

R. T. HICKS CONSULTANTS, LTD.

901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Fax: 505.266-0745

September 25, 2014

Dr. Tomáš Oberding
NMOCD District 1
1625 French Drive
Hobbs, NM 88240
Via E-Mail

RE: Temporary Pit Closure Report
Jackson Jackson Unit #15H, API #30-025-41086
Unit C, Section 15, T24S, R33E, Lea County

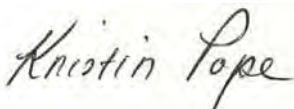
Dear Dr. Oberding:

On behalf of Murchison Oil and Gas, R.T. Hicks Consultants submits this closure report for the above-referenced temporary pit in accordance with the approved C-144 closure plan. This report includes the following information listed in Part 21 of the C-144 form:

Requirements	Location in this Submission
Proof of Closure Notice (to surface owner and Division)	Attachment 1
Proof of Deed Notice (on-site closure on private land only)	Not applicable; State Land (no deed)
Plot Plan, C-105 form (for on-site closures and temporary pits)	Attachment 2
Confirmation Sampling Analytical Results	Not applicable
Waste Material Sampling Analytical Results (required for on-site closure)	Attachment 3
Disposal Facility Name and Permit Number	Not applicable; on-site closure
Soil Backfilling and Cover Installation	Attachment 4
Re-vegetation Application Rates and Seeding Technique	Attachment 5
Site Reclamation (photo documentation)	To follow
Updated C-144 form	Attachment 6

R.T. Hicks Consultants will notify NMOCD and provide photo-documentation when re-vegetation obligations described in subsection H of 19.15.17.13 NMAC are met.

Sincerely,
R.T. Hicks Consultants



Kristin Pope
Project Geologist

Copy: Murchison Oil and Gas
NM State Land Office, Ed Martin

ATTACHMENT 1

R. T. HICKS CONSULTANTS, LTD.

901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Fax: 505.266-0745

June 6, 2014

Mr. Geoffrey Leking
NMOCD District 1
1625 French Drive
Hobbs, New Mexico 88240
Via Email

RE: Murchison – Jackson Unit 15H Temporary Pit
In-place Burial Notice
Unit C, Section 15, T24S, R33E, API #30-025-41086

Dear Mr. Leking:

On behalf of Murchison Oil and Gas, R. T. Hicks Consultants is providing this closure notice to NMOCD with a copy to the State Land Office (certified, return receipt request). The above- referenced pit will begin closure operations on **Thursday, June 12, 2014**. Depending on equipment availability, the closure process should require about two weeks.

In conformance with the 2013 Pit Rule, a five-point (minimum) composite sample that is fully representative of the solids in the pit was recovered on April 2, 2014 and stabilized with the available mixing soil at a 3:1 ratio¹.

As shown in the summary table below, laboratory analyses of the stabilized cuttings composite demonstrate that the concentrations of the parameters listed in Table II of 19.15.17.13 NMAC (June 2013 Pit Rule) are below the limits that allow in-place burial of the stabilized cuttings.

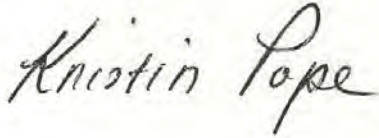
3:1 Stabilized Cuttings Sample		
Constituent	Table II Limit (GW>100')	4/2/14 Sample
Chloride	80,000 mg/kg	8,300
TPH	2,500 mg/kg	1,500
GRO+DRO	1,000 mg/kg	912
BTEX	50 mg/kg	5.19
Benzene	10 mg/kg	0.19

¹ (5) The operator shall collect, at a minimum, a five point composite of the contents of the temporary pit or drying pad/tank associated with a closed-loop system to demonstrate that, after the waste is solidified or stabilized with soil or other non-waste material at a ratio of no more than 3:1 soil or other non-waste material to waste, the concentration of any contaminant in the stabilized waste is not higher than the parameters in Table II of 19.15.17.13 NMAC.

I will follow up this notice to you with a phone call as required by the Pit Rule. Additionally, NMOCD will be notified prior to the installation of the geomembrane cover over the stabilized cuttings. As always, we appreciate your work to keep us on schedule.

Sincerely,

R.T. Hicks Consultants

A handwritten signature in cursive script that reads "Kristin Pope". The signature is written in dark ink on a light-colored background.

Kristin Pope

Enclosure: Laboratory analyses

Copy: Murchison Oil and Gas

Terry Warnell, State Land Office
New Mexico State Land Office
PO Box 1148
Santa Fe, NM 87504-1148
CERTIFIED MAIL – RETURN RECIEPT REQUEST



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

April 22, 2014

Kristin Pope

R.T. Hicks Consultants, LTD

901 Rio Grande Blvd. NW

Suite F-142

Albuquerque, NM 87104

TEL: (505) 266-5004

FAX (505) 266-0745

RE: Murchison Jackson Unit 15H

OrderNo.: 1404303

Dear Kristin Pope:

Hall Environmental Analysis Laboratory received 1 sample(s) on 4/4/2014 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1404303**Date Reported: **4/22/2014****CLIENT:** R.T. Hicks Consultants, LTD**Client Sample ID:** Field 3:1 Stabilized Cuttings**Project:** Murchison Jackson Unit 15H**Collection Date:** 4/2/2014 11:55:00 AM**Lab ID:** 1404303-001**Matrix:** SOIL**Received Date:** 4/4/2014 12:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS					Analyst: BCN		
Diesel Range Organics (DRO)	860	99		mg/Kg	10	4/14/2014 1:01:42 PM	12586
Motor Oil Range Organics (MRO)	ND	500		mg/Kg	10	4/14/2014 1:01:42 PM	12586
Surr: DNOP	0	66-131	S	%REC	10	4/14/2014 1:01:42 PM	12586
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA		
Gasoline Range Organics (GRO)	52	10		mg/Kg	2	4/15/2014 3:58:46 PM	12617
Surr: BFB	159	74.5-129	S	%REC	2	4/15/2014 3:58:46 PM	12617
EPA METHOD 8021B: VOLATILES					Analyst: RAA		
Methyl tert-butyl ether (MTBE)	ND	0.20		mg/Kg	2	4/12/2014 12:41:49 AM	12617
Benzene	0.19	0.10		mg/Kg	2	4/12/2014 12:41:49 AM	12617
Toluene	1.4	0.10		mg/Kg	2	4/12/2014 12:41:49 AM	12617
Ethylbenzene	0.60	0.10		mg/Kg	2	4/12/2014 12:41:49 AM	12617
Xylenes, Total	3.0	0.20		mg/Kg	2	4/12/2014 12:41:49 AM	12617
Surr: 4-Bromofluorobenzene	117	80-120		%REC	2	4/12/2014 12:41:49 AM	12617
EPA METHOD 300.0: ANIONS					Analyst: JRR		
Chloride	8300	690		mg/Kg	500	4/10/2014 12:49:37 PM	12646
EPA METHOD 418.1: TPH					Analyst: JME		
Petroleum Hydrocarbons, TR	1500	200		mg/Kg	10	4/11/2014 12:00:00 PM	12560

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1404303

22-Apr-14

Client: R.T. Hicks Consultants, LTD

Project: Murchison Jackson Unit 15H

Sample ID	MB-12646	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	12646	RunNo:	17936					
Prep Date:	4/10/2014	Analysis Date:	4/10/2014	SeqNo:	517496	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-12646	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	12646	RunNo:	17936					
Prep Date:	4/10/2014	Analysis Date:	4/10/2014	SeqNo:	517497	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.6	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1404303

22-Apr-14

Client: R.T. Hicks Consultants, LTD

Project: Murchison Jackson Unit 15H

Sample ID	MB-12560		SampType:	MBLK		TestCode:	EPA Method 418.1: TPH				
Client ID:	PBS		Batch ID:	12560		RunNo:	17911				
Prep Date:	4/7/2014		Analysis Date:	4/10/2014		SeqNo:	516689		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Petroleum Hydrocarbons, TR	ND	20									

Sample ID	LCS-12560		SampType: LCS		TestCode: EPA Method 418.1: TPH					
Client ID:	LCSS		Batch ID: 12560		RunNo: 17911					
Prep Date:	4/7/2014		Analysis Date: 4/10/2014		SeqNo: 516690		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	98	20	100.0	0	97.8	80	120			

Sample ID	LCSD-12560			SampType:	LCSD		TestCode:	EPA Method 418.1: TPH			
Client ID:	LCSS02			Batch ID:	12560		RunNo:	17911			
Prep Date:	4/7/2014			Analysis Date:	4/10/2014		SeqNo:	516691		Units:	mg/Kg
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Petroleum Hydrocarbons, TR	98	20	100.0	0	97.8	80	120	0	20		

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1404303

22-Apr-14

Client: R.T. Hicks Consultants, LTD

Project: Murchison Jackson Unit 15H

Sample ID	MB-12586		SampType: MBLK		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 12586		RunNo: 17898					
Prep Date:	4/8/2014		Analysis Date: 4/10/2014		SeqNo: 516454		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.1		10.00		80.6	66	131			

Sample ID	LCS-12586		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 12586		RunNo: 17898					
Prep Date:	4/8/2014		Analysis Date: 4/10/2014		SeqNo: 516498		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	59	10	50.00	0	118	60.8	145			
Surr: DNOP	5.4		5.000		109	66	131			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1404303

22-Apr-14

Client: R.T. Hicks Consultants, LTD

Project: Murchison Jackson Unit 15H

Sample ID	MB-12617		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 12617		RunNo: 17906					
Prep Date:	4/9/2014		Analysis Date: 4/10/2014		SeqNo: 517113		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	860		1000		86.4	74.5	129			

Sample ID	LCS-12617		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 12617		RunNo: 17906					
Prep Date:	4/9/2014		Analysis Date: 4/10/2014		SeqNo: 517114		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	96.7	71.7	134			
Surr: BFB	930		1000		92.8	74.5	129			

Sample ID	LCSD-12617		SampType: LCSD		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS02		Batch ID: 12617		RunNo: 17906					
Prep Date:	4/9/2014		Analysis Date: 4/10/2014		SeqNo: 517115		Units: %REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	910							0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1404303

22-Apr-14

Client: R.T. Hicks Consultants, LTD

Project: Murchison Jackson Unit 15H

Sample ID	MB-12617		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 12617		RunNo: 17906					
Prep Date:	4/9/2014		Analysis Date: 4/10/2014		SeqNo: 517158		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID	LCS-12617		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 12617		RunNo: 17906					
Prep Date:	4/9/2014		Analysis Date: 4/10/2014		SeqNo: 517159		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.97	0.10	1.000	0	97.2	64.5	131			
Benzene	1.1	0.050	1.000	0	106	80	120			
Toluene	1.0	0.050	1.000	0	100	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.5	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Sample ID	LCSD-12617		SampType: LCSD		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS02		Batch ID: 12617		RunNo: 17906					
Prep Date:	4/9/2014		Analysis Date: 4/10/2014		SeqNo: 517160		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	1.1	0.10	1.000	0	109	64.5	131	11.5	20	
Benzene	1.1	0.050	1.000	0	108	80	120	1.95	20	
Toluene	1.0	0.050	1.000	0	101	80	120	0.387	20	
Ethylbenzene	1.0	0.050	1.000	0	101	80	120	0.405	20	
Xylenes, Total	3.0	0.10	3.000	0	100	80	120	0.614	20	
Surr: 4-Bromofluorobenzene	1.1		1.000		111	80	120	0		

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: RT HICKS

Work Order Number: 1404303

RcptNo: 1

Received by/date:

AF 04/04/14

Logged By: Anne Thorne

4/4/2014 12:20:00 PM

Anne Thorne

Completed By: Anne Thorne

4/8/2014

Anne Thorne

Reviewed By:

[Signature]

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Client

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH: _____
(<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.5	Good	Not Present			

Validation/Consent/Receipt

Client: R.T. Hicks Consultants

Mailing Address:

Albuquerque, NM

Phone # (505) 266-5004

email or Fax#: R@rthickconsult.com

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

☐ Other _____

☐ EDD (Type) _____

☒ Standard ☐ Rush

Project Name: Murchison -

Jackson Unit #5 H

Project #:

Project Manager:

Kristin Pope

Sampler: RTH

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.5

Date Time

4/2/14

Sample Request ID

AK

Field Soil Stabilized Cuttings glass

Container Type and #

8oz

Preservative Type

Ice

HEAL No.

1404303

2001

Analysis Request

☒ BTEX + MTBE + TMBs (8021)

☒ BTEX + MTBE (Gas only)

☒ TPH 8015B (GRO / DRO / MRO)

☒ TPH (Method 418.1)

☒ EDB (Method 504.1)

☒ PAH (8310 or 8270SIMS)

☒ RCRA 8 Metals

☒ Anions (F⁻, Cl⁻, NO₃⁻, NO₂⁻, PO₄⁻, SO₄⁻)

☒ 8081 Pesticides / 8082 PCB's

☒ 8260B (VOA)

☒ 8270 (Semi-VOA)

100 GRAMS

Remarks:

Email to

R@rthickconsult.com

and

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly noted on the analytical report.

CLOSURE NOTICE: Murchison - Jackson 15H

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

State Land Office
Terry Warnell
PO Box 1148
Santa Fe, NM 87504-1148

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent

☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes

If YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail

☐ Express Mail

☐ Registered

☒ Return Receipt for Merchandise

☐ Insured Mail

☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

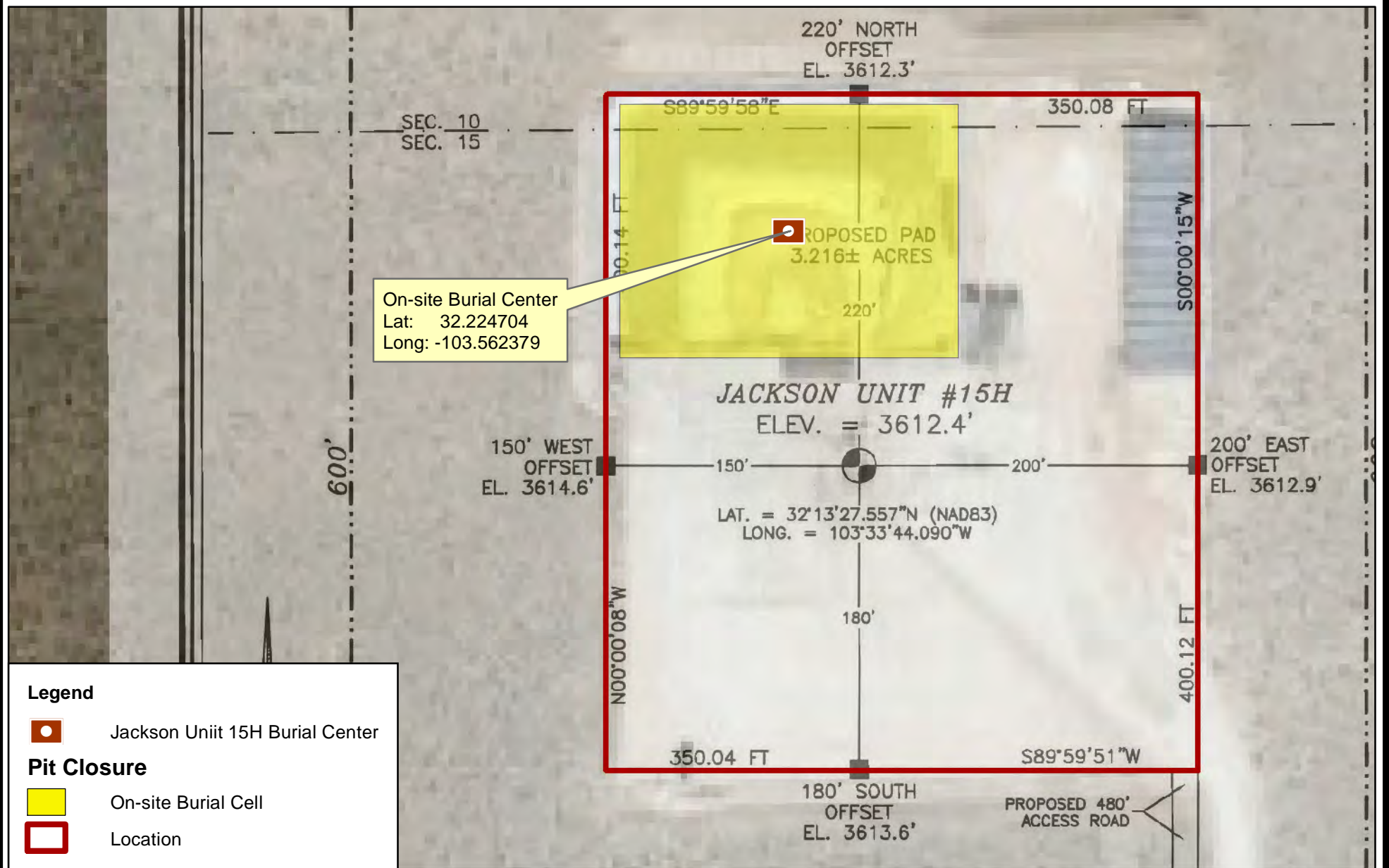
2. Article Number

(Transfer from service lab)

7008 0150 0001 8844 7395

ATTACHMENT 2

Submit To Appropriate District Office Two Copies <u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 <u>District II</u> 811 S. First St., Artesia, NM 88210 <u>District III</u> 1000 Rio Brazos Rd., Aztec, NM 87410 <u>District IV</u> 1220 S. St. Francis Dr., Santa Fe, NM 87505		State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505				Form C-105 Revised August 1, 2011				
WELL COMPLETION OR RECOMPLETION REPORT AND LOG										
4. Reason for filing: <input type="checkbox"/> COMPLETION REPORT (Fill in boxes #1 through #31 for State and Fee wells only) <input checked="" type="checkbox"/> C-144 CLOSURE ATTACHMENT (Fill in boxes #1 through #9, #15 Date Rig Released and #32 and/or #33; attach this and the plat to the C-144 closure report in accordance with 19.15.17.13.K NMAC)								5. Lease Name or Unit Agreement Name Jackson Unit 6. Well Number: #15H		
7. Type of Completion: <input checked="" type="checkbox"/> NEW WELL <input type="checkbox"/> WORKOVER <input type="checkbox"/> DEEPENING <input type="checkbox"/> PLUGBACK <input type="checkbox"/> DIFFERENT RESERVOIR <input type="checkbox"/> OTHER _____										
8. Name of Operator MURCHISON OIL & GAS, INC.						9. OGRID 15363				
10. Address of Operator						11. Pool name or Wildcat				
12. Location	Unit Ltr	Section	Township	Range	Lot	Feet from the	N/S Line	Feet from the	E/W Line	County
Surface:										
BH:										
13. Date Spudded	14. Date T.D. Reached		15. Date Rig Released 1/24/2014			16. Date Completed (Ready to Produce)		17. Elevations (DF and RKB, RT, GR, etc.)		
18. Total Measured Depth of Well			19. Plug Back Measured Depth			20. Was Directional Survey Made?		21. Type Electric and Other Logs Run		
22. Producing Interval(s), of this completion - Top, Bottom, Name										
23. CASING RECORD (Report all strings set in well)										
CASING SIZE		WEIGHT LB./FT.		DEPTH SET		HOLE SIZE		CEMENTING RECORD		AMOUNT PULLED
24. LINER RECORD						25. TUBING RECORD				
SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	SIZE	DEPTH SET	PACKER SET			
26. Perforation record (interval, size, and number)						27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.				
						DEPTH INTERVAL		AMOUNT AND KIND MATERIAL USED		
28. PRODUCTION										
Date First Production		Production Method (<i>Flowing, gas lift, pumping - Size and type pump</i>)				Well Status (<i>Prod. or Shut-in</i>)				
Date of Test	Hours Tested	Choke Size	Prod'n For Test Period	Oil - Bbl	Gas - MCF	Water - Bbl.	Gas - Oil Ratio			
Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API - (<i>Corr.</i>)				
29. Disposition of Gas (<i>Sold, used for fuel, vented, etc.</i>)								30. Test Witnessed By		
31. List Attachments										
32. If a temporary pit was used at the well, attach a plat with the location of the temporary pit. PLATE 1 ATTACHED										
33. If an on-site burial was used at the well, report the exact location of the on-site burial:										
Latitude N 32.224704° Longitude W 103.562379° NAD 1927 1983										
<i>I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief</i>										
Signature				Printed Name	KRISTIN POPE	Title	PROJECT GEOLOGIST, AGENT FOR MURCHISON		Date	9/25/2014
E-mail Address kristin@rthicksconsult.com										



Legend



Jackson Unit 15H Burial Center

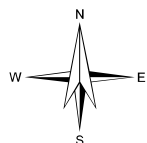
Pit Closure



On-site Burial Cell



Location



0 40 80
Feet

R.T. Hicks Consultants, Ltd
901 Rio Grande Blvd NW Suite F-142
Albuquerque, NM 87104
Ph: 505.266.5004

On-site Burial Location of Temporary Pit
in relation to well pad

Murchison Oil & Gas
Jackson Unit #15H

Plate 1
C-105 form

September
2014

ATTACHMENT 3

Waste Material Sampling Analytical Results

On April 2, 2013, an 8-point composite sample was collected from the temporary pit location and stabilized in a 3:1 ratio using 3 parts available mixing material from the berms of the pit below the liner. The stabilized composite sample was submitted to Hall Environmental Analysis Laboratory in Albuquerque for BTEX (8260B), GRO/GRO (8015M), TPH (418.1), and Chloride (SM4500) analyses.



Sampling discharge side of outer cell

The table below depicts the stabilized sample and concentrations of the parameters listed in Table II of 19.15.17.13

NMAC (June 2013 Pit Rule). These analyses demonstrate that this site meets the criteria for in-place burial closure. The complete laboratory report is included in Attachment 1 of this report as part of the notice of in-place closure.

3:1 Stabilized Cuttings Sample		
Constituent	Table II Limit (GW>100')	4/2/14 Sample
Chloride	80,000 mg/kg	8,300
TPH	2,500 mg/kg	1,500
GRO+DRO	1,000 mg/kg	912
BTEX	50 mg/kg	5.19
Benzene	10 mg/kg	0.19

ATTACHMENT 4

SOIL BACKFILLING & COVER INSTALLATION

In accordance with the requirements listed in paragraph D of 19.15.17.13 NMAC, the operator employed the following steps for in-place burial of the waste material from the temporary pit:

1. Siting criteria and operations of the pit complied with the C-144 application and the Pit Rule under which it was submitted to the NMOCD on November 5, 2013 and approved on November 25, 2013. After the rig was released on January 24, 2014, fluid contents in the pit were removed to be recycled for the drilling of other wells while the cuttings were allowed to dry.
2. On April 2, 2014, prior to the initiation of closure activities, samples of the inner and outer cells and clean soil from the berms of the pit below the liner were recovered from the pit. A weighted composite of the inner and outer cells of the pit were mixed in a ratio of 3 parts clean soil to 1 part pit cuttings and were analyzed for Chloride, TPH, GRO, DRO, MRO, Benzene, and BTEX at Hall Environmental Analysis Laboratory of Albuquerque. The results, as noted in the subsequent closure notice and Attachment 3 of this report, demonstrated that the stabilized pit contents would not exceed the parameter limits listed in Table II of the Pit Rule.
3. A closure notice was submitted to the NMOCD, District 1 office in Hobbs and to the State Land Office on June 6, 2014. Verbal notice in the form of a phone call to NMOCD was placed on the same day.
4. On June 12, 2014, closure activities commenced and stabilization of the pit contents was achieved by mixing the pit contents with the dry soil beneath the liner of the pit and from the dividing berms. Stabilization continued until complete on June 25, 2014. On June 26, 2014, a paint filter test was performed by R.T. Hicks Consultants that confirmed that the stabilization process was complete and that the stabilized cuttings were located at least 4 feet below grade.
5. Following the June 26, 2014 inspection, having achieved all applicable stabilization requirements associated with in-place burial, a geomembrane liner was installed to completely cover the stabilized cuttings on July 2, 2014. The pit contents and liner were shaped to shed infiltrating water, slightly higher in the center.
6. Once the geomembrane cover was in place, approximately 4 feet or more of non-waste containing, uncontaminated, earthen material and the reserved topsoil were replaced to

Closure Letter Attachment 4
Murchison – Jackson Unit #15H
API #30-025-4086

their relative positions in accordance with Subsection (3) of Paragraph H of 19.15.17.13 NMAC. The soil cover consists of at least four feet of compacted, non-waste containing, earthen material. The uppermost topsoil is equal to the background thickness at least one foot. The surface was contoured to blend with the surrounding topography and to prevent erosion and the ponding of water over the on-site closure. This work was completed on July 5, 2014.



Beginning stabilization 6/12/2014



Paint filter test of stabilized cuttings 6/26/2014



Stabilization complete 6/26/2014



Installing geomembrane cover 7/2/2014

ATTACHMENT 5

RE-VEGETATION PROCEDURES

There were no roads or surface drainage features nearby that required restoration or preservation.

1. On August 1, 2014, Morgan Tools of Artesia seeded the topsoil of the on-site burial area using a seed drill pulled by a tractor that prepared the seedbed in the same pass using discs. The seed furrows were oriented perpendicular to the prevailing westerly wind to minimize erosion.
2. Approximately 48 pounds of a seed mixture consisting of 50% BLM #2 seed blend and 50% Homesteader's Choice blend was applied to approximately 1 acre of disturbance in accordance with the supplier's instructions to the former temporary pit area. Species constituents of each blend are listed below and are appropriate for the soil type and conditions at this site. Note that Plains Bristlegrass, a majority component of the BLM #2 assortment, was unavailable so appropriate substitute species approved by the BLM were used.

BLM #2

Sideoats Grama
Little Bluestem
Sand Dropseed
Indian Ricegrass
Plains Coreopsis

Homesteader's Choice

Blue Grama
Buffalograss
Sideoats Grama
Western Wheatgrass
Sand Dropseed

3. The seeded area will be monitored for growth and the operator will repeat seeding until a successful vegetative cover is achieved as outlined in Subsection (5) of Paragraph H of 19.15.17.13 NMAC.
4. If conditions are not favorable for the establishment of vegetation, such as periods of drought, the operator may request that the division allow a delay in additional seeding until soil moisture conditions become favorable. The operator will notify the division and provide photo-documentation when it successful re-vegetation is achieved.

Closure Letter Attachment 5
Murchison – Jackson Unit #15H
API #30-025-41086

Curtis & Curtis, Inc.
4000 North Prince
Clavis, NM 88130
Phone: (505) 762-4759

Lot#: 18260

Homesteader's Choice

Item	Origin	Purity	Germ	Dormant	Germ & Dormant	Test Date
Blue Grama	Texas	23.02%	68.00%	22.00%	90.00%	03/13
Hachita	Texas	11.63%	79.00%	15.00%	94.00%	03/13
Sideouts Grama	Idaho	15.96%	71.00%	16.00%	87.00%	04/13
Yanagin	Washington	4.99%	65.00%	23.00%	88.00%	04/13
Western Wheatgrass	Texas	29.90%	77.00%	7.00%	84.00%	06/13
Arriba						
Sand Dropseed						
VNS						
Buffalograss						
Texas						
Other Crop:		0.05%				
Weed Seed:		0.56%				
Inert Matter:		13.89%				
Noxious:		None				

There Are 8 Bags For This Mix
This Bag Weighs 20.00 Bulk Pounds
Use This Bag For 1 Acres

Total Bulk Pounds: 160

Homesteader's Choice seed mixture

Curtis & Curtis, Inc.
4000 North Prince
Clavis, NM 88130
Phone: (505) 762-4759

Morgan Tool Co.
5 Acre BLM #2, Drilled Rate
5 - 1 Acre Bags @ 14.84 Bulk Pounds Each

Lot#: M-11876

Item	Origin	Purity	Germ	Dormant	Germ & Dormant	Test Date	Total PLS Pounds
Sand Dropseed	Colorado	13.75%	2.00%	96.00%	98.00%	03/13	10.00
VNS	Minnesota	21.28%	50.00%	45.00%	95.00%	03/13	15.00
Little Bluestem	Idaho	15.85%	85.00%	0.00%	85.00%	08/13	10.00
Coreopsis	Texas	22.97%	83.00%	5.00%	88.00%	06/13	15.00
Sideouts Grama	Colorado	14.65%	2.00%	90.00%	92.00%	10/13	10.00
Niner							
Indian Ricegrass							
Paloma							
Other Crop:		0.07%					
Weed Seed:		0.07%					
Inert Matter:		11.36%					

There Are 5 Bags For This Mix
This Bag Weighs 14.84 Bulk Pounds
Use This Bag For 1 Acres

Total Bulk Pounds: 74

BLM #2 seed mixture



Steel marker plate placed on surface of on-site burial
8/19/2014



Emerging grass 18 days after seeding
8/19/2014

ATTACHMENT 6

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

HOBBS OCD

NOV 07 2013

RECEIVED

State of New Mexico
Energy Minerals and Natural Resources
Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
Revised June 6, 2013

For temporary pits, below-grade tanks, and multi-well fluid management pits, submit to the appropriate NMOCD District Office.
For permanent pits submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

Pit, Below-Grade Tank, or
Proposed Alternative Method Permit or Closure Plan Application

Type of action: ☐ Below grade tank registration
☒ Permit of a pit or proposed alternative method
☒ Closure of a pit, below-grade tank, or proposed alternative method
☒ Modification to an existing permit/or registration
☐ Closure plan only submitted for an existing permitted or non-permitted pit, below-grade tank, or proposed alternative method

Instructions: Please submit one application (Form C-144) per individual pit, below-grade tank or alternative request

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.
Operator: Murchison Oil & Gas, Inc. OGRID #: 15363
Address: 1100 Mira Vista Blvd., Plano, TX 75093-4698
Facility or well name: Jackson Unit No. 15H
API Number: 30-025-41086 OCD Permit Number: PI-05980
U/L or Qtr/Qtr C Section 15 Township 24S Range 33E County: Lea
Center of Proposed Design: Latitude 32° 13' 27.557" N Longitude 103° 34' 44.090" W NAD: ☐ 1927 ☒ 1983
Surface Owner: ☐ Federal ☒ State ☐ Private ☐ Tribal Trust or Indian Allotment

2.
☒ **Pit:** Subsection F, G or J of 19.15.17.11 NMAC
Temporary: ☒ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A ☐ Multi-Well Fluid Management Low Chloride Drilling Fluid ☐ yes ☒ no
☒ Lined ☐ Unlined Liner type: Thickness 20 mil ☒ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
☒ String-Reinforced
Liner Seams: ☒ Welded ☐ Factory ☐ Other _____ Volume: 23,712 bbl Dimensions: L 150 x W 170 x D 6-10 ft

3.
☐ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC
Volume: _____ bbl Type of fluid: _____
Tank Construction material: _____
☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other _____
Liner type: Thickness _____ mil ☐ HDPE ☐ PVC ☐ Other _____

4.
☐ **Alternative Method:**
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

5.
Fencing: Subsection D of 19.15.17.11 NMAC (Applies to permanent pits, temporary pits, and below-grade tanks)
☐ Chain link, six feet in height, two strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school, hospital, institution or church)
☒ Four foot height, four strands of barbed wire evenly spaced between one and four feet
☐ Alternate. Please specify _____

6.

Netting: Subsection E of 19.15.17.11 NMAC (*Applies to permanent pits and permanent open top tanks*)

☐ Screen ☐ Netting ☐ Other _____

☐ Monthly inspections (If netting or screening is not physically feasible)

7.

Signs: Subsection C of 19.15.17.11 NMAC

☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

☒ Signed in compliance with 19.15.16.8 NMAC

8.

Variances and Exceptions:

Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

Please check a box if one or more of the following is requested, if not leave blank:

☐ Variance(s): Requests must be submitted to the appropriate division district for consideration of approval.

☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

9.

Siting Criteria (regarding permitting): 19.15.17.10 NMAC

Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Siting criteria does not apply to drying pads or above-grade tanks.

General siting

Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank.

- ☐ NM Office of the State Engineer - iWATERS database search; ☐ USGS; ☐ Data obtained from nearby wells

☐ Yes ☐ No

☒ NA

Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit.

NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells **See Figures 1 & 2**

☐ Yes ☒ No

☐ NA

Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. **(Does not apply to below grade tanks) See Figure 5**

- Written confirmation or verification from the municipality; Written approval obtained from the municipality

☐ Yes ☒ No

Within the area overlying a subsurface mine. **(Does not apply to below grade tanks) See Figure 7**

- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division

☐ Yes ☒ No

Within an unstable area. **(Does not apply to below grade tanks) See Figure 8**

- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map

☐ Yes ☒ No

Within a 100-year floodplain. **(Does not apply to below grade tanks) See Figure 9**

- FEMA map

☐ Yes ☒ No

Below Grade Tanks

Within 100 feet of a continuously flowing watercourse, significant watercourse, lake bed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark).

- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption.

- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Temporary Pit using Low Chloride Drilling Fluid (maximum chloride content 15,000 mg/liter)

Within 100 feet of a continuously flowing watercourse, or any other significant watercourse or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). (Applies to low chloride temporary pits.)

- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 300 feet from a occupied permanent residence, school, hospital, institution, or church in existence at the time of initial application.

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

☐ Yes ☐ No

Within 200 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 300feet of any other fresh water well or spring, in existence at the time of the initial application.

NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 100 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Temporary Pit Non-low chloride drilling fluid

Within 300 feet of a continuously flowing watercourse, or any other significant watercourse, or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). **See Figure 3**

- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☒ No

Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image. **See Figure 4**

☐ Yes ☒ No

Within 500 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 1000 feet of any other fresh water well or spring, in the existence at the time of the initial application;

- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

☐ Yes ☒ No

See Figures 1 & 2

Within 300 feet of a wetland. **See Figure 6**

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☒ No

Permanent Pit or Multi-Well Fluid Management Pit

Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

☐ Yes ☐ No

Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application.

- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 500 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

10.

Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- ☒ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC
- ☒ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☒ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☒ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☒ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

11.

Multi-Well Fluid Management Pit Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ A List of wells with approved application for permit to drill associated with the pit.
- ☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
- ☐ Hydrogeologic Data - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

12.
Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Climatological Factors Assessment
- ☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Quality Control/Quality Assurance Construction and Installation Plan
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Nuisance or Hazardous Odors, including H₂S, Prevention Plan
- ☐ Emergency Response Plan
- ☐ Oil Field Waste Stream Characterization
- ☐ Monitoring and Inspection Plan
- ☐ Erosion Control Plan
- ☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

13.
Proposed Closure: 19.15.17.13 NMAC

Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

- Type: ☒ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☐ Below-grade Tank ☐ Multi-well Fluid Management Pit
☐ Alternative
- Proposed Closure Method: ☐ Waste Excavation and Removal
☐ Waste Removal (Closed-loop systems only)
☒ On-site Closure Method (Only for temporary pits and closed-loop systems)
☒ In-place Burial ☐ On-site Trench Burial
☐ Alternative Closure Method

14.
Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) **Instructions:** Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- ☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

15.
Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC

Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria require justifications and/or demonstrations of equivalency. Please refer to 19.15.17.10 NMAC for guidance.

- | | |
|---|--|
| Ground water is less than 25 feet below the bottom of the buried waste.
- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input type="checkbox"/> NA |
| Ground water is between 25-50 feet below the bottom of the buried waste
- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input type="checkbox"/> NA |
| Ground water is more than 100 feet below the bottom of the buried waste.
- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> NA |
| Within 100 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).
- Topographic map; Visual inspection (certification) of the proposed site | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.
- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Within 300 horizontal feet of a private, domestic fresh water well or spring used for domestic or stock watering purposes, in existence at the time of initial application.
- NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Written confirmation or verification from the municipality; Written approval obtained from the municipality | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Within 300 feet of a wetland.
US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance | |

adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within a 100-year floodplain. - FEMA map	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

16. **On-Site Closure Plan Checklist:** (19.15.17.13 NMAC) *Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.*

☒ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
☒ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection E of 19.15.17.13 NMAC
☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Subsection K of 19.15.17.11 NMAC
☒ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC
☒ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of 19.15.17.13 NMAC
☒ Waste Material Sampling Plan - based upon the appropriate requirements of 19.15.17.13 NMAC
☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
☒ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
☒ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
☒ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

17. **Operator Application Certification:**

I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): Greg Boans Title: Production Superintendent

Signature: [Signature] Date: November 5, 2013

e-mail address: gboans@jdmii.com Telephone: (575) 361-4962

18. **OCD Approval:** ☒ Permit Application (including closure plan) ☐ Closure Plan (only) ☐ OCD Conditions (see attachment)

OCD Representative Signature: [Signature] Approval Date: 11/25/13

Title: Environmental Specialist OCD Permit Number: P1-65980

19. **Closure Report (required within 60 days of closure completion):** 19.15.17.13 NMAC

Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.

☒ Closure Completion Date: July 5, 2014

20. **Closure Method:**

☐ Waste Excavation and Removal ☒ On-Site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)
☐ If different from approved plan, please explain.

21. **Closure Report Attachment Checklist:** *Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.*

☒ Proof of Closure Notice (surface owner and division)
☐ Proof of Deed Notice (required for on-site closure for private land only) n/a (State Land)
☒ Plot Plan (for on-site closures and temporary pits)
☐ Confirmation Sampling Analytical Results (if applicable) n/a (on-site closure)
☒ Waste Material Sampling Analytical Results (required for on-site closure)
☐ Disposal Facility Name and Permit Number n/a (on-site closure)
☒ Soil Backfilling and Cover Installation
☒ Re-vegetation Application Rates and Seeding Technique
☐ Site Reclamation (Photo Documentation) to follow
 On-site Closure Location: Latitude N 32.224704° Longitude W 103.562379° NAD: ☐ 1927 ☒ 1983

Operator Closure Certification:

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): Kristin Pope Title: Agent for Murchison Oil and Gas, Inc.

Signature:  Date: September 25, 2014

e-mail address: kristin@rthicksconsult.com Telephone: (575) 302-6755