

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

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.

CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

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

OGCC Employee:

☐ Spill ☐ Complaint
☐ Inspection ☐ NOAV

Tracking No:

| | |
|---|---|
| OGCC Operator Number: 95960 | Contact Name and Telephone: |
| Name of Operator: Wexpro Company | April Stegall |
| Address: PO Box 458 | No: 307.352.7561 |
| City: Rock Springs State: WY Zip: 82901 | Fax: 307.352.7583 |
| API Number: 05-081-06894 | County: Moffat County |
| Facility Name: BW Musser 22 Pit | Facility Number: 113332 |
| Well Name: BW Musser | Well Number: 22 |
| Location: (QtrQtr, Sec, Twp, Rng, Meridian): SWNW-4-11N-97W | Latitude: 40.942686 Longitude: -108.30575 |

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, Non-cropland

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Tresano-Hiatha-Kandaly

Potential receptors (water wells within 1/4 mi, surface waters, etc.): 1216' from natural drainage, 1704' from nearest water well

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

| | | |
|---|-------------------|-----------------|
| Impacted Media (check): | Extent of Impact: | How Determined: |
| <input checked="" type="checkbox"/> Soils | Minimal | Soil Analysis |
| <input type="checkbox"/> Vegetation | | |
| <input type="checkbox"/> Groundwater | | |
| <input type="checkbox"/> Surface Water | | |

REMEDIALTION WORKPLAN

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

Pit is closed. Pit appears to have been closed between 2006 and 2011.
See pit closure procedure.

Describe how source is to be removed:

See attached pit closure procedure.

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.:

See attached pit closure procedure.



Page 2
REMEDIATION WORKPLAN (Cont.)

Tracking Number: _____
Name of Operator: _____
OGCC Operator No: _____
Received Date: _____
Well Name & No: _____
Facility Name & No: _____

OGCC Employee: _____

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

See attached pit closure procedure.

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.

Pit has been backfilled to grade.
See attached pit closure procedure.

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:

Composite samples of the pit floor and sidewalls were taken in 2015, and meet Table 910-1 requirements (see attached soil analysis). Two core samples will be taken as confirmation of composite samples. Background (offsite) samples will not be obtained, as attached arsenic map shows that arsenic levels in the pit were within reasonable range of samples previously taken within a 1 mile radius.

Core samples will be obtained upon approval from COGCC.

See attached pit closure procedure.

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

See attached pit closure procedure.

IMPLEMENTATION SCHEDULE

| | | |
|-------------------------------------|---|--|
| Date Site Investigation Began: 2015 | Date Site Investigation Completed: 2016 | Date Remediation Plan Submitted: _____ |
| Remediation Start Date: NA | Anticipated Completion Date: 2016 | Actual Completion Date: TBD |

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

Print Name: April Stegall

Signed:

Title: Reclamation Agent

Date: 8/22/2016

OGCC Approved: _____ Title: _____ Date: _____

"Describe initial action taken":

First, a visual inspection will be performed; looking for signs of stained soil and any potential leeching of pit components that may have impacted surface water or groundwater. Other attachments include the following: NRC soil map description, topographic map and/or Google Earth image and additional information detailing the distance to the nearest water source, estimated groundwater depth and distance from the nearest water well.

Wexpro Company will determine, as best as possible, the location, size and estimated closure date of the pit by using sundries, permits, historic Google Earth imagery, site security diagrams and knowledge of the area obtained from long term Wexpro Company personnel.

It is believed that most, if not all, pits in the Hiawatha/Powder Wash area were lined with bentonite liners. These liners would have been broken up during the process of "stirring and airing" that occurs on all Wexpro Company pits prior to sampling.

"Describe how source is to be removed":

72 hour notification will be given to COGCC prior to sampling.

The pit will be located in the field based on information provided by Wexpro Company (*ex: COGCC inspections, site security diagrams, historic imagery, sundries, permits, personnel, visual inspection*).

Pit samples will be obtained using a sampling method capable of collecting representative soil samples (i.e. Geoprobe, auger/split spoon, hand auger, etc.).

The pit has been sampled previously, one core sample will be taken as confirmation of the previously taken composite samples, due to the cost of third party sampling and soil analysis. One sample will be taken from the sidewall. If the location of the load line's discharge to the pit is known, a sample of the wall opposite of the load line's discharge will be taken for this sample.

Background reference samples will also be obtained (*unless done previously*). Depth of samples will be determined by visual observations during sampling, as to best obtain a sample of the native soil. Crews will be watching for indications of groundwater during sampling. If groundwater is encountered, COGCC will be notified immediately.

All samples will be sent to a lab and tested according to Table 910-1. Testing results will be submitted to COGCC with an attached Form 4 Sundry, or new Form 27.

GPS coordinates (meeting Rule 215 requirements) for sampling points and depths will be provided with Form 27 and soil analysis results. All samples will be mapped and submitted with soil analysis results.

If samples meet Table 910-1 requirements, Wexpro Company will request closure of the facility in the COGCC database and NFA. If pit depth is known, it will be referenced in the Final Form 27 in comparison to depth at which pit samples were obtained. If samples do not meet Table 910-1 requirements, another Form 27 with remediation plan will be submitted.

"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.":

To be determined after soil analysis. If remediation is necessary, an additional Form 27 with remediation plan will be submitted.

In the event that pit tests high for EC/SAR/pH, COGCC requires that materials with elevated pH, SAR, or EC be buried under a minimum of three (3) feet of backfill cover and soil that satisfies either the Table 910-1 levels for pH, SAR, and EC or the background levels for such contaminants within three (3) feet of the ground surface at the site. In addition, the soil horizons must be replaced in their original relative position and reclaimed in accordance with 1000 Series Rules, including the establishment of vegetative cover on non-cropland and successful crop growth on cropland. During final reclamation of the well pad, the pits will be backfilled and re-contoured with the well pad (if not previously done). Berm dirt will be knocked into the pit area and compacted. If less than 3' of backfill material is required, soils used for production pit berms will include a confirmation soil sample to demonstrate that soil is below Table 910-1 standards. Additional material, if needed, will be agronomic topsoil, brought in from a commercial or offsite source.

"If groundwater has been impacted, describe proposed monitoring plan":

To be determined, if necessary. In the event that groundwater has been potentially impacted, the extent will be determined and Wexpro Company will submit a monitoring plan to COGCC. In general, a minimum of at least one up-gradient and three down-gradient monitoring wells will be required. The actual number will be dependent upon site specific conditions.

"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":

Surface reclamation will be compliant with COGCC 1000 series rules. Wexpro Company understands that approval of a Form 27 does not imply approval of the reclamation planned submitted prior to final reclamation of the well pad. Wexpro Company will notify the COGCC Regional Reclamation Specialist and Surface Owner for reclamation plan approval prior to final reclamation. All reclamation on Federal Surface will comply with BLM, or other implementing agency, specifications. Final reclamation will take place after the plugging and abandonment of the well.

"Attach samples and analytical results taken to verify remediation impacts. Show locations of samples on an onsite schematic or drawing. Is further site investigation required? If yes, describe":

Soil investigation for the project will be carried out as described above. All analytical data obtained will be submitted to COGCC, on an attached Form 4 Sundry, or new Form 27.

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

To be determined, if necessary. Final disposition of any E&P waste will be documented and submitted to COGCC. This includes haul tickets, volume of soil, etc.



Wexpro Company
2221 Westgate Dr.
P.O. Box 458
Rock Springs, WY 82902
Tel (307) 352-7500
Fax (307) 352-7575

Jimmy L. Druce
General Manager
Direct: (307) 352-7555
Jimmy.Druce@questar.com

5/19/2016

Kris Neidel
COGCC
1120 Lincoln St., Suite 801
Denver, CO 80203

Pit Maintenance and History in Wexpro Company Hiawatha/Powder Wash fields

Dear Mr. Neidel:

I worked as an Operator/Chief Operator in Colorado's Powder Wash and Hiawatha fields for Wexpro Company between the years of 1984 and 2002. Upon my hiring, Carl Foster, who also worked for Wexpro, taught myself and the other operators procedures for production/water drain pit cleaning/maintenance.

The procedures were as follows; For several years pit with visible oil in them were either burned or soaked with hot water and skimmed. Burning of the pits was standard until regulations prohibited the practice.

When soaking and skimming would occur, hot water would be added to the pits. After the addition of hot water to the pits, the pits were allowed to "soak" for a minimum of 3 hours allowing the oil to separate from the water and come to the surface. After the oil and water separated, the oil would be skimmed off via tanker truck and the pits drained of water. Oil skimmed from the pits would be added to the condensate tanks, and the water would be added to the water tanks or hauled for disposal at a commercial source. This process was repeated continuously until there was no more visible oil in the pits.

This procedure was passed along during and after my departure from the Hiawatha and Powder Wash fields, and continues to be used today.

Kind regards,

A handwritten signature in black ink that reads "Jimmy Druce". The signature is written in a cursive, flowing style.


Jimmy Druce
General Manager


For questions, please call April Stegall at 307-352-7561 or 307-371-3610.

Facility #113332

historic imagery-2006
pit appears to have been closed between 2006 & 2011

Legend

 Feature 1

 40.942686, -108.30575

 BW Musser 22

xproposed sampling points



100 ft

Google earth

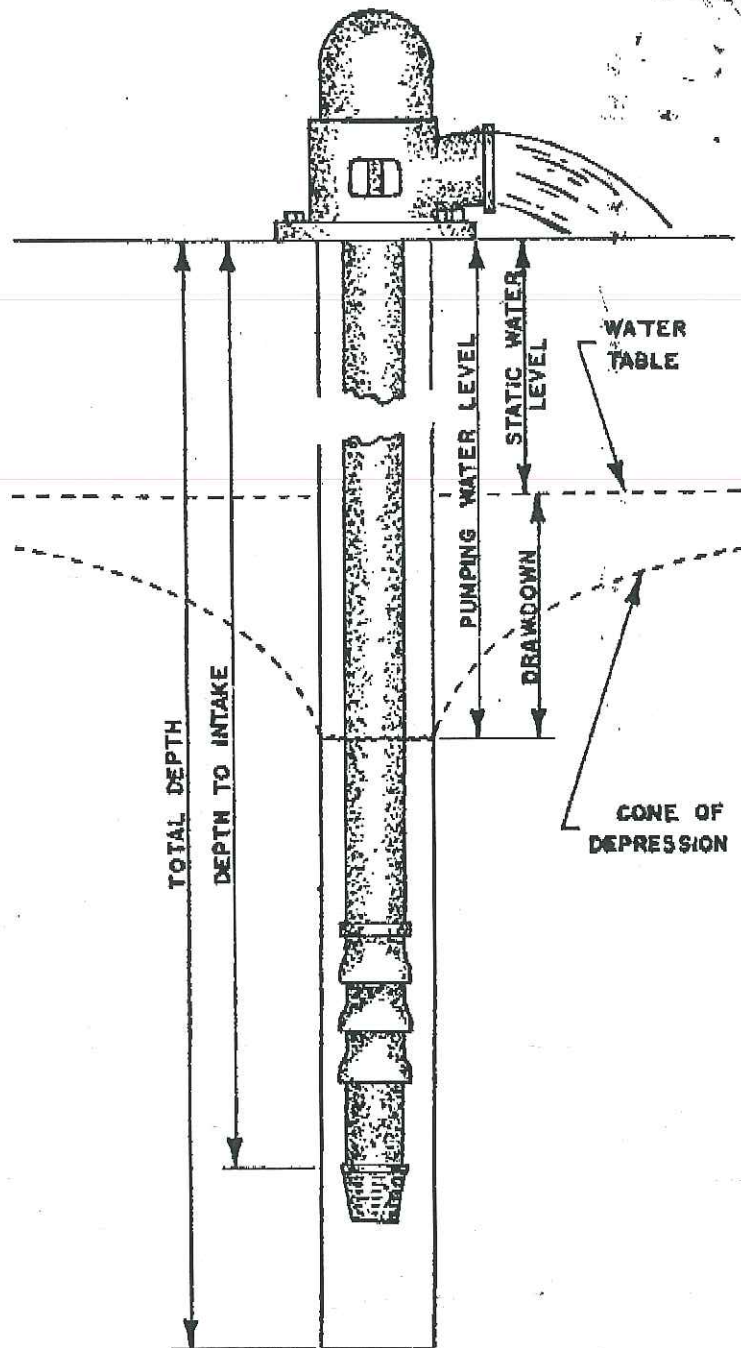
Image USDA Farm Service Agency

PUMP INSTALLATION REPORT

Pump Type SUBMERSIBLE
 Make GRUNDFOS
 Powered by HATACHI HP 15
 Model SP44DS
 Motor Serial No. _____
 Date Installed 1-22-90
 Pump Intake Depth 766'
 Remarks _____

WELL TEST DATA WITH PERMANENT PUMP

Date Tested 1-22-90
 Static Water Level Prior to Test 639'
 Length of Test 1 Hours
 Sustained yield (Metered) 37 GPM
 Pumping Water Level 761'
 Remarks _____



CONTRACTORS STATEMENT

The undersigned, being duly sworn upon oath, deposes and says that he is the contractor of the well or pump installation described hereon; that he has read the statement made hereon; knows the content thereof, and that the same is true of his own knowledge.

Signature Howard E. Ritchie License No. 1093

State of Colorado, County of _____ SS

Subscribed and sworn to before me this _____ day of _____, 19 ____.

My Commission expires: _____, 19 ____.

Notary Public _____

FORM TO BE MADE OUT IN QUADRUPLICATE: WHITE FORM must be an original copy on both sides and signed, WHITE AND GREEN copies must be filed with the State Engineer. PINK COPY is for the Owner and YELLOW COPY is for the Driller.

Nearest water well

32

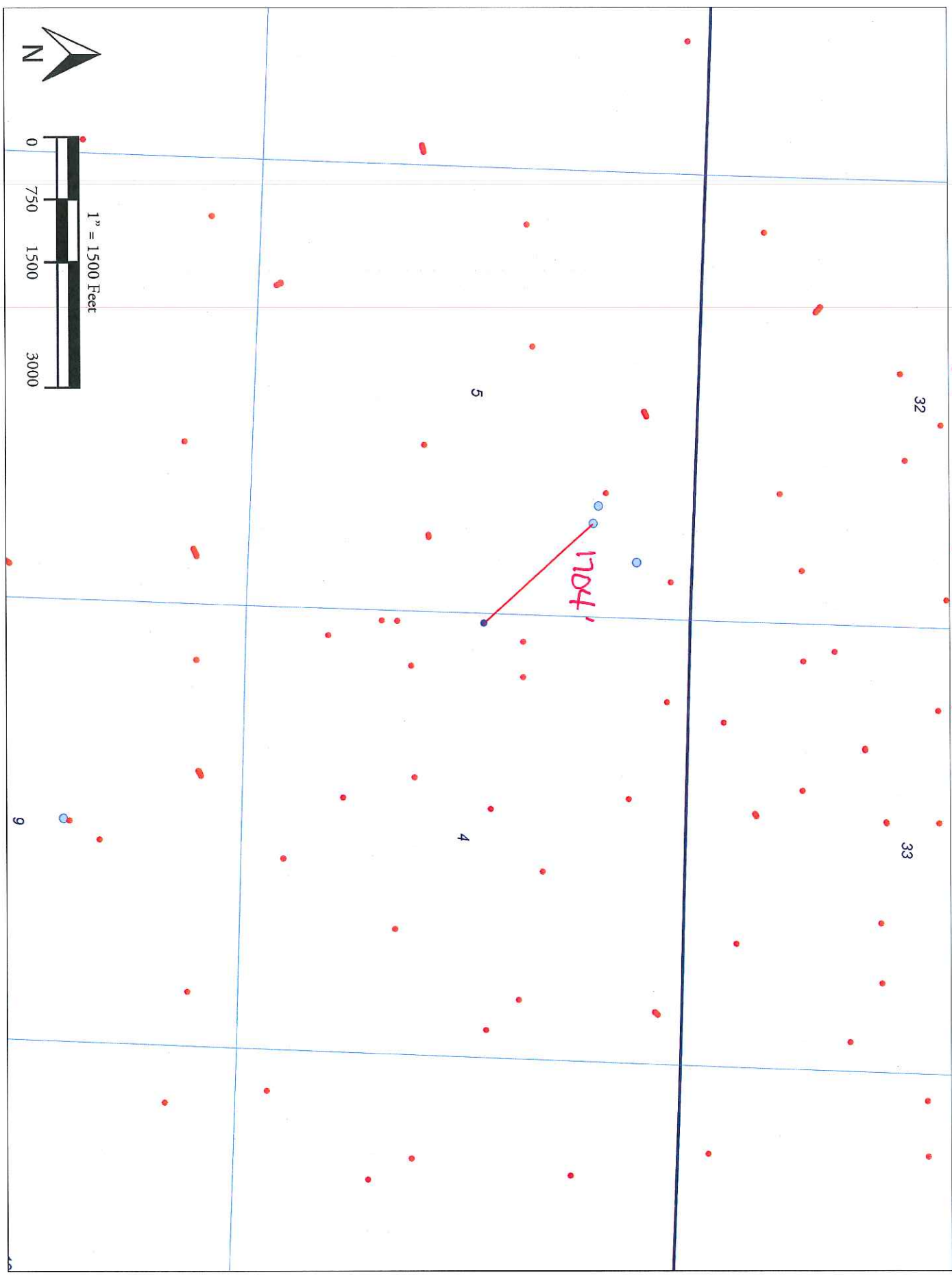
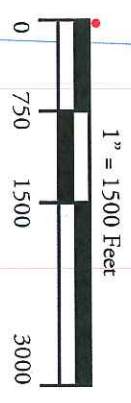
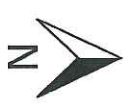
33

5

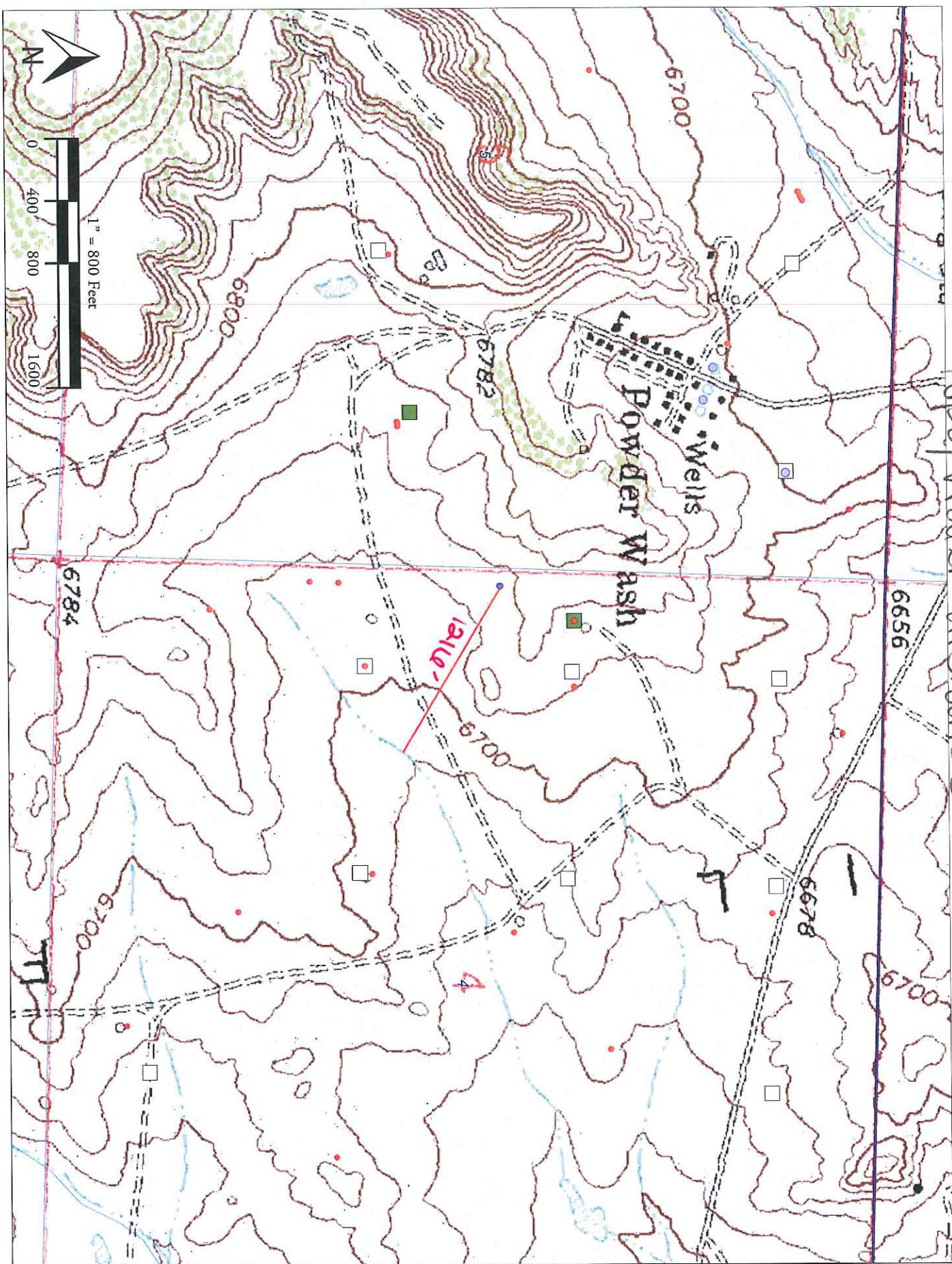
4

9

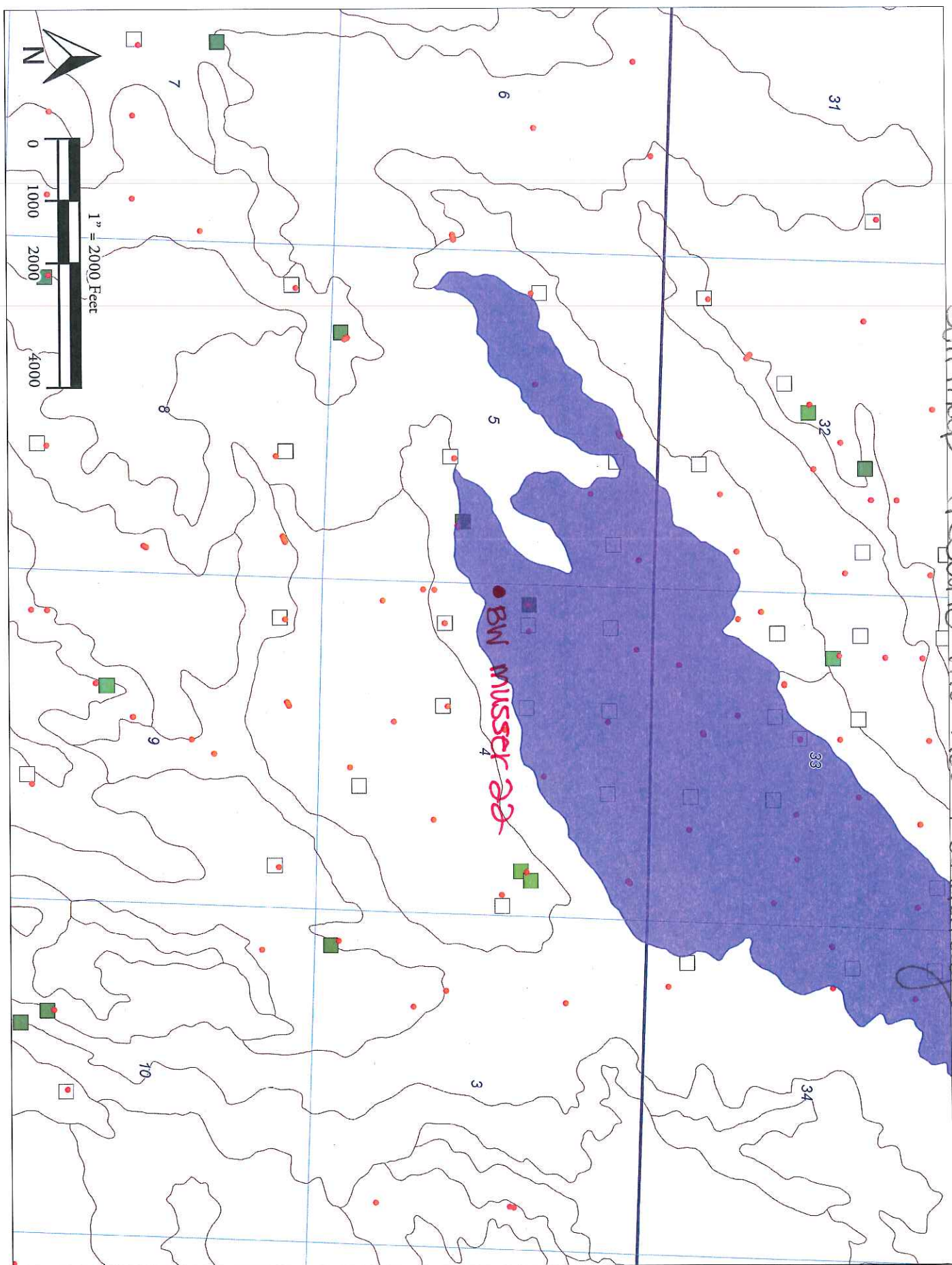
1704'




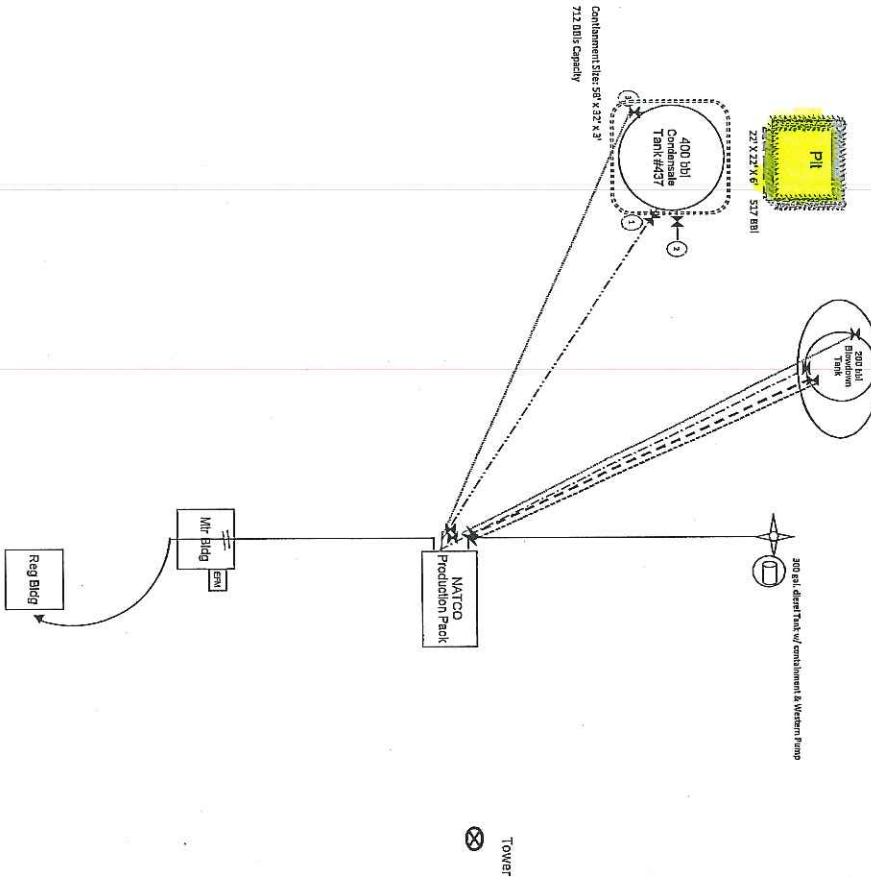
topo/water distance



Soil map - Tressand - Hietna - Kandalaul



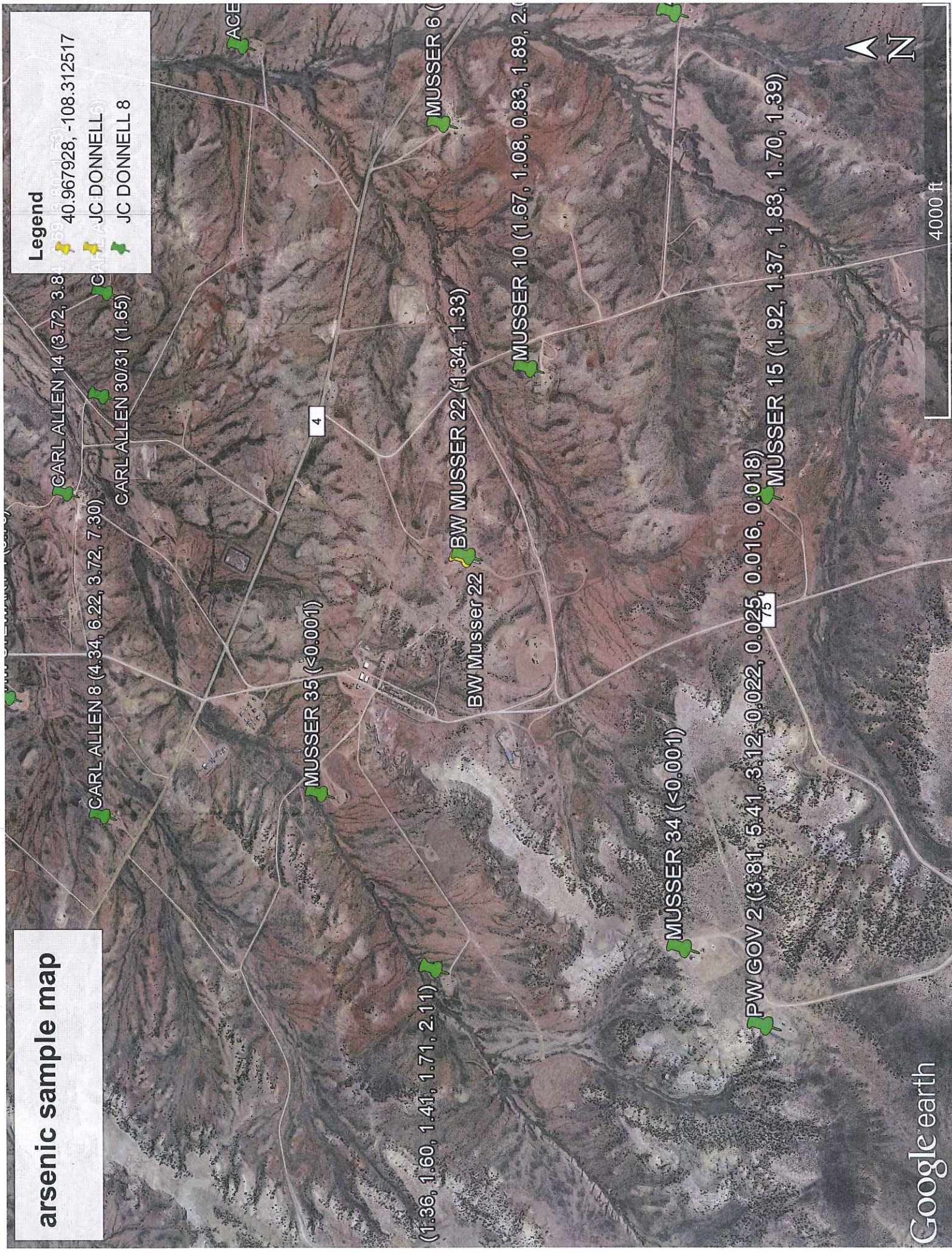
| | | | | | | | | | | | |
|--|--------------------------|------------------|---|--|--|--|--|---|--|---|--|
| VERPRO COMPANY P.O. BOX 458 ROCK SPRINGS, WY 82402 B.W. Hansen # 22 SW 1/4 Sec 4 T 11 - R 97 W Lease # D-038745-4 Unit # C0007671X Moffat County, Colorado Verpro Company Operator | | | This site facility diagram is part of the "Powder Wash Field" Plan. The site security plan may be reviewed at the Verpro Company, "Powder Wash Field Office, Powder Wash Camp, Craig, CO" Monday through Friday, 8:00 a.m. to 4:00 p.m. TANK # 437 LEGEND Valve # 1 Open Closed Sales Valve # 2 Closed Open Open Valve # 3 Open only to drain water | | | N  | | Updated 8/21/09 11/6/11 11/21/11 | | Legend --- Condensate Line --- Water Drain Line --- Fuel Gas Line --- Water Dump Line --- Blowdown Line --- Heat Trace Valve | |
| Latitude: 40.56551 | GPS Latitude: 40.56552 | API # 0503106894 | | | | | | | | | |
| Longitude: 108.18343 | GPS Longitude: 108.18343 | | | | | | | | | | |



arsenic sample map

Legend

- 40.967928, -108.312517
- JC DONNELL
- JC DONNELL 8



Facility #113332

GPS sample coordinates-2015

Legend

ACE 5

pit floor sample (40.94275, -108.30572)

pit wall sample (40.94272, -108.305730)

BW Musser 22



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

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: 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 (ttl.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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Tammy Fredrickson
Wexpro
PO Box 458
Rock Springs, WY 82901

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

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

Monte Z. Ellis

Laboratory Manager



WYOMING ANALYTICAL LABORATORIES, INC.

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Laramie, WY 82070

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Fax: (307) 721-8956

Tammy Fredrickson
Wexpro
PO Box 458
Rock Springs, WY 82901

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

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



WYOMING ANALYTICAL LABORATORIES, INC.

1660 Harrison St.
Laramie, WY 82070

Wallaramie@wal-lab.com

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

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/R

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
(615)301-5761
roxanne.cisneros@testamericainc.com

LINKS

Review your project
results through
Total Access

Have a Question?

**? Ask
The
Expert**

Visit us at:
www.testamericainc.com

The test results in this report meet all 2003 NELAP and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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 | | 0.00529 | | mg/Kg | | 11/08/15 09:56 | 11/10/15 20:17 | 1 |
| GRO (C6-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 (Surr) | 93 | | 70 - 130 | 11/08/15 09:56 | 11/10/15 20:17 | 1 |
| Dibromofluoromethane (Surr) | 107 | | 70 - 130 | 11/08/15 09:56 | 11/10/15 20:17 | 1 |
| 1,2-Dichloroethane-d4 (Surr) | 100 | | 70 - 130 | 11/08/15 09:56 | 11/10/15 20:17 | 1 |
| Toluene-d8 (Surr) | 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 (Surr) | 64 | | 27 - 120 | 11/07/15 10:49 | 11/24/15 18:44 | 1 |
| Terphenyl-d14 (Surr) | 68 | | 13 - 120 | 11/07/15 10:49 | 11/24/15 18:44 | 1 |
| 2-Fluorobiphenyl (Surr) | 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 11:28 | 01/02/16 23:18 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| <i>o</i> -Terphenyl (Sum) | 68 | | 50 - 150 | | | | 12/31/15 11:28 | 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 | 8 | 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 | 06-30-16 |
| 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 | 2963 | 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 | 6 | 9412 | 08-31-16 |
| Oregon | NELAP | 10 | TN200001 | 04-27-16 |
| Pennsylvania | NELAP | 3 | 68-00585 | 06-30-16 |
| Rhode Island | State Program | 1 | LAC00288 | 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-48469 | 10-30-16 |
| Utah | NELAP | 8 | TN00032 | 07-31-16 |
| Virginia | NELAP | 3 | 460152 | 06-14-16 |
| 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