

Appendix E

Analytical Report 522983

**for
Tetra Tech- Midland**

Project Manager: Ike Tavaréz

SM Energy - EDSU #2

2121C-MD-00146

22-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)



22-JAN-16

Project Manager: **Ike Tavaréz**
Tetra Tech- Midland
4000 N. Big Spring Suite 401
Midland, TX 79705

Reference: XENCO Report No(s): **522983**
SM Energy - EDSU #2
Project Address: Eddy County, NM

Ike Tavaréz:

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) 522983. 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. 522983 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,

Kelsey Brooks

Project Manager

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



Sample Cross Reference 522983



Tetra Tech- Midland, Midland, TX

SM Energy - EDSU #2

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
AH2 0-1	S	01-14-16 00:00	0 - 1 ft	522983-001
AH3 0-1	S	01-14-16 00:00	0 - 1 ft	522983-002
AH3 1-1.5	S	01-14-16 00:00	1 - 1.5 ft	522983-003
AH3 2-2.5	S	01-14-16 00:00	2 - 2.5 ft	522983-004
AH3 3-3.5	S	01-14-16 00:00	3 - 3.5 ft	522983-005
AH4 0-1	S	01-14-16 00:00	0 - 1 ft	522983-006
AH4 1-1.5	S	01-14-16 00:00	1 - 1.5 ft	522983-007
AH5 0-1	S	01-14-16 00:00	0 - 1 ft	522983-008



CASE NARRATIVE



Client Name: Tetra Tech- Midland

Project Name: SM Energy - EDSU #2

Project ID: 2121C-MD-00146
Work Order Number(s): 522983

Report Date: 22-JAN-16
Date Received: 01/15/2016

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Project Id: 2121C-MD-00146
Contact: Ike Tavaréz
Project Location: Eddy County, NM

Certificate of Analysis Summary 522983

Tetra Tech- Midland, Midland, TX

Project Name: SM Energy - EDSU #2



Date Received in Lab: Fri Jan-15-16 01:00 pm

Report Date: 22-JAN-16

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	522983-001	522983-002	522983-003	522983-004	522983-005	522983-006
	Field Id:	AH12 0-1	AH13 0-1	AH3 1-1.5	AH3 2-2.5	AH3 3-3.5	AH4 0-1
	Depth:	0-1 ft	0-1 ft	1-1.5 ft	2-2.5 ft	3-3.5 ft	0-1 ft
	Matrix:	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
	Sampled:	Jan-14-16 00:00	Jan-14-16 00:00	Jan-14-16 00:00	Jan-14-16 00:00	Jan-14-16 00:00	Jan-14-16 00:00
Inorganic Anions by EPA 300/300.1	Extracted:	Jan-19-16 11:00	Jan-19-16 11:00	Jan-19-16 11:00	Jan-19-16 11:00	Jan-19-16 11:00	Jan-19-16 11:00
	Analyzed:	Jan-19-16 20:57	Jan-19-16 21:34	Jan-19-16 21:52	Jan-19-16 22:10	Jan-19-16 22:28	Jan-19-16 23:23
	Units/RL:	mg/kg RL 645 20.0	mg/kg RL 1550 100	mg/kg RL 472 20.0	mg/kg RL 465 20.0	mg/kg RL 916 40.0	mg/kg RL 3330 200
Chloride							

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
Project Manager



Project Id: 2121C-MD-00146
Contact: Ike Tavaréz
Project Location: Eddy County, NM

Certificate of Analysis Summary 522983

Tetra Tech- Midland, Midland, TX
Project Name: SM Energy - EDSU #2



Date Received in Lab: Fri Jan-15-16 01:00 pm
Report Date: 22-JAN-16
Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	522983-007	522983-008			
	Field Id:	AI14 I-1.5	AI15 0-1			
	Depth:	1-1.5 ft	0-1 ft			
	Matrix:	SOLID	SOLID			
	Sampled:	Jan-14-16 00:00	Jan-14-16 00:00			
Inorganic Anions by EPA 300/300.1	Extracted:	Jan-19-16 11:00	Jan-19-16 11:00			
	Analyzed:	Jan-19-16 23:41	Jan-19-16 23:59			
	Units/RL:	mg/kg RL 1220 40.0	mg/kg RL 1510 100			
Chloride						

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Kelsey Brooks
Project Manager

- 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 **SQL** 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

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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	



BS / BSD Recoveries



Project Name: SM Energy - EDSU #2

Work Order #: 522983, 522983

Analyst: MNR

Lab Batch ID: 986001

Units: mg/kg

Date Prepared: 01/19/2016

Batch #: 1

Sample: 703611-1-BKS

Project ID: 2121C-MD-00146

Date Analyzed: 01/19/2016

Matrix: Solid

BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	<2.00	50.0	51.4	103	50.0	51.3	103	0	90-110	20	

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



Form 3 - MS Recoveries
Project Name: SM Energy - EDSU #2



Work Order #: 522983

Lab Batch #: 986001

Date Analyzed: 01/19/2016

QC- Sample ID: 522959-001 S

Reporting Units: mg/kg

Date Prepared: 01/19/2016

Batch #: 1

Project ID: 2121C-MD-00146

Analyst: MNR

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	1260	5000	6290	101	80-120	

Lab Batch #: 986001

Date Analyzed: 01/19/2016

QC- Sample ID: 522983-001 S

Reporting Units: mg/kg

Date Prepared: 01/19/2016

Batch #: 1

Analyst: MNR

Matrix: Solid

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	645	500	1140	99	80-120	

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

BRL - Below Reporting Limit

Analysis Request of Chain of Custody Record



TETRA TECH

1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946

502083

CLIENT NAME: SM Energy		SITE MANAGER: Ike Tavaraz	
PROJECT NO.: 212C-MD-00146		PROJECT NAME: EDSU #2 6004$\frac{1}{2}$ NM	
LAB I.D. NUMBER	DATE	TIME	SAMPLE IDENTIFICATION
	1/14/16		AH2 0-1
			AH3 0-1
			1-1.5
			2-2.5
			3-3.5
			AH4 0-1
			1-1.5
			AH5 0-1

NUMBER OF CONTAINERS	PRESERVATIVE METHOD			
	HCL	HNO3	ICE	NONE
1			✓	
2				
3				
4				
5				
6				
7				
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PAGE: 1 OF: 1	
ANALYSIS REQUEST (Circle or Specify Method No.)	
BTEX 8021B TPH 8015 MOD. TX1005 (Ext. to C35) PAH 8270 RCRA Metals Ag As Ba Cd Cr Pb Hg Se TCLP Metals Ag As Ba Cd Cr Pb Hg Se TCLP Volatiles TCLP Semi Volatiles RCI GC/MS Vol. 8240/8260/824 GC/MS Seml. Vol. 8270/625 PCB's 8080/808 Pest. 808/808 Gamma Spec. Alpha Beta (Am) PLM (Asbestos) Major Anions/Cations, pH, TDS	Date: 1-14-16 Time: SAMPLED BY: (Print & Initial) Date: 1-14-16 Time: SAMPLE SHIPPED BY: (Circle) FEDX BUS UPS (HAND DELIVERED) TETRA TECH CONTACT PERSON: Ike Tavaraz Results by: RUSH Charges Authorized: Yes No

Please fill out all copies - Laboratory retains Yellow copy - Return Original copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.



XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In



Client: Tetra Tech- Midland

Date/ Time Received: 01/15/2016 01:00:00 PM

Work Order #: 522983

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)?	5
#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#:

Checklist completed by:

Carley Owens
Carley Owens

Date: 01/15/2016

Checklist reviewed by:

Kelsey Brooks
Kelsey Brooks

Date: 01/15/2016

Summary Report

Ike Tavaréz
Tetra Tech
1901 N. Big Spring St.
Midland, TX 79705

Report Date: February 27, 2015

Work Order: 15021802



Project Location: Eddy Co, NM
Project Name: SM Energy -EDSU #2
Project Number: 212C-MD-00146

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
387120	AH-1 0-1	soil	2015-02-16	00:00	2015-02-17
387121	AH-1 1-1.5	soil	2015-02-16	00:00	2015-02-17
387122	AH-1 2-2.5	soil	2015-02-16	00:00	2015-02-17
387123	AH-1 3-3.5	soil	2015-02-16	00:00	2015-02-17
387124	AH-2 0-1	soil	2015-02-16	00:00	2015-02-17
387125	AH-2 1-1.5	soil	2015-02-16	00:00	2015-02-17
387126	AH-2 2-2.5	soil	2015-02-16	00:00	2015-02-17
387127	AH-2 3-3.5	soil	2015-02-16	00:00	2015-02-17
387128	AH-3 0-1	soil	2015-02-16	00:00	2015-02-17
387129	AH-3 1-1.5	soil	2015-02-16	00:00	2015-02-17
387130	AH-3 2-2.5	soil	2015-02-16	00:00	2015-02-17
387131	AH-3 3-3.5	soil	2015-02-16	00:00	2015-02-17
387132	AH-3 4 4-5	soil	2015-02-16	00:00	2015-02-17
387133	AH-3 5-5.5	soil	2015-02-16	00:00	2015-02-17
387134	AH-3 6-6.5	soil	2015-02-16	00:00	2015-02-17
387135	AH-3 7-7.5	soil	2015-02-16	00:00	2015-02-17
387136	AH-3 8-8.5	soil	2015-02-16	00:00	2015-02-17
387137	AH-3 9-9.5	soil	2015-02-16	00:00	2015-02-17
387138	AH-4 0-1	soil	2015-02-16	00:00	2015-02-17
387139	AH-4 1-1.5	soil	2015-02-16	00:00	2015-02-17
387140	AH-4 2-2.5	soil	2015-02-16	00:00	2015-02-17
387141	AH-4 3-3.5	soil	2015-02-16	00:00	2015-02-17
387142	AH-5 0-1	soil	2015-02-16	00:00	2015-02-17
387143	AH-5 1-1.5	soil	2015-02-16	00:00	2015-02-17
387144	AH-5 2-2.5	soil	2015-02-16	00:00	2015-02-17
387145	AH-5 3-3.5	soil	2015-02-16	00:00	2015-02-17
387146	AH-5 4-4.5	soil	2015-02-16	00:00	2015-02-17
387147	AH-5 5-5.5	soil	2015-02-16	00:00	2015-02-17
387148	AH-5 6-6.5	soil	2015-02-16	00:00	2015-02-17
387149	AH-6 0-1	soil	2015-02-16	00:00	2015-02-17

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
387150	AH-6 1-1.5	soil	2015-02-16	00:00	2015-02-17
387151	AH-6 2-2.5	soil	2015-02-16	00:00	2015-02-17
387152	AH-6 3-3.5	soil	2015-02-16	00:00	2015-02-17
387153	AH-7 0-1	soil	2015-02-16	00:00	2015-02-17
387154	AH-7 1-1.5	soil	2015-02-16	00:00	2015-02-17
387155	AH-7 2-2.5	soil	2015-02-16	00:00	2015-02-17
387156	AH-7 3-3.5	soil	2015-02-16	00:00	2015-02-17
387157	AH-7 4-4.5	soil	2015-02-16	00:00	2015-02-17

Sample - Field Code	BTEX				TPH DRO - NEW	TPH GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
387120 - AH-1 0-1	<0.0200	<0.0200	<0.0200	<0.0200	75.3 Qr	<4.00
387124 - AH-2 0-1	<0.0400	0.0425	0.0829	0.469	359 Qr	25.0
387128 - AH-3 0-1	2.61	30.3	17.7	71.7	7980 Qr	2990
387129 - AH-3 1-1.5	<0.0200	<0.0200	<0.0200	<0.0200	<50.0 Qr	<4.00
387138 - AH-4 0-1	<0.0200	<0.0200	<0.0200	<0.0200	<50.0 Qr	<4.00
387142 - AH-5 0-1	<0.0400 ¹	<0.0400	<0.0400	0.145	326 Qr	<8.00 ²
387149 - AH-6 0-1	<0.0200	<0.0200	<0.0200	<0.0200	532 Qr	<4.00
387153 - AH-7 0-1	<0.0200	<0.0200	<0.0200	<0.0200	<50.0 Qr	<4.00

Sample: 387120 - AH-1 0-1

Param	Flag	Result	Units	RL
Chloride		636	mg/Kg	5

Sample: 387121 - AH-1 1-1.5

Param	Flag	Result	Units	RL
Chloride		244	mg/Kg	5

Sample: 387122 - AH-1 2-2.5

Param	Flag	Result	Units	RL
Chloride		29.0	mg/Kg	5

Sample: 387123 - AH-1 3-3.5

Param	Flag	Result	Units	RL
Chloride		147	mg/Kg	5

¹ Dilution due to surfactants.² Dilution due to surfactants.

Sample: 387124 - AH-2 0-1

Param	Flag	Result	Units	RL
Chloride		1660	mg/Kg	5

Sample: 387125 - AH-2 1-1.5

Param	Flag	Result	Units	RL
Chloride		68.0	mg/Kg	5

Sample: 387126 - AH-2 2-2.5

Param	Flag	Result	Units	RL
Chloride		244	mg/Kg	5

Sample: 387127 - AH-2 3-3.5

Param	Flag	Result	Units	RL
Chloride		293	mg/Kg	5

Sample: 387128 - AH-3 0-1

Param	Flag	Result	Units	RL
Chloride		2250	mg/Kg	5

Sample: 387129 - AH-3 1-1.5

Param	Flag	Result	Units	RL
Chloride		3320	mg/Kg	5

Sample: 387130 - AH-3 2-2.5

Param	Flag	Result	Units	RL
Chloride		10400	mg/Kg	5

Sample: 387131 - AH-3 3-3.5

Param	Flag	Result	Units	RL
Chloride		12800	mg/Kg	5

Sample: 387132 - AH-3 4 4-5

Param	Flag	Result	Units	RL
Chloride		6000	mg/Kg	5

Sample: 387133 - AH-3 5-5.5

Param	Flag	Result	Units	RL
Chloride		20400	mg/Kg	5

Sample: 387134 - AH-3 6-6.5

Param	Flag	Result	Units	RL
Chloride		8840	mg/Kg	5

Sample: 387135 - AH-3 7-7.5

Param	Flag	Result	Units	RL
Chloride		1230	mg/Kg	5

Sample: 387136 - AH-3 8-8.5

Param	Flag	Result	Units	RL
Chloride		295	mg/Kg	5

Sample: 387137 - AH-3 9-9.5

Param	Flag	Result	Units	RL
Chloride		147	mg/Kg	5

Sample: 387138 - AH-4 0-1

Param	Flag	Result	Units	RL
Chloride		2560	mg/Kg	5

Sample: 387139 - AH-4 1-1.5

Param	Flag	Result	Units	RL
Chloride		2900	mg/Kg	5

Sample: 387140 - AH-4 2-2.5

Param	Flag	Result	Units	RL
Chloride		69.0	mg/Kg	5

Sample: 387141 - AH-4 3-3.5

Param	Flag	Result	Units	RL
Chloride		147	mg/Kg	5

Sample: 387142 - AH-5 0-1

Param	Flag	Result	Units	RL
Chloride		2700	mg/Kg	5

Sample: 387143 - AH-5 1-1.5

Param	Flag	Result	Units	RL
Chloride		490	mg/Kg	5

Sample: 387144 - AH-5 2-2.5

Param	Flag	Result	Units	RL
Chloride		588	mg/Kg	5

Sample: 387145 - AH-5 3-3.5

Param	Flag	Result	Units	RL
Chloride		588	mg/Kg	5

Sample: 387146 - AH-5 4-4.5

Param	Flag	Result	Units	RL
Chloride		245	mg/Kg	5

Sample: 387147 - AH-5 5-5.5

Param	Flag	Result	Units	RL
Chloride		1760	mg/Kg	5

Sample: 387148 - AH-5 6-6.5

Param	Flag	Result	Units	RL
Chloride		2940	mg/Kg	5

Sample: 387149 - AH-6 0-1

Param	Flag	Result	Units	RL
Chloride		245	mg/Kg	5

Sample: 387150 - AH-6 1-1.5

Param	Flag	Result	Units	RL
Chloride		29.0	mg/Kg	5

Sample: 387151 - AH-6 2-2.5

Param	Flag	Result	Units	RL
Chloride		20.0	mg/Kg	5

Sample: 387152 - AH-6 3-3.5

Param	Flag	Result	Units	RL
Chloride		20.0	mg/Kg	5

Sample: 387153 - AH-7 0-1

Param	Flag	Result	Units	RL
Chloride		39.0	mg/Kg	5

Sample: 387154 - AH-7 1-1.5

Param	Flag	Result	Units	RL
Chloride		29.0	mg/Kg	5

Sample: 387155 - AH-7 2-2.5

Param	Flag	Result	Units	RL
Chloride		29.0	mg/Kg	5

Sample: 387156 - AH-7 3-3.5

Param	Flag	Result	Units	RL
Chloride		440	mg/Kg	5

Sample: 387157 - AH-7 4-4.5

Param	Flag	Result	Units	RL
Chloride		2100	mg/Kg	5

Analytical Report 525240

**for
Tetra Tech- Midland**

Project Manager: Ike Tavaréz

ESDU #2

212C-MD-00146

01-MAR-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-Dallas (EPA Lab code: TX01468): Texas (T104704295)

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

Xenco-San Antonio: Texas (T104704534-15-1)

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

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

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)



01-MAR-16

Project Manager: **Ike Tavaréz**
Tetra Tech- Midland
4000 N. Big Spring Suite 401
Midland, TX 79705

Reference: XENCO Report No(s): **525240**
ESDU #2
Project Address: Eddy CO, NM

Ike Tavaréz:

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) 525240. 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. 525240 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,

Kelsey Brooks
Project Manager

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Sample Cross Reference 525240



Tetra Tech- Midland, Midland, TX

ESDU #2

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH-1 (AH-5) 0-1	S	02-17-16 00:00	0 - 1 ft	525240-001
BH-1 (AH-5) 2-3	S	02-17-16 00:00	2 - 3 ft	525240-002
BH-1 (AH-5) 4-5	S	02-17-16 00:00	4 - 5 ft	525240-003
BH-1 (AH-5) 6-7	S	02-17-16 00:00	6 - 7 ft	525240-004
BH-1 (AH-5) 9-10	S	02-17-16 00:00	9 - 10 ft	525240-005
BH-1 (AH-5) 14-15	S	02-17-16 00:00	14 - 15 ft	525240-006
BH-1 (AH-5) 19-20	S	02-17-16 00:00	19 - 20 ft	525240-007
BH-1 (AH-5) 24-25	S	02-17-16 00:00	24 - 25 ft	525240-008
BH-2 (AH-7) 0-1	S	02-17-16 00:00	0 - 1 ft	525240-009
BH-2 (AH-7) 2-3	S	02-17-16 00:00	2 - 3 ft	525240-010
BH-2 (AH-7) 4-5	S	02-17-16 00:00	4 - 5 ft	525240-011
BH-2 (AH-7) 6-7	S	02-17-16 00:00	6 - 7 ft	525240-012
BH-2 (AH-7) 9-10	S	02-17-16 00:00	9 - 10 ft	525240-013
BH-2 (AH-7) 14-15	S	02-17-16 00:00	14 - 15 ft	525240-014
BH-2 (AH-7) 19-20	S	02-17-16 00:00	19 - 20 ft	525240-015
BH-2 (AH-7) 29-30	S	02-17-16 00:00	29 - 30 ft	525240-016
BH-2 (AH-7) 34-35	S	02-17-16 00:00	34 - 35 ft	525240-017
BH-2 (AH-7) 39-40	S	02-17-16 00:00	39 - 40 ft	525240-018
BH-2 (AH-7) 49-50	S	02-17-16 00:00	49 - 50 ft	525240-019
AH-3 3-3.5	S	02-17-16 00:00	3 - 3.5 ft	525240-020
AH-3 4-4.5	S	02-17-16 00:00	4 - 4.5 ft	525240-021
AH-3 5-5.5	S	02-17-16 00:00	5 - 5.5 ft	525240-022
AH-3 6-6.5	S	02-17-16 00:00	6 - 6.5 ft	525240-023
AH-3 7-7.5	S	02-17-16 00:00	7 - 7.5 ft	525240-024
AH-3 8-8.5	S	02-17-16 00:00	8 - 8.5 ft	525240-025
AH-3 9-9.5	S	02-17-16 00:00	9 - 9.5 ft	525240-026
BH2 (AH-7) 24-25	S	02-17-16 00:00	24 - 25 ft	525240-027



CASE NARRATIVE



Client Name: Tetra Tech- Midland

Project Name: ESDU #2

Project ID: 212C-MD-00146

Work Order Number(s): 525240

Report Date: 01-MAR-16

Date Received: 02/18/2016

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 525240

Tetra Tech- Midland, Midland, TX



Project Id: 212C-MD-00146
Contact: Ike Tavaréz
Project Location: Eddy CO, NM

Project Name: ESDU #2

Date Received in Lab: Thu Feb-18-16 12:00 pm
Report Date: 01-MAR-16
Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:		Field Id:		Depth:		Matrix:		Sampled:		Extracted:		Analyzed:		Units/RL:	
	525240-001		BH-1 (AH-5) 0-1		0-1 ft		SOLID		Feb-17-16 00:00		Feb-23-16 15:31		Feb-23-16 22:21		mg/kg RL	
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	525240-002		BH-1 (AH-5) 2-3		2-3 ft		SOLID		Feb-17-16 00:00		Feb-23-16 15:31		Feb-23-16 22:41		mg/kg RL	
	525240-003		BH-1 (AH-5) 4-5		4-5 ft		SOLID		Feb-17-16 00:00		Feb-23-16 15:31		Feb-23-16 23:42		mg/kg RL	
Chloride	525240-004		BH-1 (AH-5) 6-7		6-7 ft		SOLID		Feb-17-16 00:00		Feb-23-16 15:31		Feb-24-16 00:02		mg/kg RL	
	525240-005		BH-1 (AH-5) 9-10		9-10 ft		SOLID		Feb-17-16 00:00		Feb-23-16 15:31		Feb-24-16 00:22		mg/kg RL	
	525240-006		BH-1 (AH-5) 14-15		14-15 ft		SOLID		Feb-17-16 00:00		Feb-23-16 15:31		Feb-24-16 00:42		mg/kg RL	

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Kelsey Brooks

Kelsey Brooks
Project Manager



Project Id: 212C-MD-00146
Contact: Ike Tavaréz
Project Location: Eddy CO, NM

Certificate of Analysis Summary 525240

Tetra Tech- Midland, Midland, TX

Project Name: ESDU #2



Date Received in Lab: Thu Feb-18-16 12:00 pm
Report Date: 01-MAR-16
Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	525240-007	525240-008	525240-009	525240-010	525240-011	525240-012
	Field Id:	BH-1 (AH-5) 19-20	BH-1 (AH-5) 24-25	BH-2 (AH-7) 0-1	BH-2 (AH-7) 2-3	BH-2 (AH-7) 4-5	BH-2 (AH-7) 6-7
	Depth:	19-20 ft	24-25 ft	0-1 ft	2-3 ft	4-5 ft	6-7 ft
	Matrix:	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
	Sampled:	Feb-17-16 00:00	Feb-17-16 00:00	Feb-17-16 00:00	Feb-17-16 00:00	Feb-17-16 00:00	Feb-17-16 00:00
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Feb-23-16 15:31	Feb-23-16 15:31	Feb-24-16 17:00	Feb-24-16 17:00	Feb-24-16 17:00	Feb-24-16 17:00
	Analyzed:	Feb-24-16 01:03	Feb-24-16 01:23	Feb-25-16 13:29	Feb-25-16 13:49	Feb-25-16 14:50	Feb-25-16 15:04
	Units/RL:	mg/kg RL 172 20.0	mg/kg RL 192 10.0	mg/kg RL 32.9 10.0	mg/kg RL 20.3 10.0	mg/kg RL 1140 100	mg/kg RL 1300 100
Chloride							

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Kelsey Brooks

Kelsey Brooks
Project Manager



Project Id: 212C-MD-00146
Contact: Ike Tavaréz
Project Location: Eddy CO, NM

Certificate of Analysis Summary 525240

Tetra Tech- Midland, Midland, TX



Project Name: ESDU #2

Date Received in Lab: Thu Feb-18-16 12:00 pm
Report Date: 01-MAR-16
Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:		Field Id:		Depth:		Matrix:		Sampled:		Extracted:		Analyzed:		Units/RL:	
	525240-013		BH-2 (AH-7) 9-10		9-10 ft		SOLID		Feb-17-16 00:00		Feb-24-16 17:00		Feb-25-16 15:18		mg/kg RL	
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	525240-014		BH-2 (AH-7) 14-15		14-15 ft		SOLID		Feb-17-16 00:00		Feb-24-16 17:00		Feb-25-16 15:32		mg/kg RL	
	525240-015		BH-2 (AH-7) 19-20		19-20 ft		SOLID		Feb-17-16 00:00		Feb-24-16 17:00		Feb-25-16 15:46		mg/kg RL	
Chloride	525240-016		BH-2 (AH-7) 29-30		29-30 ft		SOLID		Feb-17-16 00:00		Feb-24-16 17:00		Feb-25-16 16:15		mg/kg RL	
	525240-017		BH-2 (AH-7) 34-35		34-35 ft		SOLID		Feb-17-16 00:00		Feb-24-16 17:00		Feb-25-16 16:29		mg/kg RL	
	525240-018		BH-2 (AH-7) 39-40		39-40 ft		SOLID		Feb-17-16 00:00		Feb-24-16 17:00		Feb-25-16 16:43		mg/kg RL	

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Kelsey Brooks
Project Manager



Project Id: 212C-MD-00146
Contact: Ike Tavarez
Project Location: Eddy CO, NM

Certificate of Analysis Summary 525240

Tetra Tech- Midland, Midland, TX

Project Name: ESDU #2

Date Received in Lab: Thu Feb-18-16 12:00 pm
Report Date: 01-MAR-16
Project Manager: Kelsey Brooks



Analysis Requested	Lab Id:	525240-019	525240-020	525240-021	525240-022	525240-023	525240-024
	Field Id:	BH-2 (All-7) 49-50	All-3 3-3.5	All-3 4-4.5	All-3 5-5.5	All-3 6-6.5	All-3 7-7.5
	Depth:	49-50 ft	3-3.5 ft	4-4.5 ft	5-5.5 ft	6-6.5 ft	7-7.5 ft
	Matrix:	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
	Sampled:	Feb-17-16 00:00	Feb-17-16 00:00	Feb-17-16 00:00	Feb-17-16 00:00	Feb-17-16 00:00	Feb-17-16 00:00
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Feb-24-16 17:00	Feb-24-16 17:00	Feb-24-16 17:00	Feb-24-16 17:00	Feb-24-16 17:00	Feb-24-16 17:00
	Analyzed:	Feb-25-16 16:57	Feb-25-16 17:45	Feb-25-16 17:59	Feb-25-16 18:13	Feb-25-16 18:27	Feb-25-16 18:42
	Units/RL:	mg/kg RL 48.4 2.00	mg/kg RL 1690 100	mg/kg RL 1670 100	mg/kg RL 995 40.0	mg/kg RL 2790 200	mg/kg RL 1460 100
Chloride							

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Kelsey Brooks
Project Manager



Project Id: 212C-MD-00146
Contact: Ike Tavarez
Project Location: Eddy CO, NM

Certificate of Analysis Summary 525240

Tetra Tech- Midland, Midland, TX

Project Name: ESDU #2

Date Received in Lab: Thu Feb-18-16 12:00 pm
Report Date: 01-MAR-16
Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	525240-025	525240-026	525240-027	
	Field Id:	AH-3 8-8.5	AH-3 9-9.5	BIT2 (AH-7) 24-25	
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Depth:	8-8.5 ft	9-9.5 ft	24-25 ft	
	Matrix:	SOLID	SOLID	SOLID	
	Sampled:	Feb-17-16 00:00	Feb-17-16 00:00	Feb-17-16 00:00	
	Extracted:	Feb-25-16 10:00	Feb-25-16 10:00	Feb-29-16 09:00	
Chloride	Analyzed:	Feb-25-16 20:25	Feb-25-16 21:05	Mar-01-16 12:32	
	Units/RL:	mg/kg RL 485 20.0	mg/kg RL 206 20.0	mg/kg RL 1760 100	

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Kelsey Brooks
Project Manager



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to 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

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(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(432) 563-1800	(432) 563-1713
(602) 437-0330	

Project Name: ESDU #2

Work Order #: 525240

Analyst: MNR

Lab Batch ID: 988762

Units: mg/kg

Sample: 705395-1-BKS

Batch #: 1

Date Prepared: 02/23/2016

Project ID: 212C-MD-00146

Date Analyzed: 02/23/2016

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Inorganic Anions by EPA 300/300.1		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		<2.00	50.0	54.8	110	50.0	53.4	107	3	90-110	20	

Date Prepared: 02/24/2016

Batch #: 1

Date Analyzed: 02/25/2016

Matrix: Solid

BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
mg/kg												
Inorganic Anions by EPA 300/300.1		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		<2.00	50.0	54.7	109	50.0	54.3	109	1	90-110	20	

Date Prepared: 02/25/2016

Batch #: 1

Date Analyzed: 02/25/2016

Matrix: Solid

BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
mg/kg											
Units:											
Inorganic Anions by EPA 300/300.1											
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<2.00	50.0	53.2	106	50.0	51.4	103	3	90-110	20	

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



BS / BSD Recoveries

Project Name: ESDU #2



Work Order #: 525240

Analyst: MNR

Lab Batch ID: 989174

Units: mg/kg

Date Prepared: 02/29/2016

Batch #: 1

Sample: 705644-1-BKS

Project ID: 212C-MD-00146

Date Analyzed: 03/01/2016

Matrix: Solid

BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes Chloride	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	<2.00	50.0	51.0	102	50.0	51.5	103	1	90-110	20	

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



Form 3 - MS Recoveries

Project Name: ESDU #2



Work Order #: 525240

Lab Batch #: 988762

Date Analyzed: 02/23/2016

QC- Sample ID: 525193-001 S

Reporting Units: mg/kg

Date Prepared: 02/23/2016

Batch #: 1

Project ID: 212C-MD-00146

Analyst: MNR

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	2460	2500	5070	104	80-120	

Lab Batch #: 988762

Date Analyzed: 02/23/2016

QC- Sample ID: 525241-001 S

Reporting Units: mg/kg

Date Prepared: 02/23/2016

Batch #: 1

Analyst: MNR

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	28900	25000	54600	103	80-120	

Lab Batch #: 988902

Date Analyzed: 02/25/2016

QC- Sample ID: 525240-015 S

Reporting Units: mg/kg

Date Prepared: 02/24/2016

Batch #: 1

Analyst: MNR

Matrix: Solid

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	3050	2500	5680	105	80-120	

Lab Batch #: 988902

Date Analyzed: 02/25/2016

QC- Sample ID: 525476-007 S

Reporting Units: mg/kg

Date Prepared: 02/24/2016

Batch #: 1

Analyst: MNR

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	4880	10000	14900	100	80-120	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$

Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS Recoveries

Project Name: ESDU #2



Work Order #: 525240

Lab Batch #: 988978

Date Analyzed: 02/25/2016

QC- Sample ID: 525240-025 S

Reporting Units: mg/kg

Date Prepared: 02/25/2016

Batch #: 1

Project ID: 212C-MD-00146

Analyst: MNR

Matrix: Solid

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	485	500	1020	107	80-120	

Lab Batch #: 988978

Date Analyzed: 02/26/2016

QC- Sample ID: 525316-003 S

Reporting Units: mg/kg

Date Prepared: 02/25/2016

Batch #: 1

Analyst: MNR

Matrix: Solid

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	2260	5000	7460	104	80-120	

Lab Batch #: 989174

Date Analyzed: 03/01/2016

QC- Sample ID: 525231-001 S

Reporting Units: mg/kg

Date Prepared: 02/29/2016

Batch #: 1

Analyst: MNR

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	8180	10000	17800	96	80-120	

Lab Batch #: 989174

Date Analyzed: 03/01/2016

QC- Sample ID: 525471-005 S

Reporting Units: mg/kg

Date Prepared: 02/29/2016

Batch #: 1

Analyst: MNR

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	12400	25000	37200	99	80-120	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$

Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit

ANALYSIS REQUEST
(Circle or Specify Method No.)

**1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-4560**

525740

(432) 682-4559 • Fax (432) 882-3946

CLIENT NAME: Sm Energy		SITE MANAGER: Ike Tavaréz		PROJECT NAME: ESOU #2		PRESERVATIVE METHOD	
PROJECT NO.: 212C-MO-001410		DATE 2010		TIME		NUMBER OF CONTAINERS	
LAB I.D. NUMBER	DATE	TIME	MATRIX	COMF.	GRAB	SAMPLE IDENTIFICATION Eddy Co NM	NUMBER OF CONTAINERS
2/17	2/17		S	X	X	BH-1 (AH-5) 0-1	
						2-3	
						4-5	
						6-7	
						9-10	
						14-15	
						19-20	
						24-25	
						BH-2 (AH-7) 0-1	
						2-3	

RELINQUISHED BY: (Signature) [Signature] DATE: 2/15/16

RELINQUISHED BY: (Signature) [Signature] DATE: 1300

RELINQUISHED BY: (Signature) _____ DATE: _____

RELINQUISHED BY: (Signature) _____ DATE: _____

RECEIVING LABORATORY: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

CONTRACT: _____ PHONE: _____

SAMPLE CONTAINMENT WHEN RECEIVED: _____

RECEIVED BY: (Signature) [Signature] DATE: _____

RECEIVED BY: (Signature) _____ DATE: _____

RECEIVED BY: (Signature) _____ DATE: _____

RECEIVED BY: (Signature) _____ DATE: _____

RECEIVED BY: (Signature) _____ DATE: _____

Please fill out all copies - Laboratory retains Yellow copy - Return Original copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.

Analysis Request of Chain of Custody Record

PAGE: 2 OF: 3



TETRA TECH
1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946

525240

CLIENT NAME: <u>SM Energy</u>		SITE MANAGER: <u>Ike Tovar</u>	
PROJECT NO.: <u>212C-MD-00140</u>		PROJECT NAME: <u>ESOU #2</u>	
LAB I.D. NUMBER	DATE	TIME	SAMPLE IDENTIFICATION
2016	2/17		5 X BH-2 (AH-7) 4-5
			0-9
			9-10
			14-15
			19-20
			29-30
			34-35
			39-40
			49-50
			AH-3 3-3.5

RECEIVED BY: (Signature)	Date: <u>2/17/16</u>	Time: <u>1300</u>	RECEIVED BY: (Signature)	Date: <u>2/18/16</u>	Time: <u>1500</u>
RELINQUISHED BY: (Signature)	Date: <u>2/17/16</u>	Time: <u>1300</u>	RELINQUISHED BY: (Signature)	Date: <u>2/18/16</u>	Time: <u>1500</u>
RELINQUISHED BY: (Signature)	Date: <u>2/17/16</u>	Time: <u>1300</u>	RELINQUISHED BY: (Signature)	Date: <u>2/18/16</u>	Time: <u>1500</u>
RECEIVING LABORATORY:	ADDRESS: _____				
CITY: _____	STATE: _____	ZIP: _____	PHONE: _____	DATE: _____	
SAMPLE CONDITION WHEN RECEIVED: <u>26°C</u>					
REMARKS: _____					

ANALYSIS REQUEST (Circle or Specify Method No.)	
BTEX 8021B TPH 8015 MOD. TX1005 (Ext. to C35) PAH 8270 RCRA Metals Ag As Ba Cd Cr Pb Hg Se TCLP Metals Ag As Ba Cd V Pd Hg Se TCLP Volatiles TCLP Semi Volatiles RCI GC/MS Vol. 8240/8260/824 GC/MS Semi. Vol. 8270/825 PCB's 8080/808 Pest. 808/608 Chloride Gamma Spec. Alpha Beta (Air) PLM (Asbestos) Major Anions/Cations, pH, TDS	Date: <u>2/17/16</u> Time: <u>1300</u> AIRBILL #: _____ OTHER: _____ Results by: _____ RUSH Charges Authorized: _____ Yes No

Please fill out all copies - Laboratory retains Yellow copy - Return Original copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.

PAGE: 3 OF: 3



**1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-4558**

585240

(432) 682-4559 • Fax (432) 682-3946

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD
201b	2/10/2016								
CLIENT NAME:	PROJECT NO.:		PROJECT NAME:		SITE MANAGER:				
SM Energy	2120-MD-0146		ESDU #2		1KE TAVALEZ				

2/17	S	X	AA-3	4-4.5
			"	5-5.5
				6-6.5
				7-7.5
				8-8.5
				9-9.5
2/17	S	X	BB2 (AA-3)	24-25

PRELIMINARY BY: (Signature) _____ DATE: 3/18/12 TIME: 12:00	RECEIVED BY: (Signature) _____ DATE: 3/18/12 TIME: 12:00	RECEIVING LABORATORY: ADDRESS: CITY: _____ STATE: _____ ZIP: _____ PHONE: _____ CONTACT: _____ DATE: _____ TIME: _____
PRELIMINARY BY: (Signature) _____ DATE: _____ TIME: _____	RECEIVED BY: (Signature) _____ DATE: _____ TIME: _____	RECEIVING LABORATORY: ADDRESS: CITY: _____ STATE: _____ ZIP: _____ PHONE: _____ CONTACT: _____ DATE: _____ TIME: _____
PRELIMINARY BY: (Signature) _____ DATE: _____ TIME: _____	RECEIVED BY: (Signature) _____ DATE: _____ TIME: _____	RECEIVING LABORATORY: ADDRESS: CITY: _____ STATE: _____ ZIP: _____ PHONE: _____ CONTACT: _____ DATE: _____ TIME: _____
PRELIMINARY BY: (Signature) _____ DATE: _____ TIME: _____	RECEIVED BY: (Signature) _____ DATE: _____ TIME: _____	RECEIVING LABORATORY: ADDRESS: CITY: _____ STATE: _____ ZIP: _____ PHONE: _____ CONTACT: _____ DATE: _____ TIME: _____

REMARKS:	SAMPLE CONDITION WHEN RECEIVED: 26°C
----------	--------------------------------------

Please fill out all copies - Laboratory retains Yellow copy - Return Original copy to Tetra Tech - Project Manager

TTEx 8021B	TPH 8015 MOD. TX1005 (Ext to C35)
PAH 8270	
ACRA Metals Ag As Ba Cd Cr Pb Hg Se	
TCLP Metals Ag As Ba Cd Cr Pb Hg Se	
TCLP Volatiles	
TCLP Semi Volatiles	
RCI	
GC/MS Vol 8240/8260/824	
GC/MS SemiL Vol 8270/825	
PCB's 8080/808	
Pest 808/808	
Chloride	
Gamma Spec.	
Alpha Beta (Air)	
PLM (Asbestos)	
Major Anions/Cations, PH, TDS	

A sequence of seven handwritten symbols on a grid background: X, Y, Y, X, X, X, X.

SAMPLED BY: (Print Name)	Date: 2/17/12	Time: _____
SAMPLE SHIPPED BY: (Circle)	AIRBILL #: _____	OTHER: _____
FEDEX	BUS	
HAND DELIVERED	UPS	
TETRA TECH CONTACT PERSON:		
Results by:		
RUSH Charges Authorized:		Yes No

4



XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In



Client: Tetra Tech- Midland

Date/ Time Received: 02/18/2016 12:00:00 PM

Work Order #: 525240

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)?	2.6
#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#:

Checklist completed by:

Carley Owens
Carley Owens

Date: 02/18/2016

Checklist reviewed by:

Kelsey Brooks
Kelsey Brooks

Date: 02/19/2016

Analytical Report 528552

**for
Tetra Tech- Midland**

Project Manager: Ike Tavaréz

ESDU #2

212C-MD-00146

19-APR-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-Dallas (EPA Lab code: TX01468): Texas (T104704295)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)
Xenco-San Antonio: Texas (T104704534-15-1)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
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)



19-APR-16

Project Manager: **Ike Tavaréz**
Tetra Tech- Midland
4000 N. Big Spring Suite 401
Midland, TX 79705

Reference: XENCO Report No(s): **528552**
ESDU #2
Project Address: Eddy CO, NM

Ike Tavaréz:

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) 528552. 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. 528552 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,

Kelsey Brooks
Project Manager

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Sample Cross Reference 528552



Tetra Tech- Midland, Midland, TX

ESDU #2

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
AH-3 Composite	S	04-13-16 00:00		528552-001



CASE NARRATIVE



Client Name: Tetra Tech- Midland

Project Name: ESDU #2

Project ID: 212C-MD-00146
Work Order Number(s): 528552

Report Date: 19-APR-16
Date Received: 04/14/2016

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Project Id: 212C-MD-00146
Contact: Ike Tavaréz
Project Location: Eddy CO, NM

Certificate of Analysis Summary 528552

Tetra Tech- Midland, Midland, TX

Project Name: ESDU #2



Date Received in Lab: Thu Apr-14-16 09:45 am
Report Date: 19-APR-16
Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	528552-001				
	Field Id:	AI1-3 Composite				
	Depth:					
	Matrix:	SOLID				
	Sampled:	Apr-13-16 00:00				
TPH By SW8015 Mod	Extracted:	Apr-18-16 16:00				
	Analyzed:	Apr-19-16 08:12				
	Units/RL:	mg/kg RL				
	C6-C10 Gasoline Range Hydrocarbons	ND 15.0				
	C10-C28 Diesel Range Hydrocarbons	53.2 15.0				
C28-C35 Oil Range Hydrocarbons		ND 15.0				
		53.2 15.0				
	Total TPH					

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks

Kelsey Brooks
Project Manager



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to 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

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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	



Form 2 - Surrogate Recoveries

Project Name: ESDU #2

Work Orders : 528552, 528552

Project ID: 212C-MD-00146

Lab Batch #: 992652

Sample: 528552-001 / SMP

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/19/16 08:12

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	99.9	118	70-135	
o-Terphenyl	55.2	50.0	110	70-135	

Lab Batch #: 992652

Sample: 707840-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/18/16 20:09

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	52.2	50.0	104	70-135	

Lab Batch #: 992652

Sample: 707840-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/18/16 20:31

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	122	100	122	70-135	
o-Terphenyl	56.4	50.0	113	70-135	

Lab Batch #: 992652

Sample: 707840-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/18/16 20:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	121	100	121	70-135	
o-Terphenyl	51.8	50.0	104	70-135	

Lab Batch #: 992652

Sample: 528552-001 S / MS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/18/16 21:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	99.8	116	70-135	
o-Terphenyl	46.3	49.9	93	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries
Project Name: ESDU #2

Work Orders : 528552, 528552

Project ID: 212C-MD-00146

Lab Batch #: 992652

Sample: 528552-001 SD / MSD

Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 04/18/16 22:00

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		118	99.9	118	70-135	
o-Terphenyl		48.3	50.0	97	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \cdot A / B$

All results are based on MDL and validated for QC purposes.



BS / BSD Recoveries

Project Name: ESDU #2



Work Order #: 528552, 528552

Analyst: ARM

Lab Batch ID: 992652

Units: mg/kg

Sample: 707840-1-BKS

Date Prepared: 04/18/2016

Batch #: 1

Project ID: 212C-MD-00146

Date Analyzed: 04/18/2016

Matrix: Solid

BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Analytes	TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blank Spike Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
		<15.0	1000	807	81	1000	826	83	2	70-135	35	
C6-C10 Gasoline Range Hydrocarbons		<15.0	1000	890	89	1000	926	93	4	70-135	35	

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



Form 3 - MS / MSD Recoveries



Project Name: ESDU #2

Work Order # : 528552

Lab Batch ID: 992652

Date Analyzed: 04/18/2016

Reporting Units: mg/kg

Project ID: 212C-MD-00146

Batch #: 1 Matrix: Solid

Analyst: ARM

QC- Sample ID: 528552-001 S

Date Prepared: 04/18/2016

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.0	998	897	90	999	878	88	2	70-135	35	
C10-C28 Diesel Range Hydrocarbons	53.2	998	946	89	999	938	89	1	70-135	35	

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is ≥ 4 times the amount spiked.

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



XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In



Client: Tetra Tech- Midland

Date/ Time Received: 04/14/2016 09:45:00 AM

Work Order #: 528552

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)?	2.4
#2 *Shipping container in good condition?	N/A
#3 *Samples received on ice?	Yes
#4 *Custody Seal present on shipping container/ cooler?	N/A
#5 *Custody Seals intact on shipping container/ cooler?	N/A
#6 Custody Seals intact on sample bottles?	N/A
#7 *Custody Seals Signed and dated?	N/A
#8 *Chain of Custody present?	Yes
#9 Sample instructions complete on Chain of Custody?	Yes
#10 Any missing/extra samples?	No
#11 Chain of Custody signed when relinquished/ received?	Yes
#12 Chain of Custody agrees with sample label(s)?	Yes
#13 Container label(s) legible and intact?	Yes
#14 Sample matrix/ properties agree with Chain of Custody?	Yes
#15 Samples in proper container/ bottle?	Yes
#16 Samples properly preserved?	Yes
#17 Sample container(s) intact?	Yes
#18 Sufficient sample amount for indicated test(s)?	Yes
#19 All samples received within hold time?	Yes
#20 Subcontract of sample(s)?	No
#21 VOC samples have zero headspace (less than 1/4 inch bubble)?	N/A
#22 <2 for all samples preserved with HNO ₃ , HCL, H ₂ SO ₄ ? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	N/A
#23 >10 for all samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by: Mary Alexis Negrón
Mary Negrón

Date: 04/15/2016

Checklist reviewed by: Kelsey Brooks
Kelsey Brooks

Date: 04/15/2016

Analytical Report 529351

**for
Tetra Tech- Midland**

Project Manager: Ike Tavaréz

ESDU #2

212C-MD-00146

05-MAY-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-Dallas (EPA Lab code: TX01468): Texas (T104704295)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)
Xenco-San Antonio: Texas (T104704534-15-1)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
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)



05-MAY-16

Project Manager: **Ike Tavarez**
Tetra Tech- Midland
4000 N. Big Spring Suite 401
Midland, TX 79705

Reference: XENCO Report No(s): **529351**
ESDU #2
Project Address: Eddy CO, NM

Ike Tavarez:

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) 529351. 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. 529351 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,

Kelsey Brooks
Project Manager

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Sample Cross Reference 529351



Tetra Tech- Midland, Midland, TX

ESDU #2

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
AH-3 0-1	S	04-28-16 00:00	0 - 1 In	529351-001
1-1.5	S	04-28-16 00:00	1 - 1.5 In	529351-002
2-2.5	S	04-28-16 00:00	2 - 2.5 In	529351-003
3-3.5	S	04-28-16 00:00	3 - 3.5 In	529351-004
4-4.5	S	04-28-16 00:00	4 - 4.5 In	529351-005
5-5.5	S	04-28-16 00:00	5 - 5.5 In	529351-006
6-6.5	S	04-28-16 00:00	6 - 6.5 In	529351-007
7-7.5	S	04-28-16 00:00	7 - 7.5 In	529351-008
8-8.5	S	04-28-16 00:00	8 - 8.5 In	529351-009
9-9.5	S	04-28-16 00:00	9 - 9.5 In	529351-010
AH-3A 0-1	S	04-28-16 00:00	0 - 1 In	529351-011
1-1.5	S	04-28-16 00:00	1 - 1.5 In	529351-012
2-2.5	S	04-28-16 00:00	2 - 2.5 In	529351-013
3-3.5	S	04-28-16 00:00	3 - 3.5 In	529351-014
4-4.5	S	04-28-16 00:00	4 - 4.5 In	529351-015
5-5.5	S	04-28-16 00:00	5 - 5.5 In	529351-016
6-6.5	S	04-28-16 00:00	6 - 6.5 In	529351-017
7-7.5	S	04-28-16 00:00	7 - 7.5 In	529351-018
8-8.5	S	04-28-16 00:00	8 - 8.5 In	529351-019
9-9.5	S	04-28-16 00:00	9 - 9.5 In	529351-020



CASE NARRATIVE



Client Name: Tetra Tech- Midland

Project Name: ESDU #2

Project ID: 212C-MD-00146
Work Order Number(s): 529351

Report Date: 05-MAY-16
Date Received: 04/29/2016

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-993753 Inorganic Anions by EPA 300/300.1

Lab Sample ID 529351-018 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 529351-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.



Certificate of Analysis Summary 529351

Tetra Tech- Midland, Midland, TX



Project Id: 212C-MD-00146
Contact: Ike Tavaraz
Project Location: Eddy CO, NM

Project Name: ESDU #2

Date Received in Lab: Fri Apr-29-16 10:35 am
Report Date: 05-MAY-16
Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	529351-001	529351-002	529351-003	529351-004	529351-005	529351-006
	Field Id:	AH-3 0-1	1-1.5	2-2.5	3-3.5	4-4.5	5-5.5
	Depth:	0-1 In	1-1.5 In	2-2.5 In	3-3.5 In	4-4.5 In	5-5.5 In
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Apr-28-16 00:00	Apr-28-16 00:00	Apr-28-16 00:00	Apr-28-16 00:00	Apr-28-16 00:00	Apr-28-16 00:00
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	May-04-16 12:11	May-04-16 12:11	May-04-16 12:11	May-04-16 12:11	May-04-16 12:11	May-04-16 12:11
	Analyzed:	May-05-16 02:48	May-05-16 03:31	May-05-16 03:45	May-05-16 04:00	May-05-16 04:14	May-05-16 04:57
	Units/RL:	mg/kg RL: 175 9.88	mg/kg RL: 29.3 9.86	mg/kg RL: 1040 49.4	mg/kg RL: 1570 49.1	mg/kg RL: 834 48.4	mg/kg RL: 1790 97.3
Chloride							

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Kelsey Brooks

Kelsey Brooks
Project Manager



Certificate of Analysis Summary 529351

Tetra Tech- Midland, Midland, TX



Project Id: 212C-MD-00146
Contact: Ike Tavaréz
Project Location: Eddy CO, NM

Project Name: ESDU #2

Date Received in Lab: Fri Apr-29-16 10:35 am
Report Date: 05-MAY-16
Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	529351-007	529351-008	529351-009	529351-010	529351-011	529351-012
	Field Id:	6-6.5	7-7.5	8-8.5	9-9.5	AH-3A 0-1	1-1.5
	Depth:	6-6.5 In	7-7.5 In	8-8.5 In	9-9.5 In	0-1 In	1-1.5 In
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Apr-28-16 00:00	Apr-28-16 00:00	Apr-28-16 00:00	Apr-28-16 00:00	Apr-28-16 00:00	Apr-28-16 00:00
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	May-04-16 12:11	May-04-16 12:11	May-04-16 12:11	May-04-16 12:11	May-04-16 12:11	May-04-16 12:11
	Analyzed:	May-05-16 05:12	May-05-16 10:03	May-05-16 05:41	May-05-16 05:55	May-05-16 06:10	May-05-16 06:24
	Units/RL:	mg/kg RL 1710 49.4	mg/kg RL 1610 99.4	mg/kg RL 1300 49.8	mg/kg RL 11.4 9.86	mg/kg RL 252 9.92	mg/kg RL ND 9.94
Chloride							

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Kelsey Brooks
Project Manager



Project Id: 212C-MD-00146
Contact: Ike Tavaréz
Project Location: Eddy CO, NM

Certificate of Analysis Summary 529351

Tetra Tech- Midland, Midland, TX

Project Name: ESDU #2

Date Received in Lab: Fri Apr-29-16 10:35 am
Report Date: 05-MAY-16
Project Manager: Kelsey Brooks



Analysis Requested	Lab Id:	529351-013	529351-014	529351-015	529351-016	529351-017	529351-018
	Field Id:	2-2.5	3-3.5	4-4.5	5-5.5	6-6.5	7-7.5
	Depth:	2-2.5 In	3-3.5 In	4-4.5 In	5-5.5 In	6-6.5 In	7-7.5 In
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Apr-28-16 00:00	Apr-28-16 00:00	Apr-28-16 00:00	Apr-28-16 00:00	Apr-28-16 00:00	Apr-28-16 00:00
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	May-04-16 12:11	May-04-16 12:11	May-04-16 12:11	May-04-16 12:11	May-04-16 12:11	May-04-16 12:11
	Analyzed:	May-05-16 06:38	May-05-16 09:34	May-05-16 07:07	May-05-16 07:50	May-05-16 08:05	May-05-16 08:48
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		75.4 9.86	62.2 9.94	1640 49.6	93.6 9.86	465 9.73	67.8 9.71

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Kelsey Brooks
Project Manager



Project Id: 212C-MD-00146
Contact: Ike Tavaréz
Project Location: Eddy CO, NM

Certificate of Analysis Summary 529351

Tetra Tech- Midland, Midland, TX

Project Name: ESDU #2

Date Received in Lab: Fri Apr-29-16 10:35 am
Report Date: 05-MAY-16
Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	529351-019	529351-020			
	Field Id:	8-8.5	9-9.5			
	Depth:	8-8.5 In	9-9.5 In			
	Matrix:	SOIL	SOIL			
	Sampled:	Apr-28-16 00:00	Apr-28-16 00:00			
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	May-04-16 12:11	May-04-16 12:11			
	Analyzed:	May-05-16 08:19	May-05-16 08:34			
	Units/RL:	mg/kg RL	mg/kg RL			
Chloride		408 10.0	427 9.94			

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Kelsey Brooks

Kelsey Brooks
Project Manager



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to 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 **SQL** 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

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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
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(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(432) 563-1800	(432) 563-1713
(602) 437-0330	



BS / BSD Recoveries



Project Name: ESDU #2

Work Order #: 529351

Analyst: DEP

Lab Batch ID: 993753

Units: mg/kg

Sample: 708505-1-BKS

Batch #: 1

Date Prepared: 05/04/2016

Project ID: 212C-MD-00146

Date Analyzed: 05/05/2016

Matrix: Solid

BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	<10.0	100	102	102	100	102	102	0	90-110	20	

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



Form 3 - MS / MSD Recoveries



Project Name: ESDU #2

Work Order #: 529351

Lab Batch ID: 993753

Date Analyzed: 05/05/2016

Reporting Units: mg/kg

Project ID: 212C-MD-00146

QC- Sample ID: 529351-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 05/04/2016

Analyst: DEP

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1										
Analytes										
Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
175	98.8	207	32	98.8	206	31	0	80-120	20	X
Chloride										

Lab Batch ID: 993753

Date Analyzed: 05/05/2016

Reporting Units: mg/kg

QC- Sample ID: 529351-018 S

Batch #: 1 Matrix: Soil

Date Prepared: 05/04/2016

Analyst: DEP

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1										
Analytes										
Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
67.8	97.1	164	99	97.1	168	103	2	80-120	20	
Chloride										

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Analysis Request of Chain of Custody Record



TETRA TECH

1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946

CLIENT NAME:

SM Energy

SITE MANAGER:

Ilke Tawar

PROJECT NO.:

212C-MD-00141

PROJECT NAME:

EDSU #2 Eddy Co., NM

LAB I.D. NUMBER

DATE

TIME

MATRIX

COMP

GRAB

SAMPLE IDENTIFICATION

NUMBER OF CONTAINERS

DATE

TIME

PRESERVATIVE METHOD

HCL

HNO3

ICE

NONE

TPH 8015 MOD. TX1005 (Ext to C36)

PAH 8270

TCRA Metals Ag As Ba Cd Cr Pb Hg Se

TCRP Metals Ag As Ba Cd Vr Pd Hg Se

TCRP Semi Volatiles

TCRP Semi Volatiles

GC/MS Vol. B240/B260/B24

GC/MS Semi. Vol. B270/B25

PCBs B080/B08

PCBs B080/B08

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

Major Anions/Cations, pH, TDS

PAGE: 1 OF: 2

ANALYSIS REQUEST

(Circle or Specify Method No.) 529351

RELINQUISHED BY: (Signature)

DATE

TIME

RECEIVED BY: (Signature)

DATE

TIME

RELINQUISHED BY: (Signature)

DATE

TIME

RECEIVED BY: (Signature)

DATE

TIME

RELINQUISHED BY: (Signature)

DATE

TIME

RECEIVED BY: (Signature)

DATE

TIME

RECEIVING LABORATORY:

STATE:

DATE:

RECEIVED BY: (Signature)

DATE

TIME

RECEIVED BY: (Signature)

DATE

TIME

CITY:

STATE:

ZIP:

DATE:

RECEIVED BY: (Signature)

DATE

TIME

RECEIVED BY: (Signature)

DATE

TIME

SAMPLE CONDITION WHEN RECEIVED:

PHONE:

DATE:

RECEIVED BY: (Signature)

DATE

TIME

RECEIVED BY: (Signature)

DATE

TIME

REMARKS:

RECEIVED BY: (Signature)

DATE

TIME

RECEIVED BY: (Signature)

DATE

TIME

Yes No

RUSH Charges Authorized:

Results by:

OTHER:

FEDEX

HAND DELIVERED

BUS

UPS

DATE

TIME

Please fill out all copies - Laboratory retains Yellow copy - Return Original copy to Tetra Tech - Project Manager retains Pink copy - Ac/Cji:0

Corrected Temp: 4.9°C

Temp: 4.4°C IR ID:R-8

Temp:



XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In



Client: Tetra Tech- Midland

Date/ Time Received: 04/29/2016 10:35:00 AM

Work Order #: 529351

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)?	4.9
#2 *Shipping container in good condition?	N/A
#3 *Samples received on ice?	Yes
#4 *Custody Seal present on shipping container/ cooler?	N/A
#5 *Custody Seals intact on shipping container/ cooler?	N/A
#6 Custody Seals intact on sample bottles?	N/A
#7 *Custody Seals Signed and dated?	N/A
#8 *Chain of Custody present?	Yes
#9 Sample instructions complete on Chain of Custody?	Yes
#10 Any missing/extra samples?	No
#11 Chain of Custody signed when relinquished/ received?	Yes
#12 Chain of Custody agrees with sample label(s)?	Yes
#13 Container label(s) legible and intact?	Yes
#14 Sample matrix/ properties agree with Chain of Custody?	Yes
#15 Samples in proper container/ bottle?	Yes
#16 Samples properly preserved?	Yes
#17 Sample container(s) intact?	Yes
#18 Sufficient sample amount for indicated test(s)?	Yes
#19 All samples received within hold time?	Yes
#20 Subcontract of sample(s)?	Yes subcontract Houston
#21 VOC samples have zero headspace (less than 1/4 inch bubble)?	N/A
#22 <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
#23 >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#:

Checklist completed by: Mary Alexis Negrón
Mary Negrón

Date: 05/02/2016

Checklist reviewed by: Kelsey Brooks
Kelsey Brooks

Date: 05/02/2016