

✓ 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

State of New Mexico  
Energy Minerals and Natural Resources

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

OIL CONS. DIV DIST. 3  
AUG 21 2017

Form C-141  
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

### Release Notification and Corrective Action

#### OPERATOR

☒ Initial Report ☒ Final Report

Name of Company Merrion Oil & Gas Corporation	Contact Philana Thompson	
Address 610 Reilly Ave Farmington, NM 87401	Telephone No. 505-486-1171	
Facility Name Hickman A 3	Facility Type Historical reclamation (well plugged 9/23/2003)	
Surface Owner BLM	Mineral Owner BLM	API No. 30-045-29685

#### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	10	26N	12W	790	South	790	West	San Juan

Latitude 36.4976387 Longitude -108.1052856 NAD83

#### NATURE OF RELEASE

Type of Release Unknown	Volume of Release Unknown	Volume Recovered 12-17 yards
Source of Release Unknown	Date and Hour of Occurrence UK	Date and Hour of Discovery 3/31/16
Was Immediate Notice Given? Unknown (historical reclamation) <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Notified Vanessa Fields 7/10/2017 of the upcoming sampling required by BLM	
By Whom? Philana Thompson	Date and Hour 7/10/2017	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

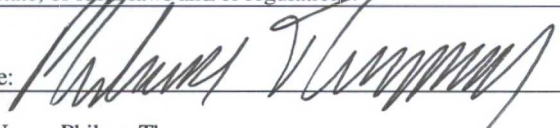

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*  
Historical reclamation. Well was plugged 9/23/2003

Describe Area Affected and Cleanup Action Taken.\*

During inspection of historical Plugged wells a small area at this location had stained soil. See attached photo & SUPO. The soil was removed and taken to the Envirotech land farm. The small area was sampled (see attached report) prior to continuing with site rehabilitation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 	OIL CONSERVATION DIVISION	
Printed Name: Philana Thompson	Approved by Environmental Specialist: 	
Title: Regulatory Compliance Specialist	Approval Date: 8/24/2017	Expiration Date:
E-mail Address: <a href="mailto:pthompson@merrion.bz">pthompson@merrion.bz</a>	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 8/15/2017 Phone: 505-486-1171		

\* Attach Additional Sheets If Necessary

NVF 1723639426

RECEIVED

JUL 28 2016

Form 3160-5  
(August 2007)

UNITED STATES  
DEPARTMENT OF THE INTERIOR Farmington Field Office  
BUREAU OF LAND MANAGEMENT Bureau of Land Management

FORM APPROVED  
OMB No. 1004-0137  
Expires: July 31, 2010

**SUNDRY NOTICES AND REPORTS ON WELLS**  
**Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.**

5. Lease Serial No.  
SF080384B

6. If Indian, Allottee or Tribe Name  
Navajo

**SUBMIT IN TRIPLICATE – Other instructions on page 2.**

7. If Unit of CA/Agreement, Name and/or No.

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

8. Well Name and No.  
Hickman A 3

2. Name of Operator  
Merrion Oil & Gas Corporation

9. API Well No.  
30-045-29685

3a. Address  
610 Reilly Ave Farmington, NM 87401

3b. Phone No. (include area code)  
505-486-1171

10. Field and Pool or Exploratory Area

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
790 FSL & 790 FWL S10 T26N, R12W

11. Country or Parish, State  
San Juan County, NM

**12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input checked="" type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other _____
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

The location was inspected on 3/31/2016 please see the attached SUPO of work to be done.

AUG - 5 2016

14. I hereby certify that the foregoing is true and correct.

Name (Printed/Typed)  
Philana Thompson

Title Regulatory Compliance Specialist

Signature

Date 07/28/2016

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by

Title

Date

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

OPERATOR



# P&A Reclamation Plan

## PURPOSE AND SCOPE

The purpose of this Reclamation Plan is to ensure final reclamation of the **Hickman A #3** well pad site and associated access road based on the BLM/Merrion Oil & Gas on-site inspection conducted on **3/31/16** and in accordance with Onshore Order #1 and the FFO Bare Soil Reclamation Procedures.

## PROPOSED RECLAMATION PLAN

Merrion Oil & Gas Corporation will comply with the requirements in accordance with the approved Sundry Notice associated with this submittal.

- Contact BLM 48 hours prior to commencing earthwork.
- Reclamation to be completed within 1 year of plugging date. **(N/A, plugged 9/23/03)**
- Remove all underground production piping. **(Completed at the time of original reclamation)**
- Remove Power poles, rectifier and radio equipment. **(Completed at the time of original reclamation)**
- Remove all rig anchors on the location. **(Completed at the time of original reclamation)**
- Strip available topsoil from areas that will be disturbed during the reclamation of this well site.
- Remove all gravel on well pad surface. Gravel may be used as fill material at the base of the cut slope to re-establish the natural topography.
- Use fill material on the location to reconstruct natural topography. If enough fill material is available, excess material will be used to build up the access road AFTER ripping the road base to eliminate surface compaction hard pan.

### **✚ Per Farmington BLM Environmental Protections Specialist, and inspection conducted on 3/31/16**

- **DHM needs API**
- **Remove gravel**
- **Remove contaminated soils**
- **Remove piping and facilities**
- **Fill In pond**
- **Recontour**
- **Rip & Re- Seed**

**NOTE: NO disturbance will occur outside the areas currently disturbed by the well location access road boundaries.**

- After location has been re-contoured, rip, disk and seed the location with a disk type seed drill.
- Install a sign on seeded areas, i.e. Seeded Area -- Do Not Disturb.

## Waste Material Handling and Disposal

All surface equipment and trash, if any, will be removed from the location and disposed of at an approved waste disposal facility.

If contaminated soil is discovered during the reclamation of this well location, Merrion Oil & Gas Corporation will follow NTL 93-1 "Guidelines for Unlined Surface Impoundments Closure" for testing requirements and allowable threshold limits.

## Surface Reconstruction and Stabilization

The long term objective of final reclamation is to set the course for eventual ecosystem restoration including the restoration of natural vegetation. Merrion Oil & Gas Corporation will avoid disturbance to the mature vegetation that has become well established on the pad perimeter to the extent practicable, and will focus reclamation efforts toward de-compaction, removing sharp, angular features to more closely approximate the natural contours, re-establishing natural drainage patterns, and re-vegetating the abandoned well pad and associated access road.

### **Well Pad Reclamation**

*(Note: some steps may occur in a different sequence than listed below or may occur simultaneously as the case may be):*

1. The following activities would take place before commencing with any dirt work to restore the pad surface:

- The BLM Authorized Officer will be notified at least 48 hours prior to construction;
- Pre-construction conditions will be documented and pictures taken from the four cardinal directions for future reference;
- The P&A marker will remain as is. All pertinent well information is permanently imprinted onto the marker for future reference.
- Temporary and/or permanent stormwater and erosion control BMPs will be employed at appropriate locations around the pad as dictated by local drainage patterns and expected areas of disturbance and slopes AND across the access road. BMP selection will be determined by local factors and will be a combination of sediment and erosions controls that are deemed effective and low maintenance. Straw wattles, diversion ditches, mulch, soil blankets, and/or other suitable BMPs may be used in various combinations, as appropriate, during and after construction activities;
- Remove all gravel on well pad surface. Gravel may be used at the base of the cut slope underneath the fill material to re-establish the natural topography; except for red rock.
- Use fill material to reconstruct natural topography.
- If enough fill material is available, excess material will be used to build up the access road (which is lower in depth than the natural grade due to compaction and erosion) AFTER ripping the road base to eliminate surface compaction hard pan;
- Those areas where healthy, mature, and weed-free vegetation has established along the pad perimeter will remain undisturbed to the extent possible;
- Natural drainage patterns will be restored, as practical, as near as possible to pre-disturbance conditions;
- The pad surface will be ripped by Bulldozer or Grader to reduce compaction and to establish a suitable root zone in preparation for topsoil replacement;
- Topsoil will be redistributed across the pad surface and disked to prepare the soil for seeding;
- After location has been re-contoured, rip, disk and seed the location and access road with a disk type seed drill;
- All disturbed areas will be seeded in accordance with the FFO Bare Soil Reclamation Procedures.

### **Access Road Reclamation**

Upon completion of all well pad reclamation activities, the associated access road will be reclaimed using much the same methods as described above. The road will be ripped and scarified to reduce compaction, and any sharp or angular cuts or fills would be restored as near as possible to pre-disturbance contours. Natural drainage patterns will be restored, to the extent practical, as near as possible to pre-disturbance conditions. **NO disturbance will occur outside the areas currently disturbed by the access road boundaries.**

Established vegetation along the roadsides will remain undisturbed where possible to encourage native plant growth onto the new disturbance and to maintain erosion and sediment control. Straw wattles and/or diversion ditches will be placed at appropriate locations along the road as needed to prevent sediment transport to local drainages. Other suitable BMPs may be used in various combinations, as appropriate, during and after construction activities.

All disturbed areas will be re-seeded in accordance with BLM FFO Bare Soil Reclamation Procedures.

To discourage future use of the road, a temporary fence consisting of woven wire fence at and across the access road leading to the well site at the intersection of the main road and take off point(s) to discourage access on rehabilitated access road and will serve as a barricade to discourage access to the newly reclaimed road and will be left in place until the road & well pad have been stabilized.

A sign will be installed on the fence, i.e. "Seeded Area -- Do Not Disturb" or equivalent.

### **Re-establishing Surface Hydrology**

Natural drainage patterns will be restored as near as possible to pre-construction conditions, except where restoring the natural drainage will cause excessive disturbance and disrupt the natural rehabilitation processes that have already established. In those areas, additional means for ensuring proper drainage, such as water bars or diversion ditches, may be employed.

Eroded areas will be filled in using fill material from the well location and Best Management Practices (BMP's) for Storm water pollution prevention such as silt traps, excelsior mats, wattles/sediment control logs and straw distributed on the surface and crimped or harrowed into the soil after drill seeding.

Given that the well pad will effectively be inaccessible following road reclamation and because the only potential pollution source will be runoff sediment; the temporary stormwater BMPs will be removed upon completion of construction activities. Drainage, sediment, and erosion controls will be managed through vegetative practices and/or biodegradable materials (i.e. soil blankets, straw wattles, crimped straw, mulch, brush and woody debris, pocking, etc..).

All drainage, sediment, and erosion controls will be implemented in accordance with Merriam Oil & Gas standard Stormwater Management Plan.

### **Site Preparation, Soil Management and Handling**

Prior to seeding, all disturbed areas will be left with a rough surface to facilitate moisture and seed retention, and vegetative slash/brush will be placed at expected discharge areas to minimize sediment transport. The topsoil in the area is generally deep and no soil amendments are expected or proposed.



### Final Reclamation Inspection/Monitoring - Environmental

Case #: Lease #: SF080384B Operator: MERRION Present: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Multi-Well Location Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Well Name: Well #: HICKMAN 3 API #: 30-04529685 Well Status: P&A Plugged Date: 09/23/2003
Twn: 26N Rng: 12W Sec: 10 Qtr: N/S Foot: 790' S E/W Foot: 210' W	County: SAN JUAN State: NM Lat: Long:		Facility ID: Facility Name: H2S: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Surface Owner: BIA Present: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Inspection Activity: ES/ SA	
Office Time: .5	Travel Time: 1	Inspection Time: .25	Trips: 1
Inspection Open Date: 3/31/2016	Inspection Close Date: 4/11/2016	Inspector: Bullock	
Inspected: Well/Facility Location <input checked="" type="checkbox"/> ; Road <input type="checkbox"/> ; Pipeline <input type="checkbox"/> ; Power Line <input type="checkbox"/> ; Other <input type="checkbox"/>			

Inspection Items	Met	Not Met	N/A	Order/ INC
1. All Facilities Removed for Final Reclamation (Including cement, surface and shallow pipes, risers, markers, signs, fences, culverts, gates, cattleguards, trash, etc.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
2. Surfacing Material Removed from Location and Road	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
3. Free of Oil or Salt-Contaminated Soil	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
4. Compacted Areas Ripped/Disked (Locations, Roads, etc.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
5. All Original Disturbance Areas Recontoured Back to Original Contour	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
6. Adequate Topsoil Replaced	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
7. Seeded Drill Seeded <input type="checkbox"/> Broadcast Seeded <input type="checkbox"/> Other	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
8. Adequate Surface Roughness	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
9. Erosion and Runoff Controlled Methods	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
10. Mulch Type	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
11. Reclamation Fence: Follow-up needed to ensure fence removal? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
12. Dry-hole Marker: Surface Monumented <input checked="" type="checkbox"/> Subsurface Monumented (preferred) <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
13. Free of Noxious or Invasive Weeds Treatment Needed Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Species Present	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
14. Revegetation Success & Desired Species Density/Cover Measurement and % Species Types and % Reference Site Density/Cover Measurement and % Reference Site Species Types and % Transect Sheets Completed Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
15. Overall Site Stability (Wind & Water Erosion, Subsidence, Vegetation)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
16. Split Estate: Surface Owner Consultation/Concurrence	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
17. Other: (Describe)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Summary: All Reclamation Work According to the Approved Reclamation Plan & BLM Policy and Successful	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Final Reclamation Approvable - Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				

---

Comments, Inspection/Monitoring Results, and Additional Actions Necessary:

- REMOVE NNG-
- RECONTOUR
- REMOVE CONTAMINATED SOILS
- API ON DHM ✓ *done*
- REMOVE PIPING / FACILITIES
- RIP & RESEED
- FILL IN POND

---

Original Disturbance Acres/Well:  
(including location, roads, and pipelines):

Meets Final Reclamation Standards Acres/Well:

Follow-up Requirements:  
Choose an item.

Correct problem by: Click here  
to enter a date.

Next Inspection date: Click  
here to enter a date.

Date AFMSS updated: Click  
here to enter a date.

---

Order/INC No.

The Privacy Act of 1974 and the regulations in 43 CFR 2.48(d) require that you be furnished the following information.

**Authority:** 30 U.S.C. 181 et seq.; 43 CFR 3160; Onshore Oil and Gas Order No. 1.

**Principal purpose:** The BLM uses this information to document and track compliance with the terms of a Federal permit and to contact permittees and affected parties.

**Routine uses:** (1) Document and track compliance with permit conditions. (2) Gather contact information for permittees and parties affected by the permit, for example, split estate surface owners. (3) Track monitoring data. (4) Information from the record and/or the record will be transferred to appropriate Federal, State, or local agencies when relevant to civil, criminal, or regulatory investigations or prosecutions.

**Effect of not providing information:** Disclosure of the information is voluntary; however, failure to provide the requested information may impede individual participation.



## Final Reclamation ES – Photo Log

PHOTO NUMBER	PHOTO INFORMATION
1.	DHM
2.	DHM
3.	DHM
4.	DHM
5.	FACILITIES
6.	FACILITIES
7.	VEGETATION
8.	

Photo 1



Photo 2

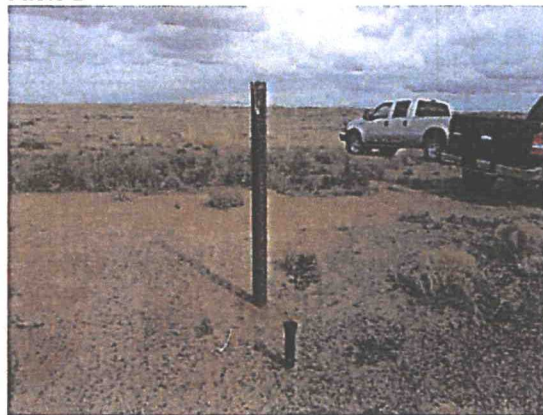


Photo 3



Photo 4





Photo 5



Photo 7

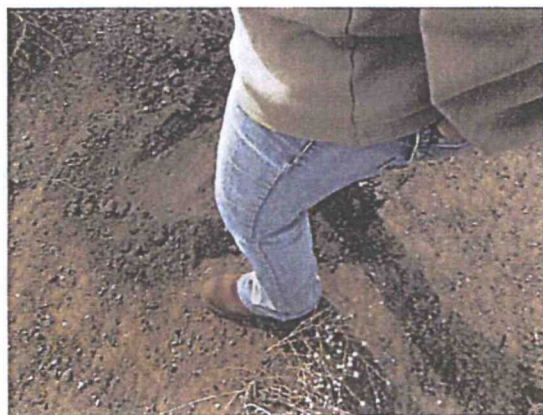


Photo 6

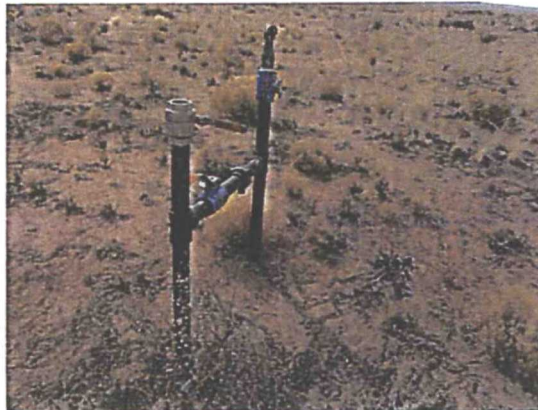


Photo 8



## Analytical Report

### Report Summary

Client: Merrion Oil & Gas  
Chain Of Custody Number:  
Samples Received: 7/20/2017 10:18:00AM  
Job Number: 03048-0009  
Work Order: P707032  
Project Name/Location: Hickman A #3

Report Reviewed By:

A handwritten signature in black ink, appearing to read 'Walter Hinchman', followed by a large, stylized initial 'CH'.

Date: 7/27/17

Walter Hinchman, Laboratory Director

A handwritten signature in black ink, appearing to read 'Tim Cain', with a large, stylized initial 'TC'.

Date: 7/27/17

Tim Cain, Quality Assurance Officer

The results in this report apply to the samples submitted to Envirotech's Analytical Laboratory and were analyzed in accordance with the chain of custody document supplied by you, the client, and as such are for your exclusive use only. The results in this report are based on the sample as received unless otherwise noted. Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc. If you have any questions regarding this analytical report, please don't hesitate to contact Envirotech's Laboratory Staff.



Merrion Oil & Gas  
610 Reilly Ave.  
Farmington NM, 87401

Project Name: Hickman A #3  
Project Number: 03048-0009  
Project Manager: Philana Thompson

Reported:  
27-Jul-17 09:11

### Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
#4	P707032-01A	Solid	07/20/17	07/20/17	Glass Jar, 4 oz.

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5796 US Highway 64, Farmington, NM 87401

Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (505) 632-0615 Fx (505) 632-1865

Ph (970) 259-0615 Fr (800) 362-1879

[envirotech-inc.com](http://envirotech-inc.com)

[laboratory@envirotech-inc.com](mailto:laboratory@envirotech-inc.com)





Merrion Oil & Gas	Project Name:	Hickman A #3	Reported:
610 Reilly Ave.	Project Number:	03048-0009	27-Jul-17 09:11
Farmington NM, 87401	Project Manager:	Philana Thompson	

#4

P707032-01 (Solid)

Reporting								
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
<b>Volatile Organics by EPA 8021</b>								
Benzene	ND	0.10	mg/kg	1	1729016	07/20/17	07/20/17	EPA 8021B
Toluene	ND	0.10	mg/kg	1	1729016	07/20/17	07/20/17	EPA 8021B
Ethylbenzene	ND	0.10	mg/kg	1	1729016	07/20/17	07/20/17	EPA 8021B
p,m-Xylene	ND	0.20	mg/kg	1	1729016	07/20/17	07/20/17	EPA 8021B
o-Xylene	ND	0.10	mg/kg	1	1729016	07/20/17	07/20/17	EPA 8021B
Total Xylenes	ND	0.10	mg/kg	1	1729016	07/20/17	07/20/17	EPA 8021B
Total BTEX	ND	0.10	mg/kg	1	1729016	07/20/17	07/20/17	EPA 8021B
Surrogate: 4-Bromochlorobenzene-PID		98.5 %		50-150	1729016	07/20/17	07/20/17	EPA 8021B
<b>Nonhalogenated Organics by 8015</b>								
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1729016	07/20/17	07/20/17	EPA 8015D
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1729018	07/20/17	07/20/17	EPA 8015D
Surrogate: 1-Chloro-4-fluorobenzene-FID		98.4 %		50-150	1729016	07/20/17	07/20/17	EPA 8015D
Surrogate: n-Nonane		91.4 %		50-200	1729018	07/20/17	07/20/17	EPA 8015D
<b>Anions by 300.0</b>								
Chloride	58.8	20.0	mg/kg	1	1730003	07/24/17	07/24/17	EPA 300.0
<b>Total Petroleum Hydrocarbons by 418.1</b>								
Total Petroleum Hydrocarbons	ND	40.0	mg/kg	1	1729020	07/21/17	07/21/17	EPA 418.1

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5796 US Highway 64, Farmington, NM 87401

Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (505) 632-0615 Fx (505) 632-1865

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com

laboratory@envirotech-inc.com



Merrion Oil & Gas  
610 Reilly Ave.  
Farmington NM, 87401

Project Name: Hickman A #3  
Project Number: 03048-0009  
Project Manager: Philana Thompson

Reported:  
27-Jul-17 09:11

### Volatile Organics by EPA 8021 - Quality Control

#### Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1729016 - Purge and Trap EPA 5030A</b>										
<b>Blank (1729016-BLK1)</b>				<b>Prepared &amp; Analyzed: 20-Jul-17</b>						
Benzene	ND	0.10	mg/kg							
Toluene	ND	0.10	"							
Ethylbenzene	ND	0.10	"							
p,m-Xylene	ND	0.20	"							
o-Xylene	ND	0.10	"							
Total Xylenes	ND	0.10	"							
Total BTEX	ND	0.10	"							
Surrogate: 4-Bromochlorobenzene-PID	7.94		"	8.00		99.3	50-150			
<b>LCS (1729016-BS1)</b>				<b>Prepared &amp; Analyzed: 20-Jul-17</b>						
Benzene	5.39	0.10	mg/kg	5.00		108	70-130			
Toluene	5.28	0.10	"	5.00		106	70-130			
Ethylbenzene	5.26	0.10	"	5.00		105	70-130			
p,m-Xylene	10.5	0.20	"	10.0		105	70-130			
o-Xylene	5.15	0.10	"	5.00		103	70-130			
Total Xylenes	15.6	0.10	"	15.0		104	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8.06		"	8.00		101	50-150			
<b>Matrix Spike (1729016-MS1)</b>				<b>Source: P707031-01</b>		<b>Prepared &amp; Analyzed: 20-Jul-17</b>				
Benzene	5.17	0.10	mg/kg	5.00	ND	104	54.3-133			
Toluene	5.07	0.10	"	5.00	ND	101	61.4-130			
Ethylbenzene	5.05	0.10	"	5.00	ND	101	61.4-133			
p,m-Xylene	10.0	0.20	"	10.0	ND	100	63.3-131			
o-Xylene	4.94	0.10	"	5.00	ND	98.8	63.3-131			
Total Xylenes	15.0	0.10	"	15.0	ND	99.9	63.3-131			
Surrogate: 4-Bromochlorobenzene-PID	8.00		"	8.00		100	50-150			
<b>Matrix Spike Dup (1729016-MSD1)</b>				<b>Source: P707031-01</b>		<b>Prepared &amp; Analyzed: 20-Jul-17</b>				
Benzene	5.02	0.10	mg/kg	5.00	ND	100	54.3-133	3.07	20	
Toluene	4.94	0.10	"	5.00	ND	98.8	61.4-130	2.62	20	
Ethylbenzene	4.92	0.10	"	5.00	ND	98.5	61.4-133	2.53	20	
p,m-Xylene	9.80	0.20	"	10.0	ND	98.0	63.3-131	2.37	20	
o-Xylene	4.83	0.10	"	5.00	ND	96.6	63.3-131	2.27	20	
Total Xylenes	14.6	0.10	"	15.0	ND	97.6	63.3-131	2.34	20	
Surrogate: 4-Bromochlorobenzene-PID	8.01		"	8.00		100	50-150			

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Merrion Oil & Gas 610 Reilly Ave. Farmington NM, 87401	Project Name: Hickman A #3 Project Number: 03048-0009 Project Manager: Philana Thompson	Reported: 27-Jul-17 09:11
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### Nonhalogenated Organics by 8015 - Quality Control

#### Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1729016 - Purge and Trap EPA 5030A</b>										
<b>Blank (1729016-BLK1)</b>				Prepared & Analyzed: 20-Jul-17						
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.62		"	8.00		95.2	50-150			
<b>LCS (1729016-BS1)</b>				Prepared & Analyzed: 20-Jul-17						
Gasoline Range Organics (C6-C10)	59.1	20.0	mg/kg	60.9		97.0	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.45		"	8.00		93.1	50-150			
<b>Matrix Spike (1729016-MS1)</b>				Source: P707031-01		Prepared & Analyzed: 20-Jul-17				
Gasoline Range Organics (C6-C10)	58.7	20.0	mg/kg	60.9	ND	96.4	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.69		"	8.00		96.2	50-150			
<b>Matrix Spike Dup (1729016-MSD1)</b>				Source: P707031-01		Prepared & Analyzed: 20-Jul-17				
Gasoline Range Organics (C6-C10)	56.9	20.0	mg/kg	60.9	ND	93.4	70-130	3.12	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.65		"	8.00		95.6	50-150			

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Farmington NM, 87401

Project Name: Hickman A #3  
Project Number: 03048-0009  
Project Manager: Philana Thompson

Reported:  
27-Jul-17 09:11

### Nonhalogenated Organics by 8015 - Quality Control

#### Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 1729018 - DRO Extraction EPA 3570

##### Blank (1729018-BLK1)

Prepared & Analyzed: 20-Jul-17

Diesel Range Organics (C10-C28)	ND	25.0	mg/kg							
Surrogate: n-Nonane	44.1		"	50.0		88.1	50-200			

##### LCS (1729018-BS1)

Prepared & Analyzed: 20-Jul-17

Diesel Range Organics (C10-C28)	461	25.0	mg/kg	500		92.3	38-132			
Surrogate: n-Nonane	40.8		"	50.0		81.6	50-200			

##### Matrix Spike (1729018-MS1)

Source: P707031-01

Prepared & Analyzed: 20-Jul-17

Diesel Range Organics (C10-C28)	1220	25.0	mg/kg	500	217	200	38-132			SPK1
Surrogate: n-Nonane	48.8		"	50.0		97.5	50-200			

##### Matrix Spike Dup (1729018-MSD1)

Source: P707031-01

Prepared & Analyzed: 20-Jul-17

Diesel Range Organics (C10-C28)	634	25.0	mg/kg	500	217	83.2	38-132	63.1	20	D1
Surrogate: n-Nonane	49.8		"	50.0		99.6	50-200			

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Merrion Oil & Gas  
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Farmington NM, 87401

Project Name: Hickman A #3  
Project Number: 03048-0009  
Project Manager: Philana Thompson

Reported:  
27-Jul-17 09:11

**Anions by 300.0 - Quality Control**  
**Envirotech Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1730003 - Anion Extraction EPA 300.0</b>										
<b>Blank (1730003-BLK1)</b>				Prepared & Analyzed: 24-Jul-17						
Chloride	ND	20.0	mg/kg							
<b>LCS (1730003-BS1)</b>				Prepared & Analyzed: 24-Jul-17						
Chloride	256	20.0	mg/kg	250		102	90-110			
<b>Matrix Spike (1730003-MS1)</b>				Source: P707031-01 Prepared & Analyzed: 24-Jul-17						
Chloride	255	20.0	mg/kg	250	ND	102	80-120			
<b>Matrix Spike Dup (1730003-MSD1)</b>				Source: P707031-01 Prepared & Analyzed: 24-Jul-17						
Chloride	255	20.0	mg/kg	250	ND	102	80-120	0.0235	20	

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Merriam Oil & Gas  
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Project Name: Hickman A #3  
Project Number: 03048-0009  
Project Manager: Philana Thompson

Reported:  
27-Jul-17 09:11

### Total Petroleum Hydrocarbons by 418.1 - Quality Control

#### Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1729020 - 418 Freon Extraction</b>										
<b>Blank (1729020-BLK1)</b>				Prepared & Analyzed: 21-Jul-17						
Total Petroleum Hydrocarbons	ND	40.0	mg/kg							
<b>LCS (1729020-BS1)</b>				Prepared & Analyzed: 21-Jul-17						
Total Petroleum Hydrocarbons	950	40.0	mg/kg	1000		95.0	80-120			
<b>Matrix Spike (1729020-MS1)</b>				Source: P707032-01 Prepared & Analyzed: 21-Jul-17						
Total Petroleum Hydrocarbons	988	40.0	mg/kg	1000	ND	98.8	70-130			
<b>Matrix Spike Dup (1729020-MSD1)</b>				Source: P707032-01 Prepared & Analyzed: 21-Jul-17						
Total Petroleum Hydrocarbons	1010	40.0	mg/kg	1000	ND	101	70-130	2.20	30	

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Merrion Oil & Gas  
610 Reilly Ave.  
Farmington NM, 87401

Project Name: Hickman A #3  
Project Number: 03048-0009  
Project Manager: Philana Thompson

Reported:  
27-Jul-17 09:11

#### Notes and Definitions

SPK1 The spike recovery is outside of quality control limits.

D1 Duplicates or Matrix Spike Duplicates or Laboratory Control Sample Duplicates Relative Percent Difference is outside of control limits.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

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