



# Bobbi St. WFU Tank Battery

## REVISED WORK PLAN

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API No. 30-025-26954

Release Date: Unknown

Unit Letter N, Section 20, Township 18 South, Range 36 East

February 2, 2017

**Prepared by:**

Michael Burton, Environmental Operations Director  
Diversified Field Service, Inc.  
3412 N. Dal Paso  
Hobbs, NM 88240  
Phone: (575)964-8394  
Fax: (575)393-8396

Olivia Yu  
Environmental Specialist  
NM Oil Conservation District – Division 1  
1625 N French Drive  
Hobbs, NM 88240

RE: **Sundown Energy St. WFU Tank Battery – Revised Work Plan**  
UL/N, Section 20, T18S, R36E  
API No. 30-025-26954  
NMOCD Score: 20

Ms. Yu,

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

The site is located west of Hobbs, NM, in Lea County. The spill resulted from a lightning strike on a water tank, releasing a total of 150 barrels of produced water, with none recovered (Appendix I). An initial C-141 was submitted to the NMOCD on December 29, 2015 (Appendix II).

### **Site Assessment and Delineation**

On November 9, 2016, DFSI personnel were on site to obtain samples within the leak area. Seven samples were obtained and field sampled for chloride levels, as well as BTEX (Figure 1). The BTEX samples were performed using a Mini Rae Photoionization Detector (PID). Field samples were submitted for analysis at Cardinal Laboratories of Hobbs, NM to obtain confirmation (Appendix III).

DFSI has conducted a groundwater study of the area and has determined, according to the New Mexico Office of the State Engineer, the average depth to groundwater beneath this site is approximately 55 ft bgs (Appendix IV).

As per NMOCD request, SP1 through SP7 will be fully delineated vertically under chlorides result in concentrations at or below 250 mg/kg, plus an additional 10 ft of soil with concentrations at or below 250 mg/kg.

## Conclusion

After careful review DFSI on behalf of Sundown would like to propose the following:

Excavate the area around SP1 and SP7 to a depth of 4' bgs. At the base of the excavation, a 20-mil, reinforced poly liner will be installed and properly seated. The area around SP3 and SP4 will be excavated to a depth of 3' bgs. The area around SP5 and SP6 will be excavated to a depth of 2' bgs. All excavations will be backfilled with clean, imported soil to ground surface (Figure 2). The entire area will be contoured to the surrounding area and capped with caliche around SP1, SP4 and SP5, or seeded with an approved BLM-NMOCD mix around SP2, SP3, SP6 and SP7. The bermed area will be scraped and backfilled with caliche and addressed at time of site abandonment.

## SLO Site Requirements

The site will be seeded with BLM Mix #1 once site activities have been completed, ensuring lovegrass is not included within the seed mixture (Appendix V). The seed mixture will be planted within a one acre broadcast, with no primary or secondary noxious weeds within the seed mixture. The seed will be planted using a mechanical seeder to ensure proper depth of planting. The seed mixture will be spread equally and evenly over the disturbed area. If a mechanical seeder is not possible, the seed will be broadcast over the disturbed area by hand. Site evaluation of the disturbed area of the Sundown location will be monitored for noxious weeds with final documentation submitted to SLO for closure. Should noxious weeds appear during monitoring activities, the weeds will be removed and properly disposed of at an approved facility.

Following the approval of the above plan, DFSI will submit all proper closure documentation to the NMOCD SLO in accordance to the State Guidelines set forth.

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

Sincerely,



Michael Burton  
Environmental Operations Director | Diversified Field Service, Inc.  
206 West Snyder | Hobbs, NM 88240  
Office: (575)964-8394 | Mobile: (575)390-5454  
Fax: (575)964-8396 | Email: Mburton@diversifiedfsi.com

cc Amber Groves

Figure 1 – Soil Delineation

Figure 2 – Proposed Work

Appendix I – Site Photos

Appendix II – Initial C-141

Appendix III – Laboratory Analysis

Appendix IV – Groundwater Study

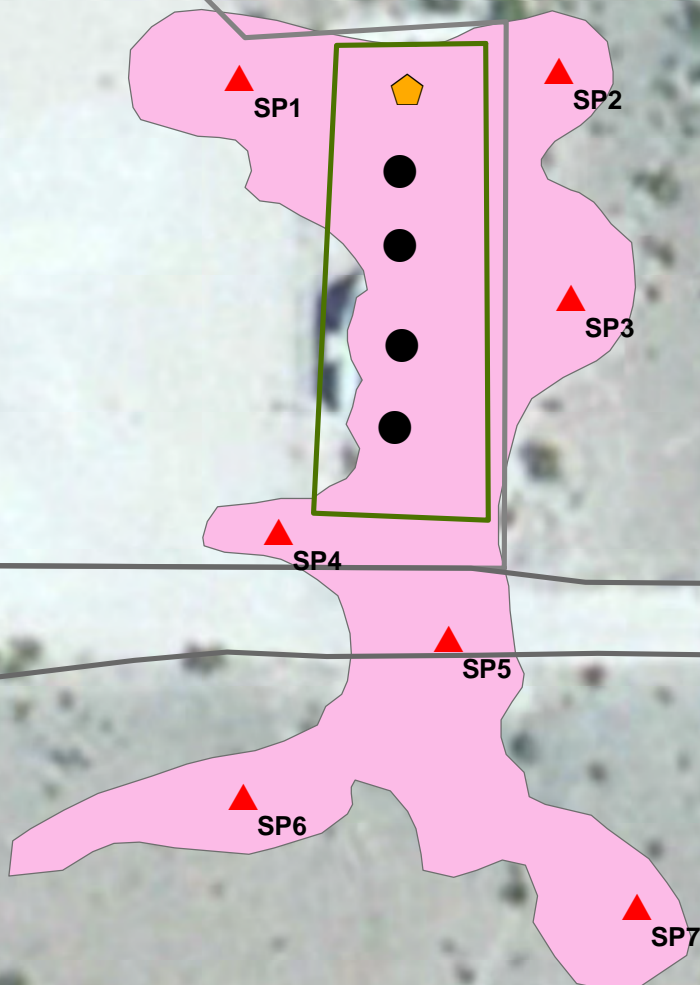
Appendix V – Seed Mixture

# Site Diagram

SP1										SP2										SP3										
Depth	CI-	PID	Lab CI-	GRO	DRO	B	T	E	X	Depth	CI-	PID	Lab CI-	GRO	DRO	B	T	E	X	Depth	CI-	PID	Lab CI-	GRO	DRO	B	T	E	X	
SS	1425	14.3								SS	749	1.2								SS	1324	0								
1'	6472	2.4								1'	500	1.6	256	<10	<10	<0.05	<0.05	<0.05	<0.15	1'	5248	1.3								
2'	4123	0.9								2'	500	1.3	496	<10	<10	<0.05	<0.05	<0.05	<0.15	2'	1999	2.2								
3'	3024	12.3																		3'	1249	2.5								
4'	4123	7.5																		4'	749	0	768	<10	<10	<0.05	<0.05	<0.05	<0.15	
5'	4498	0																		5'	500	0	448	<10	<10	<0.05	<0.05	<0.05	<0.15	
6'	2499	1.1																												
7'	2399	1																												
8'	500	1.6	336	<10	<10	<0.05	<0.05	<0.05	<0.15																					
9'	250	1.2	176	<10	<10	<0.05	<0.05	<0.05	<0.15																					
SP4										SP5										SP6										
Depth	CI-	PID	Lab CI-	GRO	DRO	B	T	E	X	Depth	CI-	PID	Lab CI-	GRO	DRO	B	T	E	X	Depth	CI-	PID	Lab CI-	GRO	DRO	B	T	E	X	
SS	145	0								SS	1749	0.1								SS	2074	0.3								
1'	4998	1.9								1'	4498	0								1'	3934	0.1								
2'	3498	2.7								2'	749	0								2'	1499	6.7								
3'	2499	3.4								3'	874	2	640	<10	<10	<0.05	<0.05	<0.05	<0.15	3'	699	2.6	448	<10	<10	<0.05	<0.05	<0.05	<0.15	
4'	749	1.4	496	<10	<10	<0.05	<0.05	<0.05	<0.15	4'	749	0	848	<10	<10	<0.05	<0.05	<0.05	<0.15	4'	375	0	128	<10	<10	<0.05	<0.05	<0.05	<0.15	
5'	624	2.8	320	<10	<10	<0.05	<0.05	<0.05	<0.15																					

SP4										SP5										SP6									
Depth	CI-	PID	Lab CI-	GRO	DRO	B	T	E	X	Depth	CI-	PID	Lab CI-	GRO	DRO	B	T	E	X	Depth	CI-	PID	Lab CI-	GRO	DRO	B	T	E	X
SS	145	0								SS	1749	0.1								SS	2074	0.3							
1'	4998	1.9								1'	4498	0								1'	3934	0.1							
2'	3498	2.7								2'	749	0								2'	1499	6.7							
3'	2499	3.4								3'	874	2	640	<10	<10	<0.05	<0.05	<0.05	<0.15	3'	699	2.6	448	<10	<10	<0.05	<0.05	<0.05	<0.15
4'	749	1.4	496	<10	<10	<0.05	<0.05	<0.05	<0.15	4'	749	0	848	<10	<10	<0.05	<0.05	<0.05	<0.15	4'	375	0	128	<10	<10	<0.05	<0.05	<0.05	<0.15
5'	624	2.8	320	<10	<10	<0.05	<0.05	<0.05	<0.15																				

SP7									
Depth	CI-	PID	Lab CI-	GRO	DRO	B	T	E	X
SS	499	0.1							
1'	1674	0							
2'	1249	0							
3'	774	0							
4'	2499	0							
5'	4248	0							
6'	3498	0							
7'	1199	0							
8'	874	2.7							
9'	524	0	352	<10	<10	<0.05	<0.05	<0.05	<0.15
10'	499	0.3	336	<10	<10	<0.05	<0.05	<0.05	<0.15



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, Swire, User Community

## Legend

- ▲ Sample Points
- ⬡ Pumpjacks
- Tanks
- ▭ Battery Containment
- ▭ Caliche Pad
- ▭ Road
- ▭ Produced Water



**Sundown Energy**  
**Bobbi No. 003**  
**Unit Letter N, Section 20, T18S, R36E**  
**API #: 30-025-26954**  
**Lea County, NM**

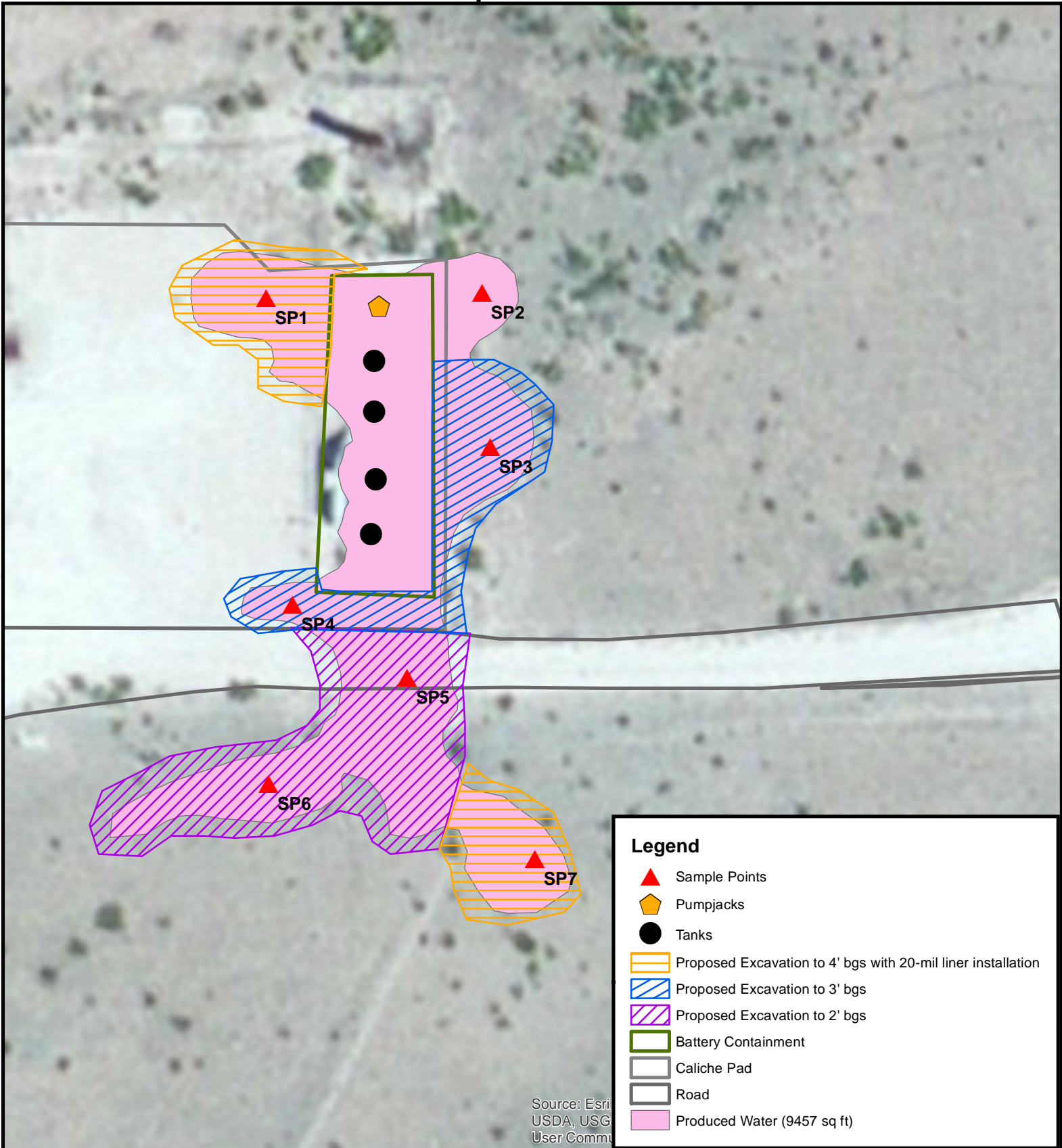
**Figure 1**



0 5 10 20 30 40  
 Feet



# Proposed Work



**Sundown Energy**  
**Bobbi No. 003**  
**Unit Letter N, Section 20, T18S, R36E**  
**API #: 30-025-26954**  
**Lea County, NM**

**Figure 2**



0 5 10 20 30 40  
 Feet

# Appendix I

## SITE PHOTOS

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# Bobbi St. WFU Tank Battery

Unit Letter N, Section 20, T18S, R36E

## PHOTO PAGE

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# Appendix II

INITIAL C-141

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Diversified Field Service, Inc.  
206 W. Snyder  
Hobbs, NM 88240  
(575) 964-8394



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 SUNDOWN ENERGY LP	Contact Jimmy Lewis
Address 16400 Dallas Parkway Ste 100 Dallas, TX 75248	Telephone No. 432-943-8770
Facility Name Bobbi State Waterflood Unit	Facility Type Tank Battery and SWD

Surface Owner	Mineral Owner	API No. (R-13731)
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**LOCATION OF RELEASE**

Unit Letter N	Section 20	Township 18S	Range 36E	Feet from the 330	North/South Line SOUTH	Feet from the 2310	East/West Line WEST	County LEA
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Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

**NATURE OF RELEASE**

Type of Release Salt Water	Volume of Release 150 bbls	Volume Recovered None
Source of Release Water Tank	Date and Hour of Occurrence 12/26/2015 11:00 pm	Date and Hour of Discovery 12/26/2015 11:00 pm
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Maxey Brown, NM OCD	
By Whom? Wes Able	Date and Hour 12/28/2015 2:00 pm	
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.\*

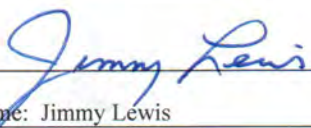
Describe Cause of Problem and Remedial Action Taken.\*

Water tank was struck by lightning, catching tank on fire. All oil on top of water was completely burned off. Clean up will begin as soon as equipment can get to the location. Location not accessible due to recent heavy snow & rain.

Describe Area Affected and Cleanup Action Taken.\*

The area inside the containment but also had some fluid escape the contained area. Amount unknown due to flooding. As soon as location is accessible, trucks will move in to recover any remaining fluid.

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: Jimmy Lewis		Approved by Environmental Specialist:	
Title: Production Superintendent		Approval Date:	Expiration Date:
E-mail Address: jlewis@sundownenergy.com		Conditions of Approval:	
Date: 12/29/2015 Phone: 432-943-8770		Attached <input type="checkbox"/>	

\* Attach Additional Sheets If Necessary

# Appendix III

## LABORATORY ANALYSIS

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Diversified Field Service, Inc.  
206 W. Snyder  
Hobbs, NM 88240  
(575) 964-8394





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

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November 30, 2016

WES ABLE

SUNDOWN ENERGY

P. O. BOX 277

WICKETT, TX 79788

RE: BOBBI STATE WATERFLOOD UNIT #3

Enclosed are the results of analyses for samples received by the laboratory on 11/23/16 8:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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:**

SUNDOWN ENERGY  
WES ABLE  
P. O. BOX 277  
WICKETT TX, 79788  
Fax To: NOT GIVEN

Received: 11/23/2016  
Reported: 11/30/2016  
Project Name: BOBBI STATE WATERFLOOD UNIT #3  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 11/21/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 1 @ 8" (H602627-01)**

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	11/23/2016	ND	2.19	110	2.00	0.512	
Toluene*	<0.050	0.050	11/23/2016	ND	2.24	112	2.00	0.389	
Ethylbenzene*	<0.050	0.050	11/23/2016	ND	2.16	108	2.00	0.200	
Total Xylenes*	<0.150	0.150	11/23/2016	ND	6.51	108	6.00	0.0430	
Total BTX	<0.300	0.300	11/23/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	11/29/2016	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	11/23/2016	ND	179	89.4	200	5.12	
DRO >C10-C28	<10.0	10.0	11/23/2016	ND	181	90.5	200	6.50	

Surrogate: 1-Chlorooctane 91.1 % 35-147

Surrogate: 1-Chlorooctadecane 98.3 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

SUNDOWN ENERGY  
WES ABLE  
P. O. BOX 277  
WICKETT TX, 79788  
Fax To: NOT GIVEN

Received: 11/23/2016  
Reported: 11/30/2016  
Project Name: BOBBI STATE WATERFLOOD UNIT #3  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 11/21/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 1 @ 9" (H602627-02)**

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	11/28/2016	ND	2.27	114	2.00	0.470	
Toluene*	<0.050	0.050	11/28/2016	ND	2.33	117	2.00	0.364	
Ethylbenzene*	<0.050	0.050	11/28/2016	ND	2.24	112	2.00	0.482	
Total Xylenes*	<0.150	0.150	11/28/2016	ND	6.78	113	6.00	0.216	
Total BTX	<0.300	0.300	11/28/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	11/29/2016	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	11/23/2016	ND	179	89.4	200	5.12	
DRO >C10-C28	<10.0	10.0	11/23/2016	ND	181	90.5	200	6.50	

Surrogate: 1-Chlorooctane 90.9 % 35-147

Surrogate: 1-Chlorooctadecane 95.8 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

SUNDOWN ENERGY  
WES ABLE  
P. O. BOX 277  
WICKETT TX, 79788  
Fax To: NOT GIVEN

Received: 11/23/2016  
Reported: 11/30/2016  
Project Name: BOBBI STATE WATERFLOOD UNIT #3  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 11/21/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 2 @ 1" (H602627-03)**

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	11/28/2016	ND	2.27	114	2.00	0.470		
Toluene*	<0.050	0.050	11/28/2016	ND	2.33	117	2.00	0.364		
Ethylbenzene*	<0.050	0.050	11/28/2016	ND	2.24	112	2.00	0.482		
Total Xylenes*	<0.150	0.150	11/28/2016	ND	6.78	113	6.00	0.216		
Total BTEX	<0.300	0.300	11/28/2016	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	11/29/2016	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	11/23/2016	ND	179	89.4	200	5.12	
DRO >C10-C28	<10.0	10.0	11/23/2016	ND	181	90.5	200	6.50	

Surrogate: 1-Chlorooctane 66.2 % 35-147

Surrogate: 1-Chlorooctadecane 74.5 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

SUNDOWN ENERGY  
WES ABLE  
P. O. BOX 277  
WICKETT TX, 79788  
Fax To: NOT GIVEN

Received: 11/23/2016  
Reported: 11/30/2016  
Project Name: BOBBI STATE WATERFLOOD UNIT #3  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 11/21/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 2 @ 2" (H602627-04)**

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	11/28/2016	ND	2.27	114	2.00	0.470	
Toluene*	<0.050	0.050	11/28/2016	ND	2.33	117	2.00	0.364	
Ethylbenzene*	<0.050	0.050	11/28/2016	ND	2.24	112	2.00	0.482	
Total Xylenes*	<0.150	0.150	11/28/2016	ND	6.78	113	6.00	0.216	
Total BTX	<0.300	0.300	11/28/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	496	16.0	11/29/2016	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	11/23/2016	ND	179	89.4	200	5.12	
DRO >C10-C28	<10.0	10.0	11/23/2016	ND	181	90.5	200	6.50	

Surrogate: 1-Chlorooctane 75.0 % 35-147

Surrogate: 1-Chlorooctadecane 76.8 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

SUNDOWN ENERGY  
WES ABLE  
P. O. BOX 277  
WICKETT TX, 79788  
Fax To: NOT GIVEN

Received: 11/23/2016  
Reported: 11/30/2016  
Project Name: BOBBI STATE WATERFLOOD UNIT #3  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 11/21/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 3 @ 4" (H602627-05)**

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	11/28/2016	ND	2.27	114	2.00	0.470		
Toluene*	<0.050	0.050	11/28/2016	ND	2.33	117	2.00	0.364		
Ethylbenzene*	<0.050	0.050	11/28/2016	ND	2.24	112	2.00	0.482		
Total Xylenes*	<0.150	0.150	11/28/2016	ND	6.78	113	6.00	0.216		
Total BTEX	<0.300	0.300	11/28/2016	ND						

Surrogate: 4-Bromofluorobenzene (PID) 114 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	768	16.0	11/29/2016	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	11/23/2016	ND	179	89.4	200	5.12	
DRO >C10-C28	<10.0	10.0	11/23/2016	ND	181	90.5	200	6.50	

Surrogate: 1-Chlorooctane 82.1 % 35-147

Surrogate: 1-Chlorooctadecane 77.7 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

SUNDOWN ENERGY  
WES ABLE  
P. O. BOX 277  
WICKETT TX, 79788  
Fax To: NOT GIVEN

Received:	11/23/2016	Sampling Date:	11/21/2016
Reported:	11/30/2016	Sampling Type:	Soil
Project Name:	BOBBI STATE WATERFLOOD UNIT #3	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

**Sample ID: SP 3 @ 5" (H602627-06)**

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	11/28/2016	ND	2.27	114	2.00	0.470		
Toluene*	<0.050	0.050	11/28/2016	ND	2.33	117	2.00	0.364		
Ethylbenzene*	<0.050	0.050	11/28/2016	ND	2.24	112	2.00	0.482		
Total Xylenes*	<0.150	0.150	11/28/2016	ND	6.78	113	6.00	0.216		
Total BTX	<0.300	0.300	11/28/2016	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	448	16.0	11/29/2016	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	11/23/2016	ND	179	89.4	200	5.12	
DRO >C10-C28	<10.0	10.0	11/23/2016	ND	181	90.5	200	6.50	

Surrogate: 1-Chlorooctane 82.5 % 35-147

Surrogate: 1-Chlorooctadecane 84.7 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 SUNDOWN ENERGY  
 WES ABLE  
 P. O. BOX 277  
 WICKETT TX, 79788  
 Fax To: NOT GIVEN

 Received: 11/23/2016  
 Reported: 11/30/2016  
 Project Name: BOBBI STATE WATERFLOOD UNIT #3  
 Project Number: NONE GIVEN  
 Project Location: LEA COUNTY, NM

 Sampling Date: 11/21/2016  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SP 4 @ 4" (H602627-07)**

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	11/28/2016	ND	2.27	114	2.00	0.470	
Toluene*	<0.050	0.050	11/28/2016	ND	2.33	117	2.00	0.364	
Ethylbenzene*	<0.050	0.050	11/28/2016	ND	2.24	112	2.00	0.482	
Total Xylenes*	<0.150	0.150	11/28/2016	ND	6.78	113	6.00	0.216	
Total BTX	<0.300	0.300	11/28/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	496	16.0	11/29/2016	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	11/23/2016	ND	179	89.4	200	5.12	
DRO >C10-C28	<10.0	10.0	11/23/2016	ND	181	90.5	200	6.50	

Surrogate: 1-Chlorooctane 98.4 % 35-147

Surrogate: 1-Chlorooctadecane 94.6 % 28-171

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

SUNDOWN ENERGY  
WES ABLE  
P. O. BOX 277  
WICKETT TX, 79788  
Fax To: NOT GIVEN

Received: 11/23/2016  
Reported: 11/30/2016  
Project Name: BOBBI STATE WATERFLOOD UNIT #3  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 11/21/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 4 @ 5" (H602627-08)**

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	11/28/2016	ND	2.27	114	2.00	0.470	
Toluene*	<0.050	0.050	11/28/2016	ND	2.33	117	2.00	0.364	
Ethylbenzene*	<0.050	0.050	11/28/2016	ND	2.24	112	2.00	0.482	
Total Xylenes*	<0.150	0.150	11/28/2016	ND	6.78	113	6.00	0.216	
Total BTX	<0.300	0.300	11/28/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	11/29/2016	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	11/23/2016	ND	179	89.4	200	5.12	
DRO >C10-C28	<10.0	10.0	11/23/2016	ND	181	90.5	200	6.50	

Surrogate: 1-Chlorooctane 96.6 % 35-147

Surrogate: 1-Chlorooctadecane 106 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

SUNDOWN ENERGY  
WES ABLE  
P. O. BOX 277  
WICKETT TX, 79788  
Fax To: NOT GIVEN

Received: 11/23/2016  
Reported: 11/30/2016  
Project Name: BOBBI STATE WATERFLOOD UNIT #3  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 11/21/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 5 @ 4" (H602627-09)**

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	11/28/2016	ND	2.27	114	2.00	0.470	
Toluene*	<0.050	0.050	11/28/2016	ND	2.33	117	2.00	0.364	
Ethylbenzene*	<0.050	0.050	11/28/2016	ND	2.24	112	2.00	0.482	
Total Xylenes*	<0.150	0.150	11/28/2016	ND	6.78	113	6.00	0.216	
Total BTEX	<0.300	0.300	11/28/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	640	16.0	11/29/2016	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	11/23/2016	ND	179	89.4	200	5.12	
DRO >C10-C28	<10.0	10.0	11/23/2016	ND	181	90.5	200	6.50	

Surrogate: 1-Chlorooctane 89.3 % 35-147

Surrogate: 1-Chlorooctadecane 85.6 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

SUNDOWN ENERGY  
WES ABLE  
P. O. BOX 277  
WICKETT TX, 79788  
Fax To: NOT GIVEN

Received: 11/23/2016  
Reported: 11/30/2016  
Project Name: BOBBI STATE WATERFLOOD UNIT #3  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 11/21/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 5 @ 3" (H602627-10)**

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	11/28/2016	ND	2.27	114	2.00	0.470		
Toluene*	<0.050	0.050	11/28/2016	ND	2.33	117	2.00	0.364		
Ethylbenzene*	<0.050	0.050	11/28/2016	ND	2.24	112	2.00	0.482		
Total Xylenes*	<0.150	0.150	11/28/2016	ND	6.78	113	6.00	0.216		
Total BTEX	<0.300	0.300	11/28/2016	ND						

Surrogate: 4-Bromofluorobenzene (PID) 114 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	848	16.0	11/29/2016	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	11/23/2016	ND	179	89.4	200	5.12	
DRO >C10-C28	<10.0	10.0	11/23/2016	ND	181	90.5	200	6.50	

Surrogate: 1-Chlorooctane 81.6 % 35-147

Surrogate: 1-Chlorooctadecane 88.3 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

SUNDOWN ENERGY  
WES ABLE  
P. O. BOX 277  
WICKETT TX, 79788  
Fax To: NOT GIVEN

Received: 11/23/2016  
Reported: 11/30/2016  
Project Name: BOBBI STATE WATERFLOOD UNIT #3  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 11/21/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 6 @ 3" (H602627-11)**

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	11/28/2016	ND	2.27	114	2.00	0.470		
Toluene*	<0.050	0.050	11/28/2016	ND	2.33	117	2.00	0.364		
Ethylbenzene*	<0.050	0.050	11/28/2016	ND	2.24	112	2.00	0.482		
Total Xylenes*	<0.150	0.150	11/28/2016	ND	6.78	113	6.00	0.216		
Total BTEX	<0.300	0.300	11/28/2016	ND						

Surrogate: 4-Bromofluorobenzene (PID) 115 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	448	16.0	11/29/2016	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	11/23/2016	ND	179	89.4	200	5.12	
DRO >C10-C28	<10.0	10.0	11/23/2016	ND	181	90.5	200	6.50	

Surrogate: 1-Chlorooctane 85.1 % 35-147

Surrogate: 1-Chlorooctadecane 94.5 % 28-171

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

 SUNDOWN ENERGY  
 WES ABLE  
 P. O. BOX 277  
 WICKETT TX, 79788  
 Fax To: NOT GIVEN

 Received: 11/23/2016  
 Reported: 11/30/2016  
 Project Name: BOBBI STATE WATERFLOOD UNIT #3  
 Project Number: NONE GIVEN  
 Project Location: LEA COUNTY, NM

 Sampling Date: 11/21/2016  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SP 6 @ 4" (H602627-12)**

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	11/28/2016	ND	2.27	114	2.00	0.470	
Toluene*	<0.050	0.050	11/28/2016	ND	2.33	117	2.00	0.364	
Ethylbenzene*	<0.050	0.050	11/28/2016	ND	2.24	112	2.00	0.482	
Total Xylenes*	<0.150	0.150	11/28/2016	ND	6.78	113	6.00	0.216	
Total BTEX	<0.300	0.300	11/28/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	11/29/2016	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	11/23/2016	ND	179	89.4	200	5.12	
DRO >C10-C28	<10.0	10.0	11/23/2016	ND	181	90.5	200	6.50	

Surrogate: 1-Chlorooctane 83.9 % 35-147

Surrogate: 1-Chlorooctadecane 88.6 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 SUNDOWN ENERGY  
 WES ABLE  
 P. O. BOX 277  
 WICKETT TX, 79788  
 Fax To: NOT GIVEN

Received:	11/23/2016	Sampling Date:	11/21/2016
Reported:	11/30/2016	Sampling Type:	Soil
Project Name:	BOBBI STATE WATERFLOOD UNIT #3	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

**Sample ID: SP 7 @ 9" (H602627-13)**

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	11/28/2016	ND	2.27	114	2.00	0.470		
Toluene*	<0.050	0.050	11/28/2016	ND	2.33	117	2.00	0.364		
Ethylbenzene*	<0.050	0.050	11/28/2016	ND	2.24	112	2.00	0.482		
Total Xylenes*	<0.150	0.150	11/28/2016	ND	6.78	113	6.00	0.216		
Total BTEX	<0.300	0.300	11/28/2016	ND						

Surrogate: 4-Bromofluorobenzene (PID) 115 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	352	16.0	11/29/2016	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	11/23/2016	ND	179	89.4	200	5.12		
DRO >C10-C28	<10.0	10.0	11/23/2016	ND	181	90.5	200	6.50		

Surrogate: 1-Chlorooctane 88.9 % 35-147

Surrogate: 1-Chlorooctadecane 94.5 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

SUNDOWN ENERGY  
WES ABLE  
P. O. BOX 277  
WICKETT TX, 79788  
Fax To: NOT GIVEN

Received:	11/23/2016	Sampling Date:	11/21/2016
Reported:	11/30/2016	Sampling Type:	Soil
Project Name:	BOBBI STATE WATERFLOOD UNIT #3	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

**Sample ID: SP 7 @ 10" (H602627-14)**

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	11/28/2016	ND	2.27	114	2.00	0.470		
Toluene*	<0.050	0.050	11/28/2016	ND	2.33	117	2.00	0.364		
Ethylbenzene*	<0.050	0.050	11/28/2016	ND	2.24	112	2.00	0.482		
Total Xylenes*	<0.150	0.150	11/28/2016	ND	6.78	113	6.00	0.216		
Total BTEx	<0.300	0.300	11/28/2016	ND						

Surrogate: 4-Bromofluorobenzene (PID) 116 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	11/29/2016	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	11/23/2016	ND	179	89.4	200	5.12	
DRO >C10-C28	<10.0	10.0	11/23/2016	ND	181	90.5	200	6.50	

Surrogate: 1-Chlorooctane 82.3 % 35-147

Surrogate: 1-Chlorooctadecane 92.8 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

### Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside if QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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



Page 17 of 18

(575) 393-2326 FAX (575) 393-2476				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>																																	
Company Name: <u>Jun Down</u>				P.O. #:																																					
Project Manager:				Company:																																					
Address:				Attn:																																					
City:		State:		Zip:		Address:																																			
Phone #:		Fax #:		City:																																					
Project #:		Project Owner:		State:																Zip:																					
Project Name:				Phone #:																																					
Project Location: <u>Bubbi St Food Market Place #3</u>				Fax #:																																					
Sampler Name: <u>Miguel Silva</u>																																									
FOR LAB USE ONLY				MATRIX				PRESERV.				SAMPLING																													
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													
<u>H602627</u>				<u>B</u>		<u>1</u>						<u>✓</u>								<u>✓</u>		<u>✓</u>		<u>✓</u>		<u>11-21-16</u>		<u>10:40</u>		<u>chloride</u>											
<u>1</u>		<u>SP1 @ 8"</u>		<u>G</u>		<u>1</u>						<u>✓</u>								<u>✓</u>		<u>✓</u>		<u>✓</u>		<u>11-21-16</u>		<u>8:20</u>		<u>TPH</u>											
<u>2</u>		<u>SP1 @ 9"</u>		<u>G</u>		<u>1</u>						<u>✓</u>								<u>✓</u>		<u>✓</u>		<u>✓</u>		<u>11-21-16</u>		<u>11:20</u>		<u>BTEX</u>											
<u>3</u>		<u>SP2 @ 1"</u>		<u>G</u>		<u>1</u>						<u>✓</u>								<u>✓</u>		<u>✓</u>		<u>✓</u>		<u>11-21-16</u>		<u>11:30</u>													
<u>4</u>		<u>SP2 @ 2" *</u>		<u>G</u>		<u>1</u>						<u>✓</u>								<u>✓</u>		<u>✓</u>		<u>✓</u>		<u>11-21-16</u>		<u>12:05</u>													
<u>5</u>		<u>SP3 @ 4"</u>		<u>G</u>		<u>1</u>						<u>✓</u>								<u>✓</u>		<u>✓</u>		<u>✓</u>		<u>11-21-16</u>		<u>11:45</u>													
<u>6</u>		<u>SP3 @ 5"</u>		<u>G</u>		<u>1</u>						<u>✓</u>								<u>✓</u>		<u>✓</u>		<u>✓</u>		<u>11-21-16</u>		<u>1:00</u>													
<u>7</u>		<u>SP4 @ 4"</u>		<u>G</u>		<u>1</u>						<u>✓</u>								<u>✓</u>		<u>✓</u>		<u>✓</u>		<u>11-21-16</u>		<u>12:30</u>													
<u>8</u>		<u>SP4 @ 5"</u>		<u>G</u>		<u>1</u>						<u>✓</u>								<u>✓</u>		<u>✓</u>		<u>✓</u>		<u>11-21-16</u>		<u>1:15</u>													
<u>9</u>		<u>SP5 @ 4"</u>		<u>G</u>		<u>1</u>						<u>✓</u>								<u>✓</u>		<u>✓</u>		<u>✓</u>		<u>11-21-16</u>		<u>1:30</u>													
<u>10</u>		<u>SP5 @ 3"</u>		<u>G</u>		<u>1</u>						<u>✓</u>								<u>✓</u>		<u>✓</u>		<u>✓</u>		<u>11-21-16</u>		<u>1:30</u>													
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† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326





### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

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Relinquished By:		Date:	Received By:	Phone Result:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Time:				Fax Result:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Relinquished By:		Date:	Received By:	REMARKS:		
Time:						
Delivered By: (Circle One)		Sample Condition	CHECKED BY:			
Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>		(Initials)				
Sampler - UPS - Bus - Other: #75 3.0°		Cool <input type="checkbox"/> Yes <input type="checkbox"/> No	Intact <input type="checkbox"/> Yes <input type="checkbox"/> No			



# Appendix IV

## GROUNDWATER STUDY

---

Diversified Field Service, Inc.  
206 W. Snyder  
Hobbs, NM 88240  
(575) 964-8394



# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced,  
O=orphaned,  
C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)  
(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
<a href="#">L 01250</a>	L	LE		3	3	2	21	18S	36E	653812	3622986*	123	40	83
<a href="#">L 01533 S2</a>	L	LE		1	4	1	18	18S	36E	650163	3624741*	138	52	86
<a href="#">L 01542</a>	L	LE		1	1	4	16	18S	36E	653792	3624394*	223		
<a href="#">L 01544</a>	L	LE		1	1	4	18	18S	36E	650572	3624344*	222	60	162
<a href="#">L 01545</a>	L	LE		1	1	4	19	18S	36E	650599	3622732*	214	60	154
<a href="#">L 01547</a>	L	LE		1	1	4	21	18S	36E	653819	3622784*	210		
<a href="#">L 01550</a>	L	LE		1	1	4	28	18S	36E	653846	3621171*	209		
<a href="#">L 01632 POD5</a>	L	LE		4	1	3	21	18S	36E	653213	3622570*	155	60	95
<a href="#">L 03119</a>	L	LE		1	1	4	17	18S	36E	652181	3624367*	216	38	178
<a href="#">L 03120</a>	L	LE		1	1	4	20	18S	36E	652208	3622756*	212		
<a href="#">L 03121</a>	L	LE		1	1	4	29	18S	36E	652235	3621143*	214	55	159
<a href="#">L 03757</a>	L	LE			1	1	28	18S	36E	653128	3621865*	125	45	80
<a href="#">L 05200 X-5</a>	L	LE					30	18S	36E	650554	3621204*	195	55	140
<a href="#">L 06641</a>	L	LE		4	2	1	30	18S	36E	650410	3621720*	110	42	68
<a href="#">L 07409</a>	L	LE		1	4	4	20	18S	36E	652618	3622360*	126	59	67
<a href="#">L 07469</a>	L	LE		2	1	3	21	18S	36E	653213	3622770*	160	70	90
<a href="#">L 09399</a>	L	LE		2	3	3	28	18S	36E	653246	3620753*	135	65	70
<a href="#">L 12367 POD1</a>	L	LE		1	2	4	28	18S	36E	654244	3621167	92	75	17
<a href="#">L 13602 POD1</a>	L	LE		1	2	2	18	18S	36E	651033	3625091	210	60	150

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

Average Depth to Water: 55 feet

Minimum Depth: 38 feet

Maximum Depth: 75 feet

-----

**Record Count:** 19

**PLSS Search:**

**Section(s):** 16, 17, 18, 19,  
20, 21, 28, 29,  
30

**Township:** 18S

**Range:** 36E

# Appendix V

## SEED MIXTURE

---

Diversified Field Service, Inc.  
206 W. Snyder  
Hobbs, NM 88240  
(575) 964-8394

# BLM Seeding Requirements – 2017


## WHOLESALE

### BLM Seed Mixture #1 (Loamy Sites)

**PLS/#     \$78.25/Acre**

**Plains Lovegrass**  
**Sand Dropseed**  
**Sideoats Grama**  
**Plains Bristlegrass**

**0.5**  
**1.0**  
**5.0 5.5**  
**2.0**



### BLM Seed Mixture #2 (Sandy Sites)

**\$224.50/Acre**

**Giant Dropseed \* Not Available (1.0 PLS)**  
**\* Double Sand Dropseed when Giant not available**  
**Sand Dropseed \* (1.0 PLS)**  
**Sand Bluestem**  
**Little Bluestem**  
**Plains Coreopsis**  
**Plains Bristlegrass**

**2.0**  
**3.0**  
**3.0**  
**2.0**  
**5.0**

### BLM Seed Mixture #3 (Shallow Sites)

**\$57.50/Acre**

**Sideoats Grama**  
**Blue Grama**

**7.0**  
**1.5**

### BLM Seed Mixture #4 (“GYP” Sites)

**\$65.00/Acre**

**Alkali Sacaton**  
**Four-wing Saltbush**

**1.0**  
**5.0**

**NOTE:** All prices quoted on drilling rate must be doubled for broadcast.