SITE INFORMATION

Report Type: Closure Report 1RP-5526

General Site Information:						
Site:	**Momentum 36 State #1**					
Company:	**COG Operating LLC**					
Section, Township and Range	**Unit K**	**Sec 36**	**T 25S**	**R 35E**		
Lease Number:	**API No. 30-025-37517**					
County:	**Lea County**					
GPS:	**32.0838**			**-103.32229**		
Surface Owner:	**State**					
Directions:	From the intersection of HWY 128 & CR 2, travel east on HWY 128 for 2.90 mi, turn south onto lease road for 3.85 mi, turn east for 0.50 mi, turn south for additional 0.85 mi, turn east for 2.20 miles to location.					

Release Data:	
Date Released:	5/7/2019
Type Release:	Oil & Produced Water
Source of Contamination:	Tank Overflow
Fluid Released:	9 bbl oil & 51 bbl water
Fluids Recovered:	8 bbl oil & 50 bbl water

Official Communication:			
Name:	Ike Tavarez		Clair Gonzales
Company:	COG Operating, LLC		Tetra Tech
Address:	One Concho Center		901 West Wall Street
	600 W. Illinois Ave.		Suite 100
City:	Midland Texas, 79701		Midland, Texas
Phone number:	(432) 686-3023		(432) 687-8110
Fax:	(432) 684-7137		
Email:	itavarez@concho.com		Clair.Gonzales@tetratech.com

Site Characterization	
Depth to Groundwater:	*250'*
Karst Potential:	*Low*

Recommended Remedial Action Levels (RRALs)				
Benzene	***Total BTEX***	***TPH (GRO+DRO)***	***TPH (GRO+DRO+MRO)***	***Chlorides***
10 mg/kg	*50 mg/kg*	*1,000 mg/kg*	*2,500 mg/kg*	*20,000 mg/kg*

QS24X-190808-C-1410

TETRA TECH

August 8, 2019

Mr. Dylan Rose-Coss
Oil Conservation Division, District 1
1625 North French Drive
Hobbs, New Mexico 88240

Re: Closure Report for the COG Operating, LLC, Momentum 36 State #1, Unit K, Section 36, Township 25 South, Range 35 East, Lea County, New Mexico.
1RP-5526

Mr. Rose-Coss:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating, LLC (COG) to remediate a release that occurred at the Momentum 36 State #1, Unit K, Section 36, Township 25 South, Range 35 East, Lea County, New Mexico (Site). The spill site coordinates are 32.08378°, -103.32229°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-14 Report the release was discovered on May 7, 2019 due to a gun barrel malfunction resulting in a tank overflow. Approximately 9 barrels of oil and 51 barrels of produced water was released into the lined facility. A vacuum truck was dispatched to remove all freestanding fluids and recovered 8 barrels of oil and 50 barrels of produced water. The release occurred inside the lined facility and had some overspray onto the pad. The impacted area on the pad measures approximately 47' x 102'. The C-141 Form is included in Appendix A.

Site Characterization

A site characterization was performed for the site and no watercourses, lakebeds, sinkholes, playa lakes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, springs, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains are located within the specified distances. The site is in a low karst potential area. The nearest well is listed in the USGS National Water Information System in Section 33, Township 25 South, Range 36 East, approximately 2.70 miles southeast of the site, and has a reported depth to groundwater of 250 feet below ground surface. The groundwater data is shown in Appendix B.

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, updated August 14, 2018. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed

Tetra Tech
901 W. Wall Street, Suite 100, Midland, TX 79701
Tel 432.682.4559 www.tetratech.com

RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the site characterization, the proposed RRAL for TPH is 1,000 mg/kg (GRO + DRO) or 2,500 mg/kg (GRO + DRO + MRO). Additionally, based on the site characterization, the proposed RRAL for chlorides is 20,000 mg/kg.

Remediation Activities

Tetra Tech personnel were onsite on June 19th, June 20th, and July 23rd, 2019, to perform and supervise the remediation activities at risk. The release area was excavated to total depths between 0.5' to 1.0' below surface. Thirteen (13) bottom holes (Bottom Hole 1 through Bottom Hole 13) and four (4) sidewall composite samples (North Sidewall 1, South Sidewall 1, East Sidewall 1, and West Sidewall 1) were collected every 200 square feet to ensure proper removal of the impacted soils. The samples were submitted to the laboratory to be analyzed for TPH method 8015 extended, BTEX method 8021B, and Chloride by EPA Method 300.0. The sampling results are summarized in Table 1. The release area is shown on Figure 3. The excavation depths and sample locations are shown in Figure 4.

Referring to Table 1, all final confirmation samples showed benzene, total BTEX, TPH, and chloride concentrations below the RRAL's.

Approximately 115 cubic yards of material was excavated and transported offsite for proper disposal. The area was then backfilled with clean material to surface grade.

Conclusion

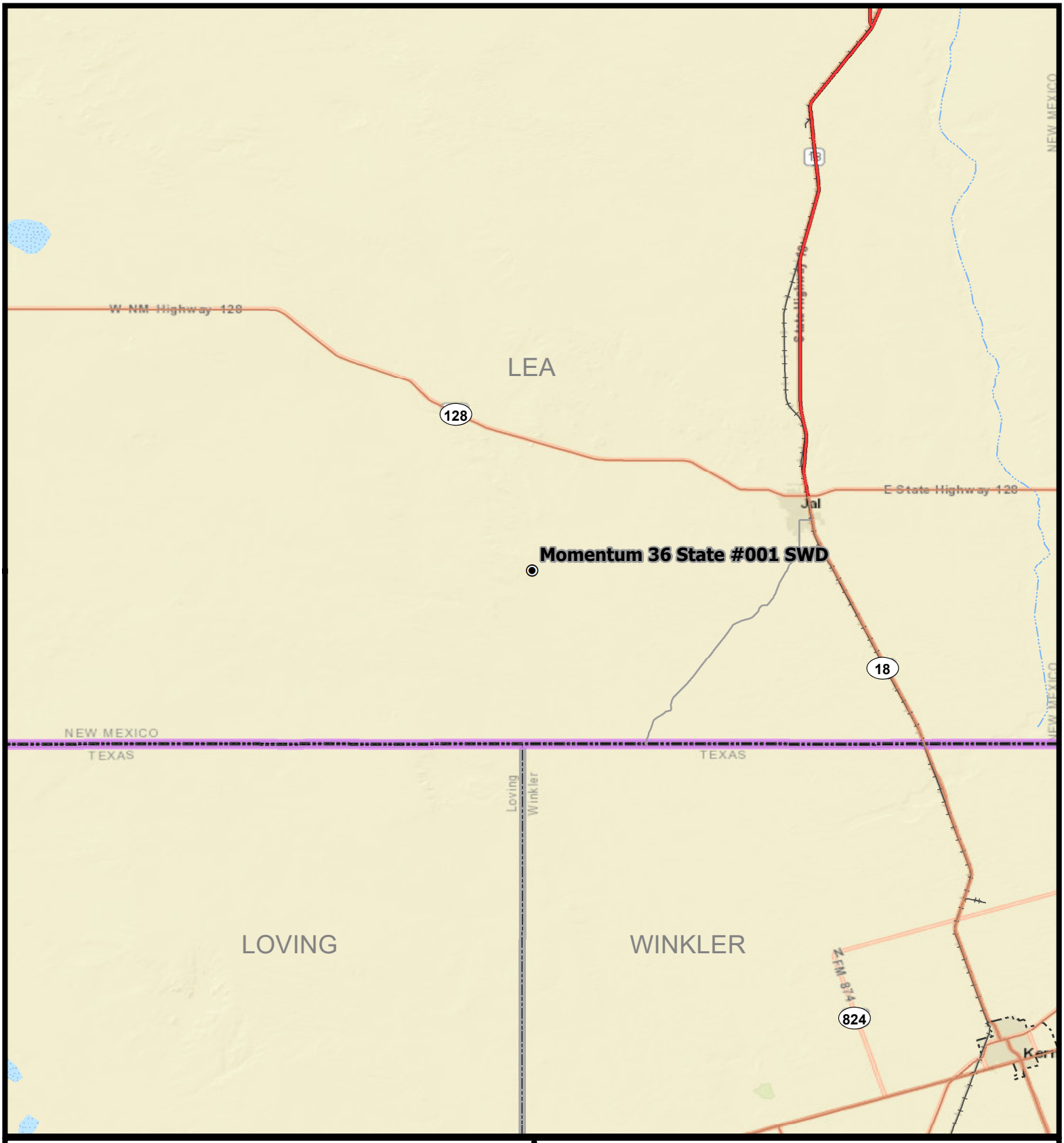
Based on the laboratory results and remediation activities performed COG requests closure of this spill issue. The final C-141 is enclosed in Appendix A. If you have any questions or comments concerning the assessment or remediation activities for this site, please call at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Clair Gonzales, P.G.,
Project Manager

cc: Ike Tavarez – COG
Dakota Neel - COG
Rebecca Haskell - COG
Sheldon Hitchcock - COG
DeAnn Grant – COG
Ryan Mann - NMSLO

Figures



SITE LOCATION

N
W E
S

0 10,416.5 20,833

Approximate Scale in Feet

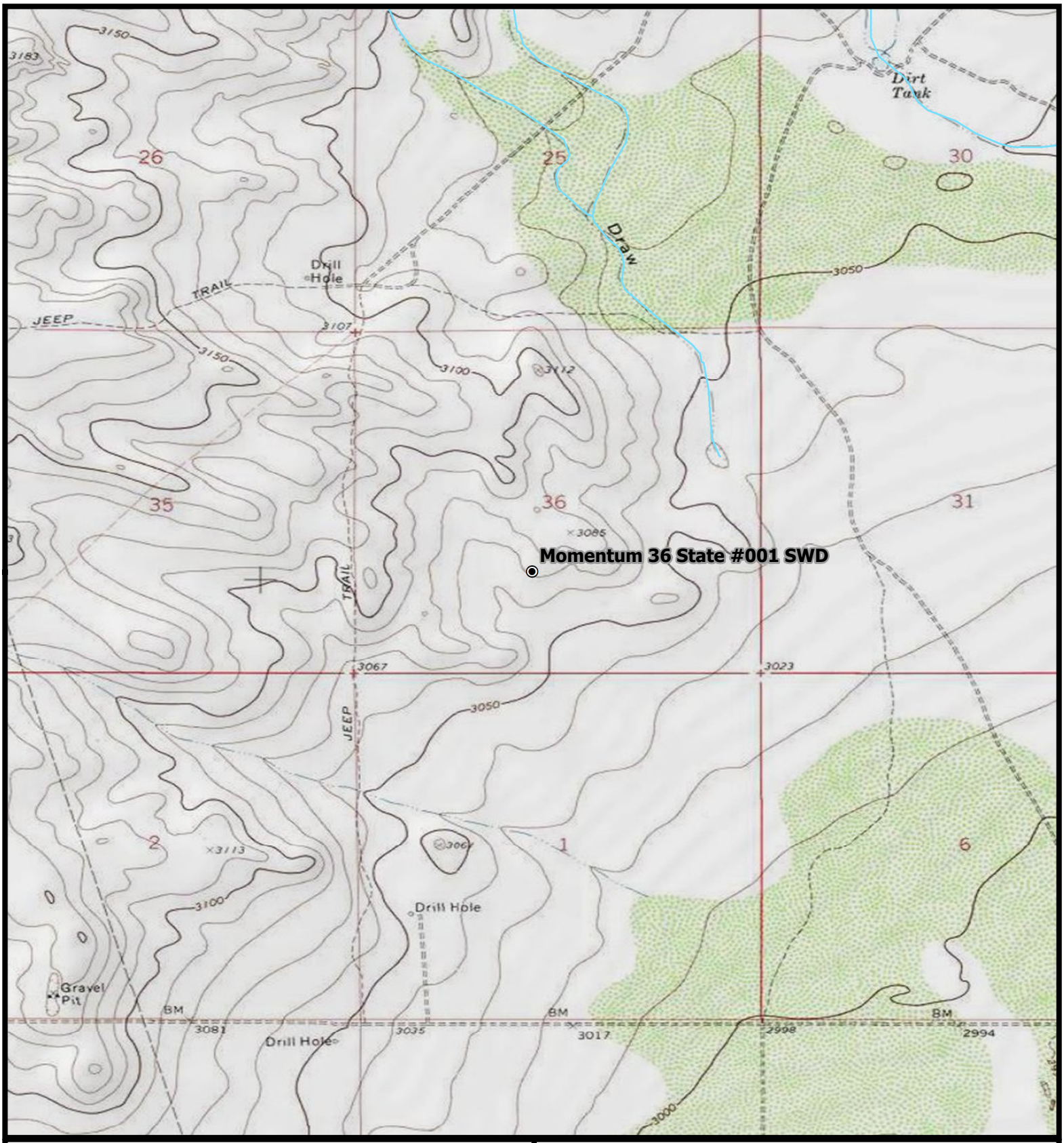
STATE LOCATOR MAP

OVERVIEW MAP
MOMENTUM 36 STATE #1
PROPERTY LOCATED AT 32.083780°,-103.322290°
LEA COUNTY, NEW MEXICO

CONCHO

Project #:
212C-MD-01806

FIGURE
1



SITE LOCATION

N
W E
S

0 1,000 2,000

Approximate Scale in Feet

TOPOGRAPHIC MAP
MOMENTUM 36 STATE #1
PROPERTY LOCATED AT 32.083780°,-103.322290°
LEA COUNTY, NEW MEXICO

CONCHO

Project #:
212C-MD-01806

FIGURE
2

Document Path: C:\Users\MISTI.MORGAN\Desktop\project folder\212C-MD-01806 MOMENTUM 36 ST\MXD\212C-MD-01806 MOMENTUM 36 STATE #1 FIG 2.mxd

FENCE

BURIED PIPELINE

AFFECTED SPILL AREA

N
W
E
S

0 25 50

Approximate Scale in Feet

Source: "New Mexico". 32° 5'2.14"N, 103°19'20.14"W. **Google Earth**. February 2019. August 06, 2019

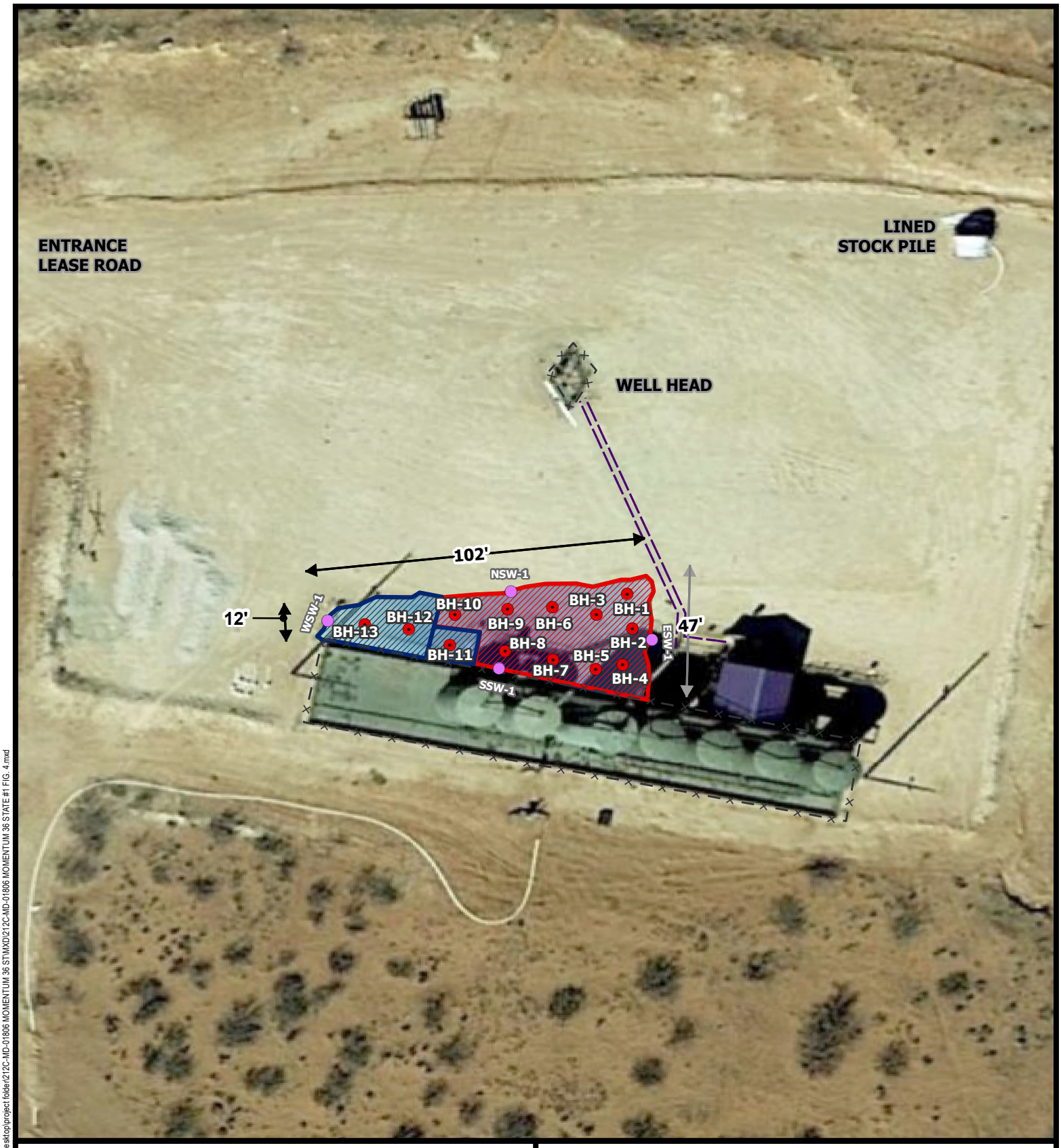
SPILL ASSESSMENT MAP
MOMENTUM 36 STATE #001
PROPERTY LOCATED AT 32.08378, -103.32229
LEA COUNTY, NEW MEXICO

CONCHO

Project #:
212C-MD-01806

FIGURE
3

Date: 8/7/2019 Document Path: C:\Users\MISTI.MORGAN\Desktop\project folder\212C-MD-01806 MOMENTUM 36 ST\MXD\212C-MD-01806 MOMENTUM 36 STATE #1 FIG. 3.mxd



BH = BOTTOM HOLE SAMPLE LOCATIONS

FENCE

BURIED PIPELINE

0.0"-0.6" EXCAVATED DEPTH AREA

1.0' EXCAVATED DEPTH AREA

AFFECTED SPILL AREA

N

W E

S

0 25 50

Approximate Scale in Feet

*Source: "New Mexico". 32° 5'2.14"N, 103°19'20.14"W. **Google Earth**. February 2019. August 06, 2019*

EXCAVATION AREA & DEPTH MAP MAP
MOMENTUM 36 STATE #001
PROPERTY LOCATED AT 32.08378, -103.32229
LEA COUNTY, NEW MEXICO

CONCHO

Project #:
212C-MD-01806

FIGURE
4

Date: 8/7/2019 Document Path: C:\Users\MISTI.MORGAN\Desktop\project folder\212C-MD-01806 MOMENTUM 36 ST\MXD\212C-MD-01806 MOMENTUM 36 STATE #1 FIG. 4.mxd

Tables

Table 1
COG
Momentum 36 State #1
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB Sample Depth (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	ORO	Total						
Bottom Hole #1	6/19/2019	-	0.5	X		20.8	228	26.7	276	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	270
Bottom Hole #2	6/19/2019	-	0.5	X		<15.0	61.3	<14.9	61.3	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	1,300
Bottom Hole #3	6/19/2019	-	0.5	X		38.7	576	38.4	653	<0.00200	<0.00200	0.00745	0.0373	0.0448	1,270
Bottom Hole #4	6/19/2019	-	0.5	X		49.1	623	50.9	723	<0.00200	<0.00200	0.00582	0.0193	0.0251	710
Bottom Hole #5	6/19/2019	-	0.5	X		39.7	549	42.3	631	0.0749	<0.00996	0.135	0.448	0.658	1,230
Bottom Hole #6	6/20/2019	-	0.5	X		21.2	472	44.6	538	<0.00200	<0.00200	0.00582	0.00931	0.00931	377
Bottom Hole #7	6/20/2019	-	0.5	X		<15.0	53.3	<15.0	53.3	<0.00200	<0.00200	0.00580	<0.00200	0.00580	44.3
Bottom Hole #8	6/20/2019	-	0.5	X		<15.0	28.3	<15.0	28.3	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	45.4
Bottom Hole #9	6/20/2019	-	0.5	X		39.7	828	74.5	943	<0.00199	<0.00199	0.00677	0.0320	0.0387	666
Bottom Hole #10	6/20/2019	-	0.5		X	158	1,480	112	**1,750**	0.0461	0.0502	1.06	5.55	6.71	394
	7/23/2019	-	1.0	X		<10.0	27.5	<10.0	27.5	<0.25	<0.25	<0.25	<0.075	<0.25	1,090
Bottom Hole #11	6/20/2019	-	0.5		X	284	2,110	141	**2,540**	<0.00998	0.110	.310	5.07	5.49	198
	7/23/2019	-	1.0	X		<10.0	31	<10.0	31	<0.025	<0.025	<0.025	<0.075	<0.025	528
Bottom Hole #12	6/20/2019	-	0.5		X	143	1,260	92.4	**1,500**	<0.00200	<0.00200	<0.00200	0.00377	0.00377	33.7
	7/23/2019	-	1.0	X		<10.0	62.3	15.8	78.1	<0.025	<0.025	<0.025	<0.075	<0.025	80.0
Bottom Hole #13	6/20/2019	-	0.5		X	154	1,330	88.7	**1,570**	<0.00201	0.00279	0.0686	0.246	0.317	51.8
	7/23/2019	-	1.0	X		<10.0	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.075	<0.025	64.0
North Sidewall 1	6/20/2019	-	-	X		<15.0	255	40.7	296	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	996
East Sidewall 1	6/20/2019	-	-		X	<15.0	38.9	17.2	56.1	<0.00199	<0.00199	0.00259	<0.00199	0.00259	1,410
	7/23/2019	-	-	X		<10.0	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.075	<0.025	48.0
West Sidewall 1	6/20/2019	-	-	X		<15.0	63.2	<15.0	63.2	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	16.7
South Sidewall 1	6/20/2019	-	-	X		15.9	573	49.5	665	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	192

Photos

COG Operating LLC
Momentum 36 State #1
Lea County, New Mexico

View South – Excavation Area

View North – Excavation Area

COG Operating LLC
Momentum 36 State #1
Lea County, New Mexico

View North – Excavation Area

View North – Excavation Area

COG Operating LLC
Momentum 36 State #1
Lea County, New Mexico

View North – Excavation Area

Appendix A

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

Responsible Party	COG Operating, LLC	OGRID	229137
Contact Name	Jennifer Knowlton	Contact Telephone	(575) 748-1570
Contact email	JKnowlton@concho.com	Incident # *(assigned by OCD)*	
Contact mailing address	600 West Illinois Avenue, Midland, Texas 79701		

Location of Release Source

Latitude 32.08378 Longitude -103.32229

(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Momentum 36 State #001	Site Type	Salt Water Disposal
Date Release Discovered	May 7, 2019	API# *(if applicable)*	30-025-37517

Unit Letter	Section	Township	Range	County
K	36	25S	35E	Lea

Surface Owner: ■ State ☐ Federal ☐ Tribal ☐ Private (*Name:* _____)

Nature and Volume of Release

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

■ Crude Oil	Volume Released (bbls) 9	Volume Recovered (bbls) 8
■ Produced Water	Volume Released (bbls) 51	Volume Recovered (bbls) 50
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	■ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

The release was caused when the gun barrel malfunctioned resulting in a tank overflow. The gun barrel has been repaired. The release occurred within the lined facility and on location. A vacuum truck was dispatched to remove all freestanding fluids. Concho will have the spill area evaluated for any possible impact from the release.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? The volume released was greater than 25 barrels.

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

Immediate notice was given by DeAnn Grant via e-mail May 8, 2019 at 10:35 am to Dylan Rose-Coss and Ryan Mann.

Initial Response

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

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

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

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

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

Printed Name: DeAnn Grant Title: HSE Administrative Assistant

Signature: DeAnn Grant Date: 5/8/2019

email: agrant@concho.com Telephone: (432) 253-4513

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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?	250' (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 **not** 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.***

- ☑ 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.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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: Ike Tavarez Title: Senior HSE Supervisor

Signature: Date: 8/8/19

email: itavarez@concho.com Telephone: (432) 685-2573

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

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

☑ Description of remediation activities

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

Printed Name: Ike Tavarez Title: Senior HSE Supervisor

Signature: _____ Date: 8/8/19

email: itavarez@concho.com Telephone: (432) 685-2573

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG Momentum 36 State #1
Lea County, New Mexico

25 South 34 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

25 South 35 East

6	5	4	3 165 100	2	1
7	8	9	10 76	11	12
18 230	17	16	15	14	13 108
19	20	21 173 205	22	23	24 177
30	29	28	27	26	25
31	32	33	34	35	36 Site

25 South 36 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13 350
19 270	20	21	22	23	24
30	29 239 282	28	27	26 237	25 340
31	32	33 80	34	35	36

26 South 34 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

26 South 35 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13 229 230
19	20	21	22	23	24 206 250
30	29	28	27	26	25
31	32	33	34	35	36

26 South 36 East

6	5	4 355	3 226	2 265	1
7	8	9 174 123	10	11	12 150
18	17 72	16	15 35	14	13 140
19	20	21 219	22	23	24 115
30	29	28	27	26	25
31	32	33	34	35	36

88 New Mexico State Engineers Well Reports

105 USGS Well Reports

90 Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6)

Geology and Groundwater Resources of Eddy County, NM (Report 3)

34 NMOCD - Groundwater Data

123 Tetra Tech installed temporary wells and field water level

143 NMOCD Groundwater map well location

USGS
science for a changing world

USGS Hom
Contact US
Search USG

National Water Information System: Mapper

Sites | Map

Search

Surface-Water Sites

Active Sites
Any data
Instantaneous data
Daily data
Water-quality data
Peak data
Measurements
Annual Report

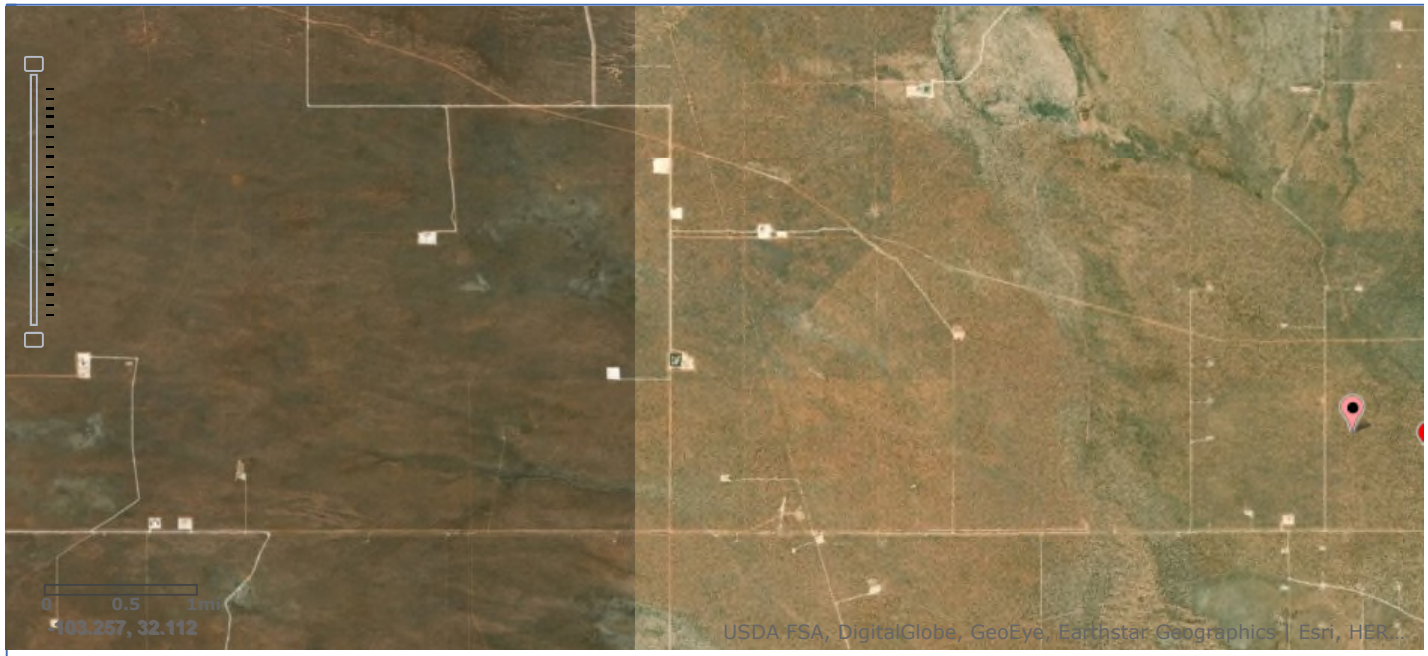
Inactive Sites
Any data
Instantaneous data

Groundwater Sites

Springs

Atmospheric Sites

Other Sites



Site Information

National Water Information System: Web Interface

Click to hideNews Bulletins

- Introducing The Next Generation of USGS Water Data for the Nation
- Full News

Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =

- 320434103163501

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

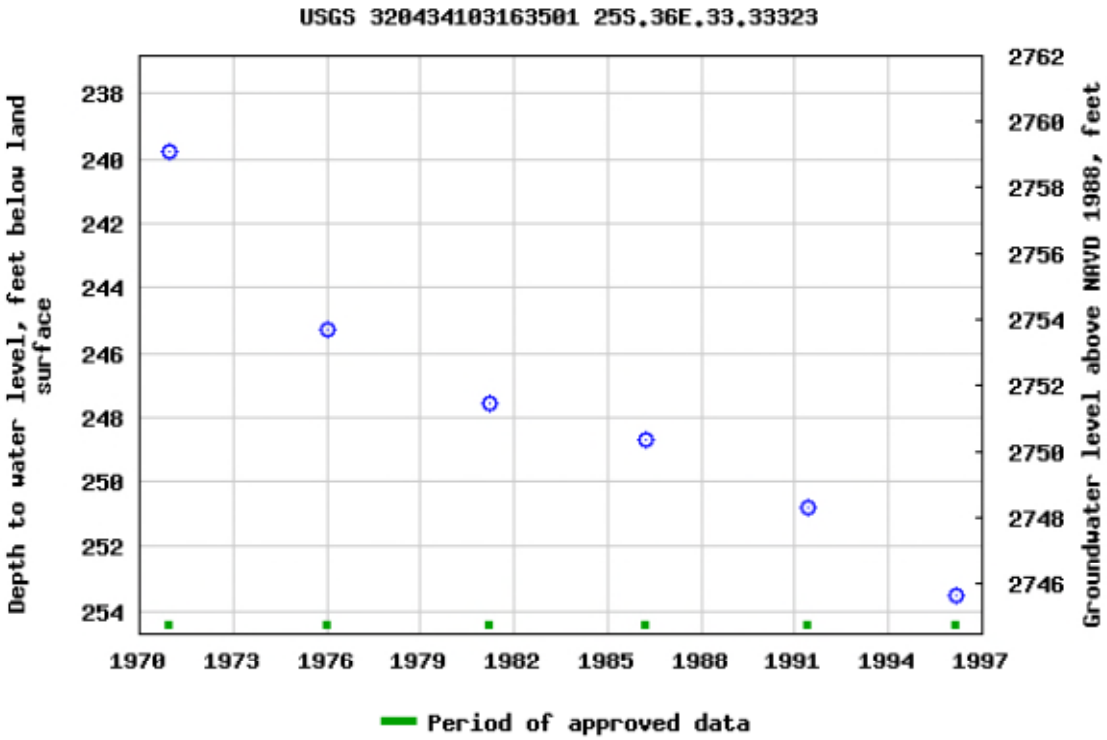
USGS 320434103163501 25S.36E.33.33323

Available data for this site Groundwater: Field measurements | GO

Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°04'34", Longitude 103°16'35" NAD27
Land-surface elevation 2,999 feet above NAVD88
This well is completed in the Chinle Formation (231CHNL) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

Accessibility Plug-Ins FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey

Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2019-08-01 13:52:19 EDT
1.48 1.35 nadww01

New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y		Depth Well	Depth Water	Water Column
C 02296		CUB	LE	1	3	2	18	25S	35E	650398	3556305*		300	230	70
C 02297		CUB	LE	2	2	1	21	25S	35E	653436	3555140*		300	230	70
C 02298		CUB	LE	2	2	1	21	25S	35E	653436	3555140*		250	205	45
C 02388		CUB	LE			3	05	25S	35E	651467	3558832*		180	165	15
CP 00624		CP	LE	4	1	1	11	25S	35E	656206	3558197*		510		

Average Depth to Water: **207 feet**

Minimum Depth: **165 feet**

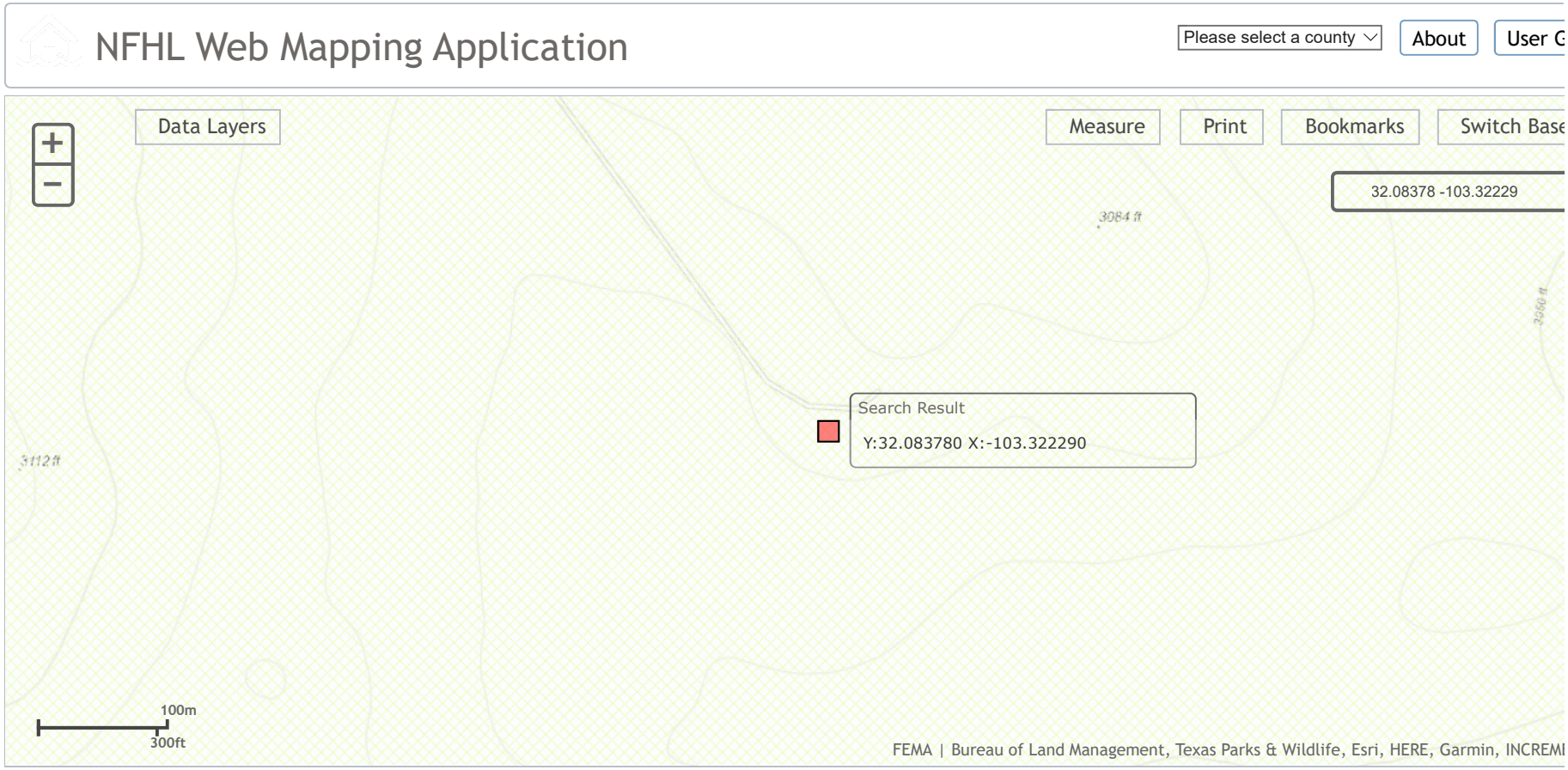
Maximum Depth: **230 feet**

Record Count: 5

PLSS Search:

Township: 25S **Range:** 35E

***UTM location was derived from PLSS - see Help**


NFHL Web Mapping Application
Please select a county
About
User G
Data Layers
Measure
Print
Bookmarks
Switch Base
32.08378 -103.32229
3084 ft
3112 ft
Search Result
Y:32.083780 X:-103.322290
100m
300ft
FEMA | Bureau of Land Management, Texas Parks & Wildlife, Esri, HERE, Garmin, INCREM

COG Momentum 36 State #1

Legend
32.083922 -103.322216
High
Low
Medium

32.083922 -103.322216

N

1000 ft

Appendix C

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

July 24, 2019

MIKE CARMONA

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: MOMENTUM 36 ST. 1

Enclosed are the results of analyses for samples received by the laboratory on 07/23/19 14:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is 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.

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

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
MIKE CARMONA
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	07/23/2019	Sampling Date:	07/23/2019
Reported:	07/24/2019	Sampling Type:	Soil
Project Name:	MOMENTUM 36 ST. 1	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-01806	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA CO NM		

Sample ID: BOTTOM HOLE # 10 (1' BEB) (H902528-01)

BTEX 8260B mg/kg **Analyzed By: ms**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/23/2019	ND	0.507	101	0.500	2.59	
Toluene*	<0.025	0.025	07/23/2019	ND	0.523	105	0.500	3.61	
Ethylbenzene*	<0.025	0.025	07/23/2019	ND	0.553	111	0.500	5.86	
Total Xylenes*	<0.075	0.075	07/23/2019	ND	1.69	113	1.50	4.88	
Total BTEX	<0.150	0.150	07/23/2019	ND					

Surrogate: Dibromofluoromethane	*91.4 %*	*90.4-111*
Surrogate: Toluene-d8	*106 %*	*85.3-114*
Surrogate: 4-Bromofluorobenzene	*99.8 %*	*80.1-121*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1090**	16.0	07/24/2019	ND	432	108	400	3.77	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2019	ND	198	99.1	200	4.18	
DRO >C10-C28*	**27.5**	10.0	07/24/2019	ND	192	96.2	200	8.02	
EXT DRO >C28-C36	<10.0	10.0	07/24/2019	ND					

Surrogate: 1-Chlorooctane	*80.2 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*92.1 %*	*37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
MIKE CARMONA
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	07/23/2019	Sampling Date:	07/23/2019
Reported:	07/24/2019	Sampling Type:	Soil
Project Name:	MOMENTUM 36 ST. 1	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-01806	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA CO NM		

Sample ID: BOTTOM HOLE # 11 (1' BEB) (H902528-02)

BTEX 8260B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/23/2019	ND	0.507	101	0.500	2.59	
Toluene*	<0.025	0.025	07/23/2019	ND	0.523	105	0.500	3.61	
Ethylbenzene*	<0.025	0.025	07/23/2019	ND	0.553	111	0.500	5.86	
Total Xylenes*	<0.075	0.075	07/23/2019	ND	1.69	113	1.50	4.88	
Total BTEX	<0.150	0.150	07/23/2019	ND					

Surrogate: Dibromofluoromethane	*91.9 %*	*90.4-111*
Surrogate: Toluene-d8	*105 %*	*85.3-114*
Surrogate: 4-Bromofluorobenzene	*97.7 %*	*80.1-121*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**528**	16.0	07/24/2019	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2019	ND	198	99.1	200	4.18	
DRO >C10-C28*	**31.0**	10.0	07/24/2019	ND	192	96.2	200	8.02	
EXT DRO >C28-C36	<10.0	10.0	07/24/2019	ND					

Surrogate: 1-Chlorooctane	*84.1 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*93.9 %*	*37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
MIKE CARMONA
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	07/23/2019	Sampling Date:	07/23/2019
Reported:	07/24/2019	Sampling Type:	Soil
Project Name:	MOMENTUM 36 ST. 1	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-01806	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA CO NM		

Sample ID: BOTTOM HOLE # 12 (1' BEB) (H902528-03)

BTEX 8260B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/23/2019	ND	0.507	101	0.500	2.59	
Toluene*	<0.025	0.025	07/23/2019	ND	0.523	105	0.500	3.61	
Ethylbenzene*	<0.025	0.025	07/23/2019	ND	0.553	111	0.500	5.86	
Total Xylenes*	<0.075	0.075	07/23/2019	ND	1.69	113	1.50	4.88	
Total BTEX	<0.150	0.150	07/23/2019	ND					

Surrogate: Dibromofluoromethane	*93.2 %*	*90.4-111*
Surrogate: Toluene-d8	*103 %*	*85.3-114*
Surrogate: 4-Bromofluorobenzene	*97.5 %*	*80.1-121*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	07/24/2019	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2019	ND	198	99.1	200	4.18	
DRO >C10-C28*	**62.3**	10.0	07/24/2019	ND	192	96.2	200	8.02	
EXT DRO >C28-C36	**15.8**	10.0	07/24/2019	ND					

Surrogate: 1-Chlorooctane	*65.3 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*71.3 %*	*37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
MIKE CARMONA
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	07/23/2019	Sampling Date:	07/23/2019
Reported:	07/24/2019	Sampling Type:	Soil
Project Name:	MOMENTUM 36 ST. 1	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-01806	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA CO NM		

Sample ID: BOTTOM HOLE # 13 (1' BEB) (H902528-04)

BTEX 8260B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/23/2019	ND	0.507	101	0.500	2.59	
Toluene*	<0.025	0.025	07/23/2019	ND	0.523	105	0.500	3.61	
Ethylbenzene*	<0.025	0.025	07/23/2019	ND	0.553	111	0.500	5.86	
Total Xylenes*	<0.075	0.075	07/23/2019	ND	1.69	113	1.50	4.88	
Total BTEX	<0.150	0.150	07/23/2019	ND					

Surrogate: Dibromofluoromethane	*92.3 %*	*90.4-111*
Surrogate: Toluene-d8	*105 %*	*85.3-114*
Surrogate: 4-Bromofluorobenzene	*96.9 %*	*80.1-121*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	07/24/2019	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2019	ND	198	99.1	200	4.18	
DRO >C10-C28*	<10.0	10.0	07/24/2019	ND	192	96.2	200	8.02	
EXT DRO >C28-C36	<10.0	10.0	07/24/2019	ND					

Surrogate: 1-Chlorooctane	*86.7 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*96.6 %*	*37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
MIKE CARMONA
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	07/23/2019	Sampling Date:	07/23/2019
Reported:	07/24/2019	Sampling Type:	Soil
Project Name:	MOMENTUM 36 ST. 1	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-01806	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA CO NM		

Sample ID: EAST #2 SIDEWALL (H902528-05)

BTEX 8260B mg/kg **Analyzed By: ms**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/23/2019	ND	0.507	101	0.500	2.59	
Toluene*	<0.025	0.025	07/23/2019	ND	0.523	105	0.500	3.61	
Ethylbenzene*	<0.025	0.025	07/23/2019	ND	0.553	111	0.500	5.86	
Total Xylenes*	<0.075	0.075	07/23/2019	ND	1.69	113	1.50	4.88	
Total BTEX	<0.150	0.150	07/23/2019	ND					

Surrogate: Dibromofluoromethane	*91.6 %*	*90.4-111*
Surrogate: Toluene-d8	*105 %*	*85.3-114*
Surrogate: 4-Bromofluorobenzene	*95.9 %*	*80.1-121*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	07/24/2019	ND	432	108	400	3.77	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2019	ND	198	99.1	200	4.18	
DRO >C10-C28*	<10.0	10.0	07/24/2019	ND	192	96.2	200	8.02	
EXT DRO >C28-C36	<10.0	10.0	07/24/2019	ND					

Surrogate: 1-Chlorooctane	*87.9 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*94.8 %*	*37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

901W Wall Street, Ste 100
Midland, Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: COG	Site Manager: MIKE CARMONA
Project Name: MOMENTUM 36 St. 1	
Project Location: (county, state) LEA CO, NM	Project #: 212C-MD-01806
Invoice to: COG - IKE TAVAREZ	
Receiving Laboratory: CARDINAL	Sampler Signature: CONNER MOEHRING
Comments:	

H902528

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE (YEAR: 2019)	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	MATRIX:	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	PRESERVATIVE METHOD: None	# CONTAINERS	FILTERED (Y/N)
1	Bottom Hole #10 (1' BEB)	7/23/19			X				X		1	N
2	Bottom Hole #11 (1' BEB)	7/23/19			X				X		1	N
3	Bottom Hole #12 (1' BEB)	7/23/19			X				X		1	N
4	Bottom Hole #13 (1' BEB)	7/23/19			X				X		1	N
5	EAST #2 Sidewall	7/23/19			X				X		1	N

ANALYSIS REQUEST
(Circle or Specify Method No.)

	BTEX 8021B	BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance				Hold
1	X			X												X						
2	X			X												X						
3	X			X												X						
4	X			X												X						
5	X			X												X						

Relinquished by: Conner Moehring	Date: 7/23/19	Time: 1437	Received by: Tamara Oldaker
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:

Date: 7-23-19 Time: 14:40

LAB USE ONLY

Sample Temperature
2.7° #97
Corrected
3.1°

REMARKS:

- ☐ STANDARD
- ☒ RUSH: Same Day (24 hr) 48 hr 72 hr
- ☐ Rush Charges Authorized
- ☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

July 24, 2019

MIKE CARMONA

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: MOMENTUM 36 ST. 1

Enclosed are the results of analyses for samples received by the laboratory on 07/23/19 14:40.

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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.

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

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
MIKE CARMONA
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	07/23/2019	Sampling Date:	07/23/2019
Reported:	07/24/2019	Sampling Type:	Soil
Project Name:	MOMENTUM 36 ST. 1	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-01806	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA CO NM		

Sample ID: BOTTOM HOLE # 10 (1.5' BEB) (H902529-01)

BTEX 8260B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/23/2019	ND	0.507	101	0.500	2.59	
Toluene*	<0.025	0.025	07/23/2019	ND	0.523	105	0.500	3.61	
Ethylbenzene*	<0.025	0.025	07/23/2019	ND	0.553	111	0.500	5.86	
Total Xylenes*	<0.075	0.075	07/23/2019	ND	1.69	113	1.50	4.88	
Total BTEX	<0.150	0.150	07/23/2019	ND					

Surrogate: Dibromofluoromethane	*93.5 %*	*90.4-111*
Surrogate: Toluene-d8	*103 %*	*85.3-114*
Surrogate: 4-Bromofluorobenzene	*94.6 %*	*80.1-121*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**224**	16.0	07/24/2019	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2019	ND	198	99.1	200	4.18	
DRO >C10-C28*	<10.0	10.0	07/24/2019	ND	192	96.2	200	8.02	
EXT DRO >C28-C36	<10.0	10.0	07/24/2019	ND					

Surrogate: 1-Chlorooctane	*82.2 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*91.8 %*	*37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
MIKE CARMONA
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	07/23/2019	Sampling Date:	07/23/2019
Reported:	07/24/2019	Sampling Type:	Soil
Project Name:	MOMENTUM 36 ST. 1	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-01806	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA CO NM		

Sample ID: BOTTOM HOLE # 11 (1.5' BEB) (H902529-02)

BTEX 8260B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/23/2019	ND	0.507	101	0.500	2.59	
Toluene*	<0.025	0.025	07/23/2019	ND	0.523	105	0.500	3.61	
Ethylbenzene*	<0.025	0.025	07/23/2019	ND	0.553	111	0.500	5.86	
Total Xylenes*	<0.075	0.075	07/23/2019	ND	1.69	113	1.50	4.88	
Total BTEX	<0.150	0.150	07/23/2019	ND					

Surrogate: Dibromofluoromethane	*94.5 %*	*90.4-111*
Surrogate: Toluene-d8	*104 %*	*85.3-114*
Surrogate: 4-Bromofluorobenzene	*94.1 %*	*80.1-121*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**96.0**	16.0	07/24/2019	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2019	ND	198	99.1	200	4.18	
DRO >C10-C28*	<10.0	10.0	07/24/2019	ND	192	96.2	200	8.02	
EXT DRO >C28-C36	<10.0	10.0	07/24/2019	ND					

Surrogate: 1-Chlorooctane	*84.3 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*94.9 %*	*37.6-147*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
MIKE CARMONA
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	07/23/2019	Sampling Date:	07/23/2019
Reported:	07/24/2019	Sampling Type:	Soil
Project Name:	MOMENTUM 36 ST. 1	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-01806	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA CO NM		

Sample ID: BOTTOM HOLE # 12 (1.5' BEB) (H902529-03)

BTEX 8260B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/23/2019	ND	0.507	101	0.500	2.59	
Toluene*	<0.025	0.025	07/23/2019	ND	0.523	105	0.500	3.61	
Ethylbenzene*	<0.025	0.025	07/23/2019	ND	0.553	111	0.500	5.86	
Total Xylenes*	<0.075	0.075	07/23/2019	ND	1.69	113	1.50	4.88	
Total BTEX	<0.150	0.150	07/23/2019	ND					

Surrogate: Dibromofluoromethane	*94.3 %*	*90.4-111*
Surrogate: Toluene-d8	*105 %*	*85.3-114*
Surrogate: 4-Bromofluorobenzene	*94.7 %*	*80.1-121*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	07/24/2019	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/23/2019	ND	185	92.3	200	4.28	
DRO >C10-C28*	<10.0	10.0	07/23/2019	ND	178	89.0	200	4.70	
EXT DRO >C28-C36	<10.0	10.0	07/23/2019	ND					

Surrogate: 1-Chlorooctane	*72.0 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*75.1 %*	*37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
MIKE CARMONA
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	07/23/2019	Sampling Date:	07/23/2019
Reported:	07/24/2019	Sampling Type:	Soil
Project Name:	MOMENTUM 36 ST. 1	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-01806	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA CO NM		

Sample ID: BOTTOM HOLE # 13 (1.5' BEB) (H902529-04)

BTEX 8260B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/23/2019	ND	0.507	101	0.500	2.59	
Toluene*	<0.025	0.025	07/23/2019	ND	0.523	105	0.500	3.61	
Ethylbenzene*	<0.025	0.025	07/23/2019	ND	0.553	111	0.500	5.86	
Total Xylenes*	<0.075	0.075	07/23/2019	ND	1.69	113	1.50	4.88	
Total BTEX	<0.150	0.150	07/23/2019	ND					

Surrogate: Dibromofluoromethane	*94.5 %*	*90.4-111*
Surrogate: Toluene-d8	*104 %*	*85.3-114*
Surrogate: 4-Bromofluorobenzene	*95.1 %*	*80.1-121*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	07/24/2019	ND	432	108	400	3.77	QR-03

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/23/2019	ND	185	92.3	200	4.28	
DRO >C10-C28*	<10.0	10.0	07/23/2019	ND	178	89.0	200	4.70	
EXT DRO >C28-C36	<10.0	10.0	07/23/2019	ND					

Surrogate: 1-Chlorooctane	*73.4 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*78.2 %*	*37.6-147*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

901W Wall Street, Ste 100
Midland, Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: COG

Site Manager: MIKE CARMONA

Project Name: MOMENTUM 36 ST. 1

Project Location (county, state): LEA CO, NM

Project #: 212C-MD-01806

Invoice to: COG - IKE TAVAREZ

Receiving Laboratory: CARDINAL

Sampler Signature: CONNER MOEHRING

Comments:

H902529

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE (YEAR: 2019)	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	PRESERVATIVE METHOD: None	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance					Hold
1	BOTTOM HOLE #10 (1.5' BEB)	7/23/19			X			X		1	N	X		X												X								
2	BOTTOM HOLE #11 (1.5' BEB)	7/23/19			X			X		1	N	X		X												X								
3	BOTTOM HOLE #12 (1.5' BEB)	7/23/19			X			X		1	N	X		X												X								
4	BOTTOM HOLE #13 (1.5' BEB)	7/23/19			X			X		1	N	X		X												X								
					/																													

ANALYSIS REQUEST (Circle or Specify Method No.)

Relinquished by: Conner Moehring Date: 7/23/19 Time: 1437

Received by: Tamara Oldaker Date: 7-23-19 Time: 14:40

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

LAB USE ONLY

Sample Temperature 2.7c #97 Corrected 3.1c

REMARKS:

- ☐ STANDARD
- ☒ RUSH: Same Day (24 hr) 48 hr 72 hr
- ☐ Rush Charges Authorized
- ☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

Certificate of Analysis Summary 628584

Tetra Tech- Midland, Midland, TX

Project Name: Momentum 36 State #1

Project Id:

Contact: Mike Carmona

Project Location: Lea Co, NM

Date Received in Lab: Thu Jun-20-19 05:00 pm

Report Date: 29-JUN-19

Project Manager: Jessica Kramer

Analysis Requested	*Lab Id:*	628584-001		628584-002		628584-003		628584-004		628584-005		628584-006	
	Field Id:	Bottom Hole #1 (6")		Bottom Hole #2 (6")		Bottom Hole #3 (6")		Bottom Hole #4 (6")		Bottom Hole #5 (6")		Bottom Hole #6 (6")	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-19-19 00:00		Jun-19-19 00:00		Jun-19-19 00:00		Jun-19-19 00:00		Jun-19-19 00:00		Jun-20-19 00:00	
BTEX by EPA 8021B SUB: T104704400-18-16	*Extracted:*	Jun-27-19 22:10		Jun-27-19 22:10		Jun-27-19 22:10		Jun-27-19 22:10		Jun-27-19 22:10		Jun-27-19 22:10	
	Analyzed:	Jun-28-19 01:27		Jun-28-19 01:51		Jun-28-19 02:14		Jun-28-19 19:04		Jun-28-19 14:56		Jun-28-19 09:55	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	0.0749	0.00996	<0.00200	0.00200
Toluene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00996	0.00996	<0.00200	0.00200
Ethylbenzene		<0.00199	0.00199	<0.00200	0.00200	0.00745	0.00200	0.00582	0.00200	0.135	0.00996	<0.00200	0.00200
m,p-Xylenes		<0.00398	0.00398	<0.00401	0.00401	0.0175	0.00399	0.0147	0.00401	0.393	0.0199	0.00596	0.00400
o-Xylene		<0.00199	0.00199	<0.00200	0.00200	0.0198	0.00200	0.00457	0.00200	0.0550	0.00996	0.00335	0.00200
Total Xylenes		<0.00199	0.00199	<0.00200	0.00200	0.0373	0.00200	0.0193	0.00200	0.448	0.00996	0.00931	0.00200
Total BTEX		<0.00199	0.00199	<0.00200	0.00200	0.0448	0.00200	0.0251	0.00200	0.658	0.00996	0.00931	0.00200
Chloride by EPA 300 SUB: T104704400-18-16	*Extracted:*	Jun-22-19 16:00		Jun-22-19 16:00		Jun-22-19 16:00		Jun-22-19 16:00		Jun-22-19 16:00		Jun-22-19 16:00	
	Analyzed:	Jun-22-19 19:49		Jun-22-19 20:11		Jun-22-19 20:19		Jun-22-19 20:26		Jun-22-19 20:33		Jun-22-19 20:40	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		270	5.05	1300	5.05	1270	5.05	710	5.00	1230	4.97	377	4.99
TPH By SW8015 Mod SUB: T104704400-18-16	*Extracted:*	Jun-22-19 15:00		Jun-22-19 15:00		Jun-22-19 15:00		Jun-22-19 15:00		Jun-22-19 15:00		Jun-22-19 15:00	
	Analyzed:	Jun-23-19 00:04		Jun-23-19 01:19		Jun-23-19 01:45		Jun-23-19 02:10		Jun-23-19 02:35		Jun-23-19 02:59	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		20.8	15.0	<15.0	15.0	38.7	15.0	49.1	15.0	39.7	15.0	21.2	15.0
Diesel Range Organics (DRO)		228	15.0	61.3	15.0	576	15.0	623	15.0	549	15.0	472	15.0
Motor Oil Range Hydrocarbons (MRO)		26.7	15.0	<15.0	15.0	38.4	15.0	50.9	15.0	42.3	15.0	44.6	15.0
Total TPH		276	15.0	61.3	15.0	653	15.0	723	15.0	631	15.0	538	15.0

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 628584

Tetra Tech- Midland, Midland, TX

Project Name: Momentum 36 State #1

Project Id:
Contact: Mike Carmona
Project Location: Lea Co, NM

Date Received in Lab: Thu Jun-20-19 05:00 pm
Report Date: 29-JUN-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	628584-007		628584-008		628584-009		628584-010		628584-011		628584-012	
	Field Id:	Bottom Hole #7 (6")		Bottom Hole #8 (6")		Bottom Hole #9 (6")		Bottom Hole #10 (6")		Bottom Hole #11 (6")		Bottom Hole #12 (6")	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-20-19 00:00		Jun-20-19 00:00		Jun-20-19 00:00		Jun-20-19 00:00		Jun-20-19 00:00		Jun-20-19 00:00	
BTEX by EPA 8021B SUB: T104704400-18-16	***Extracted:***	Jun-27-19 22:10		Jun-27-19 22:10		Jun-27-19 22:10		Jun-27-19 22:10		Jun-27-19 22:10		Jun-27-19 22:10	
	Analyzed:	Jun-28-19 10:18		Jun-28-19 10:42		Jun-28-19 18:41		Jun-28-19 14:10		Jun-28-19 18:17		Jun-28-19 03:46	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	0.0461	0.0200	<0.00998	0.00998	<0.00200	0.00200
Toluene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	0.0502	0.0200	0.110	0.00998	<0.00200	0.00200
Ethylbenzene		0.00580	0.00200	<0.00200	0.00200	0.00677	0.00199	1.06	0.0200	0.310	0.00998	<0.00200	0.00200
m,p-Xylenes		<0.00401	0.00401	<0.00399	0.00399	0.00676	0.00398	3.39	0.0401	3.13	0.0200	<0.00400	0.00400
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	0.0252	0.00199	2.16	0.0200	1.94	0.00998	0.00377	0.00200
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	0.0320	0.00199	5.55	0.0200	5.07	0.00998	0.00377	0.00200
Total BTEX		0.00580	0.00200	<0.00200	0.00200	0.0387	0.00199	6.71	0.0200	5.49	0.00998	0.00377	0.00200
Chloride by EPA 300 SUB: T104704400-18-16	***Extracted:***	Jun-22-19 16:00		Jun-22-19 16:00		Jun-22-19 16:00		Jun-22-19 16:00		Jun-22-19 16:00		Jun-22-19 16:00	
	Analyzed:	Jun-22-19 21:09		Jun-22-19 21:17		Jun-22-19 21:54		Jun-22-19 22:01		Jun-22-19 22:08		Jun-22-19 22:16	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		44.3	5.00	45.4	4.99	666	5.00	394	5.02	198	4.97	33.7	4.96
TPH By SW8015 Mod SUB: T104704400-18-16	***Extracted:***	Jun-22-19 15:00		Jun-22-19 15:00		Jun-22-19 15:00		Jun-22-19 15:00		Jun-22-19 15:00		Jun-22-19 15:00	
	Analyzed:	Jun-23-19 03:24		Jun-23-19 03:49		Jun-23-19 04:14		Jun-23-19 04:39		Jun-23-19 05:29		Jun-23-19 05:54	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	39.7	15.0	158	15.0	284	15.0	143	15.0
Diesel Range Organics (DRO)		53.3	15.0	28.3	15.0	828	15.0	1480	15.0	2110	15.0	1260	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	75.4	15.0	112	15.0	141	15.0	92.4	15.0
Total TPH		53.3	15.0	28.3	15.0	943	15.0	1750	15.0	2540	15.0	1500	15.0

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 628584

Tetra Tech- Midland, Midland, TX

Project Name: Momentum 36 State #1

Project Id:
Contact: Mike Carmona
Project Location: Lea Co, NM

Date Received in Lab: Thu Jun-20-19 05:00 pm
Report Date: 29-JUN-19
Project Manager: Jessica Kramer

Analysis Requested	*Lab Id:*	628584-013		628584-014		628584-015		628584-016		628584-017	
	Field Id:	Bottom Hole #13 (6")		North 1 Sidewall		East #1 Sidewall		West #1 Sidewall		South #1 Sidewall	
	Depth:										
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-20-19 00:00		Jun-20-19 00:00		Jun-20-19 00:00		Jun-20-19 00:00		Jun-20-19 00:00	
BTEX by EPA 8021B SUB: T104704400-18-16	*Extracted:*	Jun-27-19 22:10		Jun-27-19 22:10		Jun-27-19 22:10		Jun-27-19 22:10		Jun-27-19 22:10	
	Analyzed:	Jun-28-19 04:09		Jun-28-19 11:05		Jun-28-19 11:28		Jun-28-19 06:43		Jun-28-19 07:06	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00201	0.00201	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200
Toluene		0.00279	0.00201	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200
Ethylbenzene		0.0686	0.00201	<0.00200	0.00200	0.00259	0.00199	<0.00200	0.00200	<0.00200	0.00200
m,p-Xylenes		0.119	0.00402	<0.00399	0.00399	<0.00398	0.00398	<0.00400	0.00400	<0.00401	0.00401
o-Xylene		0.127	0.00201	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200
Total Xylenes		0.246	0.00201	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200
Total BTEX		0.317	0.00201	<0.00200	0.00200	0.00259	0.00199	<0.00200	0.00200	<0.00200	0.00200
Chloride by EPA 300 SUB: T104704400-18-16	*Extracted:*	Jun-22-19 16:00		Jun-22-19 16:00		Jun-22-19 16:00		Jun-22-19 16:30		Jun-22-19 16:30	
	Analyzed:	Jun-22-19 22:23		Jun-22-19 22:30		Jun-22-19 22:37		Jun-24-19 15:45		Jun-24-19 16:02	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		51.8	5.01	996	4.98	1410	4.95	16.7	5.00	192	5.05
TPH By SW8015 Mod SUB: T104704400-18-16	*Extracted:*	Jun-22-19 15:00		Jun-22-19 15:00		Jun-22-19 15:00		Jun-22-19 15:00		Jun-22-19 15:00	
	Analyzed:	Jun-23-19 06:18		Jun-23-19 06:43		Jun-23-19 07:08		Jun-23-19 07:32		Jun-23-19 07:57	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		154	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	15.9	14.9
Diesel Range Organics (DRO)		1330	15.0	255	15.0	38.9	15.0	63.2	15.0	573	14.9
Motor Oil Range Hydrocarbons (MRO)		88.7	15.0	40.7	15.0	17.2	15.0	<15.0	15.0	76.5	14.9
Total TPH		1570	15.0	296	15.0	56.1	15.0	63.2	15.0	665	14.9

Jessica Kramer
Project Assistant

Analytical Report 628584

for

Tetra Tech- Midland

Project Manager: Mike Carmona

Momentum 36 State #1

29-JUN-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)

29-JUN-19

Project Manager: **Mike Carmona**
Tetra Tech- Midland
901 West Wall ST
Midland, TX 79701

Reference: XENCO Report No(s): **628584**
Momentum 36 State #1
Project Address: Lea Co, NM

Mike Carmona:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 628584. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 628584 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 628584

Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Bottom Hole #1 (6")	S	06-19-19 00:00		628584-001
Bottom Hole #2 (6")	S	06-19-19 00:00		628584-002
Bottom Hole #3 (6")	S	06-19-19 00:00		628584-003
Bottom Hole #4 (6")	S	06-19-19 00:00		628584-004
Bottom Hole #5 (6")	S	06-19-19 00:00		628584-005
Bottom Hole #6 (6")	S	06-20-19 00:00		628584-006
Bottom Hole #7 (6")	S	06-20-19 00:00		628584-007
Bottom Hole #8 (6")	S	06-20-19 00:00		628584-008
Bottom Hole #9 (6")	S	06-20-19 00:00		628584-009
Bottom Hole #10 (6")	S	06-20-19 00:00		628584-010
Bottom Hole #11 (6")	S	06-20-19 00:00		628584-011
Bottom Hole #12 (6")	S	06-20-19 00:00		628584-012
Bottom Hole #13 (6")	S	06-20-19 00:00		628584-013
North 1 Sidewall	S	06-20-19 00:00		628584-014
East #1 Sidewall	S	06-20-19 00:00		628584-015
West #1 Sidewall	S	06-20-19 00:00		628584-016
South #1 Sidewall	S	06-20-19 00:00		628584-017

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3093930 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 628584-013,628584-011,628584-005,628584-010.

Certificate of Analytical Results 628584

Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**Bottom Hole #1 (6")**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-001	Date Collected:	06.19.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	06.22.19 16.00	Basis:	Wet Weight
Seq Number:	3093287			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**270**	5.05	mg/kg	06.22.19 19.49		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.22.19 15.00	Basis:	Wet Weight
Seq Number:	3093277			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**20.8**	15.0	mg/kg	06.23.19 00.04		1
Diesel Range Organics (DRO)	C10C28DRO	**228**	15.0	mg/kg	06.23.19 00.04		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**26.7**	15.0	mg/kg	06.23.19 00.04		1
Total TPH	PHC635	**276**	15.0	mg/kg	06.23.19 00.04		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	06.23.19 00.04	
o-Terphenyl	84-15-1	79	%	70-135	06.23.19 00.04	

Certificate of Analytical Results 628584

Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**Bottom Hole #1 (6")**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-001	Date Collected:	06.19.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	06.27.19 22.10	Basis:	Wet Weight
Seq Number:	3093930			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.28.19 01.27	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.28.19 01.27	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.28.19 01.27	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.28.19 01.27	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.28.19 01.27	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.28.19 01.27	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.28.19 01.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	118	%	70-130	06.28.19 01.27	
1,4-Difluorobenzene	540-36-3	96	%	70-130	06.28.19 01.27	

Certificate of Analytical Results 628584

Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**Bottom Hole #2 (6")**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-002	Date Collected:	06.19.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	06.22.19 16.00	Basis:	Wet Weight
Seq Number:	3093287			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1300**	5.05	mg/kg	06.22.19 20.11		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.22.19 15.00	Basis:	Wet Weight
Seq Number:	3093277			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.23.19 01.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	**61.3**	15.0	mg/kg	06.23.19 01.19		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.23.19 01.19	U	1
Total TPH	PHC635	**61.3**	15.0	mg/kg	06.23.19 01.19		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	06.23.19 01.19	
o-Terphenyl	84-15-1	77	%	70-135	06.23.19 01.19	

Certificate of Analytical Results 628584

Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**Bottom Hole #2 (6")**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-002	Date Collected:	06.19.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	06.27.19 22.10	Basis:	Wet Weight
Seq Number:	3093930			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.28.19 01.51	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.28.19 01.51	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.28.19 01.51	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.28.19 01.51	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.28.19 01.51	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.28.19 01.51	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.28.19 01.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	70-130	06.28.19 01.51	
1,4-Difluorobenzene	540-36-3	97	%	70-130	06.28.19 01.51	

Certificate of Analytical Results 628584

Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**Bottom Hole #3 (6")**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-003	Date Collected:	06.19.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	06.22.19 16.00	Basis:	Wet Weight
Seq Number:	3093287			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1270**	5.05	mg/kg	06.22.19 20.19		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.22.19 15.00	Basis:	Wet Weight
Seq Number:	3093277			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**38.7**	15.0	mg/kg	06.23.19 01.45		1
Diesel Range Organics (DRO)	C10C28DRO	**576**	15.0	mg/kg	06.23.19 01.45		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**38.4**	15.0	mg/kg	06.23.19 01.45		1
Total TPH	PHC635	**653**	15.0	mg/kg	06.23.19 01.45		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	06.23.19 01.45	
o-Terphenyl	84-15-1	85	%	70-135	06.23.19 01.45	

Certificate of Analytical Results 628584

Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**Bottom Hole #3 (6")**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-003	Date Collected:	06.19.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	06.27.19 22.10	Basis:	Wet Weight
Seq Number:	3093930			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.28.19 02.14	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.28.19 02.14	U	1
Ethylbenzene	100-41-4	**0.00745**	0.00200	mg/kg	06.28.19 02.14		1
m,p-Xylenes	179601-23-1	**0.0175**	0.00399	mg/kg	06.28.19 02.14		1
o-Xylene	95-47-6	**0.0198**	0.00200	mg/kg	06.28.19 02.14		1
Total Xylenes	1330-20-7	**0.0373**	0.00200	mg/kg	06.28.19 02.14		1
Total BTEX		**0.0448**	0.00200	mg/kg	06.28.19 02.14		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	88	%	70-130	06.28.19 02.14	
4-Bromofluorobenzene	460-00-4	130	%	70-130	06.28.19 02.14	

Certificate of Analytical Results 628584

Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**Bottom Hole #4 (6")**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-004	Date Collected:	06.19.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	06.22.19 16.00	Basis:	Wet Weight
Seq Number:	3093287			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**710**	5.00	mg/kg	06.22.19 20.26		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.22.19 15.00	Basis:	Wet Weight
Seq Number:	3093277			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**49.1**	15.0	mg/kg	06.23.19 02.10		1
Diesel Range Organics (DRO)	C10C28DRO	**623**	15.0	mg/kg	06.23.19 02.10		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**50.9**	15.0	mg/kg	06.23.19 02.10		1
Total TPH	PHC635	**723**	15.0	mg/kg	06.23.19 02.10		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	06.23.19 02.10	
o-Terphenyl	84-15-1	94	%	70-135	06.23.19 02.10	

Certificate of Analytical Results 628584

Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**Bottom Hole #4 (6")**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-004	Date Collected:	06.19.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	06.27.19 22.10	Basis:	Wet Weight
Seq Number:	3093930			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.28.19 19.04	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.28.19 19.04	U	1
Ethylbenzene	100-41-4	**0.00582**	0.00200	mg/kg	06.28.19 19.04		1
m,p-Xylenes	179601-23-1	**0.0147**	0.00401	mg/kg	06.28.19 19.04		1
o-Xylene	95-47-6	**0.00457**	0.00200	mg/kg	06.28.19 19.04		1
Total Xylenes	1330-20-7	**0.0193**	0.00200	mg/kg	06.28.19 19.04		1
Total BTEX		**0.0251**	0.00200	mg/kg	06.28.19 19.04		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	123	%	70-130	06.28.19 19.04	
1,4-Difluorobenzene	540-36-3	90	%	70-130	06.28.19 19.04	

Certificate of Analytical Results 628584

Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**Bottom Hole #5 (6")**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-005	Date Collected:	06.19.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	06.22.19 16.00	Basis:	Wet Weight
Seq Number:	3093287			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1230**	4.97	mg/kg	06.22.19 20.33		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.22.19 15.00	Basis:	Wet Weight
Seq Number:	3093277			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**39.7**	15.0	mg/kg	06.23.19 02.35		1
Diesel Range Organics (DRO)	C10C28DRO	**549**	15.0	mg/kg	06.23.19 02.35		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**42.3**	15.0	mg/kg	06.23.19 02.35		1
Total TPH	PHC635	**631**	15.0	mg/kg	06.23.19 02.35		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	06.23.19 02.35	
o-Terphenyl	84-15-1	86	%	70-135	06.23.19 02.35	

Certificate of Analytical Results 628584

Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**Bottom Hole #5 (6")**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-005	Date Collected:	06.19.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	06.27.19 22.10	Basis:	Wet Weight
Seq Number:	3093930			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.0749**	0.00996	mg/kg	06.28.19 14.56		5
Toluene	108-88-3	<0.00996	0.00996	mg/kg	06.28.19 14.56	U	5
Ethylbenzene	100-41-4	**0.135**	0.00996	mg/kg	06.28.19 14.56		5
m,p-Xylenes	179601-23-1	**0.393**	0.0199	mg/kg	06.28.19 14.56		5
o-Xylene	95-47-6	**0.0550**	0.00996	mg/kg	06.28.19 14.56		5
Total Xylenes	1330-20-7	**0.448**	0.00996	mg/kg	06.28.19 14.56		5
Total BTEX		**0.658**	0.00996	mg/kg	06.28.19 14.56		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	190	%	70-130	06.28.19 14.56	**
1,4-Difluorobenzene	540-36-3	98	%	70-130	06.28.19 14.56	

Certificate of Analytical Results 628584

Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**Bottom Hole #6 (6")**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-006	Date Collected:	06.20.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	06.22.19 16.00	Basis:	Wet Weight
Seq Number:	3093287			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**377**	4.99	mg/kg	06.22.19 20.40		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.22.19 15.00	Basis:	Wet Weight
Seq Number:	3093277			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**21.2**	15.0	mg/kg	06.23.19 02.59		1
Diesel Range Organics (DRO)	C10C28DRO	**472**	15.0	mg/kg	06.23.19 02.59		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**44.6**	15.0	mg/kg	06.23.19 02.59		1
Total TPH	PHC635	**538**	15.0	mg/kg	06.23.19 02.59		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	06.23.19 02.59	
o-Terphenyl	84-15-1	91	%	70-135	06.23.19 02.59	

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Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**Bottom Hole #6 (6")**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-006	Date Collected:	06.20.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	06.27.19 22.10	Basis:	Wet Weight
Seq Number:	3093930			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.28.19 09.55	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.28.19 09.55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.28.19 09.55	U	1
m,p-Xylenes	179601-23-1	**0.00596**	0.00400	mg/kg	06.28.19 09.55		1
o-Xylene	95-47-6	**0.00335**	0.00200	mg/kg	06.28.19 09.55		1
Total Xylenes	1330-20-7	**0.00931**	0.00200	mg/kg	06.28.19 09.55		1
Total BTEX		**0.00931**	0.00200	mg/kg	06.28.19 09.55		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	95	%	70-130	06.28.19 09.55	
4-Bromofluorobenzene	460-00-4	118	%	70-130	06.28.19 09.55	

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Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**Bottom Hole #7 (6")**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-007	Date Collected:	06.20.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	06.22.19 16.00	Basis:	Wet Weight
Seq Number:	3093287			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**44.3**	5.00	mg/kg	06.22.19 21.09		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.22.19 15.00	Basis:	Wet Weight
Seq Number:	3093277			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.23.19 03.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	**53.3**	15.0	mg/kg	06.23.19 03.24		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.23.19 03.24	U	1
Total TPH	PHC635	**53.3**	15.0	mg/kg	06.23.19 03.24		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	06.23.19 03.24	
o-Terphenyl	84-15-1	95	%	70-135	06.23.19 03.24	

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Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**Bottom Hole #7 (6")**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-007	Date Collected:	06.20.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	06.27.19 22.10	Basis:	Wet Weight
Seq Number:	3093930			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.28.19 10.18	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.28.19 10.18	U	1
Ethylbenzene	100-41-4	**0.00580**	0.00200	mg/kg	06.28.19 10.18		1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.28.19 10.18	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.28.19 10.18	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.28.19 10.18	U	1
Total BTEX		**0.00580**	0.00200	mg/kg	06.28.19 10.18		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	115	%	70-130	06.28.19 10.18	
1,4-Difluorobenzene	540-36-3	98	%	70-130	06.28.19 10.18	

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Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**Bottom Hole #8 (6")**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-008	Date Collected:	06.20.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	06.22.19 16.00	Basis:	Wet Weight
Seq Number:	3093287			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**45.4**	4.99	mg/kg	06.22.19 21.17		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.22.19 15.00	Basis:	Wet Weight
Seq Number:	3093277			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.23.19 03.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	**28.3**	15.0	mg/kg	06.23.19 03.49		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.23.19 03.49	U	1
Total TPH	PHC635	**28.3**	15.0	mg/kg	06.23.19 03.49		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	06.23.19 03.49	
o-Terphenyl	84-15-1	95	%	70-135	06.23.19 03.49	

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Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**Bottom Hole #8 (6")**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-008	Date Collected:	06.20.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	06.27.19 22.10	Basis:	Wet Weight
Seq Number:	3093930			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.28.19 10.42	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.28.19 10.42	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.28.19 10.42	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.28.19 10.42	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.28.19 10.42	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.28.19 10.42	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.28.19 10.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	70-130	06.28.19 10.42	
1,4-Difluorobenzene	540-36-3	97	%	70-130	06.28.19 10.42	

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Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**Bottom Hole #9 (6")**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-009	Date Collected:	06.20.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	06.22.19 16.00	Basis:	Wet Weight
Seq Number:	3093287			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**666**	5.00	mg/kg	06.22.19 21.54		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.22.19 15.00	Basis:	Wet Weight
Seq Number:	3093277			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**39.7**	15.0	mg/kg	06.23.19 04.14		1
Diesel Range Organics (DRO)	C10C28DRO	**828**	15.0	mg/kg	06.23.19 04.14		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**75.4**	15.0	mg/kg	06.23.19 04.14		1
Total TPH	PHC635	**943**	15.0	mg/kg	06.23.19 04.14		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	06.23.19 04.14	
o-Terphenyl	84-15-1	91	%	70-135	06.23.19 04.14	

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Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**Bottom Hole #9 (6")**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-009	Date Collected:	06.20.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	06.27.19 22.10	Basis:	Wet Weight
Seq Number:	3093930			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.28.19 18.41	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.28.19 18.41	U	1
Ethylbenzene	100-41-4	**0.00677**	0.00199	mg/kg	06.28.19 18.41		1
m,p-Xylenes	179601-23-1	**0.00676**	0.00398	mg/kg	06.28.19 18.41		1
o-Xylene	95-47-6	**0.0252**	0.00199	mg/kg	06.28.19 18.41		1
Total Xylenes	1330-20-7	**0.0320**	0.00199	mg/kg	06.28.19 18.41		1
Total BTEX		**0.0387**	0.00199	mg/kg	06.28.19 18.41		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	92	%	70-130	06.28.19 18.41	
4-Bromofluorobenzene	460-00-4	127	%	70-130	06.28.19 18.41	

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Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**Bottom Hole #10 (6")**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-010	Date Collected:	06.20.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	06.22.19 16.00	Basis:	Wet Weight
Seq Number:	3093287			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**394**	5.02	mg/kg	06.22.19 22.01		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.22.19 15.00	Basis:	Wet Weight
Seq Number:	3093277			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**158**	15.0	mg/kg	06.23.19 04.39		1
Diesel Range Organics (DRO)	C10C28DRO	**1480**	15.0	mg/kg	06.23.19 04.39		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**112**	15.0	mg/kg	06.23.19 04.39		1
Total TPH	PHC635	**1750**	15.0	mg/kg	06.23.19 04.39		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	06.23.19 04.39	
o-Terphenyl	84-15-1	83	%	70-135	06.23.19 04.39	

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Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**Bottom Hole #10 (6")**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-010	Date Collected:	06.20.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	06.27.19 22.10	Basis:	Wet Weight
Seq Number:	3093930			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.0461**	0.0200	mg/kg	06.28.19 14.10		10
Toluene	108-88-3	**0.0502**	0.0200	mg/kg	06.28.19 14.10		10
Ethylbenzene	100-41-4	**1.06**	0.0200	mg/kg	06.28.19 14.10		10
m,p-Xylenes	179601-23-1	**3.39**	0.0401	mg/kg	06.28.19 14.10		10
o-Xylene	95-47-6	**2.16**	0.0200	mg/kg	06.28.19 14.10		10
Total Xylenes	1330-20-7	**5.55**	0.0200	mg/kg	06.28.19 14.10		10
Total BTEX		**6.71**	0.0200	mg/kg	06.28.19 14.10		10

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	286	%	70-130	06.28.19 14.10	**
1,4-Difluorobenzene	540-36-3	80	%	70-130	06.28.19 14.10	

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Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**Bottom Hole #11 (6")**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-011	Date Collected:	06.20.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	06.22.19 16.00	Basis:	Wet Weight
Seq Number:	3093287			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**198**	4.97	mg/kg	06.22.19 22.08		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.22.19 15.00	Basis:	Wet Weight
Seq Number:	3093277			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**284**	15.0	mg/kg	06.23.19 05.29		1
Diesel Range Organics (DRO)	C10C28DRO	**2110**	15.0	mg/kg	06.23.19 05.29		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**141**	15.0	mg/kg	06.23.19 05.29		1
Total TPH	PHC635	**2540**	15.0	mg/kg	06.23.19 05.29		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	06.23.19 05.29	
o-Terphenyl	84-15-1	99	%	70-135	06.23.19 05.29	

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Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**Bottom Hole #11 (6")**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-011	Date Collected:	06.20.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	06.27.19 22.10	Basis:	Wet Weight
Seq Number:	3093930			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00998	0.00998	mg/kg	06.28.19 18.17	U	5
Toluene	108-88-3	**0.110**	0.00998	mg/kg	06.28.19 18.17		5
Ethylbenzene	100-41-4	**0.310**	0.00998	mg/kg	06.28.19 18.17		5
m,p-Xylenes	179601-23-1	**3.13**	0.0200	mg/kg	06.28.19 18.17		5
o-Xylene	95-47-6	**1.94**	0.00998	mg/kg	06.28.19 18.17		5
Total Xylenes	1330-20-7	**5.07**	0.00998	mg/kg	06.28.19 18.17		5
Total BTEX		**5.49**	0.00998	mg/kg	06.28.19 18.17		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	90	%	70-130	06.28.19 18.17	
4-Bromofluorobenzene	460-00-4	407	%	70-130	06.28.19 18.17	**

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Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**Bottom Hole #12 (6")**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-012	Date Collected:	06.20.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	06.22.19 16.00	Basis:	Wet Weight
Seq Number:	3093287			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**33.7**	4.96	mg/kg	06.22.19 22.16		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.22.19 15.00	Basis:	Wet Weight
Seq Number:	3093277			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**143**	15.0	mg/kg	06.23.19 05.54		1
Diesel Range Organics (DRO)	C10C28DRO	**1260**	15.0	mg/kg	06.23.19 05.54		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**92.4**	15.0	mg/kg	06.23.19 05.54		1
Total TPH	PHC635	**1500**	15.0	mg/kg	06.23.19 05.54		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	06.23.19 05.54	
o-Terphenyl	84-15-1	79	%	70-135	06.23.19 05.54	

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Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**Bottom Hole #12 (6")**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-012	Date Collected:	06.20.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	06.27.19 22.10	Basis:	Wet Weight
Seq Number:	3093930			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.28.19 03.46	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.28.19 03.46	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.28.19 03.46	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.28.19 03.46	U	1
o-Xylene	95-47-6	**0.00377**	0.00200	mg/kg	06.28.19 03.46		1
Total Xylenes	1330-20-7	**0.00377**	0.00200	mg/kg	06.28.19 03.46		1
Total BTEX		**0.00377**	0.00200	mg/kg	06.28.19 03.46		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	92	%	70-130	06.28.19 03.46	
4-Bromofluorobenzene	460-00-4	125	%	70-130	06.28.19 03.46	

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Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**Bottom Hole #13 (6")**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-013	Date Collected:	06.20.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	06.22.19 16.00	Basis:	Wet Weight
Seq Number:	3093287			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**51.8**	5.01	mg/kg	06.22.19 22.23		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.22.19 15.00	Basis:	Wet Weight
Seq Number:	3093277			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**154**	15.0	mg/kg	06.23.19 06.18		1
Diesel Range Organics (DRO)	C10C28DRO	**1330**	15.0	mg/kg	06.23.19 06.18		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**88.7**	15.0	mg/kg	06.23.19 06.18		1
Total TPH	PHC635	**1570**	15.0	mg/kg	06.23.19 06.18		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	06.23.19 06.18	
o-Terphenyl	84-15-1	80	%	70-135	06.23.19 06.18	

Certificate of Analytical Results 628584

Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**Bottom Hole #13 (6")**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-013	Date Collected:	06.20.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	06.27.19 22.10	Basis:	Wet Weight
Seq Number:	3093930			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.28.19 04.09	U	1
Toluene	108-88-3	**0.00279**	0.00201	mg/kg	06.28.19 04.09		1
Ethylbenzene	100-41-4	**0.0686**	0.00201	mg/kg	06.28.19 04.09		1
m,p-Xylenes	179601-23-1	**0.119**	0.00402	mg/kg	06.28.19 04.09		1
o-Xylene	95-47-6	**0.127**	0.00201	mg/kg	06.28.19 04.09		1
Total Xylenes	1330-20-7	**0.246**	0.00201	mg/kg	06.28.19 04.09		1
Total BTEX		**0.317**	0.00201	mg/kg	06.28.19 04.09		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	166	%	70-130	06.28.19 04.09	**
1,4-Difluorobenzene	540-36-3	86	%	70-130	06.28.19 04.09	

Certificate of Analytical Results 628584

Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**North 1 Sidewall**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-014	Date Collected:	06.20.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	06.22.19 16.00	Basis:	Wet Weight
Seq Number:	3093287			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**996**	4.98	mg/kg	06.22.19 22.30		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.22.19 15.00	Basis:	Wet Weight
Seq Number:	3093277			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.23.19 06.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	**255**	15.0	mg/kg	06.23.19 06.43		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**40.7**	15.0	mg/kg	06.23.19 06.43		1
Total TPH	PHC635	**296**	15.0	mg/kg	06.23.19 06.43		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	06.23.19 06.43	
o-Terphenyl	84-15-1	74	%	70-135	06.23.19 06.43	

Certificate of Analytical Results 628584

Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**North 1 Sidewall**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-014	Date Collected:	06.20.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	06.27.19 22.10	Basis:	Wet Weight
Seq Number:	3093930			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.28.19 11.05	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.28.19 11.05	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.28.19 11.05	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.28.19 11.05	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.28.19 11.05	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.28.19 11.05	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.28.19 11.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	06.28.19 11.05	
4-Bromofluorobenzene	460-00-4	119	%	70-130	06.28.19 11.05	

Certificate of Analytical Results 628584

Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**East #1 Sidewall**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-015	Date Collected:	06.20.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	06.22.19 16.00	Basis:	Wet Weight
Seq Number:	3093287			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1410**	4.95	mg/kg	06.22.19 22.37		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.22.19 15.00	Basis:	Wet Weight
Seq Number:	3093277			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.23.19 07.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	**38.9**	15.0	mg/kg	06.23.19 07.08		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**17.2**	15.0	mg/kg	06.23.19 07.08		1
Total TPH	PHC635	**56.1**	15.0	mg/kg	06.23.19 07.08		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	06.23.19 07.08	
o-Terphenyl	84-15-1	90	%	70-135	06.23.19 07.08	

Certificate of Analytical Results 628584

Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**East #1 Sidewall**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-015	Date Collected:	06.20.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	06.27.19 22.10	Basis:	Wet Weight
Seq Number:	3093930			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.28.19 11.28	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.28.19 11.28	U	1
Ethylbenzene	100-41-4	**0.00259**	0.00199	mg/kg	06.28.19 11.28		1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.28.19 11.28	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.28.19 11.28	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.28.19 11.28	U	1
Total BTEX		**0.00259**	0.00199	mg/kg	06.28.19 11.28		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	114	%	70-130	06.28.19 11.28	
1,4-Difluorobenzene	540-36-3	99	%	70-130	06.28.19 11.28	

Certificate of Analytical Results 628584

Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**West #1 Sidewall**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-016	Date Collected:	06.20.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	06.22.19 16.30	Basis:	Wet Weight
Seq Number:	3093335			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**16.7**	5.00	mg/kg	06.24.19 15.45		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.22.19 15.00	Basis:	Wet Weight
Seq Number:	3093277			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.23.19 07.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	**63.2**	15.0	mg/kg	06.23.19 07.32		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.23.19 07.32	U	1
Total TPH	PHC635	**63.2**	15.0	mg/kg	06.23.19 07.32		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	06.23.19 07.32	
o-Terphenyl	84-15-1	70	%	70-135	06.23.19 07.32	

Certificate of Analytical Results 628584

Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**West #1 Sidewall**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-016	Date Collected:	06.20.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	06.27.19 22.10	Basis:	Wet Weight
Seq Number:	3093930			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.28.19 06.43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.28.19 06.43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.28.19 06.43	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.28.19 06.43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.28.19 06.43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.28.19 06.43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.28.19 06.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	116	%	70-130	06.28.19 06.43	
1,4-Difluorobenzene	540-36-3	96	%	70-130	06.28.19 06.43	

Certificate of Analytical Results 628584

Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**South #1 Sidewall**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-017	Date Collected:	06.20.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	SPC	Date Prep:	06.22.19 16.30	Basis:	Wet Weight
Seq Number:	3093335			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**192**	5.05	mg/kg	06.24.19 16.02		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.22.19 15.00	Basis:	Wet Weight
Seq Number:	3093277			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**15.9**	14.9	mg/kg	06.23.19 07.57		1
Diesel Range Organics (DRO)	C10C28DRO	**573**	14.9	mg/kg	06.23.19 07.57		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**76.5**	14.9	mg/kg	06.23.19 07.57		1
Total TPH	PHC635	**665**	14.9	mg/kg	06.23.19 07.57		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	06.23.19 07.57	
o-Terphenyl	84-15-1	81	%	70-135	06.23.19 07.57	

Certificate of Analytical Results 628584

Tetra Tech- Midland, Midland, TX

Momentum 36 State #1

Sample Id:	**South #1 Sidewall**	Matrix:	Soil	Date Received:	06.20.19 17.00
Lab Sample Id:	628584-017	Date Collected:	06.20.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DVM			% Moisture:	
Analyst:	DVM	Date Prep:	06.27.19 22.10	Basis:	Wet Weight
Seq Number:	3093930			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.28.19 07.06	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.28.19 07.06	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.28.19 07.06	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.28.19 07.06	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.28.19 07.06	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.28.19 07.06	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.28.19 07.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	114	%	70-130	06.28.19 07.06	
1,4-Difluorobenzene	540-36-3	95	%	70-130	06.28.19 07.06	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 628584

Tetra Tech- Midland

Momentum 36 State #1

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3093287 Matrix: Solid Date Prep: 06.22.19
MB Sample Id: 7680531-1-BLK LCS Sample Id: 7680531-1-BKS LCSD Sample Id: 7680531-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	244	98	244	98	90-110	0	20	mg/kg	06.22.19 18:51	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3093335 Matrix: Solid Date Prep: 06.22.19
MB Sample Id: 7680532-1-BLK LCS Sample Id: 7680532-1-BKS LCSD Sample Id: 7680532-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	258	103	256	102	90-110	1	20	mg/kg	06.24.19 15:34	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3093287 Matrix: Soil Date Prep: 06.22.19
Parent Sample Id: 628549-002 MS Sample Id: 628549-002 S MSD Sample Id: 628549-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	269	108	269	108	90-110	0	20	mg/kg	06.22.19 19:13	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3093287 Matrix: Soil Date Prep: 06.22.19
Parent Sample Id: 628569-001 MS Sample Id: 628569-001 S MSD Sample Id: 628569-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.865	252	257	102	257	102	90-110	0	20	mg/kg	06.22.19 20:55	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3093335 Matrix: Soil Date Prep: 06.22.19
Parent Sample Id: 628256-003 MS Sample Id: 628256-003 S MSD Sample Id: 628256-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.95	248	236	95	235	95	90-110	0	20	mg/kg	06.24.19 17:08	

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

QC Summary 628584

Tetra Tech- Midland

Momentum 36 State #1

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3093335 Matrix: Soil Date Prep: 06.22.19
Parent Sample Id: 628584-016 MS Sample Id: 628584-016 S MSD Sample Id: 628584-016 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	16.7	250	257	96	258	97	90-110	0	20	mg/kg	06.24.19 15:51	

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3093277 Matrix: Solid Date Prep: 06.22.19
MB Sample Id: 7680559-1-BLK LCS Sample Id: 7680559-1-BKS LCSD Sample Id: 7680559-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1090	109	1090	109	70-135	0	20	mg/kg	06.22.19 23:13	
Diesel Range Organics (DRO)	<8.13	1000	1100	110	1080	108	70-135	2	20	mg/kg	06.22.19 23:13	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		94		93		70-135	%	06.22.19 23:13
o-Terphenyl	97		87		87		70-135	%	06.22.19 23:13

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3093277 Matrix: Soil Date Prep: 06.22.19
Parent Sample Id: 628584-001 MS Sample Id: 628584-001 S MSD Sample Id: 628584-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	20.8	999	1020	100	981	96	70-135	4	20	mg/kg	06.23.19 00:29	
Diesel Range Organics (DRO)	228	999	1150	92	1170	95	70-135	2	20	mg/kg	06.23.19 00:29	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	87		84		70-135	%	06.23.19 00:29
o-Terphenyl	79		81		70-135	%	06.23.19 00:29

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

QC Summary 628584

Tetra Tech- Midland

Momentum 36 State #1

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3093930 Matrix: Solid Date Prep: 06.27.19
MB Sample Id: 7681025-1-BLK LCS Sample Id: 7681025-1-BKS LCSD Sample Id: 7681025-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	0.000471	0.100	0.0787	79	0.0890	89	70-130	12	35	mg/kg	06.27.19 22:15	
Toluene	0.000521	0.100	0.0852	85	0.0951	95	70-130	11	35	mg/kg	06.27.19 22:15	
Ethylbenzene	<0.000567	0.100	0.0914	91	0.102	102	70-130	11	35	mg/kg	06.27.19 22:15	
m,p-Xylenes	<0.00102	0.201	0.180	90	0.201	101	70-130	11	35	mg/kg	06.27.19 22:15	
o-Xylene	0.000441	0.100	0.0882	88	0.0981	98	70-130	11	35	mg/kg	06.27.19 22:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	94		93		95		70-130	%	06.27.19 22:15
4-Bromofluorobenzene	106		103		106		70-130	%	06.27.19 22:15

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3093930 Matrix: Soil Date Prep: 06.27.19
Parent Sample Id: 628584-001 MS Sample Id: 628584-001 S MSD Sample Id: 628584-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0906	91	0.0909	91	70-130	0	35	mg/kg	06.28.19 00:18	
Toluene	<0.000453	0.0994	0.0970	98	0.0962	96	70-130	1	35	mg/kg	06.28.19 00:18	
Ethylbenzene	<0.000561	0.0994	0.101	102	0.101	101	70-130	0	35	mg/kg	06.28.19 00:18	
m,p-Xylenes	<0.00101	0.199	0.204	103	0.198	99	70-130	3	35	mg/kg	06.28.19 00:18	
o-Xylene	0.000447	0.0994	0.0972	97	0.0955	95	70-130	2	35	mg/kg	06.28.19 00:18	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		97		70-130	%	06.28.19 00:18
4-Bromofluorobenzene	110		109		70-130	%	06.28.19 00:18

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

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

901W Wall Street, Ste 100
Midland, Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

628584

Client Name: COG

Site Manager: MIKE CARMONA

Project Name: Momentum 36 State #1

Project Location: (county, state) LEA CO, NM

Project #: PENDING

Invoice to: COG - IKE TAVAREZ

Receiving Laboratory: ~~CARDINAL~~ XENCO

Sampler Signature: CONNER MOEHRING

Comments:

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	PRESERVATIVE METHOD: None	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance				Hold
	Bottom Hole #1 (6")	6/19/19			X			X		1	N	X		X												X							
	Bottom Hole #2 (6")	6/19/19			X			X		1	N	X		X												X							
	Bottom Hole #3 (6")	6/19/19			X			X		1	N	X		X												X							
	Bottom Hole #4 (6")	6/19/19			X			X		1	N	X		X												X							
	Bottom Hole #5 (6")	6/19/19			X			X		1	N	X		X												X							
	Bottom Hole #6 (6")	6/20/19			X			X		1	N	X		X												X							
	Bottom Hole #7 (6")	6/20/19			X			X		1	N	X		X												X							
	Bottom Hole #8 (6")	6/20/19			X			X		1	N	X		X												X							
	Bottom Hole #9 (6")	6/20/19			X			X		1	N	X		X												X							
	Bottom Hole #10 (6")	6/20/19			X			X		1	N	X		X												X							

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Conner Moehring	6/20/19	15:55		6/20/19	15:55
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature

REMARKS:

- ☐ STANDARD CRM
- ☒ **RUSH:** Same Day 24 hr 48 hr 72 hr
- ☐ Rush Charges Authorized
- ☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

901W Wall Street, Ste 100
Midland, Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

428584

Client Name: COG
Site Manager: MIKE CARMONA
Project Name: MOMENTUM 36 St. #1
Project Location: (county, state) LEA CO, NM
Project #: Pending
Invoice to: COG - IKE TAVAREZ
Receiving Laboratory: Xenco
Sampler Signature: Conner Moehring
Comments:

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	# CONTAINERS	FILTERED (Y/N)
	Bottom Hole #11 (6")	6/20/19			X				X		2	1
	Bottom Hole #12 (6")				X				X		2	1
	Bottom Hole #13 (6")				X				X		2	1
	North #1 Sidewall				X				X		2	1
	East #1 Sidewall				X				X		2	1
	West #1 Sidewall				X				X		2	1
	South #1 Sidewall				X				X		2	1

ANALYSIS REQUEST (Circle or Specify Method No.)

BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance				Hold
X		X												X							
X		X												X							
X		X												X							
X		X												X							
X		X												X							
X		X												X							
X		X												X							

Relinquished by: Conner Moehring Date: 6/20/19 Time: 1555
Received by: Date: 6/20/19 Time: 15:55
Relinquished by: Date: Time:
Received by: Date: Time:
Relinquished by: Date: Time:
Received by: Date: Time:

LAB USE ONLY
Sample Temperature

REMARKS:
- ☐ STANDARD
- ☒ RUSH: Same Day 24 hr 48 hr (72 hr)
- ☐ Rush Charges Authorized
- ☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

ORIGINAL COPY

Inter-Office Shipment

IOS Number **41955**

Date/Time: 06/20/19 17:26
Created by: Elizabeth Mcclellan
Please send report to: Jessica Kramer

Lab# From: **Carlsbad**
Delivery Priority:
Address: 1089 N Canal Street

Lab# To: **Midland**
Air Bill No.:
E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
628584-001	S	Bottom Hole #1 (6")	06/19/19 00:00	E300_CL	Chloride by EPA 300	06/24/19	12/16/19	JKR	CL	
628584-001	S	Bottom Hole #1 (6")	06/19/19 00:00	SW8015MOD_NM	TPH By SW8015 Mod	06/24/19	07/03/19	JKR	PHCC10C28 PHCC28C35 I	
628584-001	S	Bottom Hole #1 (6")	06/19/19 00:00	SW8021B	BTEX by EPA 8021B	06/24/19	07/03/19	JKR	BR4FBZ BZ BZME EBZ X	
628584-002	S	Bottom Hole #2 (6")	06/19/19 00:00	SW8015MOD_NM	TPH By SW8015 Mod	06/24/19	07/03/19	JKR	PHCC10C28 PHCC28C35 I	
628584-002	S	Bottom Hole #2 (6")	06/19/19 00:00	E300_CL	Chloride by EPA 300	06/24/19	12/16/19	JKR	CL	
628584-002	S	Bottom Hole #2 (6")	06/19/19 00:00	SW8021B	BTEX by EPA 8021B	06/24/19	07/03/19	JKR	BR4FBZ BZ BZME EBZ X	
628584-003	S	Bottom Hole #3 (6")	06/19/19 00:00	E300_CL	Chloride by EPA 300	06/24/19	12/16/19	JKR	CL	
628584-003	S	Bottom Hole #3 (6")	06/19/19 00:00	SW8015MOD_NM	TPH By SW8015 Mod	06/24/19	07/03/19	JKR	PHCC10C28 PHCC28C35 I	
628584-003	S	Bottom Hole #3 (6")	06/19/19 00:00	SW8021B	BTEX by EPA 8021B	06/24/19	07/03/19	JKR	BR4FBZ BZ BZME EBZ X	
628584-004	S	Bottom Hole #4 (6")	06/19/19 00:00	E300_CL	Chloride by EPA 300	06/24/19	12/16/19	JKR	CL	
628584-004	S	Bottom Hole #4 (6")	06/19/19 00:00	SW8015MOD_NM	TPH By SW8015 Mod	06/24/19	07/03/19	JKR	PHCC10C28 PHCC28C35 I	
628584-004	S	Bottom Hole #4 (6")	06/19/19 00:00	SW8021B	BTEX by EPA 8021B	06/24/19	07/03/19	JKR	BR4FBZ BZ BZME EBZ X	
628584-005	S	Bottom Hole #5 (6")	06/19/19 00:00	SW8015MOD_NM	TPH By SW8015 Mod	06/24/19	07/03/19	JKR	PHCC10C28 PHCC28C35 I	
628584-005	S	Bottom Hole #5 (6")	06/19/19 00:00	SW8021B	BTEX by EPA 8021B	06/24/19	07/03/19	JKR	BR4FBZ BZ BZME EBZ X	
628584-005	S	Bottom Hole #5 (6")	06/19/19 00:00	E300_CL	Chloride by EPA 300	06/24/19	12/16/19	JKR	CL	
628584-006	S	Bottom Hole #6 (6")	06/20/19 00:00	E300_CL	Chloride by EPA 300	06/24/19	12/17/19	JKR	CL	
628584-006	S	Bottom Hole #6 (6")	06/20/19 00:00	SW8015MOD_NM	TPH By SW8015 Mod	06/24/19	07/04/19	JKR	PHCC10C28 PHCC28C35 I	
628584-006	S	Bottom Hole #6 (6")	06/20/19 00:00	SW8021B	BTEX by EPA 8021B	06/24/19	07/04/19	JKR	BR4FBZ BZ BZME EBZ X	
628584-007	S	Bottom Hole #7 (6")	06/20/19 00:00	SW8015MOD_NM	TPH By SW8015 Mod	06/24/19	07/04/19	JKR	PHCC10C28 PHCC28C35 I	
628584-007	S	Bottom Hole #7 (6")	06/20/19 00:00	E300_CL	Chloride by EPA 300	06/24/19	12/17/19	JKR	CL	
628584-007	S	Bottom Hole #7 (6")	06/20/19 00:00	SW8021B	BTEX by EPA 8021B	06/24/19	07/04/19	JKR	BR4FBZ BZ BZME EBZ X	
628584-008	S	Bottom Hole #8 (6")	06/20/19 00:00	E300_CL	Chloride by EPA 300	06/24/19	12/17/19	JKR	CL	
628584-008	S	Bottom Hole #8 (6")	06/20/19 00:00	SW8015MOD_NM	TPH By SW8015 Mod	06/24/19	07/04/19	JKR	PHCC10C28 PHCC28C35 I	
628584-008	S	Bottom Hole #8 (6")	06/20/19 00:00	SW8021B	BTEX by EPA 8021B	06/24/19	07/04/19	JKR	BR4FBZ BZ BZME EBZ X	
628584-009	S	Bottom Hole #9 (6")	06/20/19 00:00	SW8015MOD_NM	TPH By SW8015 Mod	06/24/19	07/04/19	JKR	PHCC10C28 PHCC28C35 I	

Inter-Office Shipment

IOS Number **41955**

Date/Time: 06/20/19 17:26
Created by: Elizabeth Mcclellan
Please send report to: Jessica Kramer

Lab# From: **Carlsbad**
Delivery Priority:
Address: 1089 N Canal Street

Lab# To: **Midland**
Air Bill No.:
E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
628584-009	S	Bottom Hole #9 (6")	06/20/19 00:00	SW8021B	BTEX by EPA 8021B	06/24/19	07/04/19	JKR	BR4FBZ BZ BZME EBZ X	
628584-009	S	Bottom Hole #9 (6")	06/20/19 00:00	E300_CL	Chloride by EPA 300	06/24/19	12/17/19	JKR	CL	
628584-010	S	Bottom Hole #10 (6")	06/20/19 00:00	SW8015MOD_NM	TPH By SW8015 Mod	06/24/19	07/04/19	JKR	PHCC10C28 PHCC28C35	
628584-010	S	Bottom Hole #10 (6")	06/20/19 00:00	E300_CL	Chloride by EPA 300	06/24/19	12/17/19	JKR	CL	
628584-010	S	Bottom Hole #10 (6")	06/20/19 00:00	SW8021B	BTEX by EPA 8021B	06/24/19	07/04/19	JKR	BR4FBZ BZ BZME EBZ X	
628584-011	S	Bottom Hole #11 (6")	06/20/19 00:00	SW8015MOD_NM	TPH By SW8015 Mod	06/24/19	07/04/19	JKR	PHCC10C28 PHCC28C35	
628584-011	S	Bottom Hole #11 (6")	06/20/19 00:00	E300_CL	Chloride by EPA 300	06/24/19	12/17/19	JKR	CL	
628584-011	S	Bottom Hole #11 (6")	06/20/19 00:00	SW8021B	BTEX by EPA 8021B	06/24/19	07/04/19	JKR	BR4FBZ BZ BZME EBZ X	
628584-012	S	Bottom Hole #12 (6")	06/20/19 00:00	SW8015MOD_NM	TPH By SW8015 Mod	06/24/19	07/04/19	JKR	PHCC10C28 PHCC28C35	
628584-012	S	Bottom Hole #12 (6")	06/20/19 00:00	SW8021B	BTEX by EPA 8021B	06/24/19	07/04/19	JKR	BR4FBZ BZ BZME EBZ X	
628584-012	S	Bottom Hole #12 (6")	06/20/19 00:00	E300_CL	Chloride by EPA 300	06/24/19	12/17/19	JKR	CL	
628584-013	S	Bottom Hole #13 (6")	06/20/19 00:00	SW8021B	BTEX by EPA 8021B	06/24/19	07/04/19	JKR	BR4FBZ BZ BZME EBZ X	
628584-013	S	Bottom Hole #13 (6")	06/20/19 00:00	E300_CL	Chloride by EPA 300	06/24/19	12/17/19	JKR	CL	
628584-013	S	Bottom Hole #13 (6")	06/20/19 00:00	SW8015MOD_NM	TPH By SW8015 Mod	06/24/19	07/04/19	JKR	PHCC10C28 PHCC28C35	
628584-014	S	North 1 Sidewall	06/20/19 00:00	E300_CL	Chloride by EPA 300	06/24/19	12/17/19	JKR	CL	
628584-014	S	North 1 Sidewall	06/20/19 00:00	SW8015MOD_NM	TPH By SW8015 Mod	06/24/19	07/04/19	JKR	PHCC10C28 PHCC28C35	
628584-014	S	North 1 Sidewall	06/20/19 00:00	SW8021B	BTEX by EPA 8021B	06/24/19	07/04/19	JKR	BR4FBZ BZ BZME EBZ X	
628584-015	S	East #1 Sidewall	06/20/19 00:00	SW8021B	BTEX by EPA 8021B	06/24/19	07/04/19	JKR	BR4FBZ BZ BZME EBZ X	
628584-015	S	East #1 Sidewall	06/20/19 00:00	SW8015MOD_NM	TPH By SW8015 Mod	06/24/19	07/04/19	JKR	PHCC10C28 PHCC28C35	
628584-015	S	East #1 Sidewall	06/20/19 00:00	E300_CL	Chloride by EPA 300	06/24/19	12/17/19	JKR	CL	
628584-016	S	West #1 Sidewall	06/20/19 00:00	SW8021B	BTEX by EPA 8021B	06/24/19	07/04/19	JKR	BR4FBZ BZ BZME EBZ X	
628584-016	S	West #1 Sidewall	06/20/19 00:00	SW8015MOD_NM	TPH By SW8015 Mod	06/24/19	07/04/19	JKR	PHCC10C28 PHCC28C35	
628584-016	S	West #1 Sidewall	06/20/19 00:00	E300_CL	Chloride by EPA 300	06/24/19	12/17/19	JKR	CL	
628584-017	S	South #1 Sidewall	06/20/19 00:00	E300_CL	Chloride by EPA 300	06/24/19	12/17/19	JKR	CL	
628584-017	S	South #1 Sidewall	06/20/19 00:00	SW8015MOD_NM	TPH By SW8015 Mod	06/24/19	07/04/19	JKR	PHCC10C28 PHCC28C35	

Inter Office Shipment or Sample Comments:

Inter-Office Shipment

IOS Number **41955**

Date/Time: 06/20/19 17:26
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.:

Please send report to: Jessica Kramer
Address: 1089 N Canal Street
E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
628584-017	S	South #1 Sidewall	06/20/19 00:00	SW8021B	BTEX by EPA 8021B	06/24/19	07/04/19	JKR	BR4FBZ BZ BZME EBZ X	

Inter Office Shipment or Sample Comments:

Relinquished By: Elizabeth McClellan
Date Relinquished: 06/20/2019

Received By: Brianna Teel
Date Received: 06/21/2019 07:33
Cooler Temperature: 0.4

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 41955

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used : R8

Sent By: Elizabeth McClellan **Date Sent:** 06/20/2019 05:26 PM

Received By: Brianna Teel **Date Received:** 06/21/2019 07:33 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	.4	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 *Custody Seals Signed and dated for Containers/coolers	**N/A**	
#6 *IOS present?	**Yes**	
#7 Any missing/extra samples?	**No**	
#8 IOS agrees with sample label(s)/matrix?	**Yes**	
#9 Sample matrix/ properties agree with IOS?	**Yes**	
#10 Samples in proper container/ bottle?	**Yes**	
#11 Samples properly preserved?	**Yes**	
#12 Sample container(s) intact?	**Yes**	
#13 Sufficient sample amount for indicated test(s)?	**Yes**	
#14 All samples received within hold time?	**Yes**	

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ **Contacted by :** _____ **Date:** _____

Checklist reviewed by: Brianna Teel Date: 06/21/2019

Brianna Teel

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 06/20/2019 05:00:35 PM

Work Order #: 628584

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	7.8	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	Chilling in progress
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 Custody Seals intact on sample bottles?	**N/A**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**Yes**	Sub to Xenco Midland
#18 Water VOC samples have zero headspace?	**N/A**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 06/20/2019

Checklist reviewed by: Jessica Kramer Date: 06/20/2019

Jessica Kramer