

Abo 16" Inlet



December 21, 2015

HARLEY EVERHART
FRONTIER FIELD SERVICES
4200 SKELLY DRIVE, SUITE 700
TULSA, OK 74135

RE: ABO 16" LATTERAL

Enclosed are the results of analyses for samples received by the laboratory on 12/15/15 16:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene
Lab Director/Quality Manager

Analytical Results For:

 FRONTIER FIELD SERVICES
 HARLEY EVERHART
 4200 SKELLY DRIVE, SUITE 700
 TULSA OK, 74135
 Fax To: (575) 676-2401

Received:	12/15/2015	Sampling Date:	12/15/2015
Reported:	12/21/2015	Sampling Type:	Soil
Project Name:	ABO 16" LATERAL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	ARTESIA, NM		

Sample ID: #1 (H503263-01)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/16/2015	ND	1.95	97.5	2.00	0.179	
Toluene*	<0.050	0.050	12/16/2015	ND	1.97	98.6	2.00	0.739	
Ethylbenzene*	<0.050	0.050	12/16/2015	ND	2.00	100	2.00	0.0556	
Total Xylenes*	<0.150	0.150	12/16/2015	ND	5.99	99.9	6.00	0.291	
Total BTEX	<0.300	0.300	12/16/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	12/16/2015	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/16/2015	ND	194	97.0	200	5.68	
DRO >C10-C28	56.6	10.0	12/16/2015	ND	183	91.7	200	4.78	

Surrogate: 1-Chlorooctane 91.9 % 35-147
Surrogate: 1-Chlorooctadecane 96.1 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 FRONTIER FIELD SERVICES
 HARLEY EVERHART
 4200 SKELLY DRIVE, SUITE 700
 TULSA OK, 74135
 Fax To: (575) 676-2401

Received:	12/15/2015	Sampling Date:	12/15/2015
Reported:	12/21/2015	Sampling Type:	Soil
Project Name:	ABO 16" LATTERAL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	ARTESIA, NM		

Sample ID: #2 (H503263-02)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/16/2015	ND	1.95	97.5	2.00	0.179	
Toluene*	<0.050	0.050	12/16/2015	ND	1.97	98.6	2.00	0.739	
Ethylbenzene*	<0.050	0.050	12/16/2015	ND	2.00	100	2.00	0.0556	
Total Xylenes*	<0.150	0.150	12/16/2015	ND	5.99	99.9	6.00	0.291	
Total BTEX	<0.300	0.300	12/16/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	12/17/2015	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/16/2015	ND	194	97.0	200	5.68	
DRO >C10-C28	45.6	10.0	12/16/2015	ND	183	91.7	200	4.78	

Surrogate: 1-Chlorooctane 89.9 % 35-147

Surrogate: 1-Chlorooctadecane 87.5 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 FRONTIER FIELD SERVICES
 HARLEY EVERHART
 4200 SKELLY DRIVE, SUITE 700
 TULSA OK, 74135
 Fax To: (575) 676-2401

Received:	12/15/2015	Sampling Date:	12/15/2015
Reported:	12/21/2015	Sampling Type:	Soil
Project Name:	ABO 16" LATERAL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	ARTESIA, NM		

Sample ID: #3 (H503263-03)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/16/2015	ND	1.95	97.5	2.00	0.179	
Toluene*	<0.050	0.050	12/16/2015	ND	1.97	98.6	2.00	0.739	
Ethylbenzene*	<0.050	0.050	12/16/2015	ND	2.00	100	2.00	0.0556	
Total Xylenes*	<0.150	0.150	12/16/2015	ND	5.99	99.9	6.00	0.291	
Total BTEX	<0.300	0.300	12/16/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	12/17/2015	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/16/2015	ND	194	97.0	200	5.68	
DRO >C10-C28	<10.0	10.0	12/16/2015	ND	183	91.7	200	4.78	

Surrogate: 1-Chlorooctane 86.1 % 35-147
Surrogate: 1-Chlorooctadecane 86.2 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 FRONTIER FIELD SERVICES
 HARLEY EVERHART
 4200 SKELLY DRIVE, SUITE 700
 TULSA OK, 74135
 Fax To: (575) 676-2401

Received:	12/15/2015	Sampling Date:	12/15/2015
Reported:	12/21/2015	Sampling Type:	Soil
Project Name:	ABO 16" LATERAL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	ARTESIA, NM		

Sample ID: #4 (H503263-04)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/17/2015	ND	1.95	97.5	2.00	0.179	
Toluene*	<0.050	0.050	12/17/2015	ND	1.97	98.6	2.00	0.739	
Ethylbenzene*	<0.050	0.050	12/17/2015	ND	2.00	100	2.00	0.0556	
Total Xylenes*	<0.150	0.150	12/17/2015	ND	5.99	99.9	6.00	0.291	
Total BTEX	<0.300	0.300	12/17/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	12/17/2015	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/16/2015	ND	194	97.0	200	5.68	
DRO >C10-C28	383	10.0	12/16/2015	ND	183	91.7	200	4.78	

Surrogate: 1-Chlorooctane 85.3 % 35-147

Surrogate: 1-Chlorooctadecane 96.1 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 FRONTIER FIELD SERVICES
 HARLEY EVERHART
 4200 SKELLY DRIVE, SUITE 700
 TULSA OK, 74135
 Fax To: (575) 676-2401

Received:	12/15/2015	Sampling Date:	12/15/2015
Reported:	12/21/2015	Sampling Type:	Soil
Project Name:	ABO 16" LATERAL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	ARTESIA, NM		

Sample ID: #5 (H503263-05)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/17/2015	ND	1.95	97.5	2.00	0.179	
Toluene*	<0.050	0.050	12/17/2015	ND	1.97	98.6	2.00	0.739	
Ethylbenzene*	<0.050	0.050	12/17/2015	ND	2.00	100	2.00	0.0556	
Total Xylenes*	<0.150	0.150	12/17/2015	ND	5.99	99.9	6.00	0.291	
Total BTEX	<0.300	0.300	12/17/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	12/17/2015	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS						S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	21.9	10.0	12/16/2015	ND	194	97.0	200	5.68		
DRO >C10-C28	6660	10.0	12/16/2015	ND	183	91.7	200	4.78		

Surrogate: 1-Chlorooctane 112 % 35-147

Surrogate: 1-Chlorooctadecane 208 % 28-171

Cardinal Laboratories

* = Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 FRONTIER FIELD SERVICES
 HARLEY EVERHART
 4200 SKELLY DRIVE, SUITE 700
 TULSA OK, 74135
 Fax To: (575) 676-2401

Received:	12/15/2015	Sampling Date:	12/15/2015
Reported:	12/21/2015	Sampling Type:	Soil
Project Name:	ABO 16" LATERAL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	ARTESIA, NM		

Sample ID: #6 (H503263-06)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/17/2015	ND	1.95	97.5	2.00	0.179	
Toluene*	<0.050	0.050	12/17/2015	ND	1.97	98.6	2.00	0.739	
Ethylbenzene*	<0.050	0.050	12/17/2015	ND	2.00	100	2.00	0.0556	
Total Xylenes*	<0.150	0.150	12/17/2015	ND	5.99	99.9	6.00	0.291	
Total BTEX	<0.300	0.300	12/17/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	12/17/2015	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/16/2015	ND	194	97.0	200	5.68	
DRO >C10-C28	124	10.0	12/16/2015	ND	183	91.7	200	4.78	

Surrogate: 1-Chlorooctane 86.3 % 35-147

Surrogate: 1-Chlorooctadecane 95.2 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 FRONTIER FIELD SERVICES
 HARLEY EVERHART
 4200 SKELLY DRIVE, SUITE 700
 TULSA OK, 74135
 Fax To: (575) 676-2401

Received:	12/15/2015	Sampling Date:	12/15/2015
Reported:	12/21/2015	Sampling Type:	Soil
Project Name:	ABO 16" LATERAL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	ARTESIA, NM		

Sample ID: #7 (H503263-07)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/17/2015	ND	1.95	97.5	2.00	0.179	
Toluene*	<0.050	0.050	12/17/2015	ND	1.97	98.6	2.00	0.739	
Ethylbenzene*	0.127	0.050	12/17/2015	ND	2.00	100	2.00	0.0556	
Total Xylenes*	0.801	0.150	12/17/2015	ND	5.99	99.9	6.00	0.291	
Total BTEX	0.929	0.300	12/17/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 121 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	12/17/2015	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	58.6	50.0	12/16/2015	ND	194	97.0	200	5.68	
DRO >C10-C28	4200	50.0	12/16/2015	ND	183	91.7	200	4.78	

Surrogate: 1-Chlorooctane 128 % 35-147

Surrogate: 1-Chlorooctadecane 170 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 FRONTIER FIELD SERVICES
 HARLEY EVERHART
 4200 SKELLY DRIVE, SUITE 700
 TULSA OK, 74135
 Fax To: (575) 676-2401

Received:	12/15/2015	Sampling Date:	12/15/2015
Reported:	12/21/2015	Sampling Type:	Soil
Project Name:	ABO 16" LATERAL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	ARTESIA, NM		

Sample ID: #8 (H503263-08)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.052	0.050	12/17/2015	ND	1.95	97.5	2.00	0.179	
Toluene*	0.168	0.050	12/17/2015	ND	1.97	98.6	2.00	0.739	
Ethylbenzene*	0.112	0.050	12/17/2015	ND	2.00	100	2.00	0.0556	
Total Xylenes*	<0.150	0.150	12/17/2015	ND	5.99	99.9	6.00	0.291	
Total BTEX	0.332	0.300	12/17/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	12/17/2015	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/16/2015	ND	194	97.0	200	5.68	
DRO >C10-C28	576	10.0	12/16/2015	ND	183	91.7	200	4.78	

Surrogate: 1-Chlorooctane 105 % 35-147

Surrogate: 1-Chlorooctadecane 115 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 FRONTIER FIELD SERVICES
 HARLEY EVERHART
 4200 SKELLY DRIVE, SUITE 700
 TULSA OK, 74135
 Fax To: (575) 676-2401

Received:	12/15/2015	Sampling Date:	12/15/2015
Reported:	12/21/2015	Sampling Type:	Soil
Project Name:	ABO 16" LATTERAL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	ARTESIA, NM		

Sample ID: #9 (H503263-09)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/17/2015	ND	2.09	104	2.00	5.69	
Toluene*	0.398	0.050	12/17/2015	ND	2.07	104	2.00	6.88	
Ethylbenzene*	0.321	0.050	12/17/2015	ND	2.10	105	2.00	7.92	
Total Xylenes*	1.20	0.150	12/17/2015	ND	6.34	106	6.00	6.97	
Total BTEX	1.92	0.300	12/17/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	12/17/2015	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	15.1	10.0	12/16/2015	ND	194	97.0	200	5.68	
DRO >C10-C28	2360	10.0	12/16/2015	ND	183	91.7	200	4.78	

Surrogate: 1-Chlorooctane 101 % 35-147

Surrogate: 1-Chlorooctadecane 135 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 FRONTIER FIELD SERVICES
 HARLEY EVERHART
 4200 SKELLY DRIVE, SUITE 700
 TULSA OK, 74135
 Fax To: (575) 676-2401

Received:	12/15/2015	Sampling Date:	12/15/2015
Reported:	12/21/2015	Sampling Type:	Soil
Project Name:	ABO 16" LATERAL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	ARTESIA, NM		

Sample ID: #10 (H503263-10)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/17/2015	ND	2.09	104	2.00	5.69	
Toluene*	0.101	0.050	12/17/2015	ND	2.07	104	2.00	6.88	
Ethylbenzene*	0.217	0.050	12/17/2015	ND	2.10	105	2.00	7.92	
Total Xylenes*	1.16	0.150	12/17/2015	ND	6.34	106	6.00	6.97	
Total BTEX	1.47	0.300	12/17/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	12/17/2015	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<200	200	12/17/2015	ND	194	97.0	200	5.68		
DRO >C10-C28	10800	200	12/17/2015	ND	183	91.7	200	4.78		

Surrogate: 1-Chlorooctane 140 % 35-147

Surrogate: 1-Chlorooctadecane 285 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 FRONTIER FIELD SERVICES
 HARLEY EVERHART
 4200 SKELLY DRIVE, SUITE 700
 TULSA OK, 74135
 Fax To: (575) 676-2401

Received:	12/15/2015	Sampling Date:	12/15/2015
Reported:	12/21/2015	Sampling Type:	Soil
Project Name:	ABO 16" LATERAL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	ARTESIA, NM		

Sample ID: #11 (H503263-11)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/17/2015	ND	2.09	104	2.00	5.69		
Toluene*	<0.050	0.050	12/17/2015	ND	2.07	104	2.00	6.88		
Ethylbenzene*	<0.050	0.050	12/17/2015	ND	2.10	105	2.00	7.92		
Total Xylenes*	<0.150	0.150	12/17/2015	ND	6.34	106	6.00	6.97		
Total BTEX	<0.300	0.300	12/17/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 108 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	12/17/2015	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/16/2015	ND	194	97.0	200	5.68		
DRO >C10-C28	28.2	10.0	12/16/2015	ND	183	91.7	200	4.78		

Surrogate: 1-Chlorooctane 90.3 % 35-147

Surrogate: 1-Chlorooctadecane 93.4 % 28-171

Cardinal Laboratories

* = Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 FRONTIER FIELD SERVICES
 HARLEY EVERHART
 4200 SKELLY DRIVE, SUITE 700
 TULSA OK, 74135
 Fax To: (575) 676-2401

Received:	12/15/2015	Sampling Date:	12/15/2015
Reported:	12/21/2015	Sampling Type:	Soil
Project Name:	ABO 16" LATERAL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	ARTESIA, NM		

Sample ID: #12 (H503263-12)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/17/2015	ND	2.09	104	2.00	5.69		
Toluene*	<0.050	0.050	12/17/2015	ND	2.07	104	2.00	6.88		
Ethylbenzene*	<0.050	0.050	12/17/2015	ND	2.10	105	2.00	7.92		
Total Xylenes*	<0.150	0.150	12/17/2015	ND	6.34	106	6.00	6.97		
Total BTEX	<0.300	0.300	12/17/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	12/17/2015	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/16/2015	ND	194	97.0	200	5.68		
DRO >C10-C28	337	10.0	12/16/2015	ND	183	91.7	200	4.78		

Surrogate: 1-Chlorooctane 85.9 % 35-147

Surrogate: 1-Chlorooctadecane 91.0 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

- S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: <i>Frontier Field Service (Aka Energy)</i>		BILL TO				ANALYSIS REQUEST																				
Project Manager:		P.O. #:																								
Address:		Company:																								
City: <i>Melgamor</i> State: <i>NM</i> Zip:		Attn:																								
Phone #: <i>575 513 4522</i> Fax #:		Address: <i>[Signature]</i>																								
Project #: Project Owner:		City:																								
Project Name: <i>1460 1/2" lateral</i>		State: Zip:																								
Project Location: <i>Artisim NM</i>		Phone #:																								
Sampler Name: <i>Darby Eneverhart</i>		Fax #:																								
FOR LAB USE ONLY																										
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	MATRIX													PRESERV.		SAMPLING								
		# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME													
<i>H503263</i>														<i>TPH</i>	<i>BTEX</i>	<i>Chlorides</i>										
<i>11</i>	<i>#11</i>	<i>/</i>			<i>/</i>				<i>/</i>			<i>12-15-15</i>	<i>13:40</i>	<i>x</i>	<i>x</i>	<i>x</i>										
<i>12</i>	<i>#12</i>	<i>/</i>			<i>/</i>				<i>/</i>			<i>12-15-15</i>	<i>13:50</i>	<i>x</i>	<i>x</i>	<i>x</i>										

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: <i>[Signature]</i>	Date: <i>12-15-15</i>	Received By: <i>Jodi Jensen</i>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
	Time: <i>16:10</i>		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Relinquished By: <i>[Signature]</i>	Date:	Received By:	REMARKS:	
	Time:		<i>Email Results neverhart@aleenergy.com</i>	
Delivered By: (Circle One)	Sample Condition	Checked By: <i>[Signature]</i>		
Sampler - UPS - Bus - Other:	Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	(Initials)		

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2826

#54



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
RA 04561			ED	4	2	26	17S	27E		570871	3630142*	4313	250		
RA 11857 POD1			ED	1	1	2	05	18S	26E	577784	3625988	4323	235	95	140
RA 04048			LE	1	4	4	14	18S	27E	570841	3623030*	4582	2096		
RA 03917			LE	4	1	2	10	18S	27E	569019	3625660*	4636	130	50	80

Average Depth to Water: **72 feet**

Minimum Depth: **50 feet**

Maximum Depth: **95 feet**

Record Count: 4

UTMNAD83 Radius Search (in meters):

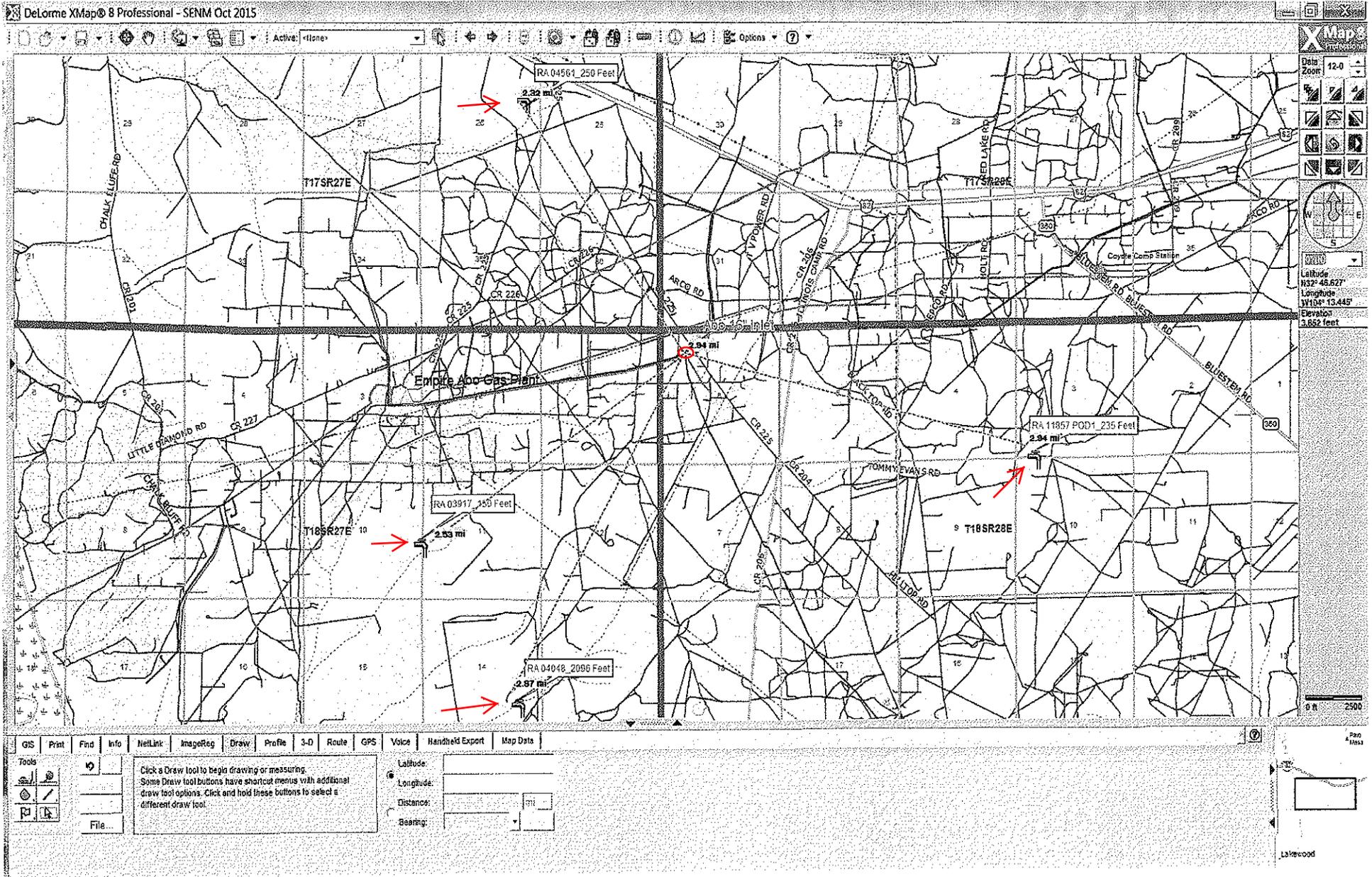
Easting (X): 573527

Northing (Y): 3626743

Radius: 5000

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



Water Column/Average Depth to Water

UTMNAD83 Radius Search (5000 meters)

5000 meters is equivalent to 16404.2 foot or 3.1 mile Radius from Abo 16" Inlet

The closes water column is 2.32 miles @ 250 ft. deep.