## OCTOBER 10, 2019



## RELEASE CLOSURE REPORT

XTO Energy, Inc. – Arrowhead Grayburg Unit #135

1RP-4414

Prepared for: XTO Energy, Inc.

Prepared by: Sport Environmental Services, LLC

502 N. Big Spring St.

Midland, TX 79701

www.sportenv.com



October 10, 2019

Environmental Specialist Team New Mexico Oil Conservation Division District 1 (Hobbs) 1625 N. French Dr. Hobbs, NM 882140

Re: Release Closure Report XTO Energy, Inc.

Arrowhead Grayburg Unit #135

RP #: 1R-4414

API #: 30-025-04917

Approximate Geographic Coordinates: 32.43793, -103.23019

Unit Letter J, Section 35, Township 21S, Range 36E

Lea County, New Mexico

#### Dear NMOCD Environmental Specialists:

This documentation is being provided as part of XTO Energy, Inc. (XTO or Client) efforts to address historical releases that may have been addressed in the past, but which appear not to have documentation from the New Mexico Oil Conservation Division (NMOCD) clearly demonstrating approved closure of the release. The release referenced above was included in the list of historical releases which occurred prior to August 14, 2018 that are intended to be addressed as described within the "Compliance Agreement for Remediation for Historical Releases" (Compliance Agreement) entered into by NMOCD and XTO on November 8, 2018.

#### Executive Summary

Sport Environmental Services, LLC has prepared, on behalf of XTO, a Release Closure Report for the Arrowhead Grayburg Unit #135 (subject site) where, based on a review of NMOCD records, a release of produced water had occurred. This request for closure is based on a review of the NMOCD's Environmental and Administrative Records Database, historical aerial imagery, and recent confirmation soil sampling which demonstrated that remedial efforts took place and appear to have been successful. As described later in this report, work performed by Environmental Plus, Inc. (a third-party consulting firm that is no longer in business) at the time of the release appears to have been successful in remediating the site. However, since some time has elapsed since the job was completed and some final paperwork confirming NMOCD's closure of this site was unavailable, Sport Environmental performed additional soil sampling and review activities that indicated that the release had been successfully remediated. For this reason, a request for closure is being made to clearly document that the release has been addressed and that no further work is required.

The Initial C-141 Form associated with this release indicated that the release occurred on August 23, 2016 when a leak in a fiberglass flow line developed releasing approximately 117.42 bbls of produced water. Records from the time of the release indicated that a rapid response to the leak began upon discovery with a vacuum truck used to recover 60 bbls of freestanding produced water. In addition, records from this period indicate that contaminated soil from the release site was excavated and hauled to an NMOCD approved disposal facility. In addition to the immediate remedial efforts, aerial imagery and additional confirmation soil sampling indicated that soil in the area had been excavated and replaced with fresh backfill. The full soil

XTO Energy, Inc. – Arrowhead Grayburg Unit #135 (1RP-4414)

sampling results are available herein and demonstrate compliance with applicable regulatory limits. An updated Final Form C-141 containing the Closure Request related to this release is available in **Attachment A**.

#### Site Assessment, Characterization, and Groundwater Depth Determination

As part of efforts to assess and characterize the subject site, aerial imagery was evaluated for the presence of major watercourses within a 0.5-mile radius of the release site. Aerial imagery demonstrating the absence of such watercourses within a 0.5-mile radius of the release site can be found within **Attachment B.** 

A groundwater depth evaluation was performed as well. The relevant New Mexico Office of the State Engineer (NMOSE) and the United States Geological Survey (USGS) databases and GIS query tools were reviewed for groundwater depth information. A 0.5-mile bounding box was utilized when searching the USGS National Water Information System; however, no results appeared within this radius. The radius was expanded to 1.0-mile for this query and also yielded no results. Next, a similar query was performed using the NMOSE Water Rights Reporting System, and at the one-mile radius no results were available. Due to the lack of available groundwater data, the query radius was expanded again to 2.0-miles. This expanded search radius revealed 7 wells drilled between 1969 and 2015 with depths ranging between 70 feet and 165 feet. Based on this data and prior notes from NMOCD that are associated with the subject site, the shallowest depth to water of approximately 70 feet is being utilized to determine the proper clean-up criteria. Please see Figure 1 through Figure 3 on the following pages for the results of the USGS and NMOSE queries which have established the shallowest groundwater depth to be approximately 70 feet below ground surface ('bgs). Based on this data, the appropriate remediation standard specified in the NMOCD Table 1 (NMAC 19.15.29.11) will be applied. All groundwater data is available in Attachment C.

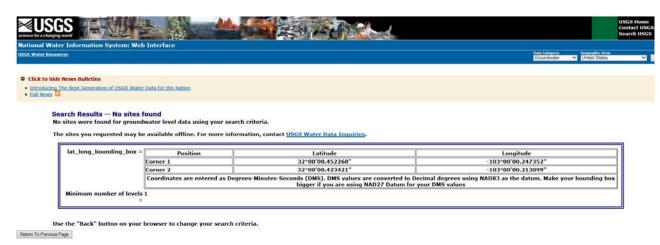


Figure 1. USGS National Water Information System – No results within 0.5-mile of subject site

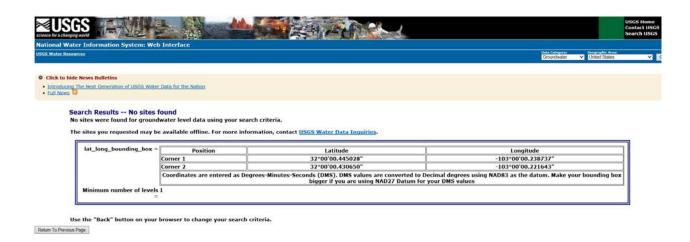
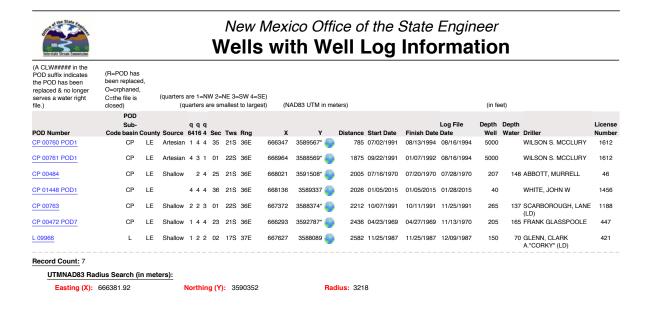


Figure 2. USGS National Water Information System – No results within 1.0-mile of subject site



\*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.

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WELLS WITH WELL LOG INFORMATION

Figure 3. NMOSE Query Results (shallowest groundwater at approximately 70'bgs based on this query)

Given the shallowest groundwater depth of approximately 70'bgs, the appropriate closure criteria for impacted soils at the subject site would appear to be as follows:

Table 1: Site Closure Criteria (Adapted from NMOCD Table 1(NMAC 19.15.29.11))

Closure Criteria for Soils Impacted by a Release: Minimum depth below any point within the horizontal boundary of the release to groundwater is between 51 and 100 feet		
Constituent	Limit (mg/Kg)	
Chloride	10,000	
TPH (Total Petroleum Hydrocarbons) (GRO+DRO+MRO)	2,500	
TPH (Total Petroleum Hydrocarbons) (GRO+DRO)	1,000	
BTEX (Benzene, Toluene, Ethylbenzene, and Xylenes)	50	
Benzene	10	

A Remediation Progress and Closure Proposal Report was prepared and submitted to NMOCD by Environmental Plus, Inc. (EPI), an environmental consulting firm which is no longer in operation, in October of 2016 (please see **Supplemental Attachment A** for a copy of EPI's report). Based on the NMOCD's Administrative and Environmental Imaging Database, EPI's remediation plan and closure request was approved pending completion of the work that EPI had outlined in the document.

As part of XTO's efforts to ensure a full and complete record of closure for this release, Sport Environmental was engaged to review the subject site's history, perform confirmation soil sampling, and prepare a report that clearly demonstrated that the release at the Arrowhead Grayburg Unit #135 had been remediated in accordance with NMOCD's remediation standards. For this reason, confirmation soil samples were collected from within the footprint of the release as determined by a review of aerial imagery and prior documentation available in EPI's Remediation Progress and Closure Proposal Report. The release footprint is displayed on the Release Site Plan denoting sample location placement as shown in **Attachment D**.

#### Soil Sampling Protocol and Scope

On November 2, 2018, discrete depth samples were collected utilizing a truck-mounted Geoprobe 540UD direct push unit at the release source point (SB-1 aka EPI's SP-1). Soil samples were collected at 0-6 inches below ground surface ('bgs) and at 1.5' bgs, which was the deepest point of auger refusal. Soil at the location appeared to be backfill and was homogenous in appearance and texture. The sample location associated with this confirmation soil sampling was selected to be representative of the release source and affected area. The homogenous reddish soil and did not show visual or olfactory evidence of impact. Soil lithology data (i.e., boring log) was generated for the soil borehole location with the greatest depth (i.e., 1.5'bgs at SB1) and prepared for inclusion in this report to show conditions at the site. The boring log is available in **Attachment E**.

All samples were collected and preserved in accordance with proper sampling protocols to ensure representative characterization of soils submitted to Eurofins TestAmerica, a NELAP certified laboratory, under proper chain-of-custody for analysis. Each constituent was analyzed using appropriate analytical methods. Chlorides were analyzed using EPA Method 300, Total Petroleum Hydrocarbons (TPH) using Method 8015B, and BTEX constituents on the using Method 8260.

XTO Energy, Inc. – Arrowhead Grayburg Unit #135 (1RP-4414)

#### Soil Sampling Results

Laboratory analytical results confirmed that impacts from the release had been addressed in the past and that the subject site is clean. A summary of results is available in the table below and full analytical results, inclusive of the chain-of-custody, are provided in **Attachment F.** 

Table 2. Soil Sampling Results (November 2, 2018 Confirmation Sampling)

		BTEX			Total Petroleum Hydrocarbons (TPH)			Chloride
Analyte	Benzene	Toluene	Ethylbenzene	Xylenes, Total	Gasoline Range Organics [C6 - C10]	MRO (C28-C35)	Diesel Range Organics [C10-C28]	Chloride
Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Closure Criteria for Soils Impacted by a Release where the Depth to Groundwater is Between 51 and 100 bgs	10	Total	BTEX Limit is 50	mg/Kg		PH Limit is 2,500 n RO limit is 1,000 n		10,000
490-162712-1 AGU 135 - 5001 @ 0-6' bgs 11/2/2018 4:13 PM	ND	ND	ND	ND	ND	ND	ND	ND
490-162712-2 AGU 135 - 5001 @ 1.5' bgs 11/2/2018 4:13 PM	ND	ND	ND	ND	ND	3.68	ND	97.5

The confirmation soil sampling showed that the soil at the subject site had been replaced with fresh soil. Small plants were growing along the perimeter of the release footprint. A review of aerial imagery depicting the subject site just prior to the release date to the most recent available images reveals that remediation of the release took place.

#### Geo-tagged Site Photographs

Photographs showing the release location and soil sampling activities are provided in the photographic log below. All geotagged photographs contain the geographic coordinates, date, time, and other data associated with their capture.

#### Photographic Log: November 2, 2018



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#### Request for Release Closure - Confirmation Sampling Demonstrates Subject Site is Remediated

Based on the analytical data provided herein, the concentrations of all constituents (i.e., Chlorides, TPH, Benzene, Toluene, Ethylbenzene, and Xylenes) at the subject site were well below their respective limits. In addition, based on a review of aerial imagery and this confirmation sampling, it would appear that work was performed by the client in the past and that the remedial tasks were successful in restoring the subject site to its pre-release conditions. Vegetation is currently being reestablished and the topography of the location is similar to its surroundings.

Sport Environmental, on behalf of XTO Energy respectfully requests closure status be granted for the Arrowhead Grayburg Unit #135 release site which was assigned the 1R-4414 identifier. If NMOCD have any further questions or comments regarding this request for closure, please contact us at (432) 683-1100.

Sincerely,

PROMPH S. MOONEL

Deborah S. Moore, ME, REPA, CESCO, RSO

President

Sport Environmental Services, LLC

cc: Mr. Shelby Pennington (XTO Energy, Inc.)

#### List of Attachments:

- A NMOCD Form C-141 (Closure)
- B 0.5-Mile Radius Map denoting Absence of Major Watercourses
- C Groundwater Depth Data
- D Release Site Plan denoting Sample Locations
- E Boring Log
- F Full Analytical Reports and Chain-of-Custody

Supplemental Attachment A - EPI's C-141 and Remediation Progress Report and Closure Proposal dated October 7, 2016

## Attachment A

NMOCD Form C-141 (Closure)

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	
District RP	
Facility ID	
Application ID	

## **Release Notification**

## **Responsible Party**

			IXCS	ponsi	DIC I al t	· y	
Responsible Party XTO Energy, Inc.			OGRID	5380			
Contact Name Mr. Shelby Pennington, Environmental Supervisor		Contact Te	Telephone (281) 723-9353				
Contact ema	il shelby_	pennington@xtoe	energy.com		Incident #	# (assigned by OCD)	
Contact mail	ing address	6401 Holiday I	Hill Road, Midlar	nd, TX 7	9707		
			Location	n of R	elease So	Source	
Latitude					Longitude _ grees to 5 decin		
Site Name	Arrowhead (	Grayburg Unit #13	35		Site Type	e Flowline	
Date Release	Discovered	08/23/2016			API# (if app	pplicable)	
Unit Letter	Section	Township	Range		Coun	unty	
J	35	21S	36E	Lea			
	Materia					fic justification for the volumes provided below)	
Crude Oi		Volume Release				Volume Recovered (bbls)	
Produced	Water		ed (bbls) 117.42			Volume Recovered (bbls) 60	
		Is the concentra produced water	tion of dissolved >10,000 mg/l?	chloride	in the	Yes No Unknown due to the time that has passed since release discovery.	
Condensa	ite	Volume Release				Volume Recovered (bbls)	
Natural C	ias	Volume Release	ed (Mcf)			Volume Recovered (Mcf)	
Other (de	Other (describe) Volume/Weight Released (provide units)		1	Volume/Weight Recovered (provide units)			
Cause of Rel	ease Fibe	l rglass flow line le	ak.				

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Was this a major	If YES, for what reason(s) does the respon	nsible party consider this a major release?
release as defined by 19.15.29.7(A) NMAC?	More than 25 bbl of fluids were released.	
⊠ Yes □ No		
	ion was likely supplied by XTO at the time	om? When and by what means (phone, email, etc)? of the event. However, several years have passed since the release
	Initial R	esponse
The responsible p	party must undertake the following actions immediates	y unless they could create a safety hazard that would result in injury
☐ The source of the rele	ase has been stopped.	
☐ The impacted area ha	s been secured to protect human health and	the environment.
Released materials ha	ve been contained via the use of berms or o	likes, absorbent pads, or other containment devices.
All free liquids and re	ecoverable materials have been removed an	d managed appropriately.
If all the actions described	d above have <u>not</u> been undertaken, explain	why:
has begun, please attach	a narrative of actions to date. If remedial	emediation immediately after discovery of a release. If remediation efforts have been successfully completed or if the release occurred elease attach all information needed for closure evaluation.
regulations all operators are public health or the environm failed to adequately investiga	required to report and/or file certain release notinent. The acceptance of a C-141 report by the Cate and remediate contamination that pose a three	best of my knowledge and understand that pursuant to OCD rules and fications and perform corrective actions for releases which may endanger OCD does not relieve the operator of liability should their operations have at to groundwater, surface water, human health or the environment. In responsibility for compliance with any other federal, state, or local laws
Printed Name: Shelby Per	nnington	Title: Environmental Coordinator
Signature: Shelb	y Pennington	Date:11/1/19
email: shelby_pennington	@xtoenergy.com	Telephone: (281) 723-9353
OCD Only		
Received by:		Date:

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## Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.				
What is the shallowest depth to groundwater beneath the area affected by the release?	(ft bgs)			
Did this release impact groundwater or surface water?	☐ Yes ⊠ No			
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ⊠ No			
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ⊠ No			
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ⊠ No			
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ⊠ No			
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ⊠ No			
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ⊠ No			
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ⊠ No			
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ⊠ No			
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ⊠ No			
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ⊠ No			
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	⊠ Yes □ No			
Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.				
Characterization Report Checklist: Each of the following items must be included in the report.				

Characterization Report Checklist: Each of the following items must be included in the report.
Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
□ Field data
Data table of soil contaminant concentration data
Depth to water determination
Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
Boring or excavation logs
Photographs including date and GIS information
☐ Topographic/Aerial maps
☐ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

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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: Shelby Pennington	Title: Environmental Coordinator			
Printed Name: Shelby Pennington Signature: Pennington	Date:11/1/19			
email: shelby_pennington@xtoenergy.com	Telephone: (281) 723-9353			
OCD Only				
Received by:	Date:			

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## **Remediation Plan**

Remediation Plan Checklist: Each of the following items must b	e included in the plan.				
□ Detailed description of proposed remediation technique □ Scaled sitemap with GPS coordinates showing delineation points □ Estimated volume of material to be remediated □ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC □ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)					
Deferral Requests Only: Each of the following items must be con-	nfirmed as part of any request for deferral of remediation.				
Contamination must be in areas immediately under or around p deconstruction.	roduction equipment where remediation could cause a major facility				
Extents of contamination must be fully delineated.					
Contamination does not cause an imminent risk to human healt	h, the environment, or groundwater.				
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:	Title:				
Signature:	Date:				
email:	Telephone:				
OCD Only					
Received by:	Date:				
Approved	Approval				
Signature:	Date:				

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## 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 must be notified 2 days prior to liner inspection)	of the liner integrity if applicable (Note: appropriate OCD District office
☐ Laboratory analyses of final sampling (Note: appropriate ODC	District office must be notified 2 days prior to final sampling)
□ Description of remediation activities	
and regulations all operators are required to report and/or file certain may endanger public health or the environment. The acceptance of a should their operations have failed to adequately investigate and rem human health or the environment. In addition, OCD acceptance of a compliance with any other federal, state, or local laws and/or regulative restore, reclaim, and re-vegetate the impacted surface area to the confaccordance with 19.15.29.13 NMAC including notification to the OC Printed Name: Shelby Pennington  Signature:  Signature:  Shelby Pennington  email: shelby_pennington@xtoenergy.com	ediate contamination that pose a threat to groundwater, surface water, C-141 report does not relieve the operator of responsibility for ions. The responsible party acknowledges they must substantially ditions that existed prior to the release or their final land use in CD when reclamation and re-vegetation are complete.  Title: Environmental Coordinator
OCD Only	
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	of liability should their operations have failed to adequately investigate and eater, human health, or the environment nor does not relieve the responsible r regulations.
Closure Approved by: Hall	Date: 3/10/2023
Printed Name: Brittany Hall	Title: Environmental Specialist

## Attachment B

0.5-Mile Radius Map denoting Absence of Major Watercourses



## Attachment C

Groundwater Depth Data

# Arrowhead Grayburg Unit #135 1R-4414

Water Well ID	Lat	Long	Distance from Release (miles)	Drilled Date	DTW (ft)
CP 00760 POD 1	32.430810	-103.230679	0.49	8/13/94	
CP 00761 POD 1	32.421719	-103.224296	1.17	1/7/92	-
CP 00763	32.419899	-103.219993	1.37	10/11/91	137
CP 01448 POD 1	32.428473	-103.211694	1.26	1/5/15	
L 09966	32.417292	-103.217330	1.6	11/25/87	70
CP 00484	32.448060	-103.212536	1.25	7/20/70	148
CP 00472 POD 7	32.459852	-103.230686	1.51	4/27/69	165

<sup>\*</sup> Query date - 10/17/2018



# New Mexico Office of the State Engineer Wells with Well Log Information

(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

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

closed) (quarters are smallest to largest)

(NAD83 UTM in meters) (in feet)

- /	/	` '	•		0	, ,		,		`	,	
POD Number	POD Sub- Code basin Cou	inty Source	q q q 6416 4		Tws Rng	x	Υ	Distance Start Date	Log File Finish Date Date	•	Depth Water Driller	License Number
CP 00760 POD1	CP L	E Artesian	1 4 4	35	21S 36E	666347	3589567*	785 07/02/1991	08/13/1994 08/16/1994	5000	WILSON S. MCCLURY	1612
CP 00761 POD1	CP L	E Artesian	4 3 1	01	22S 36E	666964	3588569*	1875 09/22/1991	01/07/1992 08/16/1994	5000	WILSON S. MCCLURY	1612
<u>CP 00484</u>	CP L	E Shallow	2 4	25	21S 36E	668021	3591508*	2005 07/16/1970	07/20/1970 07/28/1970	207	148 ABBOTT, MURRELL	46
CP 01448 POD1	CP L	E	4 4 4	36	21S 36E	668136	3589337	2026 01/05/2015	01/05/2015 01/28/2015	5 40	WHITE, JOHN W	1456
<u>CP 00763</u>	CP L	E Shallow	2 2 3	01	22S 36E	667372	3588374*	2212 10/07/1991	10/11/1991 11/25/199	1 265	137 SCARBOROUGH, LANE (LD)	1188
CP 00472 POD7	CP L	E Shallow	1 4 4	23	21S 36E	666293	3592787*	2436 04/23/1969	04/27/1969 11/13/1970	205	` '	447
L 09966	L U	E Shallow	122	02	17S 37E	667627	3588089	2582 11/25/1987	11/25/1987 12/09/1987	7 150	70 GLENN, CLARK A."CORKY" (LD)	421

**Record Count:** 7

UTMNAD83 Radius Search (in meters):

**Easting (X):** 666381.92 **Northing (Y):** 3590352 **Radius:** 3218

#### \*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.

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# **Point of Diversion Summary**

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

Well Tag POD Number

Q64 Q16 Q4 Sec Tws Rng

X Y

CP 00472 POD7

1 4 4 23 21S 36E

666293 3592787\*

**S** 

Driller License: 447 Driller Company: GLASSPOOLE, FRANK A.

Driller Name: FRANK GLASSPOOLE

**Drill Start Date:** 04/23/1969

Drill Finish Date:

04/27/1969 Plu

Plug Date:

Log File Date:

11/13/1970

PCW Rcv Date: 01/08/1971

Source:

Shallow

Pump Type:

SUBMER

Pipe Discharge Size: 2

Estimated Yield: 100 GPM

Casing Size:

8.75

Depth Well:

205 feet

Depth Water:

165 feet

**Water Bearing Stratifications:** 

Top Bottom Description

165

205 Other/Unknown

**Casing Perforations:** 

**Top Bottom** 

165

205

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POD SUMMARY - CP 00472 POD7



# **Point of Diversion Summary**

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

Well Tag POD Number

Q64 Q16 Q4 Sec Tws Rng

X Y

CP 00484

2 4 25 21S 36E

668021 3591508\*

Driller License: 46 Driller Company: ABBOTT BROTHERS COMPANY

Driller Name: ABBOTT, MURRELL

**Drill Start Date:** 07/16/1970

**Drill Finish Date:** 

07/20/1970 **PI** 

Plug Date:

Log File Date:

07/28/1970

PCW Rcv Date:

Source:

Shallow

Pump Type:

Pipe Discharge Size:

**Estimated Yield:** 

eld:

Casing Size:

7.00

Depth Well:

207 feet

**Depth Water:** 

148 feet

**Water Bearing Stratifications:** 

**Top Bottom Description** 

124

200 Sandstone/Gravel/Conglomerate

**Casing Perforations:** 

**Top Bottom** 

112 207



# **Point of Diversion Summary**

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

Well Tag **POD Number**  Q64 Q16 Q4 Sec Tws Rng

X

CP 00760 POD1

35 21S 36E

666347 3589567\*



**Driller License: 1612** Driller Company: CAPSTAR DRILLING, L.P.

**Driller Name:** WILSON S. MCCLURY

**Drill Start Date:** 07/02/1991

**Drill Finish Date:** 

08/13/1994

**Plug Date:** 

Log File Date:

08/16/1994

**PCW Rcv Date:** 

08/16/1994

Source: Artesian

**Pump Type:** 

**SUBMER** 

Pipe Discharge Size:

**Estimated Yield:** 

**Casing Size:** 

8.63

**Depth Well:** 

5000 feet

**Depth Water:** 

**Meter Number:** 

8706

**Meter Make:** 

**HALLIBURTON** 

**Number of Dials:** 

Meter Serial Number: 4SBF2539 **Meter Multiplier: Meter Type:** 

1.0000

**Unit of Measure:** 

Barrels 42 gal.

**Return Flow Percent:** 

Diversion

**Usage Multiplier:** Reading Frequency: Quarterly

### Meter Readings (in Acre-Feet)

Read Date	Year	Mtr Reading	Flag	Rdr Comment	Mtr Amount
01/01/2005	2005	66550318	Α	jw	0
03/25/2005	2005	67127663	Α	jw	74.416
11/04/2005	2005	67708246	Α	jw	74.833
12/31/2005	2005	67855282	Α	RPT	18.952
03/31/2006	2006	67981266	Α	RPT	16.238
06/30/2006	2006	68049565	Α	RPT	8.803
10/31/2006	2006	68073277	Α	RPT	3.056
12/31/2006	2006	68130386	Α	RPT	7.361
03/31/2014	2014	73936876	Α	RPT First entry since 12/31/2006	748.417
06/30/2014	2014	74042442	Α	RPT	13.607
09/30/2014	2014	74093937	Α	RPT	6.637
12/31/2014	2014	74158593	Α	RPT	8.334
03/31/2015	2015	74307081	Α	RPT	19.139
06/30/2015	2015	74416194	Α	RPT	14.064
09/30/2015	2015	75640108	Α	RPT	157.754

**YTD Meter Amounts:	Year	Amount
	2005	168.201
	2006	35.458
	2014	776.995

\*UTM location was derived from PLSS - see Help

9/27/18 10:56 AM

\*\*YTD Meter Amounts: Year **Amount** 2015 190.957

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# **Point of Diversion Summary**

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

Well Tag POD Number

Q64 Q16 Q4 Sec Tws Rng

X Ý

CP 00761 POD1

4 3 1 01 22S 36E

666964 3588569\*

Driller License: 1612 Driller Company: CAPSTAR DRILLING, L.P.

Driller Name: WILSON S. MCCLURY

**Drill Start Date:** 09/22/1991

Drill Finish Date:

01/07/1992

Plug Date:

Log File Date:

08/16/1994

**PCW Rcv Date:** 08/16/1994

/16/1994 **Source:** 

Artesian

Pump Type:

SUBMER

Pipe Discharge Size:

**Estimated Yield:** 

Casing Size:

8.63

Depth Well:

5000 feet

**Depth Water:** 

Water Bearing Stratifications:

**Top Bottom Description** 

4080

5000 Limestone/Dolomite/Chalk

Meter Number:

10252

**Meter Make:** 

**Meter Type:** 

HALLIBURTON

Meter Serial Number: 4SBF2540

Meter Multiplier:

1.0000 Diversion

Number of Dials: 9

Barrels 42 gal.

Return Flow Percent:

Unit of Measure: Usage Multiplier:

Reading Frequency: Quarterly

#### **Meter Readings (in Acre-Feet)**

Read Date	Year	Mtr Reading	Flag	Rdr Comment	Mtr Amount
12/31/2005	2005	0	Α	RPT	0
03/31/2006	2006	0	Α	RPT	0
06/30/2006	2006	0	Α	RPT	0
10/30/2006	2006	0	Α	RPT	0
12/31/2006	2006	0	Α	RPT	0
03/31/2014	2014	0	Α	RPT	0
06/30/2014	2014	0	Α	RPT	0

**YTD Meter Amounts:	Year	Amount
	2005	0
	2006	0
	2014	0

#### \*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.



# **Point of Diversion Summary**

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

**Well Tag POD Number**  Q64 Q16 Q4 Sec Tws Rng

X

CP 00763

01 22S 36E

667372 3588374\*

**Driller License: 1188** 

Driller Company: SCARBOROUGH DRILLING INC.

**Driller Name:** SCARBOROUGH, LANE (LD)

**Drill Start Date:** 10/07/1991 **Drill Finish Date:** 

10/11/1991

Plug Date:

Log File Date:

11/25/1991

**PCW Rcv Date:** 

Shallow

**Pump Type:** 

Pipe Discharge Size:

Source: Estimated Yield: 1 GPM

**Casing Size:** 

6.00

**Depth Well:** 

265 feet

**Depth Water:** 

137 feet

**Water Bearing Stratifications:** 

**Top Bottom Description** 

150 Sandstone/Gravel/Conglomerate

126 190

Shale/Mudstone/Siltstone 260

**Casing Perforations:** 

**Top Bottom** 

185 265

\*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.



# New Mexico Office of the State Engineer Doint of Diversion Summers

# **Point of Diversion Summary**

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

Well Tag POD Number

Q64 Q16 Q4 Sec Tws Rng

X Y

CP 01448 POD1

4 4 4 36 21S 36E

668136 3589337

9

Driller License: 1456 Driller Company: WHITE DRILLING COMPANY

Driller Name: WHITE, JOHN W

**Drill Start Date:** 01/05/2015

**Drill Finish Date:** 

01/05/2015

**Plug Date:** 01/05/2015

**Log File Date:** 01/28/2015

PCW Rcv Date:

Source:

Pump Type:

Pipe Discharge Size:

Depth Water:

**Estimated Yield:** 

Casing Size:

Depth Well: 40 feet



# New Mexico Office of the State Engineer **Point of Diversion Summary**

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

**Well Tag POD Number** 

Q64 Q16 Q4 Sec Tws Rng

X

L 09966

2 02 17S 37E

667627 3588089

Driller Company: GLENN'S WATER WELL SERVICE **Driller License: 421** 

**PCW Rcv Date:** 

**Driller Name:** GLENN, CLARK A."CORKY" (LD)

**Drill Start Date:** 11/25/1987 **Drill Finish Date:** 11/25/1987

Plug Date:

Shallow

Log File Date: 12/09/1987

Pipe Discharge Size:

Source: Estimated Yield: 100 GPM

**Pump Type: Casing Size: Depth Well:** 6.63

**Depth Water:** 

70 feet

**Water Bearing Stratifications:** 

**Top Bottom Description** 

70 150 Other/Unknown

150 feet

**Casing Perforations: Top Bottom** 

> 80 150

## Attachment D

Release Site Plan denoting Sample Locations



Attachment E

Boring Log

Boring Log / Field Notes **Arrowhead Grayburg Unit** November 2, 2018

**0-1.5 feet below ground surface:** Soil is a reddish-brown (5YR 4/4) poorly-graded fine sand. The soil appears to be homogenous backfill soil with no olfactory or visual indication of contamination. Soil is dry transitioning to slightly moist.

Geoprobe 540UD with direct push technology was utilized to sample the site. Auger refusal at 1.5 feet below ground surface. A second borehole was attempted, but auger refusal was encountered at just 1.0 feet below ground surface.

## Attachment F

Full Analytical Reports and Chain-of-Custody Forms



THE LEADER IN ENVIRONMENTAL TESTING

## **ANALYTICAL REPORT**

TestAmerica Laboratories, Inc.

TestAmerica Nashville 2960 Foster Creighton Drive Nashville, TN 37204 Tel: (615)726-0177

TestAmerica Job ID: 490-162712-1

TestAmerica SDG: XTO Historical Release Characterization

Client Project/Site: Arrowhead Grayburg Unit #135

For:

Sport Environmental Services LLC 502 N Big Spring St Midland, Texas 79701

Attn: Debi Sport Moore



Authorized for release by: 11/9/2018 11:04:35 AM

Jennifer Gambill, Project Manager I (615)301-5044

jennifer.gambill@testamericainc.com

·····LINKS ·······

Review your project results through

Total Access

**Have a Question?** 



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www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Released to Imaging: 3/10/2023 8:28:31 AM

Client: Sport Environmental Services LLC Project/Site: Arrowhead Grayburg Unit #135 TestAmerica Job ID: 490-162712-1 SDG: XTO Historical Release Characterization

# **Table of Contents**

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Method Summary	16
Certification Summary	17
Chain of Custody	18

2

3

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9

10

# **Sample Summary**

Client: Sport Environmental Services LLC Project/Site: Arrowhead Grayburg Unit #135

TestAmerica Job ID: 490-162712-1 SDG: XTO Historical Release Characterization

\_

Lab Sample ID	Client Sample ID	Matrix	Collected Received
490-162712-1	AGU 135 - S001 @ 0-6' bgs	Solid	11/02/18 16:13 11/07/18 09:55
490-162712-2	AGU 135 - S001 @ 1.5' bgs	Solid	11/02/18 16:13 11/07/18 09:55

3

4

**5** 

Ω

9

10

#### **Case Narrative**

Client: Sport Environmental Services LLC Project/Site: Arrowhead Grayburg Unit #135

TestAmerica Job ID: 490-162712-1 SDG: XTO Historical Release Characterization

Job ID: 490-162712-1

**Laboratory: TestAmerica Nashville** 

Narrative

Job Narrative 490-162712-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 11/7/2018 9:55 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.9° C.

/

4

7

8

9

. .

# **Definitions/Glossary**

Client: Sport Environmental Services LLC Project/Site: Arrowhead Grayburg Unit #135

TestAmerica Job ID: 490-162712-1 SDG: XTO Historical Release Characterization

#### **Qualifiers**

#### **GC Semi VOA**

Qualifier	Qualifier Description

Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

4

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery
CFL Contains Free Liquid
CNF Contains No Free Liquid

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac Dilution Factor

DL Detection Limit (DoD/DOE)

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision Level Concentration (Radiochemistry)

EDL Estimated Detection Limit (Dioxin)

LOD Limit of Detection (DoD/DOE)

LOQ Limit of Quantitation (DoD/DOE)

MDA Minimum Detectable Activity (Radiochemistry)
MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit
ML Minimum Level (Dioxin)

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

QC Quality Control

RER Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin)
TEQ Toxicity Equivalent Quotient (Dioxin)

8

10

11

MRO (C28-C35)

o-Terphenyl (Surr)

Surrogate

# **Client Sample Results**

Client: Sport Environmental Services LLC TestAmerica Job ID: 490-162712-1 Project/Site: Arrowhead Grayburg Unit #135 SDG: XTO Historical Release Characterization

Lab Sample ID: 490-162712-1

11/07/18 10:51 11/07/18 18:44

11/07/18 10:51 11/07/18 18:44

Analyzed

Dil Fac

Prepared

Client Sample ID: AGU 135 - S001 @ 0-6' bgs

Date Collected: 11/02/18 16:13 Date Received: 11/07/18 09:55

**Matrix: Solid** 

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00199	0.000667	mg/Kg		11/07/18 11:54	11/08/18 02:03	1
Ethylbenzene	ND		0.00199	0.000667	mg/Kg		11/07/18 11:54	11/08/18 02:03	1
Toluene	ND		0.00199	0.000737	mg/Kg		11/07/18 11:54	11/08/18 02:03	1
Xylenes, Total	ND		0.00598	0.00123	mg/Kg		11/07/18 11:54	11/08/18 02:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 130				11/07/18 11:54	11/08/18 02:03	1
4-Bromofluorobenzene (Surr)	114		70 - 130				11/07/18 11:54	11/08/18 02:03	1
Dibromofluoromethane (Surr)	123		70 - 130				11/07/18 11:54	11/08/18 02:03	1
Toluene-d8 (Surr)	95		70 - 130				11/07/18 11:54	11/08/18 02:03	1
- Method: 8015B - Gasoline Rai	nge Organio	:s - (GC)							
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.90	2.45	mg/Kg		11/07/18 11:44	11/08/18 12:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	87		50 - 150				11/07/18 11:44	11/08/18 12:30	1
- Method: 8015B - Diesel Range	e Organics (	DRO) (GC)							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

Method: 300.0 - Anions, Ion Cl	hromatography - Solubl	е					
Analyte	Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND —	10.1	7.09 mg/Kg			11/08/18 20:48	1

Limits

50 - 150

4.93

ND

%Recovery Qualifier

66

2.46 mg/Kg

TestAmerica Nashville

# **Client Sample Results**

Client: Sport Environmental Services LLC TestAmerica Job ID: 490-162712-1 Project/Site: Arrowhead Grayburg Unit #135 SDG: XTO Historical Release Characterization

Client Sample ID: AGU 135 - S001 @ 1.5' bgs

Date Collected: 11/02/18 16:13

Lab Sample ID: 490-162712-2 **Matrix: Solid** 

Method: 8260B - Volatile Orga			•	MDI	1114	_	Burner	A	D'' 5
Analyte Benzene	ND	Qualifier	RL		Unit	D	Prepared 11/07/18 11:54	Analyzed 11/08/18 02:31	Dil Fac
			0.00181	0.000608	0 0				1
Ethylbenzene	ND		0.00181	0.000608				11/08/18 02:31	1
Toluene	ND		0.00181	0.000672				11/08/18 02:31	
Xylenes, Total	ND		0.00544	0.00112	mg/Kg		11/07/18 11:54	11/08/18 02:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
1,2-Dichloroethane-d4 (Surr)	107		70 - 130				11/07/18 11:54	11/08/18 02:31	
4-Bromofluorobenzene (Surr)	110		70 - 130				11/07/18 11:54	11/08/18 02:31	1
Dibromofluoromethane (Surr)	120		70 - 130				11/07/18 11:54	11/08/18 02:31	1
Toluene-d8 (Surr)	95		70 - 130				11/07/18 11:54	11/08/18 02:31	
Method: 8015B - Gasoline Ra Analyte Gasoline Range Organics [C6 - C10]	Result ND	Qualifier	4.93		Unit mg/Kg	D	Prepared 11/07/18 11:44	Analyzed 11/08/18 13:05	Dil Fac
Surrogate a.a.a-Trifluorotoluene	%Recovery	Qualifier	Limits 50 - 150				Prepared 11/07/18 11:44	Analyzed 11/08/18 13:05	Dil Fac
Method: 8015B - Diesel Rang Analyte	Result	DRO) (GC Qualifier	) RL		Unit	D	Prepared	Analyzed	Dil Fa
Diesel Range Organics [C10-C28]	ND		4.95		mg/Kg		11/07/18 10:51	11/07/18 19:01	1
MRO (C28-C35)	3.68	J	4.95	2.48	mg/Kg		11/07/18 10:51	11/07/18 19:01	•
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
- T	67		50 - 150				11/07/18 10:51	11/07/18 19:01	
o-Terpnenyi (Surr)									
-	hromatogra	ıphv - Solu	ıble						
o-Terphenyl (Surr)  Method: 300.0 - Anions, Ion C Analyte	_	phy - Solu Qualifier	ible RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

Client: Sport Environmental Services LLC Project/Site: Arrowhead Grayburg Unit #135

TestAmerica Job ID: 490-162712-1 SDG: XTO Historical Release Characterization

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: 490-162714-B-9-D MS **Client Sample ID: Matrix Spike Matrix: Solid Prep Type: Total/NA** Analysis Batch: 555742 **Prep Batch: 555601** Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits Benzene ND 0.0447 92 21 - 150 0.04123 mg/Kg Ethylbenzene ND 0.0447 0.03513 79 10 - 150 mg/Kg ND Toluene 0.0447 0.03740 mg/Kg 84 17 - 150Xylenes, Total ND 0.0894 0.07369 mg/Kg 82 10 - 150 MS MS Surrogate Qualifier Limits %Recovery 1,2-Dichloroethane-d4 (Surr) 102 70 - 130 4-Bromofluorobenzene (Surr) 100 70 - 130

70 - 130

70 - 130

Lab Sample ID: 490-162714-B-9-E MSD

**Matrix: Solid** 

Toluene-d8 (Surr)

**Analysis Batch: 555742** 

Dibromofluoromethane (Surr)

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA **Prep Batch: 555601** 

Sample Sample MSD MSD Spike %Rec. **RPD** Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit ND Benzene 0.0489 0.04813 mg/Kg 98 21 - 150 15 50 Ethylbenzene ND 0.0489 0.04395 50 mg/Kg 90 10 - 150 22 Toluene ND 0.0489 0.04555 mg/Kg 93 17 - 150 20 50 Xylenes, Total ND 0.0978 93 0.09141 mg/Kg 10 - 150 21 50

MSD MSD

108

96

Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		70 - 130
4-Bromofluorobenzene (Surr)	100		70 - 130
Dibromofluoromethane (Surr)	108		70 - 130
Toluene-d8 (Surr)	98		70 - 130

Lab Sample ID: MB 490-555742/7 **Client Sample ID: Method Blank Matrix: Solid** Prep Type: Total/NA

**Analysis Batch: 555742** 

	MR	MR							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00200	0.000670	mg/Kg			11/08/18 01:33	1
Ethylbenzene	ND		0.00200	0.000670	mg/Kg			11/08/18 01:33	1
Toluene	ND		0.00200	0.000740	mg/Kg			11/08/18 01:33	1
Xylenes, Total	ND		0.00600	0.00123	mg/Kg			11/08/18 01:33	1

	MB	MB				
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		70 - 130		11/08/18 01:33	1
4-Bromofluorobenzene (Surr)	109		70 - 130		11/08/18 01:33	1
Dibromofluoromethane (Surr)	122		70 - 130		11/08/18 01:33	1
Toluene-d8 (Surr)	94		70 - 130		11/08/18 01:33	1

TestAmerica Nashville

Client: Sport Environmental Services LLC Project/Site: Arrowhead Grayburg Unit #135

TestAmerica Job ID: 490-162712-1 SDG: XTO Historical Release Characterization

0/ Bac

# Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 490-555742/4 **Client Sample ID: Lab Control Sample Matrix: Solid Prep Type: Total/NA** Analysis Batch: 555742

100 100

	Spike	LCS	LUG				/oixec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.0500	0.04740		mg/Kg	_	95	70 - 130	
Ethylbenzene	0.0500	0.04180		mg/Kg		84	70 - 130	
Toluene	0.0500	0.04340		mg/Kg		87	70 - 130	
Xylenes, Total	0.100	0.08695		mg/Kg		87	70 - 130	

Snika

LCS LCS %Recovery Qualifier Limits Surrogate 1,2-Dichloroethane-d4 (Surr) 70 - 130 101 105 70 - 130 4-Bromofluorobenzene (Surr) Dibromofluoromethane (Surr) 105 70 - 130 Toluene-d8 (Surr) 96 70 - 130

Lab Sample ID: LCSD 490-555742/25 Client Sample ID: Lab Control Sample Dup **Matrix: Solid** Prep Type: Total/NA

**Analysis Batch: 555742** 

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.0500	0.05224		mg/Kg		104	70 - 130	10	37
Ethylbenzene	0.0500	0.04600		mg/Kg		92	70 - 130	10	38
Toluene	0.0500	0.04788		mg/Kg		96	70 - 130	10	40
Xylenes, Total	0.100	0.09625		mg/Kg		96	70 - 130	10	38

LCSD LCSD Surrogate %Recovery Qualifier Limits 1,2-Dichloroethane-d4 (Surr) 106 70 - 130 4-Bromofluorobenzene (Surr) 101 70 - 130 Dibromofluoromethane (Surr) 107 70 - 130 95 70 - 130 Toluene-d8 (Surr)

#### Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 490-555592/1-A Client Sample ID: Method Blank **Matrix: Solid** Prep Type: Total/NA **Analysis Batch: 555799 Prep Batch: 555592** 

MB MB Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Gasoline Range Organics [C6 - C10]  $\overline{\mathsf{ND}}$ 5.00 2.50 mg/Kg 11/07/18 11:44 11/08/18 11:55

MB MB Surrogate %Recovery Qualifier Limits Prepared a,a,a-Trifluorotoluene 50 - 150 11/07/18 11:44 11/08/18 11:55 87

Lab Sample ID: LCS 490-555592/2-A **Client Sample ID: Lab Control Sample Matrix: Solid** Prep Type: Total/NA **Analysis Batch: 555799 Prep Batch: 555592** Spike LCS LCS %Rec. Added Result Qualifier Unit Limits Analyte %Rec Gasoline Range Organics [C6 -50.0 52.35 mg/Kg 105 70 - 130

TestAmerica Nashville

Analyzed

Dil Fac

Client: Sport Environmental Services LLC Project/Site: Arrowhead Grayburg Unit #135

TestAmerica Job ID: 490-162712-1 SDG: XTO Historical Release Characterization

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: LCS 490-555592/2-A **Matrix: Solid** 

**Analysis Batch: 555799** 

**Client Sample ID: Lab Control Sample** Prep Type: Total/NA **Prep Batch: 555592** 

LCS LCS

%Recovery Qualifier Surrogate Limits a,a,a-Trifluorotoluene 50 - 150 78

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 490-555592/3-A **Matrix: Solid** 

**Analysis Batch: 555799** 

Prep Type: Total/NA **Prep Batch: 555592** Spike LCSD LCSD %Rec. **RPD** Added Result Qualifier Limits RPD Unit D %Rec Limit 50.0 54.05 mg/Kg 108 70 - 130 3 21

Gasoline Range Organics [C6 -C10]

**Analyte** 

LCSD LCSD

%Recovery Qualifier I imits Surrogate 50 - 150 a,a,a-Trifluorotoluene 78

**Client Sample ID: Matrix Spike** 

**Matrix: Solid** 

**Analysis Batch: 555799** 

Gasoline Range Organics [C6 -

Prep Type: Total/NA **Prep Batch: 555592** MS MS Sample Sample Spike %Rec.

Result Qualifier Added Result Qualifier Unit D %Rec Limits  $\overline{\mathsf{ND}}$ 48.7 43.74 mg/Kg 90 56 - 130

C10]

Analyte

MS MS

Lab Sample ID: 490-162713-A-5-A MS

%Recovery Qualifier Surrogate Limits a,a,a-Trifluorotoluene 78 50 - 150

Lab Sample ID: 490-162713-A-5-A MSD

**Matrix: Solid** 

Analysis Batch: 555799

**Client Sample ID: Matrix Spike Duplicate** Prep Type: Total/NA **Prep Batch: 555592** %Rec. **RPD** 

Spike MSD MSD Sample Sample **Analyte** Result Qualifier Added Result Qualifier Unit D %Rec Limits **RPD** Limit ND 48 7 37.96 mg/Kg 78 56 - 130 Gasoline Range Organics [C6 -

C101

MSD MSD

Surrogate %Recovery Qualifier Limits a,a,a-Trifluorotoluene 50 - 150 80

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 490-555145/1-A

**Matrix: Solid** 

**Analysis Batch: 555227** 

Client Sample ID: Method Blank Prep Type: Total/NA **Prep Batch: 555145** 

MR MR Analyte Result Qualifier RI MDL Unit Prepared Analyzed Dil Fac Diesel Range Organics [C10-C28] ND 5.00 11/06/18 09:17 11/06/18 13:59 2.50 mg/Kg MRO (C28-C35) ND 5.00 mg/Kg 11/06/18 09:17 11/06/18 13:59 2.50

MR MR

Surrogate %Recovery Qualifier Limits 74 o-Terphenyl (Surr) 50 - 150

11/06/18 09:17 11/06/18 13:59

Analyzed

Prepared

TestAmerica Nashville

Dil Fac

Client: Sport Environmental Services LLC Project/Site: Arrowhead Grayburg Unit #135

TestAmerica Job ID: 490-162712-1 SDG: XTO Historical Release Characterization

Client Sample ID: Lab Control Sample Dup

%Rec.

Limits

54 - 130

**Client Sample ID: Matrix Spike** 

%Rec.

Limits

10 - 142

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 490-555145/2-A **Client Sample ID: Lab Control Sample Matrix: Solid** Prep Type: Total/NA **Analysis Batch: 555227 Prep Batch: 555145** Spike LCS LCS %Rec. Added Result Qualifier Unit D %Rec Limits Analyte 40.0 54 - 130 Diesel Range Organics 36.22 91 mg/Kg

Spike

Added

40.0

Spike

Added

LCSD LCSD

MS MS

32.94

Result Qualifier

39.44

Result Qualifier

Unit

Unit

mg/Kg

mg/Kg

D

D

%Rec

64

%Rec

99

[C10-C28]

Analyte

LCS LCS Surrogate %Recovery Qualifier Limits 50 - 150 o-Terphenyl (Surr) 80

Lab Sample ID: LCSD 490-555145/14-A

**Matrix: Solid Analysis Batch: 555740** 

[C10-C28] LCSD LCSD %Recovery Qualifier Surrogate I imits 50 - 150 o-Terphenyl (Surr) 78

Lab Sample ID: 490-162556-H-10-B MS

**Matrix: Solid** 

**Diesel Range Organics** 

Analysis Batch: 555227

Analyte

7.68 39.5 **Diesel Range Organics** [C10-C28] MS MS

Surrogate %Recovery Qualifier Limits o-Terphenyl (Surr) 63 50 - 150

Lab Sample ID: 490-162556-H-10-C MSD

**Matrix: Solid** 

**Analysis Batch: 555227** 

MSD MSD Sample Sample Spike %Rec. **RPD** Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD Limit Diesel Range Organics 7.68 39.1 35.65 mg/Kg 10 - 142 [C10-C28]

MSD MSD

Sample Sample

Result Qualifier

Surrogate %Recovery Qualifier Limits 50 - 150 o-Terphenyl (Surr) 63

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 490-555803/1-A

**Matrix: Solid** 

**Analysis Batch: 556035** 

MR MR

Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac Chloride  $\overline{\mathsf{ND}}$ 9.99 6.99 mg/Kg 11/08/18 20:13

TestAmerica Nashville

**RPD** 

Limit

47

**Client Sample ID: Matrix Spike Duplicate** 

Prep Type: Total/NA

**Prep Batch: 555145** 

Prep Type: Total/NA

**Prep Batch: 555145** 

RPD

9

Prep Type: Total/NA **Prep Batch: 555145** 

Client Sample ID: Method Blank

**Prep Type: Soluble** 

Client: Sport Environmental Services LLC Project/Site: Arrowhead Grayburg Unit #135

TestAmerica Job ID: 490-162712-1 SDG: XTO Historical Release Characterization

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 490-555803/2-A **Client Sample ID: Lab Control Sample Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 556035

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec Limits 100 Chloride 97.09 mg/Kg 97 90 - 110

Lab Sample ID: LCSD 490-555803/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid Prep Type: Soluble Analysis Batch: 556035** 

Spike LCSD LCSD %Rec. **RPD** Added Result Qualifier Limits Analyte Unit **RPD** Limit %Rec Chloride 100 98.99 mg/Kg 99 90 - 110 20

Lab Sample ID: 490-162712-1 MS Client Sample ID: AGU 135 - S001 @ 0-6' bgs **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 556035

Sample Sample Spike MS MS %Rec. Result Qualifier Added Analyte Result Qualifier Limits Unit D %Rec Chloride ND 101 101.0 mg/Kg 100 80 - 120

Lab Sample ID: 490-162712-1 MSD Client Sample ID: AGU 135 - S001 @ 0-6' bgs **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 556035

MSD MSD RPD Sample Sample Spike %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Limit Chloride ND 101 101.2 100 80 - 120 20 mg/Kg

# **QC Association Summary**

Client: Sport Environmental Services LLC Project/Site: Arrowhead Grayburg Unit #135

TestAmerica Job ID: 490-162712-1 SDG: XTO Historical Release Characterization

**GC/MS VOA** 

**Prep Batch: 555601** 

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-162712-1	AGU 135 - S001 @ 0-6' bgs	Total/NA	Solid	5030B	
490-162712-2	AGU 135 - S001 @ 1.5' bgs	Total/NA	Solid	5030B	
490-162714-B-9-D MS	Matrix Spike	Total/NA	Solid	5030B	
490-162714-B-9-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5030B	

Analysis Batch: 555742

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-162712-1	AGU 135 - S001 @ 0-6' bgs	Total/NA	Solid	8260B	555601
490-162712-2	AGU 135 - S001 @ 1.5' bgs	Total/NA	Solid	8260B	555601
MB 490-555742/7	Method Blank	Total/NA	Solid	8260B	
LCS 490-555742/4	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 490-555742/25	Lab Control Sample Dup	Total/NA	Solid	8260B	
490-162714-B-9-D MS	Matrix Spike	Total/NA	Solid	8260B	555601
490-162714-B-9-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8260B	555601

**GC VOA** 

**Prep Batch: 555592** 

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-162712-1	AGU 135 - S001 @ 0-6' bgs	Total/NA	Solid	5030B	
490-162712-2	AGU 135 - S001 @ 1.5' bgs	Total/NA	Solid	5030B	
MB 490-555592/1-A	Method Blank	Total/NA	Solid	5030B	
LCS 490-555592/2-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 490-555592/3-A	Lab Control Sample Dup	Total/NA	Solid	5030B	
490-162713-A-5-A MS	Matrix Spike	Total/NA	Solid	5030B	
490-162713-A-5-A MSD	Matrix Spike Duplicate	Total/NA	Solid	5030B	

**Analysis Batch: 555799** 

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-162712-1	AGU 135 - S001 @ 0-6' bgs	Total/NA	Solid	8015B	555592
490-162712-2	AGU 135 - S001 @ 1.5' bgs	Total/NA	Solid	8015B	555592
MB 490-555592/1-A	Method Blank	Total/NA	Solid	8015B	555592
LCS 490-555592/2-A	Lab Control Sample	Total/NA	Solid	8015B	555592
LCSD 490-555592/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B	555592
490-162713-A-5-A MS	Matrix Spike	Total/NA	Solid	8015B	555592
490-162713-A-5-A MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	555592

**GC Semi VOA** 

**Prep Batch: 555145** 

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-162712-1	AGU 135 - S001 @ 0-6' bgs	Total/NA	Solid	3550C	<del>_</del> : <del></del> :
490-162712-2	AGU 135 - S001 @ 1.5' bgs	Total/NA	Solid	3550C	
MB 490-555145/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 490-555145/2-A	Lab Control Sample	Total/NA	Solid	3550C	
LCSD 490-555145/14-A	Lab Control Sample Dup	Total/NA	Solid	3550C	
490-162556-H-10-B MS	Matrix Spike	Total/NA	Solid	3550C	
490-162556-H-10-C MSD	Matrix Spike Duplicate	Total/NA	Solid	3550C	

TestAmerica Nashville

# **QC Association Summary**

Client: Sport Environmental Services LLC Project/Site: Arrowhead Grayburg Unit #135

TestAmerica Job ID: 490-162712-1 SDG: XTO Historical Release Characterization

| 2

# **GC Semi VOA (Continued)**

## **Analysis Batch: 555227**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 490-555145/1-A	Method Blank	Total/NA	Solid	8015B	555145
LCS 490-555145/2-A	Lab Control Sample	Total/NA	Solid	8015B	555145
490-162556-H-10-B MS	Matrix Spike	Total/NA	Solid	8015B	555145
490-162556-H-10-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	555145

#### Analysis Batch: 555740

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-162712-1	AGU 135 - S001 @ 0-6' bgs	Total/NA	Solid	8015B	555145
490-162712-2	AGU 135 - S001 @ 1.5' bgs	Total/NA	Solid	8015B	555145
LCSD 490-555145/14-A	Lab Control Sample Dup	Total/NA	Solid	8015B	555145

#### **HPLC/IC**

#### Leach Batch: 555803

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-162712-1	AGU 135 - S001 @ 0-6' bgs	Soluble	Solid	DI Leach	
490-162712-2	AGU 135 - S001 @ 1.5' bgs	Soluble	Solid	DI Leach	
MB 490-555803/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 490-555803/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 490-555803/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
490-162712-1 MS	AGU 135 - S001 @ 0-6' bgs	Soluble	Solid	DI Leach	
490-162712-1 MSD	AGU 135 - S001 @ 0-6' bgs	Soluble	Solid	DI Leach	

#### **Analysis Batch: 556035**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-162712-1	AGU 135 - S001 @ 0-6' bgs	Soluble	Solid	300.0	555803
490-162712-2	AGU 135 - S001 @ 1.5' bgs	Soluble	Solid	300.0	555803
MB 490-555803/1-A	Method Blank	Soluble	Solid	300.0	555803
LCS 490-555803/2-A	Lab Control Sample	Soluble	Solid	300.0	555803
LCSD 490-555803/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	555803
490-162712-1 MS	AGU 135 - S001 @ 0-6' bgs	Soluble	Solid	300.0	555803
490-162712-1 MSD	AGU 135 - S001 @ 0-6' bgs	Soluble	Solid	300.0	555803

TestAmerica Nashville

## **Lab Chronicle**

Client: Sport Environmental Services LLC Project/Site: Arrowhead Grayburg Unit #135

TestAmerica Job ID: 490-162712-1 SDG: XTO Historical Release Characterization

Client Sample ID: AGU 135 - S001 @ 0-6' bgs

Date Collected: 11/02/18 16:13 Date Received: 11/07/18 09:55

Lab Sample ID: 490-162712-1 **Matrix: Solid** 

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.02 g	5.0 mL	555601	11/07/18 11:54	JLP	TAL NSH
Total/NA	Analysis	8260B		1	5 g	5 mL	555742	11/08/18 02:03	PN	TAL NSH
Total/NA	Prep	5030B			5.10 g	5.0 mL	555592	11/07/18 11:44	JLP	TAL NSH
Total/NA	Analysis	8015B		1	0.1 mL	5 mL	555799	11/08/18 12:30	S1S	TAL NSH
Total/NA	Prep	3550C			25.38 g	1.00 mL	555145	11/07/18 10:51	MBV	TAL NSH
Total/NA	Analysis	8015B		1			555740	11/07/18 18:44	S1S	TAL NSH
Soluble	Leach	DI Leach			2.9640 g	30 mL	555803	11/08/18 07:35	JHS	TAL NSH
Soluble	Analysis	300.0		1			556035	11/08/18 20:48	S00	TAL NSH

Client Sample ID: AGU 135 - S001 @ 1.5' bgs

Lab Sample ID: 490-162712-2 Date Collected: 11/02/18 16:13 **Matrix: Solid** Date Received: 11/07/18 09:55

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.51 g	5.0 mL	555601	11/07/18 11:54	JLP	TAL NSH
Total/NA	Analysis	8260B		1	5 g	5 mL	555742	11/08/18 02:31	PN	TAL NSH
Total/NA	Prep	5030B			5.07 g	5.0 mL	555592	11/07/18 11:44	JLP	TAL NSH
Total/NA	Analysis	8015B		1	0.1 mL	5 mL	555799	11/08/18 13:05	S1S	TAL NSH
Total/NA	Prep	3550C			25.23 g	1.00 mL	555145	11/07/18 10:51	MBV	TAL NSH
Total/NA	Analysis	8015B		1			555740	11/07/18 19:01	S1S	TAL NSH
Soluble	Leach	DI Leach			2.9791 g	30 mL	555803	11/08/18 07:35	JHS	TAL NSH
Soluble	Analysis	300.0		1			556035	11/08/18 21:23	S00	TAL NSH

#### **Laboratory References:**

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

TestAmerica Nashville

Released to Imaging: 3/10/2023 8:28:31 AM

# **Method Summary**

Client: Sport Environmental Services LLC Project/Site: Arrowhead Grayburg Unit #135

TestAmerica Job ID: 490-162712-1 SDG: XTO Historical Release Characterization

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL NSH
8015B	Gasoline Range Organics - (GC)	SW846	TAL NSH
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL NSH
300.0	Anions, Ion Chromatography	MCAWW	TAL NSH
3550C	Ultrasonic Extraction	SW846	TAL NSH
5030B	Purge and Trap	SW846	TAL NSH
DI Leach	Deionized Water Leaching Procedure	ASTM	TAL NSH

4

Protocol References:

6

ASTM = ASTM International

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MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions. SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

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**Laboratory References:** 

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

# **Accreditation/Certification Summary**

Client: Sport Environmental Services LLC TestAmerica Job ID: 490-162712-1 Project/Site: Arrowhead Grayburg Unit #135 SDG: XTO Historical Release Characterization

# **Laboratory: TestAmerica Nashville**

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	<b>Expiration Date</b>		
A2LA	ISO/IEC 17025		0453.07	12-31-19		
Alaska (UST)	State Program	10	UST-087	06-30-19		
Arizona	State Program	9	AZ0473	05-05-19		
Arkansas DEQ	State Program	6	88-0737	04-25-19		
California	State Program	9	2938	10-31-18 *		
Connecticut	State Program	1	PH-0220	12-31-19		
Florida	NELAP	4	E87358	06-30-19		
Georgia	State Program	4	NA: NELAP & A2LA	12-31-19		
Illinois	NELAP	5	200010	12-09-18		
lowa	State Program	7	131	04-01-20		
Kansas	NELAP	7	E-10229	10-31-18 *		
Kentucky (UST)	State Program	4	19	06-30-19		
Kentucky (WW)	State Program	4	90038	12-31-18		
Louisiana	NELAP	6	30613	06-30-19		
Maine	State Program	1	TN00032	11-03-19		
Maryland	State Program	3	316	03-31-19		
Massachusetts	State Program	1	M-TN032	06-30-19		
Minnesota	NELAP	5	047-999-345	12-31-18		
Mississippi	State Program	4	N/A	06-30-19		
Montana (UST)	State Program	8	NA	02-24-20		
Nevada	State Program	9	TN00032	07-31-19		
New Hampshire	NELAP	1	2963	10-09-18 *		
New Jersey	NELAP	2	TN965	06-30-19		
New York	NELAP	2	11342	03-31-19		
North Carolina (WW/SW)	State Program	4	387	12-31-18		
North Dakota	State Program	8	R-146	06-30-19		
Ohio VAP	State Program	5	CL0033	07-06-19		
Oklahoma	State Program	6	9412	08-31-19		
Oregon	NELAP	10	TN200001	04-26-19		
Pennsylvania	NELAP	3	68-00585	07-31-19		
Rhode Island	State Program	1	LAO00268	12-30-18		
South Carolina	State Program	4	84009 (001)	02-28-19		
Tennessee	State Program	4	2008	02-23-20		
Texas	NELAP	6	T104704077	08-31-19		
USDA	Federal		P330-13-00306	12-01-19		
Utah	NELAP	8	TN00032	07-31-19		
Virginia	NELAP	3	460152	06-14-19		
Washington	State Program	10	C789	07-19-19		
West Virginia DEP	State Program	3	219	02-28-19		
Wisconsin	State Program	5	998020430	08-31-19		
Wyoming (UST)	A2LA	8	453.07	12-31-19		

TestAmerica Nashville

<sup>\*</sup> Accreditation/Certification renewal pending - accreditation/certification considered valid.

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THE LEADER IN ENVIRONMENTAL TESTING Nashville, TN

# COOLER RECEIPT FORM

Cooler Received/Opened On 11/7/2018 @ 9:55	
Time Samples Removed From Cooler Time Samples Placed In Storage	(2 Hour Window)
1. Tracking # (last 4 digits FedEx) Courier: FedEx	
IR Gun ID 17960358 pH Strip Lot // Chlorine Strip Lot // A	
2. Temperature of rep. sample or temp blank when opened:Degrees Celsius	
3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen?	YES NONA
4. Were custody seals on outside of cooler?	YESNONA
If yes, how many and where:	
5. Were the seals intact, signed, and dated correctly?	(YÉSNONA
6. Were custody papers inside cooler?	YES)NONA
certify that I opened the cooler and answered questions 1-6 (intial)	
7. Were custody seals on containers: YES (NO and Intact	YESNO. (NA)
Were these signed and dated correctly?	YESNO. NA
8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Pape	er Other None
9. Cooling process: (ice) Ice-pack Ice (direct contact) Dry ice	Other None
10. Did all containers arrive in good condition (unbroken)?	CYES NO NA
11. Were all container labels complete (#, date, signed, pres., etc)?	MESNONA
12. Did all container labels and tags agree with custody papers?	ÆSNONA
13a. Were VOA vials received?	YES.(NO)NA
b. Was there any observable headspace present in any VOA vial?	YESNO(.NA
Larger than this.	
6	
14. Was there a Trip Blank in this cooler? YES. NO. NA If multiple coolers, sequence	:e #
certify that I unloaded the cooler and answered questions 7-14 (initial)	
15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level?	YESNO.(NA)
b. Did the bottle labels indicate that the correct preservatives were used	CYESNONA
16. Was residual chlorine present?	YESNO.CNA
certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial)	-A14
17. Were custody papers properly filled out (ink, signed, etc)?	XESNONA
8. Did you sign the custody papers in the appropriate place?	ESNONA
9. Were correct containers used for the analysis requested?	XESNONA
20. Was sufficient amount of sample sent in each container?	YESNONA
certify that I entered this project into LIMS and answered questions 17-20 (intial)	3/7
certify that I attached a label with the unique LIMS number to each container (intial)	U)7
21. Were there Non-Conformance issues at login? YES Was a NCM generated? YES NO	#

BIS = Broken in shipment Cooler Receipt Form.doc

LF-1 End of Form Revised 8/23/17

TestAmerica Nashville 2960 Foster Creighton Drive

Nashville, TN 37204

**Chain of Custody Record** 

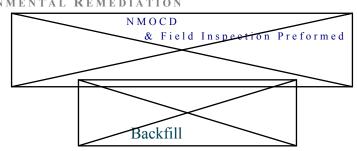
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THE	LEA	nea	ih.	CNIV	nrs	MM	NY.	i. 1	16.3	TING

Phone (615) 726-0177 Fax (615) 726-3404																		TH	E LEADER IN C	"IVIRORMENTA	l testing	
Client Information	Deta S. Moore Ga					PM: mbill, Jennifer							rier Tra	cking	No(s):			COC	COC No:			
Client Contact: Debi Sport Moore	Phone: (432)	E-Ma jent		il: ifer.gambill@testamericainc.com													Page: Lof L					
Company: Sport Environmental Services LLC							Ar	alysi	s R	eque	sted					Job	#.					
Address: 502 N Big Spring St City: Midland	Due Date Request	ed: 11-9- a)s):	le cob															A - B - C -	HCL NaOH Zn Acetat		90 N 712	
State, Zip: TX, 79701											ļ							. Е-	NaHSO4 MeOH			
Phone: 432-683-1100	PO#: Purchase Orde	r not require	d		Jş									į			34	G - H -	- Amchlor - Ascorbic	Loc: 4	90	
Email: debi@sportenv.com	WO #:				28.07	2											Š	J-1	lce DI Water · EDTA	162	712	
Project Name of Release Characterization Site: Avvowhead Gray burg Unit #135	TestAmerica Project 49014499	ot #:			ale (X	6 # ဦ	2											<u> </u>	EDA			
Site: Arranhead Gray burg unit #135	SSOW#:					- Chloride	RO/M											Oth	er:			
, , , , , , , , , , , , , , , , , , ,		Nh Sample	Туре	Matrix W=water, S=solid, ⇒waste/oll,	id Filtered	300_ORGFMS		8015B_GRO	8260B BTEX									Oth	<del></del>	-		
Sample Identification	Sample Date	Time	G=grab) вт-		欁	N N	l È		<b>8</b> 26	. 12	<b>.</b>		\$4.	- FE	; X	Zaga .	4	<b>J</b>	Sp			
3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3	11-2-18	1613 16	<u> </u>	Solid	T	X		X	***************************************	**************************************	** ès 4è			\$60	89 <sub>15</sub> 5. a					<u> </u>		
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Deliverable Requested: I, II, III, IV, Other (specify)						Specia	l Instr	uction	ns/Q	C Req	uiren	nents:										
Empty Kit Relinquished by:	Date/Time:	Date:			Time				,,				Meth		Shipm							
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Custody Seals Intact: Custody Seal No.: Δ Yes Δ No	<u> </u>			· ·		Cod	oler Ter	mperat	ure(s)	°C and	Other	Rema	rks:		2	01						
											<u> </u>				<u> </u>	<del>* (</del> -				Ver: 08/04/2	2016	

# Supplemental Attachment A

EPI's C-141 and Remediation Progress Report and Closure Proposal Dated October 7, 2016 7 October 2016

Ms. Kristen Lynch Environmental Specialist NMOCD 1625 North French Drive Hobbs, New Mexico 88240



RE: Remediation Progress Report and Closure Proposal XTO Energy – AGU #135
UL-J, Section 35, Township 21 South, Range 36 East Lea County, New Mexico
NMOCD Reference # 1RP-4414

Ms. Lynch:

The following *Remediation Progress Report and Closure Proposal* serves as a condensed update on remedial activities undertaken and closure proposal for the above referenced Site.

#### **Remediation Progress:**

EPI personnel mobilized on the site on August 30, 2016 to collect soil samples to determine the vertical extent of contamination. A total of thirteen (13) soil samples were collected from six (6) sample locations; SP1 – SP6. Ten (10) representative samples were jarred, chilled and sent to Cardinal Labs for testing. Laboratory analytical results indicate, with the exception of TPH at surface level at SP1, the release area to be void of Benzene, BTEX, TPH and Chloride concentrations in excess of NMOCD Recommended Remedial Action Levels (NMOCD RRALs) of 10 mg/Kg, 50 mg/Kg, 5,000 mg/Kg, and 1,000 mg/Kg, respectively (reference *Figure 3* and *Table 2*).

The entire release area has been excavated approximately six (6) inches bgs, the area around SP3 was excavated approximately eight (8) feet bgs to repair the damaged line, and the contaminated soil has been hauled to a state approved facility for disposal.

#### **Closure Proposal:**

Based on laboratory analytical results indicating the release area to be void of constituent contaminants in excess of NMOCD RRALs, EPI proposes to backfill the excavated area with clean soil. All soil will be free of rocks, clumps or deleterious material. Backfilling will continue until the entire excavation is closed. Upon completion of backfill activities, the entire disturbed area will be contoured to blend with existing lease road and pasture area and protected against wind/water erosion.

Following completion of closure activities, EPI will provide a detailed *Final Closure Report* to XTO and NMOCD personnel.



XTO Energy and EPI personnel would welcome an opportunity to briefly discuss the *Closure Proposal* at your earliest convenience. However, should you have any questions or concerns please feel free to contact me at (575) 394-3481 or via e-mail at ddominguezepi@gmail.com or Mr. John Robinson at (575) 441-5199 or via e-mail at john\_robinson@xtoenergy.com. All official communication should be addressed to:

Mr. John Robinson XTO Energy P.O. Box 700 Eunice, New Mexico 88231

Sincerely,

ENVIRONMENTAL PLUS, INC.

Daniel Dominguez Environmental Consultant

cc: John Robinson – XTO Energy File

Encl.: Figure 1 – Area Map

Figure 2 – Site Location Map Figure 3 – Sample/Site Map

Table 1 – Well Data

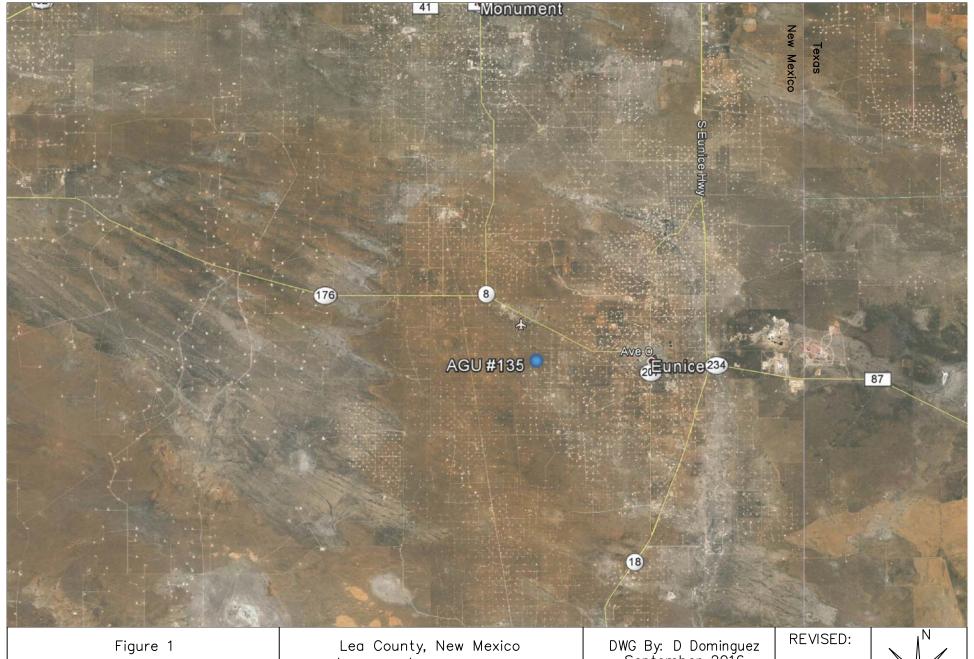
Table 2 – Summary of Soil Sample Field Testing and Laboratory Analytical Results

Attachment I – Photographs

Attachment II – Laboratory Analytical Results

Attachment III – Copy of Initial NMOCD Form C-141

# **FIGURES**



Area Map XTO Energy AGU #135

NW 1/4 of SE 1/4, Sec. 35, T21S, R36E N 32° 26' 16.38" W 103° 13' 48.61" Elevation: 3,552 feet amsl

DWG By: D Dominguez September 2016

SHEET 1 of 1 Miles

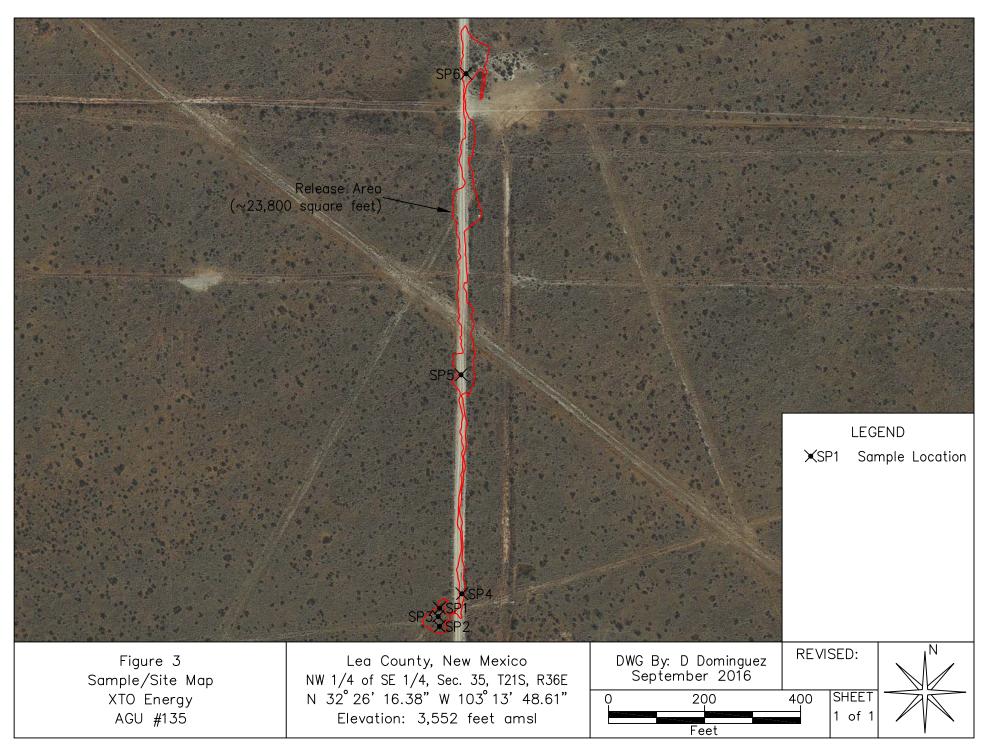


Site Location Map XTO Energy AGU #135

NW 1/4 of SE 1/4, Sec. 35, T21S, R36E N 32° 26' 16.38" W 103° 13' 48.61" Elevation: 3,552 feet amsl

4,000 2,000 Feet

SHEET 1 of 1



# **TABLES**

# TABLE 1 Well Data

## XTO Energy - AGU #135

Ref #	Well Number	Diversion <sup>A</sup>	Owner	Use	Twsp	Rng	Sec	q64	q16	q4	Easting	Northing	Distance <sup>B</sup>	Date Measured	Surface Elevation <sup>C</sup>	Depth to Water (ft bgs)
1	CP 00760	0	CHEVRON USA, Inc	SRO	21S	36E	35	1	4	4	666347	3589567	786		3,569	
2	CP 00761	0	CHEVRON USA, Inc	SRO	22S	36E	1	4	3	1	666964	3588569	1,875		3,532	

<sup>\* =</sup> Data obtained from the New Mexico Office of the State Engineer Website (http://iwaters.ose.state.nm.us:7001/iWATERS/wr\_RegisServlet1)

SRO = Secondary Recovery Of Oil

quarters are 1=NW, 2=NE, 3=SW, 4=SE; quarters are smallest to biggest

A = In acre feet per annum
B = In meters
C = Elevation interpolated from USGS topographical map based on referenced location.

TABLE 2
Summary of Soil Sample Field Testing and Laboratory Analytical Results
XTO Energy
AGU #135

Sample ID	Depth (feet)	Soil Status	Sample Date	PID Reading (ppm)	Field Chloride (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTEX (mg/Kg)	GRO C6-C10 (mg/Kg)	DRO C10-C28 (mg/Kg)	Total TPH (mg/Kg)	Chloride (mg/Kg)
	Surface	Excavated	30-Aug-16	288	160	< 0.050	0.332	0.889	3.37	4.59	206	13,000	13,206	32
	1	In Situ	30-Aug-16	14.0	400									
SP1	2	In Situ	30-Aug-16	3.0	400	< 0.050	< 0.050	< 0.050	< 0.150	< 0.300	<10.0	<10.0	<20.0	608
	3	In Situ	30-Aug-16	0.8	320						-			
	4	In Situ	30-Aug-16	0.7	80	< 0.050	< 0.050	< 0.050	< 0.150	< 0.300	<10.0	<10.0	<20.0	<16.0
	Surface	Excavated	30-Aug-16	13.3	160	< 0.050	< 0.050	< 0.050	<0.150	<0.300	<10.0	20.1	20.1	48
SP2	1	In Situ	30-Aug-16	2.9	160	< 0.050	< 0.050	< 0.050	< 0.150	< 0.300	<10.0	<10.0	<20.0	80
	2	In Situ	30-Aug-16	1.1	120									
SP3	8	In Situ	30-Aug-16	5.2	480	< 0.050	< 0.050	< 0.050	< 0.150	< 0.300	<10.0	<10.0	<20.0	544
313	10	In Situ	30-Aug-16	0.4	160	< 0.050	< 0.050	< 0.050	< 0.150	< 0.300	<10.0	<10.0	<20.0	144
SP4	Surface	Excavated	30-Aug-16	1.2	80	< 0.050	< 0.050	< 0.050	<0.150	< 0.300	<10.0	<10.0	<20.0	<16.0
SP5	Surface	Excavated	30-Aug-16	0.4	80	< 0.050	< 0.050	< 0.050	<0.150	< 0.300	<10.0	<10.0	<20.0	<16.0
SP6	Surface	Excavated	30-Aug-16	0.5	160	< 0.050	< 0.050	< 0.050	<0.150	< 0.300	<10.0	<10.0	<20.0	96
NMOCD Recommended Remedial Action Levels		100		10				50			5,000	1,000		

<sup>-- =</sup> Not Analyzed

**Bold** values are in excess of NMOCD Recommended Remedial Action Levels

# **ATTACHMENTS**

# ATTACHMENT I Photographs



Photograph #1 – Looking across release area



Photograph #2 – Looking across release area



Photograph #3 – Looking across release area



Photograph #4 – Looking across release area



Photograph #5 – Looking across release area



Photograph #6 – Looking across release area



Photograph #7 – Looking across release area



Photograph #8 – Excavated area



Photograph #9 – Excavated area



Photograph #10 – Excavated area

# ATTACHMENT II Laboratory Analytical Results



September 07, 2016

**Daniel Dominguez** 

Environmental Plus, Inc.

P.O. Box 1558

Eunice, NM 88231

RE: AGU #135

Enclosed are the results of analyses for samples received by the laboratory on 08/31/16 15:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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 <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accred certif.html.

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

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

Accreditation applies to public drinking water matrices.

Celey D. Keene

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



#### Analytical Results For:

Environmental Plus, Inc.
Daniel Dominguez
P.O. Box 1558
Eunice NM, 88231

Fax To: (505) 394-2601

Received: 08/31/2016 Reported: 09/07/2016

Project Name: AGU #135
Project Number: NONE GIVEN

Project Location: UL- J SEC.35,T21S,R36E

Sampling Date: 08/30/2016

Sampling Type: Soil

Sampling Condition: Cool & Intact
Sample Received By: Angela Cabrera

#### Sample ID: SP1 (SURFACE) (H601963-01)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/02/2016	ND	2.08	104	2.00	0.112	
Toluene*	0.332	0.050	09/02/2016	ND	2.10	105	2.00	0.220	
Ethylbenzene*	0.889	0.050	09/02/2016	ND	2.01	101	2.00	0.109	
Total Xylenes*	3.37	0.150	09/02/2016	ND	6.12	102	6.00	0.141	
Total BTEX	4.59	0.300	09/02/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	135 9	73.6-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/02/2016	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	206	100	09/01/2016	ND	176	87.8	200	3.80	
DRO >C10-C28	13000	100	09/01/2016	ND	185	92.4	200	5.03	
Surrogate: 1-Chlorooctane	160 9	% 35-147	,						
Surrogate: 1-Chlorooctadecane	333 9	% 28-171							

Cardinal Laboratories \*=Accredited Analyte

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Celey D. Keene



#### Analytical Results For:

Environmental Plus, Inc. Daniel Dominguez P.O. Box 1558 Eunice NM, 88231

Fax To: (505) 394-2601

Received: 08/31/2016 Sampling Date: 08/30/2016

Reported: 09/07/2016 Sampling Type: Soil

Project Name: AGU #135 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Angela Cabrera

Analyzed By: MS

Project Location: UL- J SEC.35,T21S,R36E

mg/kg

#### Sample ID: SP1 (2') (H601963-02)

BTEX 8021B

	97	119	Allaryzo	.u 571110					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/02/2016	ND	2.08	104	2.00	0.112	
Toluene*	<0.050	0.050	09/02/2016	ND	2.10	105	2.00	0.220	
Ethylbenzene*	<0.050	0.050	09/02/2016	ND	2.01	101	2.00	0.109	
Total Xylenes*	<0.150	0.150	09/02/2016	ND	6.12	102	6.00	0.141	
Total BTEX	<0.300	0.300	09/02/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	97.0	% 73.6-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	608	16.0	09/02/2016	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/01/2016	ND	176	87.8	200	3.80	
DRO >C10-C28	<10.0	10.0	09/01/2016	ND	185	92.4	200	5.03	
Surrogate: 1-Chlorooctane	90.3	% 35-147	,						
Surrogate: 1-Chlorooctadecane	92.3	% 28-171							

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Celeg D. Freene



#### Analytical Results For:

Environmental Plus, Inc. Daniel Dominguez P.O. Box 1558 Eunice NM, 88231

Fax To: (505) 394-2601

 Received:
 08/31/2016
 Sampling Date:
 08/30/2016

 Reported:
 09/07/2016
 Sampling Type:
 Soil

Project Name: AGU #135 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Angela Cabrera

Project Location: UL- J SEC.35,T21S,R36E

#### Sample ID: SP1 (4') (H601963-03)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/06/2016	ND	2.13	107	2.00	0.929	
Toluene*	<0.050	0.050	09/06/2016	ND	2.18	109	2.00	1.23	
Ethylbenzene*	<0.050	0.050	09/06/2016	ND	2.11	105	2.00	0.932	
Total Xylenes*	<0.150	0.150	09/06/2016	ND	6.41	107	6.00	0.744	
Total BTEX	<0.300	0.300	09/06/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	97.3	% 73.6-14	0						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	09/02/2016	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/01/2016	ND	176	87.8	200	3.80	
DRO >C10-C28	<10.0	10.0	09/01/2016	ND	185	92.4	200	5.03	
Surrogate: 1-Chlorooctane	102 %	% 35-147	7						
Surrogate: 1-Chlorooctadecane	103 9	6 28-171	,						

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Celey D. Keene



08/30/2016

#### Analytical Results For:

Environmental Plus, Inc.
Daniel Dominguez
P.O. Box 1558
Eunice NM, 88231
Fax To: (505) 394-2601

Received: 08/31/2016 Sampling Date:

Reported: 09/07/2016 Sampling Type: Soil

Project Name: AGU #135 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Angela Cabrera

Project Location: UL- J SEC.35,T21S,R36E

#### Sample ID: SP2 (SURFACE) (H601963-04)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/06/2016	ND	2.13	107	2.00	0.929	
Toluene*	<0.050	0.050	09/06/2016	ND	2.18	109	2.00	1.23	
Ethylbenzene*	<0.050	0.050	09/06/2016	ND	2.11	105	2.00	0.932	
Total Xylenes*	<0.150	0.150	09/06/2016	ND	6.41	107	6.00	0.744	
Total BTEX	<0.300	0.300	09/06/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.5	% 73.6-14	0						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/02/2016	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/01/2016	ND	176	87.8	200	3.80	
DRO >C10-C28	20.1	10.0	09/01/2016	ND	185	92.4	200	5.03	
Surrogate: 1-Chlorooctane	97.3	% 35-147	7						
Surrogate: 1-Chlorooctadecane	109 9	% 28-171							

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Celeg D. Freene



08/30/2016

#### Analytical Results For:

Environmental Plus, Inc.
Daniel Dominguez
P.O. Box 1558
Eunice NM, 88231
Fax To: (505) 394-2601

Received: 08/31/2016 Sampling Date:

Reported: 09/07/2016 Sampling Type: Soil

Project Name: AGU #135 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Angela Cabrera

Project Location: UL- J SEC.35,T21S,R36E

#### Sample ID: SP2 (1') (H601963-05)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/06/2016	ND	2.13	107	2.00	0.929	
Toluene*	<0.050	0.050	09/06/2016	ND	2.18	109	2.00	1.23	
Ethylbenzene*	<0.050	0.050	09/06/2016	ND	2.11	105	2.00	0.932	
Total Xylenes*	<0.150	0.150	09/06/2016	ND	6.41	107	6.00	0.744	
Total BTEX	<0.300	0.300	09/06/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	97.0 9	% 73.6-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	09/02/2016	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/01/2016	ND	176	87.8	200	3.80	
DRO >C10-C28	<10.0	10.0	09/01/2016	ND	185	92.4	200	5.03	
Surrogate: 1-Chlorooctane	84.1 9	% 35-147	,						
Surrogate: 1-Chlorooctadecane	99.2 9	% 28-171							

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Celey D. Keene



#### Analytical Results For:

Environmental Plus, Inc. Daniel Dominguez P.O. Box 1558 Eunice NM, 88231

Fax To: (505) 394-2601

Received: 08/31/2016 Sampling Date: 08/30/2016

Reported: 09/07/2016 Sampling Type: Soil

Project Name: AGU #135 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Angela Cabrera

Project Location: UL- J SEC.35,T21S,R36E

#### Sample ID: SP3 (8') (H601963-06)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/06/2016	ND	2.13	107	2.00	0.929	
Toluene*	<0.050	0.050	09/06/2016	ND	2.18	109	2.00	1.23	
Ethylbenzene*	<0.050	0.050	09/06/2016	ND	2.11	105	2.00	0.932	
Total Xylenes*	<0.150	0.150	09/06/2016	ND	6.41	107	6.00	0.744	
Total BTEX	<0.300	0.300	09/06/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	96.9 9	% 73.6-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	544	16.0	09/02/2016	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/01/2016	ND	176	87.8	200	3.80	
DRO >C10-C28	<10.0	10.0	09/01/2016	ND	185	92.4	200	5.03	
Surrogate: 1-Chlorooctane	92.3 9	% 35-147	,						
Surrogate: 1-Chlorooctadecane	97.79	% 28-171							

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#### Analytical Results For:

Environmental Plus, Inc. **Daniel Dominguez** P.O. Box 1558 Eunice NM, 88231

Fax To: (505) 394-2601

Received: 08/31/2016 Sampling Date: 08/30/2016

Reported: 09/07/2016 Sampling Type: Soil

Project Name: AGU #135 Sampling Condition: Cool & Intact Project Number: NONE GIVEN Sample Received By: Angela Cabrera

Project Location: UL- J SEC.35,T21S,R36E

#### Sample ID: SP3 (10') (H601963-07)

BTEX 8021B	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/06/2016	ND	2.13	107	2.00	0.929	
Toluene*	<0.050	0.050	09/06/2016	ND	2.18	109	2.00	1.23	
Ethylbenzene*	<0.050	0.050	09/06/2016	ND	2.11	105	2.00	0.932	
Total Xylenes*	<0.150	0.150	09/06/2016	ND	6.41	107	6.00	0.744	
Total BTEX	<0.300	0.300	09/06/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	97.8	% 73.6-14	0						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	09/02/2016	ND	416	104	400	0.00	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/02/2016	ND	176	87.8	200	3.80	
DRO >C10-C28	<10.0	10.0	09/02/2016	ND	185	92.4	200	5.03	
Surrogate: 1-Chlorooctane	93.7	% 35-147	,						
Surrogate: 1-Chlorooctadecane	96.3	% 28-171							

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#### Analytical Results For:

Environmental Plus, Inc. Daniel Dominguez P.O. Box 1558 Eunice NM, 88231

Fax To: (505) 394-2601

Received: 08/31/2016 Sampling Date: 08/30/2016

Reported: 09/07/2016 Sampling Type: Soil

Project Name: AGU #135 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Angela Cabrera

Project Location: UL- J SEC.35,T21S,R36E

#### Sample ID: SP4 (SURFACE) (H601963-08)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/06/2016	ND	2.13	107	2.00	0.929	
Toluene*	< 0.050	0.050	09/06/2016	ND	2.18	109	2.00	1.23	
Ethylbenzene*	< 0.050	0.050	09/06/2016	ND	2.11	105	2.00	0.932	
Total Xylenes*	<0.150	0.150	09/06/2016	ND	6.41	107	6.00	0.744	
Total BTEX	<0.300	0.300	09/06/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	97.1	% 73.6-14	0						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	09/02/2016	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/02/2016	ND	176	87.8	200	3.80	
DRO >C10-C28	<10.0	10.0	09/02/2016	ND	185	92.4	200	5.03	
Surrogate: 1-Chlorooctane	101 9	% 35-147	7						
Surrogate: 1-Chlorooctadecane	98.5	% 28-171							

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#### Analytical Results For:

Environmental Plus, Inc. **Daniel Dominguez** P.O. Box 1558 Eunice NM, 88231

Fax To: (505) 394-2601

Received: 08/31/2016 Sampling Date: 08/30/2016

Reported: 09/07/2016 Sampling Type: Soil

Project Name: AGU #135 Sampling Condition: Cool & Intact Project Number: NONE GIVEN Sample Received By: Angela Cabrera

Project Location: UL- J SEC.35,T21S,R36E

#### Sample ID: SP5 (SURFACE) (H601963-09)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/06/2016	ND	2.13	107	2.00	0.929	
Toluene*	< 0.050	0.050	09/06/2016	ND	2.18	109	2.00	1.23	
Ethylbenzene*	< 0.050	0.050	09/06/2016	ND	2.11	105	2.00	0.932	
Total Xylenes*	<0.150	0.150	09/06/2016	ND	6.41	107	6.00	0.744	
Total BTEX	<0.300	0.300	09/06/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	97.1 9	% 73.6-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	09/02/2016	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/02/2016	ND	203	102	200	3.23	
DRO >C10-C28	<10.0	10.0	09/02/2016	ND	223	111	200	3.64	
Surrogate: 1-Chlorooctane	69.8 9	% 35-147	,						
Surrogate: 1-Chlorooctadecane	80.9 9	% 28-171							

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08/30/2016

#### Analytical Results For:

Environmental Plus, Inc. **Daniel Dominguez** P.O. Box 1558 Eunice NM, 88231 Fax To: (505) 394-2601

Received: 08/31/2016 Sampling Date:

Reported: 09/07/2016 Sampling Type: Soil

Project Name: AGU #135 Sampling Condition: Cool & Intact Project Number: NONE GIVEN Sample Received By: Angela Cabrera

Project Location: UL- J SEC.35,T21S,R36E

#### Sample ID: SP6 (SURFACE) (H601963-10)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/06/2016	ND	2.13	107	2.00	0.929	
Toluene*	<0.050	0.050	09/06/2016	ND	2.18	109	2.00	1.23	
Ethylbenzene*	<0.050	0.050	09/06/2016	ND	2.11	105	2.00	0.932	
Total Xylenes*	<0.150	0.150	09/06/2016	ND	6.41	107	6.00	0.744	
Total BTEX	<0.300	0.300	09/06/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.4	% 73.6-14	0						
Chloride, SM4500Cl-B	mg/	'kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	09/02/2016	ND	416	104	400	0.00	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/02/2016	ND	203	102	200	3.23	
DRO >C10-C28	<10.0	10.0	09/02/2016	ND	223	111	200	3.64	
Surrogate: 1-Chlorooctane	93.1	% 35-147	,						
Surrogate: 1-Chlorooctadecane	106 9	% 28-171							

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#### **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.

maurx interretence s.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS

ecovery.

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

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Released to Imaging: 3/10/2023 8:28:31 AM

## **Environmental Plus, Inc.**

2100 Avenue O, Eunice, NM 88231

P.O. Box 1558, Eunice, NM 88231

Chain of Custody Form

LAB Cardinal

	FAX: (575) 394-2601							_																
Company Name		, Inc	). 			12.	500		100		E	Bill '	То				A	NAI	YS	IS F	REQ	UES	ST.	
EPI Project Man						l																	П	Т
Mailing Address						l						ASS				ı	ı	ı	ı	1	ı			- 1
City, State, Zip	Eunice New Mexico					l			1						ı	ı	ı	ı	ı		ı			- 1
EPI Phone#/Fax		394-	260	1		1			A		_				ı	ı	ı	ı	ı	ı	ı			- 1
Client Company						ı							A SAME		ı	ı	ı	ı	ı	ı		П		- 1
Facility Name	AGU #135																ı	ı	ı					- 1
Location	UL-J Sec. 35, T21S,	R36	SE_						Att	n: [	Dan	iel [	Dominguez		ı		ı	ı	ı	ı				- 1
Project Referen										P	.0.	Box	x 1558		ı		ı	ı	ı					- 1
EPI Sampler Na	me David Robinson									Eur	nice	, Ni	M 88231			ı	ı	ı	ı					- 1
		l۰		ᆫ		MA	TRIX			PR	ESE	RV.	SAMPLI	ING	]		ı	ı	ı	ı				- 1
LAB 1.D. H601963	SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	ACID/BASE	CE/COOL	OTHER	DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (CI')	SULFATES (SO4")	Hd	TCLP	OTHER >>>	РАН		
1	SP1 (Surface)	G	1			Х					Х		30-Aug-16	11:25	X	_	x	<u>"</u>	_	_	Ŭ	_	$\dashv$	+
2	SP1 (2')	G	1			Х					X		30-Aug-16	11:45	Х	Х	Х	Г					$\neg$	$\top$
3	SP1 (4')	G	1			Х					X		30-Aug-16	12:20	Х	Х	Х						$\neg$	$\top$
4	SP2 (Surface)	G	1			X					Х		30-Aug-16	12:50	Х	Х	Х						$\neg$	$\top$
5	SP2 (1')	G	1			X					Х		30-Aug-16	12:51	х	Х	Х					$\neg$	$\neg$	+
	SP3 (8')	G	1			Х					Х		30-Aug-16	14:05	Х	Х	Х					$\neg$	$\neg$	+
7	SP3 (10')	G	1			X					Χ		30-Aug-16	14:30	Х	Х	Х						$\neg$	+
8	SP4 (Surface)	G	1			X					Х		30-Aug-16		Х	Х	Х				П	$\neg$	$\neg$	+
9	SP5 (Surface)	G	1			Х					Х		30-Aug-16		Х		Х			П	П	$\dashv$	$\neg$	+
10	SP6 (Surface)	G	1			Χ					χ		30-Aug-16	15:05	Х	Х	х		П			$\neg$	$\dashv$	+
campler Relinquished:	The second secon	Rece	1	2	o sta	ff)		) ( ) cked	Ne		E-m	ail re	sults to: ddoming	guezepi@gr	mail.c	com	& joh	nn_rc	bins	on@	xtoer	nergy	.com	

# ATTACHMENT III Copy of Initial NMOCD Form C-141

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

### State of New Mexic RECEIVED Energy Minerals and Natural

By JKeyes at 8:58 am, Aug 24, 2016

Oil Conservation Division 1220 South St. Francis Dr. accordance with 19.15.29 NIVIAC

nJXK1623732065

pJXK1623732217

220 S. St. Francis Dr., Santa Fe, NM 87505	anta Fe,	NM 8750	)5					
Release Notific	cation	and Co	rrective A	ction				
Ifolospa I (a trans		OPERA'			X Initial	Report	Final I	Report
Name of Company XTO Energy, Inc.	C	ontact Jo	hn Robinson					
Address 500 W Illinois, Midland, TX 79701			o. 575-441-51	99				
Facility Name Arrowhead Grayburg Unit #135	F	acility Typ	e Well					
	Owner				API No.	30-025-0	)4917	
Surface Owner State		OFDE	TRACTE					
, , ,		OF REI	Feet from the	East/W	est Line	County		
Unit Letter Section Township Range Feet from the	NOTHES	Oun Diffe				Y		
J 35 21-S 36-E 1980	Sout	h	1980	East	L	Lea	and the second s	per per manual de la constante
Latitude		Longitud	le					
	20X 1303 TO 4	OF REL	FACE					
	I.()KH	Volume of			Volume R	ecovered		
Type of Release Produced water and oil.		117.42 ba	rrels produced wa	ater	60 barrels	produced	water	
Source of Release Flow Line		Date and I	Hour of Occurrence	ce	Date and 8-23-16	Hour of Di	scovery	
		8-23-16 If YES, To	1:00 pm		0-23-10	2.00 pm		
Was Immediate Notice Given? X Yes ☐ No ☐ Not R	equired	Left a mes	sage on Jamie Ke	eyes pho	ne at 5:55 a	m on the 6	-24-16	
		Date and	Hour 6-24-16	5:55 ar	n			
By Whom? John Robinson Was a Watercourse Reached?		If YES, V	olume Impacting	the Wat	ercourse.			
Yes X No								
If a Watercourse was Impacted, Describe Fully.*								
II a materiooded								
Describe Cause of Problem and Remedial Action Taken.*	dina water	r						
Fiberglass flow line leak. Had vacuum truck clean up all stan	iding water							
1 1 Clarent Action Taken *							1	
Describe Area Affected and Cleanup Action Taken.* 41X35 foot area in pasture. The rest of the leak ran down exis	sting calicl	ne road. Wi	ll test soil and cle	an up ac	cording to	OCD stand	ards.	
41A33 foot area in pastars.								
							2 (000 1	J
I hereby certify that the information given above is true and con	mplete to	the best of n	y knowledge and	l underst	and that pu	rsuant to N	ch may endang	na ger
and disposal operators are required to report and/or the column	111 1010000 1			D	Jack mot Fo	liana the o	nerator of Habi	HILV
applie health or the environment. The acceptance of a C-141 F	cport of a	10 111110		Lucat to	around wat	er surface	water, human	nealth
should their operations have failed to adequately investigate an or the environment. In addition, NMOCD acceptance of a C-1	41 report	does not reli	eve the operator of	of respon	isibility for	complianc	e with any other	3T
federal, state, or local laws and/or regulations.			OIL CO	NICED	VATIO	J DIVIS	ION	
1			OIL CO	NOEN	VALIOI	ADIVIL	71011	
Signature: July Julius					Na	ntlyer		
Signature: MW/W process of		Approved	by Environmenta	I Specia	list:	/		
Printed Name. John Robinson						10	/24/2016	
Towns Farmer		Approval	08/24/20 Date:	10	Expiration	n Date: 10	12-1/2010	
Title: Maintenance Foreman		Can Jitia-	s of Approval:			1	had [7	
E-mail Address: john robinson@xtoenergy.com		4	nples only. Delin	eate and	remediate	E-2000	hed	

NMOCD guidelines.

\* Attach Additional Sheets If Necessary

Date: 6-24-16

Phone: 575-441-5199

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II 811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III 1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 195663

#### **CONDITIONS**

Operator:	OGRID:
Empire New Mexico LLC	330679
2200 S. Utica Place	Action Number:
Tulsa, OK 74114	195663
	Action Type:
	[IM-SD] Incident File Support Doc (ENV) (IM-BNF)

#### CONDITIONS

Create By		Condition Date
bha	II None	3/10/2023