

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

HOBBS OCD

MAR 08 2013

RECEIVED

Form C-141  
Revised August 8, 2011

Submit 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	Murchison Oil & Gas, Inc.	Contact	Greg Boans
Address	1100 Mira Vista Blvd, Plano, TX 75093	Telephone No.	(575) 361-4962
Facility Name	Jackson Unit #8	Facility Type	Production Battery
Surface Owner	State of New Mexico	Mineral Owner	API No. 30-025-35328


#### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	22	24S	33E	1980	North	1980	West	Lea

Latitude 32°12'17.64" N Longitude 103°33'44.424" W

#### NATURE OF RELEASE

Type of Release	Produced water and oil skim	Volume of Release	Unknown	Volume Recovered	Unknown
Source of Release	Line rupture	Date and Hour of Occurrence	1/17/2013 5:30 pm	Date and Hour of Discovery	1/17/2013 5:30 pm
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? E-mail and phone call to Geoffrey Leking			
By Whom?	Greg Boans, Production Superintendent	Date and Hour - 1/18/2013 9:17 am			
Was a Watercourse Reached?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, Volume Impacting the Watercourse. unknown DTW=175'			
If a Watercourse was Impacted, Describe Fully.* Fluid flowed southwest from the tank into an ephemeral drainage channel for approximately 30 linear feet until it was blocked by one of many existing artificial earthen berms across the drainage channel.					
Describe Cause of Problem and Remedial Action Taken. - <input type="checkbox"/> A fill line to the tank battery ruptured causing fluid to flow out of a tank, cutting through the berm at the southwest corner of the location pad. A backhoe was promptly mobilized to remove obviously-damp surface soils (approx. 4 in) from the affected area to disposal at a permitted facility. After the damp material was removed, discrete samples were collected from the new surface (4" BGS) and 14" BGS. Chloride field tests on these samples yielded concentrations similar to background with slightly higher concentrations at the two areas of pooling, all of which dissipated at 14" BGS. A new replacement tank was recently installed.					
Describe Area Affected and Cleanup Action Taken. - The affected area measures approximately 750 ft <sup>2</sup> . Additionally, a fine spray from the release affected a 200 ft x 200 ft area, coating mesquite bushes with a sheen. Many of these mesquite bushes were also removed to a disposal facility. Confirmation samples of the excavated soil and of the soil remaining in place were collected for laboratory analysis. The affected surface was disc harrowed on two occasions to facilitate remediation of remaining hydrocarbon constituents. Upon approval, the site will be seeded with a blend of native vegetation.					
I hereby certify that the information given above is true and complete to the best of my knowledge and understanding 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: Greg Boans	Approved by Environmental Specialist:  Environmental Specialist		
Title: Production Superintendent	Approval Date: 07/02/14	Expiration Date: -	
E-mail Address: gboans@jdmii.com	Conditions of Approval: -	Attached <input type="checkbox"/>	
Date: 3/6/2013	Phone: (575) 628-3932	1RP-4360	

\* Attach Additional Sheets If Necessary



# R. T. HICKS CONSULTANTS, LTD.

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

March 6, 2013

HOBBS OCD

Mr. Geoffrey R. Leking  
NMOCD District 1  
1625 N. French Drive  
Hobbs, New Mexico 88240  
Via Email and US Mail

MAR 08 2013

RECEIVED

RE: Jackson Unit #8 Release  
Final C-141, Request for Closure

Dear Mr. Leking:

On behalf of Murchison Oil and Gas, R.T Hicks Consultants is pleased to submit the attached Final Report for the above-referenced release. Figure 1 shows the tank in the southwest corner of the location from which this release originated.

Figure 2 shows the area impacted by the release, as described on the attached C-141. On 1/18/2013, Murchison removed the upper 4-inches of stained and saturated soil and placed this excavated material on a liner on location. We performed chloride field tests at four sample locations within the excavated footprint of the release: two of which included areas of obvious fluid pooling (sample numbers 1 and 3 on Figure 2). Chloride concentrations dissipated at 14 inches below ground surface. We returned on 1/21/2013 to collect laboratory confirmation samples. Laboratory analyses of a 5-point composite sample from the excavated surface yielded the results in the attached laboratory reports and shown in the Table below. Laboratory analysis of the excavated material showed a similar chloride concentration but lower concentrations of hydrocarbons. This result led us to conclude that simple aeration of the material could result in reduction of hydrocarbon concentrations over time.

Based upon these results, the release area was disc harrowed and contoured on two occasions in February in order to remediate residual hydrocarbons. On 2/19/2013, a second 5-point composite sample was collected from the harrowed surface for laboratory analysis. Results show that regulated hydrocarbons have declined to less than detectable limits, chloride remains unchanged as expected, and the long-chained hydrocarbons represented by TPH, GRO and DRO have also shown significant declines in concentration.

Analyte	Impacted Stockpile Composite 1/21/2013	Excavated Surface Composite (4" BGS) 1/21/2013	Remediated Surface Composite (4" BGS) 2/19/2013
Benzene	ND	ND	ND
Toluene	2.42	16.5	ND
Ethylbenzene	1.38	5.83	ND
Total Xylenes	21	105	ND
Total BTEX	24.8	127	ND
Chloride	352	480	320
TPH	12100	NA	4020
GRO	536	NA	12.8
DRO	2790	NA	2040

The nearest water well is approximately 5000 feet away, east-southeast. Data from this well and others shown in Figure 3 were employed to estimate groundwater depth at this site to be 287 feet below ground surface, or at an elevation of 3245 feet. Depth to water in the wells associated with the Bell Lake area on the north portion of the map were not used because they obviously tap a shallow water table associated with the ancient collapse feature. Our investigation (previously submitted to OCD) suggests that the shallow water table is localized to the Bell Lake area.

The ephemeral drainage channel described in the C-141 forms is considered a "watercourse" as defined by NMOCD Rules. However, this dry channel (visible in Figure 1) is not a surface water body or "significant watercourse" as it is neither a named drainage nor a first order tributary. Moreover, regulated constituent concentrations are too low to pose a threat to surface water.

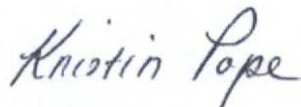
Referencing NMOCD's "Guidelines for Remediation of Leaks, Spills and Releases" (August 13, 1993), site ranking criteria for the unsaturated soils left in place results in a score of 0. Hydrocarbon constituents remaining at this site meet Recommended Remediation Action Levels of 10 ppm Benzene, 50 ppm BTEX, and 5000 ppm TPH. Further, non-residential risk-based screening levels (RBSL) for diesel fuel (C10-C22) in surface soils were established as 42,000 mg/kg by Sara J. McMillen, et. al in 2001<sup>1</sup>.

While we conclude that this release *impacted* surface soils, we can also reasonably conclude that the soil, groundwater, or the environment will not be *impaired* by this release. We respectfully request approval of the final C-141 and closure of the regulatory file associated with this release. Upon approval of this final C-141, Murchison will seed the release footprint with a blend of native vegetation appropriate to the soil type.

Do not hesitate to contact me with any questions regarding this request.

Sincerely,

R.T. Hicks Consultants



Kristin Pope

Copy: Murchison Oil & Gas, State Land Office

Enclosures: final C-141, figures 1-3, laboratory analysis, disposal ticket, initial C-141

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<sup>1</sup> [http://www.epa.org/environment-health-and-safety/environmental-performance/~/\\_/media/AD08DDC869FE49ACA3C8B0A29B6CA3CC.ashx](http://www.epa.org/environment-health-and-safety/environmental-performance/~/_/media/AD08DDC869FE49ACA3C8B0A29B6CA3CC.ashx) p. 126





0 100  
Feet

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

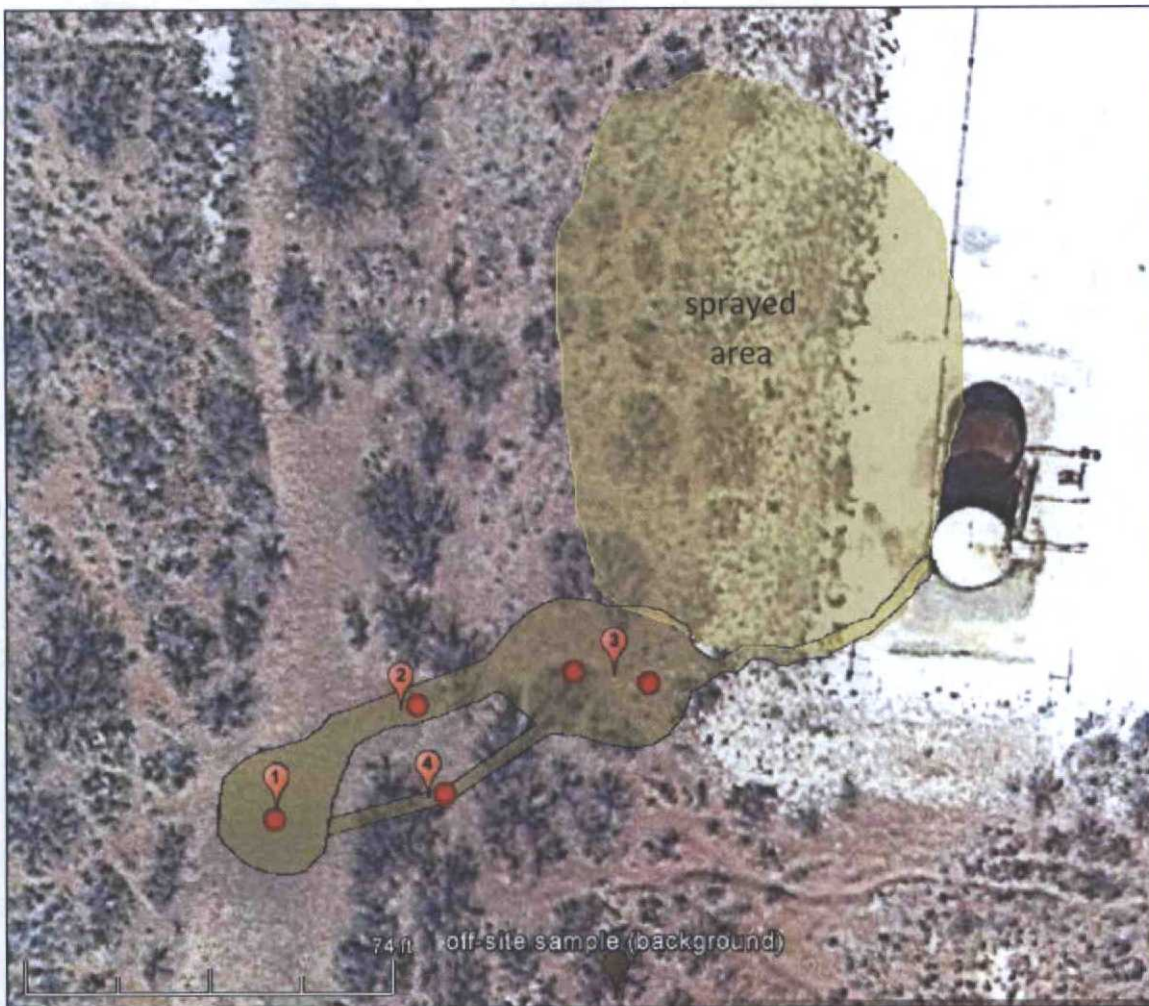
Recent Air Photo of Location

Figure 1

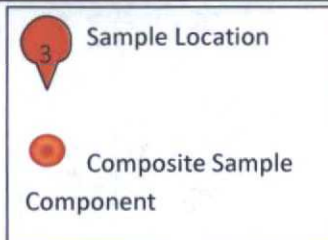
Murchison - Jackson Unit #8

Feb 2013





Chloride Field Tests		
Sample Point	Depth (in. BGS)	Cl <sup>-</sup> (mg/kg)
1	4	563
	14	107
2	4	104
	14	58
3	4	654
	14	71
4	4	171
	14	62
off-site (background)	0	143
	4	119
	14	65
5-pt comp.	4	362
remed. comp.	4	320*



\*2/19/2013 sample after remediation with disc harrow

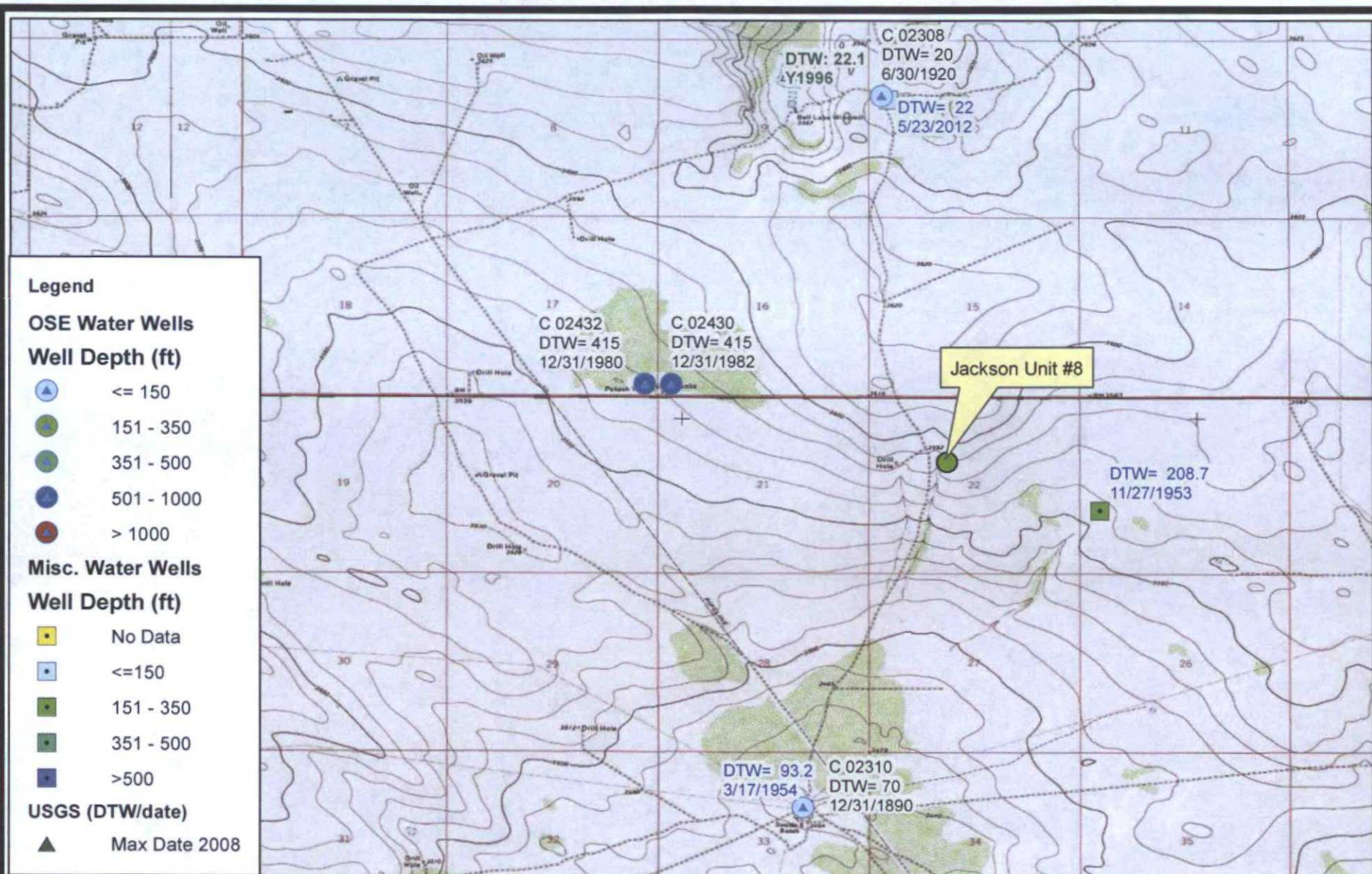
R.T. Hicks Consultants, Ltd  
901 Rio Grande Blvd NW, Suite F-142  
Albuquerque, NM 87104  
505-266-5004

Release Area and Sample Locations - 1/21/2013

Murchison - Jackson Unit #8  
February 2013

Figure 2





0 4,000 Feet

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

Depth to Groundwater

Murchison - Jackson Unit #8

Figure 3

Feb 2013

February 27, 2013

KRISTIN POPE

R T HICKS CONSULTANTS

901 RIO GRANDE BLVD SUITE F-142

ALBUQUERQUE, NM 87104

RE: JACKSON UNIT #8 RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 02/20/13 10:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene

Lab Director/Quality Manager



**Analytical Results For:**

 R T HICKS CONSULTANTS  
 KRISTIN POPE  
 901 RIO GRANDE BLVD SUITE F-142  
 ALBUQUERQUE NM, 87104  
 Fax To: NONE

 Received: 02/20/2013  
 Reported: 02/27/2013  
 Project Name: JACKSON UNIT #8 RELEASE  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 02/19/2013  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: REMEDIATED SURFACE COMP. (H300465-01)**

BTEX 8021B		mg/kg	Analyzed By: AP					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2013	ND	1.85	92.6	2.00	17.8	
Toluene*	<0.050	0.050	02/26/2013	ND	1.82	91.2	2.00	16.9	
Ethylbenzene*	<0.050	0.050	02/26/2013	ND	1.78	89.0	2.00	16.3	
Total Xylenes*	<0.150	0.150	02/26/2013	ND	5.40	90.0	6.00	17.0	
Total BTEX	<0.300	0.300	02/26/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 145 % 89.4-126

Chloride, SM4500Cl-B		mg/kg	Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	02/25/2013	ND	416	104	400	3.77	

TPH 418.1		mg/kg	Analyzed By: AM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TPH 418.1	4020	100	02/25/2013	ND	4230	84.5	5000	0.236	

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	12.8	10.0	02/26/2013	ND	177	88.3	200	12.4	
DRO >C10-C28	2040	10.0	02/26/2013	ND	161	80.7	200	15.8	

Surrogate: 1-Chlorooctane 99.6 % 65.2-140

Surrogate: 1-Chlorooctadecane 142 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Notes and Definitions**

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

---

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---

Celey D. Keene, Lab Director/Quality Manager



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Mariand, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

Company Name: <u>R.T. Hicks Consultants</u>				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>													
Project Manager: <u>Kristin Pope</u>				P.O. #:																	
Address:				Company: <u>RT Hicks</u>																	
City:		State:		Zip:		Attn:															
Phone #:		Fax #:		Address:		City:															
Project #:		Project Owner: <u>Murphy</u>		State:		Zip:															
Project Name: <u>Jackson Unit #8 Release</u>				Phone #:																	
Project Location:				Fax #:																	
Sampler Name: <u>Kristin Pope</u>																					
FOR LAB USE ONLY																					
Lab I.D.		Sample I.D.		GRAB OR (COMP. # CONTAINERS)		MATRIX		PRESERV		SAMPLING											
						GROUNDWATER															
						WASTEWATER															
						SOIL															
						OIL															
						SLUDGE															
						OTHER:															
						ACID/BASE:															
						ICE / COOL															
						OTHER:															
						DATE		TIME													
H300465		1 Remediated Surface Comp.		C 2		X		X		02/19/13 1433											

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Relinquished By: <u>Kristin Pope</u>		Date: <u>02/20/13</u>		Received By: <u>Douglas Pope</u>		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:	
Relinquished By: <u>Kristin Pope</u>		Time: <u>0700</u>		Received By: <u>Wendi Newson</u>		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Fax #:	
Delivered By: (Circle One)		Date: <u>2/20/13</u>		Time: <u>10:35</u>		Sample Condition		CHECKED BY: (Initials)	
Sampler - UPS - Bus - Other:				50		Cool <input type="checkbox"/> Intact <input type="checkbox"/>		GHT	
						Yes <input type="checkbox"/> No <input type="checkbox"/>			

email to kristin@rthicksconsult.com

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326



January 30, 2013

KRISTIN POPE

R T HICKS CONSULTANTS

901 RIO GRANDE BLVD SUITE F-142

ALBUQUERQUE, NM 87104

RE: MURCHINSON JACKSON UNIT #8 RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 01/23/13 10:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

R T HICKS CONSULTANTS  
KRISTIN POPE  
901 RIO GRANDE BLVD SUITE F-142  
ALBUQUERQUE NM, 87104  
Fax To: NONE

Received:	01/23/2013	Sampling Date:	01/21/2013
Reported:	01/30/2013	Sampling Type:	Soil
Project Name:	MURCHINSON JACKSON UNIT #8 RELEA	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UNIT 'F', SEC. 22, T24S, R33E		

**Sample ID: EXCAVATED PILE COMP. (H300185-01)**

BTEX 8021B		mg/kg		Analyzed By: AP			S-04			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/29/2013	ND	2.19	110	2.00	6.64		
Toluene*	2.42	0.050	01/29/2013	ND	2.20	110	2.00	5.29		
Ethylbenzene*	1.38	0.050	01/29/2013	ND	2.24	112	2.00	4.10		
Total Xylenes*	21.0	0.150	01/29/2013	ND	6.77	113	6.00	4.01		
Total BTEX	24.8	0.300	01/29/2013	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 517 % 89.4-126

Chloride, SM4500Cl-B		mg/kg	Analyzed By: DW							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	352	16.0	01/28/2013	ND	400	100	400	0.00		

TPH 418.1		mg/kg	Analyzed By: CK							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TPH 418.1	12100	100	01/24/2013	ND	2100	84.0	2500	3.28		

TPH 8015M		mg/kg	Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	536	10.0	01/26/2013	ND	152	76.0	200	12.7		
DRO >C10-C28	2790	10.0	01/26/2013	ND	142	70.9	200	15.1		

Surrogate: 1-Chlorooctane 109 % 65.2-140

Surrogate: 1-Chlorooctadecane 117 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

 R T HICKS CONSULTANTS  
 KRISTIN POPE  
 901 RIO GRANDE BLVD SUITE F-142  
 ALBUQUERQUE NM, 87104  
 Fax To: NONE

Received:	01/23/2013	Sampling Date:	01/21/2013
Reported:	01/30/2013	Sampling Type:	Soil
Project Name:	MURCHINSON JACKSON UNIT #8 RELEA	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UNIT 'F', SEC. 22, T24S, R33E		

**Sample ID: BACKGROUND @ SURFACE (H300185-02)**

BTEX 8021B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/29/2013	ND	2.19	110	2.00	6.64		
Toluene*	<0.050	0.050	01/29/2013	ND	2.20	110	2.00	5.29		
Ethylbenzene*	<0.050	0.050	01/29/2013	ND	2.24	112	2.00	4.10		
Total Xylenes*	<0.150	0.150	01/29/2013	ND	6.77	113	6.00	4.01		
Total BTEX	<0.300	0.300	01/29/2013	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 112 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	01/28/2013	ND	400	100	400	0.00		

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 R T HICKS CONSULTANTS  
 KRISTIN POPE  
 901 RIO GRANDE BLVD SUITE F-142  
 ALBUQUERQUE NM, 87104  
 Fax To: NONE

Received:	01/23/2013	Sampling Date:	01/21/2013
Reported:	01/30/2013	Sampling Type:	Soil
Project Name:	MURCHINSON JACKSON UNIT #8 RELEA	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UNIT 'F', SEC. 22, T24S, R33E		

**Sample ID: #2 @ SURFACE (4") (H300185-03)**

BTEX 8021B			mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/29/2013	ND	2.19	110	2.00	6.64		
Toluene*	<0.050	0.050	01/29/2013	ND	2.20	110	2.00	5.29		
Ethylbenzene*	<0.050	0.050	01/29/2013	ND	2.24	112	2.00	4.10		
Total Xylenes*	<0.150	0.150	01/29/2013	ND	6.77	113	6.00	4.01		
Total BTEX	<0.300	0.300	01/29/2013	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 107 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	01/28/2013	ND	400	100	400	0.00	

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

 R T HICKS CONSULTANTS  
 KRISTIN POPE  
 901 RIO GRANDE BLVD SUITE F-142  
 ALBUQUERQUE NM, 87104  
 Fax To: NONE

Received:	01/23/2013	Sampling Date:	01/21/2013
Reported:	01/30/2013	Sampling Type:	Soil
Project Name:	MURCHINSON JACKSON UNIT #8 RELEA	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UNIT 'F', SEC. 22, T24S, R33E		

**Sample ID: #3 @ SURFACE (4") (H300185-04)**

BTEX 8021B		mg/kg		Analyzed By: AP				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	1.56	0.200	01/30/2013	ND	2.19	110	2.00	6.64	
Toluene*	15.2	0.200	01/30/2013	ND	2.20	110	2.00	5.29	
Ethylbenzene*	5.26	0.200	01/30/2013	ND	2.24	112	2.00	4.10	
Total Xylenes*	71.6	0.600	01/30/2013	ND	6.77	113	6.00	4.01	
Total BTEX	93.6	1.20	01/30/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 300 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	640	16.0	01/28/2013	ND	400	100	400	0.00	

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 R T HICKS CONSULTANTS  
 KRISTIN POPE  
 901 RIO GRANDE BLVD SUITE F-142  
 ALBUQUERQUE NM, 87104  
 Fax To: NONE

Received:	01/23/2013	Sampling Date:	01/21/2013
Reported:	01/30/2013	Sampling Type:	Soil
Project Name:	MURCHINSON JACKSON UNIT #8 RELEA	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UNIT 'F', SEC. 22, T24S, R33E		

**Sample ID: 5-PT SURFACE COMP. (4") (H300185-05)**

BTEX 8021B		mg/kg	Analyzed By: AP					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.500	0.500	01/30/2013	ND	2.19	110	2.00	6.64	
Toluene*	16.5	0.500	01/30/2013	ND	2.20	110	2.00	5.29	
Ethylbenzene*	5.83	0.500	01/30/2013	ND	2.24	112	2.00	4.10	
Total Xylenes*	105	1.50	01/30/2013	ND	6.77	113	6.00	4.01	
Total BTEX	127	3.00	01/30/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 197 % 89.4-126

Chloride, SM4500Cl-B		mg/kg	Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	480	16.0	01/28/2013	ND	400	100	400	0.00	

Conductivity 120.1		uS/cm	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Conductivity	1510	1.00	01/30/2013		484	96.8	500		

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Celey D. Keene, Lab Director/Quality Manager



**Notes and Definitions**

- S-04            The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- ND             Analyte NOT DETECTED at or above the reporting limit
- RPD            Relative Percent Difference
- \*\*              Samples not received at proper temperature of 6°C or below.
- \*\*\*             Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
- Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

Company Name: <u>R.T. Hicks Consultants</u>				BILL TO				ANALYSIS REQUEST											
Project Manager: <u>Kristin Pope</u>				P.O. #:				<div style="display: flex; flex-direction: column; align-items: center;"> <div>BTEX 8621B &amp; 2360B</div> <div>CI- 300.0</div> <div>Benzene 2621B</div> <div>TPH 412.1</div> <div>PRO/GRD 417.1</div> <div>EC</div> </div>											
Address:				Company: <u>RT Hicks</u>															
City: State: Zip:				Attn: <u>Consultants</u>															
Phone #: <u>575.392.6755</u> Fax #:				Address:															
Project #: Project Owner:				City:															
Project Name: <u>Murchinson Jackson Unit "8" Release</u>				State: Zip:															
Project Location: <u>Unit "F", Sec. 22, T4S, R33E</u>				Phone #:															
Sampler Name: <u>K. Pope</u>				Fax #:															
FOR LAB USE ONLY																			
Lab I.D.	Sample I.D.	(GRAB OR COMPOUND)	# CONTAINERS	MATRIX	PRESERV	SAMPLING													
				GROUNDWATER	WASTEWATER	SOIL	OIL	SILUDGE	OTHER	ACID/BASE	ICE / COOL	OTHER	DATE	TIME					
H300185																			
1	Excavated pile comp.	C	1			X				X			1.21.13	14:10	X				
2	Background @ surface	G	1			X				X			1.21.13	14:22	X				
3	#2 @ surface (4")	G	1			X				X			1.21.13	14:15	X				
4	#3 @ surface (4")	G	1			X				X			1.21.13	14:20	X				
5	5-pt surface comp (4")	C	1			X				X			1.21.13	16:00	X				

PLEASE NOTE: Liability and Damages: Cardinal's liability and most's exclusive remedy for any claim arising under this contract or for, shall be limited to the amount paid by the client for the analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client. As stipulated, all claims or damages arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated or upon any other act.

Relinquished By: <u>Kristin Pope</u>	Date: <u>1.23.13</u> Time: <u>07:00</u>	Received By: <u>Douglas Lyle</u>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Relinquished By: <u>Kristin Pope</u>	Date: <u>1.23.13</u> Time: <u>10:30</u>	Received By: <u>Jodi Benson</u>	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other: <u>4.50</u>			REMARKS: <u>Email results to kristin@rthicksconsult.com</u>	
Sample Condition: Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		CHECKED BY: <u>[Signature]</u> (Initials)		

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

#26





**R360 Environmental Solutions, LLC**  
**Permian Basin Region**

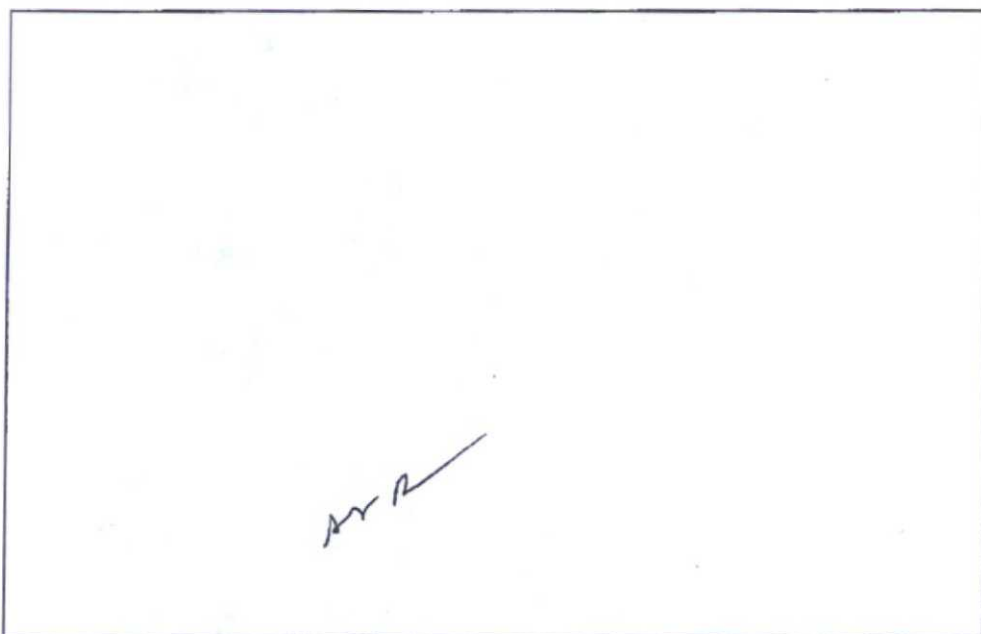
P.O. Box 3452  
 Hobbs, NM 88241  
 Federal Tax ID: 94-3283464

# Invoice

Date: 1/31/2013  
 Invoice #: C107008

Terms: Due Upon Receipt  
 Generator: MURCHISON OIL & GAS INC  
 Lease: JACKSON  
 Well: 8  
 Rig:  
 PO:  
 Memo:

**Bill To**  
 MURCHISON OIL & GAS INC  
 PO BOX 627  
 CARLSBAD, NM 88220



Item	Qty	Desc	Disc	Price	Amount	Ticket	Date	3rd Party #	Co. Man	Trucking Co
Cont Soil	12.00			\$29.00	\$348.00	472686	1/25/2013	NA	CHACE WALLS	BOGGS TRUCKING
Cont Soil	12.00			\$29.00	\$348.00	472719	1/25/2013	NA	CHACE WALLS	BOGGS TRUCKING
Cont Soil	12.00			\$29.00	\$348.00	472760	1/25/2013	NA	CHACE WALLS	BOGGS TRUCKING
Cont Soil	12.00			\$29.00	\$348.00	473403	1/26/2013	NA	CHANCE WALLS	BOGGS TRUCKING
Trash	12.00	wood with oil		\$29.00	\$348.00	473444	1/26/2013	NA	CHANCE WALLS	BOGGS TRUCKING
Cont Soil	12.00			\$29.00	\$348.00	473536	1/28/2013	NA	CHANCE WALLS	BOGGS TRUCKING
Cont Soil	12.00			\$29.00	\$348.00	473678	1/29/2013	NA	CHACE WALLS	BOGGS TRUCKING
Cont Soil	10.00			\$29.00	\$290.00	473723	1/29/2013	NA	CHACE WALLS	BOGGS TRUCKING

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

Form C-141  
Revised August 8, 2011

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	Murchison Oil & Gas, Inc.	Contact	Greg Boans
Address	1100 Mira Vista Blvd, Plano, TX 75093	Telephone No.	(575) 361-4962
Facility Name	Jackson Unit #8	Facility Type	Production Battery
Surface Owner	State of New Mexico	Mineral Owner	API No. 30-025-35328

#### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	22	24S	33E	1980	North	1980	West	Lea

Latitude 32°12'17.64" N Longitude 103°33'44.424" W

#### NATURE OF RELEASE

Type of Release	Produced water and oil skim	Volume of Release	Unknown	Volume Recovered	Unknown
Source of Release	Line rupture	Date and Hour of Occurrence	1/17/2013 5:30 pm	Date and Hour of Discovery	1/17/2013 5:30 pm
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? E-mail and phone call to Geoffrey Leking			
By Whom?	Greg Boans, Production Superintendent	Date and Hour - 1/18/2013 9:17 am			
Was a Watercourse Reached?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, Volume Impacting the Watercourse. unknown			

If a Watercourse was Impacted, Describe Fully.\* Fluid flowed southwest from the tank into an ephemeral drainage channel for approximately 30 linear feet until it was blocked by one of many existing artificial earthen berms across the drainage channel.

Describe Cause of Problem and Remedial Action Taken. - A fill line to the tank battery ruptured causing fluid to flow out of a tank, cutting through the berm at the southwest corner of the location pad. A backhoe was promptly mobilized to remove obviously-damp surface soils (approx. 4 in. or 28 yd<sup>3</sup>) from the affected area. The excavated material was staged on a 20-mil reinforced poly liner placed on the nearby pad. After the damp material was removed, discrete samples were collected from the new surface (4" BGS) and 14" BGS. Chloride field tests on these samples yielded concentrations similar to background with slightly higher concentrations at the two areas of pooling, all of which dissipated at 14" BGS. A new replacement tank will be installed.

Describe Area Affected and Cleanup Action Taken. - The affected area measures approximately 750 ft<sup>2</sup>. Additionally, a fine spray from the release affected a 200 ft x 200 ft area, coating mesquite bushes with a sheen. In addition to removing the affected material as described above, many of the mesquite bushes were grubbed and placed on the poly liner. Confirmation samples of the excavated soil and of the soil remaining in place were collected for laboratory analysis, which will determine the surface restoration plan.

I hereby certify that the information given above is true and complete to the best of my knowledge and understanding 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.

		<u>OIL CONSERVATION DIVISION</u>	
Signature:	Approved by Environmental Specialist:		
Printed Name:			
Title:	Approval Date:	Expiration Date:	
E-mail Address:	Conditions of Approval:		Attached <input type="checkbox"/>
Date:	Phone:		

\* Attach Additional Sheets If Necessary