District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NRM2004358654
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Ameredev Operating, LLC	OGRID 372224
Contact Name Shane McNeely	Contact Telephone 737-300-4729
Contact email smcneely@ameredev.com	Incident # *(assigned by OCD)* NRM2004358654
Contact mailing address 2901 Via Fortuna, Suite 600 Austin, TX 78746	

Location of Release Source

Latitude 32.1511 Longitude -103.2814
(NAD 83 in decimal degrees to 5 decimal places)

Site Name 3750 Riser	Site Type Pipeline ROW
Date Release Discovered 1/12/2020	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
A	8	25S	36E	Lea

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (*Name: Intrepid Potash)*

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 145.7	Volume Recovered (bbls) 140
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

While excavating around the 3750 riser an underground line was struck.

State of New Mexico
Oil Conservation Division

Incident ID	NRM2004358654
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? >25 bbls

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?

Email from Shane McNeely to Mike Bratcher on 1/13/2020

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

☒ The source of the release has been stopped.
☒ The impacted area has been secured to protect human health and the environment.
☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Shane McNeely Title: Engineer

Signature:  Date: 2/10/2020

email: smcneely@ameredev.com Telephone: 737-300-4729

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NRM2004358654
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Shane McNeely Title: Engineer

Signature:  Date: 6/16/2020

email: smcneely@ameredev.com Telephone: 737-300-4729

OCD Only

Received by: Cristina Eads Date: 06/16/2020

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: D E N I E D  Date: 08/17/2020

Printed Name: Cristina Eads Title: Environmental Specialist

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INTEGRITY, CONSISTENCY, QUALITY

Remediation and Closure Report

Date of Report: April 23, 2020

Site Name: 3750 Riser

Site GPS: Latitude: 32.1511
Longitude: -103.2814

Site County: Lea Co. NM

Unit Letter "A", Section 8, Township 25 South, Range 36 East

Release Information

Date of Release: January 12, 2020

Cause of Release: Underground line strike

Released Substance:	Volume		
	Released	Recovered	Net
Reclaimed Water	147.5 bbls.	Unknown	Unknown

NMOCD Notified		C-141 Filed	
X	Yes	X	Yes
	N/A		N/A

NMOCD Job #	District
Unknown	Unknown

Dimensions (ft.) L: 300' W: 265' D: 6" Sq. ft: 57,910'

Impacted Area: Pipe Line Right-of-Way (ROW) and production pad

Sampling Activities

Sampling Date: February 12, 2020

Field Observations: Light stain no odor

# of Samples Collected: Ten (10) from seven (7) points of confirmation

Sampling Type: Composite

Laboratory Analysis: Total Petroleum Hydrocarbon (TPH) SW8015 Modified, BTEX EPA 8021B, and Chloride EPA 300.1

Name of Laboratory: Xenco Laboratories

Soil Sampling Program

The composite samples were submitted to Xenco Laboratories in Midland, TX. The samples were analyzed for TPH by method SW8015 Modified, BTEX by method EPA 8021B, and Chloride by method EPA 300. A summary of analytical results are provided in Table 1.

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Conclusion

On January 12, 2020, American Safety Services Inc. (ASSI) responded to a reportable release at the 3750 Riser operated by Ameredev II, LLC (Ameredev). According to Ameredev's spill release report approximately one hundred forty-seven and one-half (147.5) barrels (bbls) of reclaimed water (i.e., not produced water) were released due to an underground line strike which allowed for the release to occur directly to the ground. The release footprint is approximately fifty-seven thousand nine hundred and ten (57,910) square feet.

Subsequent to remediation activities performed by a 3rd party contractor ASSI personnel sampled the area inside the release footprint on February 12th. ASSI personnel completed sampling activities in accordance with the New Mexico Energy, Minerals, and Natural Resources Department (EMNRD), and the Oil Conservation Division (NMOCD) *Guidelines for Remediation of Leaks, Spills and Releases*.

Confirmation sampling was accomplished by ASSI personnel collecting ten (10) composite samples, four (4) from Auger Hole 1 and one (1) each from the remaining auger holes (i.e., Auger Hole 2 thru Auger Hole 7). At sample location Auger Hole 1 material was collected from between a depth of five (5) foot and nine (9) foot below ground surface (bgs) at one (1) foot intervals. At the remaining sample locations (i.e., Auger Hole 2 thru Auger Hole 7) material was collected from surface to one (1) foot bgs.

Collected material (i.e., composite samples) was analyzed for TPH, BTEX, and Chloride. Analytical results were compared to the NMAC 19.15.29 *Release Notification* guidelines and show no exceedances.

ASSI conducted a groundwater study utilizing the New Mexico Water Rights Reporting System database. Online records show one (1) existing water well within a one (1) mile radius (i.e., one (1) mile) of the Site. Average depth to water (DTW) for the water wells according to the database information is one hundred and eighty (180) feet bgs. ASSI does not believe TPH, BTEX or Chloride pose a threat to groundwater resources. Furthermore, confirmation sampling results show TPH, BTEX, and Chloride concentrations are far below NMOCD remedial guidelines. Appendix A of this report contains the groundwater database information.

Prepared By:

Thomas Franklin
Environmental Manager

Reviewed By:

Jack Zimmerman, PG, CPG
Senior Geologist

TABLE 1
Summary of Delineation Sampling Analytical Results
Concentrations of Benzene, BTEX, TPH & Chloride in Soil
Ameredev
3750 Riser
Lea County, New Mexico

SAMPLE LOCATION	SAMPLE DEPTH (feet)	SAMPLE DATE	SOIL STATUS	8021B					8015M				EPA 300
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYLBENZENE (mg/Kg)	XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO (mg/Kg)	DRO (mg/Kg)	MRO (mg/Kg)	Total TPH (mg/Kg)	CHLORIDE (mg/Kg)
NMAC 19.15.29				10	NE	NE	NE	50	NE		NE	100	600
Delination Sampling													
Auger Hole 1	5'-6'	2/12/2020	In-situ	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	8.8048
Auger Hole 1	6'-7'	2/12/2020	In-situ	—	—	—	—	—	—	—	—	—	9.995
Auger Hole 1	7'-8'	2/12/2020	In-situ	—	—	—	—	—	—	—	—	—	7.3010
Auger Hole 1	8'-9'	2/12/2020	In-situ	—	—	—	—	—	—	—	—	—	6.6396
Auger Hole 2	0-1'	2/12/2020	In-situ	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50	7.3364
Auger Hole 3	0-1'	2/12/2020	In-situ	0.00416	0.0282	0.00361	0.00248	0.03845	<49.9	<49.9	<49.9	<49.9	7.8068
Auger Hole 4	0-1'	2/12/2020	In-situ	0.00626	0.0258	0.00597	0.00653	0.04456	<49.9	<49.9	<49.9	<49.9	9.1410
Auger Hole 5	0-1'	2/12/2020	In-situ	<0.00200	<0.00200	<0.00200	<0.002	<0.002	<50.0	<50.0	<50.0	<50	<5.0100
Auger Hole 6	0-1'	2/12/2020	In-situ	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	8.6233
Auger Hole 7	0-1'	2/12/2020	In-situ	<0.00200	<0.00200	<0.00200	<0.002	<0.002	<50.0	<50.0	<50.0	<50.0	<4.9900

mg/Kg - milligrams per Kilogram

NE - not established

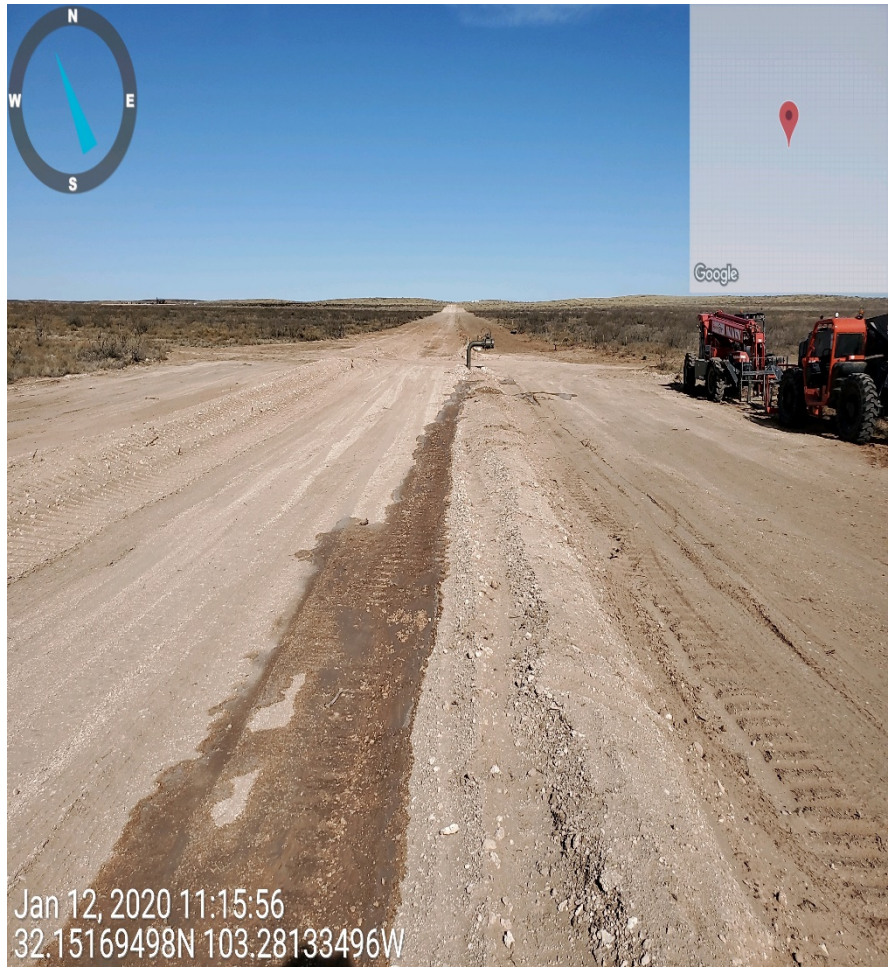
— = not determined

In-situ - sample collected in-place

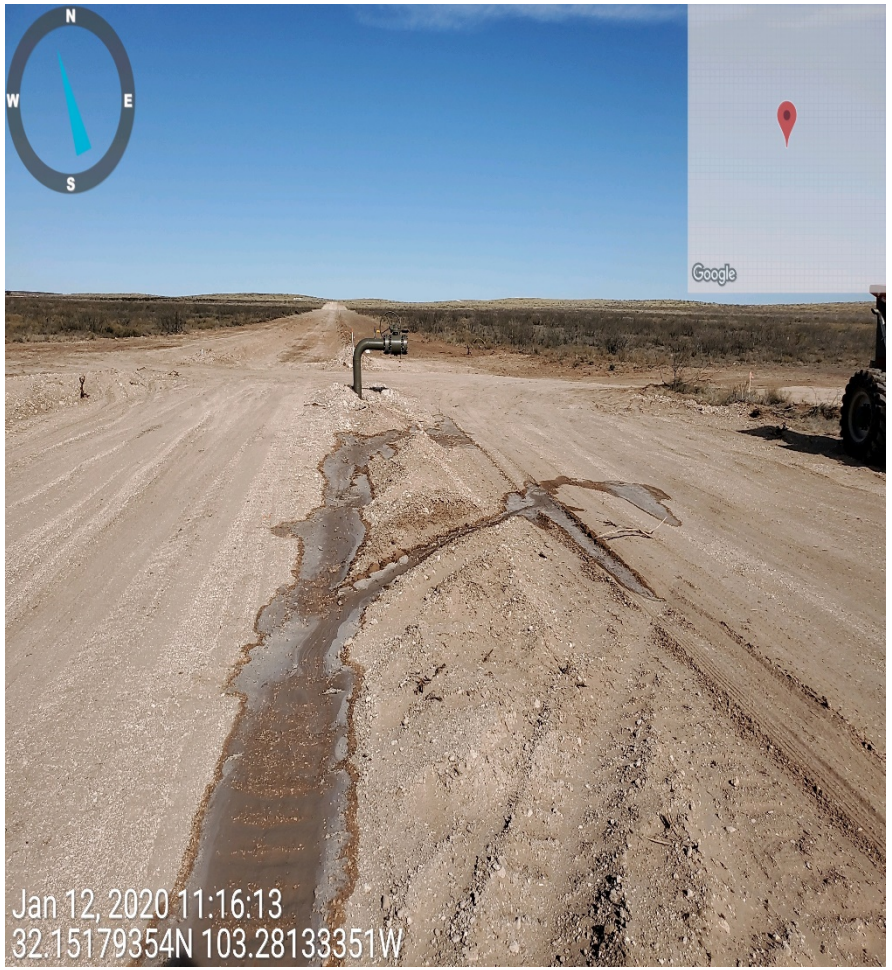
Total TPH reported values are rounded-off to 3-significant figures using the LIMS Odd/Even Rounding Rule which is a laboratory accepted standard

View Northwest – Origin of spill. Release caused by an underground line strike.

View Northwest – A portion of the spill flow path caused by the fluid release within the release footprint.



View Northwest – A portion of the spill flow path caused by the fluid release within the release footprint.



View Northwest – A portion of the spill flow path within the release footprint.

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View Southwest – A portion of the spill flow path within the release footprint.

View North – A portion of the spill flow path within the release footprint.

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View Northwest – A portion of the spill flow path within the release footprint.

View South – Sample location Auger Hole 1 (red circle) middle of photograph.

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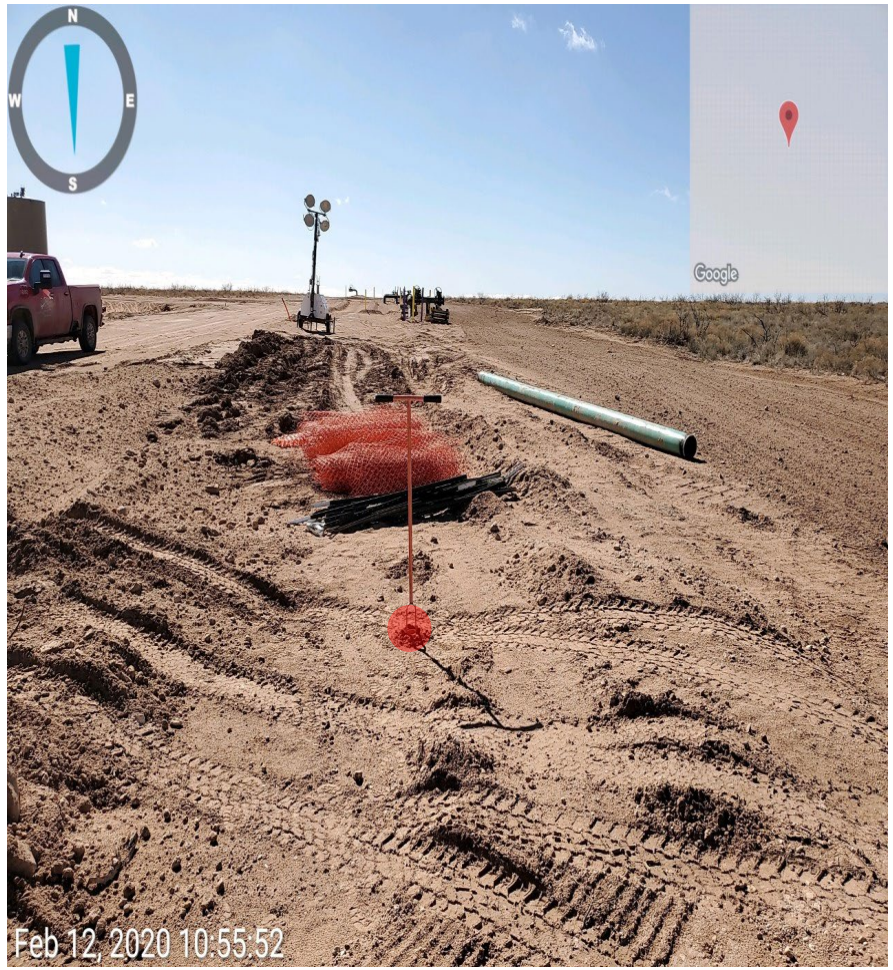
View South – Sample location Auger Hole 2 (red circle) middle of photograph.



View South – Sample location Auger Hole 3 (red circle) middle of photograph.

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View Southwest – Sample location Auger Hole 4 (red circle) middle of photograph.

View South – Sample location Auger Hole 5 (red circle) middle of photograph.

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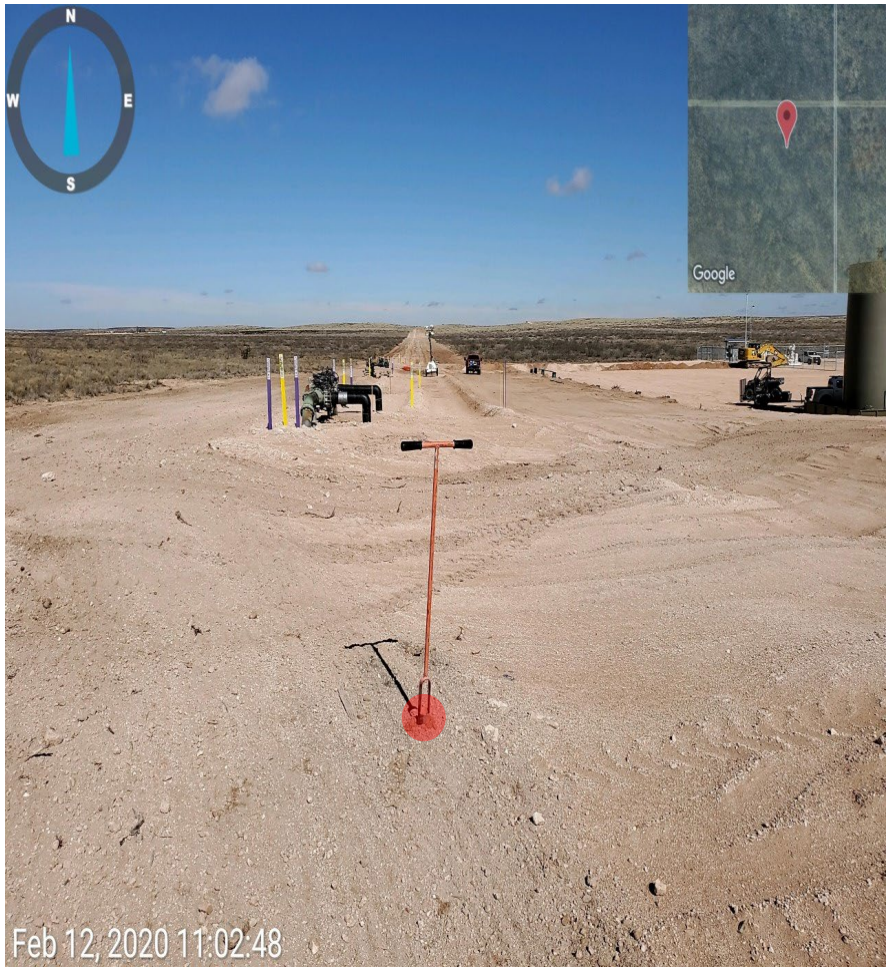
View South – Sample location Auger Hole 6 (red circle) middle of photograph.



View North – Sample location Auger Hole 7 (red circle) middle of photograph.

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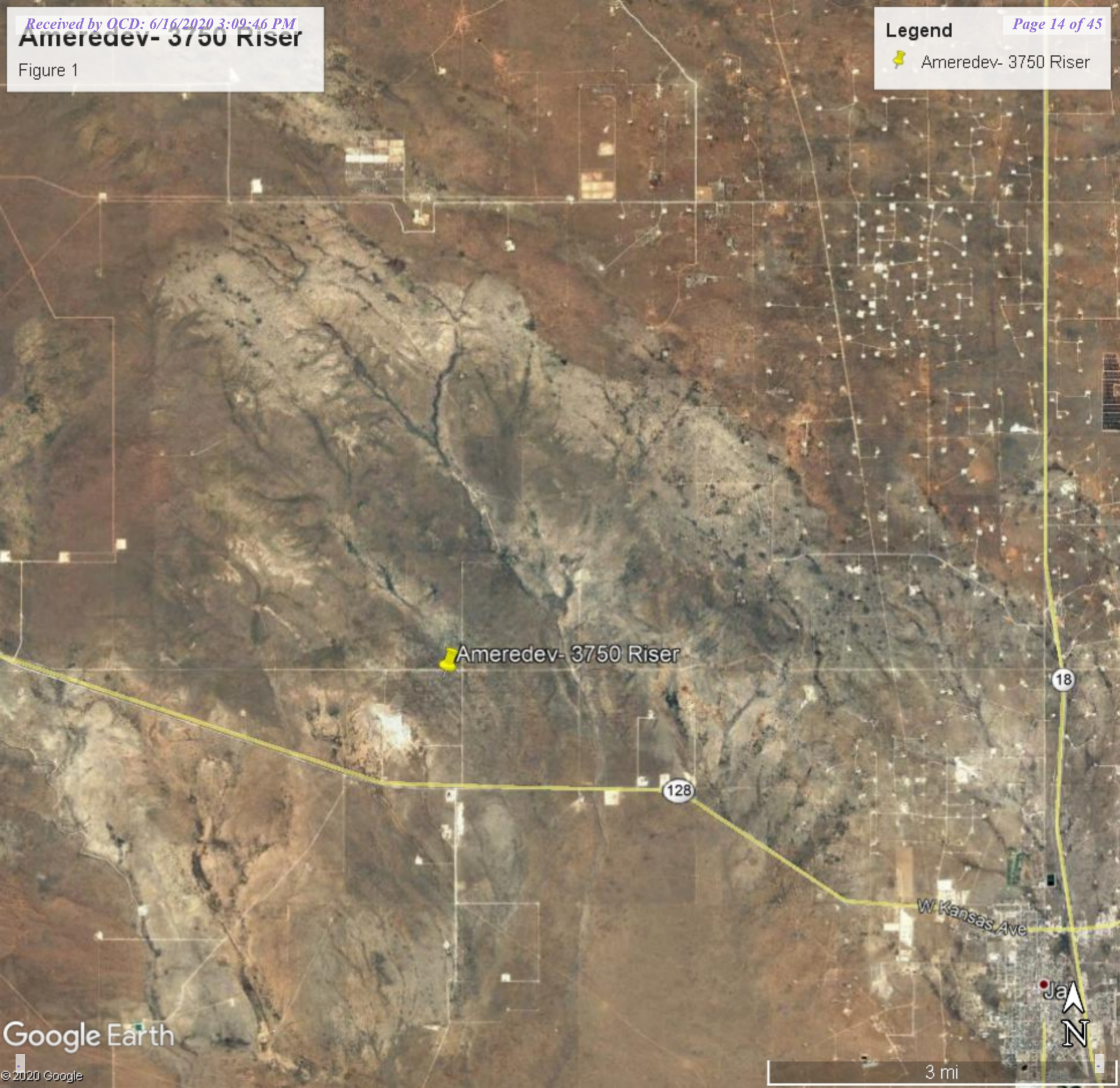
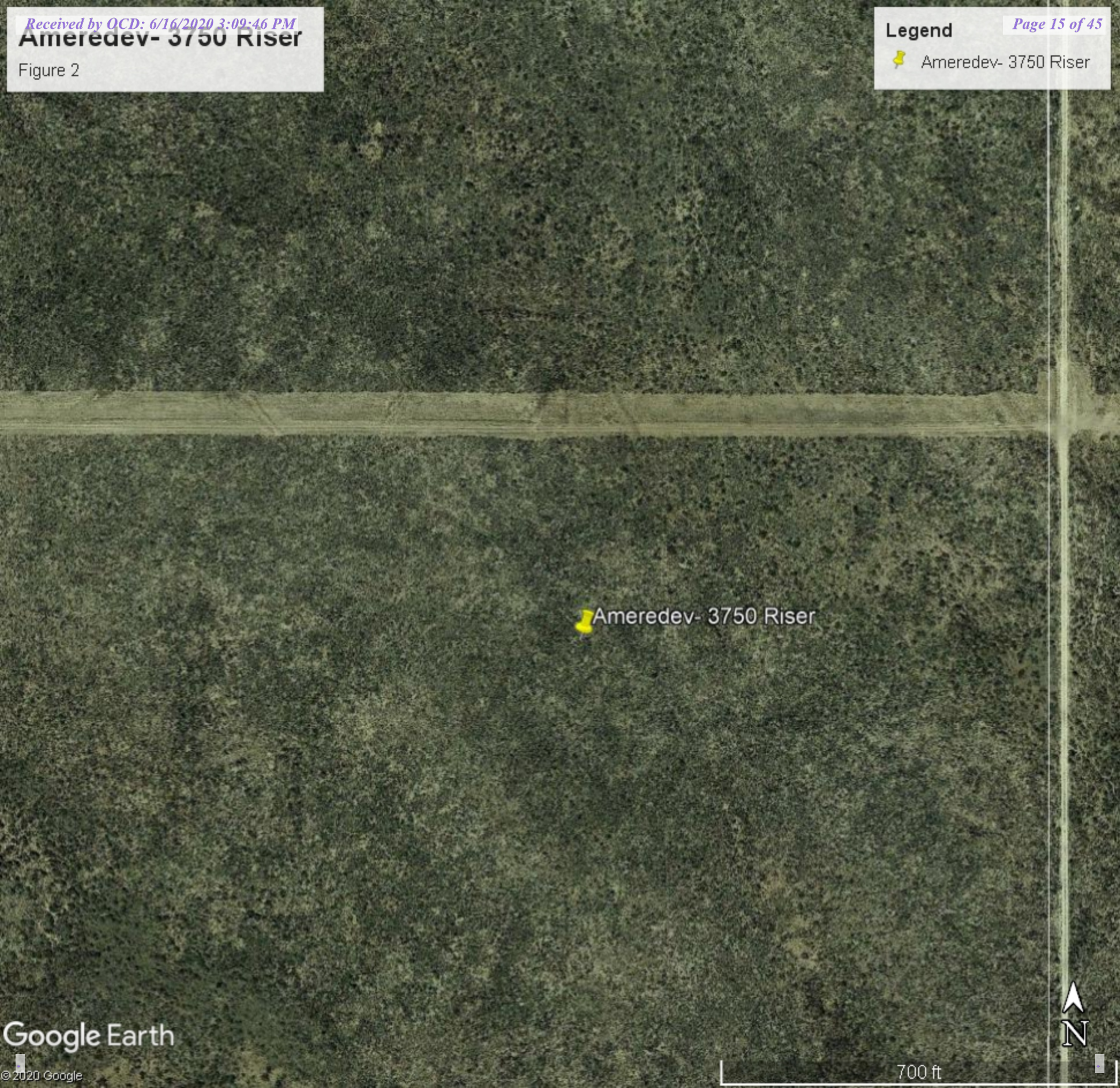
Ameredev- 3750 Riser

Figure 1



Ameredev- 3750 Riser

Figure 2

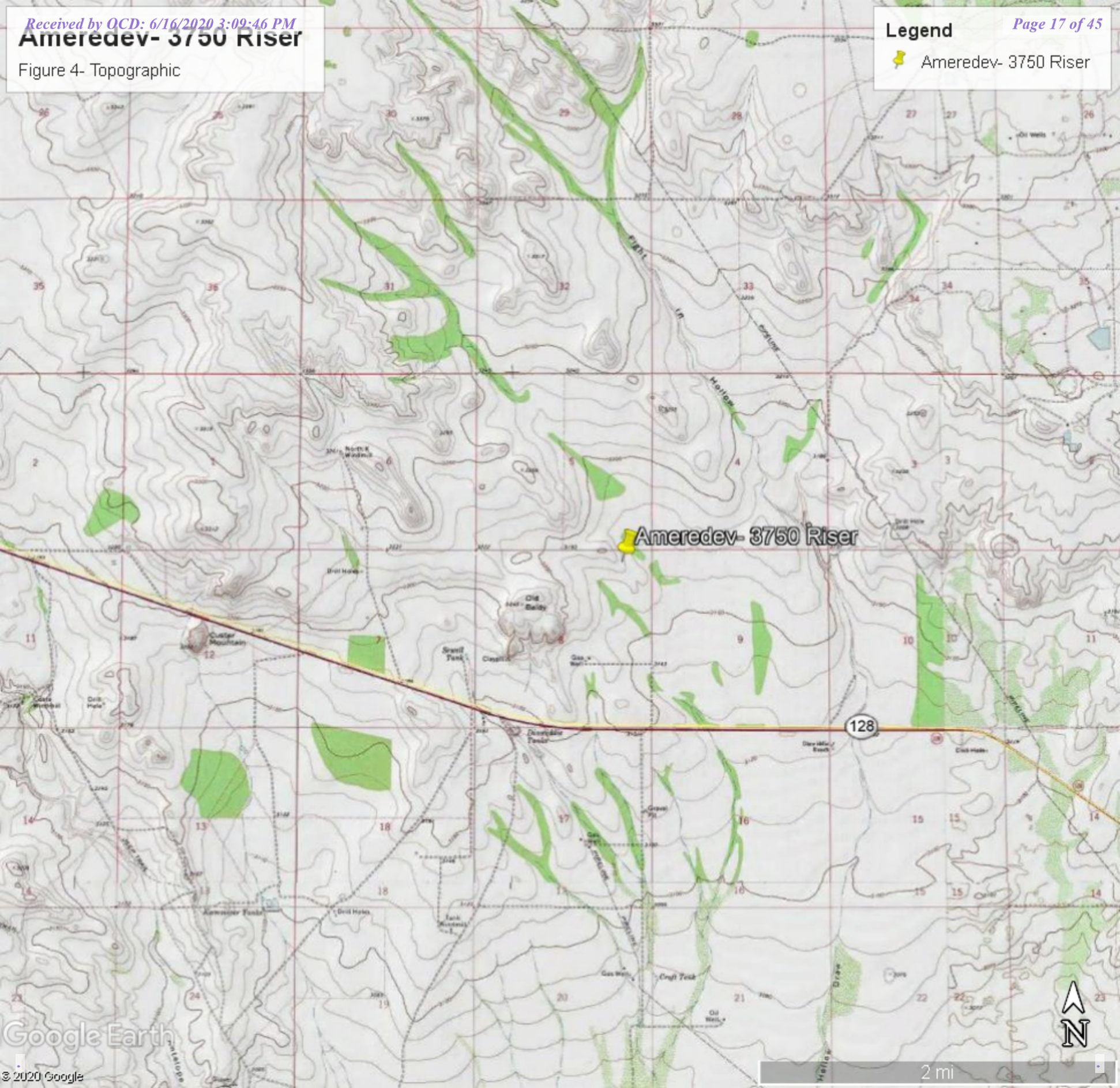


Ameredev- 3750 Riser

Figure 3

Ameredev- 3750 Riser

Figure 4- Topographic



Certificate of Analysis Summary 652236

American Safety Services, Odessa, TX

Project Name: Ameredev-3750 Riser

Project Id:
Contact: Thomas Franklin
Project Location: Lea Co.NM

Date Received in Lab: Thu Feb-13-20 08:28 am
Report Date: 14-FEB-20
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	652236-001		652236-002		652236-003		652236-004		652236-005		652236-006	
	Field Id:	Auger Hole 1		Auger Hole 1		Auger Hole 1		Auger Hole 1		Auger Hole 2		Auger Hole 3	
	Depth:	5-6 ft		6-7 ft		7-8 ft		8-9 ft		0-1 ft		0-1 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-12-20 11:15		Feb-12-20 11:17		Feb-12-20 11:19		Feb-12-20 11:21		Feb-12-20 11:26		Feb-12-20 11:31	
BTEX by EPA 8021B	***Extracted:***	Feb-13-20 10:00								Feb-13-20 10:00		Feb-13-20 10:00	
	Analyzed:	Feb-13-20 15:31								Feb-13-20 15:51		Feb-13-20 16:11	
	Units/RL:	mg/kg	RL							mg/kg	RL	mg/kg	RL
Benzene		<0.00199	0.00199							<0.00199	0.00199	0.00416	0.00200
Toluene		<0.00199	0.00199							<0.00199	0.00199	0.0282	0.00200
Ethylbenzene		<0.00199	0.00199							<0.00199	0.00199	0.00361	0.00200
m,p-Xylenes		<0.00398	0.00398							<0.00398	0.00398	<0.00399	0.00399
o-Xylene		<0.00199	0.00199							<0.00199	0.00199	0.00248	0.00200
Total Xylenes		<0.00199	0.00199							<0.00199	0.00199	0.00248	0.002
Total BTEX		<0.00199	0.00199							<0.00199	0.00199	0.03845	0.002
Chloride by EPA 300	***Extracted:***	Feb-13-20 14:30		Feb-13-20 14:30		Feb-13-20 14:30		Feb-13-20 14:30		Feb-13-20 14:30		Feb-13-20 14:30	
	Analyzed:	Feb-13-20 16:11		Feb-13-20 16:27		Feb-13-20 16:32		Feb-13-20 16:38		Feb-13-20 16:43		Feb-13-20 16:59	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Chloride		8.8048	4.9801	9.9950	4.9702	7.3010	4.9505	6.6396	4.9505	7.3364	5.0505	7.8068	5.0302
TPH by SW8015 Mod	***Extracted:***	Feb-13-20 14:00								Feb-13-20 14:00		Feb-13-20 14:00	
	Analyzed:	Feb-13-20 18:11								Feb-13-20 19:13		Feb-13-20 19:34	
	Units/RL:	mg/kg	RL							mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9							<50.0	50.0	<49.9	49.9
Diesel Range Organics (DRO)		<49.9	49.9							<50.0	50.0	<49.9	49.9
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9							<50.0	50.0	<49.9	49.9
Total TPH		<49.9	49.9							<50	50	<49.9	49.9

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 652236

American Safety Services, Odessa, TX

Project Name: Ameredev-3750 Riser

Project Id:
Contact: Thomas Franklin
Project Location: Lea Co.NM

Date Received in Lab: Thu Feb-13-20 08:28 am
Report Date: 14-FEB-20
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	652236-007		652236-008		652236-009		652236-010					
	Field Id:	Auger Hole 4		Auger Hole 5		Auger Hole 6		Auger Hole 7					
	Depth:	0-1 ft		0-1 ft		0-1 ft		0-1 ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Feb-12-20 11:36		Feb-12-20 11:41		Feb-12-20 11:46		Feb-12-20 11:51					
BTEX by EPA 8021B	***Extracted:***	Feb-13-20 10:00		Feb-13-20 10:00		Feb-13-20 10:00		Feb-13-20 10:00					
	Analyzed:	Feb-13-20 17:30		Feb-13-20 17:50		Feb-13-20 18:11		Feb-13-20 18:31					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		0.00626	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200				
Toluene		0.0258	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200				
Ethylbenzene		0.00597	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200				
m,p-Xylenes		<0.00398	0.00398	<0.00400	0.00400	<0.00402	0.00402	<0.00400	0.00400				
o-Xylene		0.00653	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200				
Total Xylenes		0.00653	0.00199	<0.002	0.002	<0.00201	0.00201	<0.002	0.002				
Total BTEX		0.04456	0.00199	<0.002	0.002	<0.00201	0.00201	<0.002	0.002				
Chloride by EPA 300	***Extracted:***	Feb-13-20 14:30		Feb-13-20 14:30		Feb-13-20 14:30		Feb-13-20 14:30					
	Analyzed:	Feb-13-20 17:04		Feb-13-20 17:09		Feb-13-20 17:14		Feb-13-20 17:20					
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL				
Chloride		9.1410	5.0000	<5.0100	5.0100	8.6233	4.9702	<4.9900	4.9900				
TPH by SW8015 Mod	***Extracted:***	Feb-13-20 14:00		Feb-13-20 14:00		Feb-13-20 14:00		Feb-13-20 14:00					
	Analyzed:	Feb-13-20 19:55		Feb-13-20 20:16		Feb-13-20 20:37		Feb-13-20 20:58					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0				
Diesel Range Organics (DRO)		<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0				
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0				
Total TPH		<49.9	49.9	<50	50	<49.9	49.9	<50	50				

Jessica Kramer
Project Assistant

Analytical Report 652236

for

American Safety Services

Project Manager: Thomas Franklin

Ameredev-3750 Riser

14-FEB-20

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

14-FEB-20

Project Manager: **Thomas Franklin**
American Safety Services
8715 Andrews Hwy
Odessa, TX 79765

Reference: XENCO Report No(s): **652236**
Ameredev-3750 Riser
Project Address: Lea Co.NM

Thomas Franklin:

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) 652236. 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. 652236 will be filed for 45 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,

Jessica Kramer

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
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Sample Cross Reference 652236

American Safety Services, Odessa, TX

Ameredev-3750 Riser

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Auger Hole 1	S	02-12-20 11:15	5 - 6 ft	652236-001
Auger Hole 1	S	02-12-20 11:17	6 - 7 ft	652236-002
Auger Hole 1	S	02-12-20 11:19	7 - 8 ft	652236-003
Auger Hole 1	S	02-12-20 11:21	8 - 9 ft	652236-004
Auger Hole 2	S	02-12-20 11:26	0 - 1 ft	652236-005
Auger Hole 3	S	02-12-20 11:31	0 - 1 ft	652236-006
Auger Hole 4	S	02-12-20 11:36	0 - 1 ft	652236-007
Auger Hole 5	S	02-12-20 11:41	0 - 1 ft	652236-008
Auger Hole 6	S	02-12-20 11:46	0 - 1 ft	652236-009
Auger Hole 7	S	02-12-20 11:51	0 - 1 ft	652236-010

CASE NARRATIVE

Client Name: American Safety Services

Project Name: Ameredev-3750 Riser

Project ID:
Work Order Number(s): *652236*

Report Date: *14-FEB-20*
Date Received: *02/13/2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3116502 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered below QC limits. Samples affected are: 7696544-1-BLK.

Batch: LBA-3116504 TPH by SW8015 Mod
Lab Sample ID 652236-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Motor Oil Range Hydrocarbons (MRO) 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: 652236-001, -005, -006, -007, -008, -009, -010.
The Laboratory Control Sample for Motor Oil Range Hydrocarbons (MRO) is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analytical Results 652236

American Safety Services, Odessa, TX

Ameredev-3750 Riser

Sample Id:	**Auger Hole 1**	Matrix:	Soil	Date Received:	02.13.20 08.28
Lab Sample Id:	652236-001	Date Collected:	02.12.20 11.15	Sample Depth:	5 - 6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	02.13.20 14.30	Basis:	Wet Weight
Seq Number:	3116532				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8.8048**	4.9801	mg/L	02.13.20 16.11		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.13.20 14.00	Basis:	Wet Weight
Seq Number:	3116504				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.13.20 18.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.13.20 18.11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.13.20 18.11	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.13.20 18.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	02.13.20 18.11	
o-Terphenyl	84-15-1	92	%	70-135	02.13.20 18.11	

Certificate of Analytical Results 652236

American Safety Services, Odessa, TX

Ameredev-3750 Riser

Sample Id:	**Auger Hole 1**	Matrix:	Soil	Date Received:	02.13.20 08.28
Lab Sample Id:	652236-001	Date Collected:	02.12.20 11.15	Sample Depth:	5 - 6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	02.13.20 10.00	Basis:	Wet Weight
Seq Number:	3116502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.13.20 15.31	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.13.20 15.31	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.13.20 15.31	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.13.20 15.31	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.13.20 15.31	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.13.20 15.31	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.13.20 15.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	116	%	70-130	02.13.20 15.31	
4-Bromofluorobenzene	460-00-4	84	%	70-130	02.13.20 15.31	

Certificate of Analytical Results 652236

American Safety Services, Odessa, TX

Ameredev-3750 Riser

Sample Id:	**Auger Hole 1**	Matrix:	Soil	Date Received:	02.13.20 08.28
Lab Sample Id:	652236-002	Date Collected:	02.12.20 11.17	Sample Depth:	6 - 7 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	02.13.20 14.30	Basis:	Wet Weight
Seq Number:	3116532				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9.9950**	4.9702	mg/L	02.13.20 16.27		1

Certificate of Analytical Results 652236

American Safety Services, Odessa, TX

Ameredev-3750 Riser

Sample Id:	**Auger Hole 1**	Matrix:	Soil	Date Received:	02.13.20 08.28
Lab Sample Id:	652236-003	Date Collected:	02.12.20 11.19	Sample Depth:	7 - 8 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	02.13.20 14.30	Basis:	Wet Weight
Seq Number:	3116532				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7.3010**	4.9505	mg/L	02.13.20 16.32		1

Certificate of Analytical Results 652236

American Safety Services, Odessa, TX

Ameredev-3750 Riser

Sample Id:	**Auger Hole 1**	Matrix:	Soil	Date Received:	02.13.20 08.28
Lab Sample Id:	652236-004	Date Collected:	02.12.20 11.21	Sample Depth:	8 - 9 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	02.13.20 14.30	Basis:	Wet Weight
Seq Number:	3116532				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6.6396**	4.9505	mg/L	02.13.20 16.38		1

Certificate of Analytical Results 652236

American Safety Services, Odessa, TX

Ameredev-3750 Riser

Sample Id:	**Auger Hole 2**	Matrix:	Soil	Date Received:	02.13.20 08.28
Lab Sample Id:	652236-005	Date Collected:	02.12.20 11.26	Sample Depth:	0 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	02.13.20 14.30	Basis:	Wet Weight
Seq Number:	3116532				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7.3364**	5.0505	mg/L	02.13.20 16.43		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.13.20 14.00	Basis:	Wet Weight
Seq Number:	3116504				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.13.20 19.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.13.20 19.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.13.20 19.13	U	1
Total TPH	PHC635	<50	50	mg/kg	02.13.20 19.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	02.13.20 19.13	
o-Terphenyl	84-15-1	92	%	70-135	02.13.20 19.13	

Certificate of Analytical Results 652236

American Safety Services, Odessa, TX

Ameredev-3750 Riser

Sample Id:	**Auger Hole 2**	Matrix:	Soil	Date Received:	02.13.20 08.28
Lab Sample Id:	652236-005	Date Collected:	02.12.20 11.26	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	02.13.20 10.00	Basis:	Wet Weight
Seq Number:	3116502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.13.20 15.51	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.13.20 15.51	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.13.20 15.51	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.13.20 15.51	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.13.20 15.51	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.13.20 15.51	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.13.20 15.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	80	%	70-130	02.13.20 15.51	
1,4-Difluorobenzene	540-36-3	117	%	70-130	02.13.20 15.51	

Certificate of Analytical Results 652236

American Safety Services, Odessa, TX

Ameredev-3750 Riser

Sample Id:	**Auger Hole 3**	Matrix:	Soil	Date Received:	02.13.20 08.28
Lab Sample Id:	652236-006	Date Collected:	02.12.20 11.31	Sample Depth:	0 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	02.13.20 14.30	Basis:	Wet Weight
Seq Number:	3116532				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7.8068**	5.0302	mg/L	02.13.20 16.59		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.13.20 14.00	Basis:	Wet Weight
Seq Number:	3116504				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.13.20 19.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.13.20 19.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.13.20 19.34	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.13.20 19.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	02.13.20 19.34	
o-Terphenyl	84-15-1	92	%	70-135	02.13.20 19.34	

Certificate of Analytical Results 652236

American Safety Services, Odessa, TX

Ameredev-3750 Riser

Sample Id:	**Auger Hole 3**	Matrix:	Soil	Date Received:	02.13.20 08.28
Lab Sample Id:	652236-006	Date Collected:	02.12.20 11.31	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	02.13.20 10.00	Basis:	Wet Weight
Seq Number:	3116502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.00416**	0.00200	mg/kg	02.13.20 16.11		1
Toluene	108-88-3	**0.0282**	0.00200	mg/kg	02.13.20 16.11		1
Ethylbenzene	100-41-4	**0.00361**	0.00200	mg/kg	02.13.20 16.11		1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.13.20 16.11	U	1
o-Xylene	95-47-6	**0.00248**	0.00200	mg/kg	02.13.20 16.11		1
Total Xylenes	1330-20-7	**0.00248**	0.002	mg/kg	02.13.20 16.11		1
Total BTEX		**0.03845**	0.002	mg/kg	02.13.20 16.11		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	117	%	70-130	02.13.20 16.11	
4-Bromofluorobenzene	460-00-4	82	%	70-130	02.13.20 16.11	

Certificate of Analytical Results 652236

American Safety Services, Odessa, TX

Ameredev-3750 Riser

Sample Id:	**Auger Hole 4**	Matrix:	Soil	Date Received:	02.13.20 08.28
Lab Sample Id:	652236-007	Date Collected:	02.12.20 11.36	Sample Depth:	0 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	02.13.20 14.30	Basis:	Wet Weight
Seq Number:	3116532				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9.1410**	5.0000	mg/L	02.13.20 17.04		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.13.20 14.00	Basis:	Wet Weight
Seq Number:	3116504				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.13.20 19.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.13.20 19.55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.13.20 19.55	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.13.20 19.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	02.13.20 19.55	
o-Terphenyl	84-15-1	91	%	70-135	02.13.20 19.55	

Certificate of Analytical Results 652236

American Safety Services, Odessa, TX

Ameredev-3750 Riser

Sample Id:	**Auger Hole 4**	Matrix:	Soil	Date Received:	02.13.20 08.28
Lab Sample Id:	652236-007	Date Collected:	02.12.20 11.36	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	02.13.20 10.00	Basis:	Wet Weight
Seq Number:	3116502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.00626**	0.00199	mg/kg	02.13.20 17.30		1
Toluene	108-88-3	**0.0258**	0.00199	mg/kg	02.13.20 17.30		1
Ethylbenzene	100-41-4	**0.00597**	0.00199	mg/kg	02.13.20 17.30		1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.13.20 17.30	U	1
o-Xylene	95-47-6	**0.00653**	0.00199	mg/kg	02.13.20 17.30		1
Total Xylenes	1330-20-7	**0.00653**	0.00199	mg/kg	02.13.20 17.30		1
Total BTEX		**0.04456**	0.00199	mg/kg	02.13.20 17.30		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	112	%	70-130	02.13.20 17.30	
4-Bromofluorobenzene	460-00-4	75	%	70-130	02.13.20 17.30	

Certificate of Analytical Results 652236

American Safety Services, Odessa, TX

Ameredev-3750 Riser

Sample Id:	**Auger Hole 5**	Matrix:	Soil	Date Received:	02.13.20 08.28
Lab Sample Id:	652236-008	Date Collected:	02.12.20 11.41	Sample Depth:	0 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	02.13.20 14.30	Basis:	Wet Weight
Seq Number:	3116532				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.0100	5.0100	mg/L	02.13.20 17.09	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.13.20 14.00	Basis:	Wet Weight
Seq Number:	3116504				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.13.20 20.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.13.20 20.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.13.20 20.16	U	1
Total TPH	PHC635	<50	50	mg/kg	02.13.20 20.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	02.13.20 20.16	
o-Terphenyl	84-15-1	91	%	70-135	02.13.20 20.16	

Certificate of Analytical Results 652236

American Safety Services, Odessa, TX

Ameredev-3750 Riser

Sample Id:	**Auger Hole 5**	Matrix:	Soil	Date Received:	02.13.20 08.28
Lab Sample Id:	652236-008	Date Collected:	02.12.20 11.41	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	02.13.20 10.00	Basis:	Wet Weight
Seq Number:	3116502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.13.20 17.50	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.13.20 17.50	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.13.20 17.50	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.13.20 17.50	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.13.20 17.50	U	1
Total Xylenes	1330-20-7	<0.002	0.002	mg/kg	02.13.20 17.50	U	1
Total BTEX		<0.002	0.002	mg/kg	02.13.20 17.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	70-130	02.13.20 17.50	
1,4-Difluorobenzene	540-36-3	102	%	70-130	02.13.20 17.50	

Certificate of Analytical Results 652236

American Safety Services, Odessa, TX

Ameredev-3750 Riser

Sample Id:	**Auger Hole 6**	Matrix:	Soil	Date Received:	02.13.20 08.28
Lab Sample Id:	652236-009	Date Collected:	02.12.20 11.46	Sample Depth:	0 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	02.13.20 14.30	Basis:	Wet Weight
Seq Number:	3116532				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8.6233**	4.9702	mg/L	02.13.20 17.14		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.13.20 14.00	Basis:	Wet Weight
Seq Number:	3116504				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.13.20 20.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.13.20 20.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.13.20 20.37	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.13.20 20.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	02.13.20 20.37	
o-Terphenyl	84-15-1	93	%	70-135	02.13.20 20.37	

Certificate of Analytical Results 652236

American Safety Services, Odessa, TX

Ameredev-3750 Riser

Sample Id:	**Auger Hole 6**	Matrix:	Soil	Date Received:	02.13.20 08.28
Lab Sample Id:	652236-009	Date Collected:	02.12.20 11.46	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	02.13.20 10.00	Basis:	Wet Weight
Seq Number:	3116502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.13.20 18.11	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.13.20 18.11	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.13.20 18.11	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.13.20 18.11	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.13.20 18.11	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.13.20 18.11	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.13.20 18.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	70-130	02.13.20 18.11	
1,4-Difluorobenzene	540-36-3	109	%	70-130	02.13.20 18.11	

Certificate of Analytical Results 652236

American Safety Services, Odessa, TX

Ameredev-3750 Riser

Sample Id:	**Auger Hole 7**	Matrix:	Soil	Date Received:	02.13.20 08.28
Lab Sample Id:	652236-010	Date Collected:	02.12.20 11.51	Sample Depth:	0 - 1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	02.13.20 14.30	Basis:	Wet Weight
Seq Number:	3116532				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.9900	4.9900	mg/L	02.13.20 17.20	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.13.20 14.00	Basis:	Wet Weight
Seq Number:	3116504				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.13.20 20.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.13.20 20.58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.13.20 20.58	U	1
Total TPH	PHC635	<50	50	mg/kg	02.13.20 20.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	02.13.20 20.58	
o-Terphenyl	84-15-1	91	%	70-135	02.13.20 20.58	

Certificate of Analytical Results 652236

American Safety Services, Odessa, TX

Ameredev-3750 Riser

Sample Id:	**Auger Hole 7**	Matrix:	Soil	Date Received:	02.13.20 08.28
Lab Sample Id:	652236-010	Date Collected:	02.12.20 11.51	Sample Depth:	0 - 1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	02.13.20 10.00	Basis:	Wet Weight
Seq Number:	3116502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.13.20 18.31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.13.20 18.31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.13.20 18.31	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.13.20 18.31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.13.20 18.31	U	1
Total Xylenes	1330-20-7	<0.002	0.002	mg/kg	02.13.20 18.31	U	1
Total BTEX		<0.002	0.002	mg/kg	02.13.20 18.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	89	%	70-130	02.13.20 18.31	
1,4-Difluorobenzene	540-36-3	108	%	70-130	02.13.20 18.31	

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

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

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

QC Summary 652236

American Safety Services

Ameredev-3750 Riser

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3116532 — Matrix: Solid — Date Prep: 02.13.20
MB Sample Id: 7696641-1-BLK — LCS Sample Id: 7696641-1-BKS — LCSD Sample Id: 7696641-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.0000	250.00	258.60	103	258.47	103	90-110	0	20	mg/L	02.13.20 16:01	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3116532 — Matrix: Soil — Date Prep: 02.13.20
Parent Sample Id: 652236-001 — MS Sample Id: 652236-001 S — MSD Sample Id: 652236-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	8.8048	249.00	267.16	104	266.35	103	90-110	0	20	mg/L	02.13.20 16:17	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3116532 — Matrix: Soil — Date Prep: 02.13.20
Parent Sample Id: 652237-001 — MS Sample Id: 652237-001 S — MSD Sample Id: 652237-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	407.42	249.00	650.79	98	648.61	97	90-110	0	20	mg/L	02.13.20 17:30	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3116504 — Matrix: Solid — Date Prep: 02.13.20
MB Sample Id: 7696636-1-BLK — LCS Sample Id: 7696636-1-BKS — LCSD Sample Id: 7696636-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	837	84	840	84	70-135	0	20	mg/kg	02.13.20 17:29	
Diesel Range Organics (DRO)	<50.0	1000	934	93	909	91	70-135	3	20	mg/kg	02.13.20 17:29	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		104		101		70-135	%	02.13.20 17:29
o-Terphenyl	102		111		106		70-135	%	02.13.20 17:29

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3116504 — Matrix: Solid — Date Prep: 02.13.20
MB Sample Id: 7696636-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.13.20 17:01	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 652236

American Safety Services

Ameredev-3750 Riser

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3116504 Matrix: Soil Date Prep: 02.13.20
Parent Sample Id: 652236-001 MS Sample Id: 652236-001 S MSD Sample Id: 652236-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	998	832	83	836	84	70-135	0	20	mg/kg	02.13.20 18:31	
Diesel Range Organics (DRO)	<49.9	998	863	86	948	95	70-135	9	20	mg/kg	02.13.20 18:31	
Motor Oil Range Hydrocarbons (MRO)	<49.9	998	<49.9	0	<49.8	0	70-135	NC	20	mg/kg	02.13.20 18:31	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	91		99		70-135	%	02.13.20 18:31
o-Terphenyl	95		127		70-135	%	02.13.20 18:31

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3116502 Matrix: Solid Date Prep: 02.13.20
MB Sample Id: 7696544-1-BLK LCS Sample Id: 7696544-1-BKS LCSD Sample Id: 7696544-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.115	115	0.107	107	70-130	7	35	mg/kg	02.13.20 10:20	
Toluene	<0.000456	0.100	0.109	109	0.106	106	70-130	3	35	mg/kg	02.13.20 10:20	
Ethylbenzene	<0.000565	0.100	0.105	105	0.102	102	70-130	3	35	mg/kg	02.13.20 10:20	
m,p-Xylenes	<0.00101	0.200	0.205	103	0.202	101	70-130	1	35	mg/kg	02.13.20 10:20	
o-Xylene	<0.000344	0.100	0.100	100	0.0996	100	70-130	0	35	mg/kg	02.13.20 10:20	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		109		110		70-130	%	02.13.20 10:20
4-Bromofluorobenzene	69	**	83		88		70-130	%	02.13.20 10:20

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3116502 Matrix: Soil Date Prep: 02.13.20
Parent Sample Id: 652237-001 MS Sample Id: 652237-001 S MSD Sample Id: 652237-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.0991	99	0.105	105	70-130	6	35	mg/kg	02.13.20 11:00	
Toluene	0.000488	0.100	0.0980	98	0.103	103	70-130	5	35	mg/kg	02.13.20 11:00	
Ethylbenzene	<0.000565	0.100	0.0934	93	0.0982	98	70-130	5	35	mg/kg	02.13.20 11:00	
m,p-Xylenes	<0.00101	0.200	0.183	92	0.192	96	70-130	5	35	mg/kg	02.13.20 11:00	
o-Xylene	0.000369	0.100	0.0898	89	0.0947	94	70-130	5	35	mg/kg	02.13.20 11:00	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	110		115		70-130	%	02.13.20 11:00
4-Bromofluorobenzene	83		88		70-130	%	02.13.20 11:00

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

CHAIN OF CUSTODY

Page 1 Of 1

XENCO LABORATORIES

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Xenco Job # 605235

Client / Reporting Information

Company Name / Branch: American Safety Services Inc.

Company Address: 8715 Andrews Hwy, Odessa Tx 79765

Email: tfranklin@americansafety.net, mdial@americansafety.net

Phone No: 432-557-9868, 432-557-6195

Project Contact: Thomas Franklin

Samplers's Name: Michael Dial

Project Information

Project Name/Number: Ameredev-3750 Riser

Project Location: Lea Co. NM

Invoice To: Bill ASSI. ATTN Thomas Franklin & Mike Dial

PO Number:

Analytical Information

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	BTEX 8021	TPH 8015	Chloride	Hold	Field Comments
1	Auger Hole 1	5-6'	2/12/2020	1115	S	1									X	X	X		
2	Auger Hole 1	6-7'	2/12/2020	1117	S	1											X	X	
3	Auger Hole 1	7-8'	2/12/2020	1119	S	1											X	X	
4	Auger Hole 1	8-9'	2/12/2020	1121	S	1											X	X	
5	Auger Hole 2	0-1'	2/12/2020	1126	S	1									X	X	X		
6	Auger Hole 3	0-1'	2/12/2020	1131	S	1									X	X	X		
7	Auger Hole 4	0-1'	2/12/2020	1136	S	1									X	X	X		
8	Auger Hole 5	0-1'	2/12/2020	1141	S	1									X	X	X		
9	Auger Hole 6	0-1'	2/12/2020	1146	S	1									X	X	X		
10	Auger Hole 7	0-1'	2/12/2020	1151	S	1									X	X	X		

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [X] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

FED-EX / UPS: Tracking #

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

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Michael Dial	02-13-20 0700	Miguel Dilan	2 Miguel Dilan	02-13-20 0828	2
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
			3	4		4
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice: X
			5			Cooler Temp: 3.8 Thermo Corr. Factor

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of $75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at $5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: American Safety Services

Date/ Time Received: 02.13.2020 08.28.00 AM

Work Order #: 652236

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)?	5.5
#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 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 02.13.2020
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 02.13.2020
Jessica Kramer