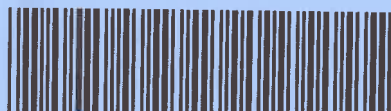
LCS		Sample ID: LCS-229703-229703				Units: mg/Kg		Analysis Date: 11/27/2023 04:42 PM		
Client ID:		Run ID: ICPMS3_231127B				SeqNo: 10249279		Prep Date: 11/22/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron (Hot Water Soluble)	0.8231	0.040	1	0	82.3	80-120		0		

The following samples were analyzed in this batch:

23111912-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 1 of 1

**23111912**ALS - HOUSTON: ALS Environmental
Project: HS2311124610450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: Colorado**COC ID:** 23891**SUBCONTRACT TO:**ALS Laboratory Group
3352 128th Ave.
Holland, MI 494249263**Phone:** +1 616 399 6070**CUSTOMER
INFORMATION:****Company:** ALS Houston
Contact: Tyler Monroe
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Email: tyler.monroe@alsglobal.com
**Alternate
Contact:** Jumoke M. Lawal
Email: jumoke.lawal@alsglobal.com**INVOICE
INFORMATION:****Company:** ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS23111246
TSR: ALS_Fort Collins

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
1. HS23111246-01	SB-01 @ 4'	Soil	16 Nov 2023 14:15
SUB Holland - Hot Water Soluble Boron			05 Dec 2023

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.**QC Level:** STD (Laboratory Standard QC: method blank and LCS required)Relinquished By: 

Date/Time:

Received By: Feder Karly yachlause

Date/Time:

Cooler ID(s): DF2

Temperature(s):

NOV 20 2023



11/21/23 0900

2.4°C

RIGHT SOLUTIONS | RIGHT PARTNER

11/21/2023

Page 1 of 1

Sample Receipt Checklist

Client Name: **ALS - HOUSTON**

Date/Time Received: **21-Nov-23 09:00**

Work Order: **23111912**

Received by: **KYB**

Checklist completed by **Karly Yablonski**

21-Nov-23

Reviewed by: **Chelsey Cook**

21-Nov-23

eSignature

Date

eSignature

Date

Matrices: **Soil**

Carrier name: **FedEx**

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on sample bottles?

Yes ☐

No ☐

Not Present ☒

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Container/Temp Blank temperature in compliance?

Yes ☒

No ☐

Sample(s) received on ice?

Yes ☒

No ☐

Temperature(s)/Thermometer(s):

2.4C

DF2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage:

11/21/2023 1:47:32 PM

Water - VOA vials have zero headspace?

Yes ☐

No ☐

No VOA vials submitted ☒

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

pH adjusted?

Yes ☐

No ☐

N/A ☒

pH adjusted by:

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



December 01, 2023

Service Request No:K2313218

Tyler Monroe
ALS Fort Collins
225 Commerce Drive
Fort Collins, CO 80524

Laboratory Results for: HS23111246

Dear Tyler,

Enclosed are the results of the sample(s) submitted to our laboratory November 21, 2023
For your reference, these analyses have been assigned our service request number **K2313218**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3260. You may also contact me via email at Luke.Rahn@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Luke Rahn
Project Manager

ADDRESS 1317 S. 13th Avenue, Kelso, WA 98626
PHONE +1 360 577 7222 | FAX +1 360 636 1068
ALS Group USA, Corp.
dba ALS Environmental



Narrative Documents

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: ALS Environmental - US
Project: HS23111246
Sample Matrix: Soil

Service Request: K2313218
Date Received: 11/21/2023

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

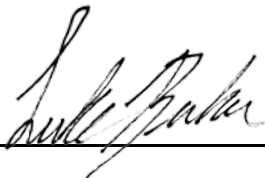
Sample Receipt:

One soil sample was received for analysis at ALS Environmental on 11/21/2023. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The sample was stored at minimum in accordance with the analytical method requirements.

Metals:

Method 6020B, 11/30/2023: The Relative Percent Difference (RPD) for the replicate analysis of Arsenic in sample SB-01 @ 4' was outside the normal ALS control limits. The variability in the results was attributed to the heterogeneous character of the sample. Standard mixing techniques were used, but were not sufficient for complete homogenization of this sample.

Approved by



Date

12/01/2023

SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting levels. For a full listing of sample results, continue to the Sample Results section of this Report.

CLIENT ID: SB-01 @ 4'			Lab ID: K2313218-001			
Analyte	Results	Flag	MDL	MRL	Units	Method
Arsenic	2.07		0.05	0.41	mg/Kg	6020B
Cadmium	0.211		0.006	0.016	mg/Kg	6020B
Selenium	0.32	J	0.07	0.82	mg/Kg	6020B
Solids, Total	92.6				Percent	160.3 Modified



Sample Receipt Information

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: ALS Environmental - US
Project: HS23111246

Service Request:K2313218

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
K2313218-001	SB-01 @ 4'	11/16/2023	1415



K2313218

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: Colorado

COC ID: 23892

SUBCONTRACT TO:

ALS Environmental Kelso
1317 S. 13th Avenue
Kelso, WA 98626

Phone: +1 360 501 3312

**CUSTOMER
INFORMATION:**

Company: ALS Houston
Contact: Tyler Monroe
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Email: tyler.monroe@alsglobal.com
**Alternate
Contact:** Jumoke M. Lawal
Email: jumoke.lawal@alsglobal.com

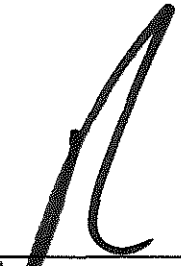
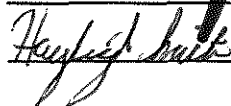
**INVOICE
INFORMATION:**

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS23111246
TSR: ALS_Fort Collins

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
1. HS23111246-01	SB-01 @ 4'	Soil	16 Nov 2023 14:15
SUB Kelso Total Metals - As, Cd, Se			05 Dec 2023

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: STD (Laboratory Standard QC: method blank and LCS required)

Relinquished By: 
Received By: 
Cooler ID(s):

Date/Time: NOV 20 2023 17:00
Date/Time: 11/21/23 10:15
Temperature(s):

11/21/2023 10:15 AM

RIGHT SOLUTIONS | RIGHT PARTNER

15 Nov 2023

Cooler Receipt and Preservation Form

Client ALS - HoustonService Request K23 13218Received: 11/21/23 Opened: 11/21/23 By: HS Unloaded: 11/21/23 By: HS

1. Samples were received via? USPS Fed Ex UPS DHL PDX Courier Hand Delivered
2. Samples were received in: (circle) Cooler Box Envelope Other NA
3. Were custody seals on coolers? NA Y N If yes, how many and where? 1 on front
- If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp Indicate with "X"	PM Notified If out of temp	Tracking Number NA	Filed
	<u>2.9</u>	<u>IR06</u>	<u>10f2</u>			<u>686267992687</u>	
	<u>0.2</u>		<u>20f2</u>			<u>712292615498</u>	

4. Was a Temperature Blank present in cooler? NA Y N If yes, notate the temperature in the appropriate column above:

If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":

5. Were samples received within the method specified temperature ranges?

If no, were they received on ice and same day as collected? If not, notate the cooler # above and notify the PM.

If applicable, tissue samples were received: Frozen Partially Thawed Thawed

6. Packing material: Inserts Baggies Bubble Wrap Gel Packs Wet Ice Dry Ice Sleeves

7. Were custody papers properly filled out (ink, signed, etc.)?

NA Y N

8. Were samples received in good condition (unbroken)?

NA Y N

9. Were all sample labels complete (ie, analysis, preservation, etc.)?

NA Y N

10. Did all sample labels and tags agree with custody papers?

NA Y N

11. Were appropriate bottles/containers and volumes received for the tests indicated?

NA Y N

12. Were the pH-preserved bottles (see SMO GEN SOP) received at the appropriate pH? Indicate in the table below

NA Y N

13. Were VOA vials received without headspace? Indicate in the table below.

NA Y N

14. Was C12/Res negative?

NA Y N

15. Were samples received within the method specified time limit? If not, notate the error below and notify the PM

NA Y N

16. Were 100ml sterile microbiology bottles filled exactly to the 100ml mark? NA Y N Underfilled Overfilled

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Head- space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions:



Miscellaneous Forms

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

- # The control limit criteria is not applicable.
- J The result is an estimated value.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimated value.
- J The result is an estimated value.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjllabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdwlabservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/analyte is offered by that state.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

ALS Group USA, Corp.

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Analyst Summary report

Client: ALS Environmental - US

Service Request: K2313218

Project: HS23111246/

Sample Name: SB-01 @ 4'

Date Collected: 11/16/23

Lab Code: K2313218-001

Date Received: 11/21/23

Sample Matrix: Soil

Analysis Method

Extracted/Digested By

Analyzed By

160.3 Modified

TRICKMAN

6020B

MCHATTICK

EMCALLISTER



Sample Results

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Metals

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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - US
Project: HS23111246
Sample Matrix: Soil

Sample Name: SB-01 @ 4'
Lab Code: K2313218-001

Service Request: K2313218
Date Collected: 11/16/23 14:15
Date Received: 11/21/23 10:15

Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020B	2.07	mg/Kg	0.41	0.05	5	11/30/23 16:17	11/27/23	
Cadmium	6020B	0.211	mg/Kg	0.016	0.006	5	11/30/23 16:17	11/27/23	
Selenium	6020B	0.32 J	mg/Kg	0.82	0.07	5	11/30/23 16:17	11/27/23	



General Chemistry

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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - US
Project: HS23111246
Sample Matrix: Soil
Sample Name: SB-01 @ 4'
Lab Code: K2313218-001

Service Request: K2313218
Date Collected: 11/16/23 14:15
Date Received: 11/21/23 10:15
Basis: As Received

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	92.6	Percent	-	-	1	11/22/23 11:45	



QC Summary Forms

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Metals

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ALS Group USA, Corp.
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Analytical Report

Client: ALS Environmental - US
Project: HS23111246
Sample Matrix: Soil

Sample Name: Method Blank
Lab Code: KQ2320814-03

Service Request: K2313218
Date Collected: NA
Date Received: NA

Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020B	ND U	mg/Kg	0.5	0.06	5	11/30/23 16:13	11/27/23	
Cadmium	6020B	ND U	mg/Kg	0.020	0.007	5	11/30/23 16:13	11/27/23	
Selenium	6020B	ND U	mg/Kg	1.0	0.09	5	11/30/23 16:13	11/27/23	

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QA/QC Report

Client: ALS Environmental - US
Project: HS23111246
Sample Matrix: Soil

Service Request: K2313218
Date Collected: 11/16/23
Date Received: 11/21/23
Date Analyzed: 11/30/23
Date Extracted: 11/27/23

Matrix Spike Summary
Total Metals

Sample Name: SB-01 @ 4'
Lab Code: K2313218-001
Analysis Method: 6020B
Prep Method: EPA 3050B

Units: mg/Kg
Basis: Dry

Matrix Spike
KQ2320814-02

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Arsenic	2.07	104	103	99	75-125
Cadmium	0.211	10.2	10.3	97	75-125
Selenium	0.3 J	103	103	100	75-125

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.

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QA/QC Report

Client: ALS Environmental - US
Project HS23111246
Sample Matrix: Soil

Service Request: K2313218**Date Collected:** 11/16/23**Date Received:** 11/21/23**Date Analyzed:** 11/30/23**Replicate Sample Summary****Total Metals**

Sample Name: SB-01 @ 4'
Lab Code: K2313218-001

Units: mg/Kg**Basis:** Dry

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample KQ2320814-01	Average	RPD	RPD Limit
					Result			
Arsenic	6020B	0.37	0.04	2.07	2.62	2.35	23 *	20
Cadmium	6020B	0.015	0.005	0.211	0.217	0.214	3	20
Selenium	6020B	0.75	0.07	0.32 J	0.23 J	0.28	35 #	20

Results flagged with an asterisk (*) indicate values outside control criteria.

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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QA/QC Report

Client: ALS Environmental - US
Project: HS23111246
Sample Matrix: Soil

Service Request: K2313218
Date Analyzed: 11/30/23

Lab Control Sample Summary
Total Metals

Units:mg/Kg
Basis:Dry

Lab Control Sample
KQ2320814-04

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Arsenic	6020B	96.9	100	97	80-120
Cadmium	6020B	9.68	10.0	97	80-120
Selenium	6020B	97.8	100	98	80-120



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QA/QC Report

Client: ALS Environmental - US
Project HS23111246
Sample Matrix: Soil

Service Request: K2313218
Date Collected: 11/16/23
Date Received: 11/21/23
Date Analyzed: 11/22/23

Replicate Sample Summary**Inorganic Parameters**

Sample Name: SB-01 @ 4'
Lab Code: K2313218-001

Units: Percent
Basis: As Received

				Duplicate Sample K2313218- 001DUP			
Analyte Name	Analysis Method	MRL	Sample Result	Result	Average	RPD	RPD Limit
Solids, Total	160.3 Modified	-	92.6	92.4	92.5	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.