

State of Colorado Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303)894-2100 Fax:(303)894-2109



FOR OGCC USE ONLY

Received 10/08/14

REM 8915

Document 2313956

SITE INVESTIGATION AND REMEDIATION WORKPLAN

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. Form 27 is intended to be used whenever possible. Additional documentation will be required when large volumes of soil and groundwater have been impacted or involve large facilities with multiple source areas. See Rule 910. Attach as many pages as needed to fully describe the proposed work.

OGCC Employee:

☐ Spill ☐ Complaint
☐ Inspection ☐ NOAV

Tracking No:

CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

☐ Spill or Release ☐ Plug & Abandon ☐ Central Facility Closure ☐ Site/Facility Closure ☒ Other (describe): Pit Closure

OGCC Operator Number: 95960

Name of Operator: Wexpro Company

Address: PO Box 458

City: Rock Springs State: WY Zip: 82902

Contact Name and Telephone:

Tammy Fredrickson

No: 307.352.7514

Fax: 307.352.7575

API Number: 05-081-07015

County: Moffat

Facility Name: Chapman State 1 Pit

Facility Number: 116636

Well Name: Chapman State

Well Number: 1

Location: (QtrQtr, Sec, Twp, Rng, Meridian): NESE 16-11N-97W 6th Latitude: 40.91194 Longitude: -108.28924

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc.): Produced Water

Site Conditions: Is location within a sensitive area (according to Rule 901e)? ☐ Y ☒ N If yes, attach evaluation.

Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): Rangeland

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Torriorthents-Rock Outcrop, Shale Complex

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Dry streambed 908'

Description of Impact (if previously provided, refer to that form or document):

Impacted Media (check):



Soils



Vegetation



Groundwater



Surface Water

Extent of Impact:

Minimal

Minimal

How Determined:

Soil Analysis

Visual Growth

REMEDIALTION WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document):

Pit was permitted in 1971 by Huber Corporation. Wexpro assumed responsibility as operator of the well in 2012. Pit was already closed at this time. Historical imaging indicates the pit was closed sometime between 2006 and 2011. Plant growth indicates it was closer to 2006.

Describe how source is to be removed:

It is unknown how source was removed. No past analysis or documentation could be found. Surface owner (BLM) had no records either.

Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, insitu bioremediation, burning of oily vegetation, etc.:

FORM
27
Rev 6/99

State of Colorado
Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 801, Denver, Colorado 80202
(303)894-2100 Fax: (303)894-2108



Page 2

REMEDIATION WORKPLAN (Cont.)

Tracking Number:

Name of Operator: Wexpro

OGCC Operator No:

Received Date: 10/8/14

Well Name & No: Chapman State #1

Facility Name & No: 116636

OGCC Employee:

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.).

N/A

Describe reclamation plan. Discuss existing and new grade recontouring, method and testing of compaction alleviation, and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing. Use additional sheet for description if required.

Area was previously reclaimed. Entire well pad will be recontoured and reclaimed once the well is P&A'd.

Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing.

Is further site investigation required? ☐ Y ☒ N If yes, describe:

Due to unknown pit contents and exact position, a composite sample was taken of the bit bottom, and a composite sample was taken of the sidewalls. Also, offsite samples were obtained for analysis. Surface owner (BLM) only allowed core samples to be obtained using a posthole digger. Samples were taken anywhere from 2-4 feet deep. Holes were immediately filled in after samples were obtained.

Final disposition of E&P waste (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: <u>2/2014</u>	Date Site Investigation Completed: <u>9/2014</u>	Date Remediation Plan Submitted: _____
Remediation Start Date: _____	Anticipated Completion Date: <u>10/2014</u>	Actual Completion Date: <u>10/2014</u>

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: Tammy Fredrickson

Signed: Tammy Fredrickson

Title: Senior Permit Agent

Date: October 8, 2014

OGCC Approved: [Signature]

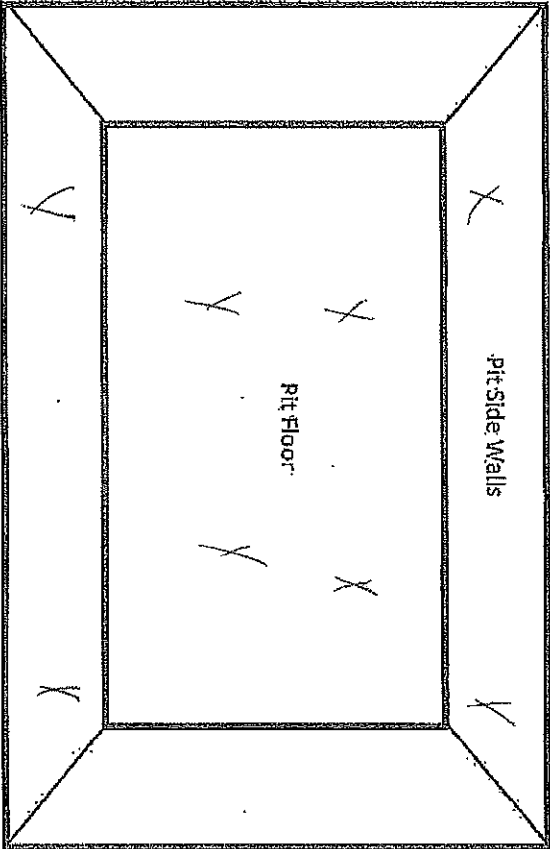
Title: EPS

Date: 2/12/15

COLORADO PIT CLOSURE - SAMPLING MAP

WELL NAME:

Chapman #1



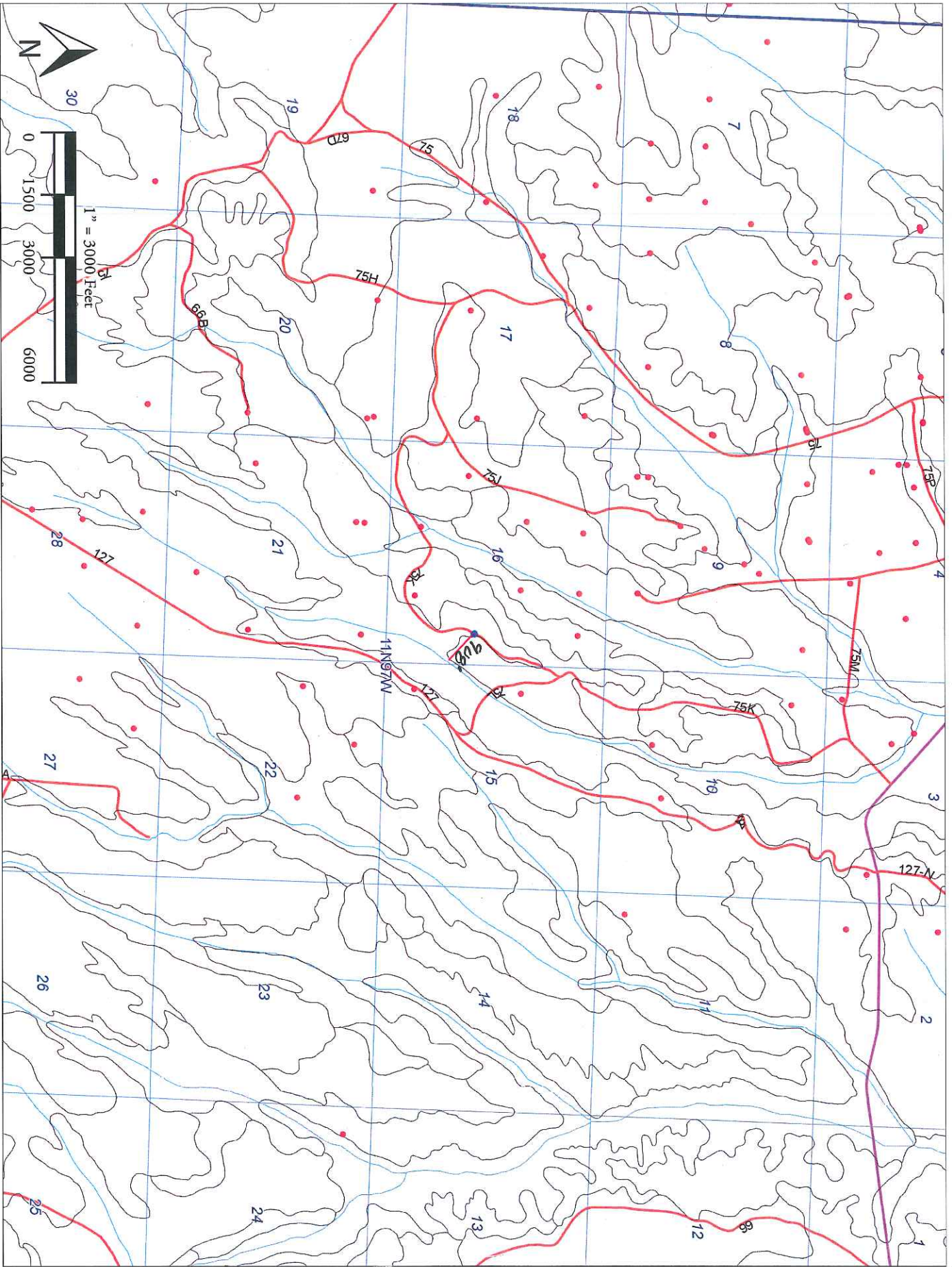
LEGEND

- ★ Pit Low Point - Sample Point
- Pit Side Wall - Sample Point
- Off Site - Sample Points (3)

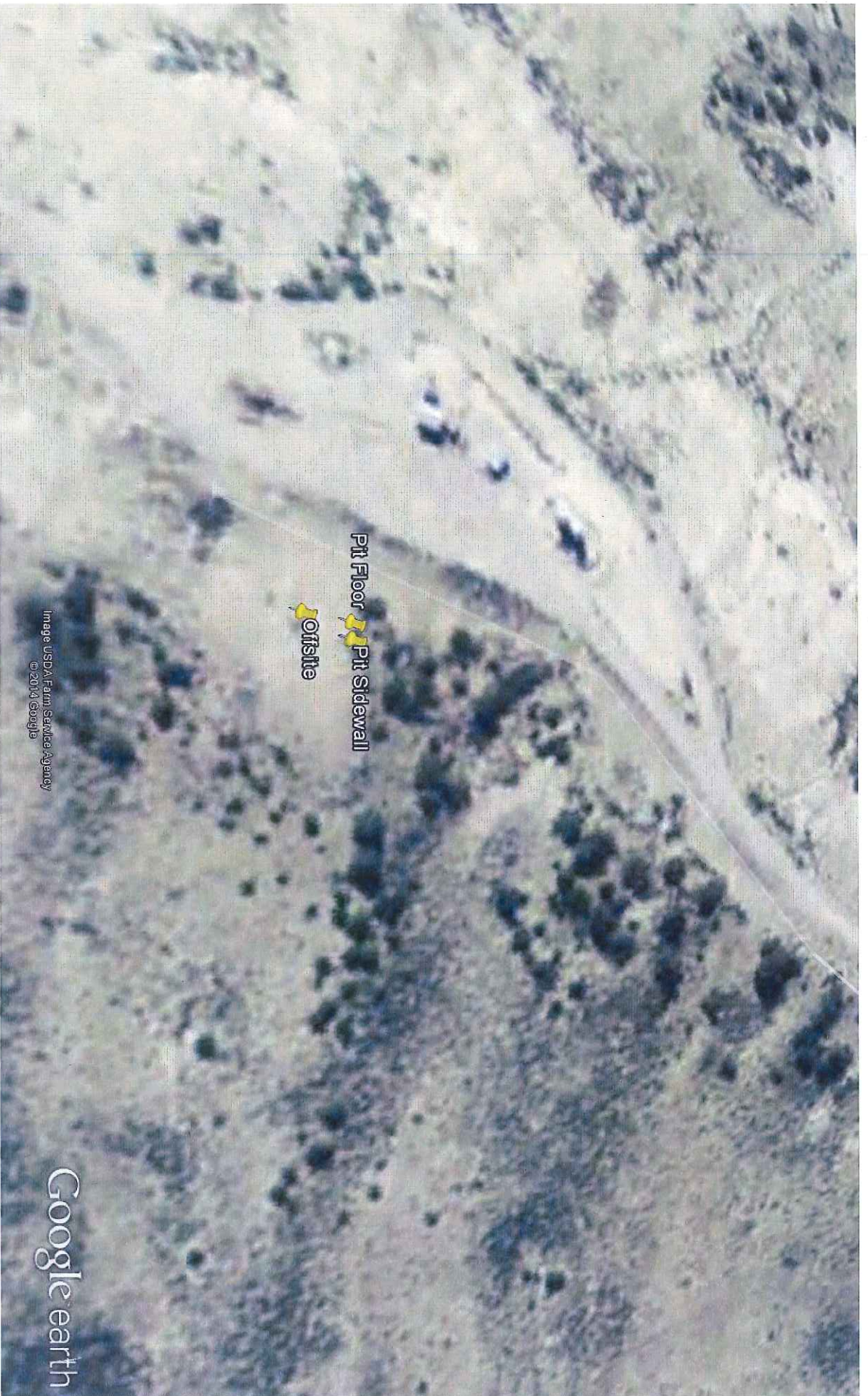
Remember to put GPS coordinates on all sample sites

OFFSITE: 40.91185, -108.28924
 FLOOR: 40.91194, -108.28924
 Wall: 40.91194, -108.28920

Tertiary thents - Rak outcrop, Shale complex

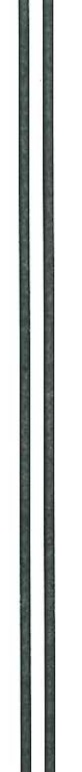






Google earth

feet
meters



100

500



Google earth

Tammy Fredrickson
Wexpro
PO Box 458
Rock Springs, WY 82901

Date: September 26, 2014
Request Number: 33305
Date Received: 9-9-14
Matrix: Soil

REPORT OF ANALYSIS

Lab Number: P3091

Sample ID: Chapman 1 Pit floor 9-9-14 1355

	Result	Units	Method	Date Analyzed	Analyst
Nickel	21.7*	mg/kg	EPA 3050/6010	9/17/2014	CB
Copper	22.0*	mg/kg	EPA 3050/6010	9/17/2014	CB
Zinc	37.8*	mg/kg	EPA 3050/6010	9/17/2014	CB
Arsenic	10.4*	mg/kg	EPA 3050/6010	9/17/2014	CB
Selenium	5.54*	mg/kg	EPA 3050/6010	9/17/2014	CB
Silver	0.37*	mg/kg	EPA 3050/6010	9/17/2014	CB
Cadmium	0.43*	mg/kg	EPA 3050/6010	9/17/2014	CB
Barium	476*	mg/kg	EPA 3050/6010	9/17/2014	CB
Mercury	< 0.01	mg/kg	EPA 3050/7471A	9/16/2014	CB
Lead	17.5*	mg/kg	EPA 3050/6010	9/17/2014	CB
Total Chromium	36.8*	mg/kg	EPA 3050/6010	9/17/2014	CB
Chromium (VI)	0.11*	mg/kg	EPA 7196A	9/17/2014	CB
Chromium (III)	36.7	mg/kg	Calculated (ttl.Cr-CrVI)	9/16/2014	TB
Soluble, Boron	0.10	mg/L	Hot water ext./6020	9/12/2014	CB
pH	7.48	std. units	USDA 60-2,3/150.1	9/12/2014	DA
Conductivity	1,320	umhos/cm	USDA 60-2,3/120.1	9/12/2014	DA
Calcium	668*	mg/L	USDA 60-2,3/6010	9/12/2014	CB
Magnesium	23.7*	mg/L	USDA 60-2,3/6010	9/12/2014	CB
Sodium	25.7*	mg/L	USDA 60-2,3/6010	9/12/2014	CB
Sodium Absorption Ratio	0.27	Ratio	Calculated	9/17/2014	TB
Diesel Range Organics	< 1.0	mg/kg	8015C	9/19/2014	SL/MLE

*Results are the average of 2 runs

Monte Z. Ellis

End of Report
MLE/tab

Laboratory Manager



WYOMING ANALYTICAL LABORATORIES, INC.

1660 Harrison St.
Laramie, WY 82070

Wallaramie@wal-lab.com

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

Tammy Fredrickson
Wexpro
PO Box 458
Rock Springs, WY 82901

Date: September 26, 2014
Request Number: 33305
Date Received: 9-9-14
Matrix: Soil

REPORT OF ANALYSIS

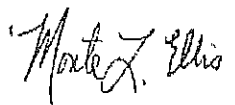
Lab Number: P3092

Sample ID: Chapman 1 Pit Sidewall 9-9-14 1345

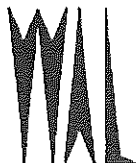
	Result	Units	Method	Date Analyzed	Analyst
Nickel	23.6*	mg/kg	EPA 3050/6010	9/17/2014	CB
Copper	24.3*	mg/kg	EPA 3050/6010	9/17/2014	CB
Zinc	45.9*	mg/kg	EPA 3050/6010	9/17/2014	CB
Arsenic	12.7*	mg/kg	EPA 3050/6010	9/17/2014	CB
Selenium	5.51*	mg/kg	EPA 3050/6010	9/17/2014	CB
Silver	0.29*	mg/kg	EPA 3050/6010	9/17/2014	CB
Cadmium	0.50*	mg/kg	EPA 3050/6010	9/17/2014	CB
Barium	570*	mg/kg	EPA 3050/6010	9/17/2014	CB
Mercury	< 0.01	mg/kg	EPA 3050/7471A	9/16/2014	CB
Lead	19.7*	mg/kg	EPA 3050/6010	9/17/2014	CB
Total Chromium	42.4*	mg/kg	EPA 3050/6010	9/17/2014	CB
Chromium (VI)	0.09*	mg/kg	EPA 7196A	9/17/2014	CB
Chromium (III)	42.3	mg/kg	Calculated (ttl.Cr-CrVI)	9/16/2014	TB
Soluble, Boron	0.09	mg/L	Hot water ext./6020	9/12/2014	CB
pH	7.34	std. units	USDA 60-2,3/150.1	9/12/2014	DA
Conductivity	1,380	umhos/cm	USDA 60-2,3/120.1	9/12/2014	DA
Calcium	680*	mg/L	USDA 60-2,3/6010	9/12/2014	CB
Magnesium	26.5*	mg/L	USDA 60-2,3/6010	9/12/2014	CB
Sodium	29.9*	mg/L	USDA 60-2,3/6010	9/12/2014	CB
Sodium Absorption Ratio	0.31	Ratio	Calculated	9/17/2014	TB
Diesel Range Organics	< 1.0	mg/kg	8015C	9/19/2014	SL/MLE

*Results are the average of 2 runs

End of Report
MLE/tab



Laboratory Manager



WYOMING ANALYTICAL LABORATORIES, INC.

1660 Harrison St.
Laramie, WY 82070

Wallaramie@wat-lab.com

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

Tammy Fredrickson
Wexpro
PO Box 458
Rock Springs, WY 82901

Date: September 26, 2014
Request Number: 33305
Date Received: 9-9-14
Matrix: Soil

REPORT OF ANALYSIS

Lab Number: P3093

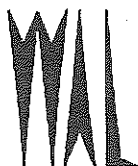
Sample ID: Chapman 1 Off-Site #1 9-9-14 1400

	Result	Units	Method	Date Analyzed	Analyst
Arsenic	10.1	mg/kg	EPA 3050/6010	9/17/2014	CB
pH	7.52	std. units	USDA 60-2,3/150.1	9/12/2014	DA
Conductivity	59.6	umhos/cm	USDA 60-2,3/120.1	9/12/2014	DA
Calcium	76.3	mg/L	USDA 60-2,3/6010	9/12/2014	CB
Magnesium	3.98	mg/L	USDA 60-2,3/6010	9/12/2014	CB
Sodium	12.1	mg/L	USDA 60-2,3/6010	9/12/2014	CB
Sodium Absorption Ratio	0.37	Ratio	Calculated	9/17/2014	TB

Lab Number: P3094

Sample ID: Chapman 1 Off-Site #2 9-9-14 1410

	Result	Units	Method	Date Analyzed	Analyst
Arsenic	10.1	mg/kg	EPA 3050/6010	9/17/2014	CB
pH	7.62	std. units	USDA 60-2,3/150.1	9/12/2014	DA
Conductivity	576	umhos/cm	USDA 60-2,3/120.1	9/12/2014	DA
Calcium	76.9	mg/L	USDA 60-2,3/6010	9/12/2014	CB
Magnesium	4.02	mg/L	USDA 60-2,3/6010	9/12/2014	CB
Sodium	14.6	mg/L	USDA 60-2,3/6010	9/12/2014	CB
Sodium Absorption Ratio	0.44	Ratio	Calculated	9/17/2014	TB



WYOMING ANALYTICAL LABORATORIES, INC.

1660 Harrison St.
Laramie, WY 82070

Wallaramie@wat-lab.com

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

Tammy Fredrickson
Wexpro
PO Box 458
Rock Springs, WY 82901

Date: September 26, 2014
Request Number: 33305
Date Received: 9-9-14
Matrix: Soil

REPORT OF ANALYSIS

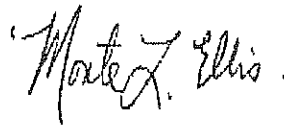
Lab Number: P3095

Sample ID: Chapman 1 Off-Site #3 9-9-14 1415

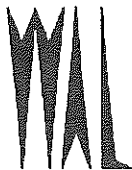
	Result	Units	Method	Date Analyzed	Analyst
Arsenic	10.2*	mg/kg	EPA 3050/6010	9/17/2014	CB
pH	7.65	std. units	USDA 60-2,3/150.1	9/12/2014	DA
Conductivity	682	umhos/cm	USDA 60-2,3/120.1	9/12/2014	DA
Calcium	98.9	mg/L	USDA 60-2,3/6010	9/12/2014	CB
Magnesium	4.98	mg/L	USDA 60-2,3/6010	9/12/2014	CB
Sodium	18.4	mg/L	USDA 60-2,3/6010	9/12/2014	CB
Sodium Absorption Ratio	0.49	Ratio	Calculated	9/17/2014	TB

*Results are the average of 2 runs

End of Report
MLE/tab



Laboratory Manager



WYOMING ANALYTICAL LABORATORIES, INC.

1660 Harrison St.
Laramie, WY 82070

Wallaramie@wal-lab.com

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

Tammy Fredrickson
Wexpro
PO Box 458
Rock Springs, WY 82901

Date: September 26, 2014
Request Number: 33305
Date Received: 9-9-14
Matrix: Soil

QUALITY CONTROL

	Lab Number	Result	Duplicate	RPD	RPD limit	LCS %	LCS Range %
Soluble, Boron	P3092	0.09	0.09	0.00	50	106	75-125
Calcium	P3092	638	722	12.4	50	112	75-125
Magnesium	P3092	24.6	28.3	14.0	50	113	75-125
Sodium	P3092	28.7	31.0	7.71	50	111	75-125

	Lab Number	Result	Duplicate	RPD	RPD limit
Chromium VI	P3091	0.10	0.12	18.2	50

	Standard	Expected	Value	% Recovery
Conductivity	QCI 1096	1,085	1,092	101
pH	QC WAL	6.86	6.87	100

P3092	Result	Duplicate	RPD	RPD limit	LCS %	LCS Range %
Nickel	23.6	23.5	0.42	50	105	75-125
Copper	24.7	23.9	3.29	50	116	75-125
Zinc	45.8	45.9	0.22	50	110	75-125
Arsenic	12.7	12.7	0.00	50	102	75-125
Selenium	5.50	5.52	0.36	50	115	75-125
Silver	0.26	0.31	17.50	50	117	75-125
Cadmium	0.52	0.48	8.00	50	112	75-125
Barium	570	570	0.00	50	102	75-125
Mercury	0.003	-----	-----	50	80	75-125
Lead	20.0	19.5	-2.38	50	114	75-125
Chromium	42.4	42.3	-0.24	50	103	75-125

DRO LCS/LCSD

% Recovery	Dup. % Recovery	RPD %	RPD Limit
82	102	21.7	50

RPD: Relative % difference.
LCS: Lab Control Sample.

End of QC Report
MLE/tab

Monte Z. Ellis

Laboratory Manager



WYOMING ANALYTICAL LABORATORIES, INC.

1660 Harrison St. Wallaramie@wal-lab.com
Laramie, WY 82070

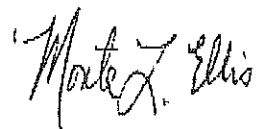
(307) 742-7995
Fax: (307) 721-8956

Tammy Fredrickson
Wexpro
PO Box 458
Rock Springs, WY 82901

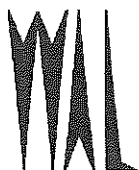
Date: September 26, 2014
Request Number: 33305
Date Received: 9-9-14
Matrix: Soil

BTEX, PAH, and GRO analyzed by TestAmerica Labs in Nashville TN. The following 7 pages apply to the samples listed below. Complete TestAmerica report is available upon request.

WAL Lab Number	Test America Lab Number	Customer Sample ID
P3091	490-61237-1	Chapman 1 Pit floor 9-9-14 1355
P3092	490-61237-2	Chapman 1 Pit Sidewall 9-9-14 1345



Laboratory Manager



WYOMING ANALYTICAL LABORATORIES, INC.

1660 Harrison St.
Laramie, WY 82070

Wallaramie@wal-lab.com

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