

FORM

**27**

Rev 6/99

# 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

REM 9814

Document 2526843

Date 08/10/2016

## 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): \_\_\_\_\_

OGCC Operator Number: 95960

Name of Operator: Wexpro Company

Address: PO Box 458

City: Rock Springs State: WY Zip: 82901

Contact Name and Telephone:

April Stegall

No: 307.352.7561

Fax: 307.352.7583

API Number: 05-103-08220

County: Rio Blanco

Facility Name: MFS Federal 12-2

Facility Number: 104329

Well Name: Federal

Well Number: 12-2

Location: (QtrQtr, Sec, Twp, Rng, Meridian): NENW-12-2S-103W-6PM Latitude: 39.89388 Longitude: -108.90730

### 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.): Agricultural

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Rentsac-Moyerson-Rock outcrop complex

Potential receptors (water wells within 1/4 mi, surface waters, etc.): 7215' from nearest water well, 2001' from natural drainage

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

Impacted Media (check):

Extent of Impact:

How Determined:



Soils

Minimal

Soil Analysis



Vegetation



Groundwater



Surface Water

### REMEDIALTION WORKPLAN

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

Reference REM# 9272. Previous soil samples have been submitted.

**Describe how source is to be removed:**

Notice of soil sampling to both the BLM and COGCC occurred on 6/23/2016. One sample was taken from the pit sidewall (please see attached Google Earth shot with GPS coordinates) at approximately 2 feet in depth, this sample was obtained from where it is believed that they load line's discharge was present. One sample was taken from the pit bottom's low point (please see attached Google Earth shot with GPS coordinates) at approximately 6 feet in depth (one foot below pit bottom surface).

**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.:**

N/A



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.):

Not necessary. No groundwater has been impacted.

**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 plan 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 the 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 of impacts. Show locations of samples on an onsite schematic or drawing.

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

Discreet samples have been taken and tested per Table 910-1. Soil analysis results are attached, along with background sample results from 2015. Soil analysis for bottom and side wall are high for SAR. Pit materials will be buried under a minimum of 3 feet of backfill cover, and will not require remediation. Upon approval, the pits will be backfilled and re-contoured with the well pad. Berm dirt will be knocked into the pit area and compacted. Additional material, if needed, will be argonomic topsoil, brought in from a commercial or offsite source. Wexpro Company is requesting closure and NFA of facility #104329.

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

Not necessary.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 2014	Date Site Investigation Completed: 2016	Date Remediation Plan Submitted: _____
Remediation Start Date: _____	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: 8/10/2016

*April Stegall*

OGCC Approved: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_



# Facility #104329

June 29, 2016: witnessed by Stan Spencer

Legend  
pit

MFS FEDERAL 12-2

pit sidewall sample (39.893393, -108.90723)

pit floor sample (39.893388, -108.90730)

Google earth

100 ft





Tammy Fredrickson  
Wexpro  
PO Box 458  
Rock Springs, WY 82901

Date: October 22, 2015  
Request Number: 34680R  
Date Received: 9/23/15  
Matrix: Soil

### REPORT OF ANALYSIS

Lab Number: P7174

Sample ID: MFS fed 12-2 Offsite Sample 1 9/30/15 11:33 am (Resample)

	Result	Units	Method	Date Analyzed	Analyst
Moisture	0.96	wt. %	Gravimetric	10/5/2015	DA
pH	7.98	std. units	USDA 60-2,3/150.1	10/5/2015	DA
Conductivity	294	$\mu$ /cm	USDA 60-2,3/120.1	10/5/2015	DA
Calcium	76.2	mg/kg Dry Basis	USDA 60-2,3/6010	10/8/2015	CB
Magnesium	20.9	mg/kg Dry Basis	USDA 60-2,3/6010	10/8/2015	CB
Sodium	26.0	mg/kg Dry Basis	USDA 60-2,3/6010	10/8/2015	CB
Sodium Absorption Ratio	0.68	Ratio	Calculated	10/8/2015	TB
Arsenic	5.67	mg/kg Dry Basis	EPA 3050/6020	10/21/2015	LG

Lab Number: P7175

Sample ID: MFS fed 12-2 Offsite Sample 2 9/30/15 11:36 am (Resample)

	Result	Units	Method	Date Analyzed	Analyst
Moisture	12.3	wt. %	Gravimetric	10/5/2015	DA
pH	7.92	std. units	USDA 60-2,3/150.1	10/5/2015	DA
Conductivity	346	$\mu$ /cm	USDA 60-2,3/120.1	10/5/2015	DA
Calcium	76.3*	mg/kg Dry Basis	USDA 60-2,3/6010	10/8/2015	CB
Magnesium	31.2*	mg/kg Dry Basis	USDA 60-2,3/6010	10/8/2015	CB
Sodium	23.8*	mg/kg Dry Basis	USDA 60-2,3/6010	10/8/2015	CB
Sodium Absorption Ratio	0.58	Ratio	Calculated	10/8/2015	TB
Arsenic	6.0	mg/kg Dry Basis	EPA 3050/6020	10/21/2015	LG

\*Results are the average of 2 runs



## **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: October 22, 2015  
Request Number: 34680R  
Date Received: 9/23/15  
Matrix: Soil

**REPORT OF ANALYSIS**

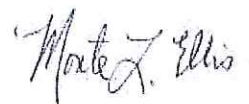
Lab Number: P7176

Sample ID: MFS fed 12-2 Offsite Sample 3 9/30/15 11:40 am (Resample)

	Result	Units	Method	Date Analyzed	Analyst
Moisture	15.3	wt. %	Gravimetric	10/5/2015	DA
pH	8.04	std. units	USDA 60-2,3/150.1	10/5/2015	DA
Conductivity	1,226	$\mu$ /cm	USDA 60-2,3/120.1	10/5/2015	DA
Calcium	154*	mg/kg Dry Basis	USDA 60-2,3/6010	10/8/2015	CB
Magnesium	62.0*	mg/kg Dry Basis	USDA 60-2,3/6010	10/8/2015	CB
Sodium	1,240*	mg/kg Dry Basis	USDA 60-2,3/6010	10/8/2015	CB
Sodium Absorption Ratio	21.3	Ratio	Calculated	10/8/2015	TB
Arsenic	7.78	mg/kg Dry Basis	EPA 3050/6020	10/21/2015	LG

\*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: July 29, 2016  
Request Number: 35483R  
Date Received: 6/29/16  
Matrix: Soil

### REPORT OF ANALYSIS

Project: Federal 12-2

Lab Number: P9255

Sample ID: Pit Floor 6/29/16 11:15 am

	Result	Units	Method	Date Analyzed	Analyst
Nickel	20.1	mg/kg	SW846 3051/6020	7/26/2016	LM
Copper	24.5	mg/kg	SW846 3051/6020	7/26/2016	LM
Zinc	60.6	mg/kg	SW846 3051/6020	7/26/2016	LM
Arsenic	3.88	mg/kg	SW846 3051/6020	7/26/2016	LM
Selenium	0.263	mg/kg	SW846 3051/6020	7/26/2016	LM
Silver	0.871	mg/kg	SW846 3051/6020	7/26/2016	LM
Cadmium	0.533	mg/kg	SW846 3051/6020	7/26/2016	LM
Barium	714	mg/kg	SW846 3051/6020	7/26/2016	LM
Mercury	< 0.001	mg/kg	SW846 3051/6020	7/26/2016	LM
Lead	22.6	mg/kg	SW846 3051/6020	7/26/2016	LM
Total Chromium	34.7	mg/kg	SW846 3051/6020	7/26/2016	LM
Chromium (VI)	1.80	mg/kg	EPA 7196A	7/6/2016	CB
Chromium (III)	32.9	mg/kg	Calculated (ttl.Cr-CrVI)	7/29/2016	TB
Soluble, Boron	0.48	mg/L	Hot water ext./6020	7/15/2016	CB
pH	7.68	std. units	USDA 60-2,3/150.1	7/6/2016	DA
Conductivity	1,638	umhos/cm	USDA 60-2,3/120.1	7/6/2016	DA
Calcium	108*	mg/L	USDA 60-2,3/6010	7/15/2016	CB
Magnesium	29.4*	mg/L	USDA 60-2,3/6010	7/15/2016	CB
Sodium	973*	mg/L	USDA 60-2,3/6010	7/15/2016	CB
Sodium Absorption Ratio	21.42	Ratio	Calculated	7/19/2016	TB
Diesel Range Organics	< 1.0	mg/kg	EPA 8015C	07/09/16	MLE

\*Results are the average of 2 runs

BTEX, GRO, & PAH Analyzed by ALS Environmental in Fort Collins CO. See attached report.  
ALS Lab ID: 1607070-1



## 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



Tammy Fredrickson  
Wexpro  
PO Box 458  
Rock Springs, WY 82901

Date: July 29, 2016  
Request Number: 35483R  
Date Received: 6/29/16  
Matrix: Soil

### REPORT OF ANALYSIS

Project: Federal 12-2

Lab Number: P9256

Sample ID: Pit Side Wall 6/29/16 11:15 am

	Result	Units	Method	Date Analyzed	Analyst
Nickel	22.3	mg/kg	SW846 3051/6020	7/26/2016	LM
Copper	30.7	mg/kg	SW846 3051/6020	7/26/2016	LM
Zinc	71.2	mg/kg	SW846 3051/6020	7/26/2016	LM
Arsenic	4.24	mg/kg	SW846 3051/6020	7/26/2016	LM
Selenium	0.352	mg/kg	SW846 3051/6020	7/26/2016	LM
Silver	< 1.0	mg/kg	SW846 3051/6020	7/26/2016	LM
Cadmium	0.543	mg/kg	SW846 3051/6020	7/26/2016	LM
Barium	493	mg/kg	SW846 3051/6020	7/26/2016	LM
Mercury	< 0.001	mg/kg	SW846 3051/6020	7/26/2016	LM
Lead	27.0	mg/kg	SW846 3051/6020	7/26/2016	LM
Total Chromium	49.3	mg/kg	SW846 3051/6020	7/26/2016	LM
Chromium (VI)	1.8*	mg/kg	EPA 7196A	7/6/2016	CB
Chromium (III)	47.5	mg/kg	Calculated (tit. Cr-CrVI)	7/29/2016	TB
Soluble Boron	0.38*	mg/L	Hot water ext./6020	7/15/2016	CB
pH	7.98	std. units	USDA 60-2,3/150.1	7/6/2016	DA
Conductivity	1,634	umhos/cm	USDA 60-2,3/120.1	7/6/2016	DA
Calcium	210*	mg/L	USDA 60-2,3/6010	7/15/2016	CB
Magnesium	73.2*	mg/L	USDA 60-2,3/6010	7/15/2016	CB
Sodium	2,905*	mg/L	USDA 60-2,3/6010	7/15/2016	CB
Sodium Absorption Ratio	44*	Ratio	Calculated	7/19/2016	TB
Diesel Range Organics	< 1.0	mg/kg	EPA 8015C	07/09/16	MLE

\*Results are the average of 2 runs

BTEX, GRO, & PAH Analyzed by ALS Environmental in Fort Collins CO. See attached report.  
ALS Lab ID: 1607070-2

End of Report  
MLE/tab

*Monte Z. Ellis*

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

Tammy Fredrickson  
Wexpro  
PO Box 458  
Rock Springs, WY 82901

Date: July 29, 2016  
Request Number: 35483R  
Date Received: 6/29/16  
Matrix: Soil

**QUALITY CONTROL**

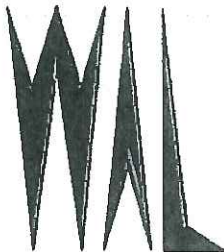
	Reference	Expected	Value	% Recovery
Conductivity	QCI-027-12	756	712	94
pH	iv-6PH QC	6.03	6.02	100
Chromium VI	Hach QC	0.50	0.53	106
Nickel	ESI QC	1.0	1.12	112
Copper	ESI QC	1.0	1.14	114
Zinc	ESI QC	1.0	1.23	123
Arsenic	ESI QC	1.0	1.14	114
Selenium	ESI QC	1.0	1.22	122
Silver	ESI QC	1.0	1.07	107
Cadmium	ESI QC	1.0	1.15	115
Barium	ESI QC	1.0	1.06	106
Mercury	ESI QC	0.16	0.22	138
Lead	ESI QC	1.0	1.12	112
Total Chromium	ESI QC	1.0	1.11	111
Soluble Boron	ESI QC	1.0	1.02	102
Diesel Range Organics	LCSA/LCSB	77.1	71.3	92
Calcium	ESI QC	20	20.4	102
Magnesium	ESI QC	50	50.5	101
Sodium	ESI QC	50	49.9	100

BTEX, GRO, & PAH Analyzed by ALS Environmental in Fort Collins CO. See attached report.  
ALS Lab ID: 1607070-1&2

End of QC Report  
MLE/tab

*Monte Z. Ellis*

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



Tammy Fredrickson  
Wexpro  
PO Box 458  
Rock Springs, WY 82901

Date: July 29, 2016  
Request Number: 35483R  
Date Received: 6/29/16  
Matrix: Soil

BTEX, GRO and PAH analyzed by ALS Environmental in Fort Collins CO . The following pages apply to the samples listed below.

WAL Lab Number	ALS Lab Number	Wexpro Sample ID
P9255	1607070-1	Pit Floor 6/29/16 11:15 am
P9256	1607070-2	Pit Side Wall 6/29/16 11:15 am



Laboratory Manager



## WYOMING ANALYTICAL LABORATORIES, INC

1660 Harrison Street  
Laramie, WY 82070

[www.wal-lab.com](http://www.wal-lab.com)  
[laramie@wal-lab.com](mailto:laramie@wal-lab.com)

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



Ft. Collins, Colorado

LIMS Version: 6.819

Page 1 of 1

Wednesday, July 13, 2016

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

Re: ALS Workorder: 1607070  
Project Name:  
Project Number: 35483R

Dear Ellis:

Two soil samples were received from Wyoming Analytical Laboratories, Inc., on 6/29/2016. The samples were scheduled for the following analyses:

GC/MS Semivolatiles

GC/MS Volatiles

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,

A handwritten signature in black ink, appearing to read "Amy R. Wolf".

ALS Environmental  
Amy R. Wolf  
Project Manager





**1607070**

**GC/MS Volatiles:**

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

- The method blank had m+p-xylene detected below the reporting limit. This compound was detected in the associated samples, so the data were flagged.

All remaining acceptance criteria were met.

**GC/MS Semivolatiles:**

The samples were analyzed using GC/MS following the current revision of SOP 506 based on SW-846 Method 8270D. The samples were analyzed using selective ion monitoring (SIM), in order to achieve lower reporting limits.

All acceptance criteria were met.

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



## ALS Environmental -- FC

## SAMPLE SUMMARY REPORT

Client: Wyoming Analytical Laboratories, Inc.

Date: 13-Jul-16

Project: 35483R

Work Order: 1607070

Sample ID: P9255

Lab ID: 1607070-1

Legal Location:

Matrix: SOIL

Collection Date: 6/29/2016 11:15

Percent Moisture: 16.9

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>GC/MS Semi-volatiles</b>						
			SW8270SIM		Prep Date: 7/11/2016	PrepBy: JSJ
NAPHTHALENE	2.8	J	4	UG/KG	1	7/12/2016 15:27
2-METHYLNAPHTHALENE	5.1		4	UG/KG	1	7/12/2016 15:27
1-METHYLNAPHTHALENE	3.8	J	4	UG/KG	1	7/12/2016 15:27
ACENAPHTHYLENE	ND		4	UG/KG	1	7/12/2016 15:27
ACENAPHTHENE	ND		4	UG/KG	1	7/12/2016 15:27
FLUORENE	ND		4	UG/KG	1	7/12/2016 15:27
PHENANTHRENE	3.9	J	4	UG/KG	1	7/12/2016 15:27
ANTHRACENE	ND		4	UG/KG	1	7/12/2016 15:27
FLUORANTHENE	2.6	J	4	UG/KG	1	7/12/2016 15:27
PYRENE	4		4	UG/KG	1	7/12/2016 15:27
BENZO(A)ANTHRACENE	ND		4	UG/KG	1	7/12/2016 15:27
CHRYSENE	7.5		4	UG/KG	1	7/12/2016 15:27
BENZO(B)FLUORANTHENE	3.5	J	4	UG/KG	1	7/12/2016 15:27
BENZO(K)FLUORANTHENE	ND		4	UG/KG	1	7/12/2016 15:27
BENZO(A)PYRENE	ND		4	UG/KG	1	7/12/2016 15:27
INDENO(1,2,3-CD)PYRENE	3.1	J	4	UG/KG	1	7/12/2016 15:27
DBENZO(A,H)ANTHRACENE	ND		4	UG/KG	1	7/12/2016 15:27
BENZO(G,H,I)PERYLENE	ND		4	UG/KG	1	7/12/2016 15:27
Surr: NITROBENZENE-D5	72		28-113	%REC	1	7/12/2016 15:27
Surr: 2-FLUOROBIPHENYL	81		41-106	%REC	1	7/12/2016 15:27
Surr: TERPHENYL-D14	92		25-147	%REC	1	7/12/2016 15:27
<b>GC/MS Volatiles</b>						
			SW8260		Prep Date: 7/11/2016	PrepBy: JXK
BENZENE	ND		5.8	UG/KG	1	7/11/2016 15:39
TOLUENE	ND		5.8	UG/KG	1	7/11/2016 15:39
ETHYLBENZENE	ND		5.8	UG/KG	1	7/11/2016 15:39
M+P-XYLENE	3.4	JB	5.8	UG/KG	1	7/11/2016 15:39
O-XYLENE	ND		5.8	UG/KG	1	7/11/2016 15:39
TOTAL XYLENES	3.4	J	5	UG/KG	1	7/11/2016 15:39
Surr: DIBROMOFLUOROMETHANE	97		61-134	%REC	1	7/11/2016 15:39
Surr: TOLUENE-DB	90		57-135	%REC	1	7/11/2016 15:39
Surr: 4-BROMOFLUOROBENZENE	96		52-151	%REC	1	7/11/2016 15:39
GASOLINE RANGE ORGANICS	ND		580	UG/KG	1	7/11/2016 15:39

## ALS Environmental -- FC

## SAMPLE SUMMARY REPORT

Client: Wyoming Analytical Laboratories, Inc.

Date: 13-Jul-16

Project: 35483R

Work Order: 1607070

Sample ID: P9256

Lab ID: 1607070-2

Legal Location:

Matrix: SOIL

Collection Date: 6/29/2016 11:15

Percent Moisture: 15.2

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>GC/MS Semi-volatiles</b>						
			<b>SW8270SIM</b>		<b>Prep Date: 7/11/2016</b>	<b>PrepBy: JSJ</b>
NAPHTHALENE	ND		3.9	UG/KG	1	7/12/2016 15:51
2-METHYLNAPHTHALENE	ND		3.9	UG/KG	1	7/12/2016 15:51
1-METHYLNAPHTHALENE	ND		3.9	UG/KG	1	7/12/2016 15:51
ACENAPHTHYLENE	ND		3.9	UG/KG	1	7/12/2016 15:51
ACENAPHTHENE	ND		3.9	UG/KG	1	7/12/2016 15:51
FLUORENE	ND		3.9	UG/KG	1	7/12/2016 15:51
PHENANTHRENE	ND		3.9	UG/KG	1	7/12/2016 15:51
ANTHRACENE	ND		3.9	UG/KG	1	7/12/2016 15:51
FLUORANTHENE	ND		3.9	UG/KG	1	7/12/2016 15:51
PYRENE	ND		3.9	UG/KG	1	7/12/2016 15:51
BENZO(A)ANTHRACENE	ND		3.9	UG/KG	1	7/12/2016 15:51
CHRYSENE	ND		3.9	UG/KG	1	7/12/2016 15:51
BENZO(B)FLUORANTHENE	ND		3.9	UG/KG	1	7/12/2016 15:51
BENZO(K)FLUORANTHENE	ND		3.9	UG/KG	1	7/12/2016 15:51
BENZO(A)PYRENE	ND		3.9	UG/KG	1	7/12/2016 15:51
INDENO(1,2,3-CD)PYRENE	ND		3.9	UG/KG	1	7/12/2016 15:51
DIBENZO(A,H)ANTHRACENE	ND		3.9	UG/KG	1	7/12/2016 15:51
BENZO(G,H,I)PERYLENE	3	J	3.9	UG/KG	1	7/12/2016 15:51
Surr: NITROBENZENE-D5	65		28-113	%REC	1	7/12/2016 15:51
Surr: 2-FLUOROBIPHENYL	74		41-106	%REC	1	7/12/2016 15:51
Surr: TERPHENYL-D14	90		25-147	%REC	1	7/12/2016 15:51
<b>GC/MS Volatiles</b>						
			<b>SW8260</b>		<b>Prep Date: 7/11/2016</b>	<b>PrepBy: JXK</b>
BENZENE	ND		5.8	UG/KG	1	7/11/2016 16:03
TOLUENE	ND		5.8	UG/KG	1	7/11/2016 16:03
ETHYLBENZENE	ND		5.8	UG/KG	1	7/11/2016 16:03
M+P-XYLENE	5.8	B	5.8	UG/KG	1	7/11/2016 16:03
O-XYLENE	2.3	J	5.8	UG/KG	1	7/11/2016 16:03
TOTAL XYLENES	8.1	J	5	UG/KG	1	7/11/2016 16:03
Surr: DIBROMOFLUOROMETHANE	97		61-134	%REC	1	7/11/2016 16:03
Surr: TOLUENE-D8	90		57-135	%REC	1	7/11/2016 16:03
Surr: 4-BROMOFLUOROBENZENE	95		52-151	%REC	1	7/11/2016 16:03
GASOLINE RANGE ORGANICS	ND		580	UG/KG	1	7/11/2016 16:03



## ALS Environmental -- FC

## SAMPLE SUMMARY REPORT

Client: Wyoming Analytical Laboratories, Inc.  
 Project: 35483R  
 Sample ID: P9256  
 Legal Location:  
 Collection Date: 6/29/2016 11:15

Date: 13-Jul-16  
 Work Order: 1607070  
 Lab ID: 1607070-2  
 Matrix: SOIL  
 Percent Moisture: 15.2

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
----------	--------	------	--------------	-------	-----------------	---------------

## 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 Environmental -- FC

Client: Wyoming Analytical Laboratories, Inc.  
Work Order: 1607070  
Project: 35483R

Date: 7/13/2016 3:51:

## QC BATCH REPORT

Batch ID: EX160711-2-1 Instrument ID HPSV1 Method: SW8270SIM

LCS Sample ID: EX160711-2 Units: UG/KG Analysis Date: 7/12/2016 13:00

Client ID: Run ID: SV160712-4 Prep Date: 7/11/2016 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
NAPHTHALENE	50.7	3.33	66.7		76	40-107				30	
2-METHYLNAPHTHALENE	58.2	3.33	66.7		87	47-107				30	
1-METHYLNAPHTHALENE	55.9	3.33	66.7		84	34-113				30	
ACENAPHTHYLENE	56.1	3.33	66.7		84	44-107				30	
ACENAPHTHENE	54.7	3.33	66.7		82	46-108				30	
FLUORENE	55.4	3.33	66.7		83	49-108				30	
PHENANTHRENE	51.7	3.33	66.7		78	50-110				30	
ANTHRACENE	54.5	3.33	66.7		82	53-107				30	
FLUORANTHENE	57.8	3.33	66.7		87	54-114				30	
PYRENE	51.6	3.33	66.7		77	46-123				30	
BENZO(A)ANTHRACENE	55.5	3.33	66.7		83	52-111				30	
CHRYSENE	57.6	3.33	66.7		86	53-112				30	
BENZO(B)FLUORANTHENE	54.6	3.33	66.7		82	45-114				30	
BENZO(K)FLUORANTHENE	51.9	3.33	66.7		78	45-123				30	
BENZO(A)PYRENE	52.4	3.33	66.7		79	50-111				30	
INDENO(1,2,3-CD)PYRENE	53.1	3.33	66.7		80	38-121				30	
DBENZO(A,H)ANTHRACENE	55.8	3.33	66.7		84	41-125				30	
BENZO(G,H,I)PERYLENE	51.3	3.33	66.7		77	38-126				30	
Surr: NITROBENZENE-D5	49.8		66.7		75	28-113					
Surr: 2-FLUOROBPHENYL	54.2		66.7		81	41-106					
Surr: TERPHENYL-D14	60.6		66.7		91	25-147					



Client: Wyoming Analytical Laboratories, Inc.  
 Work Order: 1607070  
 Project: 35483R

## QC BATCH REPORT

Batch ID: EX160711-2-1 Instrument ID HPSV1 Method: SW8270SIM

LCSD Sample ID: EX160711-2 Units: UG/KG Analysis Date: 7/12/2016 12:24  
 Client ID: Run ID: SV160712-4 Prep Date: 7/11/2016 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
NAPHTHALENE	51.4	3.33	66.7		77	40-107		50.7	1	30	
2-METHYLNAPHTHALENE	58.4	3.33	66.7		88	47-107		58.2	0	30	
1-METHYLNAPHTHALENE	56.8	3.33	66.7		85	34-113		55.9	2	30	
ACENAPHTHYLENE	56.6	3.33	66.7		85	44-107		56.1	1	30	
ACENAPHTHENE	55.3	3.33	66.7		83	46-108		54.7	1	30	
FLUORENE	55.9	3.33	66.7		84	49-108		55.4	1	30	
PHENANTHRENE	52.7	3.33	66.7		79	50-110		51.7	2	30	
ANTHRACENE	55.9	3.33	66.7		84	53-107		54.5	3	30	
FLUORANTHENE	58.7	3.33	66.7		88	54-114		57.8	2	30	
PYRENE	55	3.33	66.7		82	46-123		51.6	6	30	
BENZO(A)ANTHRACENE	57.4	3.33	66.7		86	52-111		55.5	3	30	
CHRYSENE	59.8	3.33	66.7		90	53-112		57.6	4	30	
BENZO(B)FLUORANTHENE	55.2	3.33	66.7		83	45-114		54.6	1	30	
BENZO(K)FLUORANTHENE	51	3.33	66.7		77	45-123		51.9	2	30	
BENZO(A)PYRENE	52.9	3.33	66.7		79	50-111		52.4	1	30	
INDENO(1,2,3-CD)PYRENE	54.6	3.33	66.7		82	38-121		53.1	3	30	
DIBENZO(A,H)ANTHRACENE	56.3	3.33	66.7		85	41-125		55.8	1	30	
BENZO(G,H,I)PERYLENE	51.9	3.33	66.7		78	38-126		51.3	1	30	
Sum: NITROBENZENE-D5	51.5		66.7		77	28-113			3		
Sum: 2-FLUOROBIPHENYL	54.6		66.7		82	41-106			1		
Sum: TERPHENYL-D14	61.4		66.7		92	25-147			1		

Client: Wyoming Analytical Laboratories, Inc.  
 Work Order: 1607070  
 Project: 35483R

## QC BATCH REPORT

Batch ID: EX160711-2-1 Instrument ID HPSV1 Method: SW8270SIM

MB Sample ID: EX160711-2 Units: UG/KG Analysis Date: 7/12/2016 11:46  
 Client ID: Run ID: SV160712-4 Prep Date: 7/11/2016 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD Limit	Qual
NAPHTHALENE	ND	3.3								
2-METHYLNAPHTHALENE	ND	3.3								
1-METHYLNAPHTHALENE	ND	3.3								
ACENAPHTHYLENE	ND	3.3								
ACENAPHTHENE	ND	3.3								
FLUORENE	ND	3.3								
PHENANTHRENE	ND	3.3								
ANTHRACENE	ND	3.3								
FLUORANTHENE	ND	3.3								
PYRENE	ND	3.3								
BENZO(A)ANTHRACENE	ND	3.3								
CHRYSENE	ND	3.3								
BENZO(B)FLUORANTHENE	ND	3.3								
BENZO(K)FLUORANTHENE	ND	3.3								
BENZO(A)PYRENE	ND	3.3								
INDENO(1,2,3-CD)PYRENE	ND	3.3								
DIBENZO(A,H)ANTHRACENE	ND	3.3								
BENZO(G,H,I)PERYLENE	ND	3.3								
Surr: NITROBENZENE-D5	55.9		66.7		84	28-113				
Surr: 2-FLUOROBIPHENYL	56.4		66.7		85	41-106				
Surr: TERPHENYL-D14	60.6		66.7		91	25-147				

The following samples were analyzed in this batch:



Client: Wyoming Analytical Laboratories, Inc.  
 Work Order: 1607070  
 Project: 35483R

## QC BATCH REPORT

Batch ID: VL160711-4-1 Instrument ID HPV1 Method: SW8260

LCS Sample ID: VL160711-4 Units: UG/KG Analysis Date: 7/11/2016 10:03

Client ID: Run ID: VL160711-4A Prep Date: 7/11/2016 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BENZENE	38.8	5	40		97	73-126				30	
TOLUENE	39.5	5	40		99	71-127				30	
ETHYLBENZENE	38.8	5	40		97	74-127				30	
M+P-XYLENE	80.9	5	80		101	79-126				30	
O-XYLENE	40.3	5	40		101	77-125				30	
Surr: DIBROMOFLUOROMETHANE	51.3		50		103	61-134					
Surr: TOLUENE-D8	47.6		50		95	57-135					
Surr: 4-BROMOFLUOROBENZENE	50.7		50		101	52-151					

LCSD Sample ID: VL160711-4 Units: UG/KG Analysis Date: 7/11/2016 10:26

Client ID: Run ID: VL160711-4A Prep Date: 7/11/2016 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BENZENE	38.6	5	40		96	73-126		38.8	1	30	
TOLUENE	38.3	5	40		96	71-127		39.5	3	30	
ETHYLBENZENE	39.3	5	40		98	74-127		38.8	1	30	
M+P-XYLENE	79.6	5	80		99	79-126		80.9	2	30	
O-XYLENE	41	5	40		103	77-125		40.3	2	30	
Surr: DIBROMOFLUOROMETHANE	51.2		50		102	61-134			0		
Surr: TOLUENE-D8	48.3		50		97	57-135			1		
Surr: 4-BROMOFLUOROBENZENE	50.9		50		102	52-151			0		

MB Sample ID: VL160711-4 Units: UG/KG Analysis Date: 7/11/2016 13:27

Client ID: Run ID: VL160711-4A Prep Date: 7/11/2016 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	1.7	5									J
O-XYLENE	ND	5									
TOTAL XYLENES	1.7	5									J
Surr: DIBROMOFLUOROMETHANE	49.4		50		99	61-134					
Surr: TOLUENE-D8	44.3		50		89	57-135					
Surr: 4-BROMOFLUOROBENZENE	48.8		50		98	52-151					

The following samples were analyzed in this batch:

Client: Wyoming Analytical Laboratories, Inc.  
Work Order: 1607070  
Project: 35483R

## QC BATCH REPORT

Batch ID: VL160711-4-2 Instrument ID HPV1 Method: SW8260

LCS Sample ID: VL160711-8 Units: UG/KG Analysis Date: 7/11/2016 11:34  
Client ID: Run ID: VL160711-4A Prep Date: 7/11/2016 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	1830	500	2000		91	80-120				20	

LCSD Sample ID: VL160711-8 Units: UG/KG Analysis Date: 7/11/2016 11:57  
Client ID: Run ID: VL160711-4A Prep Date: 7/11/2016 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	1790	500	2000		89	80-120		1830	2	20	

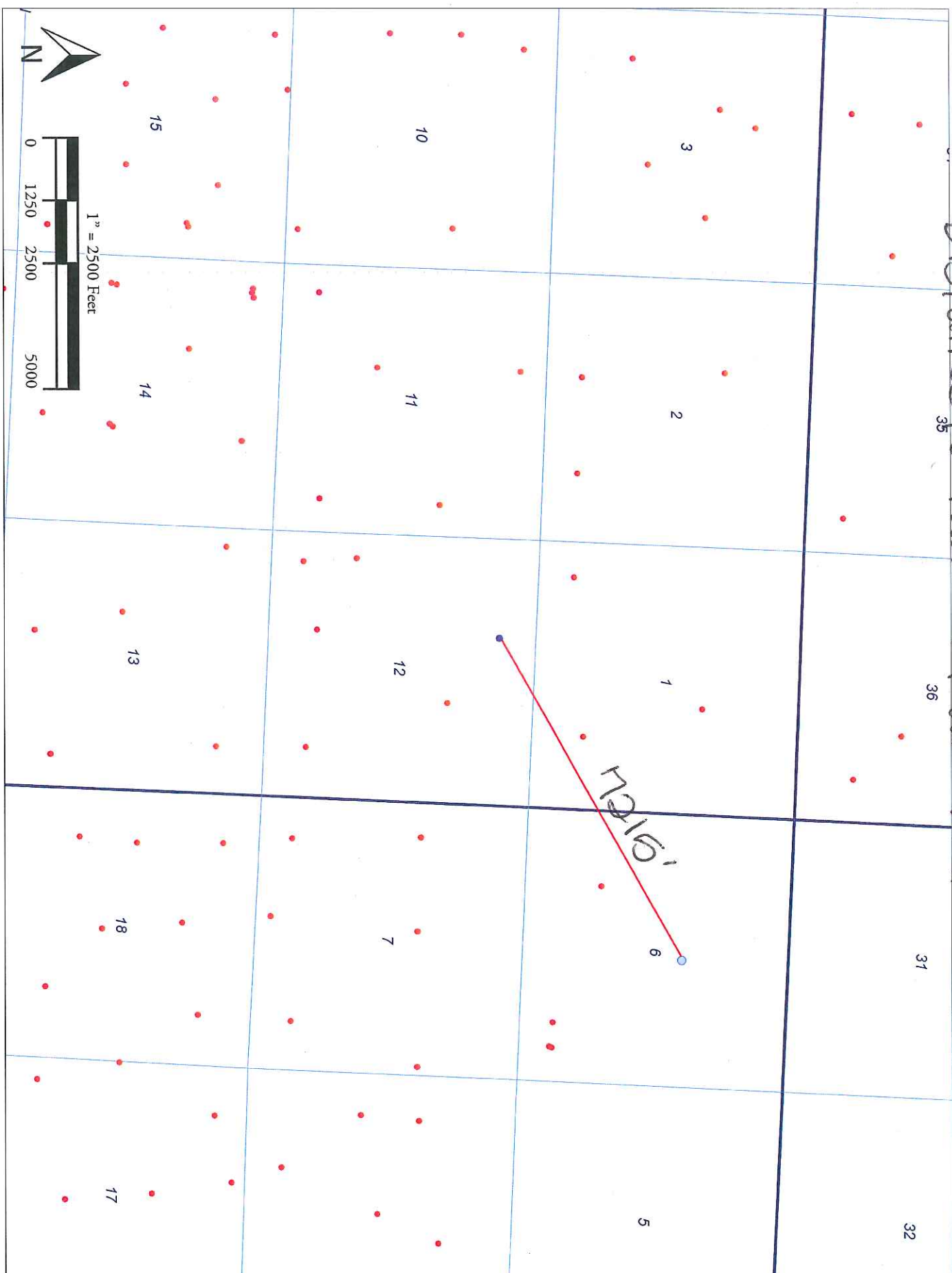
MB Sample ID: VL160711-4 Units: UG/KG Analysis Date: 7/11/2016 13:27  
Client ID: Run ID: VL160711-4A Prep Date: 7/11/2016 DF: 1

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

The following samples were analyzed in this batch:



Distance to nearest water well



DATE

JUN 30 1983

Assistant  
STATE ENGINEER

BY

*Robert C. Cunningham*

ACCEPTED

ACCEPTED FOR FILING BY THE STATE ENGINEER OF COLORADO  
PURSUANT TO THE FOLLOWING CONDITIONS:

NOTARY PUBLIC

*Barbara J. [Signature]*

My Commission expires:

September 28, 1983

Subscribed and sworn to before me on this 28 day of September, 1982

Signature(s)

*Barbara J. [Signature]*

(COMPLETE REVERSE SIDE OF THIS FORM)

0 acres are irrigated and which is illustrated on the map on the reverse side of this form; that this well was completed in compliance with the permit approved hereon; this statement of beneficial use of ground water is filed in compliance with law; he (they) has (have) read the statements made hereon; knows the content thereof; and that the same are true of his (their) knowledge.

of which

Recreation, Fire

of water to be diverted is 1 acre-feet; for which claim is hereby made for livestock, wildlife.

rate claimed hereby is 10 gallons per minute; the total depth of the well is 190 feet; the average annual amount

day of October, 1981; the maximum sustained pumping rate of the well is 10 gallons per minute; the pumping

East section line; water from this well was first applied to a beneficial use for the purpose(s) described herein on the 7

located as described above, at distances of 2100 feet from the North section line and 2500 feet from the

being duly sworn upon oath, deposes and says that he (they) is (are) the owner(s) of the well described hereon; the well is

City Craig Colorado 81225 Twp. 2 S. Rng. 102 W. 6 P.M. (E OR W)

address is Box 248 SW 1/4 of the NE 1/4 Section 6

THE AFFIANT(S) Bureau of Land Management County Rio Blanco

LOCATION OF WELL

PERMIT NUMBER 119506

LATE REGISTRATION

STATEMENT OF BENEFICIAL USE OF GROUND WATER

AMENDMENT OF EXISTING RECORD

COUNTY OF Rio Blanco

STATE OF COLORADO

818 Centennial Bldg., 1313 Sherman St. Denver, Colorado 80203

COLORADO DIVISION OF WATER RESOURCES

AFFIDAVIT

RECEIVED SEP 20 1982

TYPE OR  
PRINT IN BLACK INK  
COPY OF ACCEPTED  
STATEMENT MAILED  
ON REQUEST

WMJ-25-75

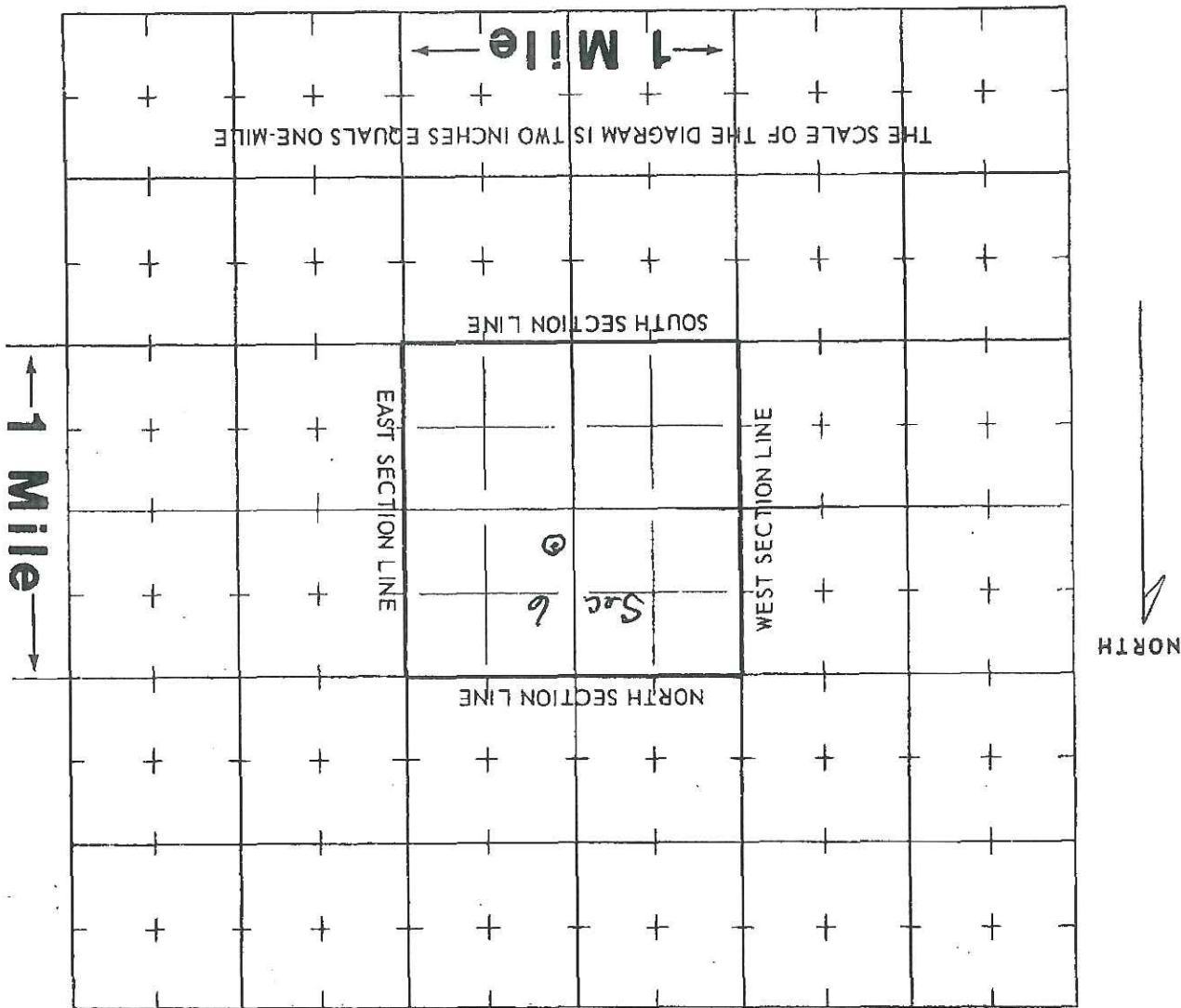
water well info



THE LOCATION OF THE WELL MUST BE SHOWN AND FOR LARGE CAPACITY IRRIGATION WELLS THE AREA ON WHICH THE WATER IS USED MUST BE SHADED OR CROSS-HATCHED ON THE DIAGRAM BELOW.

This diagram represents nine (9) sections. Use the CENTER SQUARE (one section) to indicate the location of the well, if possible.

Well drilled by Unknown Existing Hole Lic. No. \_\_\_\_\_  
 Permanent Pump installed by BLM Lic. No. \_\_\_\_\_  
 Meter Serial No. \_\_\_\_\_ ☐ Flow Meter Date Installed \_\_\_\_\_  
 Owner of land on which water is being used Bureau of Land Management



WATER EQUIVALENTS TABLE (Rounded Figures)

An acre-foot covers 1 acre of land 1 foot deep.  
 1 cubic foot per second (cfs) . . . 449 gallons per minute (gpm).  
 1 acre-foot . . . 43,560 cubic feet . . . 325,900 gallons.  
 1,000 gpm pumped continuously for one day produces 4.42 acre-feet.  
 100 gpm pumped continuously for one year produces 160 acre-feet.

(WHITE AND PINK COPY TO BE FILED WITH THE STATE ENGINEER  
 PINK COPY WILL BE RETURNED TO OWNER)

PERMIT NUMBER

119506

DRILLER'S LOG  
NOT AVAILABLE



THIS FORM MUST BE SUBMITTED  
WITHIN 60 DAYS OF COMPLETION  
OF THE WORK DESCRIBED HERE.  
ON, TYPE OR PRINT IN BLACK  
INK.

## WELL COMPLETION AND PUMP INSTALLATION REPORT

1313 Sherman Street - Room 818  
Denver, Colorado 80203

## COLORADO DIVISION OF WATER RESOURCES

PERMIT NUMBER 119506

WELL OWNER Bureau of Land Management SW 1/4 of the NE 1/4 of Sec. 6  
ADDRESS Box 248, Craig, Co. 81625 T. 2 S. R. 102 W. 6 P.M.  
DATE COMPLETED 10-1-1981 HOLE DIAMETER \_\_\_\_\_

## WELL LOG

From	To	Type and Color of Material	Water Loc.
------	----	----------------------------	------------

Use additional pages necessary to complete log.

TOTAL DEPTH \_\_\_\_\_

## GROUTING RECORD

Size \_\_\_\_\_ & kind \_\_\_\_\_ from \_\_\_\_\_ to \_\_\_\_\_ ft.  
Size \_\_\_\_\_ & kind \_\_\_\_\_ from \_\_\_\_\_ to \_\_\_\_\_ ft.  
Size \_\_\_\_\_ & kind \_\_\_\_\_ from \_\_\_\_\_ to \_\_\_\_\_ ft.  
Size \_\_\_\_\_ & kind \_\_\_\_\_ from \_\_\_\_\_ to \_\_\_\_\_ ft.  
Size \_\_\_\_\_ & kind \_\_\_\_\_ from \_\_\_\_\_ to \_\_\_\_\_ ft.  
Size \_\_\_\_\_ & kind \_\_\_\_\_ from \_\_\_\_\_ to \_\_\_\_\_ ft.

## Perforated Casing

Size \_\_\_\_\_ & kind \_\_\_\_\_ from \_\_\_\_\_ to \_\_\_\_\_ ft.  
Size \_\_\_\_\_ & kind \_\_\_\_\_ from \_\_\_\_\_ to \_\_\_\_\_ ft.  
Size \_\_\_\_\_ & kind \_\_\_\_\_ from \_\_\_\_\_ to \_\_\_\_\_ ft.  
Size \_\_\_\_\_ & kind \_\_\_\_\_ from \_\_\_\_\_ to \_\_\_\_\_ ft.

## CASING RECORD: Plain Casing

## DRILLING METHOD

\_\_\_\_\_ in. from \_\_\_\_\_ to \_\_\_\_\_ ft.  
\_\_\_\_\_ in. from \_\_\_\_\_ to \_\_\_\_\_ ft.  
\_\_\_\_\_ in. from \_\_\_\_\_ to \_\_\_\_\_ ft.

## Intervals

Material \_\_\_\_\_

## Placement Method

GRAVEL PACK: Size \_\_\_\_\_

Interval \_\_\_\_\_

## TEST DATA

Date Tested \_\_\_\_\_, 19\_\_\_\_

Static Water Level Prior to Test \_\_\_\_\_ ft.

Type of Test Pump \_\_\_\_\_

Length of Test \_\_\_\_\_

Sustained Yield (Metered) \_\_\_\_\_

Final Pumping Water Level \_\_\_\_\_

# PUMP INSTALLATION REPORT

Pump Make Alt motor

Type Wind mill

Powered by Wind HP —

Pump Serial No. —

Motor Serial No. —

Date Installed 10-1-81

Pump Intake Depth 189

Remarks —

## WELL TEST DATA WITH PERMANENT PUMP

Date Tested None

Static Water Level Prior to Test 180'

Length of Test — Hours

Sustained yield (Metered) — GPM

Pumping Water Level —

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 [Signature] License No. —

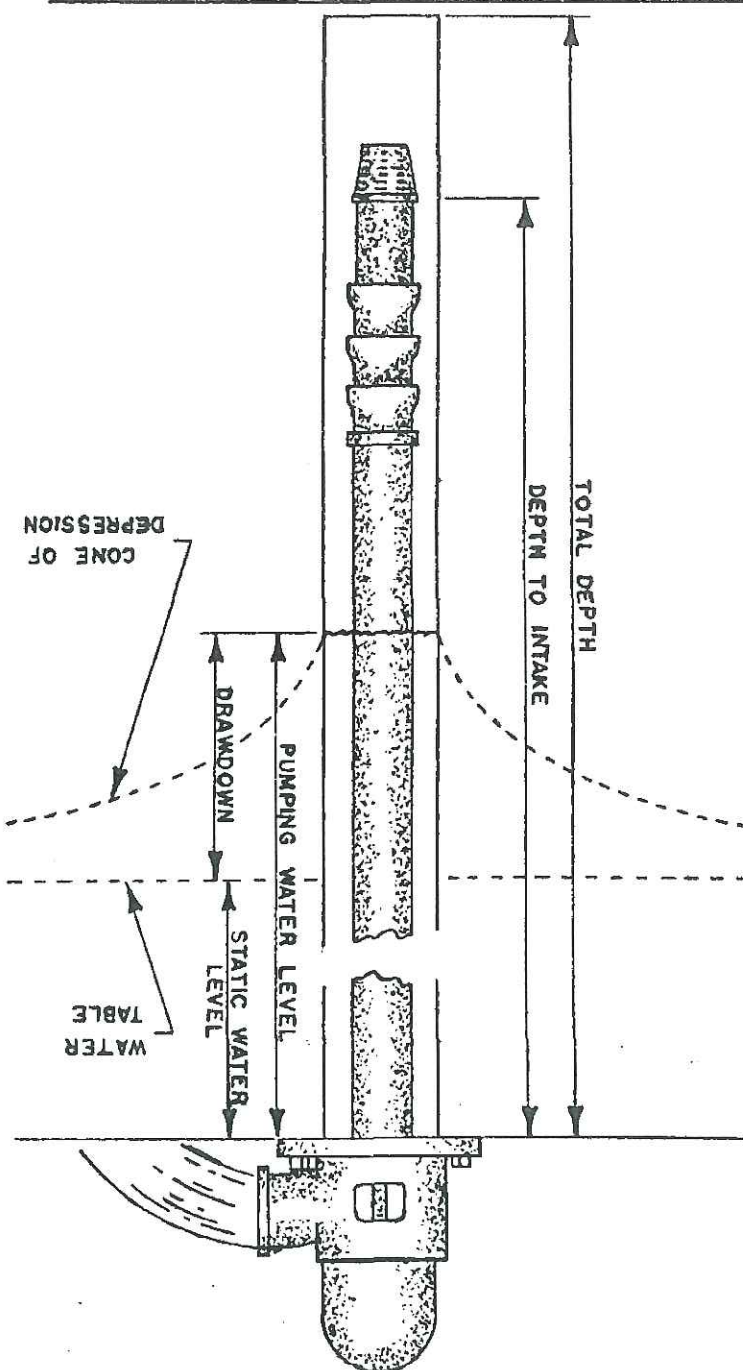
State of Colorado, County of McF59T SS —

Subscribed and sworn to before me this 28 day of Sept., 1982.

My Commission expires: Jan 22, 1983

Notary Public [Signature]

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.



COLORADO DIVISION OF WATER RESOURCES

818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203

PERMIT APPLICATION FORM

FOR: ☒ A PERMIT TO USE GROUND WATER  
☐ A PERMIT TO CONSTRUCT A WELL  
☐ A PERMIT TO INSTALL A PUMP

( ) REPLACEMENT FOR NO.

( ) OTHER WATER COURT CASE NO.

RECEIVED

APR 01 1981

WATER RESOURCES  
 STATE ENGINEER

2000

FOR OFFICE USE ONLY: DO NOT WRITE IN THIS COLUMN

Receipt No.

06504

Basin

Dist.

CONDITIONS OF APPROVAL

This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of the permit does not assure the applicant that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.

APPROVED PURSUANT TO CRS 1973, 37-92-602 (3)(b)(ii) AS THE ONLY WELL ON A TRACT OF 35 ACRES OR MORE DESIGNATED AS 40 ACRES IN 5th NE 1/4, Sec. 4, T. 25, R. 102W, 6 P.M.

APPROVED FOR DOMESTIC USE, INCLUDING THE IRRIGATION OF NOT OVER ONE ACRE OF HOME GARDENS AND LAWNS.

APPLICATION APPROVED

PERMIT NUMBER

119506

DATE ISSUED

APR 29 1981

EXPIRATION DATE

APR 29 1983

(STATE ENGINEER)

Assistant

I.D. 6-43

COUNTY 52

(1) APPLICANT - mailing address

NAME Bureau of Land Management

STREET Box 248, 453 E. Harrison St.

CITY Craig Colorado

(State) (zip)

TELEPHONE NO. 824-4317

(2) LOCATION OF PROPOSED WELL

County Rio Blanco

SW 1/4 of the NE 1/4, Section 6

Twp. 2 S, Rng. 102 W, P.M. 6

(3) WATER USE AND WELL DATA

Proposed maximum pumping rate (gpm) 15

Average annual amount of ground water to be appropriated (acre-feet) 1

Number of acres to be irrigated: None

Proposed total depth (feet): 204

Aquifer ground water is to be obtained from:

Mesa Verde

Owner's well designation Horse Draw Well #2

GROUND WATER TO BE USED FOR:

- ( ) HOUSEHOLD USE ONLY - no irrigation (0)
- ( ) DOMESTIC (1)
- ( ) LIVESTOCK (2)
- ( ) IRRIGATION (6)
- ( ) COMMERCIAL (4)
- ( ) MUNICIPAL (8)
- ( ) OTHER (9) Wildlife, Recreation, etc.

DETAIL THE USE ON BACK IN (11)

(4) DRILLER

Name Unknown - Existing Hole

Street

City

(State)

(zip)

Telephone No.

Lic. No.



SIGNATURE OF APPLICANT

APPLICANT'S ADDRESS

(13) THE APPLICANT(S) STATE(S) THAT THE INFORMATION SET FORTH HEREON IS TRUE TO THE BEST OF HIS KNOWLEDGE.

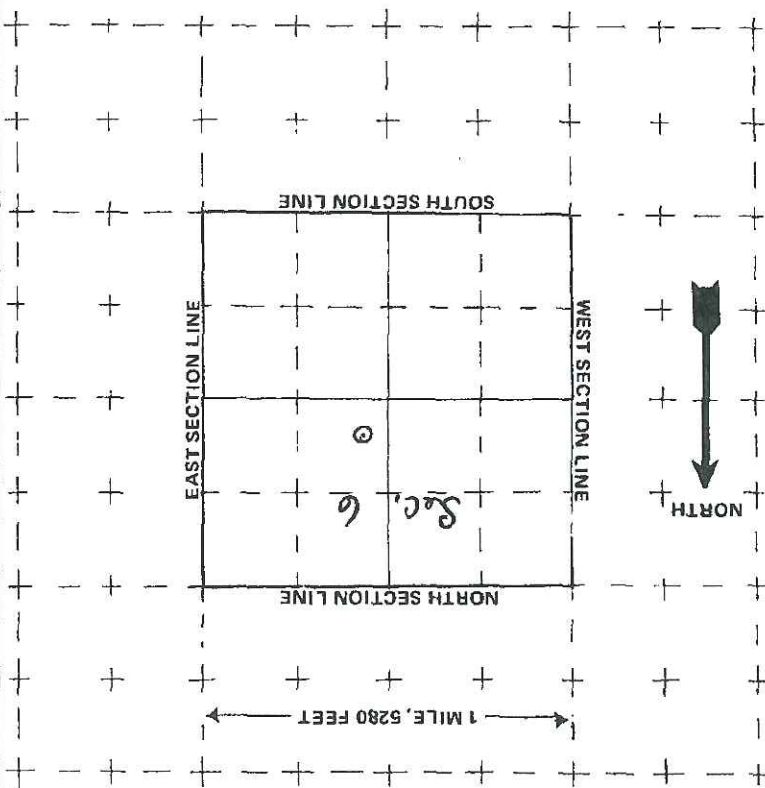
(12) OTHER WATER RIGHTS used on this land, including wells. Give Registration and Water Court Case Numbers.  
Type or right  
Used for (purpose)  
Description of land on which used

(11) DETAILED DESCRIPTION of the use of ground water: Household use and domestic wells must indicate type of disposal system to be used.  
Livestock, wildlife, Recreation, Fire

(10) LAND ON WHICH GROUND WATER WILL BE USED:  
Owner(s): Bureau of Land Management  
Legal description: T2S, R102W, S.6 SWNE  
No. of acres: 40

WATER EQUIVALENTS TABLE (Rounded Figures)  
An acre-foot covers 1 acre of land 1 foot deep  
1 cubic foot per second (cfs) ... 449 gallons per minute (gpm)  
A family of 5 will require approximately 1 acre-foot of water per year.  
1 acre-foot ... 43,560 cubic feet ... 325,900 gallons.  
1,000 gpm pumped continuously for one day produces 4.42 acre-feet.

The scale of the diagram is 2 inches = 1 mile  
Each small square represents 40 acres.



(5) THE LOCATION OF THE PROPOSED WELL and the area on which the water will be used must be indicated on the diagram below. Use the CENTER SECTION (1 section, 640 acres) for the well location.

(6) THE WELL MUST BE LOCATED BELOW by distances from section lines.  
ft. from North sec. line 2100  
ft. from East sec. line 2500  
LOT BLOCK FILING #  
SUBDIVISION SWNE  
(7) TRACT ON WHICH WELL WILL BE LOCATED  
Owner: Bureau of Land Mgt.  
No. of acres 40  
Will this be the only well on this tract? Yes  
(8) PROPOSED CASING PROGRAM  
Plain Casing 5 3/4 in. from 0 ft. to 90 ft.  
Perforated casing in. from ft. to ft.  
None in. from ft. to ft.  
(9) FOR REPLACEMENT WELLS give distance and direction from old well and plans for plugging it:  
ft. from ft. to ft.



Save Energy and You Serve America!

Acting District Manager

*David E. May*

Sincerely,

1. Horse Draw Well #2

Water Well

"The United States of America, through the Bureau of Land Management, is applying to the Office of the Colorado State Engineer for this application only as a voluntary compliance with State law. This application is not, nor should it be construed as, acknowledgement of any right or power of the Colorado State Engineer to limit or in any manner affect the right of the United States to fully develop and utilize the surface or underground water resources located on its property. Additionally, this application is not, nor should it be construed as waiver of any of the reserved rights of the United States."

Dear Sir:

Colorado Division of Water Resources  
1313 Sherman Street, Room 818  
Denver, Colorado 80203



BUREAU OF LAND MANAGEMENT

CRAIG DISTRICT OFFICE  
455 EMERSON STREET  
P.O. BOX 248  
CRAIG, COLORADO 81625

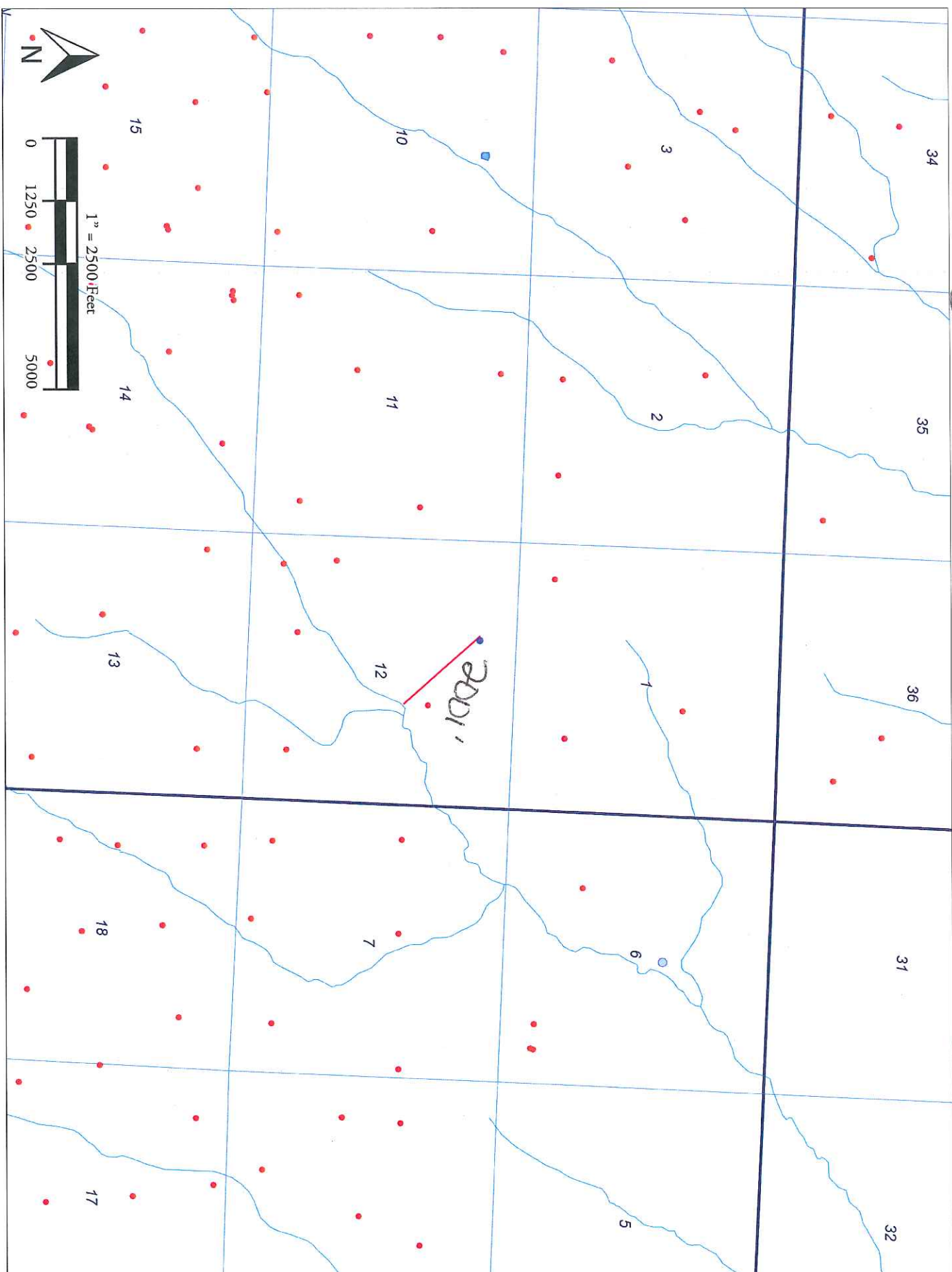
MAR 27 1981

RECEIVED  
APR 01 1981  
WATER RESOURCES  
STATE ENGINEER  
COLO.

United States Department of the Interior

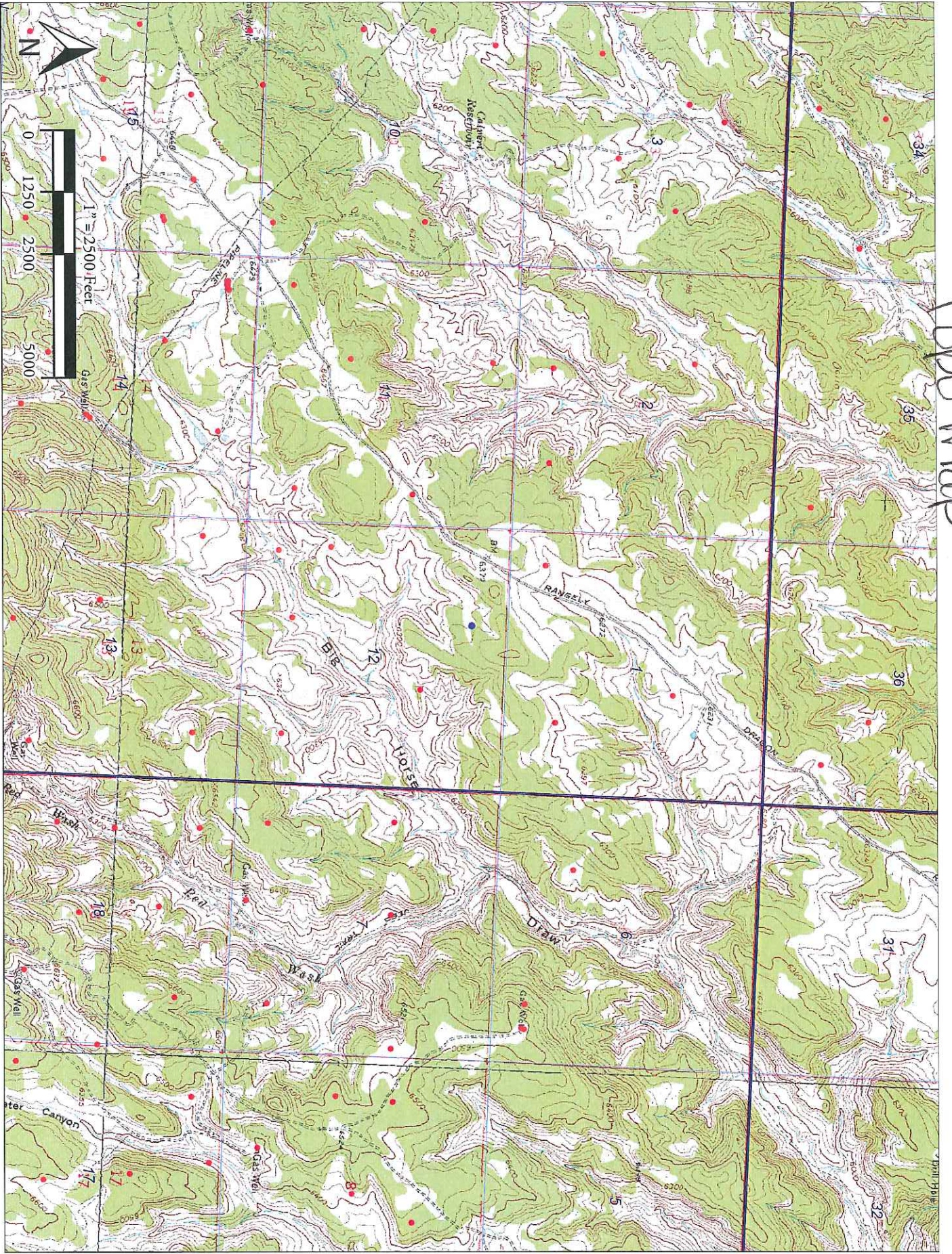
IN REPLY REFER TO 7250.1 (140)

# Distance to water





topo map





Spill Map: Tentsac-Majersn-Rock outcrop

