

Tammy Fredrickson
Wexpro
PO Box 458
Rock Springs, WY 82901

Date: January 11, 2016
Request Number: 34817R
Date Received: 11/3/15
Matrix: Soil

REPORT OF ANALYSIS

Lab Number: P7546

Sample ID: B. W. Musser #22 Pit Floor 11/2/15 12:45pm

	Result	Units	Method	Date Analyzed	Analyst
Nickel	2.43	mg/kg	SW846 EPA 3051/6020	12/22/2015	LG/MLE
Copper	4.53	mg/kg	SW846 EPA 3051/6020	12/22/2015	LG/MLE
Zinc	8.48	mg/kg	SW846 EPA 3051/6020	12/22/2015	LG/MLE
Arsenic	1.34	mg/kg	SW846 EPA 3051/6020	12/22/2015	LG/MLE
Selenium	0.070	mg/kg	SW846 EPA 3051/6020	12/22/2015	LG/MLE
Silver	0.540	mg/kg	SW846 EPA 3051/6020	12/22/2015	LG/MLE
Cadmium	0.035	mg/kg	SW846 EPA 3051/6020	12/22/2015	LG/MLE
Barium	561	mg/kg	SW846 EPA 3051/6020	12/22/2015	LG/MLE
Mercury	0.030*	mg/kg	EPA D7473	12/23/2015	DA
Lead	20.7	mg/kg	SW846 EPA 3051/6020	12/22/2015	LG/MLE
Total Chromium	12.9	mg/kg	SW846 EPA 3051/6020	12/22/2015	LG/MLE
Chromium (VI)	0.20	mg/kg	EPA 7196A	11/9/2015	CB
Chromium (III)	12.7	mg/kg	Calculated (ttl.Cr-CrVI)	1/11/2016	TB
Soluble, Boron	< 0.1	mg/L	Hot water ext./6020	11/10/2015	CB
pH	7.86	std. units	USDA 60-2,3/150.1	11/9/2015	DA
Conductivity	243	umhos/cm	USDA 60-2,3/120.1	11/9/2015	DA
Calcium	57.4	mg/L	USDA 60-2,3/6010	11/12/2015	CB
Magnesium	4.00	mg/L	USDA 60-2,3/6010	11/12/2015	CB
Sodium	5.02	mg/L	USDA 60-2,3/6010	11/12/2015	CB
Sodium Absorption Ratio	0.17	Ratio	Calculated	11/13/15	TB
Diesel Range Organics	**	mg/kg	EPA 8015C		**

*Results are the average of 2 runs

**DRO Analyzed by TestAmerica in Nashville TN. See attached report.
TestAmerica Lab Number: 490-94933-1

End of Report
MLE/tab

Monte Z. Ellis

Laboratory Manager



WYOMING ANALYTICAL LABORATORIES, INC.

1660 Harrison St.
Laramie, WY 82070

Wallaramie@wal-lab.com

(307) 742-7995
Fax: (307) 721-8956

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PO Box 458
Rock Springs, WY 82901

Date: January 11, 2016
Request Number: 34817R
Date Received: 11/3/15
Matrix: Soil

REPORT OF ANALYSIS

Lab Number: P7547

Sample ID: B. W. Musser #22 Pit Side Wall 11/2/15 12:45pm

	Result	Units	Method	Date Analyzed	Analyst
Nickel	2.54	mg/kg	SW846 EPA 3051/6020	12/22/2015	LG/MLE
Copper	4.94	mg/kg	SW846 EPA 3051/6020	12/22/2015	LG/MLE
Zinc	10.2	mg/kg	SW846 EPA 3051/6020	12/22/2015	LG/MLE
Arsenic	1.33	mg/kg	SW846 EPA 3051/6020	12/22/2015	LG/MLE
Selenium	0.060	mg/kg	SW846 EPA 3051/6020	12/22/2015	LG/MLE
Silver	0.430	mg/kg	SW846 EPA 3051/6020	12/22/2015	LG/MLE
Cadmium	0.029	mg/kg	SW846 EPA 3051/6020	12/22/2015	LG/MLE
Barium	531	mg/kg	SW846 EPA 3051/6020	12/22/2015	LG/MLE
Mercury	0.033*	mg/kg	EPA D7473	12/23/2015	DA
Lead	19.2	mg/kg	SW846 EPA 3051/6020	12/22/2015	LG/MLE
Total Chromium	21.2	mg/kg	SW846 EPA 3051/6020	12/22/2015	LG/MLE
Chromium (VI)	0.3	mg/kg	EPA 7196A	11/9/2015	CB
Chromium (III)	20.9	mg/kg	Calculated (tit. Cr-CrVI)	1/11/2016	TB
Soluble, Boron	< 0.1*	mg/L	Hot water ext./6020	11/10/2015	CB
pH	7.96	std. units	USDA 60-2,3/150.1	11/9/2015	DA
Conductivity	86	umhos/cm	USDA 60-2,3/120.1	11/9/2015	DA
Calcium	21.2	mg/L	USDA 60-2,3/6010	11/12/2015	CB
Magnesium	2.97	mg/L	USDA 60-2,3/6010	11/12/2015	CB
Sodium	8.31	mg/L	USDA 60-2,3/6010	11/12/2015	CB
Sodium Absorption Ratio	0.45	Ratio	Calculated	11/13/15	TB
Diesel Range Organics	**	mg/kg	EPA 8015C		**

*Results are the average of 2 runs

**DRO Analyzed by TestAmerica in Nashville TN. See attached report.
TestAmerica Lab Number: 490-94933-2

End of Report
MLE/tab

Monte Z. Ellis

Laboratory Manager



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QUALITY CONTROL

	Lab Number	Result, mg/kg	Duplicate, mg/kg	RPD	RPD limit	Reference	% Recovery
Soluble Boron	P7547	< 0.1	< 0.1	0	20	ESI QC	108

	Reference	Expected	Value	% Recovery
Conductivity	QCI-027-12	756	758	100
pH	WAL QC	6.00	5.99	100
Chromium VI	Hach QC	0.50	0.50	100
Nickel	LRAA 1722	127	109	86
Copper	LRAA 1722	258	355	138
Zinc	LRAA 1722	173	172	99
Arsenic	LRAA 1722	161	154	96
Selenium	LRAA 1722	305	221	72
Silver	LRAA 1722	58	38	66
Cadmium	LRAA 1722	190	222	117
Barium	LRAA 1722	351	260	74
Mercury	QC P5702	0.06	0.06	100
Lead	LRAA 1722	138	123	89
Total Chromium	LRAA 1722	83	115	139

	Reference	% Recovery	Range
Calcium	ESI 1431121	95	70-130
Magnesium	ESI 1431121	93	70-130
Sodium	ESI 1431121	91	70-130

**DRO Analyzed by TestAmerica in Nashville TN. See attached report.

End of QC Report
MLE/tab

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BTEX, GRO, DRO and PAH analyzed by TestAmerica Labs in Nashville TN. The following pages apply to the samples listed below. Complete TestAmerica report is available upon request.

WAL Lab Number	Test America Lab Number	Customer Sample ID
P7546	490-91203-1 (BTEX, GRO, PAH)	B. W. Musser #22 Pit Floor 11/2/15 12:45pm
P7546	490-94933-1 DRO	B. W. Musser #22 Pit Floor 11/2/15 12:45pm
P7547	490-91203-2 (BTEX, GRO, PAH)	B. W. Musser #22 Pit Side Wall 11/2/15 12:45pm
P7547	490-94933-2 DRO	B. W. Musser #22 Pit Side Wall 11/2/15 12:45pm

Monte Z. Ellis

Laboratory Manager



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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Tel: (615)726-0177

TestAmerica Job ID: 490-94933-1
Client Project/Site: 3481 ¹⁷AR

For:
Wyoming Analytical Laboratories Inc
1660 Harrison St
Laramie, Wyoming 82070

Attn: Monte Ellis

Roxanne Cisneros

Authorized for release by:
1/7/2016 4:16:41 PM

Roxanne Cisneros, Senior Project Manager
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LINKS

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www.testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Definitions/Glossary

Client: Wyoming Analytical Laboratories Inc
Project/Site: 34814R

TestAmerica Job ID: 490-94933-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

TestAmerica Nashville

1/7/2016

Client Sample Results

Client: Wyoming Analytical Laboratories Inc
Project/Site: 34817R

TestAmerica Job ID: 490-91203-1

Client Sample ID: P7546

Lab Sample ID: 490-91203-1

Date Collected: 11/02/15 12:45

Matrix: Solid

Date Received: 11/04/15 12:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00176		mg/Kg		11/08/15 09:56	11/10/15 20:17	1
Ethylbenzene	ND		0.00176		mg/Kg		11/08/15 09:56	11/10/15 20:17	1
Toluene	ND		0.00176		mg/Kg		11/08/15 09:56	11/10/15 20:17	1
Xylenes, Total	ND		0.00629		mg/Kg		11/08/15 09:56	11/10/15 20:17	1
GRO (C8-C10)	ND		0.353		mg/Kg		11/08/15 09:56	11/10/15 20:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Sum)	93		70 - 130				11/08/15 09:56	11/10/15 20:17	1
Dibromofluoromethane (Sum)	107		70 - 130				11/08/15 09:56	11/10/15 20:17	1
1,2-Dichloroethane-d4 (Sum)	100		70 - 130				11/08/15 09:56	11/10/15 20:17	1
Toluene-d8 (Sum)	107		70 - 130				11/08/15 09:56	11/10/15 20:17	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0650		mg/Kg		11/07/15 10:49	11/24/15 18:44	1
Acenaphthylene	ND		0.0650		mg/Kg		11/07/15 10:49	11/24/15 18:44	1
Anthracene	ND		0.0650		mg/Kg		11/07/15 10:49	11/24/15 18:44	1
Benzo[a]anthracene	ND		0.0650		mg/Kg		11/07/15 10:49	11/24/15 18:44	1
Benzo[a]pyrene	ND		0.0650		mg/Kg		11/07/15 10:49	11/24/15 18:44	1
Benzo[b]fluoranthene	ND		0.0650		mg/Kg		11/07/15 10:49	11/24/15 18:44	1
Benzo[g,h,i]perylene	ND		0.0650		mg/Kg		11/07/15 10:49	11/24/15 18:44	1
Benzo[k]fluoranthene	ND		0.0650		mg/Kg		11/07/15 10:49	11/24/15 18:44	1
Chrysene	ND		0.0650		mg/Kg		11/07/15 10:49	11/24/15 18:44	1
Dibenz(a,h)anthracene	ND		0.0650		mg/Kg		11/07/15 10:49	11/24/15 18:44	1
Fluoranthene	ND		0.0650		mg/Kg		11/07/15 10:49	11/24/15 18:44	1
Fluorene	ND		0.0650		mg/Kg		11/07/15 10:49	11/24/15 18:44	1
Indeno[1,2,3-cd]pyrene	ND		0.0650		mg/Kg		11/07/15 10:49	11/24/15 18:44	1
Naphthalene	ND		0.0650		mg/Kg		11/07/15 10:49	11/24/15 18:44	1
Phenanthrene	ND		0.0650		mg/Kg		11/07/15 10:49	11/24/15 18:44	1
Pyrene	ND		0.0650		mg/Kg		11/07/15 10:49	11/24/15 18:44	1
1-Methylnaphthalene	ND		0.0650		mg/Kg		11/07/15 10:49	11/24/15 18:44	1
2-Methylnaphthalene	ND		0.0650		mg/Kg		11/07/15 10:49	11/24/15 18:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Nitrobenzene-d5 (Sum)	64		27 - 120				11/07/15 10:49	11/24/15 18:44	1
Terphenyl-d14 (Sum)	68		13 - 120				11/07/15 10:49	11/24/15 18:44	1
2-Fluorobiphenyl (Sum)	54		29 - 120				11/07/15 10:49	11/24/15 18:44	1

TestAmerica Nashville

11/25/2015

Client Sample Results

Client: Wyoming Analytical Laboratories Inc
Project/Site: 34814R

TestAmerica Job ID: 490-94933-1

Client Sample ID: P7546

Lab Sample ID: 490-94933-1

Date Collected: 11/02/15 12:45

Matrix: Solid

Date Received: 12/30/15 09:28

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND	H	4.66		mg/Kg		12/31/15 11:26	01/02/16 23:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl (Surr)	66		50-150				12/31/15 11:26	01/02/16 23:03	1

TestAmerica Nashville

1/7/2016

Client Sample Results

Client: Wyoming Analytical Laboratories Inc
Project/Site: 34817R

TestAmerica Job ID: 490-91203-1

Client Sample ID: P7547

Lab Sample ID: 490-91203-2

Date Collected: 11/02/15 12:45

Matrix: Solid

Date Received: 11/04/15 12:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00185		mg/Kg		11/08/15 09:56	11/10/15 08:24	1
Ethylbenzene	ND		0.00185		mg/Kg		11/08/15 09:56	11/10/15 08:24	1
Toluene	ND		0.00185		mg/Kg		11/08/15 09:56	11/10/15 08:24	1
Xylenes, Total	ND		0.00556		mg/Kg		11/08/15 09:56	11/10/15 08:24	1
GRO (C8-C10)	ND		0.370		mg/Kg		11/08/15 09:56	11/10/15 08:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Sum)	88		70 - 130				11/08/15 09:56	11/10/15 08:24	1
Dibromofluoromethane (Sum)	109		70 - 130				11/08/15 09:56	11/10/15 08:24	1
1,2-Dichloroethane-d4 (Sum)	105		70 - 130				11/08/15 09:56	11/10/15 08:24	1
Toluene-d8 (Sum)	110		70 - 130				11/08/15 09:56	11/10/15 08:24	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0666		mg/Kg		11/07/15 10:50	11/24/15 19:07	1
Acenaphthylene	ND		0.0666		mg/Kg		11/07/15 10:50	11/24/15 19:07	1
Anthracene	ND		0.0666		mg/Kg		11/07/15 10:50	11/24/15 19:07	1
Benzo[a]anthracene	ND		0.0666		mg/Kg		11/07/15 10:50	11/24/15 19:07	1
Benzo[a]pyrene	ND		0.0666		mg/Kg		11/07/15 10:50	11/24/15 19:07	1
Benzo[b]fluoranthene	ND		0.0666		mg/Kg		11/07/15 10:50	11/24/15 19:07	1
Benzo[g,h,i]perylene	ND		0.0666		mg/Kg		11/07/15 10:50	11/24/15 19:07	1
Benzo[k]fluoranthene	ND		0.0666		mg/Kg		11/07/15 10:50	11/24/15 19:07	1
Chrysene	ND		0.0666		mg/Kg		11/07/15 10:50	11/24/15 19:07	1
Dibenz[a,h]anthracene	ND		0.0666		mg/Kg		11/07/15 10:50	11/24/15 19:07	1
Fluoranthene	ND		0.0666		mg/Kg		11/07/15 10:50	11/24/15 19:07	1
Fluorene	ND		0.0666		mg/Kg		11/07/15 10:50	11/24/15 19:07	1
Indeno[1,2,3-cd]pyrene	ND		0.0666		mg/Kg		11/07/15 10:50	11/24/15 19:07	1
Naphthalene	ND		0.0666		mg/Kg		11/07/15 10:50	11/24/15 19:07	1
Phenanthrene	ND		0.0666		mg/Kg		11/07/15 10:50	11/24/15 19:07	1
Pyrene	ND		0.0666		mg/Kg		11/07/15 10:50	11/24/15 19:07	1
1-Methylnaphthalene	ND		0.0666		mg/Kg		11/07/15 10:50	11/24/15 19:07	1
2-Methylnaphthalene	ND		0.0666		mg/Kg		11/07/15 10:50	11/24/15 19:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Nitrobenzene-d5 (Sum)	74		27 - 120				11/07/15 10:50	11/24/15 19:07	1
Terphenyl-d14 (Sum)	72		13 - 120				11/07/15 10:50	11/24/15 19:07	1
2-Fluorobiphenyl (Sum)	65		29 - 120				11/07/15 10:50	11/24/15 19:07	1

TestAmerica Nashville

11/25/2015

Client Sample Results

Client: Wyoming Analytical Laboratories Inc
Project/Site: 34814R

TestAmerica Job ID: 490-94933-1

Client Sample ID: P7547

Lab Sample ID: 490-94933-2

Date Collected: 11/02/15 12:45

Matrix: Solid

Date Received: 12/30/15 09:28

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (C10-C28)	ND	H	4.88		mg/Kg		12/31/15 11:26	01/02/16 23:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl (Sum)	68		50-150				12/31/15 11:26	01/02/16 23:18	1

TestAmerica Nashville

1/7/2016

Certification Summary

Client: Wyoming Analytical Laboratories Inc
Project/Site: 34817R

TestAmerica Job ID: 490-91203-1

Laboratory: TestAmerica Nashville

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	A2LA		NA: NELAP & A2LA	12-31-15
A2LA	ISO/IEC 17025		0453.07	12-31-15
Alaska (UST)	State Program	10	UST-087	07-24-16
Arizona	State Program	9	AZ0473	05-05-16
Arkansas DEQ	State Program	6	88-0737	04-25-16
California	State Program	9	2938	10-31-16
Connecticut	State Program	1	PH-0220	12-31-15
Florida	NELAP	4	E87358	06-30-16
Georgia	State Program	4	N/A	06-30-16
Illinois	NELAP	5	200010	12-09-15 *
Iowa	State Program	7	131	04-01-16
Kansas	NELAP	7	E-10229	01-31-16
Kentucky (UST)	State Program	4	19	08-30-18
Kentucky (WW)	State Program	4	90038	12-31-15
Louisiana	NELAP	6	30613	06-30-16
Maine	State Program	1	TN00032	11-03-17
Maryland	State Program	3	316	03-31-16
Massachusetts	State Program	1	M-TN032	06-30-16
Minnesota	NELAP	5	047-999-345	12-31-16
Mississippi	State Program	4	N/A	06-30-16
Montana (UST)	State Program	8	NA	02-24-20
Nevada	State Program	9	TN00032	07-31-16
New Hampshire	NELAP	1	2983	10-08-16
New Jersey	NELAP	2	TN965	11-30-15 *
New York	NELAP	2	11342	03-31-16
North Carolina (WW/SW)	State Program	4	387	12-31-15
North Dakota	State Program	8	R-146	06-30-16
Ohio VAP	State Program	5	CL0033	07-10-17
Oklahoma	State Program	8	9412	08-31-16
Oregon	NELAP	10	TN200001	04-27-16
Pennsylvania	NELAP	3	68-00585	06-30-16
Rhode Island	State Program	1	LA000288	12-30-15
South Carolina	State Program	4	84009 (001)	02-28-16
South Carolina (Do Not Use - DW)	State Program	4	84009 (002)	12-16-17
Tennessee	State Program	4	2008	02-23-17
Texas	NELAP	6	T104704077	08-31-16
USDA	Federal		S-48459	10-30-16
Utah	NELAP	8	TN00032	07-31-16
Virginia	NELAP	3	460152	06-14-18
Washington	State Program	10	C789	07-19-16
West Virginia DEP	State Program	3	219	02-28-16
Wisconsin	State Program	5	998020430	08-31-16
Wyoming (UST)	A2LA	8	453.07	12-31-15

* Certification renewal pending - certification considered valid.

TestAmerica Nashville

11/25/2015