

APPROVED

By Olivia Yu at 2:28 pm, May 04, 2017



NMOCD approves the delineation workplan for 1RP-3324. Please be advised that proposed remedial activities are subject to modification based on delineation results.

EHSAU Battery

REVISED WORK PLAN

Release Date: December 8th, 2013

Unit Letter I, Section 30, Township 18 South, Range 39 East

API #: 30-025-34787

NMOCD Case #: 1R-3324

May 3, 2017

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

Olivia Yu
Environmental Specialist
NMOCD – District 1
1625 N. French Dr.
Hobbs, NM 88240

RE: **Linn Energy East Hobbs San Andres Unit (EHSAU) Battery
Revised Work Plan**
UL/I, Section 30, T18S, R39E
API No. 30-025-34787
NMOCD Case #: 1R-3324
NMOCD Score:

Ms. Yu,

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

The site is located east of Hobbs NM, in Lea County. The leak site resulted from a head switch failing due to cold weather, causing the tanks to overflow. Approximately 100 barrels of produced water and 900 barrels of oil were released, with approximately 90 bbls of produced water and 810 bbls of oil recovered. The impacted area is within the firewall and south into the pasture. A C-141 was submitted to the NMOCD on December 13, 2013 and approved on September 16, 2014 (Appendix I).

Site Assessment and Delineation

On April 23, 2015 DFSI personnel were on site to collect and field tested samples within the release area. Eleven sample points were obtained and field tested for chlorides, as well as BTEX (Appendix II). The BTEX samples were performed using a Mini Rae Photoionization Detector (PID). All clean field samples were taken to Cardinal Lab of Hobbs to obtain confirmation samples (Appendix III).

DFSI has conducted a groundwater study of the area and has determined, according to the New Mexico Office of the State Engineer and the Chevron Trend Map, the average depth to groundwater for this area is 86 foot below ground surface (Appendix IV).

Conclusion

A remediation work plan was submitted to NMOCD on May 13, 2015 and resubmitted to NMOCD on April 27, 2017. In pursuant to the stipulations NMOCD requested via email response on April 28, 2017, DFSI, on behalf of Linn Energy, proposes the following:

Additional soil sampling and delineation will occur at SP1 through SP11 until NMOCD guidelines of 600 mg/kg or cleaner are reached, plus obtaining an added 10 ft of clean soil samples. Samples will be submitted to an approved laboratory for analysis and confirmation of chlorides, BTEX and TPH.

Three additional sample points will be collected (Figure 1) and field tested. Samples will be obtained until reaching NMOCD guidelines of 600 mg/kg or clean, plus obtaining an added 10 ft of clean. Samples will be submitted to an approved laboratory for analysis and confirmation of chlorides, BTEX and TPH.

Around SP1, SP2, SP3, SP4, SP5, SP6, SP7, SP9, and SP11, the release area will be excavated to a depth of 1 ft bgs and backfilled with clean caliche on the pad or with topsoil within the pasture area (Figure 2). Around SP8 and SP10, the release area will be tilled, contoured to the surrounding area and seeded with a blend of native vegetation.

Following the approval of the above plan, DFSI will submit all proper closure documentation to the NMOCD 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 Dr. Tomas Oberding

Figures: Soil Delineation
 Proposed Work

Appendices: Initial Form C-141
 Site Photos
 Laboratory Analysis
 Groundwater Study

Site Diagram

SP1											SP10												
Depth	CI-	PID	Lab CI-	GRO	DRO	B	T	E	X	Lat	Long	Depth	CI-	PID	Lab CI-	GRO	DRO	B	T	E	X	Lat	Long
SS	1124	55.9								32.716024	-103.078691	SS	474	0	<16	<10	<10	<0.05	<0.05	<0.05	<0.15	32.715564	-103.077907
1'	524	45.3	80	<10	<10	<0.05	<0.05	<0.05	<0.15			1'	474	0	<16	<10	<10	<0.05	<0.05	<0.05	<0.15		
2'	399	39.4	128	<10	<10	<0.05	<0.05	<0.05	<0.15														

SP2											SP11												
Depth	CI-	PID	Lab CI-	GRO	DRO	B	T	E	X	Lat	Long	Depth	CI-	PID	Lab CI-	GRO	DRO	B	T	E	X	Lat	Long
SS	624	62.8								32.715935	-103.078601	SS	1399	32.8								32.71565	-103.078188
1'	624	23.4	208	<10	308	<0.05	<0.05	<0.05	<0.15			1'	474	19.4	<16	<10	<10	<0.05	<0.05	<0.05	<0.15		
2'	524	20.9	80	<10	<10	<0.05	<0.05	<0.05	<0.15			2'	374	8.9	80	<10	<10	<0.05	<0.05	<0.05	<0.15		

SP3											
Depth	CI-	PID	Lab CI-	GRO	DRO	B	T	E	X	Lat	Long
SS	1999	72.8								32.71603	-103.07834
1'	624	12.3	160	<10	16.2	<0.05	<0.05	<0.05	<0.15		
2'	524	10.6	32	<10	<10	<0.05	<0.05	<0.05	<0.15		

SP4											
Depth	CI-	PID	Lab CI-	GRO	DRO	B	T	E	X	Lat	Long
SS	1299	160								32.715949	-103.07836
1'	374	33.6	80	<10	74.3	<0.05	<0.05	<0.05	<0.15		
2'	374	12.2	80	<10	<10	<0.05	<0.05	<0.05	<0.15		

SP5											
Depth	CI-	PID	Lab CI-	GRO	DRO	B	T	E	X	Lat	Long
SS	1049	7.8								32.715737	-103.078455
1'	624	5.8									
2'	624	12.4									

SP6											
Depth	CI-	PID	Lab CI-	GRO	DRO	B	T	E	X	Lat	Long
SS	999	2.7								32.715734	-103.078462
1'	649	3.1	48	<10	141	<0.05	<0.05	<0.05	<0.15		
2'	499	4.4	80	<10	140	<0.05	<0.05	<0.05	<0.15		

SP7											
Depth	CI-	PID	Lab CI-	GRO	DRO	B	T	E	X	Lat	Long
SS	1124	22.4								32.715615	-103.078575
1'	474	6.2	<16	<10	283	<0.05	<0.05	<0.05	<0.15		
2'	399	4.3	48	<10	142	<0.05	<0.05	<0.05	<0.15		

SP8											
Depth	CI-	PID	Lab CI-	GRO	DRO	B	T	E	X	Lat	Long
SS	499	1.6	80	<10	<10	<0.05	<0.05	<0.05	<0.15	32.715581	-103.078709
1'	499	0	80	<10	<10	<0.05	<0.05	<0.05	<0.15		

SP9											
Depth	CI-	PID	Lab CI-	GRO	DRO	B	T	E	X	Lat	Long
SS	999	12.9								32.71558	-103.078266
1'	624	15.9	<16	<10	2230	<0.05	<0.05	<0.05	<0.15		
2'	499	20.1	<16	<10	413	<0.05	<0.05	<0.05	<0.15		

32.716076 -103.078344

SP1

SP2

SP3

SP4

SP5

SP6

SP7

SP8

SP9

SP10

SP11

Legend

-  Proposed Sample Points
-  Sample Points
-  Source
-  Above Ground Line
-  Oil and Produced Water (24394 sq ft)

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



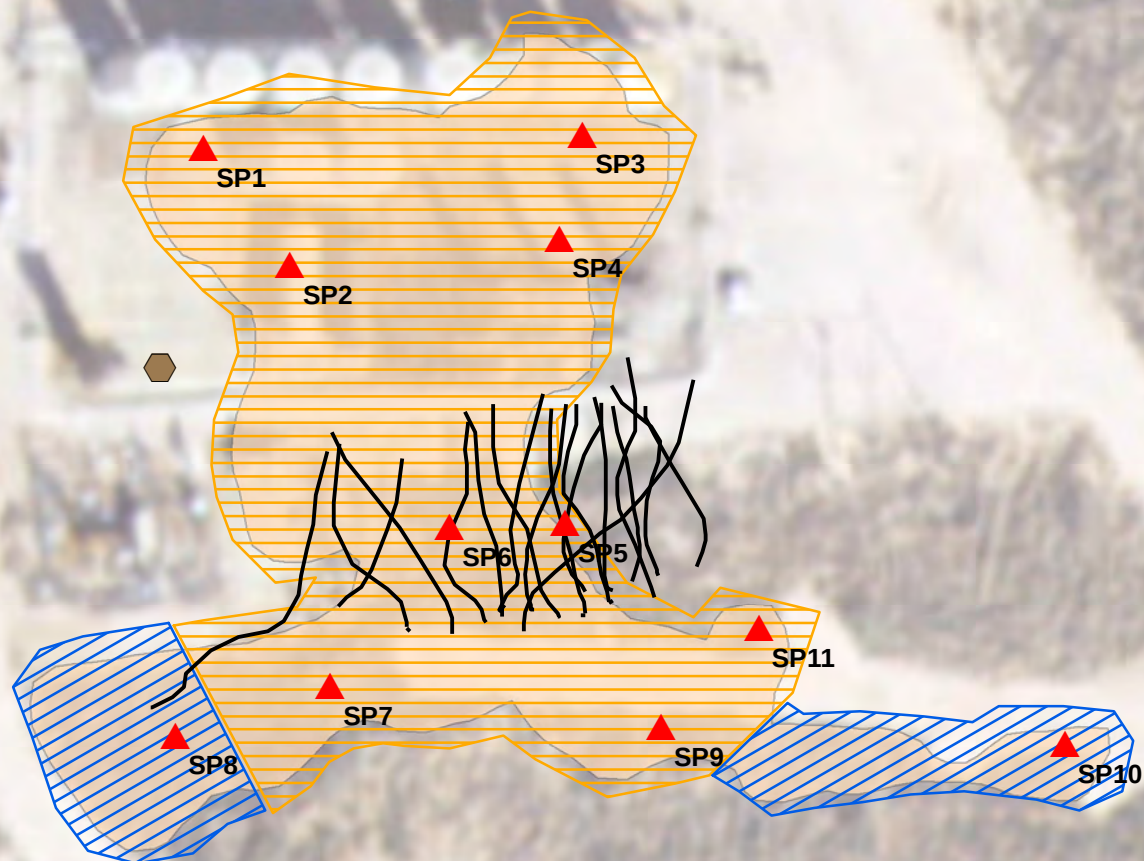
Linn
EHSAU Central Battery
UL/I, Section 30, T18S, R39E
Lea County, NM
API No. 30-025-34787
NMOCD Case #: 1R-3324

Mapped: 4/16/2015 LC
 Drafted by: L. Flores

0 30 60 120 Feet



Proposed Work



Legend

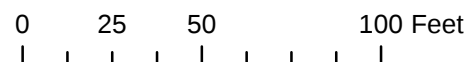
-  Proposed Sample Points
-  Sample Points
-  Above Ground Line
-  Proposed Till/Seed (2672 sq ft)
-  Proposed Excavation to 1' bgs (24821 sq ft)
-  Oil and Produced Water (24394 sq ft)

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

Linn
EHS AU Central Battery
UL/I, Section 30, T18S, R39E
Lea County, NM
API No. 30-025-34787
NMOCD Case #: 1R-3324



Mapped: 4/16/2015 LC
Drafted by: L. Flores



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
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

HOBBS OCD

Form C-141
Revised October 10, 2003

SEP 16 2014
Report to appropriate District Office in accordance with 19.15.29 NMAC

RECEIVED

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: Linn Operating	Contact: Brian Wall	
Address: 2130 W. Bender Hobbs, NM 88240	Telephone No.: 575-738-1739	
Facility Name: EHSAU Battery (closest well #510)	Facility Type: Battery	
Surface Owner: State	Mineral Owner:	API No.: 30-025-34787

LOCATION OF RELEASE

Unit Letter I	Section 30	Township 18S	Range 39E	Feet from the 1650	North/South Line South	Feet from the 330	East/West Line East	County Lea
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Latitude: 32.715671543176 Longitude: -103.077115047575

NATURE OF RELEASE

Type of Release: Oil / Produced Water	Volume of Release: 100 bbls / 900 bbls	Volume Recovered: 90 bbls / 810 bbls
Source of Release: Pump	Date and Hour of Occurrence: 12/08/2013	Date and Hour of Discovery: 12/08/2013 0900
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Geoffry Leking NM OCD / Mike Burton- BLM	
By Whom? Brian Wall	Date and Hour 12/09/2013 1104	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

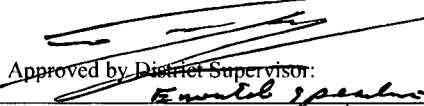
If a Watercourse was Impacted, Describe Fully.*:

Describe Cause of Problem and Remedial Action Taken.*: Head switches on water tanks froze over and were not reading accurately. One controlled the pump and the other the alarm. The pump control did not tell the pump to run and the alarm control did not send out a high tank alarm. Upon arriving to location I worked with the switches and was able to get pump running again stopping the overflow of the tanks. The firewall gave way and spill was not contained.

Describe Area Affected and Cleanup Action Taken.*: Other than inside the containment area approximately 100 BBL of fluid escaped on the south side of location. This area is approximately 50 ft. by 300 ft. of sandy ground and vegetation. Vacuum trucks were called in and picked up all puddled fluid totaling 900 BBL of fluid that was taken to disposal. estimate 100 BBL lost to absorption.

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: 	Approved by District Supervisor: 	
Printed Name: Brian Wall	Approval Date: 9-16-14	Expiration Date: 11-16-19
Title: Construction Foreman II	Conditions of Approval: Site Supervisor request	Attached ☐
E-mail Address: bwall@linenergy.com	Delivered & received from operator NMOCD guide. Submit final C-141 by 11-16-14	IRP-3324
Date: 12/09/2013 Phone: 806-367-0645		09/11/2014 259324 12/14/2013 937024 12/14/2013 937180

SEP 16 2014

Appendix II

SITE PHOTOS

EHSAU Battery



Site prior



Site prior



Site prior



Site prior



Site prior



Site prior





Site prior



Site prior



Current photo



Current photo



Current photo



Current photo



Current photo



Current photo

Appendix III

LABORATORY ANALYSIS

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

April 28, 2015

JOE HERNANDEZ

LINN OPERATING-HOBBS

2130 W. BENDER

HOBBS, NM 88240

RE: EHSAU CENTRAL BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 04/23/15 14:35.

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.

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:

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

Received: 04/23/2015
 Reported: 04/28/2015
 Project Name: EHSAU CENTRAL BATTERY
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 04/23/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Celey D. Keene

Sample ID: SP. 1 @ 1' (H501062-01)

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	04/27/2015	ND	2.19	110	2.00	1.10	
Toluene*	<0.050	0.050	04/27/2015	ND	1.97	98.7	2.00	0.692	
Ethylbenzene*	<0.050	0.050	04/27/2015	ND	1.87	93.5	2.00	0.124	
Total Xylenes*	<0.150	0.150	04/27/2015	ND	6.03	101	6.00	0.310	
Total BTX	<0.300	0.300	04/27/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 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	80.0	16.0	04/24/2015	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	04/24/2015	ND	205	103	200	1.77	
DRO >C10-C28	<10.0	10.0	04/24/2015	ND	217	109	200	2.47	

Surrogate: 1-Chlorooctane 100 % 47.2-157

Surrogate: 1-Chlorooctadecane 95.4 % 52.1-176

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	04/23/2015	Sampling Date:	04/23/2015
Reported:	04/28/2015	Sampling Type:	Soil
Project Name:	EHS AU CENTRAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NONE GIVEN		

Sample ID: SP. 1 @ 2' (H501062-02)

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	04/27/2015	ND	2.19	110	2.00	1.10		
Toluene*	<0.050	0.050	04/27/2015	ND	1.97	98.7	2.00	0.692		
Ethylbenzene*	<0.050	0.050	04/27/2015	ND	1.87	93.5	2.00	0.124		
Total Xylenes*	<0.150	0.150	04/27/2015	ND	6.03	101	6.00	0.310		
Total BTX	<0.300	0.300	04/27/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 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	128	16.0	04/24/2015	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	04/24/2015	ND	205	103	200	1.77		
DRO >C10-C28	<10.0	10.0	04/24/2015	ND	217	109	200	2.47		

Surrogate: 1-Chlorooctane 99.7 % 47.2-157

Surrogate: 1-Chlorooctadecane 92.8 % 52.1-176

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	04/23/2015	Sampling Date:	04/23/2015
Reported:	04/28/2015	Sampling Type:	Soil
Project Name:	EHS AU CENTRAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NONE GIVEN		

Sample ID: SP. 2 @ 1' (H501062-03)

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	04/27/2015	ND	2.19	110	2.00	1.10	
Toluene*	<0.050	0.050	04/27/2015	ND	1.97	98.7	2.00	0.692	
Ethylbenzene*	<0.050	0.050	04/27/2015	ND	1.87	93.5	2.00	0.124	
Total Xylenes*	<0.150	0.150	04/27/2015	ND	6.03	101	6.00	0.310	
Total BTX	<0.300	0.300	04/27/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 117 % 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	04/24/2015	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	04/24/2015	ND	205	103	200	1.77	
DRO >C10-C28	308	10.0	04/24/2015	ND	217	109	200	2.47	

Surrogate: 1-Chlorooctane 100 % 47.2-157

Surrogate: 1-Chlorooctadecane 103 % 52.1-176

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	04/23/2015	Sampling Date:	04/23/2015
Reported:	04/28/2015	Sampling Type:	Soil
Project Name:	EHS AU CENTRAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NONE GIVEN		

Sample ID: SP. 2 @ 2' (H501062-04)

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	04/27/2015	ND	2.19	110	2.00	1.10		
Toluene*	<0.050	0.050	04/27/2015	ND	1.97	98.7	2.00	0.692		
Ethylbenzene*	<0.050	0.050	04/27/2015	ND	1.87	93.5	2.00	0.124		
Total Xylenes*	<0.150	0.150	04/27/2015	ND	6.03	101	6.00	0.310		
Total BTX	<0.300	0.300	04/27/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 115 % 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	80.0	16.0	04/24/2015	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	04/24/2015	ND	205	103	200	1.77		
DRO >C10-C28	46.1	10.0	04/24/2015	ND	217	109	200	2.47		

Surrogate: 1-Chlorooctane 100 % 47.2-157

Surrogate: 1-Chlorooctadecane 92.3 % 52.1-176

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 04/23/2015
 Reported: 04/28/2015
 Project Name: EHS AU CENTRAL BATTERY
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

 Sampling Date: 04/23/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Celey D. Keene

Sample ID: SP. 3 @ 1' (H501062-05)

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	04/27/2015	ND	2.19	110	2.00	1.10	
Toluene*	<0.050	0.050	04/27/2015	ND	1.97	98.7	2.00	0.692	
Ethylbenzene*	<0.050	0.050	04/27/2015	ND	1.87	93.5	2.00	0.124	
Total Xylenes*	<0.150	0.150	04/27/2015	ND	6.03	101	6.00	0.310	
Total BTX	<0.300	0.300	04/27/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 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	04/24/2015	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	04/24/2015	ND	205	103	200	1.77	
DRO >C10-C28	16.2	10.0	04/24/2015	ND	217	109	200	2.47	

Surrogate: 1-Chlorooctane 99.0 % 47.2-157

Surrogate: 1-Chlorooctadecane 93.4 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	04/23/2015	Sampling Date:	04/23/2015
Reported:	04/28/2015	Sampling Type:	Soil
Project Name:	EHS AU CENTRAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NONE GIVEN		

Sample ID: SP. 3 @ 2' (H501062-06)

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	04/27/2015	ND	2.19	110	2.00	1.10	
Toluene*	<0.050	0.050	04/27/2015	ND	1.97	98.7	2.00	0.692	
Ethylbenzene*	<0.050	0.050	04/27/2015	ND	1.87	93.5	2.00	0.124	
Total Xylenes*	<0.150	0.150	04/27/2015	ND	6.03	101	6.00	0.310	
Total BTX	<0.300	0.300	04/27/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 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	04/24/2015	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	04/24/2015	ND	205	103	200	1.77	
DRO >C10-C28	<10.0	10.0	04/24/2015	ND	217	109	200	2.47	

Surrogate: 1-Chlorooctane 95.3 % 47.2-157

Surrogate: 1-Chlorooctadecane 90.6 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	04/23/2015	Sampling Date:	04/23/2015
Reported:	04/28/2015	Sampling Type:	Soil
Project Name:	EHS AU CENTRAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NONE GIVEN		

Sample ID: SP. 4 @ 1' (H501062-07)

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	04/27/2015	ND	2.19	110	2.00	1.10	
Toluene*	<0.050	0.050	04/27/2015	ND	1.97	98.7	2.00	0.692	
Ethylbenzene*	<0.050	0.050	04/27/2015	ND	1.87	93.5	2.00	0.124	
Total Xylenes*	<0.150	0.150	04/27/2015	ND	6.03	101	6.00	0.310	
Total BTX	<0.300	0.300	04/27/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 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	80.0	16.0	04/24/2015	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	04/24/2015	ND	205	103	200	1.77	
DRO >C10-C28	74.3	10.0	04/24/2015	ND	217	109	200	2.47	

Surrogate: 1-Chlorooctane 102 % 47.2-157

Surrogate: 1-Chlorooctadecane 96.3 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	04/23/2015	Sampling Date:	04/23/2015
Reported:	04/28/2015	Sampling Type:	Soil
Project Name:	EHS AU CENTRAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NONE GIVEN		

Sample ID: SP. 4 @ 2' (H501062-08)

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	04/27/2015	ND	2.19	110	2.00	1.10	
Toluene*	<0.050	0.050	04/27/2015	ND	1.97	98.7	2.00	0.692	
Ethylbenzene*	<0.050	0.050	04/27/2015	ND	1.87	93.5	2.00	0.124	
Total Xylenes*	<0.150	0.150	04/27/2015	ND	6.03	101	6.00	0.310	
Total BTX	<0.300	0.300	04/27/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 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	80.0	16.0	04/24/2015	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	04/24/2015	ND	205	103	200	1.77	
DRO >C10-C28	<10.0	10.0	04/24/2015	ND	217	109	200	2.47	

Surrogate: 1-Chlorooctane 102 % 47.2-157

Surrogate: 1-Chlorooctadecane 92.6 % 52.1-176

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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

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Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: <u>Linn Energy</u>				BILL TO				ANALYSIS REQUEST																
Project Manager: <u>Lance Crenshaw</u>				P.O. #:																				
Address:				Company: <u>Linn Energy</u>																				
City: State: Zip:				Attn: <u>Joe Hernandez</u>																				
Phone #: Fax #:				Address:																				
Project #: Project Owner:				City:																				
Project Name:				State: Zip:																				
Project Location: <u>EHSAU central Battery</u>				Phone #: Fax #:																				
Sampler Name:																								
FOR LAB USE ONLY																								
Lab I.D.	Sample I.D.	GRAB OR C/COMP	# CONTAINERS	MATRIX				PRESERV		SAMPLING														
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL	OTHER	DATE	TIME										
<u>H501062</u>																								
<u>01</u>	<u>SP1@1'</u>	<u>9</u>	<u>1</u>			<u>X</u>				<u>X</u>			<u>4-23-15</u>	<u>7:15</u>	<u>X</u>	<u>X</u>	<u>X</u>							
<u>02</u>	<u>SP1@2'</u>	<u>9</u>	<u>1</u>			<u>X</u>				<u>X</u>			<u>4-23-15</u>	<u>7:18</u>	<u>X</u>	<u>X</u>	<u>X</u>							
<u>03</u>	<u>SP2@1'</u>	<u>9</u>	<u>1</u>			<u>X</u>				<u>X</u>			<u>4-23-15</u>	<u>7:20</u>	<u>X</u>	<u>X</u>	<u>X</u>							
<u>04</u>	<u>SP2@2'</u>	<u>9</u>	<u>1</u>			<u>X</u>				<u>X</u>			<u>4-23-15</u>	<u>7:25</u>	<u>X</u>	<u>X</u>	<u>X</u>							
<u>05</u>	<u>SP3@1'</u>	<u>9</u>	<u>1</u>			<u>X</u>				<u>X</u>			<u>4-23-15</u>	<u>7:45</u>	<u>X</u>	<u>X</u>	<u>X</u>							
<u>06</u>	<u>SP3@2'</u>	<u>9</u>	<u>1</u>			<u>X</u>				<u>X</u>			<u>4-23-15</u>	<u>7:52</u>	<u>X</u>	<u>X</u>	<u>X</u>							
<u>07</u>	<u>SP4@1'</u>	<u>9</u>	<u>1</u>			<u>X</u>				<u>X</u>			<u>4-23-15</u>	<u>8:20</u>	<u>X</u>	<u>X</u>	<u>X</u>							
<u>08</u>	<u>SP4@2'</u>	<u>9</u>	<u>1</u>			<u>X</u>				<u>X</u>			<u>4-23-15</u>	<u>8:25</u>	<u>X</u>	<u>X</u>	<u>X</u>							

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Relinquished By: <u>[Signature]</u>		Date: <u>4/23/15</u>		Received By: <u>[Signature]</u>		Phone Result: ☐ Yes ☐ No		Add'l Phone #:	
		Time: <u>2:35</u>				Fax Result: ☐ Yes ☐ No		Add'l Fax #:	
Relinquished By:		Date:		Received By:		REMARKS:			
		Time:							
Delivered By: (Circle One)									
Sampler - UPS - Bus - Other:		<u>4.8°C</u>		Sample Condition Cool Intact ☒ Yes ☐ No ☐ Yes ☐ No		CHECKED BY: (Initials) <u>CSH</u>			

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

April 30, 2015

JOE HERNANDEZ

LINN OPERATING-HOBBS

2130 W. BENDER

HOBBS, NM 88240

RE: EHSAU CENTRAL BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 04/27/15 14:10.

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.

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:

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

Received:	04/27/2015	Sampling Date:	04/27/2015
Reported:	04/30/2015	Sampling Type:	Soil
Project Name:	EHS AU CENTRAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: SP. 6 @ 1' (H501085-01)

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	04/30/2015	ND	1.96	98.1	2.00	2.22	
Toluene*	<0.050	0.050	04/30/2015	ND	1.76	88.2	2.00	2.15	
Ethylbenzene*	<0.050	0.050	04/30/2015	ND	1.71	85.6	2.00	2.58	
Total Xylenes*	<0.150	0.150	04/30/2015	ND	5.52	91.9	6.00	2.69	
Total BTX	<0.300	0.300	04/30/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	04/29/2015	ND	416	104	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	04/28/2015	ND	203	101	200	0.362	
DRO >C10-C28	141	10.0	04/28/2015	ND	215	107	200	0.141	

Surrogate: 1-Chlorooctane 106 % 47.2-157

Surrogate: 1-Chlorooctadecane 103 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	04/27/2015	Sampling Date:	04/27/2015
Reported:	04/30/2015	Sampling Type:	Soil
Project Name:	EHS AU CENTRAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: SP. 6 @ 2' (H501085-02)

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	04/30/2015	ND	1.96	98.1	2.00	2.22		
Toluene*	<0.050	0.050	04/30/2015	ND	1.76	88.2	2.00	2.15		
Ethylbenzene*	<0.050	0.050	04/30/2015	ND	1.71	85.6	2.00	2.58		
Total Xylenes*	<0.150	0.150	04/30/2015	ND	5.52	91.9	6.00	2.69		
Total BTX	<0.300	0.300	04/30/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	80.0	16.0	04/29/2015	ND	416	104	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	04/28/2015	ND	203	101	200	0.362		
DRO >C10-C28	140	10.0	04/28/2015	ND	215	107	200	0.141		

Surrogate: 1-Chlorooctane 104 % 47.2-157

Surrogate: 1-Chlorooctadecane 102 % 52.1-176

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	04/27/2015	Sampling Date:	04/27/2015
Reported:	04/30/2015	Sampling Type:	Soil
Project Name:	EHS AU CENTRAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: SP. 7 @ 1' (H501085-03)

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	04/30/2015	ND	1.96	98.1	2.00	2.22		
Toluene*	<0.050	0.050	04/30/2015	ND	1.76	88.2	2.00	2.15		
Ethylbenzene*	<0.050	0.050	04/30/2015	ND	1.71	85.6	2.00	2.58		
Total Xylenes*	<0.150	0.150	04/30/2015	ND	5.52	91.9	6.00	2.69		
Total BTEx	<0.300	0.300	04/30/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	04/29/2015	ND	416	104	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	04/28/2015	ND	203	101	200	0.362	
DRO >C10-C28	283	10.0	04/28/2015	ND	215	107	200	0.141	

Surrogate: 1-Chlorooctane 104 % 47.2-157

Surrogate: 1-Chlorooctadecane 105 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	04/27/2015	Sampling Date:	04/27/2015
Reported:	04/30/2015	Sampling Type:	Soil
Project Name:	EHS AU CENTRAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: SP. 7 @ 2' (H501085-04)

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	04/30/2015	ND	1.96	98.1	2.00	2.22		
Toluene*	<0.050	0.050	04/30/2015	ND	1.76	88.2	2.00	2.15		
Ethylbenzene*	<0.050	0.050	04/30/2015	ND	1.71	85.6	2.00	2.58		
Total Xylenes*	<0.150	0.150	04/30/2015	ND	5.52	91.9	6.00	2.69		
Total BTX	<0.300	0.300	04/30/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	04/29/2015	ND	416	104	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	04/28/2015	ND	200	100	200	0.0404	
DRO >C10-C28	142	10.0	04/28/2015	ND	207	103	200	0.0237	

Surrogate: 1-Chlorooctane 98.4 % 47.2-157

Surrogate: 1-Chlorooctadecane 96.0 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	04/27/2015	Sampling Date:	04/27/2015
Reported:	04/30/2015	Sampling Type:	Soil
Project Name:	EHS AU CENTRAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: SP. 8 @ SURFACE (H501085-05)

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	04/30/2015	ND	1.96	98.1	2.00	2.22		
Toluene*	<0.050	0.050	04/30/2015	ND	1.76	88.2	2.00	2.15		
Ethylbenzene*	<0.050	0.050	04/30/2015	ND	1.71	85.6	2.00	2.58		
Total Xylenes*	<0.150	0.150	04/30/2015	ND	5.52	91.9	6.00	2.69		
Total BTX	<0.300	0.300	04/30/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	80.0	16.0	04/29/2015	ND	416	104	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	04/28/2015	ND	200	100	200	0.0404	
DRO >C10-C28	<10.0	10.0	04/28/2015	ND	207	103	200	0.0237	

Surrogate: 1-Chlorooctane 94.3 % 47.2-157

Surrogate: 1-Chlorooctadecane 90.7 % 52.1-176

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Analytical Results For:

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

Received:	04/27/2015	Sampling Date:	04/27/2015
Reported:	04/30/2015	Sampling Type:	Soil
Project Name:	EHS AU CENTRAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: SP. 8 @ 1' (H501085-06)

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	04/30/2015	ND	1.96	98.1	2.00	2.22		
Toluene*	<0.050	0.050	04/30/2015	ND	1.76	88.2	2.00	2.15		
Ethylbenzene*	<0.050	0.050	04/30/2015	ND	1.71	85.6	2.00	2.58		
Total Xylenes*	<0.150	0.150	04/30/2015	ND	5.52	91.9	6.00	2.69		
Total BTX	<0.300	0.300	04/30/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	80.0	16.0	04/29/2015	ND	416	104	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	04/28/2015	ND	200	100	200	0.0404	
DRO >C10-C28	<10.0	10.0	04/28/2015	ND	207	103	200	0.0237	

Surrogate: 1-Chlorooctane 92.6 % 47.2-157

Surrogate: 1-Chlorooctadecane 91.1 % 52.1-176

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Analytical Results For:

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

Received:	04/27/2015	Sampling Date:	04/27/2015
Reported:	04/30/2015	Sampling Type:	Soil
Project Name:	EHS AU CENTRAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: SP. 9 @ 1' (H501085-07)

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	04/30/2015	ND	1.96	98.1	2.00	2.22		
Toluene*	<0.050	0.050	04/30/2015	ND	1.76	88.2	2.00	2.15		
Ethylbenzene*	<0.050	0.050	04/30/2015	ND	1.71	85.6	2.00	2.58		
Total Xylenes*	<0.150	0.150	04/30/2015	ND	5.52	91.9	6.00	2.69		
Total BTX	<0.300	0.300	04/30/2015	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	<16.0	16.0	04/29/2015	ND	416	104	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	<50.0	50.0	04/28/2015	ND	200	100	200	0.0404	
DRO >C10-C28	2230	50.0	04/28/2015	ND	207	103	200	0.0237	

Surrogate: 1-Chlorooctane 93.5 % 47.2-157

Surrogate: 1-Chlorooctadecane 120 % 52.1-176

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Analytical Results For:

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

Received:	04/27/2015	Sampling Date:	04/27/2015
Reported:	04/30/2015	Sampling Type:	Soil
Project Name:	EHS AU CENTRAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: SP. 9 @ 2' (H501085-08)

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	04/30/2015	ND	1.96	98.1	2.00	2.22		
Toluene*	<0.050	0.050	04/30/2015	ND	1.76	88.2	2.00	2.15		
Ethylbenzene*	<0.050	0.050	04/30/2015	ND	1.71	85.6	2.00	2.58		
Total Xylenes*	<0.150	0.150	04/30/2015	ND	5.52	91.9	6.00	2.69		
Total BTX	<0.300	0.300	04/30/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	04/29/2015	ND	416	104	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	04/28/2015	ND	200	100	200	0.0404	
DRO >C10-C28	413	10.0	04/28/2015	ND	207	103	200	0.0237	

Surrogate: 1-Chlorooctane 99.1 % 47.2-157

Surrogate: 1-Chlorooctadecane 107 % 52.1-176

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Analytical Results For:

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

Received:	04/27/2015	Sampling Date:	04/27/2015
Reported:	04/30/2015	Sampling Type:	Soil
Project Name:	EHS AU CENTRAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: SP. 10 @ SURFACE (H501085-09)

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	04/30/2015	ND	1.96	98.1	2.00	2.22		
Toluene*	<0.050	0.050	04/30/2015	ND	1.76	88.2	2.00	2.15		
Ethylbenzene*	<0.050	0.050	04/30/2015	ND	1.71	85.6	2.00	2.58		
Total Xylenes*	<0.150	0.150	04/30/2015	ND	5.52	91.9	6.00	2.69		
Total BTX	<0.300	0.300	04/30/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	04/29/2015	ND	416	104	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	04/28/2015	ND	200	100	200	0.0404	
DRO >C10-C28	<10.0	10.0	04/28/2015	ND	207	103	200	0.0237	

Surrogate: 1-Chlorooctane 91.8 % 47.2-157

Surrogate: 1-Chlorooctadecane 89.7 % 52.1-176

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Analytical Results For:

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

Received:	04/27/2015	Sampling Date:	04/27/2015
Reported:	04/30/2015	Sampling Type:	Soil
Project Name:	EHS AU CENTRAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: SP. 10 @ 1' (H501085-10)

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	04/30/2015	ND	1.96	98.1	2.00	2.22		
Toluene*	<0.050	0.050	04/30/2015	ND	1.76	88.2	2.00	2.15		
Ethylbenzene*	<0.050	0.050	04/30/2015	ND	1.71	85.6	2.00	2.58		
Total Xylenes*	<0.150	0.150	04/30/2015	ND	5.52	91.9	6.00	2.69		
Total BTEx	<0.300	0.300	04/30/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	04/29/2015	ND	416	104	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	04/28/2015	ND	200	100	200	0.0404	
DRO >C10-C28	<10.0	10.0	04/28/2015	ND	207	103	200	0.0237	

Surrogate: 1-Chlorooctane 88.7 % 47.2-157

Surrogate: 1-Chlorooctadecane 87.1 % 52.1-176

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Analytical Results For:

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

Received:	04/27/2015	Sampling Date:	04/27/2015
Reported:	04/30/2015	Sampling Type:	Soil
Project Name:	EHS AU CENTRAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: SP. 11 @ 1' (H501085-11)

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	04/30/2015	ND	1.96	98.1	2.00	2.22		
Toluene*	<0.050	0.050	04/30/2015	ND	1.76	88.2	2.00	2.15		
Ethylbenzene*	<0.050	0.050	04/30/2015	ND	1.71	85.6	2.00	2.58		
Total Xylenes*	<0.150	0.150	04/30/2015	ND	5.52	91.9	6.00	2.69		
Total BTX	<0.300	0.300	04/30/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	04/29/2015	ND	416	104	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	04/28/2015	ND	200	100	200	0.0404	
DRO >C10-C28	<10.0	10.0	04/28/2015	ND	207	103	200	0.0237	

Surrogate: 1-Chlorooctane 100 % 47.2-157

Surrogate: 1-Chlorooctadecane 97.4 % 52.1-176

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Analytical Results For:

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

Received:	04/27/2015	Sampling Date:	04/27/2015
Reported:	04/30/2015	Sampling Type:	Soil
Project Name:	EHS AU CENTRAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: SP. 11 @ 2' (H501085-12)

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	04/30/2015	ND	1.96	98.1	2.00	2.22		
Toluene*	<0.050	0.050	04/30/2015	ND	1.76	88.2	2.00	2.15		
Ethylbenzene*	<0.050	0.050	04/30/2015	ND	1.71	85.6	2.00	2.58		
Total Xylenes*	<0.150	0.150	04/30/2015	ND	5.52	91.9	6.00	2.69		
Total BTX	<0.300	0.300	04/30/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	80.0	16.0	04/29/2015	ND	416	104	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	04/28/2015	ND	200	100	200	0.0404	
DRO >C10-C28	<10.0	10.0	04/28/2015	ND	207	103	200	0.0237	

Surrogate: 1-Chlorooctane 97.0 % 47.2-157

Surrogate: 1-Chlorooctadecane 96.4 % 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

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Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: <u>Linn Energy</u>		BILL TO		ANALYSIS REQUEST																		
Project Manager: <u>Mike Burton</u>		P.O. #:		CL TPH B-tex																		
Address:		Company: <u>Linn Energy</u>																				
City:	State:	Zip:	Attn: <u>Joe Hernandez</u>																			
Phone #:	Fax #:	Address:																				
Project #:	Project Owner:		City:																			
Project Name:		State:												Zip:								
Project Location: <u>E-HSHE central Battery</u>		Phone #:																				
Sampler Name: <u>YOLON LONG</u>		Fax #:																				
FOR LAB USE ONLY																						
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>HSD1085</u>																						
1	SP.6@1'	9	1			X				X			4-27-15	7:20	X	X	X					
2	SP.6@2'	9	1			X				X			4-27-15	7:30	X	X	X					
3	SP.7@1'	9	1			X				X			4-27-15	7:50	X	X	X					
4	SP.7@2'	9	1			X				X			4-27-15	8:00	X	X	X					
5	SP.8@SURF	9	1			X				X			4-27-15	8:15	X	X	X					
6	SP.8@1'	9	1			X				X			4-27-15	8:20	X	X	X					
7	SP.9@1'	9	1			X				X			4-27-15	8:35	X	X	X					
8	SP.9@2'	9	1			X				X			4-27-15	8:45	X	X	X					
9	SP.10@SURF	9	1			X				X			4-27-15	9:05	X	X	X					
10	SP.10@1'	9	1			X				X			4-27-15	9:15	X	X	X					

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Relinquished By:	Date: <u>4/27/15</u>	Received By:	Phone Result: ☐ Yes ☐ No	Add'l Phone #:
<u>YOLON LONG</u>	Time: <u>2:10</u>	<u>Jodi Henson</u>	Fax Result: ☐ Yes ☐ No	Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS:	
	Time:		<u>mburton@diversifiedpsi.com</u>	
Delivered By: (Circle One)	Sample Condition	CHECKED BY:		
Sampler - UPS - Bus - Other:	Cool ☒ Intact ☒	(Initials)		
	Yes ☒ No ☐	<u>JA</u>		

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: <u>Linn Energy</u>				BILL TO				ANALYSIS REQUEST																													
Project Manager: <u>Mike Burton</u>				P.O. #:																																	
Address:				Company: <u>Linn Energy</u>																																	
City:		State:		Zip:		Attn: <u>Joe Hernandez</u>																															
Phone #:		Fax #:		Address:																																	
Project #:		Project Owner:		City:																																	
Project Name:				State:																Zip:																	
Project Location: <u>EHSAU central Battery</u>				Phone #:																																	
Sampler Name: <u>Ralon Long</u>				Fax #:																																	
FOR LAB USE ONLY																																					
Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP		# CONTAINERS		MATRIX		PRESERV		SAMPLING																									
				GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE		OTHER		ACID/BASE		ICE / COOL		OTHER																	
<u>H501085</u>																																					
<u>11</u>		<u>SP. 11 @ 1'</u>		<u>9</u>		<u>1</u>		<u>X</u>		<u>X</u>						<u>4-27-15</u>		<u>9:20</u>		<u>X</u>		<u>X</u>		<u>X</u>													
<u>12</u>		<u>SP. 11 @ 2'</u>		<u>9</u>		<u>1</u>		<u>X</u>		<u>X</u>						<u>4-27-15</u>		<u>9:30</u>		<u>X</u>		<u>X</u>		<u>X</u>													

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Relinquished By: <u>Ralon Long</u>		Date: <u>4/27/15</u>		Received By: <u>Jodi Benson</u>		Phone Result: ☐ Yes ☐ No		Add'l Phone #:	
Relinquished By:		Time: <u>2:10</u>		Received By:		Fax Result: ☐ Yes ☐ No		Add'l Fax #:	
Delivered By: (Circle One)		Date:		Sample Condition		CHECKED BY:		REMARKS:	
Sampler - UPS - Bus - Other:		Time:		Cool Intact		Initials		<u>m.burton@diversifiedpsi.com</u>	
				<u>1.50</u>		<u>gjt</u>			

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

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	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	DepthWell	DepthWater	Water Column
L 00382	R	L	LE	1	4	1	31	18S	39E	679219	3620372*	133	78	55
L 00382 POD3		L	LE	2	3	2	31	18S	39E	679821	3620379*	152	52	100
L 00382 POD3	R	L	LE	2	3	2	31	18S	39E	679821	3620379*	152	52	100
L 00382 POD4		L	LE	3	1	1	31	18S	39E	678809	3620568*	150	55	95
L 00382 POD5		L	LE	1	1	1	31	18S	39E	678809	3620768*	130		
L 00382 POD5	R	L	LE	1	1	1	31	18S	39E	678809	3620768*	130		
L 00382 POD6		L	LE	2	2	2	31	18S	39E	680216	3620790*	160	58	102
L 00382 POD7		L	LE	2	4	2	31	18S	39E	680224	3620387*	305	205	100
L 00382 POD8		L	LE	1	4	1	31	18S	39E	679219	3620372*	261	100	161
L 00382 POD9		L	LE	2	3	1	31	18S	39E	679017	3620365*	258		
L 00382 S		L	LE	2	1	1	31	18S	39E	679181	3618997	263	125	138
L 01217 POD1		L	LE	2	4	4	29	18S	39E			120		
L 01325		L	LE	2	2	2	32	18S	39E			115	40	75
L 01333		L	LE		3	2	31	18S	39E	679722	3620280*	123	55	68
L 01449		L	LE	2	1	4	19	18S	39E	679769	3623199*	110	45	65
L 01925		L	LE			3	20	18S	39E	680683	3622913*	100	51	49
L 02204		L	LE	1	4	1	30	18S	39E	679189	3621984*	123	65	58
L 02206		L	LE		4	3	19	18S	39E	679275	3622690*	110	60	50
L 02319		L	LE	4	4	3	19	18S	39E	679374	3622589*	90	60	30
L 02354		L	LE	4	4	3	19	18S	39E	679374	3622589*	100	43	57
L 02439		L	LE	3	2	1	31	18S	39E	679211	3620575*	135	60	75
L 02899		L	LE			1	20	18S	39E	680668	3623718*	121	66	55
L 03386		L	LE				19	18S	39E	679476	3623286*	100	40	60
L 03430		L	LE			1	29	18S	39E	680698	3622107*	120	55	65
L 03430 S		L	LE			1	29	18S	39E	680698	3622107*	260	130	130
L 03430 S2		L	LE	1	1	1	29	18S	39E	680389	3622408*	300	150	150
L 03445		L	LE	4	2	1	20	18S	39E	680961	3623826*	100	51	49
L 03537		L	LE	2	4	3	20	18S	39E	680984	3622818*	102	40	62
L 03537	R	L	LE	2	4	3	20	18S	39E	680984	3622818*	102	40	62
L 03785		L	LE	1	1	1	20	18S	39E	680359	3624019*	100	65	35
L 03867		L	LE				20	18S	39E	681085	3623315*	85	12	73
L 04044	R	L	LE	1	1	3	20	18S	39E	680374	3623214*	100	58	42
L 04044 POD2		L	LE	1	1	3	20	18S	39E	680386	3623222	232		

L 04053	R	L	LE	2	3	4	31	18S	39E	679836	3619573*		144	80	64
L 04053 POD2		L	LE	1	4	4	31	18S	39E	680039	3619581*		280	154	126
L 04054		L	LE	1	1	2	31	18S	39E	679614	3620782*		148	105	43
L 04102		L	LE	2	1	3	20	18S	39E	680574	3623214*		105	65	40
L 04526	R	L	LE	1	1	3	20	18S	39E	680280	3626939		100	60	40
L 04526 POD2		L	LE	1	1	3	20	18S	39E	680347	3623243		229		
L 04529		L	LE	2	4	3	20	18S	39E	680984	3622818*		70	51	19
L 04771		L	LE	1	2	1	29	18S	39E	680791	3622415*		120	65	55
L 04814 POD3		L	LE	2	4	3	20	18S	39E	680984	3622818*		150	65	85
L 04982		L	LE		2	3	19	18S	39E	679268	3623093*		100	65	35
L 05134	R	L	LE	1	1	2	30	18S	39E	679584	3622394*		150	78	72
L 05134 POD2		L	LE	1	1	2	30	18S	39E	679584	3622394*		250		
L 05197		L	LE		2	30	18S	39E	679893	3622093*		100	70	30	
L 05578		L	LE		3	3	20	18S	39E	680482	3622712*		100	50	50
L 05924 POD2	R	L	LE		3	2	30	18S	39E	679692	3621892*		150	85	65
L 05924 POD3		L	LE	4	3	2	30	18S	39E	679898	3621873		237		
L 06274		L	LE		3	20	18S	39E	680683	3622913*		75	50	25	
L 06314		L	LE	3	1	3	20	18S	39E	680374	3623014*		188	65	123
L 06512		L	LE		2	2	30	18S	39E	680087	3622302*		170	70	100
L 06732		L	LE	4	1	3	20	18S	39E	680574	3623014*		125	60	65
L 06793	R	L	LE		3	20	18S	39E	680683	3622913*		110	94	16	
L 06793 POD2		L	LE		3	20	18S	39E	680683	3622913*		150	85	65	
L 06833	R	L	LE		1	3	20	18S	39E	680475	3623115*		172	65	107
L 06833 POD2		L	LE	2	1	3	20	18S	39E	680584	3623248		238	140	98
L 07113		L	LE	4	2	2	30	18S	39E	680186	3622201*		120		
L 07231	R	L	LE	2	3	2	30	18S	39E	679791	3621991*		126	72	54
L 07231 POD2	R	L	LE	2	3	2	30	18S	39E	679791	3621991*		150	50	100
L 07231 POD3	R	L	LE	2	3	2	30	18S	39E	679791	3621991*		195		
L 07233		L	LE	4	4	3	20	18S	39E	680984	3622618*		123	62	61
L 07492		L	LE		2	30	18S	39E	679893	3622093*		150	82	68	
L 07501		L	LE	3	3	3	20	18S	39E	680381	3622611*		120	62	58
L 07571		L	LE	3	2	3	20	18S	39E	680776	3623021*		110	70	40
L 07671 POD1		L	LE	2	4	1	30	18S	39E	679389	3621984*		150		
L 07671 POD2		L	LE	2	4	1	30	18S	39E	679389	3621984*		150		
L 07674		L	LE	3	2	3	20	18S	39E	680776	3623021*		150	80	70
L 07676		L	LE	3	3	4	31	18S	39E	679636	3619373*		125	125	0
L 07755		L	LE	3	1	3	20	18S	39E	680374	3623014*		108	54	54
L 07763	R	L	LE		4	3	20	18S	39E	680745	3622510		128	53	75
L 07763 POD2		L	LE		4	3	20	18S	39E	680745	3622510		227	140	87
L 07767		L	LE	3	2	3	20	18S	39E	680776	3623021*		130	70	60
L 08022		L	LE		4	20	18S	39E	681488	3622927*		150	70	80	
L 08039		L	LE		4	2	30	18S	39E	680095	3621899*		150	50	100

L 08040		L	LE	4	2	30	18S	39E	680095	3621899*		150	85	65	
L 08196 POD2		L	LE	4	3	3	20	18S	39E	680581	3622611		272		
L 08294		L	LE	2	3	2	30	18S	39E	679791	3621991*		150	90	60
L 08305		L	LE				20	18S	39E	681085	3623315*		150	85	65
L 08326	R	L	LE	2	4	3	20	18S	39E	680948	3622871		150	60	90
L 08326 POD2		L	LE	4	2	4	20	18S	39E	680948	3622871		250	80	170
L 08365		L	LE	4	1	29	18S	39E	680899	3621914*		150	84	66	
L 08515		L	LE	3	4	20	18S	39E	681287	3622726*		120	63	57	
L 08550		L	LE	2	3	2	30	18S	39E	679791	3621991*		150	82	68
L 08565	R	L	LE	2	3	3	31	18S	39E	679015	3619580		140	95	45
L 08698		L	LE	4	3	31	18S	39E	679335	3619467*		150	100	50	
L 09160		L	LE	2	2	3	31	18S	39E	679427	3619969*		151	73	78
L 09289		L	LE	1	2	2	30	18S	39E	679986	3622401*		150	60	90
L 09624		L	LE	3	3	4	31	18S	39E	679636	3619373*		127	67	60
L 09787	R	L	LE	2	4	2	30	18S	39E	680194	3621998*		150	78	72
L 09860		L	LE	1	1	3	20	18S	39E	680374	3623214*		150	68	82
L 09912		L	LE	2	2	30	18S	39E	680087	3622302*		155	95	60	
L 09948	R	L	LE	2	2	30	18S	39E	680087	3622302*		150	88	62	
L 09948 POD2		L	LE	3	2	2	30	18S	39E	679950	3622157		255		
L 09999		L	LE	4	3	31	18S	39E	679335	3619467*		164	110	54	
L 10005		L	LE		3	20	18S	39E	680683	3622913*		150			
L 10006		L	LE		1	31	18S	39E	679119	3620467*		120	79	41	
L 10012		L	LE	3	3	19	18S	39E	678873	3622683*		140	87	53	
L 10104		L	LE	2	4	3	20	18S	39E	680984	3622818*		133	67	66
L 10104	R	L	LE	2	4	3	20	18S	39E	680984	3622818*		133	67	66
L 10144		L	LE	3	4	3	32	18S	39E	680844	3619396*		150	70	80
L 10195		L	LE		3	20	18S	39E	680683	3622913*		150	20	130	
L 10298		L	LE	3	3	32	18S	39E	680542	3619489*		180	68	112	
L 10331		L	LE		3	31	18S	39E	679134	3619661*		140	80	60	
L 10389		L	LE		2	30	18S	39E	679893	3622093*		180	87	93	
L 10428		L	LE	1	2	3	20	18S	39E	680776	3623221*		160	60	100
L 10538		L	LE	1	1	2	30	18S	39E	679584	3622394*		200		
L 10547		L	LE	3	3	20	18S	39E	680482	3622712*		158	80	78	
L 10692		L	LE		3	31	18S	39E	679134	3619661*		160	92	68	
L 10779		L	LE	3	4	19	18S	39E	679678	3622697*		198	90	108	
L 10831		L	LE		3	20	18S	39E	680683	3622913*		150	78	72	
L 10904		L	LE	4	3	19	18S	39E	679275	3622690*		198	90	108	
L 10973		L	LE		3	31	18S	39E	679134	3619661*		158	103	55	
L 11068		L	LE		3	20	18S	39E	680683	3622913*		190			
L 11116		L	LE	1	2	1	29	18S	39E	680791	3622415*		240		
L 11167		L	LE	2	2	4	20	18S	39E			200			

L 11356	L	LE	4	3	2	30	18S	39E	679791	3621791*		238		
L 11464	L	LE	4	4	4	19	18S	39E	680179	3622604*		228		
L 11498	L	LE	2	3	2	30	18S	39E	679791	3621991*		245		
L 11528	L	LE	1	1	1	29	18S	39E	680389	3622408*		233		
L 11611	L	LE	2	3	1	31	18S	39E	679017	3620365*		253		
L 11634	L	LE	4	3	2	30	18S	39E	679791	3621791*		234		
L 11639	L	LE	1	1	2	30	18S	39E	679584	3622394*		250		
L 11801	L	LE	4	4	4	19	18S	39E	680179	3622604*		230		
L 11815	L	LE	4	4	3	20	18S	39E	680984	3622618*		187	105	82
L 11882 POD1	L	LE	4	3	3	19	18S	39E	678972	3622582*		202	112	90
L 11933 POD1	L	LE	3	1	3	20	18S	39E	680374	3623014*		220		
L 11956 POD1	L	LE	2	2	4	20	18S	39E	681194	3623234		235		
L 12061 POD1	L	LE	3	3	3	20	18S	39E	680349	3622580		218		
L 12183 POD1	L	LE	2	1	4	20	18S	39E	681310	3623146		205	90	115
L 12305 POD1	L	LE	1	2	4	30	18S	39E	679921	3621593		235		
L 12339 POD1	L	LE	3	2	3	20	18S	39E	680872	3623027		251		
L 12412 POD1	L	LE	3	4	3	31	18S	39E	679208	3619377		204		
L 12469 POD1	L	LE	3	3	3	20	18S	39E	680479	3622703		200		
L 12500 POD1	L	LE	4	1	3	20	18S	39E	680496	3623067		232		
L 12529 POD1	L	LE	4	4	3	20	18S	39E	681099	3622554		225		
L 12535 POD1	L	LE	2	2	2	30	18S	39E	680238	3622387		235		
L 12539 POD1	L	LE	1	1	2	31	18S	39E	679689	3620871		248		
L 12711 POD1	L	LE	2	1	4	30	18S	39E	679895	3621595		250		
L 12733 POD1	L	LE	1	4	3	20	18S	39E	680882	3622916		195		
L 12810 POD1	L	LE	4	4	3	20	18S	39E	680976	3622715		242		
L 12854 POD1	L	LE	1	1	1	19	18S	39E	678675	3623980		215		
L 13390 POD1	L	LE	3	4	3	20	18S	39E	680842	3622678		275	142	133
L 13397 POD1	L	LE	2	2	2	30	18S	39E	680164	3622398		235	98	137
L 13505 POD1	L	LE	1	4	3	20	18S	39E	680896	3622855		254	156	98
L 13558 POD1	L	LE	3	2	3	20	18S	39E	680881	3623101		188		
L 13560 POD1	L	LE	3	2	3	20	18S	39E	680881	3623101		255	155	100
L 13938 POD1	L	LE	3	4	3	31	18S	39E	679173	3619315		259	132	127
L 14118 POD1		LE	2	1	2	30	18S	39E	679799	3622331		260	103	157
L 14122 POD1		LE	2	1	3	20	18S	39E	680670	3623211		250	90	160

Average Depth to Water: 78 feet

Minimum Depth: 12 feet

Maximum Depth: 205 feet

Record Count: 150PLSS Search:Section(s): 19, 20, 29, 30, Township: 18S Range: 39E
31, 32

*UTM location was derived from PLSS - see Help

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5/2/17 2:18 PM

WATER COLUMN/ AVERAGE DEPTH TO
WATER



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	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	DepthWell	DepthWater	Water Column
L 00220 POD13		L	LE				4 36	18S	38E	678329	3619646*	170	75	95
L 00220 POD6		L	LE	1	1	1	36	18S	38E	677200	3620738*	207	70	137
L 00422 POD3		L	LE	2	2	4	25	18S	38E	678592	3621566*	150	101	49
L 01810 POD1		L	LE		3	2	25	18S	38E	678083	3621862*	102	75	27
L 02208		L	LE		4	3	24	18S	38E	677666	3622660*	103	64	39
L 02223		L	LE	2	2	1	36	18S	38E	677802	3620746*	200	90	110
L 02309		L	LE				25	18S	38E	677897	3621645*	100	70	30
L 02345		L	LE		3	4	25	18S	38E	678098	3621057*	124	64	60
L 02431		L	LE		3	2	25	18S	38E	678083	3621862*	110	55	55
L 02886		L	LE	4	3	4	25	18S	38E	678197	3620956*	100	62	38
L 02950		L	LE		2	4	25	18S	38E	678493	3621467*	122	78	44
L 03439		L	LE	2	4	4	25	18S	38E	678599	3621163*	130	56	74
L 03662		L	LE	4	1	4	25	18S	38E	678190	3621359*	118	60	58
L 03828		L	LE	3	3	4	24	18S	38E	677967	3622567*	115	85	30
L 03899		L	LE	2	3	2	25	18S	38E	678182	3621961*	130	75	55
L 04299		L	LE	1	4	4	25	18S	38E	678399	3621163*	140	100	40
L 04299	R	L	LE	1	4	4	25	18S	38E	678399	3621163*	140	100	40
L 04299 POD3		L	LE	2	3	4	25	18S	38E	678197	3621156*	135	70	65
L 04759		L	LE	2	4	4	25	18S	38E	678599	3621163*	122	50	72
L 06438		L	LE	4	4	4	25	18S	38E	678599	3620963*	115	85	30
L 06744		L	LE	3	4	4	25	18S	38E	678399	3620963*	115	72	43
L 06829		L	LE	4	4	1	25	18S	38E	677780	3621754*	124	96	28
L 07120		L	LE		1	3	25	18S	38E	677286	3621445*	150	74	76
L 07488	R	L	LE			2	25	18S	38E	678284	3622063*	130		
L 07488 POD2		L	LE			2	25	18S	38E	678284	3622063*	156	104	52
L 07504		L	LE	2	3	4	25	18S	38E	678197	3621156*	125	85	40
L 07599		L	LE		4	4	25	18S	38E	678500	3621064*	130	80	50
L 07726		L	LE	3	2	4	25	18S	38E	678392	3621366*	130	82	48
L 07850		L	LE	1	3	4	25	18S	38E	677997	3621156*	150	80	70
L 07853		L	LE	2	3	2	25	18S	38E	678182	3621961*	185	95	90
L 07876		L	LE		4	4	25	18S	38E	678500	3621064*	160	80	80
L 07938	R	L	LE	1	3	4	25	18S	38E	677997	3621156*	135	85	50
L 07938 POD2		L	LE	1	3	4	25	18S	38E	678114	3621301	210		

L 08145	R	L	LE	2	1	2	25	18S	38E	678175	3622364*		150	82	68
L 08145 POD2		L	LE		1	2	25	18S	38E	678076	3622265*		240	120	120
L 08262		L	LE		3	4	25	18S	38E	678098	3621057*		130	98	32
L 08285		L	LE		1	4	25	18S	38E	678091	3621460*		150	90	60
L 08413		L	LE		1	3	25	18S	38E	677286	3621445*		130	78	52
L 08443		L	LE		3	2	25	18S	38E	678083	3621862*		130	84	46
L 08496		L	LE		3	4	25	18S	38E	678098	3621057*		150	72	78
L 08685		L	LE	3	1	4	25	18S	38E	677990	3621359*		135	70	65
L 08686		L	LE	3	1	4	25	18S	38E	677990	3621359*		130	100	30
L 08710		L	LE		1	4	25	18S	38E	678091	3621460*		130	68	62
L 08757		L	LE			3	25	18S	38E	677495	3621243*		130	82	48
L 08777		L	LE		1	4	25	18S	38E	678091	3621460*		130	96	34
L 08779		L	LE		1	4	25	18S	38E	678091	3621460*		130	82	48
L 08805		L	LE	3	1	4	25	18S	38E	677990	3621359*		150	97	53
L 08807		L	LE	4	1	4	25	18S	38E	678190	3621359*		130	95	35
L 08826		L	LE	3	1	4	25	18S	38E	677990	3621359*		150	97	53
L 08843		L	LE		1	4	25	18S	38E	678091	3621460*		130	82	48
L 08863		L	LE		3	2	25	18S	38E	678083	3621862*		150	92	58
L 08891		L	LE		1	4	25	18S	38E	678091	3621460*		135	60	75
L 08900		L	LE		1	4	25	18S	38E	678091	3621460*		140	82	58
L 08917		L	LE	1	3	4	25	18S	38E	677997	3621156*		150	82	68
L 08939		L	LE	4	1	4	25	18S	38E	678190	3621359*		130	95	35
L 08953		L	LE		1	4	25	18S	38E	678091	3621460*		150	80	70
L 08970		L	LE		1	2	25	18S	38E	678076	3622265*		160	108	52
L 09695		L	LE		4	4	25	18S	38E	678500	3621064*		150	94	56
L 09731		L	LE		1	4	25	18S	38E	678091	3621460*		160	97	63
L 09903		L	LE	4	1	4	25	18S	38E	678190	3621359*		157	135	22
L 09927		L	LE		3	2	25	18S	38E	678083	3621862*		150	92	58
L 10168		L	LE	4	4	4	25	18S	38E	678599	3620963*		190	100	90
L 10219		L	LE	4	1	4	25	18S	38E	678190	3621359*		173	70	103
L 10239		L	LE	3	1	4	25	18S	38E	677990	3621359*		168	79	89
L 10240	R	L	LE	3	1	4	25	18S	38E	677990	3621359*		120	90	30
L 10240 POD2		L	LE	3	1	4	25	18S	38E	678122	3621301		215		
L 10253		L	LE	4	2	4	25	18S	38E	678592	3621366*		180	99	81
L 10257		L	LE	4	3	4	25	18S	38E	678197	3620956*		162	90	72
L 10260		L	LE	4	2	4	25	18S	38E	678592	3621366*		160	90	70
L 10261		L	LE	4	1	4	25	18S	38E	678190	3621359*		160	90	70
L 10262		L	LE	3	1	4	25	18S	38E	677990	3621359*		160	90	70
L 10263		L	LE	4	3	4	25	18S	38E	678197	3620956*		155	65	90
L 10264 POD2		L	LE		4	4	25	18S	38E	678500	3621064*		170	118	52
L 10268		L	LE	2	4	4	25	18S	38E	678599	3621163*		160	90	70
L 10269	R	L	LE	2	4	4	25	18S	38E	678599	3621163*		160	90	70

L 10274		L	LE	3	1	4	25	18S	38E	677990	3621359*		160	90	70	
L 10275		L	LE	4	1	4	25	18S	38E	678190	3621359*		160	90	70	
L 10292		L	LE	3	1	4	25	18S	38E	677990	3621359*		160	90	70	
L 10366		L	LE		2	3	25	18S	38E	677689	3621452*		168	70	98	
L 10422		L	LE			4	25	18S	38E	678299	3621258*		215	90	125	
L 10429		L	LE		1	4	25	18S	38E	678091	3621460*		146	89	57	
L 10600		L	LE			4	25	18S	38E	678299	3621258*		158	75	83	
L 10682		L	LE			4	25	18S	38E	678299	3621258*		160			
L 10683	R	L	LE			4	25	18S	38E	678299	3621258*		170	105	65	
L 10836		L	LE		3	4	25	18S	38E	678098	3621057*		202	98	104	
L 10857		L	LE	3	2	4	25	18S	38E	678336	3621367		285	170	115	
L 10863		L	LE			4	25	18S	38E	678299	3621258*		200	110	90	
L 10931		L	LE			4	24	18S	38E	678269	3622869*		210			
L 10944		L	LE		3	4	25	18S	38E	678098	3621057*		176			
L 10950		L	LE		3	2	25	18S	38E	678083	3621862*		200	114	86	
L 11083		L	LE		3	4	25	18S	38E	678098	3621057*		200	87	113	
L 11275		L	LE		1	2	25	18S	38E	678076	3622265*		240	120	120	
L 11304		L	LE		1	4	25	18S	38E	678091	3621460*		200			
L 11318		L	LE		4	4	4	25	18S	38E	678599	3620963*		145	102	43
L 11324		L	LE		1	4	4	25	18S	38E	678399	3621163*		160	110	50
L 11654		L	LE		2	4	4	25	18S	38E	678599	3621163*		215		
L 11846		L	LE		4	1	4	25	18S	38E	678190	3621359*		175	122	53
L 11923 POD1		L	LE		2	1	1	25	18S	38E	677371	3622349*		231		
L 12025 POD1		L	LE		4	1	4	25	18S	38E	678198	3621377		273		
L 12035 POD1		L	LE		4	4	3	25	18S	38E	677841	3620961		214		
L 12037 POD1		L	LE		3	1	4	25	18S	38E	677920	3621378		235		
L 12067 POD1		L	LE		3	1	4	25	18S	38E	678074	3621310		235		
L 12172 POD1		L	LE		3	2	4	25	18S	38E	678312	3621308		235		
L 12195 POD1		L	LE		2	1	4	25	18S	38E	678136	3621644		235		
L 12444 POD1		L	LE		2	1	4	25	18S	38E	678149	3621641		280	200	80
L 12590 POD1		L	LE		1	2	3	25	18S	38E	677532	3621651		215		
L 12723 POD1		L	LE		3	1	4	25	18S	38E	678080	3621415		235		
L 12860 POD1		L	LE		4	2	4	25	18S	38E	678564	3621376		208		
L 12863 POD1		L	LE		2	4	1	25	18S	38E	677715	3621904		250		
L 13134 POD1		L	LE		1	2	2	25	18S	38E	678374	3622477		275		
L 13241 POD1		L	LE		1	1	4	25	18S	38E	677964	3621628		240		
L 13368 POD1		L	LE		1	1	4	25	18S	38E	678035	3621626		235	163	72
L 13388 POD1			LE		3	1	2	25	18S	38E	678013	3622267		270		
L 13444 POD1		L	LE		3	1	4	25	18S	38E	678068	3621381		275	142	133
L 13454 POD1		L	LE		4	3	2	25	18S	38E	678136	3621700		264	171	93
L 13461 POD 1		L	LE		3	1	4	25	18S	38E	678032	3621371		235		

L 13498 POD1	L	LE	4	1	4	25	18S	38E	678114	3621280		301	150	151
L 13579 POD1	L	LE	4	4	4	25	18S	38E	678582	3621020		236	140	96
L 13603 POD1	L	LE	3	3	4	25	18S	38E	677927	3620965		282		
L 13743 POD1	L	LE	3	2	4	25	18S	38E	678478	3621311		272	140	132
L 13812 POD1	L	LE	1	1	4	25	18S	38E	678013	3621531		264	127	137
L 13924 POD1	L	LE	2	4	4	25	18S	38E	678582	3621153		292	184	108
L 13955 POD1	L	LE	2	4	4	36	18S	38E	678726	3619559		215		
L 14065 POD1	L	LE	2	3	4	25	18S	38E	678140	3621064		241	100	141

Average Depth to Water: 94 feet

Minimum Depth: 50 feet

Maximum Depth: 200 feet

Record Count: 124

PLSS Search:

Section(s): 24, 25, 36 Township: 18S Range: 38E

*UTM location was derived from PLSS - see Help

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5/2/17 2:18 PM

WATER COLUMN/ AVERAGE DEPTH TO
WATER