30-025-20173

Closure Report

Prepared for

Linn Energy

6010 E Hwy 191 Suite 130
Odessa, TX 79762

Lea 4011 State #1

Lea County, NM

Prepared by

Rio Services

P O Box 69139 Odessa, TX 79769
Phone (432) 381-5700 Fax (432) 530-2890

Plat Map

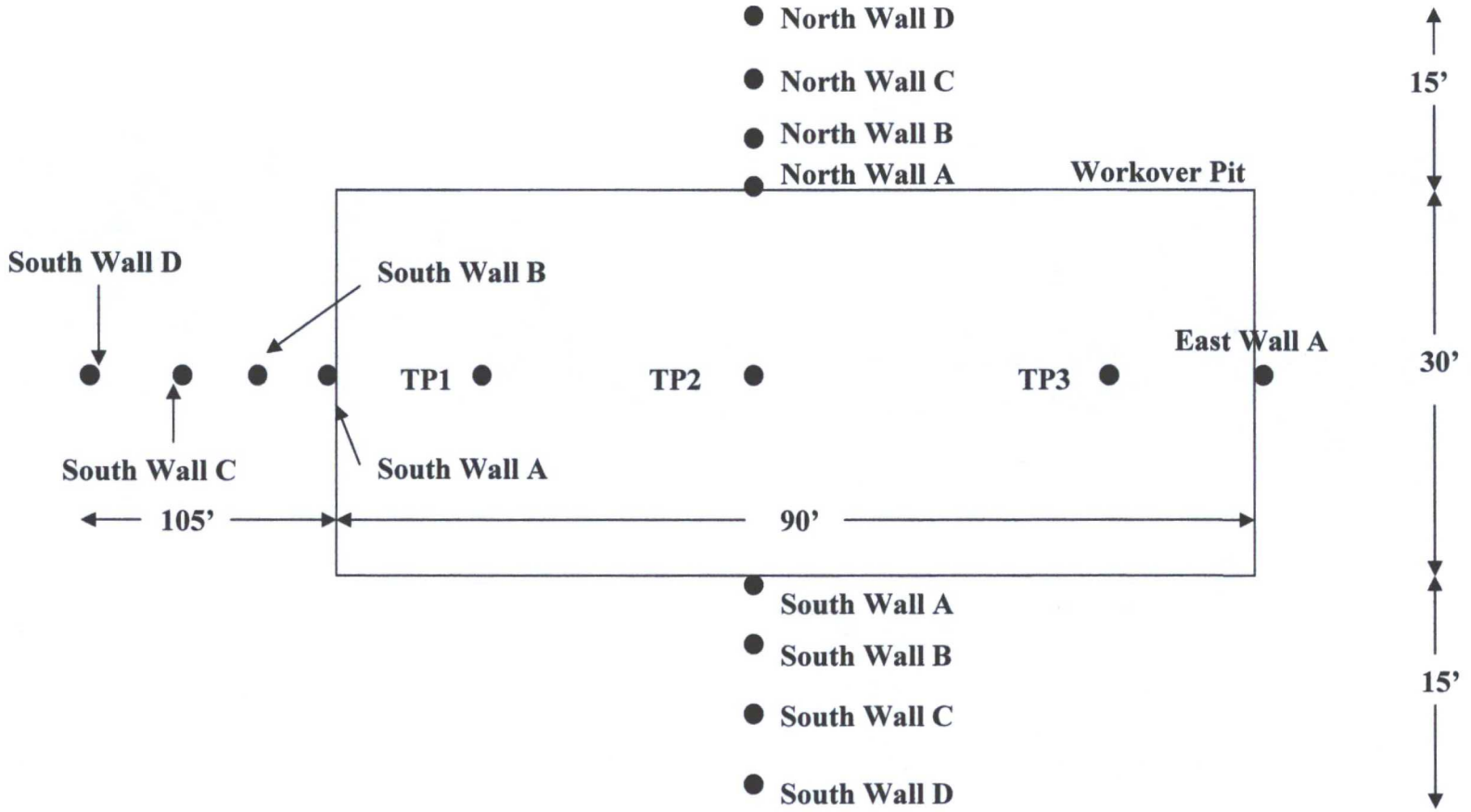
&

Field Analytical

Linn Energy
Lea 4011 State #1
UL 'N' Sec. 8 T18S R35E
Lea County, NM

N

Plat Map



Rio Services

P O Box 69139 Odessa, TX 79769
Phone (432) 530-2803 Fax (432) 530-2890

Field Analytical Report Form

Client Linn Energy **Analyst** Bobby Steadham

Site Lea 4011 State #1

Sample ID	Date	Depth	418.1 TPH / PPM	Cl / PPM	PID / PPM	GPS
TP1	11-9-10	7'		5,128		32° 45.347' N 103° 28.972' W
TP1	11-9-10	9'		1,227		32° 45.347' N 103° 28.972' W
TP1	11-9-10	11'		876		32° 45.347' N 103° 28.972' W
TP1	11-9-10	13'		546		32° 45.347' N 103° 28.972' W
TP1	11-9-10	15'		128		32° 45.347' N 103° 28.972' W
TP2	11-9-10	7'		5,371		32° 45.348' N 103° 28.967' W
TP2	11-9-10	9'		3,365		32° 45.348' N 103° 28.967' W
TP2	11-9-10	11'		3,131		32° 45.348' N 103° 28.967' W
TP2	11-9-10	13'		401		32° 45.348' N 103° 28.967' W
TP2	11-9-10	15'		152		32° 45.348' N 103° 28.967' W
TP3	11-9-10	7'		598		32° 45.348' N 103° 28.961' W
TP3	11-9-10	9'		480		32° 45.348' N 103° 28.961' W
TP3	11-9-10	11'		244		32° 45.348' N 103° 28.961' W
East Wall	11-9-10	4'		123		32° 45.348' N 103° 28.960' W

Analyst Notes

Rio Services

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Field Analytical Report Form

Client Linn Energy **Analyst** Bobby Steadham

Site Lea 4011 State #1

Sample ID	Date	Depth	418.1 TPH / PPM	Cl / PPM	PID / PPM	GPS
South Wall A	11-9-10	4'		1,733		32° 45.346' N 103° 28.967' W
South Wall B	11-9-10	4'		1,349		32° 45.346' N 103° 28.967' W
South Wall C	11-9-10	4'		816		32° 45.346' N 103° 28.967' W
South Wall D	11-9-10	4'		151		32° 45.346' N 103° 28.967' W
West Wall A	11-9-10	4'		2,600		32° 45.348' N 103° 28.975' W
West Wall B	11-9-10	4'		1,166		32° 45.348' N 103° 28.975' W
West Wall C	11-9-10	4'		405		32° 45.348' N 103° 28.975' W
West Wall D	11-9-10	4'		120		32° 45.348' N 103° 28.975' W
North Wall A	11-9-10	4'		2,648		32° 45.351' N 103° 28.965' W
North Wall B	11-9-10	4'		2,968		32° 45.351' N 103° 28.965' W
North Wall C	11-9-10	4'		477		32° 45.351' N 103° 28.965' W
North Wall D	11-9-10	4'		149		32° 45.351' N 103° 28.965' W
South Background	11-9-10	4'		121		
North Background	11-9-10	4'		120		

Analyst Notes

Pictures

Linn Energy – Lea 4011 State #1

Pit before closure.

Pit facing West after excavation of mud and liner.

Pit facing East after excavation of mud and liner.

Excavating and loading impacted soil for disposal.

Linn Energy – Lea 4011 State #1

Site facing East after excavation of impacted soil.

Site facing West after excavation of impacted soil.

Site facing South after backfill and re-seeding.

Site facing East after backfill and re-seeding.

Lab Analysis

Analytical Report 396767

for

Rio Services

Project Manager: Logan Anderson

Linn Operating

15-NOV-10

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL01273):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):
Arizona(AZ0757), California(06244CA), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

15-NOV-10

Project Manager: **Logan Anderson**
Rio Services
P.O. Box 69139
Odessa, TX 79769

Reference: XENCO Report No: **396767**
Linn Operating
Project Address: Lea 4011 State # 1

Logan Anderson:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 396767. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 396767 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II
Odessa Laboratory Manager

Sample Cross Reference 396767

Rio Services, Odessa, TX

Linn Operating

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TP 2 @ 15'	S	Nov-09-10 13:00	15 ft	396767-001
TP 2 @ 11'	S	Nov-09-10 12:40	11 ft	396767-002
TP 2 @ 13'	S	Nov-09-10 12:45	13 ft	396767-003
TP 2 @ 9'	S	Nov-09-10 12:30	9 ft	396767-004
TP 2 @ 7'	S	Nov-09-10 11:45	7 ft	396767-005
TP 1 @ 15'	S	Nov-09-10 16:30	15 ft	396767-006
TP 3 @ 11'	S	Nov-09-10 17:30	11 ft	396767-007
EW @ 4'	S	Nov-09-10 12:55	4 ft	396767-008
SW 'D' @ 4'	S	Nov-09-10 14:30	4 ft	396767-009
WW 'D' @ 4'	S	Nov-09-10 15:40	4 ft	396767-010
NW 'D' @ 4'	S	Nov-09-10 17:45	4 ft	396767-011

CASE NARRATIVE

Client Name: Rio Services
Project Name: Linn Operating

Project ID:
Work Order Number: 396767

Report Date: 15-NOV-10
Date Received: 11/10/2010

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-831943 BTEX by EPA 8021B
SW8021BM

Batch 831943, 1,4-Difluorobenzene recovered above QC limits . Matrix interferences is suspected; data not confirmed by re-analysis
Samples affected are: 396850-001 SD.

Batch: LBA-831952 BTEX by EPA 8021B

Certificate of Analysis Summary 396767

Rio Services, Odessa, TX

Project Name: Linn Operating

Project Id:
Contact: Logan Anderson
Project Location: Lea 4011 State # 1

Date Received in Lab: Wed Nov-10-10 03:21 pm
Report Date: 15-NOV-10
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	396767-001		396767-002		396767-003		396767-004		396767-005		396767-006	
	Field Id:	TP 2 @ 15'		TP 2 @ 11'		TP 2 @ 13'		TP 2 @ 9'		TP 2 @ 7'		TP 1 @ 15'	
	Depth:	15 ft		11 ft		13 ft		9 ft		7 ft		15 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-09-10 13:00		Nov-09-10 12:40		Nov-09-10 12:45		Nov-09-10 12:30		Nov-09-10 11:45		Nov-09-10 16:30	
Anions by E300	*Extracted:*												
	Analyzed:	Nov-11-10 13:10		Nov-11-10 13:23		Nov-11-10 13:36		Nov-11-10 13:49		Nov-11-10 14:02		Nov-11-10 14:15	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		178	9.23	3000	46.6	264	9.41	3510	45.9	5580	96.9	104	9.86
BTEX by EPA 8021B	*Extracted:*	Nov-12-10 11:22										Nov-12-10 15:15	
	Analyzed:	Nov-12-10 18:21										Nov-13-10 23:51	
	Units/RL:	mg/kg	RL									mg/kg	RL
Benzene		ND	0.0011									ND	0.0012
Toluene		ND	0.0022									ND	0.0023
Ethylbenzene		ND	0.0011									ND	0.0012
m_p-Xylenes		ND	0.0022									ND	0.0023
o-Xylene		ND	0.0011									ND	0.0012
Total Xylenes		ND	0.0011									ND	0.0012
Total BTEX		ND	0.0011									ND	0.0012
Percent Moisture	*Extracted:*												
	Analyzed:	Nov-11-10 17:00		Nov-11-10 17:00		Nov-11-10 17:00		Nov-11-10 17:00		Nov-11-10 17:00		Nov-11-10 17:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		8.95	1.00	9.93	1.00	10.7	1.00	8.46	1.00	13.3	1.00	14.8	1.00
TPH By SW8015 Mod	*Extracted:*	Nov-11-10 10:00										Nov-11-10 10:00	
	Analyzed:	Nov-11-10 16:06										Nov-11-10 16:25	
	Units/RL:	mg/kg	RL									mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	16.5									ND	17.7
C12-C28 Diesel Range Hydrocarbons		ND	16.5									ND	17.7
C28-C35 Oil Range Hydrocarbons		ND	16.5									ND	17.7
Total TPH		ND	16.5									ND	17.7

Brent Barron, II
Odessa Laboratory Manager

Certificate of Analysis Summary 396767

Rio Services, Odessa, TX

Project Name: Linn Operating

Project Id:
Contact: Logan Anderson
Project Location: Lea 4011 State # 1

Date Received in Lab: Wed Nov-10-10 03:21 pm
Report Date: 15-NOV-10
Project Manager: Brent Barron, II

Analysis Requested											
	Lab Id:	396767-007		396767-008		396767-009		396767-010		396767-011	
	Field Id:	TP 3 @ 11'		EW @ 4'		SW 'D' @ 4'		WW 'D' @ 4'		NW 'D' @ 4'	
	Depth:	11 ft		4 ft		4 ft		4 ft		4 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-09-10 17:30		Nov-09-10 12:55		Nov-09-10 14:30		Nov-09-10 15:40		Nov-09-10 17:45	
Anions by E300	Extracted:										
	Analyzed:	Nov-11-10 14:28		Nov-11-10 14:41		Nov-11-10 14:54		Nov-11-10 15:07		Nov-11-10 15:20	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		126	9.61	83.0	9.08	83.5	9.22	84.8	9.01	82.4	9.17
BTEX by EPA 8021B	Extracted:	Nov-12-10 15:15		Nov-12-10 15:15		Nov-12-10 15:15		Nov-12-10 15:15		Nov-12-10 15:15	
	Analyzed:	Nov-14-10 00:12		Nov-14-10 00:33		Nov-14-10 00:54		Nov-14-10 01:15		Nov-14-10 01:37	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.0011	ND	0.0011	ND	0.0011	ND	0.0011	ND	0.0011
Toluene		ND	0.0023	ND	0.0021	ND	0.0022	ND	0.0021	ND	0.0022
Ethylbenzene		ND	0.0011	ND	0.0011	ND	0.0011	ND	0.0011	ND	0.0011
m_p-Xylenes		ND	0.0023	ND	0.0021	ND	0.0022	ND	0.0021	ND	0.0022
o-Xylene		ND	0.0011	ND	0.0011	ND	0.0011	ND	0.0011	ND	0.0011
Total Xylenes		ND	0.0011	ND	0.0011	ND	0.0011	ND	0.0011	ND	0.0011
Total BTEX		ND	0.0011	ND	0.0011	ND	0.0011	ND	0.0011	ND	0.0011
Percent Moisture	Extracted:										
	Analyzed:	Nov-11-10 17:00		Nov-11-10 17:00		Nov-11-10 17:00		Nov-11-10 17:00		Nov-11-10 17:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		12.6	1.00	7.44	1.00	8.92	1.00	6.79	1.00	8.40	1.00
TPH By SW8015 Mod	Extracted:	Nov-11-10 10:00		Nov-11-10 10:00		Nov-11-10 10:00		Nov-11-10 10:00		Nov-11-10 10:00	
	Analyzed:	Nov-11-10 17:03		Nov-11-10 17:22		Nov-11-10 17:40		Nov-11-10 17:59		Nov-11-10 18:18	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	17.1	ND	16.1	ND	16.5	ND	16.0	ND	16.4
C12-C28 Diesel Range Hydrocarbons		ND	17.1	ND	16.1	ND	16.5	ND	16.0	ND	16.4
C28-C35 Oil Range Hydrocarbons		ND	17.1	ND	16.1	ND	16.5	ND	16.0	ND	16.4
Total TPH		ND	17.1	ND	16.1	ND	16.5	ND	16.0	ND	16.4

Brent Barron, II
Odessa Laboratory Manager

XENCO Laboratories

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the MQL and above the SQL.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

PQL Practical Quantitation Limit

* Outside XENCO's scope of NELAC Accreditation.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: Linn Operating

Work Orders : 396767,

Project ID:

Lab Batch #: 831943 **Sample:** 578712-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 11/13/10 20:39

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0349	0.0300	116	80-120	
4-Bromofluorobenzene	0.0321	0.0300	107	80-120	

Lab Batch #: 831943 **Sample:** 578712-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 11/13/10 21:00

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0312	0.0300	104	80-120	
4-Bromofluorobenzene	0.0348	0.0300	116	80-120	

Lab Batch #: 831943 **Sample:** 578712-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 11/13/10 22:04

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0259	0.0300	86	80-120	
4-Bromofluorobenzene	0.0312	0.0300	104	80-120	

Lab Batch #: 831943 **Sample:** 396850-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 11/13/10 22:47

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0319	0.0300	106	80-120	
4-Bromofluorobenzene	0.0317	0.0300	106	80-120	

Lab Batch #: 831943 **Sample:** 396850-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 11/13/10 23:08

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	*0.0364*	*0.0300*	*121*	*80-120*	*
4-Bromofluorobenzene	0.0327	0.0300	109	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

rogate Recovery [D] = 100 * A / B

results are based on MDL and validated for QC purposes.

Final 1.000

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: Linn Operating

Work Orders : 396767,

Project ID:

Lab Batch #: 831943 **Sample:** 396767-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 11/13/10 23:51

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0260	0.0300	87	80-120	
4-Bromofluorobenzene	0.0314	0.0300	105	80-120	

Lab Batch #: 831943 **Sample:** 396767-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 11/14/10 00:12

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0250	0.0300	83	80-120	
4-Bromofluorobenzene	0.0312	0.0300	104	80-120	

Lab Batch #: 831943 **Sample:** 396767-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 11/14/10 00:33

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0252	0.0300	84	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 831943 **Sample:** 396767-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 11/14/10 00:54

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0255	0.0300	85	80-120	
4-Bromofluorobenzene	0.0313	0.0300	104	80-120	

Lab Batch #: 831943 **Sample:** 396767-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 11/14/10 01:15

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	*0.0274*	*0.0300*	91	80-120	
4-Bromofluorobenzene	0.0325	0.0300	108	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

rogate Recovery [D] = 100 * A / B

results are based on MDL and validated for QC purposes.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: Linn Operating

Work Orders : 396767,

Project ID:

Lab Batch #: 831943 **Sample:** 396767-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 11/14/10 01:37

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0248	0.0300	83	80-120	
4-Bromofluorobenzene	0.0324	0.0300	108	80-120	

Lab Batch #: 831952 **Sample:** 578718-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 11/12/10 11:59

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0355	0.0300	118	80-120	
4-Bromofluorobenzene	0.0320	0.0300	107	80-120	

Lab Batch #: 831952 **Sample:** 578718-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 11/12/10 12:20

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0317	0.0300	106	80-120	
4-Bromofluorobenzene	0.0321	0.0300	107	80-120	

Lab Batch #: 831952 **Sample:** 578718-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 11/12/10 13:03

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0243	0.0300	81	80-120	
4-Bromofluorobenzene	0.0298	0.0300	99	80-120	

Lab Batch #: 831952 **Sample:** 396767-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 11/12/10 18:21

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	*0.0250*	*0.0300*	83	80-120	
4-Bromofluorobenzene	0.0315	0.0300	105	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

rogate Recovery [D] = 100 * A / B

results are based on MDL and validated for QC purposes.

Final 1.000

Form 2 - Surrogate Recoveries

Project Name: Linn Operating

Work Orders : 396767,

Project ID:

Lab Batch #: 831952 **Sample:** 396767-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 11/12/10 18:42

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0348	0.0300	116	80-120	
4-Bromofluorobenzene	0.0353	0.0300	118	80-120	

Lab Batch #: 831952 **Sample:** 396767-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 11/12/10 19:04

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0315	0.0300	105	80-120	
4-Bromofluorobenzene	0.0327	0.0300	109	80-120	

Lab Batch #: 831705 **Sample:** 578527-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 11/11/10 12:38

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	72.9	100	73	70-135	
o-Terphenyl	46.5	50.1	93	70-135	

Lab Batch #: 831705 **Sample:** 578527-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 11/11/10 12:57

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	74.7	99.6	75	70-135	
o-Terphenyl	41.2	49.8	83	70-135	

Lab Batch #: 831705 **Sample:** 578527-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 11/11/10 13:16

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	73.5	99.8	74	70-135	
o-Terphenyl	37.5	49.9	75	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Linn Operating

Work Orders : 396767,

Project ID:

Lab Batch #: 831705 **Sample:** 396767-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 11/11/10 16:06

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	74.7	100	75	70-135	
o-Terphenyl	38.4	50.0	77	70-135	

Lab Batch #: 831705 **Sample:** 396767-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 11/11/10 16:25

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.3	101	77	70-135	
o-Terphenyl	39.6	50.3	79	70-135	

Lab Batch #: 831705 **Sample:** 396767-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 11/11/10 17:03

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.6	99.6	76	70-135	
o-Terphenyl	39.0	49.8	78	70-135	

Lab Batch #: 831705 **Sample:** 396767-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 11/11/10 17:22

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.4	99.6	81	70-135	
o-Terphenyl	41.0	49.8	82	70-135	

Lab Batch #: 831705 **Sample:** 396767-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 11/11/10 17:40

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.4	99.9	75	70-135	
o-Terphenyl	38.4	50.0	77	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

rogate Recovery [D] = 100 * A / B

results are based on MDL and validated for QC purposes.

Final 1.000

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: Linn Operating

Work Orders : 396767,

Project ID:

Lab Batch #: 831705 **Sample:** 396767-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 11/11/10 17:59

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.0	99.7	77	70-135	
o-Terphenyl	39.2	49.9	79	70-135	

Lab Batch #: 831705 **Sample:** 396767-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 11/11/10 18:18

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.4	100	77	70-135	
o-Terphenyl	39.4	50.1	79	70-135	

Lab Batch #: 831705 **Sample:** 396767-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 11/11/10 20:12

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
-Chlorooctane	74.2	99.5	75	70-135	
o-Terphenyl	40.1	49.8	81	70-135	

Lab Batch #: 831705 **Sample:** 396767-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 11/11/10 20:31

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76.2	99.9	76	70-135	
o-Terphenyl	40.8	50.0	82	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

rogate Recovery [D] = 100 * A / B

results are based on MDL and validated for QC purposes.

Final 1.000

BS / BSD Recoveries

Project Name: Linn Operating

Work Order #: 396767 **Project ID:**

Analyst: ASA **Date Prepared:** 11/12/2010 **Date Analyzed:** 11/13/2010

Lab Batch ID: 831943 **Sample:** 578712-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.0996	0.0986	99	0.0998	0.1104	111	11	70-130	35	
Toluene	ND	0.0996	0.0983	99	0.0998	0.1097	110	11	70-130	35	
Ethylbenzene	ND	0.0996	0.0968	97	0.0998	0.1050	105	8	71-129	35	
m_p-Xylenes	ND	0.1992	0.1995	100	0.1996	0.2233	112	11	70-135	35	
o-Xylene	ND	0.0996	0.0970	97	0.0998	0.1166	117	18	71-133	35	

Analyst: ASA **Date Prepared:** 11/12/2010 **Date Analyzed:** 11/12/2010

Lab Batch ID: 831952 **Sample:** 578718-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.1137	114	0.1	0.1121	112	1	70-130	35	
Toluene	ND	0.1000	0.1120	112	0.1	0.1106	111	1	70-130	35	
Ethylbenzene	ND	0.1000	0.1133	113	0.1	0.1119	112	1	71-129	35	
m_p-Xylenes	ND	0.2000	0.2358	118	0.2	0.2318	116	2	70-135	35	
o-Xylene	ND	0.1000	0.1147	115	0.1	0.1142	114	0	71-133	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Project Name: Linn Operating

Work Order #: 396767 **Project ID:**

Analyst: LATCOR **Date Prepared:** 11/11/2010 **Date Analyzed:** 11/11/2010

Lab Batch ID: 831694 **Sample:** 831694-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

Anions by E300	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	ND	10.0	9.33	93	10	11.0	110	16	75-125	20	

Analyst: BEV **Date Prepared:** 11/11/2010 **Date Analyzed:** 11/11/2010

Lab Batch ID: 831705 **Sample:** 578527-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

TPH By SW8015 Mod	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1000	942	94	996	987	99	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	888	89	996	889	89	0	70-135	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS Recoveries

Project Name: Linn Operating

Work Order #: 396767

Lab Batch #: 831694

Project ID:

Date Analyzed: 11/11/2010 **Date Prepared:** 11/11/2010 **Analyst:** LATCOR

QC- Sample ID: 396751-001 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	10500	6380	16900	100	75-125	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference [E] = 200*(C-A)/(C+B)
All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit

Form 3 - MS/MSD Recoveries

Project Name: Linn Operating

Work Order # : 396767 **Project ID:**

Lab Batch ID: 831943 **QC- Sample ID:** 396850-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 11/13/2010 **Date Prepared:** 11/12/2010 **Analyst:** ASA

Reporting Units: mg/kg

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1186	0.1082	91	0.1198	0.1184	99	9	70-130	35	
Toluene	ND	0.1186	0.1083	91	0.1198	0.1225	102	12	70-130	35	
Ethylbenzene	ND	0.1186	0.1020	86	0.1198	0.1129	94	10	71-129	35	
m_p-Xylenes	ND	0.2372	0.2092	88	0.2396	0.2343	98	11	70-135	35	
o-Xylene	0.0019	0.1186	0.1052	87	0.1198	0.1144	94	8	71-133	35	

Lab Batch ID: 831952 **QC- Sample ID:** 396767-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 11/12/2010 **Date Prepared:** 11/12/2010 **Analyst:** ASA

Reporting Units: mg/kg

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1100	0.0991	90	0.1096	0.0999	91	1	70-130	35	
Toluene	ND	0.1100	0.0967	88	0.1096	0.0998	91	3	70-130	35	
Ethylbenzene	ND	0.1100	0.0974	89	0.1096	0.1006	92	3	71-129	35	
m_p-Xylenes	ND	0.2201	0.2024	92	0.2192	0.2110	96	4	70-135	35	
o-Xylene	ND	0.1100	0.0984	89	0.1096	0.1020	93	4	71-133	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Form 3 - MS/MSD Recoveries

Project Name: Linn Operating

Work Order # : 396767 **Project ID:**

Lab Batch ID: 831705 **QC- Sample ID:** 396767-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 11/11/2010 **Date Prepared:** 11/11/2010 **Analyst:** BEV

Reporting Units: mg/kg

TPH By SW8015 Mod Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1090	1060	97	1100	1070	97	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1090	810	74	1100	820	75	1	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Project Name: Linn Operating

Work Order #: 396767

Lab Batch #: 831694 **Project ID:**

Date Analyzed: 11/11/2010 **Date Prepared:** 11/11/2010 **Analyst:** LATCOR

QC- Sample ID: 396751-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Anions by E300 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	10500	10500	0	20	

Lab Batch #: 831690

Date Analyzed: 11/11/2010 **Date Prepared:** 11/11/2010 **Analyst:** WRU

QC- Sample ID: 396777-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	5.60	5.75	3	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Logan Anderson
Project Name: LINN OPERATING
Company Name: Rio Services
Project #:
Company Address: P O Box 69139
Project Loc: LEA 4011 STATE #1
City/State/Zip: Odessa, TX 79769
PO #:
Telephone No: 432-381-5700
Fax No: 432-530-2890
Report Format: ☒ Standard ☐ TRRP ☐ NPDES
Sampler Signature:
e-mail: logan_rioservices@yahoo.com

(lab use only)
ORDER #: 316767

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water	GW=Groundwater	NP=Non-Potable	SL=Sludge	S=Soil/Solid	Specify Other	Analyze For: TCLP: TOTAL: TPH: 418.1 / 8015B	TPH: TX 1005	TPH: TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
01	TP 2 @ 15'		15'	11/09/10	1:00 PM		2	X											S			X				X				X					X
02	TP 2 @ 11'		11'	11/9/10	12:40PM		1	X											S							X									X
03	TP 2 @ 13'		13'	11/9/10	12:45PM		1	X											S							X									X
04	TP 2 @ 9'		9'	11/9/10	12:30PM		1	X											S							X									X
05	TP 2 @ 7'		7'	11/9/10	11:45 AM		1	X											S							X									X
06	TP 1 @ 15'		15'	11/9/10	4:30 PM		2	X											S			X				X					X				X
07	TP 3 @ 11'		11'	11/9/10	5:30PM		2	X											S			X				X					X				X
08	EW @ 4'		4'	11/9/10	12:55PM		2	X											S			X				X					X				X
09	SW 'D' @ 4'		4'	11/9/10	2:30PM		2	X											S			X				X					X				X
10	WW 'D' @ 4'		4'	11/9/10	3:40PM		2	X											S			X				X					X				X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
	11/10/10	3:21PM			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Andrea Elam	11.10.10	15:21

Laboratory Comments:

Sample Containers Intact?	Y N
VOCs Free of Headspace?	Y N
Labels on container(s)	Y N
Custody seals on container(s)	Y N
Custody seals on cooler(s)	Y (N)
Sample Hand Delivered	Y N
by Sampler/Client Rep. ?	Y N

by Courier? UPS DHL FedEx Lone Star
402919SS
Temperature Upon Receipt: .1 °C

Final 1.000

Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Logan Anderson

Company Name: Rio Services

Company Address: P O Box 69139

City/State/Zip: Odessa, TX 79769

Telephone No: 432-381-5700 Fax No: 432-530-2890

Sampler Signature:

e-mail: logan_rioservices@yahoo.com

Project Name: LINN OPERATING

Project #:

Project Loc: LEA 4011 STATE #1

PO #:

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)

ORDER #: 516167

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TOTAL: TPH: 418.1 / 8015B	TPH: TX 1005 / TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO_4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B 5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
11	NW'D @ 4'		4'	11/9/10	5:45PM		2	X								S	X			X					X				X

Special Instructions:

Laboratory Comments:

Sample Containers Intact?	(Y)	N
VOCs Free of Headspace?	(Y)	N
Labels on container(s)	(Y)	N
Custody seals on container(s)	(Y)	N
Custody seals on cooler(s)	Y	(N)
Sample Hand Delivered	(Y)	N
by Sampler/Client Rep. ?	(Y)	N

by Courier? UPS DHL FedEx Lone Star

4 oz glass

Temperature Upon Receipt: 5.1 °C

Relinquished by:	Date	Time	Received by:	Date	Time
	11/10/10	3:21PM			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Andrea Elam	11.10.10	15:21

XENCO Laboratories

XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Rio Services

Date/Time: 11.10.10 15:21

Lab ID #: 396767

Initials: AE

Sample Receipt Checklist

1. Samples on ice?	Blue	(Water)	No	
2. Shipping container in good condition?	(Yes)	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	(Yes)	No	N/A	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	Yes	(No)	N/A	
17. VOC sample have zero head space?	(Yes)	No	N/A	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	°C	lbs	°C	lbs	°C	lbs	°C	lbs	°C
	4.1								

Nonconformance Documentation

Contact:_____ Contacted by:_____ Date/Time:_____

Regarding: _____

Corrective Action Taken: _____

Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

CARDINAL Laboratories

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

November 17, 2010

LOGAN ANDERSON

RIO SERVICES

P. O. BOX 69139

ODESSA, TX 79769

RE: LINN OPERATING

Enclosed are the results of analyses for samples received by the laboratory on 11/12/10 9:30.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydorcarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accreditated 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 (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

Celey D. Keene
Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

RIO SERVICES
LOGAN ANDERSON
P. O. BOX 69139
ODESSA TX, 79769
Fax To: NONE GIVEN

Received:	11/12/2010	Sampling Date:	11/09/2010
Reported:	11/17/2010	Sampling Type:	Soil
Project Name:	LINN OPERATING	Sampling Condition:	Cool & Intact
Project Number:	*NONE GIVEN*	*Sample Received By:*	Jodi Henson
Project Location:	LEA 4011 STATE #1		

Sample ID: T P 2 @ 15' (H021289-01)

TPH 418.1 **mg/kg** **Analyzed By: AB**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TPH 418.1	<100	100	11/17/2010	ND	1260	110	1140	0.478	

Sample ID: T P 1 @ 15' (H021289-02)

TPH 418.1 **mg/kg** **Analyzed By: AB**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
418.1	<100	100	11/17/2010	ND	1260	110	1140	0.478	

Sample ID: T P 3 @ 11' (H021289-03)

TPH 418.1 **mg/kg** **Analyzed By: AB**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TPH 418.1	<100	100	11/17/2010	ND	1260	110	1140	0.478	

Sample ID: E W @ 4' (H021289-04)

TPH 418.1 **mg/kg** **Analyzed By: AB**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TPH 418.1	<100	100	11/17/2010	ND	1260	110	1140	0.478	

Sample ID: SW 'D' @ 4' (H021289-05)

TPH 418.1 **mg/kg** **Analyzed By: AB**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TPH 418.1	<100	100	11/17/2010	ND	1260	110	1140	0.478	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

RIO SERVICES
LOGAN ANDERSON
P. O. BOX 69139
ODESSA TX, 79769
Fax To: NONE GIVEN

Received:	11/12/2010	Sampling Date:	11/09/2010
Reported:	11/17/2010	Sampling Type:	Soil
Project Name:	LINN OPERATING	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA 4011 STATE #1		

Sample ID: WW 'D' @ 4' (H021289-06)

TPH 418.1 **mg/kg** **Analyzed By: AB**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TPH 418.1	<100	100	11/17/2010	ND	1260	110	1140	0.478	

Sample ID: NW 'D' @ 4' (H021289-07)

TPH 418.1 **mg/kg** **Analyzed By: AB**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
418.1	<100	100	11/17/2010	ND	1260	110	1140	0.478	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Logan Anderson
Company Name: Rio Services
Company Address: P.O. Box 69139
City/State/Zip: Odessa, Tx 79769
Telephone No: 432-381-5700 Fax No:
Sampler Signature:
e-mail: logan-rioservices@yahoo.com

Project Name: LINN OPERATING
Project #:
Project Loc: LEA 4011 State #1
PO #:
Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: H21289

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: (418.1) 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	H21289 TP 2@15'		15'	11/09/10	1:00pm		1	X								S	X											X
2	TP 1 @ 15'		15'	11/09/10	4:30pm		1	X								S	X											X
3	TP 3 @ 11'		11'	11/09/10	5:30pm		1	X								S	X											X
4	EW @ 4'		4'	11/09/10	12:55pm		1	X								S	X											X
5	SW 'D' @ 4'		4'	11/09/10	2:30pm		1	X								S	X											X
6	WW 'D' @ 4'		4'	11/09/10	3:40pm		1	X								S	X											X
7	NW 'D' @ 4'		4'	11/09/10	5:45pm		1	X								S	X											X

Special Instructions: WO# 396767

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	11/11/10	16:30	FEDEX		
Relinquished by:	Date	Time	Received by:	Date	Time
			Jodi Henson	11/12/10	9:30
Relinquished by:	Date	Time	Received by ELOT:	Date	Time

Laboratory Comments:
Sample Containers Intact? (Y) N
VOCs Free of Headspace? Y N
Labels on container(s) (Y) N
Custody seals on container(s) (Y) N
Custody seals on cooler(s) (Y) N
Sample Hand Delivered Y N
by Sampler/Client Rep. ? Y N
by Courier? UPS DHL (FedEx) Lone Star

Temperature Upon Receipt: 2.5 °C #7

Final C-141

&

Final C-144

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

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company – Linn Energy	Contact – Danny Homier
Address – 2651 JBS Parkway, Bldg. 4 Ste F Odessa, TX 79761	Telephone No. – 432-366-1557
Facility Name – Lea 4011 State #1	Facility Type – Work Over Pit

Surface Owner – State	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
N	8	18S	35E					Lea

Latitude 32° 45.347' N **Longitude** 103° 28.972' W

NATURE OF RELEASE

Type of Release – Pit Liner Breach	Volume of Release - Unknown	Volume Recovered - Unknown
Source of Release – Work Over Pit	Date and Hour of Occurrence - Unknown	Date and Hour of Discovery – 11-9-10
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
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.*
Old workover pit was excavated and hauled to an NMOCD approved disposal as per Permit Number P1-02563. After the pit contents were removed the bottoms and walls were sampled. The analysis was above the RAL's for the pit closure. The site was delineated to below NMOCD RAL's for this site.

The ranking criteria for the sampling is as follows: Surface Body of Water – 20 points (Wetland is less than 100' away); Wellhead Protection - 0 points; Depth to Groundwater – 10 points (GW = 78' on SEO Data). Total ranking for the site is 30 points. The following is the RAL's for the sampling. TPH Method 418.1 – 100 ppm; TPH Method 8015M – 100 ppm; Chloride – 250 ppm; BTEX 8021B – 50 ppm and Benzene – 0.2 ppm

Describe Area Affected and Cleanup Action Taken.*
The impacted soil above the RAL's was excavated and hauled to Lea Land Disposal. The site was backfilled per the pit closure plan and contoured to the surrounding area and re-seed the site to promote vegetation.

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:	OIL CONSERVATION DIVISION	
Printed Name:	Approved by District Supervisor:	
Title:	Approval Date:	Expiration Date:
E-mail Address:	Conditions of Approval:	Attached ☐
Date: Phone:		

* Attach Additional Sheets If Necessary

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

RECEIVED
OCT 15 2010
HOBBSOCD

State of New Mexico
Energy Minerals and Natural Resources
Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
July 21, 2008

For temporary pits, closed-loop systems, and below-grade tanks, submit to the appropriate NMOCD District Office.
For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

Pit, Closed-Loop System, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application

Type of action:
- ☐ Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method
- ☐ Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method
- ☐ Modification to an existing permit
- ☒ Closure plan only submitted for an existing permitted or non-permitted pit, closed-loop system, below-grade tank, or proposed alternative method

Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, below-grade tank or alternative request

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.
Operator: Linn Operating OGRID #: 269324
Address: 2651 JBS Parkway, Bldg. 4, Suite F Odessa, TX 79761
Facility or well name: Lea 4011 State #1
API Number: 30-025-20173 OCD Permit Number: P1-02563
U/L or Qtr/Qtr N Section 8 Township 18S Range 35E County: Lea
Center of Proposed Design: Latitude _____ Longitude _____ NAD: ☐1927 ☐ 1983
Surface Owner: ☐ Federal ☒ State ☐ Private ☐ Tribal Trust or Indian Allotment

2.
☒ **Pit:** Subsection F or G of 19.15.17.11 NMAC
Temporary: ☐ Drilling ☒ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A
☒ Lined ☐ Unlined Liner type: Thickness 12 mil ☐ LLDPE ☒ HDPE ☐ PVC ☐ Other _____
☐ String-Reinforced
Liner Seams: ☒ Welded ☐ Factory ☐ Other _____ Volume: _____ bbl Dimensions: L 90' x W 30' x D 6'

3.
☐ **Closed-loop System:** Subsection H of 19.15.17.11 NMAC
Type of Operation: ☐ P&A ☐ Drilling a new well ☐ Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)
☐ Drying Pad ☐ Above Ground Steel Tanks ☐ Haul-off Bins ☐ Other _____
☐ Lined ☐ Unlined Liner type: Thickness _____ mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
Liner Seams: ☐ Welded ☐ Factory ☐ Other _____

4.
☐ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC
Volume: _____ bbl Type of fluid: _____
Tank Construction material: _____
☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other _____
Liner type: Thickness _____ mil ☐ HDPE ☐ PVC ☐ Other _____

5.
☐ **Alternative Method:**
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

6.

Fencing: Subsection D of 19.15.17.11 NMAC *(Applies to permanent pits, temporary pits, and below-grade tanks)*

☐ Chain link, six feet in height, two strands of barbed wire at top *(Required if located within 1000 feet of a permanent residence, school, hospital, institution or church)*

☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet

☐ Alternate. Please specify_____

7.

Netting: Subsection E of 19.15.17.11 NMAC *(Applies to permanent pits and permanent open top tanks)*

☐ Screen ☐ Netting ☐ Other_____

☐ Monthly inspections (If netting or screening is not physically feasible)

8.

Signs: Subsection C of 19.15.17.11 NMAC

☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

☐ Signed in compliance with 19.15.3.103 NMAC

9.

Administrative Approvals and Exceptions:

Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

Please check a box if one or more of the following is requested, if not leave blank:

☐ Administrative approval(s): Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau office for consideration of approval.

☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

10.

Siting Criteria (regarding permitting): 19.15.17.10 NMAC

Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. **Siting criteria does not apply to drying pads or above-grade tanks associated with a closed-loop system.**

Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. *(Applies to temporary, emergency, or cavitation pits and below-grade tanks)* - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No ☐ NA
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. *(Applies to permanent pits)* - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No ☐ NA
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☐ No
Within a 100-year floodplain. - FEMA map	☐ Yes ☐ No

11.
Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- ☐ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

12.
Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9
- ☐ Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____

☐ Previously Approved Operating and Maintenance Plan API Number: _____ *(Applies only to closed-loop system that use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)*

13.
Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Climatological Factors Assessment
- ☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Quality Control/Quality Assurance Construction and Installation Plan
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Nuisance or Hazardous Odors, including H_2S, Prevention Plan
- ☐ Emergency Response Plan
- ☐ Oil Field Waste Stream Characterization
- ☐ Monitoring and Inspection Plan
- ☐ Erosion Control Plan
- ☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

14.
Proposed Closure: 19.15.17.13 NMAC
Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

Type: ☐ Drilling ☒ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☐ Below-grade Tank ☐ Closed-loop System ☐ Alternative

Proposed Closure Method:
- ☒ Waste Excavation and Removal
- ☐ Waste Removal (Closed-loop systems only)
- ☐ On-site Closure Method (Only for temporary pits and closed-loop systems)
  - ☐ In-place Burial ☐ On-site Trench Burial
- ☐ Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)

15.
Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***

- ☒ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☒ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
- ☒ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- ☒ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☒ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
- ☒ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

16.

Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13.D NMAC)

Instructions: Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future service and operations?

☐ Yes (If yes, please provide the information below) ☐ No

Required for impacted areas which will not be used for future service and operations:

☐ Soil Backfill and Cover Design Specifications - - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC

☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

17.

Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC

Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 50 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is between 50 and 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☐ No
Within a 100-year floodplain. - FEMA map	☐ Yes ☐ No

18.

On-Site Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***

☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC

☐ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC

☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19.15.17.11 NMAC

☐ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC

☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC

☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC

☐ Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC

☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)

☐ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC

☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

19.
Operator Application Certification:
I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): Allan Rambur Title: Production Super.

Signature: [signature] Date: 10/14/10

e-mail address: arambur@linnenergy.com Telephone: 432-366-1557 ext 1505

20.
OCD Approval: ☐ Permit Application (including closure plan) ☒ Closure Plan (only) ☐ OCD Conditions (see attachment)

OCD Representative Signature: Geoffrey Leking **Approval Date:** 10/27/10

Title: Environmental Engineer **OCD Permit Number:** P1-02563

21.
Closure Report (required within 60 days of closure completion): Subsection K of 19.15.17.13 NMAC
Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.

☒ **Closure Completion Date:** 11-30-2010

22.
Closure Method:
☒ Waste Excavation and Removal ☐ On-Site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)
☐ If different from approved plan, please explain.

23.
Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:
Instructions: Please indentify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Were the closed-loop system operations and associated activities performed on or in areas that *will not* be used for future service and operations?
☐ Yes (If yes, please demonstrate compliance to the items below) ☐ No

Required for impacted areas which will not be used for future service and operations:
☐ Site Reclamation (Photo Documentation)
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique

24.
Closure Report Attachment Checklist: ***Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.***
☒ Proof of Closure Notice (surface owner and division)
☐ Proof of Deed Notice (required for on-site closure)
☒ Plot Plan (for on-site closures and temporary pits)
☒ Confirmation Sampling Analytical Results (if applicable)
☐ Waste Material Sampling Analytical Results (required for on-site closure)
☒ Disposal Facility Name and Permit Number
☒ Soil Backfilling and Cover Installation
☒ Re-vegetation Application Rates and Seeding Technique
☒ Site Reclamation (Photo Documentation)
On-site Closure Location: Latitude _____ Longitude _____ NAD: ☐1927 ☐ 1983

25.
Operator Closure Certification:
I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): Allan Rambur Title: Production Superintendent

Signature: [signature] Date: 1/11/11

e-mail address: arambur@linnenergy.com Telephone: 432-366-1557 Ext 1505