

April Stegall  
Wexpro  
PO Box 458  
Rock Springs, WY 82901

Date: July 11 2017  
Request Number: 36396R  
Date Received: 6/8/17  
Matrix: Soil

### REPORT OF ANALYSIS

Lab Number: R1365

Sample ID: State of CO 2 100403 pH Bottom

	Result	Units	Method	Date Analyzed	Analyst
Nickel	26.5	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Copper	56.0	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Zinc	81.6	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Arsenic	6.25	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Selenium	0.95	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Silver	4.37	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Cadmium	0.551	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Barium	1,119	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Mercury	0.780	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Lead	26.2	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Total Chromium	35.5	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Chromium (VI)	0.71	mg/kg	EPA 7196A	6/20/2017	CB
Chromium (III)	34.8	mg/kg	Calculated (ttl.Cr-CrVI)	7/5/2017	TB
Soluble, Boron	36.3	mg/L	Hot water ext./6010	6/19/2017	CB
pH	7.16	std. units	USDA 60-2,3/150.1	6/16/2017	CB
Conductivity	1,439	µmhos/cm	USDA 60-2,3/120.1	6/16/2017	CB
Calcium	722	mg/L	USDA 60-2,3/6010	6/22/2017	CB
Magnesium	156	mg/L	USDA 60-2,3/6010	6/22/2017	CB
Sodium	247	mg/L	USDA 60-2,3/6010	6/22/2017	CB
Sodium Absorption Ratio	2.17	Ratio	Calculated	7/5/2017	TB

\*Results are the average of 2 runs

BTEX, GRO, DRO & PAH Analyzed by ALS Lab in Fort Collins Colorado. See attached Report.  
ALS Lab Sample ID 1706364-1



## WYOMING ANALYTICAL LABORATORIES, INC

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Date: July 11 2017  
Request Number: 36396R  
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Matrix: Soil

**REPORT OF ANALYSIS**

Lab Number: R1366

Sample ID: State of CO 2 100403 N. Sidewall

	Result	Units	Method		Analyst
Nickel	28.9	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Copper	34.2	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Zinc	71.0	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Arsenic	8.08	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Selenium	1.03	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Silver	4.37	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Cadmium	0.459	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Barium	1,068	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Mercury	0.460	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Lead	22.2	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Total Chromium	33.8	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Chromium (VI)	0.20	mg/kg	EPA 7196A	6/20/2017	CB
Chromium (III)	33.6	mg/kg	Calculated (ttl.Cr-CrVI)	7/5/2017	TB
Soluble, Boron	30.9	mg/L	Hot water ext./6010	6/19/2017	CB
pH	7.44	std. units	USDA 60-2,3/150.1	6/16/2017	CB
Conductivity	1,625	µmhos/cm	USDA 60-2,3/120.1	6/16/2017	CB
Calcium	852	mg/L	USDA 60-2,3/6010	6/22/2017	CB
Magnesium	212	mg/L	USDA 60-2,3/6010	6/22/2017	CB
Sodium	228	mg/L	USDA 60-2,3/6010	6/22/2017	CB
Sodium Absorption Ratio	1.81	Ratio	Calculated	7/5/2017	TB

\*Results are the average of 2 runs

BTEX, GRO, DRO & PAH Analyzed by ALS Lab in Fort Collins Colorado. See attached Report.  
ALS Lab Sample ID 1706364-2



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Date: July 11 2017  
Request Number: 36396R  
Date Received: 6/8/17  
Matrix: Soil

### REPORT OF ANALYSIS

Lab Number: R1367

Sample ID: State of CO 2 100403 E. Sidewall

	Result	Units	Method	Date Analyzed	Analyst
Nickel	24.0	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Copper	30.8	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Zinc	81.2	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Arsenic	7.38	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Selenium	0.88	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Silver	3.97	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Cadmium	0.435	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Barium	983	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Mercury	4.67	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Lead	25.8	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Total Chromium	36.9	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Chromium (VI)	0.63	mg/kg	EPA 7196A	6/20/2017	CB
Chromium (III)	36.3	mg/kg	Calculated (ttl.Cr-CrVI)	7/5/2017	TB
Soluble, Boron	46.3	mg/L	Hot water ext./6010	6/19/2017	CB
pH	7.31	std. units	USDA 60-2,3/150.1	6/16/2017	CB
Conductivity	1,805	µmhos/cm	USDA 60-2,3/120.1	6/16/2017	CB
Calcium	922	mg/L	USDA 60-2,3/6010	6/22/2017	CB
Magnesium	262	mg/L	USDA 60-2,3/6010	6/22/2017	CB
Sodium	294	mg/L	USDA 60-2,3/6010	6/22/2017	CB
Sodium Absorption Ratio	2.20	Ratio	Calculated	7/5/2017	TB

\*Results are the average of 2 runs

BTEX, GRO, DRO & PAH Analyzed by ALS Lab in Fort Collins Colorado. See attached Report.  
ALS Lab Sample ID 1706364-3



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Date: July 11 2017  
Request Number: 36396R  
Date Received: 6/8/17  
Matrix: Soil

### **REPORT OF ANALYSIS**

Lab Number: R1368

Sample ID: State of CO 2 100404 pH Bottom

	Result	Units	Method	Date Analyzed	Analyst
Nickel	19.1	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Copper	28.1	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Zinc	85.6	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Arsenic	5.82	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Selenium	0.740	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Silver	4.28	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Cadmium	0.686	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Barium	996	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Mercury	0.50	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Lead	29.8	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Total Chromium	36.8	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Chromium (VI)	< 0.1	mg/kg	EPA 7196A	6/20/2017	CB
Chromium (III)	36.8	mg/kg	Calculated (ttl.Cr-CrVI)	7/5/2017	TB
Soluble, Boron	33.3	mg/L	Hot water ext./6010	6/19/2017	CB
pH	7.58	std. units	USDA 60-2,3/150.1	6/16/2017	CB
Conductivity	1,436	µmhos/cm	USDA 60-2,3/120.1	6/16/2017	CB
Calcium	649	mg/L	USDA 60-2,3/6010	6/22/2017	CB
Magnesium	234	mg/L	USDA 60-2,3/6010	6/22/2017	CB
Sodium	207	mg/L	USDA 60-2,3/6010	6/22/2017	CB
Sodium Absorption Ratio	1.77	Ratio	Calculated	7/5/2017	TB

\*Results are the average of 2 runs

BTEX, GRO, DRO & PAH Analyzed by ALS Lab in Fort Collins Colorado. See attached Report.  
ALS Lab Sample ID 1706364-4



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Date: July 11 2017  
Request Number: 36396R  
Date Received: 6/8/17  
Matrix: Soil

### REPORT OF ANALYSIS

Lab Number: R1369

Sample ID: State of CO 2 100404 N. Sidewall

	Result	Units	Method	Date Analyzed	Analyst
Nickel	26.0	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Copper	27.6	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Zinc	73.4	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Arsenic	5.82	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Selenium	0.830	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Silver	4.70	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Cadmium	0.369	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Barium	944	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Mercury	0.280	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Lead	22.0	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Total Chromium	30.5	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Chromium (VI)	< 0.1	mg/kg	EPA 7196A	6/20/2017	CB
Chromium (III)	30.5	mg/kg	Calculated (ttl.Cr-CrVI)	7/5/2017	TB
Soluble, Boron	31.5	mg/L	Hot water ext./6010	6/19/2017	CB
pH	7.52	std. units	USDA 60-2,3/150.1	6/16/2017	CB
Conductivity	1,953	µmhos/cm	USDA 60-2,3/120.1	6/16/2017	CB
Calcium	753	mg/L	USDA 60-2,3/6010	6/22/2017	CB
Magnesium	330	mg/L	USDA 60-2,3/6010	6/22/2017	CB
Sodium	522	mg/L	USDA 60-2,3/6010	6/22/2017	CB
Sodium Absorption Ratio	3.99	Ratio	Calculated	7/5/2017	TB

\*Results are the average of 2 runs

BTEX, GRO, DRO & PAH Analyzed by ALS Lab in Fort Collins Colorado. See attached Report.  
ALS Lab Sample ID 1706364-5



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Date: July 11, 2017  
Request Number: 36396R  
Date Received: 6/8/17  
Matrix: Soil

### REPORT OF ANALYSIS

Lab Number: R1370

Sample ID: State of CO 2 100404 E. Sidewall

	Result	Units	Method	Date Analyzed	Analyst
Nickel	18.4*	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Copper	24.5*	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Zinc	74.8*	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Arsenic	5.94*	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Selenium	0.714*	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Silver	4.29*	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Cadmium	0.388*	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Barium	945*	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Mercury	11.7*	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Lead	29.3*	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Total Chromium	36.3*	mg/kg	SW846 EPA 3051/6020	6/19/2017	MLE
Chromium (VI)	0.10	mg/kg	EPA 7196A	6/20/2017	CB
Chromium (III)	36.2	mg/kg	Calculated (ttl.Cr-CrVI)	7/5/2017	TB
Soluble, Boron	36.7	mg/L	Hot water ext./6010	6/19/2017	CB
pH	7.60	std. units	USDA 60-2,3/150.1	6/16/2017	CB
Conductivity	2,280	µmhos/cm	USDA 60-2,3/120.1	6/16/2017	CB
Calcium	628*	mg/L	USDA 60-2,3/6010	6/22/2017	CB
Magnesium	399*	mg/L	USDA 60-2,3/6010	6/22/2017	CB
Sodium	805*	mg/L	USDA 60-2,3/6010	6/22/2017	CB
Sodium Absorption Ratio	6.18	Ratio	Calculated	7/5/2017	TB

\*Results are the average of 2 runs

BTEX, GRO, DRO & PAH Analyzed by ALS Lab in Fort Collins Colorado. See attached Report.  
ALS Lab Sample ID 1706364-6

End of Report  
MLE/tab

Laboratory Manager



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Date Received: 6/8/17  
Matrix: Soil

**QUALITY CONTROL**

	Reference	Expected	Value	% Recovery
Conductivity	QCI-027-12	756	712	94
pH	iv-6.03 pH QC	6.03	6.01	100
Chromium VI	Hach QC	0.50	0.52	104
Nickel	ERA P1488	0.244	0.278	114
Copper	ERA P1488	1.56	1.86	119
Zinc	ERA P1488	1.65	2.01	122
Arsenic	ERA P1488	0.042	0.044	105
Selenium	ERA P1488	0.103	0.079	77
Silver	ERA P1488	0.027	0.029	107
Cadmium	ERA P1488	0.029	0.034	117
Barium	ERA P1488	2.04	1.97	97
Mercury	Sqc001-1755	16.0	17.0	106
Lead	ERA QC P1488	0.084	0.084	100
Soluble Boron	ERA QC P1488	0.86	0.95	110
Total Chromium	ERA QC P1488	0.071	0.076	107
Calcium	ESI QC	20.0	20.5	103
Magnesium	ESI QC	50.0	51.5	103
Sodium	ESI QC	50.0	51.3	103

BTEX, GRO, DRO & PAH Analyzed by ALS Lab in Fort Collins Colorado. See attached Report.  
ALS Lab Sample ID 1706364-1 thru 6

End of QC Report  
MLE/tab

Laboratory Manager



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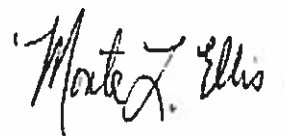
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Request Number: 36396R  
Date Received: 6/8/17  
Matrix: Soil

BTEX, GRO, DRO & PAH Analyzed by ALS Lab in Fort Collins Colorado.  
The following pages apply to the samples listed below.

WAL Lab Number	ALS Lab Number	Wexpro Sample ID
R1365	176364-1	State of CO 2 100403 pH Bottom
R1366	176364-2	State of CO 2 100403 N. Sidewall
R1367	176364-3	State of CO 2 100403 E. Sidewall
R1368	176364-4	State of CO 2 100404 pH Bottom
R1369	176364-5	State of CO 2 100404 N. Sidewall
R1370	176364-6	State of CO 2 100404 E. Sidewall



Laboratory Manager



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Thursday, June 22, 2017

Monte Ellis  
Wyoming Analytical Laboratories, Inc.  
1660 Harrison St.  
Laramie, WY 82070

Re: ALS Workorder: 1706364  
Project Name:  
Project Number: 36396R

Dear Mr. Ellis:

Six soil samples were received from Wyoming Analytical Laboratories, Inc., on 6/15/2017. The samples were scheduled for the following analyses:

GC/MS Semivolatiles

GC/MS Volatiles

Total Extractable Petroleum Hydrocarbons (Diesel)

The results for these analyses are contained in the enclosed reports.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,

ALS Environmental  
Shiloh J. Summy  
Project Manager

ALS Environmental – Fort Collins is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

ALS Environmental – Fort Collins	
Accreditation Body	License or Certification Number
AIHA	214884
Alaska (AK)	UST-086
Alaska (AK)	CO01099
Arizona (AZ)	AZ0742
California (CA)	06251CA
Colorado (CO)	CO01099
Connecticut (CT)	PH-0232
Florida (FL)	E87914
Idaho (ID)	CO01099
Kansas (KS)	E-10381
Kentucky (KY)	90137
L-A-B (DoD ELAP/ISO 170250)	L2257
Louisiana (LA)	05057
Maryland (MD)	285
Missouri (MO)	175
Nebraska(NE)	NE-OS-24-13
Nevada (NV)	CO000782008A
New York (NY)	12036
North Dakota (ND)	R-057
Oklahoma (OK)	1301
Pennsylvania (PA)	68-03116
Tennessee (TN)	2976
Texas (TX)	T104704241
Utah (UT)	CO01099
Washington (WA)	C1280



**1706364**

**GC/MS Volatiles:**

The samples were analyzed using GC/MS following the current revision of SOP 525 based on SW-846 Method 8260C. The samples were also analyzed for Gasoline Range Organics (GRO).

All matrix spike and matrix spike duplicate recoveries and RPDs were within acceptance criteria. with the following exceptions:

Spiked Compound	QC Sample	Direction
Toluene	MS/MSD	Low
Ethylbenzene	MS/MSD	Low
M+P-xylene	MS/MSD	Low
O-xylene	MS/MSD	Low

The recoveries of these compounds in the laboratory control sample and laboratory control sample duplicate were within control limits, which suggest the outliers in the matrix spikes may have been due to matrix effects. No further action was taken.

All remaining acceptance criteria were met.

**GC/MS Semivolatiles:**

The samples were analyzed using GC/MS following the current revision of SOP 506 based on SW-846 Method 8270D.

All acceptance criteria were met.

**DRO:**

The samples were analyzed following the current revision of SOP 406 generally based on SW-846 Methods 8000C and 8015D. TEPH is a multicomponent mixture and is quantitated by summing the entire carbon range, rather than individual peaks. The carbon range integrated in this test extends from C10 to C28.

All acceptance criteria were met.

## ALS -- Fort Collins

## SAMPLE SUMMARY REPORT

Client: Wyoming Analytical Laboratories, Inc.  
 Project: 36396R  
 Sample ID: R1365  
 Legal Location:  
 Collection Date: 6/7/2017

Date: 22-Jun-17  
 Work Order: 1706364  
 Lab ID: 1706364-1  
 Matrix: SOIL  
 Percent Moisture: 2.8

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>Diesel Range Organics</b>			<b>SW8015M</b>		Prep Date: 6/20/2017	PrepBy: TWK
Diesel Range Organics	220	DMH	5.1	MG/KG	1	6/21/2017 12:58
Surr: O-TERPHENYL	94		49-114	%REC	1	6/21/2017 12:58
<b>GC/MS Semi-volatiles</b>			<b>SW8270</b>		Prep Date: 6/19/2017	PrepBy: KJP
NAPHTHALENE	ND		340	UG/KG	1	6/20/2017 16:58
2-METHYLNAPHTHALENE	ND		340	UG/KG	1	6/20/2017 16:58
ACENAPHTHYLENE	ND		340	UG/KG	1	6/20/2017 16:58
ACENAPHTHENE	ND		340	UG/KG	1	6/20/2017 16:58
FLUORENE	ND		340	UG/KG	1	6/20/2017 16:58
PHENANTHRENE	ND		340	UG/KG	1	6/20/2017 16:58
ANTHRACENE	ND		340	UG/KG	1	6/20/2017 16:58
FLUORANTHENE	ND		340	UG/KG	1	6/20/2017 16:58
PYRENE	ND		340	UG/KG	1	6/20/2017 16:58
BENZO(A)ANTHRACENE	ND		340	UG/KG	1	6/20/2017 16:58
CHRYSENE	ND		340	UG/KG	1	6/20/2017 16:58
BENZO(B)FLUORANTHENE	ND		340	UG/KG	1	6/20/2017 16:58
BENZO(K)FLUORANTHENE	ND		340	UG/KG	1	6/20/2017 16:58
BENZO(A)PYRENE	ND		340	UG/KG	1	6/20/2017 16:58
INDENO(1,2,3-CD)PYRENE	ND		340	UG/KG	1	6/20/2017 16:58
DIBENZO(A,H)ANTHRACENE	ND		340	UG/KG	1	6/20/2017 16:58
BENZO(G,H,I)PERYLENE	ND		340	UG/KG	1	6/20/2017 16:58
Surr: NITROBENZENE-D5	61		32-110	%REC	1	6/20/2017 16:58
Surr: 2-FLUOROBIPHENYL	68		41-111	%REC	1	6/20/2017 16:58
Surr: TERPHENYL-D14	68		23-159	%REC	1	6/20/2017 16:58
<b>GC/MS Volatiles</b>			<b>SW8260</b>		Prep Date: 6/19/2017	PrepBy: JXK
BENZENE	ND		5.1	UG/KG	1	6/19/2017 16:19
TOLUENE	2.8	J	5.1	UG/KG	1	6/19/2017 16:19
ETHYLBENZENE	ND		5.1	UG/KG	1	6/19/2017 16:19
M+P-XYLENE	4.7	J	5.1	UG/KG	1	6/19/2017 16:19
O-XYLENE	ND		5.1	UG/KG	1	6/19/2017 16:19
TOTAL XYLENES	4.7	J	5	UG/KG	1	6/19/2017 16:19
Surr: DIBROMOFLUOROMETHANE	110		61-134	%REC	1	6/19/2017 16:19
Surr: TOLUENE-D8	100		57-135	%REC	1	6/19/2017 16:19
Surr: 4-BROMOFLUOROBENZENE	93		52-151	%REC	1	6/19/2017 16:19
GASOLINE RANGE ORGANICS	ND		510	UG/KG	1	6/19/2017 16:19

## ALS -- Fort Collins

## SAMPLE SUMMARY REPORT

Client: Wyoming Analytical Laboratories, Inc.  
 Project: 36396R  
 Sample ID: R1366  
 Legal Location:  
 Collection Date: 6/7/2017

Date: 22-Jun-17  
 Work Order: 1706364  
 Lab ID: 1706364-2  
 Matrix: SOIL  
 Percent Moisture: 12.2

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>Diesel Range Organics</b>			<b>SW8015M</b>		Prep Date: 6/20/2017	PrepBy: TWK
Diesel Range Organics	6.8	MHZ	5.7	MG/KG	1	6/20/2017 21:58
Surr: O-TERPHENYL	103		49-114	%REC	1	6/20/2017 21:58
<b>GC/MS Semi-volatiles</b>			<b>SW8270</b>		Prep Date: 6/19/2017	PrepBy: KJP
NAPHTHALENE	ND		380	UG/KG	1	6/20/2017 17:23
2-METHYLNAPHTHALENE	ND		380	UG/KG	1	6/20/2017 17:23
ACENAPHTHYLENE	ND		380	UG/KG	1	6/20/2017 17:23
ACENAPHTHENE	ND		380	UG/KG	1	6/20/2017 17:23
FLUORENE	ND		380	UG/KG	1	6/20/2017 17:23
PHENANTHRENE	ND		380	UG/KG	1	6/20/2017 17:23
ANTHRACENE	ND		380	UG/KG	1	6/20/2017 17:23
FLUORANTHENE	ND		380	UG/KG	1	6/20/2017 17:23
PYRENE	ND		380	UG/KG	1	6/20/2017 17:23
BENZO(A)ANTHRACENE	ND		380	UG/KG	1	6/20/2017 17:23
CHRYSENE	ND		380	UG/KG	1	6/20/2017 17:23
BENZO(B)FLUORANTHENE	ND		380	UG/KG	1	6/20/2017 17:23
BENZO(K)FLUORANTHENE	ND		380	UG/KG	1	6/20/2017 17:23
BENZO(A)PYRENE	ND		380	UG/KG	1	6/20/2017 17:23
INDENO(1,2,3-CD)PYRENE	ND		380	UG/KG	1	6/20/2017 17:23
DIBENZO(A,H)ANTHRACENE	ND		380	UG/KG	1	6/20/2017 17:23
BENZO(G,H,I)PERYLENE	ND		380	UG/KG	1	6/20/2017 17:23
Surr: NITROBENZENE-D5	72		32-110	%REC	1	6/20/2017 17:23
Surr: 2-FLUOROBIPHENYL	80		41-111	%REC	1	6/20/2017 17:23
Surr: TERPHENYL-D14	85		23-159	%REC	1	6/20/2017 17:23
<b>GC/MS Volatiles</b>			<b>SW8260</b>		Prep Date: 6/19/2017	PrepBy: JXK
BENZENE	ND		5.7	UG/KG	1	6/19/2017 16:42
TOLUENE	ND		5.7	UG/KG	1	6/19/2017 16:42
ETHYLBENZENE	ND		5.7	UG/KG	1	6/19/2017 16:42
M+P-XYLENE	ND		5.7	UG/KG	1	6/19/2017 16:42
O-XYLENE	ND		5.7	UG/KG	1	6/19/2017 16:42
TOTAL XYLENES	ND		5	UG/KG	1	6/19/2017 16:42
Surr: DIBROMOFLUOROMETHANE	108		61-134	%REC	1	6/19/2017 16:42
Surr: TOLUENE-D8	96		57-135	%REC	1	6/19/2017 16:42
Surr: 4-BROMOFLUOROBENZENE	100		52-151	%REC	1	6/19/2017 16:42
GASOLINE RANGE ORGANICS	ND		570	UG/KG	1	6/19/2017 16:42

## ALS -- Fort Collins

## SAMPLE SUMMARY REPORT

Client: Wyoming Analytical Laboratories, Inc.  
 Project: 36396R  
 Sample ID: R1367  
 Legal Location:  
 Collection Date: 6/7/2017

Date: 22-Jun-17  
 Work Order: 1706364  
 Lab ID: 1706364-3  
 Matrix: SOIL  
 Percent Moisture: 10.8

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>Diesel Range Organics</b>			<b>SW8015M</b>		Prep Date: 6/20/2017	PrepBy: TWK
Diesel Range Organics	10	DMHZ	5.5	MG/KG	1	6/20/2017 22:19
Surr: O-TERPHENYL	104		49-114	%REC	1	6/20/2017 22:19
<b>GC/MS Semi-volatiles</b>			<b>SW8270</b>		Prep Date: 6/19/2017	PrepBy: KJP
NAPHTHALENE	ND		370	UG/KG	1	6/20/2017 17:49
2-METHYLNAPHTHALENE	ND		370	UG/KG	1	6/20/2017 17:49
ACENAPHTHYLENE	ND		370	UG/KG	1	6/20/2017 17:49
ACENAPHTHENE	ND		370	UG/KG	1	6/20/2017 17:49
FLUORENE	ND		370	UG/KG	1	6/20/2017 17:49
PHENANTHRENE	ND		370	UG/KG	1	6/20/2017 17:49
ANTHRACENE	ND		370	UG/KG	1	6/20/2017 17:49
FLUORANTHENE	ND		370	UG/KG	1	6/20/2017 17:49
PYRENE	ND		370	UG/KG	1	6/20/2017 17:49
BENZO(A)ANTHRACENE	ND		370	UG/KG	1	6/20/2017 17:49
CHRYSENE	ND		370	UG/KG	1	6/20/2017 17:49
BENZO(B)FLUORANTHENE	ND		370	UG/KG	1	6/20/2017 17:49
BENZO(K)FLUORANTHENE	ND		370	UG/KG	1	6/20/2017 17:49
BENZO(A)PYRENE	ND		370	UG/KG	1	6/20/2017 17:49
INDENO(1,2,3-CD)PYRENE	ND		370	UG/KG	1	6/20/2017 17:49
DIBENZO(A,H)ANTHRACENE	ND		370	UG/KG	1	6/20/2017 17:49
BENZO(G,H,I)PERYLENE	ND		370	UG/KG	1	6/20/2017 17:49
Surr: NITROBENZENE-D5	69		32-110	%REC	1	6/20/2017 17:49
Surr: 2-FLUOROBIPHENYL	78		41-111	%REC	1	6/20/2017 17:49
Surr: TERPHENYL-D14	80		23-159	%REC	1	6/20/2017 17:49
<b>GC/MS Volatiles</b>			<b>SW8260</b>		Prep Date: 6/19/2017	PrepBy: JXK
BENZENE	ND		5.6	UG/KG	1	6/19/2017 17:05
TOLUENE	ND		5.6	UG/KG	1	6/19/2017 17:05
ETHYLBENZENE	ND		5.6	UG/KG	1	6/19/2017 17:05
M+P-XYLENE	ND		5.6	UG/KG	1	6/19/2017 17:05
O-XYLENE	ND		5.6	UG/KG	1	6/19/2017 17:05
TOTAL XYLENES	ND		5	UG/KG	1	6/19/2017 17:05
Surr: DIBROMOFLUOROMETHANE	109		61-134	%REC	1	6/19/2017 17:05
Surr: TOLUENE-D8	98		57-135	%REC	1	6/19/2017 17:05
Surr: 4-BROMOFLUOROBENZENE	95		52-151	%REC	1	6/19/2017 17:05
GASOLINE RANGE ORGANICS	ND		560	UG/KG	1	6/19/2017 17:05

**ALS -- Fort Collins**
**SAMPLE SUMMARY REPORT**

**Client:** Wyoming Analytical Laboratories, Inc.  
**Project:** 36396R  
**Sample ID:** R1368  
**Legal Location:**  
**Collection Date:** 6/7/2017

**Date:** 22-Jun-17  
**Work Order:** 1706364  
**Lab ID:** 1706364-4  
**Matrix:** SOIL  
**Percent Moisture:** 2.3

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>Diesel Range Organics</b>						
			<b>SW8015M</b>		Prep Date: 6/20/2017	PrepBy: TWK
Diesel Range Organics	180	DM	5.1	MG/KG	1	6/20/2017 22:40
Surr: O-TERPHENYL	91		49-114	%REC	1	6/20/2017 22:40
<b>GC/MS Semi-volatiles</b>						
			<b>SW8270</b>		Prep Date: 6/19/2017	PrepBy: KJP
NAPHTHALENE	ND		340	UG/KG	1	6/20/2017 19:11
2-METHYLNAPHTHALENE	ND		340	UG/KG	1	6/20/2017 19:11
ACENAPHTHYLENE	ND		340	UG/KG	1	6/20/2017 19:11
ACENAPHTHENE	ND		340	UG/KG	1	6/20/2017 19:11
FLUORENE	ND		340	UG/KG	1	6/20/2017 19:11
PHENANTHRENE	ND		340	UG/KG	1	6/20/2017 19:11
ANTHRACENE	ND		340	UG/KG	1	6/20/2017 19:11
FLUORANTHENE	ND		340	UG/KG	1	6/20/2017 19:11
PYRENE	ND		340	UG/KG	1	6/20/2017 19:11
BENZO(A)ANTHRACENE	ND		340	UG/KG	1	6/20/2017 19:11
CHRYSENE	ND		340	UG/KG	1	6/20/2017 19:11
BENZO(B)FLUORANTHENE	ND		340	UG/KG	1	6/20/2017 19:11
BENZO(K)FLUORANTHENE	ND		340	UG/KG	1	6/20/2017 19:11
BENZO(A)PYRENE	ND		340	UG/KG	1	6/20/2017 19:11
INDENO(1,2,3-CD)PYRENE	ND		340	UG/KG	1	6/20/2017 19:11
DIBENZO(A,H)ANTHRACENE	ND		340	UG/KG	1	6/20/2017 19:11
BENZO(G,H,I)PERYLENE	ND		340	UG/KG	1	6/20/2017 19:11
Surr: NITROBENZENE-D5	65		32-110	%REC	1	6/20/2017 19:11
Surr: 2-FLUOROBIPHENYL	81		41-111	%REC	1	6/20/2017 19:11
Surr: TERPHENYL-D14	89		23-159	%REC	1	6/20/2017 19:11
<b>GC/MS Volatiles</b>						
			<b>SW8260</b>		Prep Date: 6/19/2017	PrepBy: JXK
BENZENE	ND		5.1	UG/KG	1	6/19/2017 17:28
TOLUENE	3.6	J	5.1	UG/KG	1	6/19/2017 17:28
ETHYLBENZENE	ND		5.1	UG/KG	1	6/19/2017 17:28
M+P-XYLENE	8.4		5.1	UG/KG	1	6/19/2017 17:28
O-XYLENE	ND		5.1	UG/KG	1	6/19/2017 17:28
TOTAL XYLENES	8.4		5	UG/KG	1	6/19/2017 17:28
Surr: DIBROMOFLUOROMETHANE	108		61-134	%REC	1	6/19/2017 17:28
Surr: TOLUENE-D8	99		57-135	%REC	1	6/19/2017 17:28
Surr: 4-BROMOFLUOROBENZENE	96		52-151	%REC	1	6/19/2017 17:28
GASOLINE RANGE ORGANICS	ND		510	UG/KG	1	6/19/2017 17:28

## ALS -- Fort Collins

## SAMPLE SUMMARY REPORT

Client: Wyoming Analytical Laboratories, Inc.  
 Project: 36396R  
 Sample ID: R1369  
 Legal Location:  
 Collection Date: 6/7/2017

Date: 22-Jun-17  
 Work Order: 1706364  
 Lab ID: 1706364-5  
 Matrix: SOIL  
 Percent Moisture: 5.2

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>Diesel Range Organics</b>			<b>SW8015M</b>		Prep Date: 6/20/2017	PrepBy: TWK
Diesel Range Organics	240	DMH	5.2	MG/KG	1	6/20/2017 23:00
Surr: O-TERPHENYL	108		49-114	%REC	1	6/20/2017 23:00
<b>GC/MS Semi-volatiles</b>			<b>SW8270</b>		Prep Date: 6/19/2017	PrepBy: KJP
NAPHTHALENE	ND		350	UG/KG	1	6/20/2017 19:33
2-METHYLNAPHTHALENE	ND		350	UG/KG	1	6/20/2017 19:33
ACENAPHTHYLENE	ND		350	UG/KG	1	6/20/2017 19:33
ACENAPHTHENE	ND		350	UG/KG	1	6/20/2017 19:33
FLUORENE	ND		350	UG/KG	1	6/20/2017 19:33
PHENANTHRENE	ND		350	UG/KG	1	6/20/2017 19:33
ANTHRACENE	ND		350	UG/KG	1	6/20/2017 19:33
FLUORANTHENE	ND		350	UG/KG	1	6/20/2017 19:33
PYRENE	ND		350	UG/KG	1	6/20/2017 19:33
BENZO(A)ANTHRACENE	ND		350	UG/KG	1	6/20/2017 19:33
CHRYSENE	ND		350	UG/KG	1	6/20/2017 19:33
BENZO(B)FLUORANTHENE	ND		350	UG/KG	1	6/20/2017 19:33
BENZO(K)FLUORANTHENE	ND		350	UG/KG	1	6/20/2017 19:33
BENZO(A)PYRENE	ND		350	UG/KG	1	6/20/2017 19:33
INDENO(1,2,3-CD)PYRENE	ND		350	UG/KG	1	6/20/2017 19:33
DIBENZO(A,H)ANTHRACENE	ND		350	UG/KG	1	6/20/2017 19:33
BENZO(G,H,I)PERYLENE	ND		350	UG/KG	1	6/20/2017 19:33
Surr: NITROBENZENE-D5	62		32-110	%REC	1	6/20/2017 19:33
Surr: 2-FLUOROBIPHENYL	77		41-111	%REC	1	6/20/2017 19:33
Surr: TERPHENYL-D14	82		23-159	%REC	1	6/20/2017 19:33
<b>GC/MS Volatiles</b>			<b>SW8260</b>		Prep Date: 6/19/2017	PrepBy: JXK
BENZENE	ND		5.3	UG/KG	1	6/19/2017 17:51
TOLUENE	ND		5.3	UG/KG	1	6/19/2017 17:51
ETHYLBENZENE	ND		5.3	UG/KG	1	6/19/2017 17:51
M+P-XYLENE	ND		5.3	UG/KG	1	6/19/2017 17:51
O-XYLENE	ND		5.3	UG/KG	1	6/19/2017 17:51
TOTAL XYLENES	ND		5	UG/KG	1	6/19/2017 17:51
Surr: DIBROMOFLUOROMETHANE	111		61-134	%REC	1	6/19/2017 17:51
Surr: TOLUENE-D8	97		57-135	%REC	1	6/19/2017 17:51
Surr: 4-BROMOFLUOROBENZENE	100		52-151	%REC	1	6/19/2017 17:51
GASOLINE RANGE ORGANICS	ND		530	UG/KG	1	6/19/2017 17:51



## ALS -- Fort Collins

## SAMPLE SUMMARY REPORT

Client: Wyoming Analytical Laboratories, Inc.  
 Project: 36396R  
 Sample ID: R1370  
 Legal Location:  
 Collection Date: 6/7/2017

Date: 22-Jun-17  
 Work Order: 1706364  
 Lab ID: 1706364-6  
 Matrix: SOIL  
 Percent Moisture: 5.2

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>Diesel Range Organics</b>			<b>SW8015M</b>		Prep Date: 6/20/2017	PrepBy: TWK
Diesel Range Organics	17	DMH	5.3	MG/KG	1	6/20/2017 23:21
Surr: O-TERPHENYL	96		49-114	%REC	1	6/20/2017 23:21
<b>GC/MS Semi-volatiles</b>			<b>SW8270</b>		Prep Date: 6/19/2017	PrepBy: KJP
NAPHTHALENE	ND		350	UG/KG	1	6/20/2017 19:52
2-METHYLNAPHTHALENE	ND		350	UG/KG	1	6/20/2017 19:52
ACENAPHTHYLENE	ND		350	UG/KG	1	6/20/2017 19:52
ACENAPHTHENE	ND		350	UG/KG	1	6/20/2017 19:52
FLUORENE	ND		350	UG/KG	1	6/20/2017 19:52
PHENANTHRENE	ND		350	UG/KG	1	6/20/2017 19:52
ANTHRACENE	ND		350	UG/KG	1	6/20/2017 19:52
FLUORANTHENE	ND		350	UG/KG	1	6/20/2017 19:52
PYRENE	ND		350	UG/KG	1	6/20/2017 19:52
BENZO(A)ANTHRACENE	ND		350	UG/KG	1	6/20/2017 19:52
CHRYSENE	ND		350	UG/KG	1	6/20/2017 19:52
BENZO(B)FLUORANTHENE	ND		350	UG/KG	1	6/20/2017 19:52
BENZO(K)FLUORANTHENE	ND		350	UG/KG	1	6/20/2017 19:52
BENZO(A)PYRENE	ND		350	UG/KG	1	6/20/2017 19:52
INDENO(1,2,3-CD)PYRENE	ND		350	UG/KG	1	6/20/2017 19:52
DIBENZO(A,H)ANTHRACENE	ND		350	UG/KG	1	6/20/2017 19:52
BENZO(G,H,I)PERYLENE	ND		350	UG/KG	1	6/20/2017 19:52
Surr: NITROBENZENE-D5	63		32-110	%REC	1	6/20/2017 19:52
Surr: 2-FLUOROBIPHENYL	81		41-111	%REC	1	6/20/2017 19:52
Surr: TERPHENYL-D14	88		23-159	%REC	1	6/20/2017 19:52
<b>GC/MS Volatiles</b>			<b>SW8260</b>		Prep Date: 6/19/2017	PrepBy: JXK
BENZENE	ND		5.3	UG/KG	1	6/19/2017 18:14
TOLUENE	ND		5.3	UG/KG	1	6/19/2017 18:14
ETHYLBENZENE	ND		5.3	UG/KG	1	6/19/2017 18:14
M+P-XYLENE	ND		5.3	UG/KG	1	6/19/2017 18:14
O-XYLENE	ND		5.3	UG/KG	1	6/19/2017 18:14
TOTAL XYLENES	ND		5	UG/KG	1	6/19/2017 18:14
Surr: DIBROMOFLUOROMETHANE	109		61-134	%REC	1	6/19/2017 18:14
Surr: TOLUENE-D8	97		57-135	%REC	1	6/19/2017 18:14
Surr: 4-BROMOFLUOROBENZENE	100		52-151	%REC	1	6/19/2017 18:14
GASOLINE RANGE ORGANICS	ND		530	UG/KG	1	6/19/2017 18:14

# ALS -- Fort Collins

# SAMPLE SUMMARY REPORT

Client: Wyoming Analytical Laboratories, Inc.  
 Project: 36396R  
 Sample ID: R1370  
 Legal Location:  
 Collection Date: 6/7/2017

Date: 22-Jun-17  
 Work Order: 1706364  
 Lab ID: 1706364-6  
 Matrix: SOIL  
 Percent Moisture: 5.2

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
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## Explanation of Qualifiers

### Radiochemistry:

U or ND - Result is less than the sample specific MDC.  
 Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.  
 Y2 - Chemical Yield outside default limits.  
 W - DER is greater than Warning Limit of 1.42  
 \* - Aliquot Basis is 'As Received' while the Report Basis is 'Dry Weight'.  
 # - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Received'.  
 G - Sample density differs by more than 15% of LCS density.  
 D - DER is greater than Control Limit  
 M - Requested MDC not met.  
 LT - Result is less than requested MDC but greater than achieved MDC.  
 M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.  
 L - LCS Recovery below lower control limit.  
 H - LCS Recovery above upper control limit.  
 P - LCS, Matrix Spike Recovery within control limits.  
 N - Matrix Spike Recovery outside control limits  
 NC - Not Calculated for duplicate results less than 5 times MDC  
 B - Analyte concentration greater than MDC.  
 B3 - Analyte concentration greater than MDC but less than Requested MDC.

### Inorganics:

B - Result is less than the requested reporting limit but greater than the instrument method detection limit (MDL).  
 U or ND - Indicates that the compound was analyzed for but not detected.  
 E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.  
 M - Duplicate injection precision was not met.  
 N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.  
 Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.  
 \* - Duplicate analysis (relative percent difference) not within control limits.  
 S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

### Organics:

U or ND - Indicates that the compound was analyzed for but not detected.  
 B - Analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user.  
 E - Analyte concentration exceeds the upper level of the calibration range.  
 J - Estimated value. The result is less than the reporting limit but greater than the instrument method detection limit (MDL).  
 A - A tentatively identified compound is a suspected aldol-condensation product.  
 X - The analyte was diluted below an accurate quantitation level.  
 \* - The spike recovery is equal to or outside the control criteria used.  
 + - The relative percent difference (RPD) equals or exceeds the control criteria.  
 G - A pattern resembling gasoline was detected in this sample.  
 D - A pattern resembling diesel was detected in this sample.  
 M - A pattern resembling motor oil was detected in this sample.  
 C - A pattern resembling crude oil was detected in this sample.  
 4 - A pattern resembling JP-4 was detected in this sample.  
 5 - A pattern resembling JP-5 was detected in this sample.  
 H - Indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.  
 L - Indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.  
 Z - This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:  
 - gasoline  
 - JP-8  
 - diesel  
 - mineral spirits  
 - motor oil  
 - Stoddard solvent  
 - bunker C

## ALS -- Fort Collins

Date: 6/22/2017 3:42:

Client: Wyoming Analytical Laboratories, Inc.

## QC BATCH REPORT

Work Order: 1706364

Project: 36396R

Batch ID: HC170620-8-1 Instrument ID FUELS-1 Method: SW8015M

LCS Sample ID: HC170620-8		Units: MG/KG				Analysis Date: 6/20/2017 15:46					
Client ID:		Run ID: HC170620-8A				Prep Date: 6/20/2017		DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Diesel Range Organics	67.7	5	62.5		108	81-129				20	
Surr: O-TERPHENYL	5.47		6.25		88	49-114					

LCSD Sample ID: HC170620-8		Units: MG/KG				Analysis Date: 6/20/2017 16:06					
Client ID:		Run ID: HC170620-8A				Prep Date: 6/20/2017		DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Diesel Range Organics	66.7	5	62.5		107	81-129		67.7	1	20	
Surr: O-TERPHENYL	5.35		6.25		86	49-114			2		

MB Sample ID: HC170620-8		Units: MG/KG				Analysis Date: 6/20/2017 15:24					
Client ID:		Run ID: HC170620-8A				Prep Date: 6/20/2017		DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Diesel Range Organics	ND	5									
Surr: O-TERPHENYL	5.57		6.25		89	49-114					

The following samples were analyzed in this batch:

1706364-1	1706364-2	1706364-3
1706364-4	1706364-5	1706364-6

Client: Wyoming Analytical Laboratories, Inc.  
 Work Order: 1706364  
 Project: 36396R

## QC BATCH REPORT

Batch ID: EX170619-4-1 Instrument ID HPSV4 Method: SW8270

LCS Sample ID: EX170619-4 Units: UG/KG Analysis Date: 6/20/2017 16:10

Client ID: Run ID: SV170620-4 Prep Date: 6/19/2017 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
NAPHTHALENE	1430	333	2000		72	51-100				30	
2-METHYLNAPHTHALENE	1510	333	2000		75	51-100				30	
ACENAPHTHYLENE	1510	333	2000		76	60-109				30	
ACENAPHTHENE	1490	333	2000		74	38-103				30	
FLUORENE	1590	333	2000		80	65-106				30	
PHENANTHRENE	1870	333	2000		83	66-107				30	
ANTHRACENE	1610	333	2000		80	65-108				30	
FLUORANTHENE	1760	333	2000		88	64-109				30	
PYRENE	1520	333	2000		76	48-118				30	
BENZO(A)ANTHRACENE	1590	333	2000		79	64-107				30	
CHRYSENE	1620	333	2000		81	65-108				30	
BENZO(B)FLUORANTHENE	1680	333	2000		84	60-111				30	
BENZO(K)FLUORANTHENE	1650	333	2000		83	62-111				30	
BENZO(A)PYRENE	1640	333	2000		82	63-109				30	
INDENO(1,2,3-CD)PYRENE	1620	333	2000		81	55-117				30	
DIBENZO(A,H)ANTHRACENE	1610	333	2000		81	55-120				30	
BENZO(G,H,I)PERYLENE	1630	333	2000		82	37-123				30	
Surr: NITROBENZENE-D5	1150		1670		69	32-110					
Surr: 2-FLUOROBIPHENYL	1260		1670		76	41-111					
Surr: TERPHENYL-D14	1320		1670		79	23-159					

Client: Wyoming Analytical Laboratories, Inc.  
 Work Order: 1706364  
 Project: 36396R

## QC BATCH REPORT

Batch ID: EX170619-4-1 Instrument ID HPSV4 Method: SW8270

MB Sample ID: EX170619-4 Units: UG/KG Analysis Date: 6/20/2017 15:47

Client ID: Run ID: SV170620-4 Prep Date: 6/19/2017 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
NAPHTHALENE	ND	330									
2-METHYLNAPHTHALENE	ND	330									
ACENAPHTHYLENE	ND	330									
ACENAPHTHENE	ND	330									
FLUORENE	ND	330									
PHENANTHRENE	ND	330									
ANTHRACENE	ND	330									
FLUORANTHENE	ND	330									
PYRENE	ND	330									
BENZO(A)ANTHRACENE	ND	330									
CHRYSENE	ND	330									
BENZO(B)FLUORANTHENE	ND	330									
BENZO(K)FLUORANTHENE	ND	330									
BENZO(A)PYRENE	ND	330									
INDENO(1,2,3-CD)PYRENE	ND	330									
DIBENZO(A,H)ANTHRACENE	ND	330									
BENZO(G,H,I)PERYLENE	ND	330									
Surr: NITROBENZENE-D5	1210		1670		72	32-110					
Surr: 2-FLUOROBIPHENYL	1310		1670		78	41-111					
Surr: TERPHENYL-D14	1450		1670		87	23-159					

Client: Wyoming Analytical Laboratories, Inc.  
 Work Order: 1706364  
 Project: 36396R

## QC BATCH REPORT

Batch ID: EX170619-4-1 Instrument ID HPSV4 Method: SW8270

MS Sample ID: 1706364-3 Units: UG/KG Analysis Date: 6/20/2017 18:15  
 Client ID: R1367 Run ID: SV170620-4 Prep Date: 6/19/2017 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
NAPHTHALENE	1210	371	2220	370	55	47-97				30	
2-METHYLNAPHTHALENE	1370	371	2220	370	62	51-99				30	
ACENAPHTHYLENE	1500	371	2220	370	67	60-109				30	
ACENAPHTHENE	1460	371	2220	370	66	47-110				30	
FLUORENE	1550	371	2220	370	70	65-106				30	
PHENANTHRENE	1610	371	2220	370	72	66-107				30	
ANTHRACENE	1580	371	2220	370	71	65-108				30	
FLUORANTHENE	1660	371	2220	370	75	64-109				30	
PYRENE	1530	371	2220	370	69	48-118				30	
BENZO(A)ANTHRACENE	1550	371	2220	370	70	64-107				30	
CHRYSENE	1600	371	2220	370	72	65-108				30	
BENZO(B)FLUORANTHENE	1500	371	2220	370	67	60-111				30	
BENZO(K)FLUORANTHENE	1580	371	2220	370	71	62-111				30	
BENZO(A)PYRENE	1560	371	2220	370	70	63-109				30	
INDENO(1,2,3-CD)PYRENE	1580	371	2220	370	71	55-117				30	
DIBENZO(A,H)ANTHRACENE	1580	371	2220	370	71	55-120				30	
BENZO(G,H,I)PERYLENE	1620	371	2220	370	73	37-123				30	
Surr: NITROBENZENE-D5	906		1850		49	32-110					
Surr: 2-FLUOROBIPHENYL	1180		1850		64	41-111					
Surr: TERPHENYL-D14	1310		1850		71	23-159					

Client: Wyoming Analytical Laboratories, Inc.  
 Work Order: 1706364  
 Project: 36396R

## QC BATCH REPORT

Batch ID: EX170619-4-1 Instrument ID HPSV4 Method: SW8270

MSD Sample ID: 1706364-3 Units: UG/KG Analysis Date: 6/20/2017 18:43  
 Client ID: R1367 Run ID: SV170620-4 Prep Date: 6/19/2017 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
NAPHTHALENE	1630	372	2230	370	73	47-97		1210	29	30	
2-METHYLNAPHTHALENE	1720	372	2230	370	77	51-99		1370	22	30	
ACENAPHTHYLENE	1720	372	2230	370	77	60-109		1500	13	30	
ACENAPHTHENE	1650	372	2230	370	74	47-110		1460	12	30	
FLUORENE	1720	372	2230	370	77	65-106		1550	11	30	
PHENANTHRENE	1780	372	2230	370	80	66-107		1610	10	30	
ANTHRACENE	1770	372	2230	370	79	65-108		1580	11	30	
FLUORANTHENE	1880	372	2230	370	84	64-109		1660	13	30	
PYRENE	1630	372	2230	370	73	48-118		1530	6	30	
BENZO(A)ANTHRACENE	1660	372	2230	370	74	64-107		1550	7	30	
CHRYSENE	1720	372	2230	370	77	65-108		1600	8	30	
BENZO(B)FLUORANTHENE	1740	372	2230	370	78	60-111		1500	15	30	
BENZO(K)FLUORANTHENE	1630	372	2230	370	73	62-111		1580	3	30	
BENZO(A)PYRENE	1700	372	2230	370	76	63-109		1560	8	30	
INDENO(1,2,3-CD)PYRENE	1700	372	2230	370	76	55-117		1580	8	30	
DIBENZO(A,H)ANTHRACENE	1710	372	2230	370	77	55-120		1580	8	30	
BENZO(G,H,I)PERYLENE	1750	372	2230	370	78	37-123		1620	7	30	
Surr: NITROBENZENE-D5	1280		1860		69	32-110			34		
Surr: 2-FLUOROBIPHENYL	1380		1860		74	41-111			15		
Surr: TERPHENYL-D14	1390		1860		75	23-159			6		

The following samples were analyzed in this batch:

1706364-1	1706364-2	1706364-3
1706364-4	1706364-5	1706364-6

Client: Wyoming Analytical Laboratories, Inc.  
 Work Order: 1706364  
 Project: 36396R

## QC BATCH REPORT

Batch ID: VL170619-2-1 Instrument ID HPV2 Method: SW8260

LCS		Sample ID: VL170619-2		Units: UG/KG		Analysis Date: 6/19/2017 13:37					
Client ID:		Run ID: VL170619-2A		Prep Date: 6/19/2017		DF: 1					
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BENZENE	41	5	40		103	73-126				30	
TOLUENE	37.3	5	40		93	71-127				30	
ETHYLBENZENE	38.9	5	40		97	74-127				30	
M+P-XYLENE	76.3	5	80		95	79-126				30	
O-XYLENE	38.1	5	40		95	77-125				30	
Surr: DIBROMOFLUOROMETHANE	52.5		50		105	61-134					
Surr: TOLUENE-D8	49.6		50		99	57-135					
Surr: 4-BROMOFLUOROBENZENE	51.8		50		104	52-151					

LCSD		Sample ID: VL170619-2		Units: UG/KG		Analysis Date: 6/19/2017 14:00					
Client ID:		Run ID: VL170619-2A		Prep Date: 6/19/2017		DF: 1					
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BENZENE	40.7	5	40		102	73-126		41	1	30	
TOLUENE	38.7	5	40		92	71-127		37.3	2	30	
ETHYLBENZENE	38.3	5	40		96	74-127		38.9	2	30	
M+P-XYLENE	75.7	5	80		95	79-126		76.3	1	30	
O-XYLENE	36.9	5	40		92	77-125		38.1	3	30	
Surr: DIBROMOFLUOROMETHANE	52.9		50		106	61-134			1		
Surr: TOLUENE-D8	49.1		50		98	57-135			1		
Surr: 4-BROMOFLUOROBENZENE	50.9		50		102	52-151			2		

MB		Sample ID: VL170619-2		Units: UG/KG		Analysis Date: 6/19/2017 15:55					
Client ID:		Run ID: VL170619-2A		Prep Date: 6/19/2017		DF: 1					
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BENZENE	ND	5									
TOLUENE	ND	5									
ETHYLBENZENE	ND	5									
M+P-XYLENE	ND	5									
O-XYLENE	ND	5									
TOTAL XYLENES	ND	5									
Surr: DIBROMOFLUOROMETHANE	52.9		50		106	61-134					
Surr: TOLUENE-D8	47.3		50		95	57-135					
Surr: 4-BROMOFLUOROBENZENE	50		50		100	52-151					



Client: Wyoming Analytical Laboratories, Inc.  
 Work Order: 1706364  
 Project: 36396R

## QC BATCH REPORT

Batch ID: VL170619-2-1 Instrument ID HPV2 Method: SW8260

MS Sample ID: 1706364-6 Units: UG/KG Analysis Date: 6/19/2017 18:38  
 Client ID: R1370 Run ID: VL170619-2A Prep Date: 6/19/2017 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BENZENE	32.2	5.27	42.1	5.3	76	73-126				30	
TOLUENE	27.7	5.27	42.1	5.3	66	71-127				30	*
ETHYLBENZENE	27.2	5.27	42.1	5.3	65	74-127				30	*
M+P-XYLENE	52.3	5.27	84.2	5.3	62	79-126				30	*
O-XYLENE	26.8	5.27	42.1	5.3	64	77-125				30	*
Surr: DIBROMOFLUOROMETHANE	58.3		52.7		111	61-134					
Surr: TOLUENE-D8	50.2		52.7		95	57-135					
Surr: 4-BROMOFLUOROBENZENE	53.6		52.7		102	52-151					

MSD Sample ID: 1706364-6 Units: UG/KG Analysis Date: 6/19/2017 19:01  
 Client ID: R1370 Run ID: VL170619-2A Prep Date: 6/19/2017 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BENZENE	30.7	5.27	42.1	5.3	73	73-126		32.2	5	30	
TOLUENE	26.1	5.27	42.1	5.3	62	71-127		27.7	6	30	*
ETHYLBENZENE	25	5.27	42.1	5.3	59	74-127		27.2	8	30	*
M+P-XYLENE	49.9	5.27	84.2	5.3	59	79-126		52.3	5	30	*
O-XYLENE	25.2	5.27	42.1	5.3	60	77-125		26.8	6	30	*
Surr: DIBROMOFLUOROMETHANE	58.4		52.7		111	61-134				0	
Surr: TOLUENE-D8	51.2		52.7		97	57-135				2	
Surr: 4-BROMOFLUOROBENZENE	53.4		52.7		101	52-151				0	

The following samples were analyzed in this batch:

1706364-1	1706364-2	1706364-3
1706364-4	1706364-5	1706364-6

Client: Wyoming Analytical Laboratories, Inc.  
 Work Order: 1706364  
 Project: 36396R

## QC BATCH REPORT

Batch ID: VL170619-2-2 Instrument ID HPV2 Method: SW8260

LCS Sample ID: VL170619-6 Units: UG/KG Analysis Date: 6/19/2017 14:46

Client ID: Run ID: VL170619-2A Prep Date: 6/19/2017 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	1850	500	2000		93	80-120				20	

LCSD Sample ID: VL170619-6 Units: UG/KG Analysis Date: 6/19/2017 15:09

Client ID: Run ID: VL170619-2A Prep Date: 6/19/2017 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	1820	500	2000		91	80-120		1850	2	20	

MB Sample ID: VL170619-2 Units: UG/KG Analysis Date: 6/19/2017 15:55

Client ID: Run ID: VL170619-2A Prep Date: 6/19/2017 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	ND	500									

The following samples were analyzed in this batch:

1706364-1	1706364-2	1706364-3
1706364-4	1706364-5	1706364-6