

REVIEWED

By Mike Buchanan at 4:41 pm, Jul 19, 2023



Review of the 2022 Groundwater Annual Report for Artesia Tank Farm:
Content Satisfactory
1. Continue to monitor groundwater for MW-2 and MW-1 annually.
2. Submit the 2023 GW Monitoring Report to NMOCD by April 1, 2024.

2022 ANNUAL GROUNDWATER MONITORING REPORT

Artesia Tank Farm
Section 10, Township 18 South, Range 27 East
Artesia, Eddy County, New Mexico
NMOCD Reference # 2RP-6

Preparation Date:
March 29, 2023

Prepared for:

CENTURION PIPELINE LP
516 Veterans Airpark Lane Bldg. B
Midland TX 79705

Prepared By:
APEX Companies, LLC.
505 N. Big Spring Street, Suite 301A
Midland, TX 79701

Apex Project No. CEN050-0314045-22005645



2022 ANNUAL GROUNDWATER MONITORING REPORT

Artesia Tank Farm
Section 10, Township 18 South, Range 27 East
Artesia, Eddy County, New Mexico
NMOCD Reference # 2RP-6



A handwritten signature in blue ink that reads "Joshua Pickett".

Josh Pickett
Scientist 1

A handwritten signature in black ink that reads "Clint Ward".

Clint Ward
Project Manager



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1.0 – INTRODUCTION

1.1 - Site Background

In March 1993, a release of crude oil was discovered at the Artesia Tank Farm located approximately 12 miles southeast of Artesia, New Mexico, referred to hereinafter as the “Site”. In August 1993, an initial assessment, which included the installation of 23 soil borings, concluded that impacts from light non-aqueous phase liquid (LNAPL) extended approximately 1,700 feet along Scoggin Draw. An interceptor trench and an associated groundwater separation/air-stripper remediation system was installed in November 1994 to control and remediate the LNAPL and dissolved-phase hydrocarbon plume associated with the release. A total of fourteen monitoring wells (MW-1 through MW-14) were eventually installed along Scoggin Draw to evaluate/monitor the extent of the groundwater impact. Quarterly reporting was performed throughout the operation of the remediation system, which was shut down in early 1997 and dismantled in the fall of 1998.

After New Mexico Oil Conservation Division (NMOCD) approval, all 14 monitoring wells were plugged and abandoned. Monitoring wells MW-4, MW-6, MW-7, MW-12, and MW-13 were plugged and abandoned on June 19, 2003. On August 18, 2005, monitoring wells MW-5, MW-8 and MW-14 were plugged and abandoned. On November 12 and 13, 2013 monitoring wells MW-1, MW-2, MW-2A, MW-3, MW-3A, MW-3B, MW-9, MW-10 and MW-11 were also plugged and abandoned.

On June 29, 2007, the NMOCD was notified that effective July 1, 2007, the Operator of Record for the Site, and the associated water development easement (WM-72) transferred from BP Pipelines (North America) Inc. to Centurion Pipeline LP (Centurion).

A status report was submitted on April 4, 2012, entitled “Status Update Report”. The laboratory analytical results in 2014 indicate that historical chemicals of concern (COC) concentrations in groundwater underlying areas outside the pump station compound were below the applicable New Mexico Water Quality Commission human health standard. The historical data provided in reports prepared by RT Hicks Consulting, Delta Environmental Consultants and the Antea Group shows general trends associated with biodegradation of the residual petroleum hydrocarbons and that the dissolved-phase contaminant plume is non-mobile and decreasing.

Additional remediation at the Site has been deferred until the Site is more accessible for removal of LNAPL. The NMOCD approved the completion of two (2) sentinel wells placed down gradient of potential contamination. The monitoring wells (MW-1 and MW-2) were installed in October 2016 by Apex TITAN, Inc. (Apex). The results of the investigation and sampling activities are included in the “2016 Environmental Site Investigation and Annual Groundwater Report” prepared by Apex and dated December 2016. Annual groundwater samples are collected from the two monitoring wells and analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX). The results are submitted in an annual groundwater monitoring report for submittal to the NMOCD.

1.2 - Site Description

The Artesia Tank Farm is located 12 miles southeast of Artesia in Section 10, Township 18 South, and Range 27 East in Eddy County, New Mexico. The geodetic coordinates of the Site are latitude



32.761507° N, longitude 104.270481° W. The Site is surrounded primarily by undeveloped rangeland periodically interrupted by oil and gas production.

A Topographic Map is included in **Figure 1**, a Site Vicinity Map, composed from an aerial photograph, is included in **Figure 2**, and a Site Details Map is included in **Figure 3**.

1.3 - Project Objective

The project objective of the groundwater monitoring at the Site is to monitor the groundwater down-gradient of the Artesia Tank Farm. Apex collected groundwater analytical samples from monitoring wells MW-1 and MW-2. The samples were analyzed for Benzene, Toluene, Ethylbenzene and Xylene (BTEX) utilizing Environmental Protection Agency (EPA) Method 8021B.

2.0 - SITE CHARACTERIZATION

2.1 – Site Geology and Hydrogeology

The lithology encountered during previous investigation activities at the Site consisted primarily of evaporates with intermittent layers of fine-grained sand. The surface contained intermittent caliche nodules. The United States Agricultural Department soil survey indicates that the Site is in the Artesia Group which consists of fine grain sandstones, evaporates, and dolostone.

2.2 - Groundwater Flow

Previous reports prepared by Antea Group indicate the groundwater flow direction (gradient) at the Site is generally south south-west. The shallow groundwater near the Site generally flows toward and along the Scoggin Draw, located to the east of the Site. A 2010 groundwater Gradient Map, prepared using information from the Antea Group, is included as **Figure 4**.

3.0 - REGULATORY GUIDELINES

3.1 – Site Ranking

The Site is under the jurisdiction of the ENMRD OCD. Initial Site activities were performed in accordance with the ENMRD OCD *Guidelines for Remediation of Leaks, Spills and Releases*, in addition to the OCD rules, specifically New Mexico Administrative Code (NMAC) 19.15.29 *Remediation Plan*. This guidance establishes investigation and abatement action requirements for sites subject to reporting and/or corrective action.

Apex utilized the general site characteristics and information available from the New Mexico Office of the State Engineer to determine the appropriate OCD “ranking” for the Site. The ranking criteria and associated scoring are provided in the following table:



Ranking Criteria

Ranking Criteria			Ranking Score
Depth to Groundwater	<50 feet	20	20
	50 to 99 feet	10	
	>100 feet	0	
Wellhead Protection Area • <1,000 feet from a water source, or <200 feet from private domestic water source.	Yes	20	0
	No	0	
Distance to Surface Water Body	<200 feet	20	10
	200 to 1,000 feet	10	
	>1,000 feet	0	
Ranking Criteria			Ranking Score
Total Ranking Score			30

Based on Apex's evaluation of the scoring criteria, the Site would have a maximum OCD Total Ranking Score of "30". This ranking is based on the following:

The depth to the initial groundwater-bearing zone is less than 50 feet below grade surface (bgs) as observed in on-site groundwater monitoring wells, resulting in a ranking of "20" for depth to groundwater.

No water sources or wellheads were identified within 1,000 feet of the Site, resulting in a ranking of "0" for proximity to a wellhead protection area.

The Site is located approximately 260 feet to the west of the dry cut bank of Scoggin Draw, resulting in a ranking of "10" for distance to surface water.

The cleanup goals for groundwater at the Site were derived from the Water Quality Control Commission (WQCC) *Groundwater Quality NMAC 20.6.2 Standards* of:

- 0.005 milligrams per liter (mg/L) for benzene,
- 1.0 mg/L for toluene,
- 0.7 mg/L for ethylbenzene, and
- 0.62 mg/L for xylenes.

4.0 - GROUNDWATER SAMPLING PROGRAM

4.1 - Groundwater Sampling Program

Apex's groundwater sampling program consisted of collecting one (1) groundwater sample from each monitoring well annually. Before sample collection, Apex gauged depth to fluids in each monitoring well utilizing an electronic oil/water interface meter, capable of detecting phase separated hydrocarbons (PSH).

Each monitoring well was purged utilizing low-flow sampling techniques. The groundwater samples were collected from each monitoring well once produced groundwater was consistent in color, clarity, pH, dissolved oxygen (DO), oxidation/reduction potential (ORP), temperature and conductivity.

Groundwater samples were collected and placed in laboratory prepared glassware, placed on ice in a cooler, and secured with a custody seal. The sample coolers and completed chain-of-custody forms were relinquished to Eurofins Xenco Laboratories in Midland, Texas for standard turn-around times.

5.0 - LABORATORY ANALYTICAL METHODS

5.1 - Laboratory Analytical Methods

Groundwater samples were analyzed for BTEX utilizing EPA Method SW-846 8021B. Laboratory results for groundwater samples are summarized in **Table 1**. Laboratory results, including the executed chain of custody forms are provided in **Appendix A**.

6.0 - DATA EVALUATION

Apex compared the reported BTEX concentrations or laboratory method detection limits (MDL) associated with the groundwater samples collected from the Site to the applicable New Mexico Water Quality Control Commission Groundwater Quality Standards (WQCC).

6.1 - Annual Groundwater Analytical Monitoring

Groundwater samples were collected from monitoring wells MW-1 and MW-2 on August 10, 2022.

The laboratory analytical results for monitoring well MW-1 for benzene, toluene, ethylbenzene, and total xylene were <0.000408 mg/L, <0.000367 mg/L, <0.000657 mg/L, and <0.000642 mg/L, respectively, which are below the applicable NMAC 19.15.29 Remediation Plan and below the applicable WQCC regulations. The laboratory analytical results for monitoring well MW-2 for benzene, toluene, ethylbenzene, and total xylene were 0.000685 mg/L J, 0.000645 mg/L J, <0.000657 mg/L, and <0.000642 mg/L, respectively, which are below the applicable NMAC 19.15.29 Remediation Plan and below the applicable WQCC regulations.



7.0 - FINDINGS AND CONCLUSIONS

Apex has the following findings and conclusions based on analytical results of the annual groundwater sampling event.

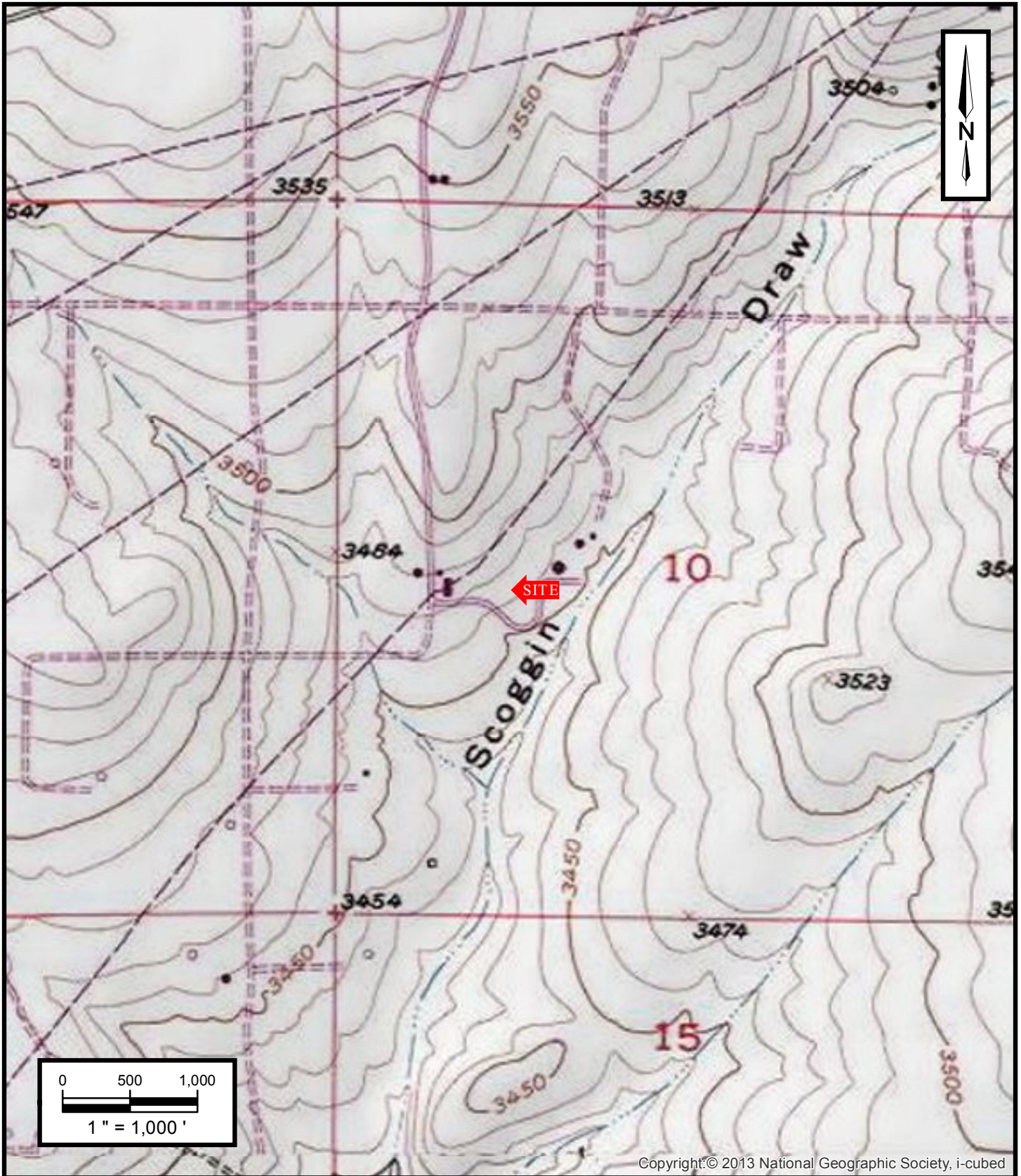
- The August 2022 BTEX concentrations in groundwater were not detected above the applicable WQCC regulatory limits, in samples collected from MW-1 and MW-2.

8.0 - RECOMMENDATIONS

Based on the results of the groundwater monitoring activities, Apex has the following recommendations:

- Continue the groundwater monitoring program on an annual basis to evaluate potential impacts from the Artesia Tank Farm; and
- Report the results of the investigation to the NMOCD.





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Centurion Pipeline
 Artesia Tank Farm
 Artesia, Eddy County, New Mexico
 32.761507 N, 104.270481 W

Project No. 725010670005

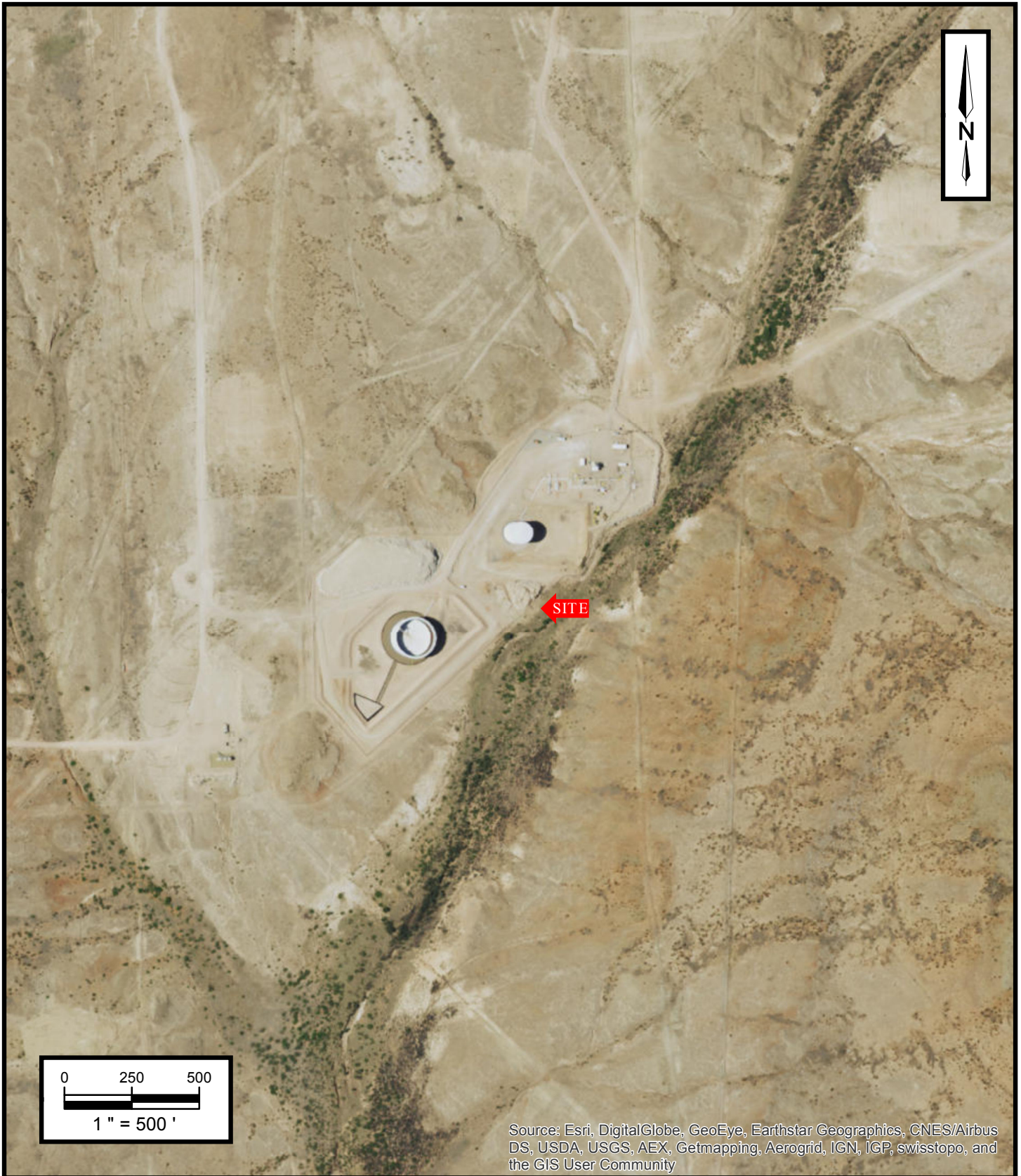


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FIGURE 1

Topographic Map

Spring Lake, New Mexico Quadrangle
 1955



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

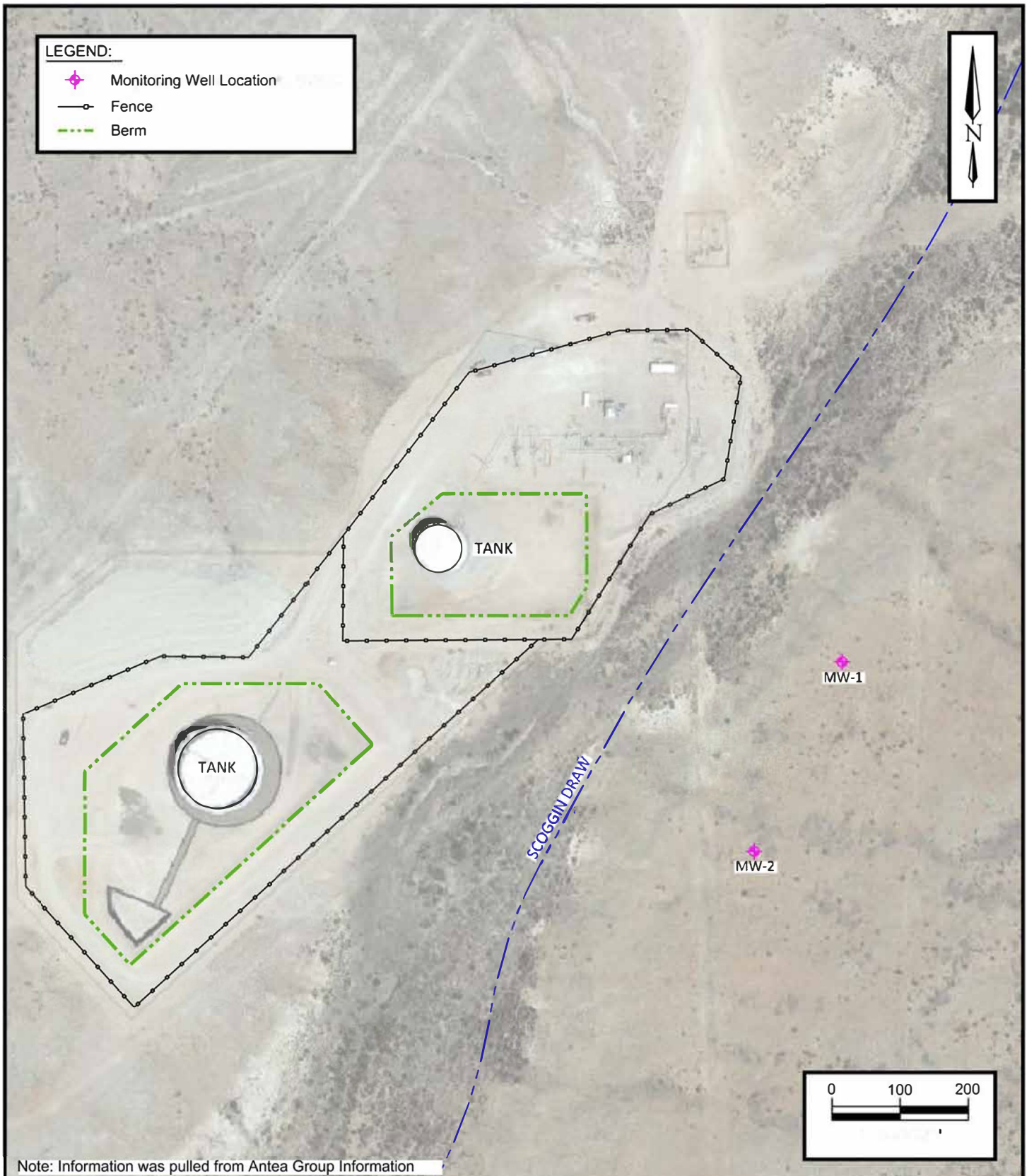
**Centurion Pipeline
Artesia Tank Farm**
Artesia, Eddy County, New Mexico
32.761507 N, 104.270481 W



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FIGURE 2
Site Vicinity Map

Project No. 725010670005



Centurion Pipeline
Artesia Tank Farm
 Artesia, Eddy County, New Mexico
 32.761507 N, 104.270481 W

Project No. 725010670005

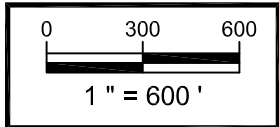
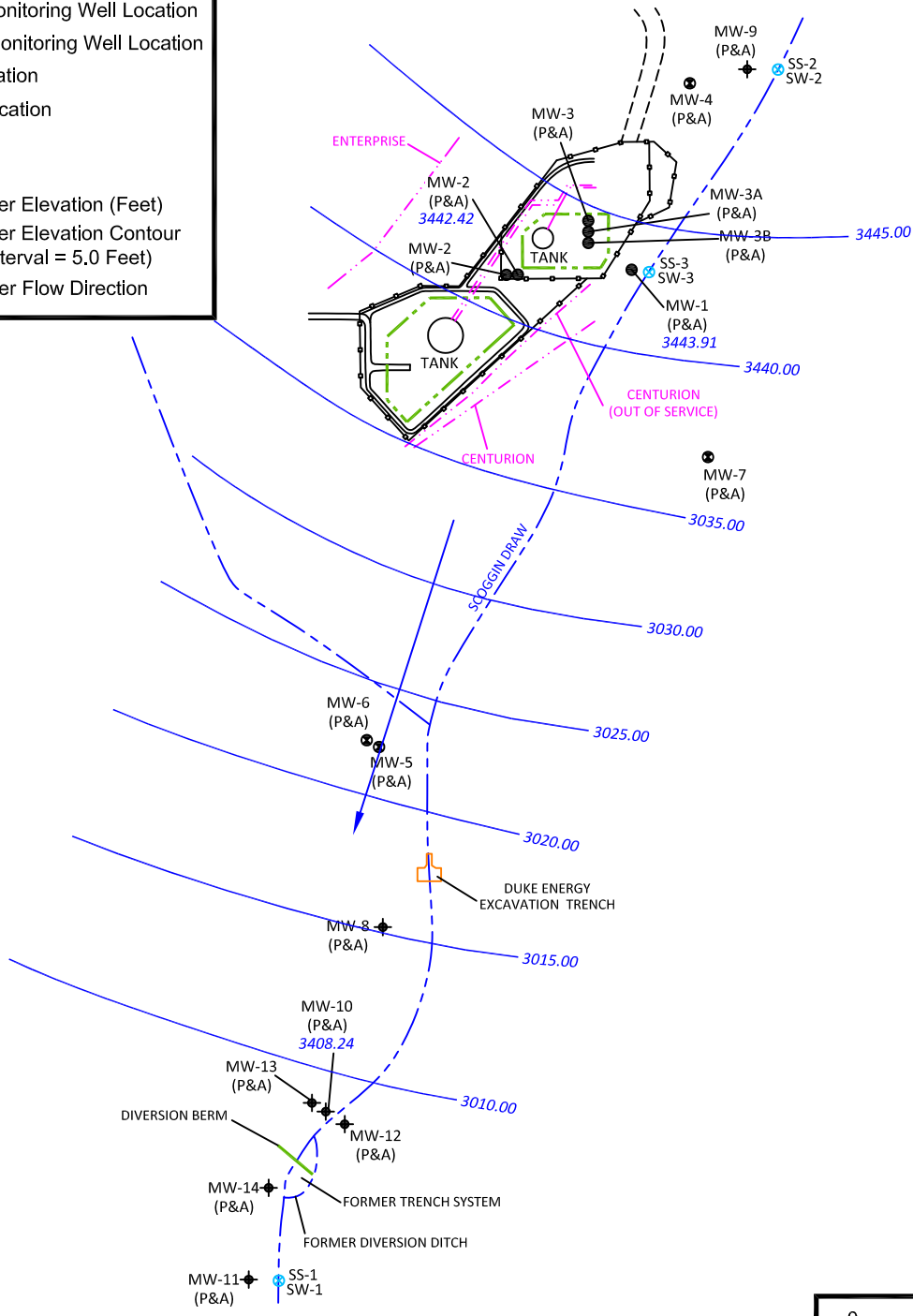


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FIGURE 3
Site Details Map

LEGEND:

- Monitoring Well Location (1993)
- ⊙ Phase II Monitoring Well Location
- ⊕ Phase III Monitoring Well Location
- ⊗ Boring Location
- Pipeline Location
- Fence
- Berm
- 3408.24 Groundwater Elevation (Feet)
- 3410.00 Groundwater Elevation Contour (Contour Interval = 5.0 Feet)
- Groundwater Flow Direction



Source: Historical Antea Group Information

Centurion Pipeline
Artesia Tank Farm
 Artesia, Eddy County, New Mexico
 32.761507 N, 104.270481 W

Project No. 725010670005



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FIGURE 4

Groundwater Gradient Map
June 10, 2010



TABLE 1
GROUNDWATER ANALYTICAL RESULTS
 Artesia Tank Farm, Eddy County, New Mexico

Sample I.D.	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)
New Mexico Water Quality Control Commission Groundwater Quality Standards		0.005	1.00	0.700	0.620
MW-1	11/30/16	0.00060	<0.00050	<0.00050	<0.00050
MW-1	07/12/17	<0.00060	<0.00050	<0.00050	<0.00050
MW-1	07/10/18	<0.000408	<0.000367	<0.000657	<0.00063
MW-1	09/27/19	<0.000408	<0.000367	<0.000657	<0.00063
MW-1	08/13/20	0.00047 J	* 0.00171 J	<0.000657	<0.00063
MW-1	09/24/21	0.000756 J	0.00145 J	<0.000657	0.000678 J
MW-1	08/10/22	<0.000408	<0.000367	<0.000657	<0.000642
MW-2	11/30/16	0.0023 J	<0.00050	<0.00050	0.0035 J
MW-2	07/12/17	<0.00060	<0.00050	<0.00050	<0.00050
MW-2	07/10/18	<0.000408	<0.000367	<0.000657	<0.000630
MW-2	09/27/19	<0.000408	<0.000367	<0.000657	<0.000630
MW-2	08/13/20	0.00141 J	* 0.00175 J	<0.000657	0.00073 J
MW-2	09/24/21	<0.00408	<0.00367	<0.000657	<0.000642
MW-2	08/10/22	0.000685 J	0.000645 J	<0.000657	<0.000642

J - Analyte detected below quantitation limit

* - detected in trip blank (0.00165 mg/L J)



TABLE 2 GROUNDWATER ELEVATIONS Artesia Tank Farm, Eddy County, New Mexico					
Monitoring Well ID	Measurement Date	Top-of-Casing Elevation (Feet AMSL)	Total Depth (Feet)	Depth to Water (Feet BTOC)	Groundwater Elevation (Feet AMSL)
MW-1	11/30/16	NS	60.00	28.99	ND
MW-1	07/12/17	NS	62.88	30.84	ND
MW-1	07/10/18	NS	---	---	ND
MW-1	09/27/19	NS	---	36.52	ND
MW-1	08/13/20	NS	62.60	33.67	ND
MW-1	09/24/21	NS	62.60	32.95	ND
MW-1	08/10/22	NS	62.60	35.88	ND
MW-2	11/30/16	NS	60.00	27.98	ND
MW-2	07/12/17	NS	62.38	29.98	ND
MW-2	07/10/18	NS	---	---	ND
MW-2	09/27/19	NS	---	35.70	ND
MW-2	08/13/20	NS	62.30	33.02	ND
MW-2	09/24/21	NS	62.30	32.16	ND
MW-2	08/10/22	NS	62.30	35.38	ND

BTOC - Below the top of casing

AMSL - Above Mean Sea Level

NS - Not surveyed

ND - Not Determined



Environment Testing America

ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-17977-1
Laboratory Sample Delivery Group: 88000368
Client Project/Site: Centurion Artesia Tank Farm

For:
Apex Companies LLC
505 N Big Springs St
Suite 301A
Midland, Texas 79701

Attn: Joshua Pickett

Authorized for release by:
8/17/2022 6:37:52 PM

Mike Kimmel, Project Manager
(214)902-0300
Mike.Kimmel@et.eurofinsus.com

LINKS

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results through



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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.



Client: Apex Companies LLC
Project/Site: Centurion Artesia Tank Farm

Laboratory Job ID: 880-17977-1
SDG: 88000368

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Definitions/Glossary

Client: Apex Companies LLC
Project/Site: Centurion Artesia Tank Farm

Job ID: 880-17977-1
SDG: 88000368

Qualifiers

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Case Narrative

Client: Apex Companies LLC
Project/Site: Centurion Artesia Tank Farm

Job ID: 880-17977-1
SDG: 88000368

Job ID: 880-17977-1

Laboratory: Eurofins Midland

Narrative

Job Narrative 880-17977-1

Comments

No additional comments.

Receipt

The samples were received on 8/10/2022 4:44 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.8° C.

GC VOA

Method 8021B: Surrogate recovery for the following samples were outside control limits: (CCV 880-31941/2), (LCS 880-31941/3 and (LCSD 880-31941/4). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following samples were outside control limits: (880-17745-A-9 MS) and (880-17745-A MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-17745-A-9). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (CCV 880-31941/20). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following samples were outside control limits: MW-2 (880-17977-1), MW-1 (880-17977-2) and FB-01 (880-17977-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis not performed.

Method 8021B: Surrogate recovery for the following samples were outside control limits: (CCV 880-31941/33), (LCS 880-31942/1-A) and (LCSD 880-31942/2-A). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following samples were outside control limits: (880-17789-A-8-C MS) and (880-17789-A-8-D MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-17789-A-8-E). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike duplicate (MSD) recoveries for analytical batch 880-31941 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample Results

Client: Apex Companies LLC
Project/Site: Centurion Artesia Tank FarmJob ID: 880-17977-1
SDG: 88000368

Client Sample ID: MW-2

Date Collected: 08/10/22 12:15

Date Received: 08/10/22 16:44

Lab Sample ID: 880-17977-1

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.685	J	2.00	0.408	ug/L			08/11/22 18:20	1
Toluene	0.645	J	2.00	0.367	ug/L			08/11/22 18:20	1
Ethylbenzene	<0.657	U	2.00	0.657	ug/L			08/11/22 18:20	1
m-Xylene & p-Xylene	<0.629	U	4.00	0.629	ug/L			08/11/22 18:20	1
o-Xylene	<0.642	U	2.00	0.642	ug/L			08/11/22 18:20	1
Xylenes, Total	<0.642	U	4.00	0.642	ug/L			08/11/22 18:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	147	S1+	70 - 130		08/11/22 18:20	1
1,4-Difluorobenzene (Surr)	76		70 - 130		08/11/22 18:20	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.00133	J	0.00400	0.000657	mg/L			08/12/22 11:03	1

Client Sample ID: MW-1

Date Collected: 08/10/22 13:25

Date Received: 08/10/22 16:44

Lab Sample ID: 880-17977-2

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.408	U	2.00	0.408	ug/L			08/11/22 18:47	1
Toluene	<0.367	U	2.00	0.367	ug/L			08/11/22 18:47	1
Ethylbenzene	<0.657	U	2.00	0.657	ug/L			08/11/22 18:47	1
m-Xylene & p-Xylene	<0.629	U	4.00	0.629	ug/L			08/11/22 18:47	1
o-Xylene	<0.642	U	2.00	0.642	ug/L			08/11/22 18:47	1
Xylenes, Total	<0.642	U	4.00	0.642	ug/L			08/11/22 18:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	148	S1+	70 - 130		08/11/22 18:47	1
1,4-Difluorobenzene (Surr)	72		70 - 130		08/11/22 18:47	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.000657	U	0.00400	0.000657	mg/L			08/12/22 11:03	1

Client Sample ID: FB-01

Date Collected: 08/10/22 12:55

Date Received: 08/10/22 16:44

Lab Sample ID: 880-17977-3

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.408	U	2.00	0.408	ug/L			08/11/22 19:13	1
Toluene	<0.367	U	2.00	0.367	ug/L			08/11/22 19:13	1
Ethylbenzene	<0.657	U	2.00	0.657	ug/L			08/11/22 19:13	1
m-Xylene & p-Xylene	<0.629	U	4.00	0.629	ug/L			08/11/22 19:13	1
o-Xylene	<0.642	U	2.00	0.642	ug/L			08/11/22 19:13	1
Xylenes, Total	<0.642	U	4.00	0.642	ug/L			08/11/22 19:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	153	S1+	70 - 130		08/11/22 19:13	1
1,4-Difluorobenzene (Surr)	71		70 - 130		08/11/22 19:13	1

Eurofins Midland

Client Sample Results

Client: Apex Companies LLC
Project/Site: Centurion Artesia Tank Farm

Job ID: 880-17977-1
SDG: 88000368

Client Sample ID: FB-01

Lab Sample ID: 880-17977-3

Date Collected: 08/10/22 12:55

Matrix: Water

Date Received: 08/10/22 16:44

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.000657	U	0.00400	0.000657	mg/L			08/12/22 11:03	1

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- 13
- 14
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Surrogate Summary

Client: Apex Companies LLC
 Project/Site: Centurion Artesia Tank Farm

Job ID: 880-17977-1
 SDG: 88000368

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1	DFBZ1
		(70-130)	(70-130)
880-17977-1	MW-2	147 S1+	76
880-17977-2	MW-1	148 S1+	72
880-17977-3	FB-01	153 S1+	71
LCS 880-31941/3	Lab Control Sample	141 S1+	82
LCS 880-31942/1-A	Lab Control Sample	155 S1+	76
LCSD 880-31941/4	Lab Control Sample Dup	141 S1+	92
LCSD 880-31942/2-A	Lab Control Sample Dup	155 S1+	71
MB 880-31941/8	Method Blank	110	74
MB 880-31942/5-A	Method Blank	115	71

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
 DFBZ = 1,4-Difluorobenzene (Surr)

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- 13
- 14
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QC Sample Results

Client: Apex Companies LLC
 Project/Site: Centurion Artesia Tank Farm

Job ID: 880-17977-1
 SDG: 88000368

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-31941/8
 Matrix: Water
 Analysis Batch: 31941

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.408	U	2.00	0.408	ug/L			08/11/22 12:08	1
Toluene	<0.367	U	2.00	0.367	ug/L			08/11/22 12:08	1
Ethylbenzene	<0.657	U	2.00	0.657	ug/L			08/11/22 12:08	1
m-Xylene & p-Xylene	<0.629	U	4.00	0.629	ug/L			08/11/22 12:08	1
o-Xylene	<0.642	U	2.00	0.642	ug/L			08/11/22 12:08	1
Xylenes, Total	<0.642	U	4.00	0.642	ug/L			08/11/22 12:08	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130		08/11/22 12:08	1
1,4-Difluorobenzene (Surr)	74		70 - 130		08/11/22 12:08	1

Lab Sample ID: LCS 880-31941/3
 Matrix: Water
 Analysis Batch: 31941

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	100	88.40		ug/L		88	70 - 130
Toluene	100	98.36		ug/L		98	70 - 130
Ethylbenzene	100	100.0		ug/L		100	70 - 130
m-Xylene & p-Xylene	200	204.1		ug/L		102	70 - 130
o-Xylene	100	108.8		ug/L		109	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	141	S1+	70 - 130
1,4-Difluorobenzene (Surr)	82		70 - 130

Lab Sample ID: LCSD 880-31941/4
 Matrix: Water
 Analysis Batch: 31941

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	100	100.3		ug/L		100	70 - 130	13	20
Toluene	100	99.23		ug/L		99	70 - 130	1	20
Ethylbenzene	100	100.2		ug/L		100	70 - 130	0	20
m-Xylene & p-Xylene	200	203.9		ug/L		102	70 - 130	0	20
o-Xylene	100	107.5		ug/L		107	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	141	S1+	70 - 130
1,4-Difluorobenzene (Surr)	92		70 - 130

Lab Sample ID: MB 880-31942/5-A
 Matrix: Water
 Analysis Batch: 31941

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 31942

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.408	U	2.00	0.408	ug/L		08/11/22 08:19	08/12/22 01:56	1
Toluene	<0.367	U	2.00	0.367	ug/L		08/11/22 08:19	08/12/22 01:56	1

Eurofins Midland

QC Sample Results

Client: Apex Companies LLC
Project/Site: Centurion Artesia Tank FarmJob ID: 880-17977-1
SDG: 88000368

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 880-31942/5-A

Matrix: Water

Analysis Batch: 31941

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 31942

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Ethylbenzene	<0.657	U	2.00	0.657	ug/L		08/11/22 08:19	08/12/22 01:56	1
m-Xylene & p-Xylene	<0.629	U	4.00	0.629	ug/L		08/11/22 08:19	08/12/22 01:56	1
o-Xylene	<0.642	U	2.00	0.642	ug/L		08/11/22 08:19	08/12/22 01:56	1
Xylenes, Total	<0.642	U	4.00	0.642	ug/L		08/11/22 08:19	08/12/22 01:56	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	115		70 - 130	08/11/22 08:19	08/12/22 01:56	1
1,4-Difluorobenzene (Surr)	71		70 - 130	08/11/22 08:19	08/12/22 01:56	1

Lab Sample ID: LCS 880-31942/1-A

Matrix: Water

Analysis Batch: 31941

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 31942

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Benzene	100	98.98		ug/L		99	70 - 130
Toluene	100	101.9		ug/L		102	70 - 130
Ethylbenzene	100	100.0		ug/L		100	70 - 130
m-Xylene & p-Xylene	200	202.7		ug/L		101	70 - 130
o-Xylene	100	114.0		ug/L		114	70 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	155	S1+	70 - 130
1,4-Difluorobenzene (Surr)	76		70 - 130

Lab Sample ID: LCSD 880-31942/2-A

Matrix: Water

Analysis Batch: 31941

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 31942

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec		RPD	Limit
		Result	Qualifier				Limits	RPD		
Benzene	100	88.91		ug/L		89	70 - 130	11	20	
Toluene	100	98.99		ug/L		99	70 - 130	3	20	
Ethylbenzene	100	101.1		ug/L		101	70 - 130	1	20	
m-Xylene & p-Xylene	200	205.3		ug/L		103	70 - 130	1	20	
o-Xylene	100	111.3		ug/L		111	70 - 130	2	20	

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	155	S1+	70 - 130
1,4-Difluorobenzene (Surr)	71		70 - 130

Eurofins Midland

QC Association Summary

Client: Apex Companies LLC
 Project/Site: Centurion Artesia Tank Farm

Job ID: 880-17977-1
 SDG: 88000368

GC VOA

Analysis Batch: 31941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17977-1	MW-2	Total/NA	Water	8021B	
880-17977-2	MW-1	Total/NA	Water	8021B	
880-17977-3	FB-01	Total/NA	Water	8021B	
MB 880-31941/8	Method Blank	Total/NA	Water	8021B	
MB 880-31942/5-A	Method Blank	Total/NA	Water	8021B	31942
LCS 880-31941/3	Lab Control Sample	Total/NA	Water	8021B	
LCS 880-31942/1-A	Lab Control Sample	Total/NA	Water	8021B	31942
LCSD 880-31941/4	Lab Control Sample Dup	Total/NA	Water	8021B	
LCSD 880-31942/2-A	Lab Control Sample Dup	Total/NA	Water	8021B	31942

Prep Batch: 31942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-31942/5-A	Method Blank	Total/NA	Water	5035	
LCS 880-31942/1-A	Lab Control Sample	Total/NA	Water	5035	
LCSD 880-31942/2-A	Lab Control Sample Dup	Total/NA	Water	5035	

Analysis Batch: 32093

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17977-1	MW-2	Total/NA	Water	Total BTEX	
880-17977-2	MW-1	Total/NA	Water	Total BTEX	
880-17977-3	FB-01	Total/NA	Water	Total BTEX	

Lab Chronicle

Client: Apex Companies LLC
 Project/Site: Centurion Artesia Tank Farm

Job ID: 880-17977-1
 SDG: 88000368

Client Sample ID: MW-2

Lab Sample ID: 880-17977-1

Date Collected: 08/10/22 12:15

Matrix: Water

Date Received: 08/10/22 16:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1			31941	08/11/22 18:20	SM	EET MID
Total/NA	Analysis	Total BTEX		1			32093	08/12/22 11:03	SM	EET MID

Client Sample ID: MW-1

Lab Sample ID: 880-17977-2

Date Collected: 08/10/22 13:25

Matrix: Water

Date Received: 08/10/22 16:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1			31941	08/11/22 18:47	SM	EET MID
Total/NA	Analysis	Total BTEX		1			32093	08/12/22 11:03	SM	EET MID

Client Sample ID: FB-01

Lab Sample ID: 880-17977-3

Date Collected: 08/10/22 12:55

Matrix: Water

Date Received: 08/10/22 16:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1			31941	08/11/22 19:13	SM	EET MID
Total/NA	Analysis	Total BTEX		1			32093	08/12/22 11:03	SM	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Apex Companies LLC
Project/Site: Centurion Artesia Tank Farm

Job ID: 880-17977-1
SDG: 88000368

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
Total BTEX		Water	Total BTEX

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Method Summary

Client: Apex Companies LLC
Project/Site: Centurion Artesia Tank Farm

Job ID: 880-17977-1
SDG: 88000368

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
5030B	Purge and Trap	SW846	EET MID

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

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Sample Summary

Client: Apex Companies LLC
Project/Site: Centurion Artesia Tank Farm

Job ID: 880-17977-1
SDG: 88000368

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-17977-1	MW-2	Water	08/10/22 12:15	08/10/22 16:44
880-17977-2	MW-1	Water	08/10/22 13:25	08/10/22 16:44
880-17977-3	FB-01	Water	08/10/22 12:55	08/10/22 16:44

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Login Sample Receipt Checklist

Client: Apex Companies LLC

Job Number: 880-17977-1

SDG Number: 88000368

Login Number: 17977

List Number: 1

Creator: Teel, Brianna

List Source: Eurofins Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

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DCS Summary

692031

Analytical Method: **BTEX by EPA 8021B**

Matrix: **Water**

Prep Method: **SW5030B**

Laboratory: **Xenco - Midland**

Parameter	SDL	ML	Spike Amount	Actual Amount	Units
Benzene	0.000408	0.00200	0.00100	0.00110	mg/L
Toluene	0.000367	0.00200	0.00100	0.00124	mg/L
Ethylbenzene	0.000657	0.00200	0.00100	0.00119	mg/L
m,p-Xylenes	0.000630	0.00400	0.00200	0.00229	mg/L
o-Xylene	0.000642	0.00200	0.00100	0.00131	mg/L

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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
District IV
 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 203535

CONDITIONS

Operator: CENTURION PIPELINE L.P. 516 Veterans Airpark Lane Midland, TX 79705	OGRID: 237722
	Action Number: 203535
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Review of the 2022 Groundwater Annual Report for Artesia Tank Farm: Content Satisfactory 1. Continue to monitor groundwater for MW-2 and MW-1 annually. 2. Submit the 2023 GW Monitoring Report to NMOCD by April 1, 2024.	7/19/2023