

# R. T. HICKS CONSULTANTS, LTD.

901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Fax: 505.266.0745

January 5, 2016

Ms. Heather Patterson  
NMOCD District 2  
811 S. First Street  
Artesia, New Mexico 88210  
*VIA EMAIL*

RE: **Murchison – Polar Bear St. Com #4H Release**, final C-141 form  
Unit H, Section 1, T17S, R28E, Eddy County, API# 30-015-40130

Dear Ms. Patterson:

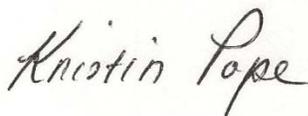
On behalf of Murchison Oil and Gas, R.T Hicks Consultants submits the attached final C-141 form for the above-referenced release. On November 11, a leak was discovered in a hose on a circulating pump at the above-referenced battery and approximately 66 barrels of oil were released into the bermed secondary containment. Fluid then breached the secondary containment, affecting approximately 290 ft<sup>2</sup> of the facility location outside the berm. 42 barrels of fluid the same day and then returned the next day and recovered 3 barrels more that settled from the gravel inside the berms. The release was observed to penetrate approximately 2 inches below the surface of the location.

The affected gravel and pad material (12 yd<sup>3</sup>) were removed from the location of disposed of at a permitted facility. A confirmation sample for laboratory analyses was collected from 3 inches below surface of the affected location (area shown in adjacent photo). The 5-point composite yielded 110 mg/kg DRO and 68 mg/kg MRO. BTEX and GRO were not present within detection limits.

With this submission, we respectfully request closure of the regulatory file associated with this release. Please contact me with any questions.

Regards,

R.T. Hicks Consultants



Kristin Pope



11/12/2015 Affected location after vacuum

Copy: Murchison Oil & Gas, State Land Office (Amber Groves)  
Enclosures: final C-141 form, lab analysis, disposal manifest

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

Form C-141  
Revised August 8, 2011

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

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	7250 Dallas Parkway, Suite 1400, Plano, TX 75024	Telephone No.	(575) 628-3932
Facility Name	Polar Bear St. Com #4H	Facility Type	Production Battery
Surface Owner	State of New Mexico	Mineral Owner	API No. 30-015-40130

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
H	1	17S	28E	2260	North	150	East	Eddy

Latitude 32°51'58.50"N Longitude 104° 7'19.60"W

**NATURE OF RELEASE**

Type of Release	Oil	Volume of Release	66 bbls	Volume Recovered	45 bbls
Source of Release	Hose on circulating pump	Date and Hour of Occurrence	11/11/2015, before 10:00 am	Date and Hour of Discovery	11/11/2015 10:00 am
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Heather Patterson (voicemail)			
By Whom?	Kristin Pope	Date and Hour	11/12/2015 10:00 am		
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.\*  
n/a

Describe Cause of Problem and Remedial Action Taken.\*

Oil was lost from a tank due to a failure of a hose on the circulating pump. A vacuum truck removed standing fluid. A breach in the secondary containment liner material was exposed. The hose has been replaced.

Describe Area Affected and Cleanup Action Taken.\*

Oil was released into the bermed secondary containment surrounding the tanks (1,120 ft<sup>2</sup>) and onto approximately 290 ft<sup>2</sup> of the location pad. Soil moisture indicated that penetration was less than 2 inches deep, chloride field tests on 2-in-deep samples confirmed. The affected material from the surface of the location and the gravel in the secondary containment (12 yd<sup>3</sup>) was removed and replaced. Laboratory analysis of a 5-point composite sample from the affected location pad at 3 inches below surface yielded 110 mg/kg DRO and BTEX was not present within detection limits.

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: 	<b>OIL CONSERVATION DIVISION</b>		
Printed Name: Greg Boans	Approved by Environmental Specialist:		
Title: Production Superintendent	Approval Date:	Expiration Date:	
E-mail Address: gboans@jdmii.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: 1/5/2016	Phone: (575) 628-3932		

\* Attach Additional Sheets If Necessary



Permian Basin

Customer: MURCHISON OIL & GAS INC
Customer #: CRI4190
Ordered by: BRAD MATTHEWS
AFE #:
PO #:
Manifest #: NA
Manif. Date: 11/24/2015
Hauler: STORM CONSTRUCTION
Driver: THOMAS
Truck #: 80
Card #:
Job Ref #

Ticket #: 700-733982
Bid #: Walk-in Bid
Date: 11/24/2015
Generator: MURCHISON OIL & GAS INC
Generator #:
Well Ser. #:
Well Name: POLAR BEAR ST COM
Well #: 4H
Field:
Field #:
Rig: NON-DRILLING
County

Facility: CRI

Table with 2 columns: Product / Service, Quantity/Units. Row 1: Contaminated Soil (RCRA Exempt) 12.00 yards. Row 2: Lab Analysis with columns for Cell, pH, Cl, Cond., %Solids, TDS, PCI/GM, MR/HR, H2S, % Oil, Weight.

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1983 regulatory determination, the above described waste is:

- X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.
RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)
MSDS Information RCRA Hazardous Waste Analysis Process Knowledge Other (Provide description above)

Driver/ Agent Signature R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: [Signature] Date: \_\_\_\_\_



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

December 10, 2015

Kristin Pope

R.T. Hicks Consultants, LTD

901 Rio Grande Blvd. NW

Suite F-142

Albuquerque, NM 87104

TEL: (575) 302-6755

FAX (505) 266-0745

RE: Polar Bear 4H release

OrderNo.: 1512196

Dear Kristin Pope:

Hall Environmental Analysis Laboratory received 1 sample(s) on 12/4/2015 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](http://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 in a cursive style.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1512196

Date Reported: 12/10/2015

**CLIENT:** R.T. Hicks Consultants, LTD

**Client Sample ID:** 5-pt. comp. @3

**Project:** Polar Bear 4H release

**Collection Date:** 12/3/2015 10:20:00 AM

**Lab ID:** 1512196-001

**Matrix:** SOIL

**Received Date:** 12/4/2015 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	110	10		mg/Kg	1	12/8/2015 4:12:00 PM	22651
Motor Oil Range Organics (MRO)	68	50		mg/Kg	1	12/8/2015 4:12:00 PM	22651
Surr: DNOP	106	70-130		%REC	1	12/8/2015 4:12:00 PM	22651
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/8/2015 9:48:16 AM	22652
Surr: BFB	92.9	66.2-112		%REC	1	12/8/2015 9:48:16 AM	22652
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.048		mg/Kg	1	12/8/2015 9:48:16 AM	22652
Toluene	ND	0.048		mg/Kg	1	12/8/2015 9:48:16 AM	22652
Ethylbenzene	ND	0.048		mg/Kg	1	12/8/2015 9:48:16 AM	22652
Xylenes, Total	ND	0.095		mg/Kg	1	12/8/2015 9:48:16 AM	22652
Surr: 4-Bromofluorobenzene	123	80-120	S	%REC	1	12/8/2015 9:48:16 AM	22652

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
D	Sample Diluted Due to Matrix	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	P Sample pH Not In Range
R	RPD outside accepted recovery limits	RL Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1512196

10-Dec-15

**Client:** R.T. Hicks Consultants, LTD

**Project:** Polar Bear 4H release

Sample ID <b>MB-22651</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>22651</b>		RunNo: <b>30678</b>							
Prep Date: <b>12/7/2015</b>	Analysis Date: <b>12/8/2015</b>		SeqNo: <b>936993</b>		Units: <b>mg/Kg</b>					
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	9.2		10.00		91.8	70	130			

Sample ID <b>LCS-22651</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>22651</b>		RunNo: <b>30678</b>							
Prep Date: <b>12/7/2015</b>	Analysis Date: <b>12/8/2015</b>		SeqNo: <b>936994</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	91.3	57.4	139			
Surr: DNOP	4.8		5.000		95.5	70	130			

Sample ID <b>MB-22702</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>22702</b>		RunNo: <b>30716</b>							
Prep Date: <b>12/9/2015</b>	Analysis Date: <b>12/9/2015</b>		SeqNo: <b>938274</b>		Units: <b>%REC</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.3		10.00		92.7	70	130			

Sample ID <b>LCS-22702</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>22702</b>		RunNo: <b>30716</b>							
Prep Date: <b>12/9/2015</b>	Analysis Date: <b>12/9/2015</b>		SeqNo: <b>938275</b>		Units: <b>%REC</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.5		5.000		90.5	70	130			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1512196

10-Dec-15

**Client:** R.T. Hicks Consultants, LTD

**Project:** Polar Bear 4H release

Sample ID <b>MB-22652</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>22652</b>		RunNo: <b>30702</b>							
Prep Date: <b>12/7/2015</b>	Analysis Date: <b>12/8/2015</b>		SeqNo: <b>937695</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	870		1000		86.9	66.2	112			

Sample ID <b>LCS-22652</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>22652</b>		RunNo: <b>30702</b>							
Prep Date: <b>12/7/2015</b>	Analysis Date: <b>12/8/2015</b>		SeqNo: <b>937696</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	94.7	79.6	122			
Surr: BFB	1000		1000		104	66.2	112			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1512196

10-Dec-15

**Client:** R.T. Hicks Consultants, LTD

**Project:** Polar Bear 4H release

Sample ID <b>MB-22652</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>22652</b>		RunNo: <b>30702</b>							
Prep Date: <b>12/7/2015</b>	Analysis Date: <b>12/8/2015</b>		SeqNo: <b>937738</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		113	80	120			

Sample ID <b>LCS-22652</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>22652</b>		RunNo: <b>30702</b>							
Prep Date: <b>12/7/2015</b>	Analysis Date: <b>12/8/2015</b>		SeqNo: <b>937739</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.050	1.000	0	90.7	80	120			
Toluene	0.90	0.050	1.000	0	90.1	80	120			
Ethylbenzene	0.93	0.050	1.000	0	92.5	80	120			
Xylenes, Total	2.6	0.10	3.000	0	87.5	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		124	80	120			S

Sample ID <b>1512196-001AMS</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>5-pt. comp. @3</b>	Batch ID: <b>22652</b>		RunNo: <b>30702</b>							
Prep Date: <b>12/7/2015</b>	Analysis Date: <b>12/8/2015</b>		SeqNo: <b>937741</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.048	0.9506	0	101	69.6	136			
Toluene	0.97	0.048	0.9506	0	102	76.2	134			
Ethylbenzene	1.1	0.048	0.9506	0	111	75.8	137			
Xylenes, Total	3.1	0.095	2.852	0	108	78.9	133			
Surr: 4-Bromofluorobenzene	1.3		0.9506		134	80	120			S

Sample ID <b>1512196-001AMSD</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>5-pt. comp. @3</b>	Batch ID: <b>22652</b>		RunNo: <b>30702</b>							
Prep Date: <b>12/7/2015</b>	Analysis Date: <b>12/8/2015</b>		SeqNo: <b>937742</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.048	0.9506	0	104	69.6	136	3.57	20	
Toluene	1.0	0.048	0.9506	0	105	76.2	134	2.83	20	
Ethylbenzene	1.1	0.048	0.9506	0	114	75.8	137	3.00	20	
Xylenes, Total	3.1	0.095	2.852	0	108	78.9	133	0.685	20	
Surr: 4-Bromofluorobenzene	1.2		0.9506		127	80	120	0	0	S

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- 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: 1512196

RcptNo: 1

Received by/date: *JA* 12/04/15  
 Logged By: Joe Archuleta 12/4/2015 9:20:00 AM  
 Completed By: Joe Archuleta 12/4/2015 10:46:29 AM  
 Reviewed By: *[Signature]* 12/04/15

**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? Courier

**Log In**

- 4. Was an attempt made to cool the samples? Yes  No  NA
  - 5. Were all samples received at a temperature of >0° 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? 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? Yes  No
- (If no, notify customer for authorization.)
- # 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 °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

