



Russell Turner Injection Station (Turner B #003)

REMEDIATION WORK PLAN

API No. 30-015-05279

Release Date: September 3, 2015

Unit Letter D, Section 20, Township 17 South, Range 31 East

RP# 2RP-3252

June 20, 2016

Prepared by:

Michael Burton, Environmental Operations Director
Diversified Field Service, Inc.
206 W. Snyder
Hobbs, NM 88240
Phone: (575)964-8394
Fax: (575)393-8396

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

**RE: Linn – Russell Turner Injection Station (Turner B #003) –
Remediation Work Plan**

UL/D, Section 20, T17S, R31E
API No. 30-015-05279
NMOCD Case #: 2R-3252
Site Assessment Score: 20

Mr. Bratcher,

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

The site is located southwest of Maljamar, NM, in Eddy County. The spill resulted from a corroded header line, releasing a total of 25 barrels of produced water, with none recovered. An initial C-141 was submitted to the NMOCD on September 9, 2015, and approved on September 14, 2015 (Appendix I).

Site Assessment and Delineation

On June 9, 2016, DFSI personnel were on site to obtain samples within the leak area (Figure 1). Three samples were obtained and field sampled for chloride levels, as well as BTEX. 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, resulting in concentrations below NMOCD and BLM regulatory guidelines (Appendix II).

DFSI has conducted a groundwater study of the area and has determined, according to the New Mexico Office of the State Engineer, there is no groundwater beneath this site. Therefore, no eminent danger of groundwater impact or threat to life is anticipated (Appendix III).

Conclusion

After careful review, DFSI on behalf of Linn Energy would like to propose the following:

Scrape the area around SP2 to 6" bgs and backfill with clean, imported soil to ground surface. The entire area, including SP1 and SP3, will be contoured to the surrounding area and will be seeded with an approved BLM-NMOCD mix.

Following the approval, 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,



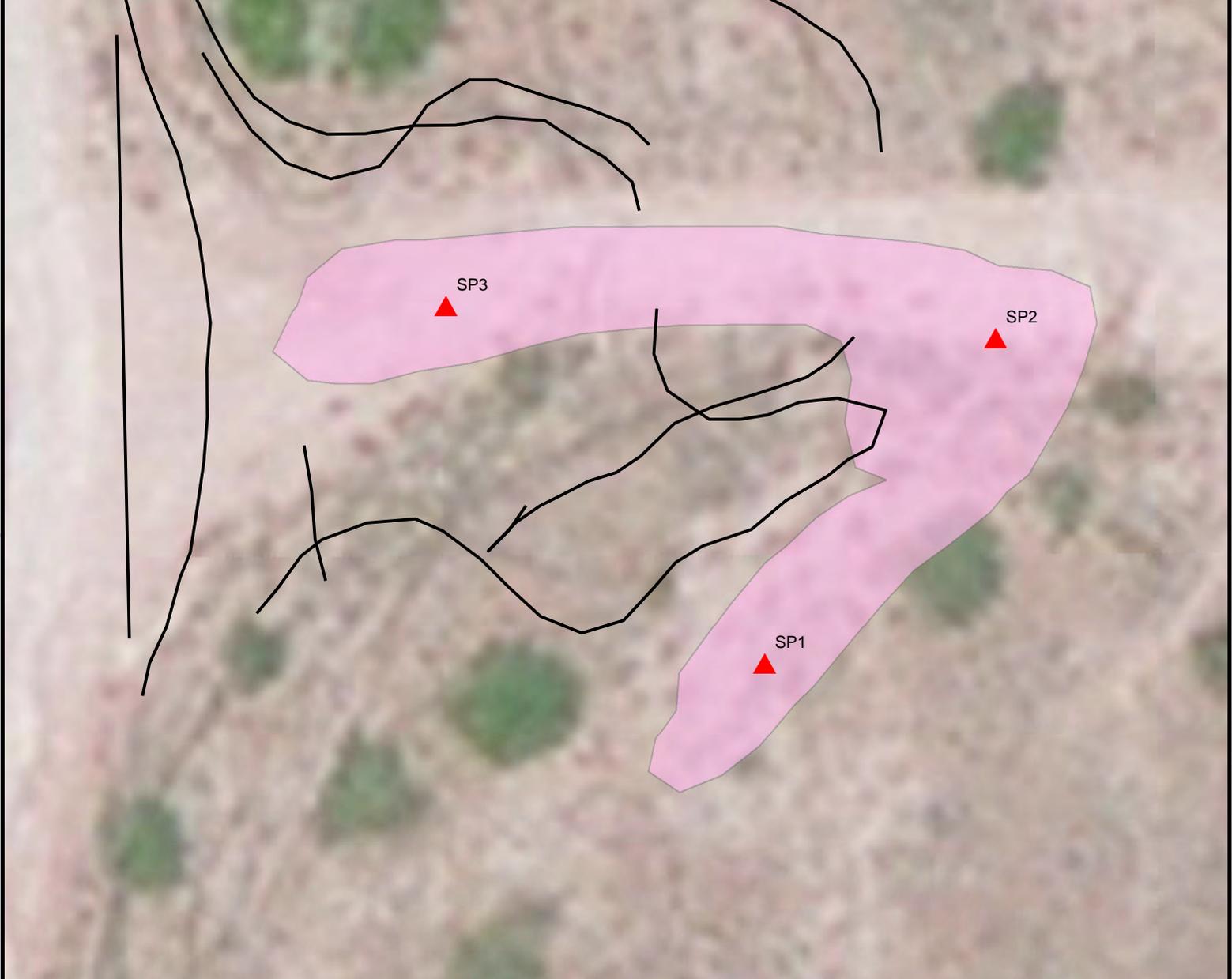
Michael Burton
Environmental Operations Director | Diversified Field Service, Inc.
206 West Snyder | Hobbs, NM 88240
Office: (575)964-8394 | Mobile: (575)390-5454
Fax: (575)964-8396 | Email: Mburton@diversifiedfsi.com

cc Shelly Tucker

Figure 1 – Soil Delineation
Figure 2 – Proposed Work
Appendix I – Initial C-141
Appendix II – Groundwater Study
Appendix III – Laboratory Analysis

Soil Delineation

SP1										SP2										SP3									
Depth	Cl-	PID	Lab Cl-	GRO	DRO	B	T	E	X	Depth	Cl-	PID	Lab Cl-	GRO	DRO	B	T	E	X	Depth	Cl-	PID	Lab Cl-	GRO	DRO	B	T	E	X
SS	83	0								SS	899	0								SS	119	0							
1'	89	0								1'	257	0.2								1'	57	0							
2'	82	0								2'	414	0								2'	88	0							
3'	112	0								3'	426	0								3'	86	0							
4'	117	0.4	<16	<10	<10	<0.05	<0.05	<0.05	<0.15	4'	266	0.1	192	<10	<10	<0.05	<0.05	<0.05	<0.15	4'	118	0	<16	<10	<10	<0.05	<0.05	<0.05	<0.15



Legend

- ▲ Sample Points
- Above Ground Line
- Produced Water (3385 sq ft)

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Linn
Russell Turner Injection Station
Unit Letter D, Section 20, T17S, R31E
Eddy County, NM
API #: 30-015-05279
NMOCD Case #: 2R-3252

Figure 1

Mapped: 06/10/2016 CF
 Drafted by: L. Flores
 06/22/2016

0 5 10 20 30 40 Feet

Proposed Work



Legend

-  Sample Points
-  Above Ground Line
-  Proposed 6" Scrape (2295 sq ft)
-  Proposed Surface Restoration (2279 sq ft)
-  Produced Water (3385 sq ft)

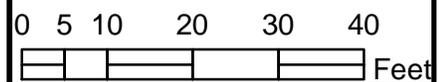
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Linn
Russell Turner Injection Station
Unit Letter D, Section 20, T17S, R31E
Eddy County, NM
API #: 30-015-05279
NMOCD Case #: 2R-3252

Figure 2

Mapped: 06/10/2016 CF
Drafted by: L. Flores
06/22/2016



Appendix I

INITIAL C-141

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

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

NAB1525734392

Name of Company Linn Operating Inc. <i>2104334</i>		Contact E.L. Gonzales	<input checked="" type="checkbox"/> Initial Report	<input type="checkbox"/> Final Report
Address 2130 W Bender Blvd Hobbs, NM 88240		Telephone No. 575-738-1739		
Facility Name Russell Turner Injection Station (closest well Turner B #3)		Facility Type Water Station		

Surface Owner Federal	Mineral Owner	API No. closest well 30-015-05279
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LOCATION OF RELEASE

Unit Letter D	Section 20	Township 17S	Range 31E	Feet from the 330	North/South Line North	Feet from the 660	East/West Line West	County Eddy
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Latitude 32.8263779 Longitude -103.8983841

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 25 bbls	Volume Recovered 0
Source of Release header line	Date and Hour of Occurrence 09/03/2015	Date and Hour of Discovery 09/03/2015 7:00am
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	NM OIL CONSERVATION
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

ARTESIA DISTRICT
SEP 09 2015

RECEIVED

Describe Cause of Problem and Remedial Action Taken.* Was looking for inj. leak, drove out Main header line found leak about 50 yards from road heading north from Water Station. Erosion- corrosion of line.

Describe Area Affected and Cleanup Action Taken.* Produced water traveled aprox. 75 x 25yds southwest. Spill is estimated to be about 25bbls.

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.

OIL CONSERVATION DIVISION

Signature: <i>E.L. Gonzales</i>	Approved by Environmental Specialist: <i>[Signature]</i>	
Printed Name: E.L. Gonzales	Approval Date: <i>9/14/15</i>	Expiration Date: <i>N/A</i>
Title: Production Supervisor	Conditions of Approval:	
E-mail Address: elgonzales@linenergy.com	Attached <input type="checkbox"/>	
Date: 09/09/2015	Phone: 505-504-8002	

Remediation per O.C.D. Rules & Guidelines
SUBMIT REMEDIATION PROPOSAL NO
LATER THAN: *10/14/15*

2RP-3252

* Attach Additional Sheets If Necessary

Appendix II

LABORATORY ANALYSIS

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



June 16, 2016

DENNIS POTTER

LINN OPERATING-HOBBS

2130 W. BENDER

HOBBS, NM 88240

RE: RUSSELL TURNER INJECTION STATION

Enclosed are the results of analyses for samples received by the laboratory on 06/10/16 15:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-15-7. 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.

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".

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

 LINN OPERATING-HOBBS
 DENNIS POTTER
 2130 W. BENDER
 HOBBS NM, 88240
 Fax To: (575) 738-1740

Received:	06/10/2016	Sampling Date:	06/10/2016
Reported:	06/16/2016	Sampling Type:	Soil
Project Name:	RUSSELL TURNER INJECTION STATION	Sampling Condition:	Cool & Intact
Project Number:	TURNER B #3	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SAMPLE PT. 1 @ 4' (H601280-01)

BTEX 8260B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/13/2016	ND	2.08	104	2.00	0.133	
Toluene*	<0.050	0.050	06/13/2016	ND	1.98	99.1	2.00	1.88	
Ethylbenzene*	<0.050	0.050	06/13/2016	ND	1.95	97.3	2.00	1.78	
Total Xylenes*	<0.150	0.150	06/13/2016	ND	6.50	108	6.00	2.32	
Total BTEX	<0.300	0.300	06/13/2016	ND					

Surrogate: Dibromofluoromethane 102 % 90.4-111

Surrogate: Toluene-d8 92.7 % 85.3-114

Surrogate: 4-Bromofluorobenzene 107 % 80.1-121

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	06/13/2016	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/10/2016	ND	208	104	200	3.15	
DRO >C10-C28	<10.0	10.0	06/10/2016	ND	220	110	200	4.21	

Surrogate: 1-Chlorooctane 94.5 % 35-147

Surrogate: 1-Chlorooctadecane 89.9 % 28-171

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 LINN OPERATING-HOBBS
 DENNIS POTTER
 2130 W. BENDER
 HOBBS NM, 88240
 Fax To: (575) 738-1740

Received:	06/10/2016	Sampling Date:	06/10/2016
Reported:	06/16/2016	Sampling Type:	Soil
Project Name:	RUSSELL TURNER INJECTION STATION	Sampling Condition:	Cool & Intact
Project Number:	TURNER B #3	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SAMPLE PT. 2 @ 4' (H601280-02)

BTEX 8260B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/13/2016	ND	2.08	104	2.00	0.133		
Toluene*	<0.050	0.050	06/13/2016	ND	1.98	99.1	2.00	1.88		
Ethylbenzene*	<0.050	0.050	06/13/2016	ND	1.95	97.3	2.00	1.78		
Total Xylenes*	<0.150	0.150	06/13/2016	ND	6.50	108	6.00	2.32		
Total BTEX	<0.300	0.300	06/13/2016	ND						

Surrogate: Dibromofluoromethane 105 % 90.4-111

Surrogate: Toluene-d8 91.2 % 85.3-114

Surrogate: 4-Bromofluorobenzene 104 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	06/13/2016	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/10/2016	ND	208	104	200	3.15		
DRO >C10-C28	<10.0	10.0	06/10/2016	ND	220	110	200	4.21		

Surrogate: 1-Chlorooctane 103 % 35-147

Surrogate: 1-Chlorooctadecane 98.7 % 28-171

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

LINN OPERATING-HOBBS
 DENNIS POTTER
 2130 W. BENDER
 HOBBS NM, 88240
 Fax To: (575) 738-1740

Received:	06/10/2016	Sampling Date:	06/10/2016
Reported:	06/16/2016	Sampling Type:	Soil
Project Name:	RUSSELL TURNER INJECTION STATION	Sampling Condition:	Cool & Intact
Project Number:	TURNER B #3	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SAMPLE PT. 3 @ 4' (H601280-03)

BTEX 8260B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/13/2016	ND	2.08	104	2.00	0.133		
Toluene*	<0.050	0.050	06/13/2016	ND	1.98	99.1	2.00	1.88		
Ethylbenzene*	<0.050	0.050	06/13/2016	ND	1.95	97.3	2.00	1.78		
Total Xylenes*	<0.150	0.150	06/13/2016	ND	6.50	108	6.00	2.32		
Total BTEX	<0.300	0.300	06/13/2016	ND						

Surrogate: Dibromofluoromethane 104 % 90.4-111
 Surrogate: Toluene-d8 93.3 % 85.3-114
 Surrogate: 4-Bromofluorobenzene 107 % 80.1-121

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	06/13/2016	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/11/2016	ND	208	104	200	3.15		
DRO >C10-C28	<10.0	10.0	06/11/2016	ND	220	110	200	4.21		

Surrogate: 1-Chlorooctane 103 % 35-147
 Surrogate: 1-Chlorooctadecane 108 % 28-171

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

- 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



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

BILL TO

ANALYSIS REQUEST

Company Name: Linn
 Project Manager: Dennis Potter
 Address: _____ State: _____ Zip: _____
 City: _____
 Phone #: _____ Fax #: _____
 Project #: _____ Project Owner: _____
 Project Name: Linn
 Project Location: Russell Turner Injection Station (Turner B #3)
 Sampler Name: Chris Flores
 P.O. #: _____ Company: _____
 Attn: _____ Address: _____
 City: _____ State: _____ Zip: _____
 Phone #: _____ Fax #: _____

FOR LAB USE ONLY

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	Chloride	BTEX	TPH
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					
Mod 1280	Sample Point 1 @ 4'	G	1						6/10/2016	9:00 AM	X	X	X	
	Sample Point 2 @ 4'	G	1						11:50 AM		X	X	X	
	Sample Point 3 @ 4'	G	1						1:50 PM		X	X	X	

Relinquished By: _____ Date: 6/10/2016
 Relinquished By: _____ Date: 5:10 PM
 Received By: Chris Andersen
 Received By: _____
 Sample Condition: Cool Intact
 Yes No

Delivered By: (Circle One) UPS Bus Other: 5:40
 Checked By: _____
 Phone Result: Yes No Add'l Phone #: _____
 Fax Result: Yes No Add'l Fax #: _____
 REMARKS: Flores @ Flores@diversifieldfsi.com
 Flores @ Flores@diversifieldfsi.com
 Flores @ Flores@diversifieldfsi.com

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326 #75

Appendix III

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

No records found.

PLSS Search:

Section(s): 16, 17, 18, 19,
20, 21, 28, 29,
30 **Township:** 17S **Range:** 31E