

April Stegall  
Dominion Energy Wexpro  
PO Box 458  
Rock Springs, WY 82901

Date: September 5, 2017  
Request Number: 36613R  
Date Received: 8/18/17  
Matrix: Soil

### REPORT OF ANALYSIS

Lab Number: R1806

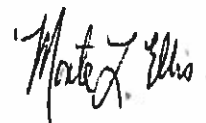
Sample ID: BM Musser 19 100369 Sample #1 8/17/17 12:30pm

	Result	Units	Method	Date Analyzed	Analyst
Nickel	24.9*	mg/kg	SW846 EPA 3051/6020	8/30/2017	MLE
Copper	378*	mg/kg	SW846 EPA 3051/6020	8/30/2017	MLE
Zinc	157*	mg/kg	SW846 EPA 3051/6020	8/30/2017	MLE
Arsenic	7.47*	mg/kg	SW846 EPA 3051/6020	8/30/2017	MLE
Selenium	1.52*	mg/kg	SW846 EPA 3051/6020	8/30/2017	MLE
Silver	6.27*	mg/kg	SW846 EPA 3051/6020	8/30/2017	MLE
Cadmium	1.83*	mg/kg	SW846 EPA 3051/6020	8/30/2017	MLE
Barium	988*	mg/kg	SW846 EPA 3051/6020	8/30/2017	MLE
Mercury	0.68	mg/kg	SW846 EPA 3051/6020	8/30/2017	MLE
Lead	40.1*	mg/kg	SW846 EPA 3051/6020	8/30/2017	MLE
Total Chromium	12.7*	mg/kg	SW846 EPA 3051/6020	8/30/2017	MLE
Chromium (VI)	0.27	mg/kg	EPA 7196A	8/24/2017	CB
Chromium (III)	12.43	mg/kg	Calculated (ttl.Cr-CrVI)	9/5/2017	TB
Soluble, Boron	0.06*	mg/L	Hot water ext./6010	8/23/2017	CB
pH	7.28	std. units	USDA 60-2,3/150.1	8/23/2017	CB
Conductivity	2,260	µmhos/cm	USDA 60-2,3/120.1	8/23/2017	CB
Calcium	633*	mg/L	USDA 60-2,3/6010	8/23/2017	CB
Magnesium	181*	mg/L	USDA 60-2,3/6010	8/23/2017	CB
Sodium	670*	mg/L	USDA 60-2,3/6010	8/23/2017	CB
Sodium Absorption Ratio	3.62	Ratio	Calculated	9/4/2017	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 1708460-1

End of Report  
MLE/tab



Laboratory Manager



## WYOMING ANALYTICAL LABORATORIES, INC

1660 Harrison Street  
Laramie, WY 82070

www.wal-lab.com  
laramie@wal-lab.com

ph: 307-742-7995  
fax: 307-721-8956

April Stegall  
Dominion Energy Wexpro  
PO Box 458  
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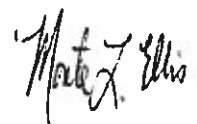
Date: September 5, 2017  
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**QUALITY CONTROL**

	Reference	Expected	Value	% Recovery
Conductivity	QCI-027-12	756	733	97
pH	iv-6.03 pH QC	6.03	5.99	99
Chromium VI	Hach QC	0.50	0.51	102
Nickel	LRAA 1722	127	152	120
Copper	LRAA 1722	258	237	92
Zinc	LRAA 1722	173	146	84
Arsenic	LRAA 1722	161	135	84
Selenium	LRAA 1722	305	187	61
Silver	LRAA 1722	58.0	43.9	76
Cadmium	LRAA 1722	190	157	83
Barium	LRAA 1722	351	297	85
Mercury	Sqc001-1755	15.9	14.9	94
Lead	ERA QC P1488	138	158	114
Soluble Boron	ESI QC	1.0	1.04	104
Total Chromium	ERA QC P1488	0.072	0.070	97
Calcium	ESI QC	20.0	20.8	104
Magnesium	ESI QC	50.0	50.5	101
Sodium	ESI QC	50.0	50.3	101

BTEX, GRO, DRO & PAH Analyzed by ALS Lab in Fort Collins Colorado. See attached Report.  
ALS Lab Sample ID 1708460-1

End of QC Report  
MLE/tab



Laboratory Manager



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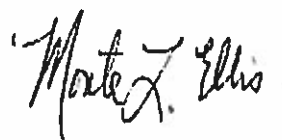
ph: 307-742-7995  
fax: 307-721-8956

April Stegall  
Wexpro  
PO Box 458  
Rock Springs, WY 82901

Date: September 5, 2017  
Request Number: 36613R  
Date Received: 8/18/17  
Matrix: Soil

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

	ALS Lab Number	Wexpro Sample ID
R1806	1708460-1	BM Musser 19 100369 Sample #1 8/17/17 12:30pm



Laboratory Manager



## WYOMING ANALYTICAL LABORATORIES, INC

1660 Harrison Street  
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[laramie@wal-lab.com](mailto:laramie@wal-lab.com)

ph: 307-742-7995  
fax: 307-721-8956



Thursday, August 31, 2017

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

Re: ALS Workorder: 1708460  
Project Name:  
Project Number: 36613R

Dear Mr. Ellis:

One soil sample was received from Wyoming Analytical Laboratories, Inc., on 8/22/2017. The sample was 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



**1708460**

**GC/MS Volatiles:**

The sample was analyzed using GC/MS following the current revision of SOP 525 based on SW-846 Method 8260C.

All acceptance criteria were met.

**GC/MS Semivolatiles:**

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

All acceptance criteria were met.

**DRO:**

The sample was 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.

Client: Wyoming Analytical Laboratories, Inc.  
 Project: 36613R  
 Sample ID: R1806  
 Legal Location:  
 Collection Date: 8/17/2017 12:30

Date: 31-Aug-17  
 Work Order: 1708460  
 Lab ID: 1708460-1  
 Matrix: SOIL  
 Percent Moisture: 11.2

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>Diesel Range Organics</b>			<b>SW8015M</b>		Prep Date: 8/28/2017	PrepBy: JFN
Diesel Range Organics	35	DMH	5.5	MG/KG	1	8/28/2017 16:50
Surr: O-TERPHENYL	88		49-114	%REC	1	8/28/2017 16:50
<b>GC/MS Semi-volatiles</b>			<b>SW8270</b>		Prep Date: 8/29/2017	PrepBy: BCH
NAPHTHALENE	ND		370	UG/KG	1	8/31/2017 09:39
2-METHYLNAPHTHALENE	ND		370	UG/KG	1	8/31/2017 09:39
ACENAPHTHYLENE	ND		370	UG/KG	1	8/31/2017 09:39
ACENAPHTHENE	ND		370	UG/KG	1	8/31/2017 09:39
FLUORENE	ND		370	UG/KG	1	8/31/2017 09:39
PHENANTHRENE	ND		370	UG/KG	1	8/31/2017 09:39
ANTHRACENE	ND		370	UG/KG	1	8/31/2017 09:39
FLUORANTHENE	ND		370	UG/KG	1	8/31/2017 09:39
PYRENE	ND		370	UG/KG	1	8/31/2017 09:39
BENZO(A)ANTHRACENE	ND		370	UG/KG	1	8/31/2017 09:39
CHRYSENE	ND		370	UG/KG	1	8/31/2017 09:39
BENZO(B)FLUORANTHENE	ND		370	UG/KG	1	8/31/2017 09:39
BENZO(K)FLUORANTHENE	ND		370	UG/KG	1	8/31/2017 09:39
BENZO(A)PYRENE	ND		370	UG/KG	1	8/31/2017 09:39
INDENO(1,2,3-CD)PYRENE	ND		370	UG/KG	1	8/31/2017 09:39
DBENZO(A,H)ANTHRACENE	ND		370	UG/KG	1	8/31/2017 09:39
BENZO(G,H,I)PERYLENE	ND		370	UG/KG	1	8/31/2017 09:39
Surr: NITROBENZENE-D5	97		32-110	%REC	1	8/31/2017 09:39
Surr: 2-FLUOROBIPHENYL	93		41-111	%REC	1	8/31/2017 09:39
Surr: TERPHENYL-D14	102		23-159	%REC	1	8/31/2017 09:39
<b>GC/MS Volatiles</b>			<b>SW8260</b>		Prep Date: 8/24/2017	PrepBy: JXK
BENZENE	ND		5.5	UG/KG	1	8/24/2017 15:38
TOLUENE	ND		5.5	UG/KG	1	8/24/2017 15:38
ETHYLBENZENE	ND		5.5	UG/KG	1	8/24/2017 15:38
M+P-XYLENE	ND		5.5	UG/KG	1	8/24/2017 15:38
O-XYLENE	2	J	5.5	UG/KG	1	8/24/2017 15:38
TOTAL XYLENES	2	J	5	UG/KG	1	8/24/2017 15:38
Surr: DIBROMOFLUOROMETHANE	100		61-134	%REC	1	8/24/2017 15:38
Surr: TOLUENE-D8	98		57-135	%REC	1	8/24/2017 15:38
Surr: 4-BROMOFLUOROBENZENE	106		52-151	%REC	1	8/24/2017 15:38
GASOLINE RANGE ORGANICS	ND		550	UG/KG	1	8/24/2017 15:38

Client: Wyoming Analytical Laboratories, Inc.  
 Project: 36613R  
 Sample ID: R1806  
 Legal Location:  
 Collection Date: 8/17/2017 12:30

Date: 31-Aug-17  
 Work Order: 1708460  
 Lab ID: 1708460-1  
 Matrix: SOIL  
 Percent Moisture: 11.2

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:** 8/31/2017 6:19:

**Client:** Wyoming Analytical Laboratories, Inc.

**QC BATCH REPORT**
**Work Order:** 1708460

**Project:** 36613R

**Batch ID:** HC170828-100-1 **Instrument ID:** FUELS-1 **Method:** SW8015M

<b>LCS</b>	<b>Sample ID:</b> HC170828-100			<b>Units:</b> MG/KG			<b>Analysis Date:</b> 8/28/2017 12:49				
<b>Client ID:</b>	<b>Run ID:</b> HC170828-8A				<b>Prep Date:</b> 8/28/2017		<b>DF:</b> 1				
<b>Analyte</b>	<b>Result</b>	<b>ReportLimit</b>	<b>SPK Val</b>	<b>SPK Ref Value</b>	<b>%REC</b>	<b>Control Limit</b>	<b>Decision Level</b>	<b>RPD Ref</b>	<b>RPD</b>	<b>RPD Limit</b>	<b>Qual</b>
Diesel Range Organics	185	5	188		99	81-129				20	
Surr: O-TERPHENYL	8.49		12.5		68	49-114					

<b>LCSD</b>	<b>Sample ID:</b> HC170828-100			<b>Units:</b> MG/KG			<b>Analysis Date:</b> 8/28/2017 18:31				
<b>Client ID:</b>	<b>Run ID:</b> HC170828-8A				<b>Prep Date:</b> 8/28/2017		<b>DF:</b> 1				
<b>Analyte</b>	<b>Result</b>	<b>ReportLimit</b>	<b>SPK Val</b>	<b>SPK Ref Value</b>	<b>%REC</b>	<b>Control Limit</b>	<b>Decision Level</b>	<b>RPD Ref</b>	<b>RPD</b>	<b>RPD Limit</b>	<b>Qual</b>
Diesel Range Organics	200	5	188		106	81-129		185	8	20	
Surr: O-TERPHENYL	9.55		12.5		76	49-114				12	

<b>MB</b>	<b>Sample ID:</b> HC170828-100			<b>Units:</b> MG/KG			<b>Analysis Date:</b> 8/28/2017 12:24				
<b>Client ID:</b>	<b>Run ID:</b> HC170828-8A				<b>Prep Date:</b> 8/28/2017		<b>DF:</b> 1				
<b>Analyte</b>	<b>Result</b>	<b>ReportLimit</b>	<b>SPK Val</b>	<b>SPK Ref Value</b>	<b>%REC</b>	<b>Control Limit</b>	<b>Decision Level</b>	<b>RPD Ref</b>	<b>RPD</b>	<b>RPD Limit</b>	<b>Qual</b>
Diesel Range Organics	ND	5									
Surr: O-TERPHENYL	8.99		12.5		72	49-114					

**The following samples were analyzed in this batch:**

1708460-1

Client: Wyoming Analytical Laboratories, Inc.  
 Work Order: 1708460  
 Project: 36613R

## QC BATCH REPORT

Batch ID: EX170829-1-3 Instrument ID: HPSV4 Method: SW8270

LCS Sample ID: EX170829-1 Units: UG/KG Analysis Date: 8/31/2017 09:02

Client ID: Run ID: SV170831-4 Prep Date: 8/29/2017 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
NAPHTHALENE	1520	333	1670		91	51-100				30	
2-METHYLNAPHTHALENE	1610	333	1670		97	51-100				30	
ACENAPHTHYLENE	1590	333	1670		96	60-109				30	
ACENAPHTHENE	1490	333	1670		89	38-103				30	
FLUORENE	1600	333	1670		98	65-106				30	
PHENANTHRENE	1630	333	1670		98	66-107				30	
ANTHRACENE	1630	333	1670		98	65-108				30	
FLUORANTHENE	1660	333	1670		100	64-109				30	
PYRENE	1680	333	1670		101	48-118				30	
BENZO(A)ANTHRACENE	1640	333	1670		98	64-107				30	
CHRYSENE	1550	333	1670		93	65-108				30	
BENZO(B)FLUORANTHENE	1690	333	1670		102	60-111				30	
BENZO(K)FLUORANTHENE	1580	333	1670		94	62-111				30	
BENZO(A)PYRENE	1610	333	1670		97	63-109				30	
INDENO(1,2,3-CD)PYRENE	1630	333	1670		98	55-117				30	
DIBENZO(A,H)ANTHRACENE	1590	333	1670		96	55-120				30	
BENZO(G,H,I)PERYLENE	1360	333	1670		82	37-123				30	
Surr: NITROBENZENE-D5	1690		1670		101	32-110					
Surr: 2-FLUOROBIPHENYL	1580		1670		95	41-111					
Surr: TERPHENYL-D14	1730		1670		104	23-159					

Client: Wyoming Analytical Laboratories, Inc.  
 Work Order: 1708460  
 Project: 36613R

## QC BATCH REPORT

Batch ID: EX170829-1-3 Instrument ID: HPSV4 Method: SW8270

LCSD Sample ID: EX170829-1 Units: UG/KG Analysis Date: 8/31/2017 09:21

Client ID: Run ID: SV170831-4 Prep Date: 8/29/2017 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
NAPHTHALENE	1500	333	1670		90	51-100		1520	2	30	
2-METHYLNAPHTHALENE	1590	333	1670		95	51-100		1610	2	30	
ACENAPHTHYLENE	1620	333	1670		97	60-109		1590	1	30	
ACENAPHTHENE	1510	333	1670		90	38-103		1490	1	30	
FLUORENE	1590	333	1670		96	65-106		1600	0	30	
PHENANTHRENE	1570	333	1670		94	66-107		1630	4	30	
ANTHRACENE	1570	333	1670		94	65-108		1630	4	30	
FLUORANTHENE	1600	333	1670		96	64-109		1660	4	30	
PYRENE	1650	333	1670		99	48-118		1680	1	30	
BENZO(A)ANTHRACENE	1630	333	1670		98	64-107		1640	0	30	
CHRYSENE	1510	333	1670		90	65-108		1550	3	30	
BENZO(B)FLUORANTHENE	1590	333	1670		96	60-111		1690	6	30	
BENZO(K)FLUORANTHENE	1660	333	1670		99	62-111		1560	6	30	
BENZO(A)PYRENE	1600	333	1670		96	63-109		1610	1	30	
INDENO(1,2,3-CD)PYRENE	1580	333	1670		95	55-117		1630	3	30	
DIBENZO(A,H)ANTHRACENE	1570	333	1670		94	55-120		1590	1	30	
BENZO(G,H,I)PERYLENE	1310	333	1670		79	37-123		1360	4	30	
Surr: NITROBENZENE-D5	1690		1670		101	32-110			0		
Surr: 2-FLUOROBIPHENYL	1550		1670		93	41-111			2		
Surr: TERPHENYL-D14	1650		1670		99	23-159			5		

Client: Wyoming Analytical Laboratories, Inc.  
 Work Order: 1708460  
 Project: 36613R

## QC BATCH REPORT

Batch ID: EX170829-1-3 Instrument ID: HPSV4 Method: SW8270

MB Sample ID: EX170829-1 Units: UG/KG Analysis Date: 8/31/2017 08:44

Client ID: Run ID: SV170831-4 Prep Date: 8/29/2017 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	1570		1670		94	32-110					
Surr: 2-FLUOROBIPHENYL	1430		1670		86	41-111					
Surr: TERPHENYL-D14	1850		1670		99	23-159					

Client: Wyoming Analytical Laboratories, Inc.  
 Work Order: 1708460  
 Project: 36613R

## QC BATCH REPORT

Batch ID: EX170829-1-3 Instrument ID: HPSV4 Method: SW8270

MS Sample ID: 1708460-1 Units: UG/KG Analysis Date: 8/31/2017 09:58  
 Client ID: R1806 Run ID: SV170831-4 Prep Date: 8/29/2017 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
NAPHTHALENE	1950	366	2190	370	89	47-97				30	
2-METHYLNAPHTHALENE	1930	366	2190	370	88	51-99				30	
ACENAPHTHYLENE	2150	366	2190	370	98	60-109				30	
ACENAPHTHENE	2100	366	2190	370	96	47-110				30	
FLUORENE	2080	366	2190	370	94	65-106				30	
PHENANTHRENE	2090	366	2190	370	95	66-107				30	
ANTHRACENE	2110	366	2190	370	96	65-108				30	
FLUORANTHENE	2020	366	2190	370	92	64-109				30	
PYRENE	2080	366	2190	370	94	48-118				30	
BENZO(A)ANTHRACENE	2060	366	2190	370	94	64-107				30	
CHRYSENE	2060	366	2190	370	94	65-108				30	
BENZO(B)FLUORANTHENE	1900	366	2190	370	87	60-111				30	
BENZO(K)FLUORANTHENE	2090	366	2190	370	95	62-111				30	
BENZO(A)PYRENE	2020	366	2190	370	92	63-109				30	
INDENO(1,2,3-CD)PYRENE	2060	366	2190	370	94	55-117				30	
DIBENZO(A,H)ANTHRACENE	2060	366	2190	370	94	55-120				30	
BENZO(G,H,I)PERYLENE	2020	366	2190	370	92	37-123				30	
Surr: NITROBENZENE-D5	1800		1830		99	32-110					
Surr: 2-FLUOROBIPHENYL	1690		1830		92	41-111					
Surr: TERPHENYL-D14	1770		1830		97	23-159					

Client: Wyoming Analytical Laboratories, Inc.  
 Work Order: 1708460  
 Project: 36613R

## QC BATCH REPORT

Batch ID: EX170829-1-3 Instrument ID: HPSV4 Method: SW8270

MSD Sample ID: 1708460-1 Units: UG/KG Analysis Date: 8/31/2017 10:16  
 Client ID: R1806 Run ID: SV170831-4 Prep Date: 8/29/2017 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
NAPHTHALENE	1950	374	2240	370	87	47-97		1950	0	30	
2-METHYLNAPHTHALENE	1910	374	2240	370	85	51-99		1930	1	30	
ACENAPHTHYLENE	2120	374	2240	370	95	60-109		2150	2	30	
ACENAPHTHENE	2080	374	2240	370	92	47-110		2100	2	30	
FLUORENE	2080	374	2240	370	92	65-106		2060	0	30	
PHENANTHRENE	2140	374	2240	370	95	66-107		2090	2	30	
ANTHRACENE	2180	374	2240	370	98	65-108		2110	4	30	
FLUORANTHENE	2080	374	2240	370	93	64-109		2020	3	30	
PYRENE	2180	374	2240	370	96	48-118		2060	5	30	
BENZO(A)ANTHRACENE	2110	374	2240	370	94	64-107		2060	3	30	
CHRYSENE	2150	374	2240	370	96	65-108		2060	5	30	
BENZO(B)FLUORANTHENE	1980	374	2240	370	88	60-111		1900	4	30	
BENZO(K)FLUORANTHENE	2000	374	2240	370	89	62-111		2090	4	30	
BENZO(A)PYRENE	1980	374	2240	370	88	63-109		2020	2	30	
INDENO(1,2,3-CD)PYRENE	2030	374	2240	370	91	55-117		2060	1	30	
DIBENZO(A,H)ANTHRACENE	2050	374	2240	370	92	55-120		2060	0	30	
BENZO(G,H,I)PERYLENE	2020	374	2240	370	90	37-123		2020	0	30	
Surr: NITROBENZENE-D5	1880		1870		99	32-110			3		
Surr: 2-FLUOROBIPHENYL	1740		1870		93	41-111			3		
Surr: TERPHENYL-D14	1820		1870		97	23-159			3		

The following samples were analyzed in this batch:

1708460-1

Client: Wyoming Analytical Laboratories, Inc.  
 Work Order: 1708460  
 Project: 36613R

## QC BATCH REPORT

Batch ID: VL170824-2-1 Instrument ID: HPV2 Method: SW8260

LCS		Sample ID: VL170824-2			Units: UG/KG		Analysis Date: 8/24/2017 10:11				
Client ID:		Run ID: VL170824-2A			Prep Date: 8/24/2017			DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BENZENE	45.3	5	40		113	73-126				30	
TOLUENE	40.6	5	40		102	71-127				30	
ETHYLBENZENE	40.7	5	40		102	74-127				30	
M+P-XYLENE	85.1	5	80		106	79-126				30	
O-XYLENE	42.1	5	40		105	77-125				30	
Surr: DIBROMOFLUOROMETHANE	50.8		50		102	61-134					
Surr: TOLUENE-D8	47.1		50		94	57-135					
Surr: 4-BROMOFLUOROBENZENE	57.2		50		114	52-151					

LCSD	Sample ID: VL170824-2			Units: UG/KG			Analysis Date: 8/24/2017 10:33				
Client ID:	Run ID: VL170824-2A			Prep Date: 8/24/2017			DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BENZENE	43.7	5	40		109	73-126		45.3	4	30	
TOLUENE	39.6	5	40		99	71-127		40.6	3	30	
ETHYLBENZENE	39.4	5	40		99	74-127		40.7	3	30	
M+P-XYLENE	84.5	5	80		106	79-126		85.1	1	30	
O-XYLENE	41.8	5	40		105	77-125		42.1	1	30	
Surr: DIBROMOFLUOROMETHANE	50.7		50		101	61-134			0		
Surr: TOLUENE-D8	48.1		50		96	57-135			2		
Surr: 4-BROMOFLUOROBENZENE	58.8		50		118	52-151			3		

MB		Sample ID: VL170824-2			Units: UG/KG		Analysis Date: 8/24/2017 13:37				
Client ID:		Run ID: VL170824-2A			Prep Date: 8/24/2017			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	51.2		50		102	61-134					
Surr: TOLUENE-D8	45.6		50		91	57-135					
Surr: 4-BROMOFLUOROBENZENE	57.4		50		115	52-151					

**Client:** Wyoming Analytical Laboratories, Inc.  
**Work Order:** 1708460  
**Project:** 36613R

## QC BATCH REPORT

**Batch ID:** VL170824-2-1      **Instrument ID:** HPV2      **Method:** SW8260

**MB**      **Sample ID:** VL170824-2M      **Units:** UG/KG      **Analysis Date:** 8/24/2017 14:00  
**Client ID:**      **Run ID:** VL170824-2A      **Prep Date:** 8/24/2017      **DF:** 50

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BENZENE	ND	250									
TOLUENE	ND	250									
ETHYLBENZENE	ND	250									
M+P-XYLENE	ND	250									
O-XYLENE	ND	250									
TOTAL XYLENES	ND	5									
Sum: DIBROMOFLUOROMETHANE	2520		2500		101	61-134					
Sum: TOLUENE-D8	2310		2500		92	57-135					
Sum: 4-BROMOFLUOROBENZENE	2760		2500		111	52-151					

The following samples were analyzed in this batch:

1708460-1



Client: Wyoming Analytical Laboratories, Inc.  
Work Order: 1708460  
Project: 36613R

## QC BATCH REPORT

Batch ID: VL170824-2-4 Instrument ID: HPV2 Method: SW8260

LCS Sample ID: VL170824-5 Units: UG/KG Analysis Date: 8/24/2017 11:18  
Client ID: Run ID: VL170824-2A Prep Date: 8/24/2017 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	2100	500	2000		105	80-120				20	

LCSD Sample ID: VL170824-5 Units: UG/KG Analysis Date: 8/24/2017 12:52  
Client ID: Run ID: VL170824-2A Prep Date: 8/24/2017 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	2270	495	1980		115	80-120		2100	8	20	

MB Sample ID: VL170824-2 Units: UG/KG Analysis Date: 8/24/2017 13:37  
Client ID: Run ID: VL170824-2A Prep Date: 8/24/2017 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									

MB Sample ID: VL170824-2M Units: UG/KG Analysis Date: 8/24/2017 14:00  
Client ID: Run ID: VL170824-2A Prep Date: 8/24/2017 DF: 50

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	ND	25000									

The following samples were analyzed in this batch: 1708460-1