

RECEIVED

By JKeyes at 7:46 am, Mar 14, 2016

APPROVED

Soil Remediation Work Plan
Select Energy Services
Lea County Saltwater Releases
Lea County, New Mexico

Cirrus Project No. 02-165169

Condition:

Provide photos that depict the depths of the excavations.

PREPARED FOR:

Mr. Carlos Lujan
Select Energy Services, LLC

March 2, 2016



Cirrus Associates, LLC™

Project No. 02-165169

Dallas Office
600 S. Sherman St.
Suite 102
Richardson, Texas 75081
(972) 680-8555

Houston Office
11757 Katy Freeway
Suite 1300
Houston, Texas 77079
(281) 854-2383

TABLE OF CONTENTS

EXECUTIVE SUMMARY	ii
1.0 INTRODUCTION/BACKGROUND	1
2.0 SOIL SAMPLING & ANALYTICAL RESULTS	1
3.0 REMEDIAL WORK PLAN	3

Figures

1	Site Location Map
2	Water Well Map
3	Site 1 – Sample Location Map
4	Site 2 – Sample Location Map
5	Site 3 – Sample Location Map

Tables

1	Summary of Soil Analytical Results for Chlorides
2	Summary of Soil Analytical Results for BTEX, GRO, DRO and TPH

Appendices

A	Photolog
B	Records of Communication
C	Laboratory Analytical Reports & Chain-of-Custody Records

EXECUTIVE SUMMARY

Cirrus Associates, LLC (Cirrus) was retained by Select Energy Services, LLC (SES) to conduct an evaluation of three separate saltwater releases which occurred in Lea County, New Mexico (referred to as Site 1, Site 2 and Site 3). According to SES personnel, the releases consisted of treated produced water, which was free of hydrocarbons. The locations of the releases are marked on Figures 1 and 2.

1.0 INTRODUCTION/BACKGROUND

Cirrus Associates, LLC (Cirrus) was retained by Select Energy Services, LLC (SES) to conduct an evaluation of three separate saltwater releases (identified by Cirrus as Sites 1 through 3) which occurred in Lea County, New Mexico. A Site Location Map is included as Figure 1. A Water Well Map, depicting the water wells in the surrounding area, well depths and depth to groundwater, is included as Figure 2. Sample locations from each site are presented on Figures 3 through 5.

2.0 SOIL SAMPLING & ANALYTICAL RESULTS

The release sites were visually identified and evaluated by Mr. Kevin McNeely, Cirrus, on December 16, 2015. Cirrus returned to the sites on December 17, 2015 to collect shallow soil samples in the release area and adjacent to the release area in an attempt to delineate the impacted area. The soil samples were analyzed for chlorides via EPA method 300/300.1 and one sample from near the source of the release was analyzed for benzene, toluene, ethyl benzene and xylenes (BTEX) by EPA method 8021B and gasoline range organics (GRO), diesel range organics (DRO) and total petroleum hydrocarbons (TPH) via EPA method 8015B. Soil samples collected during the field activities were placed in laboratory supplied glassware and stored in coolers packed with ice. The soil samples along with the proper chain of custody documentation were delivered to Xenco Laboratories in Midland, Texas on December 17, 2015. The laboratory analytical reports and chain of custodies are included as Attachment C.

Based on correspondence with New Mexico Oil Conservation District (OCD), Hobbs Region, the soil cleanup level for sites with groundwater elevations greater than 100 feet below surface is 1,000 mg/Kg. According to available information obtained from the New Mexico Office of State Engineer and provided on Figure 2, the depth to groundwater in the site area is approximately 600 feet.

Site 1 –

Site 1 is located along a lease road identified as Paduca Breaks Lane, approximately 12 miles southwest of Highway 176, in southwestern Lea County, New Mexico. The release of treated produced water occurred from a SES lay flat transfer line. The release occurred adjacent to the southeast side of the unpaved lease road and flowed down the sloped road towards the southwest approximately 565 feet. The majority of the release was contained within the roadway, which has berms on either side. A total of eight (8) samples were collected and identified as Site 1 – 001 through 008 and were analyzed for chlorides. A sample identified as WC-1 was collected near the source of the release, which occurred near Sample ID Site 1 – 001, and was analyzed for BTEX, GRO, DRO and TPH.

The analytical results from Site 1 show elevated concentrations of chlorides greater than 1,000 mg/Kg in four of the eight locations that range from 1,730 mg/Kg to 4,570 mg/Kg. Based on the locations of the samples collected, the impacted area has been delineated. No

detections of BTEX or TPH were identified in the sample collected near the source of the release. The analytical data is provided in Tables 1 and 2 and displayed on a site aerial in Figure 3.

Site 2 –

Site 2 is located along a lease road approximately 2 miles south-southwest of Site 3. The release of treated produced water occurred from a SES lay flat transfer line. The release covered a curved section of cleared access road, adjacent to an intersection of lease roads. The extent of the release covered approximately 325 feet in length and varied from 20 to 40 feet wide. The majority of the release was contained within a small berm to the north which serves as a marker for a buried pipeline. The southern extent of the release was mostly contained within berms adjacent to the cleared roadway, with a portion extending into a brushy area. A total of sixteen (16) samples were collected and identified as Site 2 – 001 through 016 and were analyzed for chlorides. A sample identified as WC-2 was collected near the source of the release, which occurred near Sample ID Site 2 – 006, and was analyzed for BTEX, GRO, DRO and TPH.

The analytical results from Site 2 show elevated concentrations of chlorides greater than 1,000 mg/Kg in four of the sixteen locations that range from 1,280 mg/Kg to 5,620 mg/Kg. No detections of BTEX, GRO, DRO and TPH were identified in WC-2. Based on the locations of the samples collected, the impacted area has been delineated. The analytical data is provided in Tables 1 and 2 and displayed on a site aerial in Figure 4.

Site 3 –

Site 3 is located along the same lease road as Site – 1, approximately 1.5 miles to the southwest. The release of treated produced water occurred from a SES lay flat transfer line. The release occurred adjacent to the southeast side of the lease road and ran towards the northeast approximately 1,500 feet. The release also extended to the southwest approximately 150 feet. A total of ten (10) samples were collected and identified as Site 3 – 001 through 010 and were analyzed for chlorides. A sample identified as WC-3 was collected near the source of the release, which occurred near Sample ID Site 3 – 001, and was analyzed for BTEX, GRO, DRO and TPH.

The analytical results from Site 3 show elevated concentrations of chlorides in four of the ten locations that range from 1,250 mg/Kg to 10,700 mg/Kg. No detections of BTEX, GRO, DRO and TPH were identified in WC-3. Based on the locations of the samples collected, the impacted area has been delineated. The analytical data is provided in Tables 1 and 2 and displayed on a site aerial in Figure 5.

3.0 REMEDIAL WORK PLAN

Based on the chloride results from the soil samples which have showed lateral delineation, Cirrus proposes to excavate soils in areas with concentrations of chlorides greater than 1,000 mg/Kg and dispose of at an approved landfill.

Soils will be excavated along the roadways to approximately 6 inches where the release showed minimal impact due to hard packed soil on the roadway and quick run-off along the steeper sections, which minimized vertical infiltration. In low lying areas where the release was allowed to pool, soils will be excavated to depths of 1 to 2 feet. Confirmatory soil samples for chlorides will be collected prior to backfilling the excavated areas.

A final report will be provided to OCD documenting the excavation and disposal of chloride impacted soils which will include analytical reports, copies of waste manifests and photographic documentation.

We appreciate your assistance in this matter. Feel free to contact us with any questions or comments.

Respectfully,

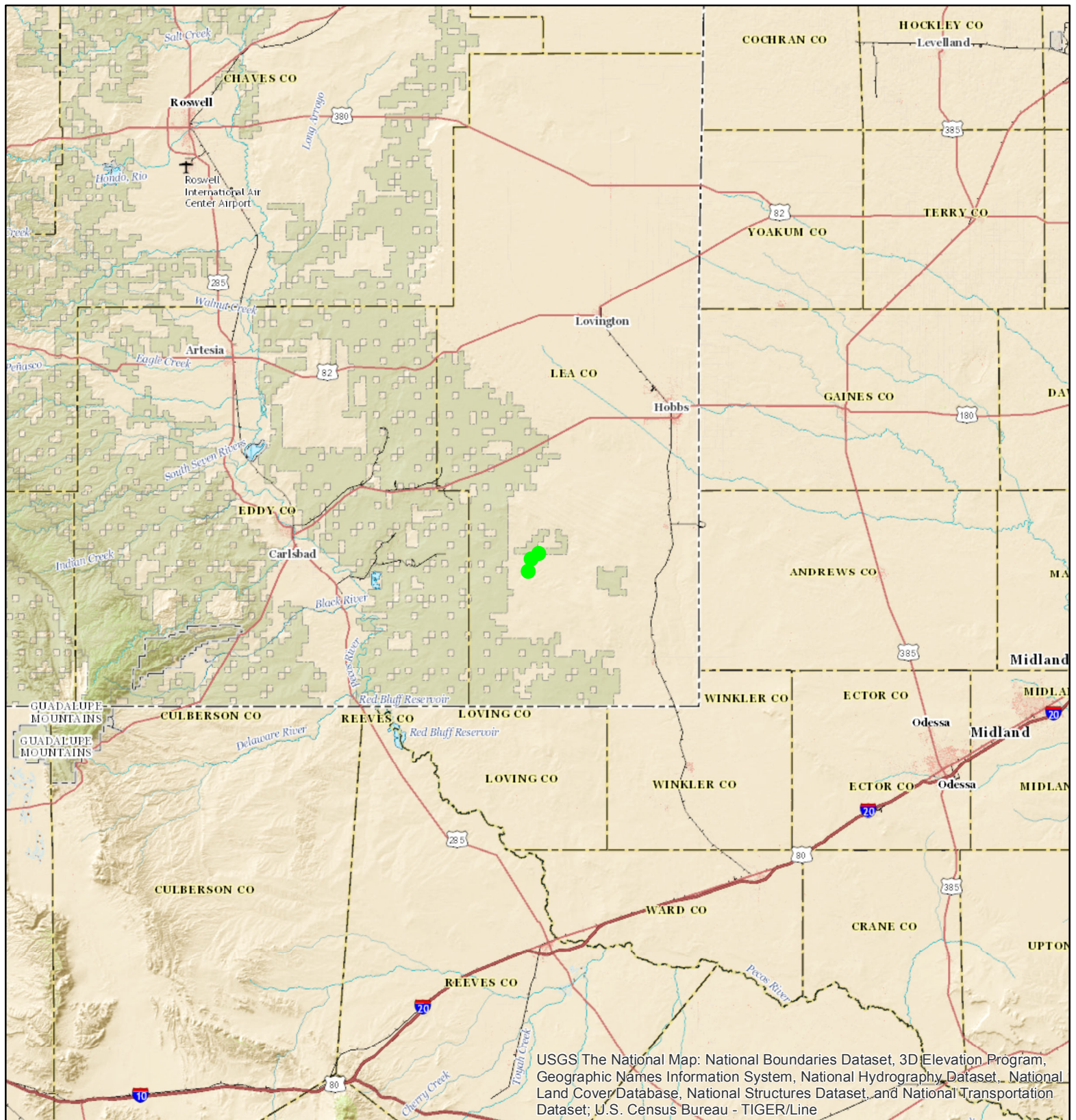
Cirrus Associates


Kevin McNeely
Field Operations Manager


Richard S. Record, P.E.
President



FIGURES



0 5 10 20
Miles

Select Energy Services
Lea County Sites
Lea County, New Mexico

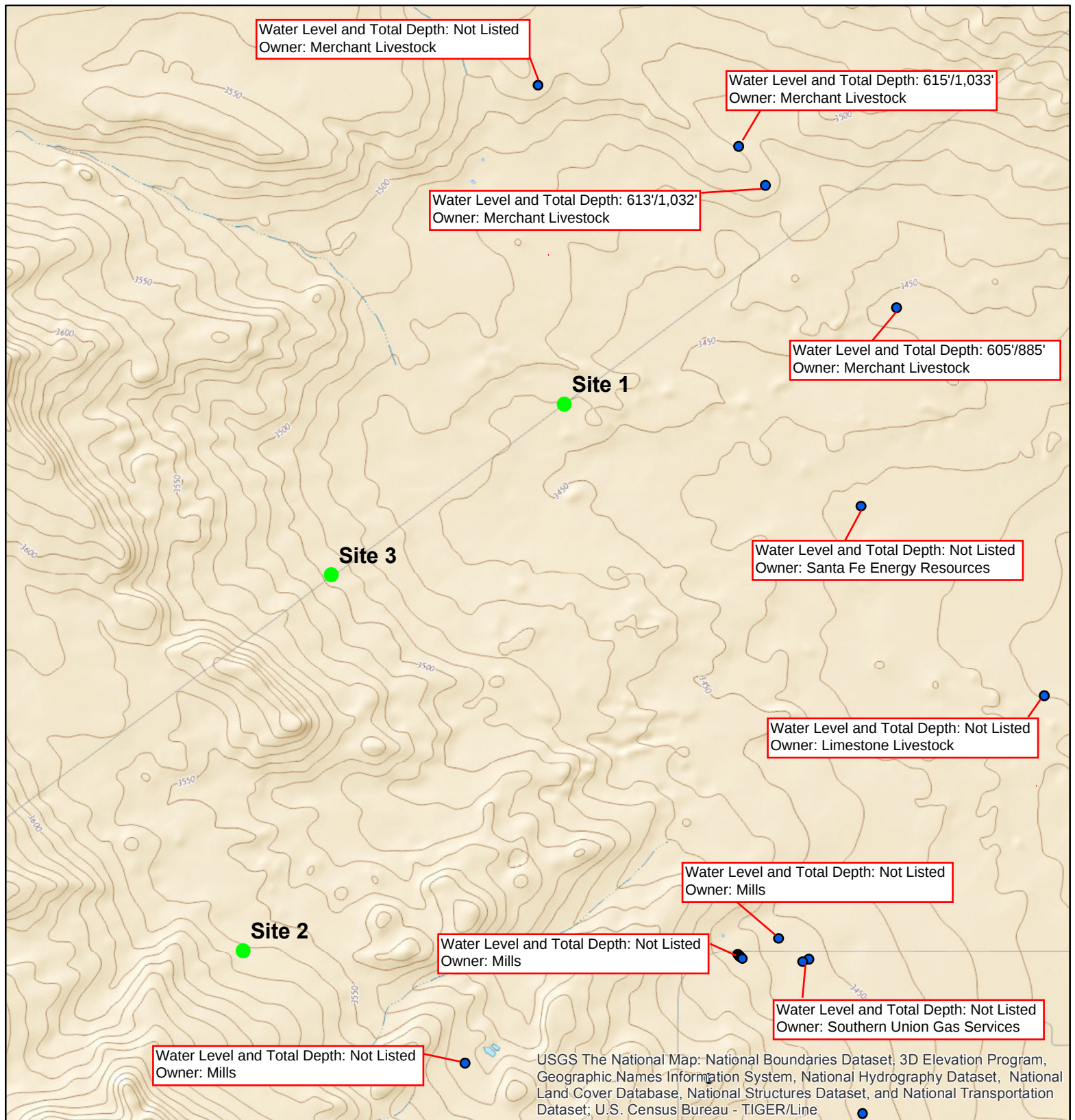
Project No. 02-165169

December 2015

Figure 1
Site Location Map



Cirrus Associates, LLC
600 S. Sherman Street, Suite 102
Richardson, Texas 75081



0 0.25 0.5 1
Miles

Select Energy Services
Lea County Sites
Lea County, New Mexico

Project No. 02-165169

December 2015

Figure 2
Water Well Map



Cirrus Associates, LLC
600 S. Sherman Street, Suite 102
Richardson, Texas 75081

Site 1

Legend

▣ Sample Location

Site 1-002	12/17/2015
Chloride (mg/Kg)	16.7

Site 1-001	12/17/2015
Chloride (mg/Kg)	1,730

Site 1-003	12/17/2015
Chloride (mg/Kg)	2,440

Site 1-005	12/17/2015
Chloride (mg/Kg)	21

Site 1-006	12/17/2015
Chloride (mg/Kg)	4,570

Site 1-004	12/17/2015
Chloride (mg/Kg)	17.5

Site 1-007	12/17/2015
Chloride (mg/Kg)	1,790

Site 1-008	12/17/2015
Chloride (mg/Kg)	13.9

WC-1	12/17/2015
C6-C10	<14.9
C10-C28	<14.9
Total TPH	<14.9
Benzene	<0.00100
Toluene	<0.00200
Ethylbenzene	<0.00100
Total Xylenes	<0.00100
Total BTEX	<0.00100

New Mexico OCD Site Cleanup Level With Groundwater greater than 100 feet	
Chloride	1,000 mg/Kg
TPH	5,000 mg/Kg
Benzene	10 mg/Kg
BTEX	50 mg/Kg

Notes:
Bold indicates analyte detection

Select Energy Services Lea County Sites Lea County, New Mexico

Project No. 02-165169 | December 2015

Figure 3 Site 1 - Chloride Analytical Soil Data



Cirrus Associates, LLC
600 S. Sherman Street, Suite 102
Richardson, Texas 75081

200 ft

Google earth

© 2015 Google

Site 2

Legend

▣ Sample Location

Site 2-001	12/17/2015
Chloride (mg/Kg)	4.5

Site 2-002	12/17/2015
Chloride (mg/Kg)	1,280

Site 2-003	12/17/2015
Chloride (mg/Kg)	2.79

Site 2-008	12/17/2015
Chloride (mg/Kg)	31.1

Site 2-010	12/17/2015
Chloride (mg/Kg)	5.42

Site 2-004	12/17/2015
Chloride (mg/Kg)	5,620

Site 2-011	12/17/2015
Chloride (mg/Kg)	4,040

WC-2	12/17/2015
C6-C10	<15.0
C10-C28	<15.0
Total TPH	<15.0
Benzene	<0.000994
Toluene	<0.00199
Ethylbenzene	<0.000994
Total Xylenes	<0.000994
Total BTEX	<0.000994

Site 2-005	12/17/2015
Chloride (mg/Kg)	6.53

Site 2-006	12/17/2015
Chloride (mg/Kg)	225

Site 2-009	12/17/2015
Chloride (mg/Kg)	472

Site 2-007	12/17/2015
Chloride (mg/Kg)	5.76

Site 2-012	12/17/2015
Chloride (mg/Kg)	<2.00

Site 2-013	12/17/2015
Chloride (mg/Kg)	1,500

Site 2-014	12/17/2015
Chloride (mg/Kg)	10.6

Site 2-015	12/17/2015
Chloride (mg/Kg)	<2.00

Site 2-016	12/17/2015
Chloride (mg/Kg)	<2.00

New Mexico OCD Site Cleanup Level With Groundwater greater than 100 feet	
Chloride	1,000 mg/Kg
TPH	5,000 mg/Kg
Benzene	10 mg/Kg
BTEX	50 mg/Kg

Notes:
Bold indicates analyte detection

Select Energy Services Lea County Sites Lea County, New Mexico

Project No 02-165169 December 2015

Figure 3
Site 2 - Chloride Analytical Soil Data



Cirrus Associates, LLC
600 S. Sherman Street, Suite 102
Richardson, Texas 75081

100 ft

Google earth

Site 3

Site 3-008	12/17/2015
Chloride (mg/Kg)	1,250

Site 3-009	12/17/2015
Chloride (mg/Kg)	20.7

Legend

▣ Sample Location

Site 3-007	12/17/2015
Chloride (mg/Kg)	318

Site 3-005	12/17/2015
Chloride (mg/Kg)	26.6

Site 3-004	12/17/2015
Chloride (mg/Kg)	12

Site 3-003	12/17/2015
Chloride (mg/Kg)	10,700

Site 3-002	12/17/2015
Chloride (mg/Kg)	4,360

Site 3-001	12/17/2015
Chloride (mg/Kg)	5,820

Site 3-006	12/17/2015
Chloride (mg/Kg)	11.2

Site 3-010	12/17/2015
Chloride (mg/Kg)	3.26

WC-3	12/17/2015
C6-C10	<15.0
C10-C28	<15.0
Total TPH	<15.0
Benzene	<0.000994
Toluene	<0.00199
Ethylbenzene	<0.000994
Total Xylenes	<0.000994
Total BTEX	<0.000994

New Mexico OCD Site Cleanup Level With Groundwater greater than 100 feet	
Chloride	1,000 mg/Kg
TPH	5,000 mg/Kg
Benzene	10 mg/Kg
BTEX	50 mg/Kg

Notes:

Bold indicates analyte detection

Select Energy Services Lea County Sites Lea County, New Mexico

Project No. 02-165169 | December 2015

Figure 5
Site 3 - Chloride Analytical Soil Data



Cirrus Associates, LLC
600 S. Sherman Street, Suite 102
Richardson, Texas 75081



600 ft

Google earth

© 2015 Google

TABLES

TABLE 1 Summary of Chloride Analytical Soil Data Select Energy Services Lea County Sites Cirrus Project No. 02-165169		
Sample ID	Sample Date	Chloride
		Units in miligram per kilogram (mg/Kg)
Site 1		
Site 1 - 001	12/17/2015	1,730
Site 1 - 002	12/17/2015	16.7
Site 1 - 003	12/17/2015	2,440
Site 1 - 004	12/17/2015	17.5
Site 1 - 005	12/17/2015	21
Site 1 - 006	12/17/2015	4,570
Site 1 - 007	12/17/2015	1,790
Site 1 - 008	12/17/2015	13.9
Site 2		
Site 2 - 001	12/17/2015	4.5
Site 2 - 002	12/17/2015	1,280
Site 2 - 003	12/17/2015	2.79
Site 2 - 004	12/17/2015	5,620
Site 2 - 005	12/17/2015	6.53
Site 2 - 006	12/17/2015	225
Site 2 - 007	12/17/2015	5.76
Site 2 - 008	12/17/2015	31.1
Site 2 - 009	12/17/2015	472
Site 2 - 010	12/17/2015	5.42
Site 2 - 011	12/17/2015	4,040
Site 2 - 012	12/17/2015	<2.00
Site 2 - 013	12/17/2015	1,500
Site 2 - 014	12/17/2015	10.6
Site 2 - 015	12/17/2015	<2.00
Site 2 - 016	12/17/2015	<2.00
Site 3		
Site 3 - 001	12/17/2015	5,820
Site 3 - 002	12/17/2015	4,360
Site 3 - 003	12/17/2015	10,700
Site 3 - 004	12/17/2015	12
Site 3 - 005	12/17/2015	26.6
Site 3 - 006	12/17/2015	11.2
Site 3 - 007	12/17/2015	318
Site 3 - 008	12/17/2015	1,250
Site 3 - 009	12/17/2015	20.7
Site 3 - 010	12/17/2015	3.26
New Mexico OCD Site Cleanup Level		1,000

Notes:

Bold and highlighted indicates analyte detection above cleanup level

TABLE 2
Summary of Hydrocarbon Analytical Soil Data
Select Energy Services
Lea County Sites
Cirrus Project No. 02-165169

Analyte	New Mexico OCD Site Cleanup Level	WC-1	WC-2	WC-3
Benzene	10	<0.001	<0.00094	<0.00094
Toluene	50*	<0.002	<0.00199	<0.00199
Ethyl benzene	50*	<0.001	<0.00094	<0.00094
Xylenes	50*	<0.001	<0.00094	<0.00094
GRO	NE	<14.9	<15.0	<15.0
DRO	NE	<14.9	<15.0	<15.0
TPH	5,000	<14.9	<15.0	<15.0

Notes:

50* is the remediation cleanup level provided for total BTEX

Units in mg/Kg

APPENDIX A



PHOTO NO. 1
DESCRIPTION:

View of release area at Site 1 looking southeast.



PHOTO NO. 2
DESCRIPTION:

View of end of release area at Site 1 looking northeast.



PHOTO NO. 3
DESCRIPTION:

View across release area at Site 2 looking southwest.



PHOTO NO. 4
DESCRIPTION:

View of end of release area at Site 2 looking north-northwest.



PHOTO NO. 5
DESCRIPTION:

View of release location at Site 3 looking east.



PHOTO NO. 6
DESCRIPTION:

View of end of release in low lying area adjacent to lease road at Site 3, looking southeast.

APPENDIX B

Kevin McNeely

From: Jones, Kellie, EMNRD <Kellie.Jones@state.nm.us>
Sent: Thursday, January 07, 2016 1:42 PM
To: Kevin McNeely
Subject: RE: Chloride releases

With groundwater greater than 100 feet, remediation value is 1000 ppm for chlorides, 5000 for TPH, 10 Benzene, and 50 BTEX.

If you have any other questions, let me know.

Kellie

From: Kevin McNeely [<mailto:KMcNeely@cirrusassociates.com>]
Sent: Thursday, January 07, 2016 12:41 PM
To: Jones, Kellie, EMNRD
Subject: RE: Chloride releases

Kellie,

Thank you for the response. Can you tell me more what the trend map numbers mean? How do I interpret those numbers to cleanup standards?

Thanks,

Kevin

Kevin McNeely
Field Operations Manager
Cirrus Associates, LLC
600 S. Sherman Street, Suite 102
Richardson, Texas 75081
Office 972-680-8555
Mobile 972-849-2618
Fax 972-680-9455



From: Jones, Kellie, EMNRD [<mailto:Kellie.Jones@state.nm.us>]
Sent: Thursday, January 07, 2016 8:05 AM
To: Kevin McNeely
Subject: RE: Chloride releases

Kevin,

Please note that these need to be verified. The trend map is from 93-94, so things might have changed. Check with the NM State Engineer's Office.

Sections 25 & 26 T22S, R33E - greater than 300 feet
Section 2 T23S, R33E - greater than 350 feet

Hope that helps.

Kellie Jones
Environmental Specialist, District 1
Oil Conservation Division, EMNRD
575-393-6161 ext. 111
575-370-3180 (emergency-cell)
E-Mail: kellie.jones@state.nm.us

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

From: Kevin McNeely [<mailto:KMcNeely@cirrusassociates.com>]
Sent: Wednesday, January 06, 2016 3:55 PM
To: Jones, Kellie, EMNRD
Subject: Chloride releases

Kellie,

The site map is attached showing the 3 release sites.

Sections 25 & 26 T22S, R33E
And Section 2 T23S, R33E

APPENDIX C

Analytical Report 521534

for
Cirrus Associates

Project Manager: Kevin McNeely

SELECT-LEA COUNTY

04-JAN-16

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-15-19), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

Table of Contents

Cover Page	1
Cover Letter	3
Sample ID Cross Reference	4
Case Narrative	5
Certificate of Analysis (Detailed Report)	6
Summary of Quality control	15
Explanation of Qualifiers (Flags)	17
Chain of Custody	18
Sample Receipt Conformance Report	21



04-JAN-16

Project Manager: **Kevin McNeely**

Cirrus Associates

600 S Sherman St, Ste 102

Richardson, TX 75081

Reference: XENCO Report No(s): **521534**

SELECT-LEA COUNTY

Project Address: LEA COUNTY, NM

Kevin McNeely:

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(s) 521534. 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. The uncertainty of measurement associated with the results of analysis reported is available upon request. 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. 521534 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,

Monica Tobar

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



Sample Cross Reference 521534



Cirrus Associates, Richardson, TX

SELECT-LEA COUNTY

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SITE 1-001	S	12-17-15 11:20	- 0-1 ft	521534-001
SITE 1-002	S	12-17-15 11:25	- 0-1 ft	521534-002
SITE 1-003	S	12-17-15 11:30	- 0-1 ft	521534-003
SITE 1-004	S	12-17-15 11:35	- 0-1 ft	521534-004
SITE 1-005	S	12-17-15 11:40	- 0-1 ft	521534-005
SITE 1-006	S	12-17-15 11:45	- 0-1 ft	521534-006
SITE 1-007	S	12-17-15 11:50	- 0-1 ft	521534-007
SITE 1-008	S	12-17-15 11:55	- 0-1 ft	521534-008
WC-1	S	12-17-15 12:00	- 0-1 ft	521534-009



CASE NARRATIVE



Client Name: *Cirrus Associates*

Project Name: *SELECT-LEA COUNTY*

Project ID:

Work Order Number(s): 521534

Report Date: 04-JAN-16

Date Received: 12/17/2015

Sample receipt non conformances and comments:

12/30 Btex/TPH added to sample WC-1.

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 521534



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 1-001**

Matrix: Soil

Date Received: 12.17.15 16.35

Lab Sample Id: 521534-001

Date Collected: 12.17.15 11.20

Sample Depth: 0-1 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MNR

% Moisture:

Analyst: MNR

Date Prep: 12.21.15 12.00

Basis: Wet Weight

Seq Number: 984010

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1730	100	mg/kg	12.21.15 19.09		50



Certificate of Analytical Results 521534



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 1-002**

Matrix: Soil

Date Received: 12.17.15 16.35

Lab Sample Id: 521534-002

Date Collected: 12.17.15 11.25

Sample Depth: 0-1 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MNR

% Moisture:

Analyst: MNR

Date Prep: 12.21.15 12.00

Basis: Wet Weight

Seq Number: 984010

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	16.7	2.00	mg/kg	12.21.15 19.27		1



Certificate of Analytical Results 521534



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 1-003** Matrix: Soil Date Received: 12.17.15 16.35
Lab Sample Id: 521534-003 Date Collected: 12.17.15 11.30 Sample Depth: 0-1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MNR % Moisture:
Analyst: MNR Date Prep: 12.21.15 12.00 Basis: Wet Weight
Seq Number: 984010

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2440	200	mg/kg	12.21.15 19.45		100



Certificate of Analytical Results 521534



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 1-004**

Matrix: Soil

Date Received: 12.17.15 16.35

Lab Sample Id: 521534-004

Date Collected: 12.17.15 11.35

Sample Depth: 0-1 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MNR

% Moisture:

Analyst: MNR

Date Prep: 12.21.15 12.00

Basis: Wet Weight

Seq Number: 984010

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	17.5	2.00	mg/kg	12.21.15 20.03		1



Certificate of Analytical Results 521534



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 1-005**

Matrix: Soil

Date Received: 12.17.15 16.35

Lab Sample Id: 521534-005

Date Collected: 12.17.15 11.40

Sample Depth: 0-1 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MNR

% Moisture:

Analyst: MNR

Date Prep: 12.21.15 12.00

Basis: Wet Weight

Seq Number: 984010

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	21.0	2.00	mg/kg	12.21.15 20.40		1



Certificate of Analytical Results 521534



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 1-006** Matrix: Soil Date Received: 12.17.15 16.35
Lab Sample Id: 521534-006 Date Collected: 12.17.15 11.45 Sample Depth: 0-1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MNR % Moisture:
Analyst: MNR Date Prep: 12.21.15 12.00 Basis: Wet Weight
Seq Number: 984010

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4570	200	mg/kg	12.21.15 20.58		100



Certificate of Analytical Results 521534



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 1-007** Matrix: Soil Date Received: 12.17.15 16.35
Lab Sample Id: 521534-007 Date Collected: 12.17.15 11.50 Sample Depth: 0-1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MNR % Moisture:
Analyst: MNR Date Prep: 12.21.15 12.00 Basis: Wet Weight
Seq Number: 984010

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1790	100	mg/kg	12.21.15 21.16		50



Certificate of Analytical Results 521534



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 1-008** Matrix: Soil Date Received: 12.17.15 16.35
Lab Sample Id: 521534-008 Date Collected: 12.17.15 11.55 Sample Depth: 0-1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MNR % Moisture:
Analyst: MNR Date Prep: 12.21.15 12.00 Basis: Wet Weight
Seq Number: 984010

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.9	2.00	mg/kg	12.21.15 21.35		1



Certificate of Analytical Results 521534



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **WC-1**
Lab Sample Id: 521534-009

Matrix: Soil
Date Collected: 12.17.15 12.00

Date Received: 12.17.15 16.35
Sample Depth: 0-1 ft

Analytical Method: TPH By SW8015B Mod

Tech: PJB

Analyst: PJB

Seq Number: 984742

Date Prep: 12.30.15 09.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	C6C10GRO	<14.9	14.9	mg/kg	12.30.15 15.38	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<14.9	14.9	mg/kg	12.30.15 15.38	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	12.30.15 15.38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	117	%	70-135	12.30.15 15.38		
o-Terphenyl	84-15-1	103	%	70-135	12.30.15 15.38		

Analytical Method: BTEX by EPA 8021B

Tech: SYG

Analyst: SYG

Seq Number: 984739

Date Prep: 12.30.15 07.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	12.30.15 14.13	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.30.15 14.13	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	12.30.15 14.13	U	1
m_p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	12.30.15 14.13	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	12.30.15 14.13	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	12.30.15 14.13	U	1
Total BTEX		<0.00100	0.00100	mg/kg	12.30.15 14.13	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	80-120	12.30.15 14.13		
1,4-Difluorobenzene	540-36-3	115	%	80-120	12.30.15 14.13		

Cirrus Associates
SELECT-LEA COUNTY**Analytical Method: Inorganic Anions by EPA 300/300.1**

Seq Number: 984010

Matrix: Solid

Prep Method: E300P

MB Sample Id: 702474-1-BLK

LCS Sample Id: 702474-1-BKS

Date Prep: 12.21.15

LCSD Sample Id: 702474-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<2.00	50.0	48.0	96	47.4	95	90-110	1	20	mg/kg	12.21.15 15:30	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 984010

Matrix: Soil

Prep Method: E300P

Parent Sample Id: 521534-004

MS Sample Id: 521534-004 S

Date Prep: 12.21.15

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Chloride	17.5	50.0	65.1	95	80-120	mg/kg	12.21.15 20:22	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 984010

Matrix: Soil

Prep Method: E300P

Parent Sample Id: 521698-001

MS Sample Id: 521698-001 S

Date Prep: 12.21.15

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Chloride	4150	10000	14300	102	80-120	mg/kg	12.21.15 16:25	

Analytical Method: TPH By SW8015B Mod

Seq Number: 984742

Matrix: Solid

Prep Method: TX1005P

MB Sample Id: 702914-1-BLK

LCS Sample Id: 702914-1-BKS

Date Prep: 12.30.15

LCSD Sample Id: 702914-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.0	1000	709	71	744	74	70-135	5	35	mg/kg	12.30.15 09:57	
C10-C28 Diesel Range Hydrocarbons	<15.0	1000	850	85	845	85	70-135	1	35	mg/kg	12.30.15 09:57	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	117		112		128		70-135	%	12.30.15 09:57
o-Terphenyl	103		100		122		70-135	%	12.30.15 09:57

Cirrus Associates
SELECT-LEA COUNTY

Analytical Method: BTEX by EPA 8021B

Seq Number: 984739

MB Sample Id: 702912-1-BLK

Matrix: Solid

LCS Sample Id: 702912-1-BKS

Prep Method: SW5030B

Date Prep: 12.30.15

LCSD Sample Id: 702912-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0878	88	0.0918	92	70-130	4	35	mg/kg	12.30.15 08:10	
Toluene	<0.00200	0.100	0.0911	91	0.0944	94	70-130	4	35	mg/kg	12.30.15 08:10	
Ethylbenzene	<0.00100	0.100	0.0961	96	0.0986	99	71-129	3	35	mg/kg	12.30.15 08:10	
m_p-Xylenes	<0.00200	0.200	0.199	100	0.204	102	70-135	2	35	mg/kg	12.30.15 08:10	
o-Xylene	<0.00100	0.100	0.0941	94	0.0963	96	71-133	2	35	mg/kg	12.30.15 08:10	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	116		114		116		80-120	%	12.30.15 08:10
4-Bromofluorobenzene	104		107		105		80-120	%	12.30.15 08:10

Analytical Method: BTEX by EPA 8021B

Seq Number: 984739

Parent Sample Id: 521534-009

Matrix: Soil

MS Sample Id: 521534-009 S

Prep Method: SW5030B

Date Prep: 12.30.15

MSD Sample Id: 521534-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000998	0.0998	0.0945	95	0.0952	96	70-130	1	35	mg/kg	12.30.15 16:24	
Toluene	<0.00200	0.0998	0.0947	95	0.0937	94	70-130	1	35	mg/kg	12.30.15 16:24	
Ethylbenzene	<0.000998	0.0998	0.0972	97	0.0945	95	71-129	3	35	mg/kg	12.30.15 16:24	
m_p-Xylenes	<0.00200	0.200	0.201	101	0.196	98	70-135	3	35	mg/kg	12.30.15 16:24	
o-Xylene	<0.000998	0.0998	0.0954	96	0.0932	94	71-133	2	35	mg/kg	12.30.15 16:24	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	120		107		80-120	%	12.30.15 16:24
4-Bromofluorobenzene	103		108		80-120	%	12.30.15 16:24

- 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 affect the recovery of the spike concentration. This condition could also affect 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 quantitation limit and above the detection limit.
- 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.

****** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - San Antonio - Atlanta - Midland/Odessa - Tampa/Lakeland - Phoenix - Latin America

4147 Greenbriar Dr, Stafford, TX 77477
 9701 Harry Hines Blvd , Dallas, TX 75220
 5332 Blackberry Drive, San Antonio TX 78238
 1211 W Florida Ave, Midland, TX 79701
 2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(432) 563-1800	(432) 563-1713
(602) 437-0330	



Setting the Standard since 1990
Stafford, Texas (281-240-4200)
Dallas, Texas (214-902-0300)

CHAIN OF CUSTODY

Page 1 of 1

Lakeland, Florida (863-646-8526)

Tampa, Florida (813-820-2000)

Odessa, Texas (432-563-1800)

Norcross, Georgia (770-449-8800)

Service Center - San Antonio, Texas (210-509-3334)

www.xenco.com

Xenoco Quote #

Xenoco Job #

581534

Client / Reporting Information				Project Information				Analytical Information				Matrix Codes			
Company Name / Branch: CIRBUS ASSOCIATES				Project Name/Number: SELECT - LEA COUNTY											
Company Address: 600 S. SHERMAN, STE 102 RICHMOND, TX 75081				Project Location: LEA COUNTY, NM											
Email: kmcneely@cirbusassociates.com				Invoice To: Srecord@cirbusassociates.com											
Phone No:				PO Number:											
Project Contact: KEVIN MCNEELY															
Sampler's Name: KEVIN MCNEELY															
No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	NaOH/2N	Acetate	HNO3	H2SO4	NaOH	NH4OH	MECH	NONE	Field Comments
1	SITE 1 - 001	0-1'	12-17-15	1120	S	1								X	
2	SITE 1 - 002			1125											
3	SITE 1 - 003			1130											
4	SITE 1 - 004			1135											
5	SITE 1 - 005			1140											
6	SITE 1 - 006			1145											
7	SITE 1 - 007			1150											
8	SITE 1 - 008			1155											
9	WC-1			1200											
10															

Date Deliverable Information				Notes:			
☐ Same Day TAT	☒ 5 Day TAT	☐ Level II Std QC	☐ Level IV (Full Data Pkg / new data)				
☐ Next Day EMERGENCY	☐ 7 Day TAT	☐ Level III Std QC+ Forms	☐ TRRP Level IV				
☐ 2 Day EMERGENCY	☐ Contract TAT	☐ Level 3 (CLP Forms)	☐ UST / RG -411				
☐ 3 Day EMERGENCY	☐ TRRP Checklist						

TAT Starts Day received by Lab, If received by 3:00 pm

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING CARRIER DELIVERY			
Relinquished by Sampler:	Received By:	Relinquished By:	Received By:
12-17-15	12-17-15	12-17-15	12-17-15
Relinquished by:	Received By:	Relinquished By:	Received By:
Relinquished by:	Received By:	Relinquished By:	Received By:

FED-EX / UPS: Tracking #			
On Ice	Cooler Temp:	Thermos, Corr. Factor	
X	33°C	0°C	



monica tobar <monica.tobar@xenco.com>

Report for WO 521538, project name: SELECT-LEA COUNTY

Kevin McNeely <KMcNeely@cirrusassociates.com>
To: monica tobar <monica.tobar@xenco.com>

Wed, Dec 30, 2015 at 11:24 AM

They will be on each order, 521534, 521537 & 521538.

Sample IDs are WC-1, WC-2 & WC-3

Thanks

Sent from my Verizon Wireless 4G LTE smartphone

—— Original message ——

From: monica tobar <monica.tobar@xenco.com>
Date: 12/30/2015 11:14 (GMT-06:00)
To: Kevin McNeely <KMcNeely@cirrusassociates.com>
[Quoted text hidden]



11381 Meadowglen, Suite L, Houston, TX 77082 (281) 589-0692

9701 Harry Hines Blvd., Dallas, TX 75220 (214) 902-0300

5332 Bla ckberry Drive, San Antonio, TX 78238 (210) 509-3334

5757 N.W. 158th St., Miami Lakes, FL 33014 (305) 823-8555

3016 US Hwy 301 North, Suite 900, Tampa, FL 33619 (813) 620-

This form is a supplement to

COC No: 521534

Page 1 of 1

This information should be taken from the original COC.

Contractor:	<i>Cirrus Associates</i>	Phone:	☒ Addition
Address:	<i>600 S. Sherman Ste102 Richardson, TX 75081</i>		
Project Name:	<i>Select LEA County</i>	Project Manager:	<i>Kevin McNeely</i>
Project Location:	<i>LEA County, NM</i>		
Project No.:	Project Director:		☐ Correction ☐ Hold ☐ Cancellation ☐ No Addition

[illegible]

Comments:

Matrix Legend		
S = Solid	P = Product	
L = Liquid	SI = Sludge	
A = Air	O =	
Carley Owens		
Samples Received in Lab by:		
X:\Forms\Cirrus_521524		
Date/Time: 12/17/15 1635		
	Add Received By:	MT
	Add Assigned By:	MT
	Add Processed By:	MT
		12/30/2015 0:00
		12/30/2015 0:00
		12/30/2015 0:00



XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In



Client: Cirrus Associates

Date/ Time Received: 12/17/2015 04:35:00 PM

Work Order #: 521534

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.3
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	No
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	N/A
#21 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	N/A
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	N/A

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:

PH Device/Lot#: OC679789

Checklist completed by:

Carley Owens

Carley Owens

Date: 12/18/2015

Checklist reviewed by:

Monica Tobar

Monica Tobar

Date: 12/30/2015

Analytical Report 521537

for
Cirrus Associates

Project Manager: Kevin McNeely

SELECT-LEA COUNTY

-
04-JAN-16

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-15-19), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

Table of Contents

Cover Page	1
Cover Letter	3
Sample ID Cross Reference	4
Case Narrative	5
Certificate of Analysis (Detailed Report)	6
Summary of Quality control	23
Explanation of Qualifiers (Flags)	25
Chain of Custody	26
Sample Receipt Conformance Report	30



04-JAN-16

Project Manager: **Kevin McNeely**

Cirrus Associates

600 S Sherman St, Ste 102

Richardson, TX 75081

Reference: XENCO Report No(s): **521537**

SELECT-LEA COUNTY

Project Address: LEA COUNTY, NM

Kevin McNeely:

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(s) 521537. 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. The uncertainty of measurement associated with the results of analysis reported is available upon request. 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. 521537 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,

Monica Tobar

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



Sample Cross Reference 521537



Cirrus Associates, Richardson, TX

SELECT-LEA COUNTY

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SITE 2-001	S	12-17-15 08:15	- 0-1 ft	521537-001
SITE 2-002	S	12-17-15 08:20	- 0-1 ft	521537-002
SITE 2-003	S	12-17-15 08:25	- 0-1 ft	521537-003
SITE 2-004	S	12-17-15 08:30	- 0-1 ft	521537-004
SITE 2-005	S	12-17-15 08:35	- 0-1 ft	521537-005
SITE 2-006	S	12-17-15 08:40	- 0-1 ft	521537-006
SITE 2-007	S	12-17-15 08:45	- 0-1 ft	521537-007
SITE 2-008	S	12-17-15 08:50	- 0-1 ft	521537-008
SITE 2-009	S	12-17-15 08:55	- 0-1 ft	521537-009
SITE 2-010	S	12-17-15 09:00	- 0-1 ft	521537-010
SITE 2-011	S	12-17-15 09:05	- 0-1 ft	521537-011
SITE 2-012	S	12-17-15 09:10	- 0-1 ft	521537-012
SITE 2-013	S	12-17-15 09:15	- 0-1 ft	521537-013
SITE 2-014	S	12-17-15 09:20	- 0-1 ft	521537-014
SITE 2-015	S	12-17-15 09:25	- 0-1 ft	521537-015
SITE 2-016	S	12-17-15 09:30	- 0-1 ft	521537-016
WC-2	S	12-17-15 09:45	- 0-1 ft	521537-017



CASE NARRATIVE



Client Name: *Cirrus Associates*

Project Name: *SELECT-LEA COUNTY*

Project ID: -
Work Order Number(s): 521537

Report Date: 04-JAN-16
Date Received: 12/17/2015

Sample receipt non conformances and comments:

12/30 Btex/TPH added to sample WC-2.

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 521537



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 2-001**

Matrix: Soil

Date Received: 12.17.15 16.35

Lab Sample Id: 521537-001

Date Collected: 12.17.15 08.15

Sample Depth: 0-1 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MNR

% Moisture:

Analyst: MNR

Date Prep: 12.22.15 10.00

Basis: Wet Weight

Seq Number: 984122

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4.50	2.00	mg/kg	12.22.15 17.11		1



Certificate of Analytical Results 521537



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 2-002** Matrix: Soil Date Received: 12.17.15 16.35
Lab Sample Id: 521537-002 Date Collected: 12.17.15 08.20 Sample Depth: 0-1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MNR % Moisture:
Analyst: MNR Date Prep: 12.22.15 10.00 Basis: Wet Weight
Seq Number: 984122

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1280	100	mg/kg	12.22.15 17.47		50



Certificate of Analytical Results 521537



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 2-003**

Matrix: Soil

Date Received: 12.17.15 16.35

Lab Sample Id: 521537-003

Date Collected: 12.17.15 08.25

Sample Depth: 0-1 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MNR

% Moisture:

Analyst: MNR

Date Prep: 12.22.15 10.00

Basis: Wet Weight

Seq Number: 984122

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2.79	2.00	mg/kg	12.22.15 18.24		1



Certificate of Analytical Results 521537



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 2-004**

Matrix: Soil

Date Received: 12.17.15 16.35

Lab Sample Id: 521537-004

Date Collected: 12.17.15 08.30

Sample Depth: 0-1 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MNR

% Moisture:

Analyst: MNR

Date Prep: 12.22.15 10.00

Basis: Wet Weight

Seq Number: 984122

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5620	400	mg/kg	12.22.15 18.42		200



Certificate of Analytical Results 521537



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 2-005** Matrix: Soil Date Received: 12.17.15 16.35
Lab Sample Id: 521537-005 Date Collected: 12.17.15 08.35 Sample Depth: 0-1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MNR % Moisture:
Analyst: MNR Date Prep: 12.22.15 10.00 Basis: Wet Weight
Seq Number: 984122

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6.53	2.00	mg/kg	12.22.15 19.00		1



Certificate of Analytical Results 521537



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 2-006** Matrix: Soil Date Received: 12.17.15 16.35
Lab Sample Id: 521537-006 Date Collected: 12.17.15 08.40 Sample Depth: 0-1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MNR % Moisture:
Analyst: MNR Date Prep: 12.22.15 10.00 Basis: Wet Weight
Seq Number: 984122

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	225	10.0	mg/kg	12.22.15 19.18		5



Certificate of Analytical Results 521537



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 2-007** Matrix: Soil Date Received: 12.17.15 16.35
Lab Sample Id: 521537-007 Date Collected: 12.17.15 08.45 Sample Depth: 0-1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MNR % Moisture:
Analyst: MNR Date Prep: 12.22.15 10.00 Basis: Wet Weight
Seq Number: 984122

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5.76	2.00	mg/kg	12.22.15 20.13		1



Certificate of Analytical Results 521537



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 2-008** Matrix: Soil Date Received: 12.17.15 16.35
Lab Sample Id: 521537-008 Date Collected: 12.17.15 08.50 Sample Depth: 0-1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MNR % Moisture:
Analyst: MNR Date Prep: 12.22.15 10.00 Basis: Wet Weight
Seq Number: 984122

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	31.1	2.00	mg/kg	12.22.15 20.31		1



Certificate of Analytical Results 521537



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 2-009** Matrix: Soil Date Received: 12.17.15 16.35
Lab Sample Id: 521537-009 Date Collected: 12.17.15 08.55 Sample Depth: 0-1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MNR % Moisture:
Analyst: MNR Date Prep: 12.22.15 10.00 Basis: Wet Weight
Seq Number: 984122

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	472	20.0	mg/kg	12.22.15 20.49		10



Certificate of Analytical Results 521537



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 2-010** Matrix: Soil Date Received: 12.17.15 16.35
Lab Sample Id: 521537-010 Date Collected: 12.17.15 09.00 Sample Depth: 0-1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MNR % Moisture:
Analyst: MNR Date Prep: 12.22.15 10.00 Basis: Wet Weight
Seq Number: 984122

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5.42	2.00	mg/kg	12.22.15 21.07		1



Certificate of Analytical Results 521537



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 2-011** Matrix: Soil Date Received: 12.17.15 16.35
Lab Sample Id: 521537-011 Date Collected: 12.17.15 09.05 Sample Depth: 0-1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MNR % Moisture:
Analyst: MNR Date Prep: 12.22.15 10.00 Basis: Wet Weight
Seq Number: 984122

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4040	200	mg/kg	12.22.15 21.26		100



Certificate of Analytical Results 521537



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 2-012**

Matrix: Soil

Date Received: 12.17.15 16.35

Lab Sample Id: 521537-012

Date Collected: 12.17.15 09.10

Sample Depth: 0-1 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MNR

% Moisture:

Analyst: MNR

Date Prep: 12.22.15 12.00

Basis: Wet Weight

Seq Number: 984217

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<2.00	2.00	mg/kg	12.24.15 18.10	U	1



Certificate of Analytical Results 521537



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 2-013** Matrix: Soil Date Received: 12.17.15 16.35
Lab Sample Id: 521537-013 Date Collected: 12.17.15 09.15 Sample Depth: 0-1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MNR % Moisture:
Analyst: MNR Date Prep: 12.22.15 12.00 Basis: Wet Weight
Seq Number: 984217

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1500	100	mg/kg	12.24.15 19.05		50



Certificate of Analytical Results 521537



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 2-014** Matrix: Soil Date Received: 12.17.15 16.35
Lab Sample Id: 521537-014 Date Collected: 12.17.15 09.20 Sample Depth: 0-1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MNR % Moisture:
Analyst: MNR Date Prep: 12.22.15 12.00 Basis: Wet Weight
Seq Number: 984217

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.6	10.0	mg/kg	12.24.15 19.23		5



Certificate of Analytical Results 521537



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 2-015** Matrix: Soil Date Received: 12.17.15 16.35
Lab Sample Id: 521537-015 Date Collected: 12.17.15 09.25 Sample Depth: 0-1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MNR % Moisture:
Analyst: MNR Date Prep: 12.22.15 12.00 Basis: Wet Weight
Seq Number: 984217

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<2.00	2.00	mg/kg	12.24.15 19.41	U	1



Certificate of Analytical Results 521537



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 2-016** Matrix: Soil Date Received: 12.17.15 16.35
Lab Sample Id: 521537-016 Date Collected: 12.17.15 09.30 Sample Depth: 0-1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MNR % Moisture:
Analyst: MNR Date Prep: 12.22.15 12.00 Basis: Wet Weight
Seq Number: 984217

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<2.00	2.00	mg/kg	12.24.15 20.00	U	1



Certificate of Analytical Results 521537



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **WC-2**
Lab Sample Id: 521537-017

Matrix: Soil
Date Collected: 12.17.15 09.45

Date Received: 12.17.15 16.35
Sample Depth: 0-1 ft

Analytical Method: TPH By SW8015B Mod

Tech: PJB

Analyst: PJB

Seq Number: 984742

Date Prep: 12.30.15 09.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	C6C10GRO	<15.0	15.0	mg/kg	12.30.15 17.11	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	12.30.15 17.11	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.30.15 17.11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	115	%	70-135	12.30.15 17.11		
o-Terphenyl	84-15-1	103	%	70-135	12.30.15 17.11		

Analytical Method: BTEX by EPA 8021B

Tech: SYG

Analyst: SYG

Seq Number: 984739

Date Prep: 12.30.15 07.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000994	0.000994	mg/kg	12.30.15 14.46	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.30.15 14.46	U	1
Ethylbenzene	100-41-4	<0.000994	0.000994	mg/kg	12.30.15 14.46	U	1
m_p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	12.30.15 14.46	U	1
o-Xylene	95-47-6	<0.000994	0.000994	mg/kg	12.30.15 14.46	U	1
Total Xylenes	1330-20-7	<0.000994	0.000994	mg/kg	12.30.15 14.46	U	1
Total BTEX		<0.000994	0.000994	mg/kg	12.30.15 14.46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	110	%	80-120	12.30.15 14.46		
1,4-Difluorobenzene	540-36-3	119	%	80-120	12.30.15 14.46		

Cirrus Associates
SELECT-LEA COUNTY

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 984122

Matrix: Solid

Prep Method: E300P

MB Sample Id: 702537-1-BLK

LCS Sample Id: 702537-1-BKS

Date Prep: 12.22.15

LCSD Sample Id: 702537-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<2.00	50.0	48.6	97	48.7	97	90-110	0	20	mg/kg	12.22.15 12:12	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 984217

Matrix: Solid

Prep Method: E300P

MB Sample Id: 702585-1-BLK

LCS Sample Id: 702585-1-BKS

Date Prep: 12.22.15

LCSD Sample Id: 702585-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<2.00	50.0	52.4	105	52.2	104	90-110	0	20	mg/kg	12.24.15 15:03	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 984122

Matrix: Soil

Prep Method: E300P

Parent Sample Id: 521537-002

MS Sample Id: 521537-002 S

Date Prep: 12.22.15

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Chloride	1280	2500	3830	102	80-120	mg/kg	12.22.15 18:06	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 984122

Matrix: Soil

Prep Method: E300P

Parent Sample Id: 521751-001

MS Sample Id: 521751-001 S

Date Prep: 12.22.15

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Chloride	5220	10000	14600	94	80-120	mg/kg	12.22.15 13:58	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 984217

Matrix: Soil

Prep Method: E300P

Parent Sample Id: 521751-002

MS Sample Id: 521751-002 S

Date Prep: 12.22.15

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Chloride	4650	5000	10200	111	80-120	mg/kg	12.24.15 15:57	

**Cirrus Associates
SELECT-LEA COUNTY**

Analytical Method: TPH By SW8015B Mod

Seq Number: 984742

MB Sample Id: 702914-1-BLK

Matrix: Solid

LCS Sample Id: 702914-1-BKS

Prep Method: TX1005P

Date Prep: 12.30.15

LCSD Sample Id: 702914-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.0	1000	709	71	744	74	70-135	5	35	mg/kg	12.30.15 09:57	
C10-C28 Diesel Range Hydrocarbons	<15.0	1000	850	85	845	85	70-135	1	35	mg/kg	12.30.15 09:57	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane	117		112		128		70-135	%	12.30.15 09:57			
o-Terphenyl	103		100		122		70-135	%	12.30.15 09:57			

Analytical Method: BTEX by EPA 8021B

Seq Number: 984739

MB Sample Id: 702912-1-BLK

Matrix: Solid

LCS Sample Id: 702912-1-BKS

Prep Method: SW5030B

Date Prep: 12.30.15

LCSD Sample Id: 702912-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0878	88	0.0918	92	70-130	4	35	mg/kg	12.30.15 08:10	
Toluene	<0.00200	0.100	0.0911	91	0.0944	94	70-130	4	35	mg/kg	12.30.15 08:10	
Ethylbenzene	<0.00100	0.100	0.0961	96	0.0986	99	71-129	3	35	mg/kg	12.30.15 08:10	
m_p-Xylenes	<0.00200	0.200	0.199	100	0.204	102	70-135	2	35	mg/kg	12.30.15 08:10	
o-Xylene	<0.00100	0.100	0.0941	94	0.0963	96	71-133	2	35	mg/kg	12.30.15 08:10	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
1,4-Difluorobenzene	116		114		116		80-120	%	12.30.15 08:10			
4-Bromofluorobenzene	104		107		105		80-120	%	12.30.15 08:10			

Analytical Method: BTEX by EPA 8021B

Seq Number: 984739

Parent Sample Id: 521534-009

Matrix: Soil

MS Sample Id: 521534-009 S

Prep Method: SW5030B

Date Prep: 12.30.15

MSD Sample Id: 521534-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000998	0.0998	0.0945	95	0.0952	96	70-130	1	35	mg/kg	12.30.15 16:24	
Toluene	<0.00200	0.0998	0.0947	95	0.0937	94	70-130	1	35	mg/kg	12.30.15 16:24	
Ethylbenzene	<0.000998	0.0998	0.0972	97	0.0945	95	71-129	3	35	mg/kg	12.30.15 16:24	
m_p-Xylenes	<0.00200	0.200	0.201	101	0.196	98	70-135	3	35	mg/kg	12.30.15 16:24	
o-Xylene	<0.000998	0.0998	0.0954	96	0.0932	94	71-133	2	35	mg/kg	12.30.15 16:24	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
1,4-Difluorobenzene			120		107		80-120	%	12.30.15 16:24			
4-Bromofluorobenzene			103		108		80-120	%	12.30.15 16:24			

- 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 affect the recovery of the spike concentration. This condition could also affect 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 quantitation limit and above the detection limit.
- 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.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - San Antonio - Atlanta - Midland/Odessa - Tampa/Lakeland - Phoenix - Latin America

4147 Greenbriar Dr, Stafford, TX 77477
 9701 Harry Hines Blvd, Dallas, TX 75220
 5332 Blackberry Drive, San Antonio TX 78238
 1211 W Florida Ave, Midland, TX 79701
 2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(432) 563-1800	(432) 563-1713
(602) 437-0330	

CHAIN OF CUSTODY

Page 2 of 2

Setting the Standard since 1990

Stafford, Texas (281-240-4200)

Dallas, Texas (214-902-0300)

Service Center - San Antonio, Texas (210-509-3334)

Odessa, Texas (432-563-1800)

Norcross, Georgia (770-449-8800)

www.xepco.com

Lakeland, Florida (863-846-8526)

Tampa, Florida (813-620-2000)

021527

Client / Reporting Information						Project Information										
Company Name / Branch:						Project Name/Number:										
CIGRUS ASSOCIATES						SELECT - LEA COUNTY										
Company Address: C.O.S. SHERMAN, STE. 102 RICHAARDSON, TX 75081						Project Location: LEA COUNTY, NM										
Email: kmcneely@cigrusassociates.com						Invoice To: STECORD @cigrusassociates.com										
Phone No.																
Project Contact: KEVIN MCNEELY						PO Number:										
Sampler's Name: KENNETH MCKENNEY																
No.	Field ID / Point of Collection	Sample Depth	Date	Time	# of bottles	HCl	NaOH/H ₂ O ₂	NH ₄ Acetate	HNO ₃	H ₂ SO ₄	MCH	MEQH	NONE	Analytical Information	Matrix Codes	Field Comments
1	SITE 2-011	0-1'	12-17-15	0945	5	X								BTEX/TPH (head)	A = Air	
2	SITE 2-012			0910	1										S = Soil/Sed/Solid	
3	SITE 2-013			0915	1										GW = Ground Water	
4	'SITE 2-014			0920	1										DW = Drinking Water	
5	SITE 2-015			0925	1										P = Product	
6	SITE 2-016			0930	1										SW = Surface water	
7	WC-2			0945	2										SL = Sludge	
8															WW= Waste Water	
9															W = Wipe	
10															O = Oil	
														Notes:		
Turnaround Time (Business days) _____														Data Deliverable Information		
☐ Same Day TAT ☐ 5 Day TAT ☐ Level II Std QC ☐ Level IV (Full Data Plg/raw data)																
☐ Next Day EMERGENCY ☐ 7 Day TAT ☐ Level III Std QC+ Forms ☐ TRRP Level IV																
☐ 2 Day EMERGENCY ☐ Contract TAT ☐ Level 3 (CLP Forms) ☐ UST / RG -411																
☐ 3 Day EMERGENCY ☐ TRRP Checklist																
TAT Starts Day received by Lab, if received by 3:00 pm														FED-EX / UPS Tracking #		
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY																
Relinquished By Samplet: [Signature]														Received By: [Signature] Date Time: 12-17-15 1640		
Relinquished by: [Signature]														Relinquished By: [Signature] Date Time: 12-17-15 1640		
[Signature]														Relinquished By: [Signature] Date Time: 12-17-15 1640		
Relinquished by: [Signature]														Cooler Temp.: On Ice Thermo Corr. Factor		

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to XENCO laboratories and its affiliates, subcontractors and assigns XENCO's standard terms and conditions of service unless previously negotiated under a fully executed client contract:



monica tobar <monica.tobar@xenco.com>

Report for WO 521538, project name: SELECT-LEA COUNTY

Kevin McNeely <KMcNeely@cirrusassociates.com>

Wed, Dec 30, 2015 at 11:24 AM

To: monica tobar <monica.tobar@xenco.com>

They will be on each order, 521534, 521537 & 521538.

Sample IDs are WC-1, WC-2 & WC-3

Thanks

Sent from my Verizon Wireless 4G LTE smartphone

----- Original message -----

From: monica tobar <monica.tobar@xenco.com>

Date: 12/30/2015 11:14 (GMT-06:00)

To: Kevin McNeely <KMcNeely@cirrusassociates.com>

[Quoted text hidden]



Page 1 of 1

11381 Meadowglen, Suite L, Houston, TX 77082 (281) 589-0692
9701 Harry Hines Blvd., Dallas, TX 75220 (214) 902-0300
5332 Bla ckberry Drive, San Antonio, TX 78238 (210) 509-3334
5757 N.W. 158th St., Miami Lakes, FL 33014 (305) 823-8555
3016 US Hwy 301 North, Suite 900, Tampa, FL 33619 (813) 620-2033

This information should be taken from the original COC.

Contractor:	<i>Cirrus Associates</i>	Phone:	☒ Addition
Address:	<i>600 S. Sherman Ste102 Richardson, TX 75081</i>		
Project Name:	<i>Select LEA County</i>	Project Manager:	☐ Correction
Project Location:	<i>LEA County, NM</i>		
Project No.:		Project Director:	☐ Hold
			☐ Cancellation
			☐ No Addition

[illegible]

Comments:

Samples Received in Lab by: X:\Forms\Cirrus_521537 Date/Time: 12/17/15 1640		Carley Owens	Matrix Legend S = Solid P = Product L = Liquid SI = Sludge A = Air O =	Add Received By: MT Add Assigned By: MT Add Processed By: MT	D/T: D/T: D/T:	12/30/2015 0:00 12/30/2015 0:00 12/30/2015 0:00
---	--	---------------------	---	--	----------------------	---



XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In



Client: Cirrus Associates

Date/ Time Received: 12/17/2015 04:35:00 PM

Work Order #: 521537

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.3
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	No
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	N/A
#21 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	N/A
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	N/A

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:

PH Device/Lot#: OC679789

Checklist completed by:

Carley Owens
Carley Owens

Date: 12/18/2015

Checklist reviewed by:

Monica Tobar
Monica Tobar

Date: 12/30/2015

Analytical Report 521538

for
Cirrus Associates

Project Manager: Kevin McNeely

SELECT-LEA COUNTY

04-JAN-16

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-15-19), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

Table of Contents

Cover Page	1
Cover Letter	3
Sample ID Cross Reference	4
Case Narrative	5
Certificate of Analysis (Detailed Report)	6
Summary of Quality control	17
Explanation of Qualifiers (Flags)	19
Chain of Custody	20
Sample Receipt Conformance Report	24



04-JAN-16

Project Manager: **Kevin McNeely**

Cirrus Associates

600 S Sherman St, Ste 102

Richardson, TX 75081

Reference: XENCO Report No(s): **521538**

SELECT-LEA COUNTY

Project Address: LEA COUNTY, NM

Kevin McNeely:

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(s) 521538. 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. The uncertainty of measurement associated with the results of analysis reported is available upon request. 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. 521538 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,

Monica Tobar

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



Sample Cross Reference 521538



Cirrus Associates, Richardson, TX

SELECT-LEA COUNTY

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SITE 3-001	S	12-17-15 10:05	- 0-1 ft	521538-001
SITE 3-002	S	12-17-15 10:10	- 0-1 ft	521538-002
SITE 3-003	S	12-17-15 10:15	- 0-1 ft	521538-003
SITE 3-004	S	12-17-15 10:20	- 0-1 ft	521538-004
SITE 3-005	S	12-17-15 10:25	- 0-1 ft	521538-005
SITE 3-006	S	12-17-15 10:30	- 0-1 ft	521538-006
SITE 3-007	S	12-17-15 10:35	- 0-1 ft	521538-007
SITE 3-008	S	12-17-15 10:40	- 0-1 ft	521538-008
SITE 3-009	S	12-17-15 10:50	- 0-1 ft	521538-009
SITE 3-010	S	12-17-15 10:55	- 0-1 ft	521538-010
WC-3	S	12-17-15 12:00	- 0-1 ft	521538-011



CASE NARRATIVE



Client Name: *Cirrus Associates*

Project Name: *SELECT-LEA COUNTY*

Project ID:

Work Order Number(s): 521538

Report Date: 04-JAN-16

Date Received: 12/17/2015

Sample receipt non conformances and comments:

12/30 Btex & TPH added to sample WC-3.

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 521538



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 3-001** Matrix: Soil Date Received: 12.17.15 16.40
Lab Sample Id: 521538-001 Date Collected: 12.17.15 10.05 Sample Depth: 0-1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MNR % Moisture:
Analyst: MNR Date Prep: 12.23.15 08.00 Basis: Wet Weight
Seq Number: 984228

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5820	400	mg/kg	12.23.15 11.04		200



Certificate of Analytical Results 521538



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 3-002** Matrix: Soil Date Received: 12.17.15 16.40
Lab Sample Id: 521538-002 Date Collected: 12.17.15 10.10 Sample Depth: 0-1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MNR % Moisture:
Analyst: MNR Date Prep: 12.23.15 08.00 Basis: Wet Weight
Seq Number: 984228

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4360	200	mg/kg	12.23.15 11.40		100



Certificate of Analytical Results 521538



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 3-003**

Matrix: Soil

Date Received: 12.17.15 16.40

Lab Sample Id: 521538-003

Date Collected: 12.17.15 10.15

Sample Depth: 0-1 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MNR

% Moisture:

Analyst: MNR

Date Prep: 12.23.15 08.00

Basis: Wet Weight

Seq Number: 984228

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10700	400	mg/kg	12.23.15 11.58		200



Certificate of Analytical Results 521538



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 3-004** Matrix: Soil Date Received: 12.17.15 16.40
Lab Sample Id: 521538-004 Date Collected: 12.17.15 10.20 Sample Depth: 0-1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MNR % Moisture:
Analyst: MNR Date Prep: 12.23.15 08.00 Basis: Wet Weight
Seq Number: 984228

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.0	2.00	mg/kg	12.23.15 12.16		1



Certificate of Analytical Results 521538



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 3-005** Matrix: Soil Date Received: 12.17.15 16.40
Lab Sample Id: 521538-005 Date Collected: 12.17.15 10.25 Sample Depth: 0-1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MNR % Moisture:
Analyst: MNR Date Prep: 12.23.15 08.00 Basis: Wet Weight
Seq Number: 984228

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	26.6	2.00	mg/kg	12.23.15 12.35		1



Certificate of Analytical Results 521538



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 3-006** Matrix: Soil Date Received: 12.17.15 16.40
Lab Sample Id: 521538-006 Date Collected: 12.17.15 10.30 Sample Depth: 0-1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MNR % Moisture:
Analyst: MNR Date Prep: 12.23.15 08.00 Basis: Wet Weight
Seq Number: 984228

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.2	2.00	mg/kg	12.23.15 12.53		1



Certificate of Analytical Results 521538



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 3-007** Matrix: Soil Date Received: 12.17.15 16.40
Lab Sample Id: 521538-007 Date Collected: 12.17.15 10.35 Sample Depth: 0-1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MNR % Moisture:
Analyst: MNR Date Prep: 12.23.15 08.00 Basis: Wet Weight
Seq Number: 984228

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	318	10.0	mg/kg	12.23.15 13.47		5



Certificate of Analytical Results 521538



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 3-008** Matrix: Soil Date Received: 12.17.15 16.40
Lab Sample Id: 521538-008 Date Collected: 12.17.15 10.40 Sample Depth: 0-1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MNR % Moisture:
Analyst: MNR Date Prep: 12.23.15 08.00 Basis: Wet Weight
Seq Number: 984228

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1250	40.0	mg/kg	12.23.15 14.05		20



Certificate of Analytical Results 521538



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 3-009** Matrix: Soil Date Received: 12.17.15 16.40
Lab Sample Id: 521538-009 Date Collected: 12.17.15 10.50 Sample Depth: 0-1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MNR % Moisture:
Analyst: MNR Date Prep: 12.23.15 08.00 Basis: Wet Weight
Seq Number: 984228

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	20.7	2.00	mg/kg	12.23.15 14.24		1



Certificate of Analytical Results 521538



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **SITE 3-010**

Matrix: Soil

Date Received: 12.17.15 16.40

Lab Sample Id: 521538-010

Date Collected: 12.17.15 10.55

Sample Depth: 0-1 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MNR

% Moisture:

Analyst: MNR

Date Prep: 12.23.15 08.00

Basis: Wet Weight

Seq Number: 984228

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3.26	2.00	mg/kg	12.23.15 14.42		1



Certificate of Analytical Results 521538



Cirrus Associates, Richardson, TX SELECT-LEA COUNTY

Sample Id: **WC-3**
Lab Sample Id: 521538-011

Matrix: Soil
Date Collected: 12.17.15 12.00

Date Received: 12.17.15 16.40
Sample Depth: 0-1 ft

Analytical Method: TPH By SW8015B Mod

Tech: PJB

Analyst: PJB

Seq Number: 984742

Date Prep: 12.30.15 09.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	C6C10GRO	<15.0	15.0	mg/kg	12.30.15 16.02	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	12.30.15 16.02	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	12.30.15 16.02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	113	%	70-135	12.30.15 16.02		
o-Terphenyl	84-15-1	98	%	70-135	12.30.15 16.02		

Analytical Method: BTEX by EPA 8021B

Tech: SYG

Analyst: SYG

Seq Number: 984739

Date Prep: 12.30.15 07.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000994	0.000994	mg/kg	12.30.15 14.30	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.30.15 14.30	U	1
Ethylbenzene	100-41-4	<0.000994	0.000994	mg/kg	12.30.15 14.30	U	1
m_p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	12.30.15 14.30	U	1
o-Xylene	95-47-6	<0.000994	0.000994	mg/kg	12.30.15 14.30	U	1
Total Xylenes	1330-20-7	<0.000994	0.000994	mg/kg	12.30.15 14.30	U	1
Total BTEX		<0.000994	0.000994	mg/kg	12.30.15 14.30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	119	%	80-120	12.30.15 14.30		
4-Bromofluorobenzene	460-00-4	113	%	80-120	12.30.15 14.30		

Cirrus Associates
SELECT-LEA COUNTY**Analytical Method: Inorganic Anions by EPA 300/300.1**

Seq Number: 984228

Matrix: Solid

Prep Method: E300P

MB Sample Id: 702593-1-BLK

LCS Sample Id: 702593-1-BKS

Date Prep: 12.23.15

LCSD Sample Id: 702593-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<2.00	50.0	48.8	98	48.9	98	90-110	0	20	mg/kg	12.23.15 10:27	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 984228

Matrix: Soil

Prep Method: E300P

Parent Sample Id: 521538-001

MS Sample Id: 521538-001 S

Date Prep: 12.23.15

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Chloride	5820	10000	15200	94	80-120	mg/kg	12.23.15 11:22	

Analytical Method: TPH By SW8015B Mod

Seq Number: 984742

Matrix: Solid

Prep Method: TX1005P

MB Sample Id: 702914-1-BLK

LCS Sample Id: 702914-1-BKS

Date Prep: 12.30.15

LCSD Sample Id: 702914-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.0	1000	709	71	744	74	70-135	5	35	mg/kg	12.30.15 09:57	
C10-C28 Diesel Range Hydrocarbons	<15.0	1000	850	85	845	85	70-135	1	35	mg/kg	12.30.15 09:57	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	117		112		128		70-135	%	12.30.15 09:57
o-Terphenyl	103		100		122		70-135	%	12.30.15 09:57

Analytical Method: BTEX by EPA 8021B

Seq Number: 984739

Matrix: Solid

Prep Method: SW5030B

MB Sample Id: 702912-1-BLK

LCS Sample Id: 702912-1-BKS

Date Prep: 12.30.15

LCSD Sample Id: 702912-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0878	88	0.0918	92	70-130	4	35	mg/kg	12.30.15 08:10	
Toluene	<0.00200	0.100	0.0911	91	0.0944	94	70-130	4	35	mg/kg	12.30.15 08:10	
Ethylbenzene	<0.00100	0.100	0.0961	96	0.0986	99	71-129	3	35	mg/kg	12.30.15 08:10	
m_p-Xylenes	<0.00200	0.200	0.199	100	0.204	102	70-135	2	35	mg/kg	12.30.15 08:10	
o-Xylene	<0.00100	0.100	0.0941	94	0.0963	96	71-133	2	35	mg/kg	12.30.15 08:10	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	116		114		116		80-120	%	12.30.15 08:10
4-Bromofluorobenzene	104		107		105		80-120	%	12.30.15 08:10

Cirrus Associates
SELECT-LEA COUNTY

Analytical Method: BTEX by EPA 8021B

Seq Number: 984739

Parent Sample Id: 521534-009

Matrix: Soil

MS Sample Id: 521534-009 S

Prep Method: SW5030B

Date Prep: 12.30.15

MSD Sample Id: 521534-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000998	0.0998	0.0945	95	0.0952	96	70-130	1	35	mg/kg	12.30.15 16:24	
Toluene	<0.00200	0.0998	0.0947	95	0.0937	94	70-130	1	35	mg/kg	12.30.15 16:24	
Ethylbenzene	<0.000998	0.0998	0.0972	97	0.0945	95	71-129	3	35	mg/kg	12.30.15 16:24	
m_p-Xylenes	<0.00200	0.200	0.201	101	0.196	98	70-135	3	35	mg/kg	12.30.15 16:24	
o-Xylene	<0.000998	0.0998	0.0954	96	0.0932	94	71-133	2	35	mg/kg	12.30.15 16:24	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	120		107		80-120	%	12.30.15 16:24
4-Bromofluorobenzene	103		108		80-120	%	12.30.15 16:24

- 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 affect the recovery of the spike concentration. This condition could also affect 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 quantitation limit and above the detection limit.
- 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.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - San Antonio - Atlanta - Midland/Odessa - Tampa/Lakeland - Phoenix - Latin America

4147 Greenbriar Dr, Stafford, TX 77477
 9701 Harry Hines Blvd , Dallas, TX 75220
 5332 Blackberry Drive, San Antonio TX 78238
 1211 W Florida Ave, Midland, TX 79701
 2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(432) 563-1800	(432) 563-1713
(602) 437-0330	



Setting the Standard since 1990
Stafford, Texas (281-240-4200)
Dallas, Texas (214-902-0300)

CHAIN OF CUSTODY

Page 1 of 2

Odeesa, Texas (432-563-1800)

Norcross, Georgia (770-449-8800)

Tampa, Florida (813-620-2000)

Service Center - San Antonio, Texas (210-509-3334)

WWW.XENCO.COM

Xenco Job #

Xenco Order #

5A1538

Client / Reporting Information				Project Information				Analytical Information				Matrix Codes			
Company Name / Branch: CIRIUS ASSOCIATES				Project Name/Number: SELECT - LEA COUNTY											
Company Address: 600 S. SHERMAN, STE. 102				Project Location: LEA COUNTY, NM											
Richardson, TX 75081				Invoice To: SECRET@circusassociates.com											
Email: kmeneely@circusassociates.com				Phone No:											
Project Contact: KEVIN MCNEELY				PO Number:											
Samplers Name: KEVIN MCNEELY															
No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	Acetone	HCN	HSO ₄	NaOH	NaHSO ₄	MECH	NONE	Field Comments	
1	SITE 3 - 001	0-1'	12-17-15	1005	S	1							X		
2	SITE 3 - 002			1010											
3	SITE 3 - 003			1015											
4	SITE 3 - 004			1020											
5	SITE 3 - 005			1025											
6	SITE 3 - 006			1030											
7	SITE 3 - 007			1035											
8	SITE 3 - 008			1040											
9	SITE 3 - 009			1050											
10	SITE 3 - 010			1055											

Turnaround Time (Business days):

5 Day TAT ☒ 7 Day TAT ☐ Contract TAT ☐

Level II Std QC ☐ Level IV (Full Date Pkg / raw data) ☐

Level III Std QC+ Forms ☐ TRRP Level IV ☐

Level 3 (CLP Forms) ☐ UST / RG -411 ☐

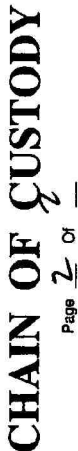
TRRP Checklist ☐

TAT Starts Day received by Lab, if received by 3:00 pm

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

Relinquished by: Kevin McNeely	Date Time: 12-17-15	Received By: Kevin McNeely	Date Time: 12-17-15
Relinquished by:	Date Time:	Received By:	Date Time:
Relinquished by:	Date Time:	Received By:	Date Time:

On Ice ☒ Cooler Temp. **3.3°C** Thermo. Corr. Factor **0.0°C**



Page 2 of 2

591538

Page 4 of 5



monica tobar <monica.tobar@xenco.com>

Report for WO 521538, project name: SELECT-LEA COUNTY

Kevin McNeely <KMcNeely@cirrusassociates.com>

Wed, Dec 30, 2015 at 11:24 AM

To: monica tobar <monica.tobar@xenco.com>

They will be on each order, 521534, 521537 & 521538.

Sample IDs are WC-1, WC-2 & WC-3

Thanks

Sent from my Verizon Wireless 4G LTE smartphone

----- Original message -----

From: monica tobar <monica.tobar@xenco.com>

Date: 12/30/2015 11:14 (GMT-06:00)

To: Kevin McNeely <KMcNeely@cirrusassociates.com>

[Quoted text hidden]



This form is a supplement to

11381 Meadowglen, Suite L, Houston, TX 77082 (281) 589-0692

9701 Harry Hines Blvd., Dallas, TX 75220 (214) 902-0300

5332 Bla ckberry Drive, San Antonio, TX 78238 (210) 509-3334

5757 N.W. 158th St., Miami Lakes, FL 33014 (305) 823-8555

3016 US Hwy 301 North, Suite 900, Tampa, FL 33619 (813) 620-

COC No: 521538

Page 1 of 1

This information should be taken from the original COC.

Contractor:	<i>Cirrus Associates</i>	Phone:	☒ Addition
Address:	<i>600 S. Sherman Ste102 Richardson, TX 75081</i>		
Project Name:	<i>Select LEA County</i>	Project Manager:	<i>Kevin McNeely</i>
Project Location:			
Project No.:	Project Director:		☐ No Addition

[illegible]

Comments:

Matrix Legend		
S = Solid	P = Product	
L = Liquid	SI = Sludge	
A = Air	O =	
Samples Received in Lab by:		
X:\Forms\Cirrus_521538		
Date/Time:	12/17/15 1640	
Carley Owens		
	Add Received By:	MT 12/30/2015 0:00
	Add Assigned By:	MT 12/30/2015 0:00
	Add Processed By:	MT 12/30/2015 0:00

Office Forms \ Request For Additions Corrections Form 062001



XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In



Client: Cirrus Associates

Date/ Time Received: 12/17/2015 04:40:00 PM

Work Order #: 521538

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.3
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	No
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	N/A
#21 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	N/A
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	N/A

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:

PH Device/Lot#: OC679789

Checklist completed by:

Carley Owens

Carley Owens

Date: 12/18/2015

Checklist reviewed by:

Monica Tobar

Monica Tobar

Date: 12/30/2015