

# Burnett Oil Co., Inc.

## Jackson A 31 H

### Closure Report

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API No. 30-015-34000

Release Date: 10/22/2014

Unit Letter B, Section 24, Township 17 South, Range 30 East

December 5, 2014

**Prepared by:**

Environmental Department  
Diversified Field Service, Inc.  
206 West Snyder  
Hobbs, NM 88240  
Phone: (575)964-8394  
Fax: (575)393-8396

# Jackson A 31H

## 1 INTRODUCTION

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Burnett Oil Co., Inc. retained Diversified Environmental (DFSI) to address environmental issues for the site detailed herein.

The site is located in Loco-Hills NM, in Eddy County. The leak site resulted from a hydrocarbon and produced water leak that occurred on October 22<sup>nd</sup>, 2014. The source of the leak was due to a flow-line at the wellhead that became plugged and ruptured. The total impacted area is approximately 12,317 square feet. A C-141 (Appendix I) was submitted to the NMOCD and BLM on October 23<sup>rd</sup>, 2014. (2RP-2563).

## 2 SITE ACTIVITIES

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On October 28<sup>th</sup>, 2014 DFSI personnel obtained surface and delineation samples of the impacted area, which included SP1-6. The first round of sampling indicated that the samples were all below the required levels, except for SP5 which showed the GRO returned with 676 mg/kg., which would be further delineated during the excavation procedures. These samples were taken to a commercial laboratory for confirmation (Appendix IV) as listed below (H403338-02 – Cardinal Lab):

SP1: 1' - 32 mg/kg Cl, <0.300 mg/kg BTEX, <10 TPH 8015M  
SP2: Surface - <16 mg/kg Cl, <1.20 mg/kg BTEX, <100 GRO and 6200 DRO mg/kg TPH 8015M  
SP2: 1' - <16 mg/kg Cl, <0.300 mg/kg BTEX, <10 GRO and 138 DRO mg/kg TPH 8015M  
SP3: 6' - 304 mg/kg Cl, <0.300 mg/kg BTEX, <10 mg/kg TPH 8015M  
SP4: 3' - 208 mg/kg Cl, <0.300 mg/kg BTEX, <10 GRO and 57.8 DRO mg/kg TPH 8015M  
SP5: Surface - 176 mg/kg Cl, 1.50 mg/kg BTEX, 228 GRO and 13600 DRO mg/kg TPH 8015M  
SP5: 1' - 64 mg/kg Cl, <0.300 mg/kg BTEX, 12 GRO and 676 DRO mg/kg TPH 8015M  
SP6: Surface - 160 mg/kg Cl, 22.1 mg/kg BTEX, 1000 GRO and 29200 mg/kg TPH 8015M  
SP6: 1' - 32 mg/kg Cl, <0.300 mg/kg BTEX, <10 TPH 8015M

On October 29<sup>th</sup>, 2014 DFSI personnel continued surface and delineation sampling on SP7-SP12. The field sampling indicated that SP7-SP11 returned with levels below the regulated concentrations for this site. The lab confirmation for SP12 at surface indicated that the chloride and BTEX concentrations returned under the regulated requirements but the TPH levels were above for the concentrations allowed. Therefore SP12 would be further delineated during the excavation procedures. These samples were taken to a commercial laboratory for confirmation

(Appendix IV) along with the samples that were obtained on October 28<sup>th</sup>, 2014 as listed below (H403338-02 – Cardinal Lab):

SP7: 4' – 32 mg/kg Cl, <0.300 BTEX, <10 mg/kg TPH 8015M  
SP8: 2' – <16 mg/kg Cl, <0.300 BTEX, <10 mg/kg TPH 8015M  
SP9: 2' – 256 mg/kg Cl, <0.300 BTEX, <10 mg/kg TPH 8015M  
SP10: 2' – 64 mg/kg Cl, <0.300 BTEX, <10 mg/kg TPH 8015M  
SP11: 1' – 32 mg/kg Cl, <0.300 BTEX, <10 GRO and 35.5 DRO mg/kg TPH 8015M  
SP12: Surface – 16 mg/kg Cl, <0.300, <54.3 GRO and 2950 DRO mg/kg TPH 8015M

On November 17<sup>th</sup>, 2014 a Remediation Work Plan for the above referenced site was sent to the NMOCD and BLM for approval. Verbal approval was obtained by the BLM on November 17<sup>th</sup>, 2014. The RWP was approved by both the BLM and NMOCD on November 20<sup>th</sup>, 2014 (Appendix II). The remediation guidelines that were approved are as follows:

*Excavate the area of SP1 - SP2, SP6 and SP11 to 1'bgs. Excavate the area of SP8 - SP10 to 2'bgs. SP4 will be excavated to 3'bgs, excavate SP7 to 4'bgs and SP3 to 4'bgs with the install of a 20 mil polyurethane liner in the area of SP3. The area concerning SP5 and SP12 that returned with TPH levels above the allowable concentrations, this area will be further delineated and confirmed with Cardinal Labs. At this time we would like to suggest that the SP5 and SP12 area be excavated to 4'bgs and install a 20 mil polyurethane liner. All of the contaminated soil will be hauled to an approved NMOCD/BLM disposal facility. Once approved and agreed upon the area on the pad will be backfilled with imported caliche, the pasture area will be backfilled with imported topsoil, contoured and reseeded to meet BLM recommendations for re-vegetation.*

*Side wall samples will be taking during the excavation procedure to ensure that all contaminates have been remediated. These samples will also be taken to an approved lab for confirmation before backfilling will take place.*

On November 19<sup>th</sup>, 2014 DFSI personnel began the excavation process. Sidewalls samples were obtained in the field for SW10-SW12 on November 21<sup>st</sup>, 2014. These samples were taken to an approved commercial laboratory for confirmation (Appendix IV) which are included below (H403608-01 – Cardinal Lab):

SW12: East – 16 mg/kg Cl, <0.300 mg/kg BTEX, <10 mg/kg TPH 8015M  
SW12: West - <16 mg/kg Cl, <0.300 mg/kg BTEX, <10 mg/kg TPH 8015M  
SW12: South – 64 mg/kg Cl, <0.300 mg/kg BTEX, <10 GRO and 22.5 DRO mg/kg TPH 8015M  
SW10: South - <16 mg/kg Cl, <0.300 mg/kg BTEX, <10 mg/kg TPH 8015M  
SW11: South East - <16 mg/kg Cl, <0.300 mg/kg BTEX, <10 mg/kg TPH 8015M  
SW11: East - <16 mg/kg Cl, <0.300 mg/kg BTEX, <10 mg/kg TPH 8015M

On November 24<sup>th</sup>, 2014 DFSI personnel continued the excavation efforts excavating SP7 to 4'bgs as well as SP3 to 4'bgs. Sidewall samples were obtained in the field for SW6-SW7, along with the installation of the liner for SP12 areas. These samples were taken to an approved commercial laboratory for confirmation (Appendix IV) which are detailed below (H403617-01 – Cardinal Lab):

SW6: East - <16 mg/kg Cl, <0.300 mg/kg BTEX, <10 mg/kg TPH 8015M

SW6: West - <16 mg/kg Cl, <0.300 mg/kg BTEX, <10 mg/kg TPH 8015M

SW6: South - <16 mg/kg Cl, <0.300 mg/kg BTEX, <10 mg/kg TPH 8015M

SW7: East - <16 mg/kg Cl, <0.300 mg/kg BTEX, <10 mg/kg TPH 8015M

On November 25<sup>th</sup>, 2014 DFSI personnel continued the excavation efforts excavating SP5 to 4'bgs with the installation of the 20 mil liner. Sidewall samples were obtained in the field for SW5 and SW8. These samples were taken to an approved commercial laboratory for confirmation (Appendix IV) which are detailed below (H403631-01 – Cardinal Lab):

SW8: West 3' – 64 mg/kg Cl, <0.300 mg/kg BTEX, <10 mg/kg TPH 8015M

SW5: North – 32 mg/kg Cl, <0.300 mg/kg BTEX, <10 GRO and 10.9 DRO mg/kg TPH 8015M

SW5: East - <16 mg/kg Cl, <0.300 mg/kg BTEX, <10 mg/kg TPH 8015M

SW5: South - <16 mg/kg Cl, <0.300 mg/kg BTEX, <10 mg/kg TPH 8015M

SW5: West - <16 mg/kg Cl, <0.300 mg/kg BTEX, <10 mg/kg TPH 8015M

On November 26<sup>th</sup> DFSI personnel installed the liner at SP3 at 4'bgs. Backfill of the site began on same said date and was finished on December 2<sup>nd</sup>, 2014. The lined areas were backfilled with fresh imported topsoil. The backfilled area was then contoured to the surrounding terrain, all visual staining and impacted soils were removed to an NMOCD approved facility.

DFSI installed a liner on the SP3, SP5 and SP12 areas.

Photographs of site activities can be viewed in Appendix V.

On December 2<sup>nd</sup>, 2014 DFSI personnel ripped, tilled and seeded the disturbed area with 25 pounds of LPC Sand Shiner with Ragweed and Saltbrush, BLM approved mixture.



### 3 CONCLUSION

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According to the U.S. Geological Survey and the NM Office of the State Engineer, depth to groundwater in the area averages greater than 300 ft. bgs. Based on the removal of soils containing elevated chloride and hydrocarbon impact, DFSI Environmental on behalf of Burnett Oil Co., Inc. respectfully requests the closure of this regulatory file for the Jackson A 31H release dated October 14<sup>th</sup>, 2014.

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- 1 Introduction
- 2 Site Activities
- 3 Conclusion

## APPENDICES

Appendix I – Initial Form C-141

Appendix II – Remediation Work Plan

Appendix III – Site Map

Appendix IV – Laboratory Analyses and Field Sampling Data

Appendix V – Site Photos

Appendix VI – Seed Report

Appendix VII – Correspondence

Appendix VIII – Final C-141

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: Burnett Oil Co., Inc.	Contact Leslie Garvis	
Address 801 Cherry Street-Suite 1500, Ft. Worth, TX 76102	Telephone No. 817-583-8730	
Facility Name: Jackson A 31 H	Facility Type: Well	
Surface Owner: BLM	Mineral Owner BLM	API No. 30-015-34000

### LOCATION OF RELEASE

Unit Letter B	Section 24	Township 17S	Range 30E	Feet from the 1220	North/South Line FNL	Feet from the 2310	East/West Line FEL	County Eddy
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Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_

### NATURE OF RELEASE

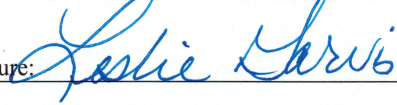
Type of Release: Crude Oil & Produced Water	Volume of Release: 15/40	Volume Recovered: 0/0
Source of Release: Well head	Date and Hour of Occurrence: 10/22/14	Date and Hour of Discovery: 10/22/14
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? BLM – Jeff Robertson	
By Whom? Eddie Duran	Date and Hour: 10/22/14	
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.\*  
Flow line at the well head became plugged and ruptured.

Describe Area Affected and Cleanup Action Taken.\*  
Spill was on pad and ran into pasture area, no product was recovered. Area will be delineated and remediated according to NM regulations.  
Approx. 150'x10' in pasture & pooled in 20'x30' area, small area on pad.

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: 		<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Leslie M. Garvis		Approved by Environmental Specialist:	
Title: Regulatory Coordinator	Approval Date:	Expiration Date:	
E-mail Address: <a href="mailto:lgarvis@burnettoil.com">lgarvis@burnettoil.com</a>	Conditions of Approval:		Attached <input type="checkbox"/>
Date: 10/23/14	Phone: 817-583-8730		

\* Attach Additional Sheets If Necessary



Mike Bratcher  
Environmental Specialist  
NM Oil Conservation District – Division 2  
811 S. First St.  
Artesia, NM 88210

**RE: Burnett Oil Co., Inc. – Jackson A 31H Remediation Plan**  
UL/B, Section 24, T17S, R30E  
API No. 30-015-34000

Mr. Bratcher,

Burnett Oil Co., has retained Diversified Field Service, Inc. (DFSI) to address environmental issues for the site detailed herein.

The site is located Loco-hills NM, in Eddy County. The leak site resulted from a hydrocarbon and produced water leak. The source of the leak was due to a flowline at the wellhead that became plugged and ruptured. Total impacted area is 12,317 square feet. A C-141 was submitted to the NMOCD and the BLM on October 23, 2014. (2RP-2563).

### **Site Assessment and Delineation**

On October 28th, 2014 DFSI personnel obtained surface and delineation samples of the leak area, which included SP1-SP6. All of the first round of field sampling cleaned up below the required levels, except for SP5 which showed the GRO returned with 676 mg/kg. Then on October 29th, 2014 DFSI continued surface and delineation sampling on SP7-SP12. The field sampling indicated that all samples were below the required levels. The lab confirmation showed that SP7-SP11 returned with levels below the regulated concentrations for this site. The lab confirmation for SP12 at surface showed that chloride levels were at 16 mg/kg, BTEX returned at <0.300 but the TPH sample returned with levels above the allowed concentrations at 54.3 mg/kg GRO C6-C10 and 2950 DRO >C10-C28.

Field samples were taken on twelve sample points, each sample was tested for chlorides levels as well as TPH. The field samples were performed using a Mini Rae Photoionization Detector (PID) and with the chloride titration method. All clean field samples found under the BLM/NMOCD standards with the exception of SP5 and SP12,

all were taken to Cardinal Lab of Hobbs to obtain confirmation. The results confirmed that bottom samples of each sample point were as follows:

SP1: 1' – 32 mg/kg Cl, <0.300 mg/kg BTEX and <10 mg/kg TPH 8015M  
SP2: 1' - <16 mg/kg Cl, <0.300 mg/kg BTEX and <10 mg/kg DRO/138 mg/kg GRO  
SP3: 6' – 304 mg/kg Cl, <0.300 mg/kg BTEX and <10 mg/kg TPH 8015M  
SP4: 3' – 208 mg/kg Cl, <0.300 mg/kg BTEX and <10 mg/kg DRO/57.8 mg/kg GRO  
SP5: 1' – 64 mg/kg Cl, <0.300 mg/kg BTEX and 12 mg/kg DRO/**676 mg/kg GRO**  
SP6: 1' – 32 mg/kg Cl, <0.300 mg/kg BTEX and <10 mg/kg TPH 8015M  
SP7: 4' – 32 mg/kg Cl, <0.300 mg/kg BTEX and <10 mg/kg TPH 8015M  
SP8: 2' - <16 mg/kg Cl, <0.300 mg/kg BTEX and <10 mg/kg TPH 8015M  
SP9: 2' – 256 mg/kg Cl, <0.300 mg/kg BTEX and <10 mg/kg TPH 8015M  
SP10: 2' – 64 mg/kg Cl, <0.300 mg/kg BTEX and <10 mg/kg TPH 8015M  
SP11: 1' – 32 mg/kg Cl, <0.300 mg/kg BTEX and <10 mg/kg DRO/35.5 mg/kg GRO  
SP12: Surf – 16 mg/kg Cl, <0.300 mg/kg BTEX and 54.3 mg/kg DRO/**2950 mg/kg GRO**

DFSI has conducted a groundwater study of the area and has determined that according to the New Mexico Office of the State Engineer the average depth to groundwater for this area is 300 foot below ground surface. Therefore, no eminent danger of groundwater impact or threat to life is anticipated.

## Conclusion

After careful review DFSI on behalf of Burnett Oil Co., Inc., would like to propose the following:

Excavate the area of SP1 - SP2, SP6 and SP11 to 1'bgs. Excavate the area of SP8 - SP10 to 2'bgs. SP4 will be excavated to 3'bgs, excavate SP7 to 4'bgs and SP3 to 4'bgs with the install of a 20 mil polyurethane liner in the area of SP3. The area concerning SP5 and SP12 that returned with TPH levels above the allowable concentrations, this area will be further delineated and confirmed with Cardinal Labs. At this time we would like to suggest that the SP5 and SP12 area be excavated to 4'bgs and install a 20 mil polyurethane liner. All of the contaminated soil will be hauled to an approved NMOCD/BLM disposal facility. Once approved and agreed upon the area on the pad will be backfilled with imported caliche, the pasture area will be backfilled with imported topsoil, contoured and reseeded to meet BLM recommendations for re-vegetation.

Side wall samples will be taking during the excavation procedure to ensure that all contaminants have been remediated. These samples will also be taken to an approved lab for confirmation before backfilling will take place.



Following the approval of the above plan and after the remediation has taken place, DFSI will submit all proper closure documentation to the NMOCD and BLM in accordance to the State and Federal Guidelines set forth.

Please feel free to contact me with any questions concerning this remediation plan request.

Sincerely,



Natalie Gladden  
Environmental Director  
Diversified Field Service, Inc.  
206 West Snyder  
Hobbs, NM 88240  
Office: (575)964-8394  
Mobile: (575)602-1786  
Fax: (575)964-8396  
Email: [ngladden@diversifiedfsi.com](mailto:ngladden@diversifiedfsi.com)

cc Jeff Robertson  
NM Bureau of Land Management

Attachments: Initial Form C-141  
Photo Page  
Site/Sample Map  
Sample Data  
Lab Analytical Data

## Site Diagram

**Burnett, Jackson A 31 H  
UL/B, Sec. 24 T17S R30E  
Eddy County, NM  
Drafted By: Lance Crenshaw, 10-24-14**











0      0.003   0.006                      0.012 Miles



### Legend

### Misc\_points

## Types

-  Electrical Box
-  Power Pole
-  Headers
-  Injection
-  Pumpjacks
-  Tanks
-  Valves
-  Other
-  sample\_pts
-  Source

## Pipeline





## Type

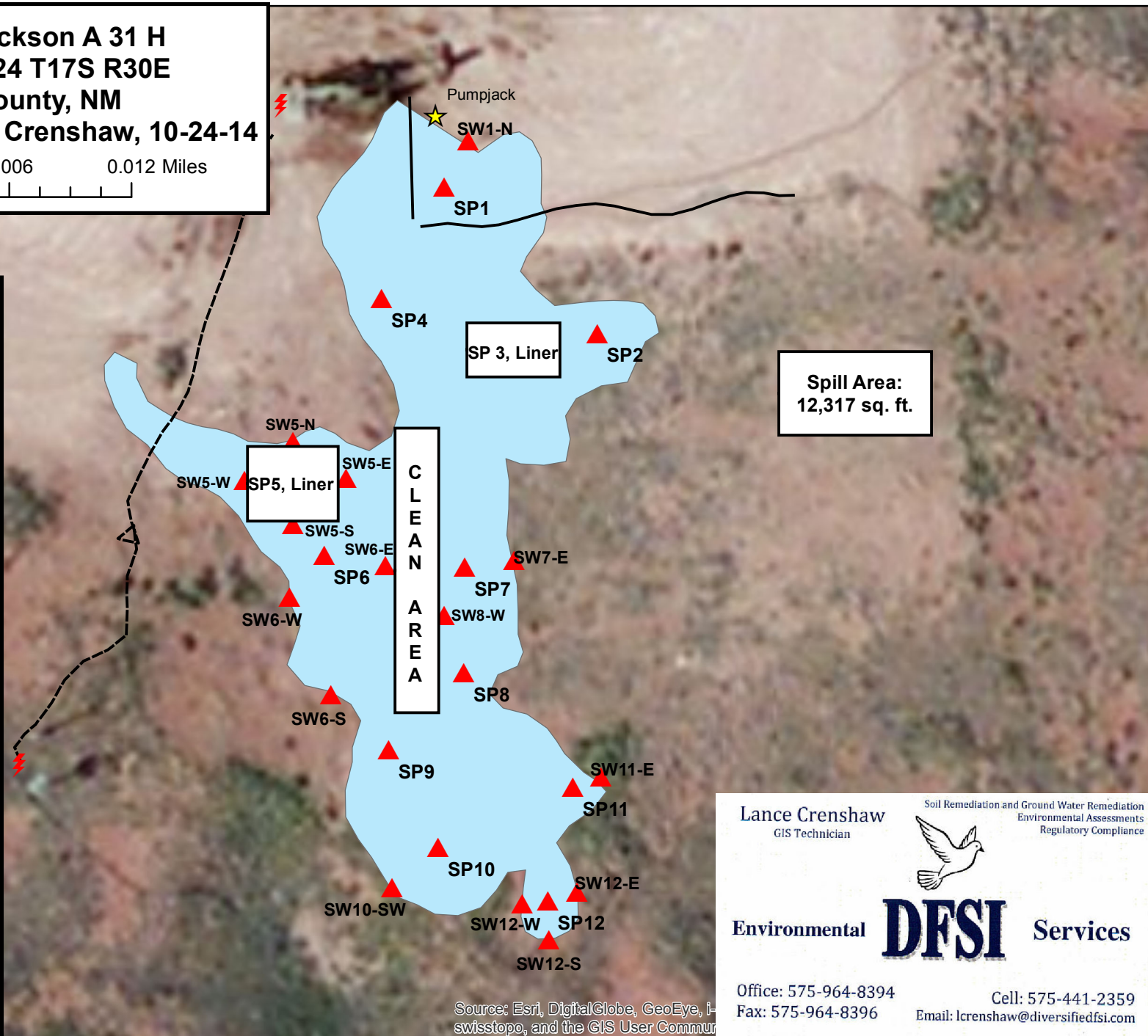
- Above Ground Line  
 --- Buried Line

## Spill

-  <all other values>

**Spill\_Media**

- |   |                      |
|---|----------------------|
|  | Oil and Produced H2O |
|  | Oil                  |
|  | Other                |
|  | Produced Water       |



Lance Crenshaw  
GIS Technician

Soil Remediation and Ground Water Remediation  
Environmental Assessments  
Regulatory Compliance



## Environmental

# DFS

## Services

Office: 575-964-8394  
Fax: 575-964-8396

Cell: 575-441-2359  
Email: lcrenshaw@diversifiedfsi.com

Source: Esri, DigitalGlobe, GeoEye, i-  
swisstopo, and the GIS User Commu

October 30, 2014

MIKE BURTON

Burnett Oil Co., Inc

801 Cherry St. - Suite 1500

Fort Worth, TX 76102-6881

RE: JACKSON A #31 H

Enclosed are the results of analyses for samples received by the laboratory on 10/29/14 16:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. 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:**

Burnett Oil Co., Inc  
MIKE BURTON  
801 Cherry St. - Suite 1500  
Fort Worth TX, 76102-6881  
Fax To: None

Received: 10/29/2014  
Reported: 10/30/2014  
Project Name: JACKSON A #31 H  
Project Number: 16910  
Project Location: NOT GIVEN

Sampling Date: 10/28/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Kathy Perez

**Sample ID: SP 1 @ 1' (H403338-01)**

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/29/2014	ND	1.98	98.8	2.00	5.30	
Toluene*	<0.050	0.050	10/29/2014	ND	1.87	93.3	2.00	5.20	
Ethylbenzene*	<0.050	0.050	10/29/2014	ND	1.77	88.3	2.00	4.09	
Total Xylenes*	<0.150	0.150	10/29/2014	ND	5.22	87.0	6.00	4.03	
Total BTEX	<0.300	0.300	10/29/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/30/2014	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/29/2014	ND	177	88.6	200	0.683	
DRO >C10-C28	<10.0	10.0	10/29/2014	ND	184	92.1	200	2.71	

Surrogate: 1-Chlorooctane 103 % 47.2-157

Surrogate: 1-Chlorooctadecane 135 % 52.1-176

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for 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 thirty (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, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

Burnett Oil Co., Inc  
MIKE BURTON  
801 Cherry St. - Suite 1500  
Fort Worth TX, 76102-6881  
Fax To: None

Received: 10/29/2014  
Reported: 10/30/2014  
Project Name: JACKSON A #31 H  
Project Number: 16910  
Project Location: NOT GIVEN

Sampling Date: 10/28/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Kathy Perez

**Sample ID: SP 2 @ SURFACE (H403338-02)**

BTX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.200	0.200	10/29/2014	ND	1.98	98.8	2.00	5.30		
Toluene*	<0.200	0.200	10/29/2014	ND	1.87	93.3	2.00	5.20		
Ethylbenzene*	<0.200	0.200	10/29/2014	ND	1.77	88.3	2.00	4.09		
Total Xylenes*	<0.600	0.600	10/29/2014	ND	5.22	87.0	6.00	4.03		
Total BTX	<1.20	1.20	10/29/2014	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 61-154

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	10/30/2014	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: ms				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<100	100	10/29/2014	ND	177	88.6	200	0.683	
DRO >C10-C28	6200	100	10/29/2014	ND	184	92.1	200	2.71	

Surrogate: 1-Chlorooctane 98.6 % 47.2-157

Surrogate: 1-Chlorooctadecane 297 % 52.1-176

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for 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 thirty (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, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

Burnett Oil Co., Inc  
MIKE BURTON  
801 Cherry St. - Suite 1500  
Fort Worth TX, 76102-6881  
Fax To: None

Received: 10/29/2014  
Reported: 10/30/2014  
Project Name: JACKSON A #31 H  
Project Number: 16910  
Project Location: NOT GIVEN

Sampling Date: 10/28/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Kathy Perez

**Sample ID: SP 2 @ 1' (H403338-03)**

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/29/2014	ND	1.98	98.8	2.00	5.30	
Toluene*	<0.050	0.050	10/29/2014	ND	1.87	93.3	2.00	5.20	
Ethylbenzene*	<0.050	0.050	10/29/2014	ND	1.77	88.3	2.00	4.09	
Total Xylenes*	<0.150	0.150	10/29/2014	ND	5.22	87.0	6.00	4.03	
Total BTX	<0.300	0.300	10/29/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 61-154

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	10/30/2014	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/29/2014	ND	177	88.6	200	0.683	
DRO >C10-C28	138	10.0	10/29/2014	ND	184	92.1	200	2.71	

Surrogate: 1-Chlorooctane 106 % 47.2-157

Surrogate: 1-Chlorooctadecane 144 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

Burnett Oil Co., Inc  
MIKE BURTON  
801 Cherry St. - Suite 1500  
Fort Worth TX, 76102-6881  
Fax To: None

Received: 10/29/2014  
Reported: 10/30/2014  
Project Name: JACKSON A #31 H  
Project Number: 16910  
Project Location: NOT GIVEN

Sampling Date: 10/28/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Kathy Perez

**Sample ID: SP 3 @ 6' (H403338-04)**

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/29/2014	ND	1.98	98.8	2.00	5.30	
Toluene*	<0.050	0.050	10/29/2014	ND	1.87	93.3	2.00	5.20	
Ethylbenzene*	<0.050	0.050	10/29/2014	ND	1.77	88.3	2.00	4.09	
Total Xylenes*	<0.150	0.150	10/29/2014	ND	5.22	87.0	6.00	4.03	
Total BTX	<0.300	0.300	10/29/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	10/30/2014	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/29/2014	ND	177	88.6	200	0.683	
DRO >C10-C28	<10.0	10.0	10/29/2014	ND	184	92.1	200	2.71	

Surrogate: 1-Chlorooctane 102 % 47.2-157

Surrogate: 1-Chlorooctadecane 117 % 52.1-176

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**Analytical Results For:**

Burnett Oil Co., Inc  
MIKE BURTON  
801 Cherry St. - Suite 1500  
Fort Worth TX, 76102-6881  
Fax To: None

Received: 10/29/2014  
Reported: 10/30/2014  
Project Name: JACKSON A #31 H  
Project Number: 16910  
Project Location: NOT GIVEN

Sampling Date: 10/28/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Kathy Perez

**Sample ID: SP 4 @ 3' (H403338-05)**

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/29/2014	ND	1.98	98.8	2.00	5.30	
Toluene*	<0.050	0.050	10/29/2014	ND	1.87	93.3	2.00	5.20	
Ethylbenzene*	<0.050	0.050	10/29/2014	ND	1.77	88.3	2.00	4.09	
Total Xylenes*	<0.150	0.150	10/29/2014	ND	5.22	87.0	6.00	4.03	
Total BTX	<0.300	0.300	10/29/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 61-154

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	10/30/2014	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/29/2014	ND	177	88.6	200	0.683	
DRO >C10-C28	57.8	10.0	10/29/2014	ND	184	92.1	200	2.71	

Surrogate: 1-Chlorooctane 97.2 % 47.2-157

Surrogate: 1-Chlorooctadecane 140 % 52.1-176

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**Analytical Results For:**

Burnett Oil Co., Inc  
MIKE BURTON  
801 Cherry St. - Suite 1500  
Fort Worth TX, 76102-6881  
Fax To: None

Received: 10/29/2014  
Reported: 10/30/2014  
Project Name: JACKSON A #31 H  
Project Number: 16910  
Project Location: NOT GIVEN

Sampling Date: 10/28/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Kathy Perez

**Sample ID: SP 5 @ SURFACE (H403338-06)**

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	10/30/2014	ND	1.98	98.8	2.00	5.30	
Toluene*	0.217	0.200	10/30/2014	ND	1.87	93.3	2.00	5.20	
Ethylbenzene*	0.509	0.200	10/30/2014	ND	1.77	88.3	2.00	4.09	
Total Xylenes*	0.776	0.600	10/30/2014	ND	5.22	87.0	6.00	4.03	
Total BTEX	1.50	1.20	10/30/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	10/30/2014	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: ms					S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	228	200	10/29/2014	ND	177	88.6	200	0.683		
DRO >C10-C28	13600	200	10/29/2014	ND	184	92.1	200	2.71		

Surrogate: 1-Chlorooctane 92.7 % 47.2-157

Surrogate: 1-Chlorooctadecane 683 % 52.1-176

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**Analytical Results For:**

Burnett Oil Co., Inc  
MIKE BURTON  
801 Cherry St. - Suite 1500  
Fort Worth TX, 76102-6881  
Fax To: None

Received: 10/29/2014  
Reported: 10/30/2014  
Project Name: JACKSON A #31 H  
Project Number: 16910  
Project Location: NOT GIVEN

Sampling Date: 10/28/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Kathy Perez

**Sample ID: SP 5 @ 1' (H403338-07)**

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/30/2014	ND	1.98	98.8	2.00	5.30	
Toluene*	<0.050	0.050	10/30/2014	ND	1.87	93.3	2.00	5.20	
Ethylbenzene*	<0.050	0.050	10/30/2014	ND	1.77	88.3	2.00	4.09	
Total Xylenes*	<0.150	0.150	10/30/2014	ND	5.22	87.0	6.00	4.03	
Total BTEx	<0.300	0.300	10/30/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	10/30/2014	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	12.0	10.0	10/29/2014	ND	177	88.6	200	0.683	
DRO >C10-C28	676	10.0	10/29/2014	ND	184	92.1	200	2.71	

Surrogate: 1-Chlorooctane 106 % 47.2-157

Surrogate: 1-Chlorooctadecane 150 % 52.1-176

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**Analytical Results For:**

Burnett Oil Co., Inc  
MIKE BURTON  
801 Cherry St. - Suite 1500  
Fort Worth TX, 76102-6881  
Fax To: None

Received: 10/29/2014  
Reported: 10/30/2014  
Project Name: JACKSON A #31 H  
Project Number: 16910  
Project Location: NOT GIVEN

Sampling Date: 10/28/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Kathy Perez

**Sample ID: SP 6 @ SURFACE (H403338-08)**

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<1.00	1.00	10/30/2014	ND	1.98	98.8	2.00	5.30	
Toluene*	5.06	1.00	10/30/2014	ND	1.87	93.3	2.00	5.20	
Ethylbenzene*	10.3	1.00	10/30/2014	ND	1.77	88.3	2.00	4.09	
Total Xylenes*	6.75	3.00	10/30/2014	ND	5.22	87.0	6.00	4.03	
Total BTX	22.1	6.00	10/30/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 61-154

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	10/30/2014	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: ms				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	1000	200	10/29/2014	ND	177	88.6	200	0.683	
DRO >C10-C28	29200	200	10/29/2014	ND	184	92.1	200	2.71	

Surrogate: 1-Chlorooctane 187 % 47.2-157

Surrogate: 1-Chlorooctadecane 1110 % 52.1-176

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**Analytical Results For:**

 Burnett Oil Co., Inc  
 MIKE BURTON  
 801 Cherry St. - Suite 1500  
 Fort Worth TX, 76102-6881  
 Fax To: None

 Received: 10/29/2014  
 Reported: 10/30/2014  
 Project Name: JACKSON A #31 H  
 Project Number: 16910  
 Project Location: NOT GIVEN

 Sampling Date: 10/28/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Kathy Perez

**Sample ID: SP 6 @ 1' (H403338-09)**

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/30/2014	ND	1.98	98.8	2.00	5.30	
Toluene*	<0.050	0.050	10/30/2014	ND	1.87	93.3	2.00	5.20	
Ethylbenzene*	<0.050	0.050	10/30/2014	ND	1.77	88.3	2.00	4.09	
Total Xylenes*	<0.150	0.150	10/30/2014	ND	5.22	87.0	6.00	4.03	
Total BTX	<0.300	0.300	10/30/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.3 % 61-154

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/30/2014	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/30/2014	ND	172	86.1	200	0.594	
DRO >C10-C28	<10.0	10.0	10/30/2014	ND	178	89.1	200	4.53	

Surrogate: 1-Chlorooctane 105 % 47.2-157

Surrogate: 1-Chlorooctadecane 139 % 52.1-176

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**Analytical Results For:**

Burnett Oil Co., Inc  
MIKE BURTON  
801 Cherry St. - Suite 1500  
Fort Worth TX, 76102-6881  
Fax To: None

Received: 10/29/2014  
Reported: 10/30/2014  
Project Name: JACKSON A #31 H  
Project Number: 16910  
Project Location: NOT GIVEN

Sampling Date: 10/29/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Kathy Perez

**Sample ID: SP 7 @ 4' (H403338-10)**

BTX 8021B			mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/30/2014	ND	1.98	98.8	2.00	5.30		
Toluene*	<0.050	0.050	10/30/2014	ND	1.87	93.3	2.00	5.20		
Ethylbenzene*	<0.050	0.050	10/30/2014	ND	1.77	88.3	2.00	4.09		
Total Xylenes*	<0.150	0.150	10/30/2014	ND	5.22	87.0	6.00	4.03		
Total BTX	<0.300	0.300	10/30/2014	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.2 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/30/2014	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/30/2014	ND	172	86.1	200	0.594	
DRO >C10-C28	<10.0	10.0	10/30/2014	ND	178	89.1	200	4.53	

Surrogate: 1-Chlorooctane 105 % 47.2-157

Surrogate: 1-Chlorooctadecane 120 % 52.1-176

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**Analytical Results For:**

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MIKE BURTON  
801 Cherry St. - Suite 1500  
Fort Worth TX, 76102-6881  
Fax To: None

Received: 10/29/2014  
Reported: 10/30/2014  
Project Name: JACKSON A #31 H  
Project Number: 16910  
Project Location: NOT GIVEN

Sampling Date: 10/29/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Kathy Perez

**Sample ID: SP 8 @ 2' (H403338-11)**

BTX 8021B			mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/30/2014	ND	1.98	98.8	2.00	5.30		
Toluene*	<0.050	0.050	10/30/2014	ND	1.87	93.3	2.00	5.20		
Ethylbenzene*	<0.050	0.050	10/30/2014	ND	1.77	88.3	2.00	4.09		
Total Xylenes*	<0.150	0.150	10/30/2014	ND	5.22	87.0	6.00	4.03		
Total BTX	<0.300	0.300	10/30/2014	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	10/30/2014	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/30/2014	ND	172	86.1	200	0.594	
DRO >C10-C28	<10.0	10.0	10/30/2014	ND	178	89.1	200	4.53	

Surrogate: 1-Chlorooctane 108 % 47.2-157

Surrogate: 1-Chlorooctadecane 126 % 52.1-176

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MIKE BURTON  
801 Cherry St. - Suite 1500  
Fort Worth TX, 76102-6881  
Fax To: None

Received: 10/29/2014  
Reported: 10/30/2014  
Project Name: JACKSON A #31 H  
Project Number: 16910  
Project Location: NOT GIVEN

Sampling Date: 10/29/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Kathy Perez

**Sample ID: SP 9 @ 2' (H403338-12)**

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/30/2014	ND	1.98	98.8	2.00	5.30	
Toluene*	<0.050	0.050	10/30/2014	ND	1.87	93.3	2.00	5.20	
Ethylbenzene*	<0.050	0.050	10/30/2014	ND	1.77	88.3	2.00	4.09	
Total Xylenes*	<0.150	0.150	10/30/2014	ND	5.22	87.0	6.00	4.03	
Total BTX	<0.300	0.300	10/30/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 61-154

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	10/30/2014	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/30/2014	ND	172	86.1	200	0.594	
DRO >C10-C28	<10.0	10.0	10/30/2014	ND	178	89.1	200	4.53	

Surrogate: 1-Chlorooctane 105 % 47.2-157

Surrogate: 1-Chlorooctadecane 121 % 52.1-176

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

Burnett Oil Co., Inc  
MIKE BURTON  
801 Cherry St. - Suite 1500  
Fort Worth TX, 76102-6881  
Fax To: None

Received: 10/29/2014  
Reported: 10/30/2014  
Project Name: JACKSON A #31 H  
Project Number: 16910  
Project Location: NOT GIVEN

Sampling Date: 10/29/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Kathy Perez

**Sample ID: SP 10 @ 2' (H403338-13)**

BTX 8021B			mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/30/2014	ND	1.98	98.8	2.00	5.30		
Toluene*	<0.050	0.050	10/30/2014	ND	1.87	93.3	2.00	5.20		
Ethylbenzene*	<0.050	0.050	10/30/2014	ND	1.77	88.3	2.00	4.09		
Total Xylenes*	<0.150	0.150	10/30/2014	ND	5.22	87.0	6.00	4.03		
Total BTX	<0.300	0.300	10/30/2014	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 61-154

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	10/30/2014	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/30/2014	ND	172	86.1	200	0.594	
DRO >C10-C28	<10.0	10.0	10/30/2014	ND	178	89.1	200	4.53	

Surrogate: 1-Chlorooctane 105 % 47.2-157

Surrogate: 1-Chlorooctadecane 123 % 52.1-176

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

Burnett Oil Co., Inc  
MIKE BURTON  
801 Cherry St. - Suite 1500  
Fort Worth TX, 76102-6881  
Fax To: None

Received: 10/29/2014  
Reported: 10/30/2014  
Project Name: JACKSON A #31 H  
Project Number: 16910  
Project Location: NOT GIVEN

Sampling Date: 10/29/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Kathy Perez

**Sample ID: SP 11 @ 1' (H403338-14)**

BTX 8021B			mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/30/2014	ND	1.98	98.8	2.00	5.30		
Toluene*	<0.050	0.050	10/30/2014	ND	1.87	93.3	2.00	5.20		
Ethylbenzene*	<0.050	0.050	10/30/2014	ND	1.77	88.3	2.00	4.09		
Total Xylenes*	<0.150	0.150	10/30/2014	ND	5.22	87.0	6.00	4.03		
Total BTX	<0.300	0.300	10/30/2014	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 61-154

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/30/2014	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/30/2014	ND	172	86.1	200	0.594	
DRO >C10-C28	35.5	10.0	10/30/2014	ND	178	89.1	200	4.53	

Surrogate: 1-Chlorooctane 109 % 47.2-157

Surrogate: 1-Chlorooctadecane 124 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

Burnett Oil Co., Inc  
MIKE BURTON  
801 Cherry St. - Suite 1500  
Fort Worth TX, 76102-6881  
Fax To: None

Received: 10/29/2014  
Reported: 10/30/2014  
Project Name: JACKSON A #31 H  
Project Number: 16910  
Project Location: NOT GIVEN

Sampling Date: 10/29/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Kathy Perez

**Sample ID: SP 12 @ SURFACE (H403338-15)**

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/30/2014	ND	1.98	98.8	2.00	5.30	
Toluene*	<0.050	0.050	10/30/2014	ND	1.87	93.3	2.00	5.20	
Ethylbenzene*	<0.050	0.050	10/30/2014	ND	1.77	88.3	2.00	4.09	
Total Xylenes*	<0.150	0.150	10/30/2014	ND	5.22	87.0	6.00	4.03	
Total BTX	<0.300	0.300	10/30/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 61-154

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	10/30/2014	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: ms				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	54.3	50.0	10/30/2014	ND	172	86.1	200	0.594	
DRO >C10-C28	2950	50.0	10/30/2014	ND	178	89.1	200	4.53	

Surrogate: 1-Chlorooctane 105 % 47.2-157

Surrogate: 1-Chlorooctadecane 212 % 52.1-176

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
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





101 East Marland, Hobbs, NM 88240

(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Burnett Oil Gas

Project Manager: Mike Burton

Address:

City:

Phone #:

Project #:

Project Name:

Project Location: Jackson A 314

Sampler Name: Michael Long

FOR LAB USE ONLY

Lab I.D. #403338

Sample I.D.

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	DATE	TIME	CL	TPH	BTEX	ANALYSIS REQUEST									
1	SP100 2'		1			X							10-28-14	10:58			X	X	X										
2	SP200 SWP		1			X							10-28-14	11:42			X	X	X										
3	SP200 1'		1			X							10-28-14	11:46			X	X	X										
4	SP300 6'		1			X							10-28-14	12:55			X	X	X										
5	SP400 3'		1			X							10-28-14	2:04			X	X	X										
6	SP500 SWP		1			X							10-28-14	2:28			X	X	X										
7	SP500 1'		1			X							10-28-14	2:30			X	X	X										
8	SP600 SWP		1			X							10-28-14	2:59			X	X	X										
9	SP600 1'		1			X							10-28-14	3:02			X	X	X										

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Relinquished By:

Date: 10-28-14 Received By: John Long

Relinquished By: Michael Long

Date: 10-28-14 Received By: John Long

Time: 4:20

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

-15.80

Sample Condition  
☒ Cool ☐ Intact  
☒ Yes ☐ No

CHECKED BY: CL

Phone Result: ☐ Yes ☐ No Add'l Phone #:  
Fax Result: ☐ Yes ☐ No Add'l Fax #:

REMARKS:

E-mail Results To: Ngiladden@diversifiedfsi.com

Rpons@diversifiedfsi.com

QVB





## Page 19 of 19

ANALYSIS REQUEST

\* Cardinal cannot accept verbal changes. Please fax written changes to (575) 202-2226



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

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November 21, 2014

NATALIE GLADDEN

DIVERSIFIED FIELD SERVICES, INC.

P. O. BOX 5966

HOBBS, NM 88241

RE: JACKSON A 31 H

Enclosed are the results of analyses for samples received by the laboratory on 11/20/14 15:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

DIVERSIFIED FIELD SERVICES, INC.  
NATALIE GLADDEN  
P. O. BOX 5966  
HOBBS NM, 88241  
Fax To: (575) 393-2981

Received:	11/20/2014	Sampling Date:	11/20/2014
Reported:	11/21/2014	Sampling Type:	Soil
Project Name:	JACKSON A 31 H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	BURNETT OIL		

**Sample ID: SP. 12 @ 2.5' (H403567-01)**

BTX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/21/2014	ND	1.96	98.1	2.00	6.95		
Toluene*	<0.050	0.050	11/21/2014	ND	1.90	95.2	2.00	7.27		
Ethylbenzene*	<0.050	0.050	11/21/2014	ND	1.88	93.8	2.00	6.56		
Total Xylenes*	<0.150	0.150	11/21/2014	ND	5.65	94.2	6.00	6.68		
Total BTX	<0.300	0.300	11/21/2014	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.6 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	11/21/2014	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	11/21/2014	ND	182	90.8	200	3.28		
DRO >C10-C28	<10.0	10.0	11/21/2014	ND	182	90.8	200	3.21		

Surrogate: 1-Chlorooctane 104 % 47.2-157

Surrogate: 1-Chlorooctadecane 119 % 52.1-176

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

DIVERSIFIED FIELD SERVICES, INC.  
NATALIE GLADDEN  
P. O. BOX 5966  
HOBBS NM, 88241  
Fax To: (575) 393-2981

Received: 11/20/2014  
Reported: 11/21/2014  
Project Name: JACKSON A 31 H  
Project Number: NONE GIVEN  
Project Location: BURNETT OIL

Sampling Date: 11/20/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 5 @ 2' (H403567-02)**

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/21/2014	ND	1.96	98.1	2.00	6.95	
Toluene*	<0.050	0.050	11/21/2014	ND	1.90	95.2	2.00	7.27	
Ethylbenzene*	<0.050	0.050	11/21/2014	ND	1.88	93.8	2.00	6.56	
Total Xylenes*	<0.150	0.150	11/21/2014	ND	5.65	94.2	6.00	6.68	
Total BTEx	<0.300	0.300	11/21/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.3 % 61-154

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	11/21/2014	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/21/2014	ND	182	90.8	200	3.28	
DRO >C10-C28	<10.0	10.0	11/21/2014	ND	182	90.8	200	3.21	

Surrogate: 1-Chlorooctane 102 % 47.2-157

Surrogate: 1-Chlorooctadecane 116 % 52.1-176

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

DIVERSIFIED FIELD SERVICES, INC.  
NATALIE GLADDEN  
P. O. BOX 5966  
HOBBS NM, 88241  
Fax To: (575) 393-2981

Received: 11/20/2014  
Reported: 11/21/2014  
Project Name: JACKSON A 31 H  
Project Number: NONE GIVEN  
Project Location: BURNETT OIL

Sampling Date: 11/20/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SW 1 NORTH (H403567-03)**

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/21/2014	ND	1.96	98.1	2.00	6.95	
Toluene*	<0.050	0.050	11/21/2014	ND	1.90	95.2	2.00	7.27	
Ethylbenzene*	<0.050	0.050	11/21/2014	ND	1.88	93.8	2.00	6.56	
Total Xylenes*	<0.150	0.150	11/21/2014	ND	5.65	94.2	6.00	6.68	
Total BTEx	<0.300	0.300	11/21/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.9 % 61-154

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	11/21/2014	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/21/2014	ND	182	90.8	200	3.28	
DRO >C10-C28	81.6	10.0	11/21/2014	ND	182	90.8	200	3.21	

Surrogate: 1-Chlorooctane 102 % 47.2-157

Surrogate: 1-Chlorooctadecane 114 % 52.1-176

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

DIVERSIFIED FIELD SERVICES, INC.  
NATALIE GLADDEN  
P. O. BOX 5966  
HOBBS NM, 88241  
Fax To: (575) 393-2981

Received: 11/20/2014  
Reported: 11/21/2014  
Project Name: JACKSON A 31 H  
Project Number: NONE GIVEN  
Project Location: BURNETT OIL

Sampling Date: 11/20/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SW 10 SOUTH WEST (H403567-04)**

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/21/2014	ND	1.96	98.1	2.00	6.95	
Toluene*	<0.050	0.050	11/21/2014	ND	1.90	95.2	2.00	7.27	
Ethylbenzene*	<0.050	0.050	11/21/2014	ND	1.88	93.8	2.00	6.56	
Total Xylenes*	<0.150	0.150	11/21/2014	ND	5.65	94.2	6.00	6.68	
Total BTEx	<0.300	0.300	11/21/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.9 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/21/2014	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/21/2014	ND	182	90.8	200	3.28	
DRO >C10-C28	<10.0	10.0	11/21/2014	ND	182	90.8	200	3.21	

Surrogate: 1-Chlorooctane 108 % 47.2-157

Surrogate: 1-Chlorooctadecane 118 % 52.1-176

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

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

---

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





## Page 7 of 7

#54

November 25, 2014

NATALIE GLADDEN

DIVERSIFIED FIELD SERVICES, INC.

P. O. BOX 5966

HOBBS, NM 88241

RE: JACKSON A 31 H

Enclosed are the results of analyses for samples received by the laboratory on 11/24/14 14:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. 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,



Hope S. Moreno For Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

 DIVERSIFIED FIELD SERVICES, INC.  
 NATALIE GLADDEN  
 P. O. BOX 5966  
 HOBBS NM, 88241  
 Fax To: (575) 393-2981

 Received: 11/24/2014  
 Reported: 11/25/2014  
 Project Name: JACKSON A 31 H  
 Project Number: NONE GIVEN  
 Project Location: BURNETT OIL

 Sampling Date: 11/24/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SW. 6 EAST (H403617-01)**

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/25/2014	ND	1.80	89.8	2.00	6.95	
Toluene*	<0.050	0.050	11/25/2014	ND	1.77	88.3	2.00	7.99	
Ethylbenzene*	<0.050	0.050	11/25/2014	ND	1.77	88.5	2.00	8.25	
Total Xylenes*	<0.150	0.150	11/25/2014	ND	5.38	89.6	6.00	8.97	
Total BTX	<0.300	0.300	11/25/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 100 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/25/2014	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/24/2014	ND	202	101	200	1.12	
DRO >C10-C28	<10.0	10.0	11/24/2014	ND	211	105	200	2.83	

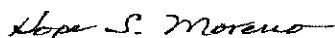
Surrogate: 1-Chlorooctane 133 % 47.2-157

Surrogate: 1-Chlorooctadecane 146 % 52.1-176

**Cardinal Laboratories**

\* = Accredited Analyte

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Hope S. Moreno For Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

DIVERSIFIED FIELD SERVICES, INC.  
NATALIE GLADDEN  
P. O. BOX 5966  
HOBBS NM, 88241  
Fax To: (575) 393-2981

Received: 11/24/2014  
Reported: 11/25/2014  
Project Name: JACKSON A 31 H  
Project Number: NONE GIVEN  
Project Location: BURNETT OIL

Sampling Date: 11/24/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SW. 6 WEST (H403617-02)**

BTX 8021B			mg/kg		Analyzed By: ms				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/25/2014	ND	1.80	89.8	2.00	6.95	
Toluene*	<0.050	0.050	11/25/2014	ND	1.77	88.3	2.00	7.99	
Ethylbenzene*	<0.050	0.050	11/25/2014	ND	1.77	88.5	2.00	8.25	
Total Xylenes*	<0.150	0.150	11/25/2014	ND	5.38	89.6	6.00	8.97	
Total BTX	<0.300	0.300	11/25/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 100 % 61-154

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/25/2014	ND	416	104	400	3.92	

TPH 8015M			mg/kg		Analyzed By: ms				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/24/2014	ND	202	101	200	1.12	
DRO >C10-C28	<10.0	10.0	11/24/2014	ND	211	105	200	2.83	


Surrogate: 1-Chlorooctane 130 % 47.2-157

Surrogate: 1-Chlorooctadecane 143 % 52.1-176

**Cardinal Laboratories**

\*=Accredited Analyte

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Hope S. Moreno For Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

DIVERSIFIED FIELD SERVICES, INC.  
NATALIE GLADDEN  
P. O. BOX 5966  
HOBBS NM, 88241  
Fax To: (575) 393-2981

Received: 11/24/2014  
Reported: 11/25/2014  
Project Name: JACKSON A 31 H  
Project Number: NONE GIVEN  
Project Location: BURNETT OIL

Sampling Date: 11/24/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SW. 6 SOUTH (H403617-03)**

BTX 8021B			mg/kg		Analyzed By: ms				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/25/2014	ND	1.80	89.8	2.00	6.95	
Toluene*	<0.050	0.050	11/25/2014	ND	1.77	88.3	2.00	7.99	
Ethylbenzene*	<0.050	0.050	11/25/2014	ND	1.77	88.5	2.00	8.25	
Total Xylenes*	<0.150	0.150	11/25/2014	ND	5.38	89.6	6.00	8.97	
Total BTX	<0.300	0.300	11/25/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 101 % 61-154

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/25/2014	ND	416	104	400	3.92	

TPH 8015M			mg/kg		Analyzed By: ms				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/25/2014	ND	202	101	200	1.12	
DRO >C10-C28	<10.0	10.0	11/25/2014	ND	211	105	200	2.83	


Surrogate: 1-Chlorooctane 130 % 47.2-157

Surrogate: 1-Chlorooctadecane 144 % 52.1-176

Cardinal Laboratories

\*=Accredited Analyte

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Hope S. Moreno For Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

DIVERSIFIED FIELD SERVICES, INC.  
NATALIE GLADDEN  
P. O. BOX 5966  
HOBBS NM, 88241  
Fax To: (575) 393-2981

Received: 11/24/2014  
Reported: 11/25/2014  
Project Name: JACKSON A 31 H  
Project Number: NONE GIVEN  
Project Location: BURNETT OIL

Sampling Date: 11/24/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SW. 7 EAST (H403617-04)**

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/25/2014	ND	1.80	89.8	2.00	6.95	
Toluene*	<0.050	0.050	11/25/2014	ND	1.77	88.3	2.00	7.99	
Ethylbenzene*	<0.050	0.050	11/25/2014	ND	1.77	88.5	2.00	8.25	
Total Xylenes*	<0.150	0.150	11/25/2014	ND	5.38	89.6	6.00	8.97	
Total BTX	<0.300	0.300	11/25/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/25/2014	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/25/2014	ND	202	101	200	1.12	
DRO >C10-C28	<10.0	10.0	11/25/2014	ND	211	105	200	2.83	

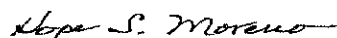
Surrogate: 1-Chlorooctane 140 % 47.2-157

Surrogate: 1-Chlorooctadecane 153 % 52.1-176

Cardinal Laboratories

\*=Accredited Analyte

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Hope S. Moreno For Celey D. Keene, Lab Director/Quality Manager

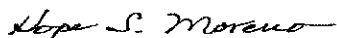
**Notes and Definitions**

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 SM4500CH-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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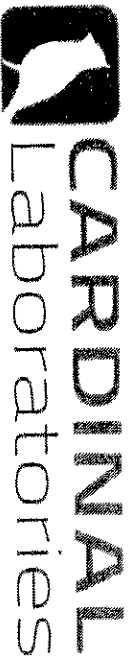
**Cardinal Laboratories****\*=Accredited Analyte**

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Hope S. Moreno For 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: Burnett Oil & Gas  
Project Manager: Mike Burton

Address:

City:

State: Zip:

Phone #:

Fax #:

Project #:

Project Owner:

Project Name:

Project Location: Jackson #31H

Sampler Name: Aaron Long

FOR LAB USE ONLY

BILL TO

ANALYSIS REQUEST

P.O. # 17129

Company: DFSI

Attn: Tawny Thompson

Address:

City:

State: Zip:

Phone #:

Fax #:

MATRIX

PRESERV

SAMPLING

Lab I.D. Sample I.D.

H403617

1 SW6 East  
2 SW6 West  
3 SW6 South  
4 SW7 East

(G)RAB OR (C)OMP.

# CONTAINERS

GROUNDWATER  
WASTEWATER

SOIL

OIL

SLUDGE

OTHER

ACID/BASE

ICE / COOL

OTHER

DATE TIME

8-24-14 8:53

8-24-14 8:55

8-24-14 9:10

8-24-14 9:11

CL  
TPH  
B-tex

X X X X  
X X X X  
X X X X  
X X X X

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Relinquished By:

Relinquished By: [Signature]

Date: 8/24/14

Time: 8:45

Received By: [Signature]

Date: 8/24/14

Time:

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

3.80

Sample Condition  
Cool ☒ Intact ☒  
Yes ☒ No ☒

CHECKED BY: [Signature]

Phone Result: ☐ Yes ☐ No Add'l Phone #:

Fax Result: ☐ Yes ☐ No Add'l Fax #:

REMARKS:

E-mail Results To: Ngladden@diversifiedfsi.com

Rpons@diversifiedfsi.com

RUSH!!



## Diversified Environmental Services

**Company Name:** Burnett

**Location Name:** Jackson A 31H

**SP Date:** 10/28/2014 10/29/2014 11/20/2014 11/21/2014

Rel Date:	10/22/2014	11/25/2014
-----------	------------	------------

[illegible]

\*\*BTEX cannot be field tested

	Lab Confirmation Sample
	Field Sampling
	Needs Delineation and confirmation samples

[illegible]

\*\*BTEX cannot be field tested

	Lab Confirmation Sample
	Field Sampling
	Needs Delineation and confirmation samples

[illegible]

\*\*BTEX cannot be field tested

	Lab Confirmation Sample
	Field Sampling
	Needs Delineation and confirmation samples

[illegible]

\*\*BTEX cannot be field tested

	Lab Confirmation Sample
	Field Sampling
	Needs Delineation and confirmation samples

[illegible]

\*\*BTEX cannot be field tested

	Lab Confirmation Sample
	Field Sampling
	Needs Delineation and confirmation samples

[illegible][illegible][illegible]

\*\*BTEX cannot be field tested

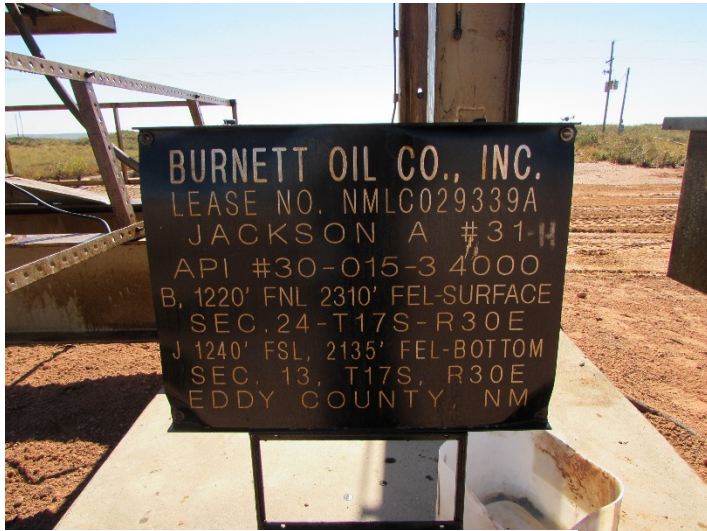
	Lab Confirmation Sample
	Field Sampling
	Needs Delineation and confirmation samples

[illegible][illegible][illegible]

\*\*BTEX cannot be field tested

	Lab Confirmation Sample
	Field Sampling
	Needs Delineation and confirmation samples

**Burnett Oil Co., Inc. Jackson A #31 H**  
**Section 24, T17S R30E**



Sign Location Marker 10/23/14



Pad impact-fluid traversing to pasture 10/23/14



Pasture impact 10/23/14



Pasture impact 10/23/14



**Burnett Oil Co., Inc. Jackson A #31 H**  
**Section 24, T17S R30E**



Installation of 20 mil liner 11/25/2014



Backfilling of site 11/26/2014



Jackson A 3164





# Jackson A 31 H





# Jackson A 31H





# Jackson A 31 H





# Jackson A 31 H





# Jackson A 314





Jackson A 31 H



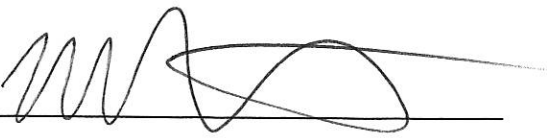
**DIVERSIFIED FIELD SERVICES, INC.**

Project: Burnett Jackson A 31H

Date Started: 12/2/14

Seed and lbs used: 1 25 Bag LPC

Date Completed: 12/2/14

Supervisor: 

# Bamert Seed Company Inc.

Permit # TX00905

1897 CR 1018 Muleshoe, TX 79347 (800) 262-9892  
LPC Sand Shinery with Ragweed and Saltbush 73 Buil INV55075

#	Description	Pure Seed	Germ	Dormant	Hard Seed	Origin
	Bluestem Big, "Kaw" (Andropogon gerardii)	16.26%	92.00%	0.00%	0.00%	TX
	Bluestem Sand, "Woodward" (Andropogon hallii)	13.86%	90.00%	0.00%	0.00%	TX
	Bluestem, Little "Cimarron" (Schizachyrium scoparium)	7.79%	31.00%	57.00%	0.00%	TX
	Bristlegrass Plains, "VNS" (Setaria wipiseta)	14.11%	87.00%	1.00%	0.00%	TX
	Coreopsis Plains (Coreopsis tinctoria)	5.16%	97.00%	0.00%	0.00%	TX
	Fourwing Saltbush, "VNS" (Atriplex canescens)	14.89%	28.00%	48.00%	0.00%	NM
	Ragweed, Western (Ambrosia L.)	5.74%	6.00%	79.00%	0.00%	
	Purity: 77.89%	Inert Matter: 15.95%	Other Crop Seed: 6.12%	Weed Seed: 0.04%		

Noxious Weeds: None

Test Date: 08/2014

Net Wt: 25.00 lbs



## Natalie Gladden

---

**From:** Patterson, Heather, EMNRD <Heather.Patterson@state.nm.us>  
**Sent:** Thursday, November 20, 2014 8:11 AM  
**To:** Natalie Gladden  
**Cc:** 'Robertson, Jeffery'; 'Leslie Garvis'; 'Johnny Titsworth'; Bratcher, Mike, EMNRD  
**Subject:** RE: Emailing: Remediation Work Plan as Submitted Burnett Oil Co., Jackson A31-H

Natalie,

This work plan is approved as written. Please advise if proposed work plans are not achieved.

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

If you have any questions or concerns, and for notification, please contact me.

Heather Patterson  
Environmental Specialist  
NMOCD District II  
(575)748-1283 ext.101

-----Original Message-----

From: Bratcher, Mike, EMNRD  
Sent: Wednesday, November 19, 2014 10:06 AM  
To: Patterson, Heather, EMNRD  
Subject: FW: Emailing: Remediation Work Plan as Submitted Burnett Oil Co., Jackson A31-H  
Importance: High

-----Original Message-----

From: Natalie Gladden [mailto:nlgadden@diversifiedfsi.com]  
Sent: Monday, November 17, 2014 2:18 PM  
To: Bratcher, Mike, EMNRD; Robertson, Jeffery  
Cc: Johnny Titsworth; Leslie Garvis; Michael Burton; Michael Patterson; Kyle Adams  
Subject: Emailing: Remediation Work Plan as Submitted Burnett Oil Co., Jackson A31-H  
Importance: High

All,

Attached you will find the remediation work plan for the Jackson A31-H for Burgundy Oil Co., Inc. for the release date of 10/22/2014. Please respond to this email if you approve or if you have any changes to this plan.

Thank you and have a great afternoon!

Natalie Gladden

Environmental Director  
DFSI Environmental Services  
Cell: 575-602-1786  
Office: 575-964-8394  
Fax: 575-964-8396  
Email: ngladden@diversifiedfsi.com

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Your message is ready to be sent with the following file or link attachments:

Remediation Work Plan as Submitted Burnett Oil Co., Jackson A31-H

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## Natalie Gladden

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**From:** Robertson, Jeffery <jlrobertson@blm.gov>  
**Sent:** Thursday, November 20, 2014 7:00 AM  
**To:** Natalie Gladden  
**Cc:** Bratcher, Mike, EMNRD; Johnny Titsworth; Leslie Garvis; Michael Burton; Michael Patterson; Kyle Adams  
**Subject:** Re: Emailing: Remediation Work Plan as Submitted Burnett Oil Co., Jackson A31-H

This plan is approved as written with these conditions of approval:

This is in LPC area so all surface disturbance needs to be held to as little as possible to minimize the impacted on the chicken habitat.

**This plan still needs to be approved by OCD.** BLM approval of this proposal does not relieve the operator of liability should their operations have failed to adequately investigate and re mediate contamination that may pose a threat to groundwater, surface water, human health, or the environment, or if the location fails to reclaim properly. In such an event that location does not re vegetate, or future issues with contaminants are encountered, the operator will be asked to address the issues until contaminant issues are fully mitigated and the location is successfully reclaimed. In addition, BLM approval does not relieve the operator of responsibility for compliance with any other federal, state, or local laws/regulations.

Thanks

*Jeffery L. Robertson*

BLM-CFO

Natural Resource Specialist

Office: 575-234-2230

Cell: 575-706-1920

[jlrobertson@blm.gov](mailto:jlrobertson@blm.gov)

On Mon, Nov 17, 2014 at 2:18 PM, Natalie Gladden <[ngladden@diversifiedfsi.com](mailto:ngladden@diversifiedfsi.com)> wrote:

All,

Attached you will find the remediation work plan for the Jackson A31-H for Burgundy Oil Co., Inc. for the release date of 10/22/2014. Please respond to this email if you approve or if you have any changes to this plan.

Thank you and have a great afternoon!

Natalie Gladden  
Environmental Director  
DFSI Environmental Services  
Cell: 575-602-1786  
Office: 575-964-8394  
Fax: 575-964-8396

Email: [ngladden@diversifiedfsi.com](mailto:ngladden@diversifiedfsi.com)

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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 Burnett Oil Co., Inc.	Contact Leslie Garvis
Address 801 Cherry Street – Suite 1500, Ft. Worth, TX 76102	Telephone No. 817-583-8730
Facility Name Jackson A 31H	Facility Type Production Well

Surface Owner BLM	Mineral Owner BLM	API No. 30-015-34000
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**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	24	17S	30E	1220	FNL	2310	FEL	Eddy

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

**NATURE OF RELEASE**

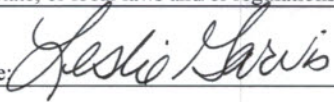
Type of Release Crude Oil and Produced Water	Volume of Release 15/40	Volume Recovered 0/0
Source of Release Wellhead	Date and Hour of Occurrence 10/22/2014	Date and Hour of Discovery 10/22/2014
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? BLM – Jeff Robertson	
By Whom? Eddie Duran	Date and Hour 10/22/2014	
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.\*  
Flowline at the wellhead became plugged and ruptured.

Describe Area Affected and Cleanup Action Taken.\*  
Site was excavated and remediated as per the approved plan. NMOCD and BLM regulations were followed to closure.

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: 	<u>OIL CONSERVATION DIVISION</u>		
Printed Name: Leslie M. Garvis	Approved by Environmental Specialist:		
Title: Regulatory Coordinator	Approval Date:	Expiration Date:	
E-mail Address: lgarvis@burnettoil.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: 10/23/2014	Phone: 817-583-5730		

\* Attach Additional Sheets If Necessary