TETRA TECH

February 10, 2022

Mr. Mike Bratcher
District Supervisor
Oil Conservation Division, District 2
811 S. First Street
Artesia, New Mexico 88210

Re: Closure Report
ConocoPhillips
Heritage Concho
Big Papi Federal Com #2H Release
Unit Letter C, Section 4, Township 26 South, Range 29 East
Eddy County, New Mexico
Incident # NAB1922035506
2RP-5562

Dear Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by ConocoPhillips (Heritage Concho) to assess a flowline release that occurred from a flow line associated with the Big Papi Federal Com #2H well (API #30-015-37833), within Unit Letter C, Section 4, Township 26 South, Range 29 East, in Eddy County, New Mexico (Site). The approximate release site coordinates are 32.077580°, -103.991414°. The Site location is shown on Figures 1 and 2.

BACKGROUND

According to the State of New Mexico C-141 Initial Report (Appendix A), a release occurred from the Big Papi Federal Com #2H flowline on July 12, 2019. The release was caused by a flowline rupture. Approximately 240 barrels (bbls) of produced water were released, of which none were reported recovered. The release occurred behind the tank battery in the pasture and migrated into the wash/draw impacting areas measuring approximately 65’ x 40’ and 1,290’ x 15’.

The New Mexico Oil Conservation District (NMOCD) received the C-141 report form for the release on August 8, 2019 and subsequently assigned the Site the Remediation Permit (RP) number 2RP-5562 and Incident Identification (ID) NAB1922035506.

SITE CHARACTERIZATION

A Site characterization was performed for the site, and no 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. However, the site is in a medium karst potential area and migrated into a draw. Also, a watercourse is located within 300’ of the site, according to the USGS topographic map.

The nearest water well is listed on the New Mexico State Engineer’s (NMOSE) database, approximately 1.50 miles southwest of the site, and has a reported depth to groundwater of 78’ below surface. According

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to the Chevron Texaco Groundwater Trend map, the average depth to groundwater in the area is approximately 125' below surface. The site characterization data is included in Appendix B.

The remediation action levels proposed for the site are largely dependent upon depth to groundwater. As such, the OCD focuses on accurate depth to groundwater estimates. 19.15.11(A)(2) NMAC allows for various means of determining depth to groundwater, including the drilling of groundwater determination boreholes. Therefore, one determination bore was drilled as a portion of the release characterization for this incident. On May 11, 2021, Tetra Tech field personnel met Scarborough Drilling on-site, and supervised the drilling of a groundwater determination borehole, utilizing the air rotary method. The total depth of the determination bore was fifty-seven (57') feet below grade surface. Approximately 20' of screening was placed from thirty-seven to fifty-seven feet downhole, and the borehole was subsequently plugged with 3/8" bentonite chips. The borehole coordinates are approximately 32.07756°, -103.99097°. No groundwater was encountered during drilling operations. The boring log associated with the completed boring is included in Appendix B. The remainder of the site characterization data associated with the Site is also included in Appendix B.

REGULATORY FRAMEWORK

Initially, a risk-based evaluation was performed for the site following 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.

Based upon the release footprint and in accordance with Subsection E of 19.15.29.12 NMAC, per 19.15.29.11 NMAC, the site characterization data was used to determine recommended remedial action levels (RRALs) for benzene, toluene, ethylbenzene, and xylene (collectively referred to as BTEX), total petroleum hydrocarbons (TPH), and chlorides in soil.

Based on the site characterization and in accordance with Table I of 19.15.29.12 NMAC, the RRALs for the Site are as follows:

Constituent	Site RRALs
Chloride	600 mg/kg
TPH	100 mg/kg
BTEX	50 mg/kg

The Site is located on BLM land. Correspondence with the BLM regarding the incident is located in Appendix B.

INITIAL SITE ASSESSMENT AND SAMPLING RESULTS

On July 25, 2019, Tetra Tech personnel were onsite to evaluate and sample the release area. A total of fourteen (14) hand auger holes, AH-1 through AH-14, were installed in the pasture area and draw area to total depths ranging from surface to 2.5' below surface. Selected soil samples were collected and submitted to the laboratory for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B, and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The sample locations are shown on Figures 3.

One auger hole, AH-1, was installed at the top of the draw to a total depth of 0-0.5' below surface. The remaining auger holes, AH-2 through AH-14, were installed within the washout/draw area itself.

Table 1 provides a summary of the analytical results from the assessment sampling event in July 2019. The analytical results associated with AH-9 and AH-11 exceeded RRALs with TPH concentrations of 719 mg/kg and 1,020 mg/kg, respectively. The remainder of the analytical results were below RRALs for TPH and BTEX.

Analytical results associated with AH-1 exceeded the RRAL for chloride at a depth of 0-0.5' below surface. Deeper samples were not collected due to auger refusal in the subsurface lithified material. Analytical results associated with the remaining auger holes, AH-2 through AH-14, in the draw all exceeded RRALs in the upper two feet.

INTERIM REMEDIATION AND CONFIRMATION SAMPLING RESULTS

On August 8 through 13, 2019, Tetra Tech personnel were onsite to remediate the pasture area in the northern portion of the footprint and portions of the wash/draw area to the maximum extent practical. Due to limited access, the BLM requested the draw area be flushed with clean freshwater using a power washer to washout the visual staining and chlorides from the draw. In addition, all the fluids generated during the washing would be captured and properly disposed of. However, no fluids were generated during the washing due to the sandy formation at the bottom of the draw.

The area around AH-1 was excavated to a depth of 6.0' below surface and the floor of the excavation was subsequently sampled as Bottom Hole 2 and Bottom Hole 3. The area around AH-2 was excavated to a depth of 4.0' and the floor of the excavation was subsequently sampled as Bottom Hole 1. Deeper samples were not collected due to the lithified material encountered at the excavation floor.

In total, three (3) bottom hole confirmation samples and six (6) sidewall confirmation samples were collected to ensure proper removal of the impacted soils to the maximum extent possible. 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 excavation depths and sample locations are shown on Figure 4.

Table 2 provides a summary of the confirmation sampling results. All analytical results associated with the collected confirmation samples were below the RRALs for TPH and BTEX. However, the analytical results associated with Bottom Hole 1 were above the RRAL for chloride at 4.0' below surface. This area was excavated to the maximum extent practicable, due to the lithified strata in the subsurface. The sidewall samples collected, NSW, WSW-1, and ESW-2, were below the RRALs for TPH, chloride and BTEX. However, In the area near the draw, sidewalls WSW-2, SSW-1 and ESW-1 exceeded RRALs for chloride. These locations were not further remediated due to the anticipated and unavoidable alteration to the natural course of the draw. This sidewall location connected to the draw, which severely limited access and further remediation in the area. Copies of analytical reports and chain-of-custody documentation are included in Appendix C. Approximately 200 cubic yards of material were excavated and transported offsite to a NMOCD approved disposal facility. The area was then backfilled with clean material to surface grade.

MONITORING WORK PLAN

A Proposed Monitoring Work Plan was prepared by Tetra Tech on behalf of COG and submitted to the NMOCD. The report described the assessment activities, the remediation activities, and the results. The work plan was approved by Robert Hamlet of the NMOCD via email on Wednesday, April 15, 2020.

Conditional approval items included were:

This Workplan/Remediation proposal is approved with the following conditions:

- *Monitor the draw area and collect samples quarterly for remainder of the calendar year.*

- *Excavate sidewall sample point SSW-1 as far permissible without effecting the integrity of the draw or the immediate access to the draw. If this has been accomplished, please outline the work completed in the closure report*

- *If a catchment/sump system cannot be set up at the bottom of the draw, pull samples near this area and include analytical results in closure report.*

- *Please communicate results to OCD at year end and let us know if you have any questions.*

ADDITIONAL SITE MONITORING AND SAMPLING RESULTS

In order to meet the requirements of the Monitoring Plan and duly address the conditions of approval stipulated by NMOCD, Tetra Tech began conducting routine sampling assessments as part of the aforementioned monitoring plan established for the Site.

Routine Monitoring in 2020

Tetra Tech performed the first monitoring event on February 12, 2020, to evaluate the draw area of the Site and assess chloride concentration levels. The sampling results are summarized in Table 3. As illustrated in Table 3, the areas of auger holes AH-2 through AH-14 in the draw were resampled to total depths ranging from surface to 2.5' below surface. The soil samples were collected and submitted to the laboratory for chloride by EPA method 300.0. Copies of analytical reports and chain-of-custody documentation are included in Appendix C.

Analytical results associated with the areas of auger holes AH-2, AH-3, and AH-6 through AH-14 were below RRALs. However, the area of AH-4 and AH-5 exceeded the RRALs for chloride. Deeper samples were not collected due to auger refusal in the subsurface lithified material for the areas of AH-4 and AH-5.

On May 1, 2020, Tetra Tech performed the second monitoring event to evaluate the draw area and monitor the chloride concentrations. The sampling results are summarized in Table 3. Analytical results associated with AH-2 through AH-14 location in the draw were resampled to total depths ranging from surface to 2.5' below surface. The soil samples were collected and submitted to the laboratory for chloride by EPA method 300.0. Copies of analytical reports and chain-of-custody documentation are included in Appendix C.

Analytical results associated with the the areas of auger holes AH-3, AH-4, and AH-7 through AH-14, had chloride concentrations all below RRALs. The area of AH-2 exceeded RRALs with a chloride concentration of 1,850 mg/kg at surface to 1.0' below surface but was below RRAL for chloride at 1.0'-1.5'. The analytical results associated with AH-5 exceeded RRALs for chloride. Analytical results associated with AH-6 also exceeded RRALs for chloride.

On August 19, 2020, Tetra Tech performed the third monitoring event to evaluate the draw area and monitor both chloride and TPH concentrations. The areas of Bottom Hole-1 and SSW-1 were also re-evaluated, per an email from the BLM dated March 9, 2020. The sampling results are summarized in Table 3. The analytical results associated with Table 3, indicate the areas of AH-4, AH-5, AH-6, AH-9, and AH-11 were resampled to total depths ranging from surface to 2.5' below surface. The soil samples were collected and submitted to the laboratory for chloride by EPA method 300.0. Auger holes AH-9 and AH-11 were also analyzed for TPH method 8015 extended.

Analytical results associated with auger holes AH-4, AH-5, and AH-6 exceeded RRALs for chloride. The analytical results associated with auger holes AH-9 and AH-11 were below RRAL for TPH with concentrations of <50.0 mg/kg at surface to 0.5'. Deeper samples were not collected due to auger refusal in the subsurface lithified material in the areas of AH-4, AH-5, and AH-6.

MONITORING WORK PLAN (CONTINUED)

On December 17, 2020, Tetra Tech submitted an additional monitoring plan to OCD that was received on December 19, 2020. The proposed plan called for the continued sampling in 2021 of the areas of AH-4, AH-5, and AH-6 until chloride concentrations no longer exceeded the RRALs of 600 mg/kg for chloride. Upon successful completion, a closure report could then be drafted and submitted for approval.

Routine Monitoring in 2021

On May 5, 2021, Tetra Tech performed a fourth monitoring event, the first of the 2021 calendar year, to evaluate the draw area and monitor chloride concentrations. The areas of auger holes AH-4, AH-5, and AH-6 were resampled to total depths ranging from 1.0'-2.5' below surface. The soil samples were collected and submitted to the laboratory for chloride by EPA method 300.0. The sampling results are summarized in Table 4.

The analytical results associated with AH-4 were below RRALs at the surface to 1.0', with a concentration of 222 mg/kg, above RRALs at 1.0'-1.5' with a concentration of 681 mg/kg, and again below RRALs at 1.5'-2.0' below surface with a value of 524 mg/kg. The analytical results associated with AH-5 exceeded RRALs with chloride concentrations of 1,710 mg/kg from surface to 1.0', 1,950 mg/kg at 1.0'-1.5', and 5,960 mg/kg from 2.0' to 2.5' below surface. Analytical results associated with AH-6 were below RRAL for chloride and had a measured chloride concentration of 583 mg/kg from surface to 1.0' depth.

On December 12, 2021, Tetra Tech performed a fifth monitoring event to evaluate the draw area and monitor chloride concentrations. The areas of AH-4, AH-5, and AH-6 were resampled to total depths ranging from 1.5' to 2.0' below surface. The soil samples were collected and submitted to the laboratory for chloride by EPA method 300.0. The sampling results are summarized in Table 4.

The analytical results associated with the areas of auger holes AH-4, AH-5, and AH-6 were below RRALs for chloride, with concentrations ranging from 25 mg/kg to 274 mg/kg. The sample locations are shown in Figure 3.

CONCLUSION

Based on the assessment, remedial activities and subsequent monitoring activities performed, COP requests closure of this incident. The final C-141 is enclosed in Appendix A.

If you have any questions concerning the soil assessment or the remediation activities for the Site, please call me at (432) 250-9943.

Sincerely,
Tetra Tech, Inc.

Colton Bickerstaff
Project Manager

cc:
Ms. Jacqui Harris, GPBU - ConocoPhillips
Mr. Charles Beauvais, GPBU - ConocoPhillips

List of Attachments

Figures:

- Figure 1 – Site Overview Map
- Figure 2 – Site Topographic Map
- Figure 3 – Release Assessment Map
- Figure 4 – Proposed Remediation Extents

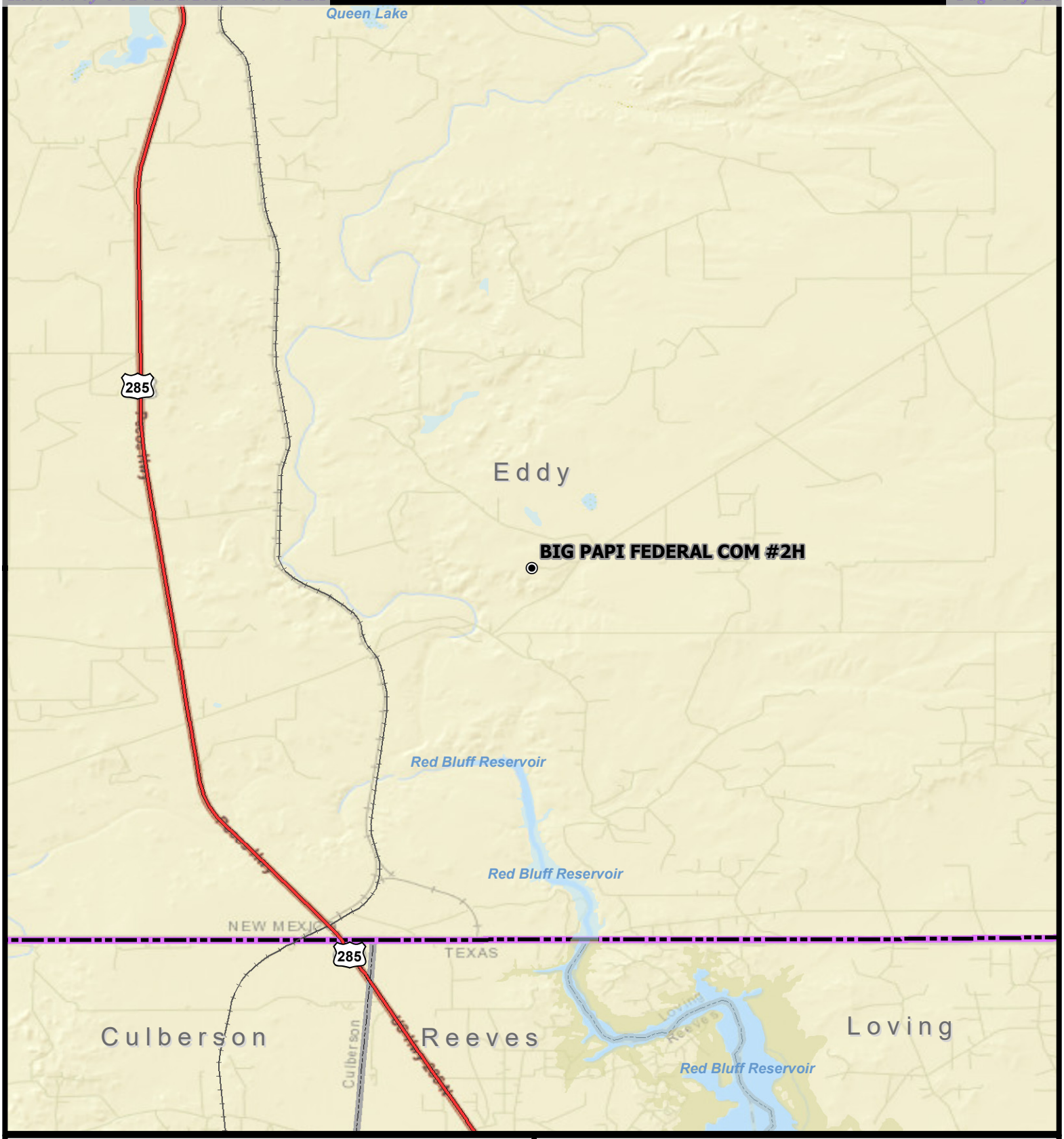
Tables:

- Table 1 – Summary of Analytical Results – Initial Soil Assessment
- Table 2 – Summary of Analytical Results – Remediation Confirmation Sampling
- Table 3 – Summary of Analytical Results – 2020 Monitoring Plan
- Table 4 – Summary of Analytical Results – 2021 Monitoring Plan

Appendices:

- Appendix A – C-141 Forms
- Appendix B – Site Characterization Data
- Appendix C – Laboratory Analytical Reports
- Appendix D – Photographic Documentation

FIGURES



SITE LOCATION

N
W
E
S

0 4,954 9,908

Approximate Scale in Feet

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

STATE LOCATOR MAP

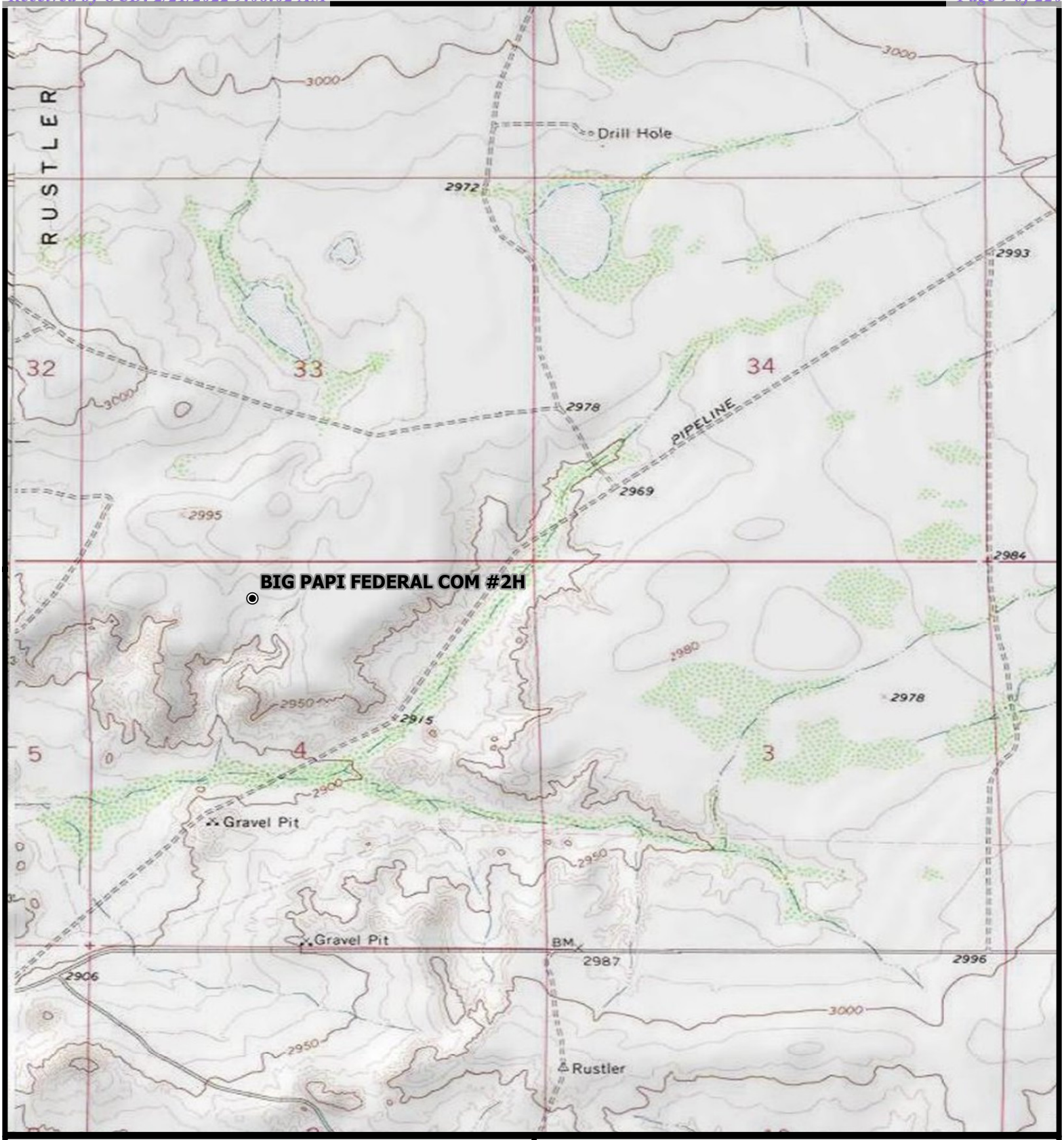
OVERVIEW MAP
BIG PAPI FEDERAL COM #2H
Property Located at coordinates 32.077580°,-103.991414°
EDDY COUNTY, NEW MEXICO

CONCHO

Project #:
212C-MD-01855
Date: 10/14/2019

FIGURE
1

Document Path: H:\GIS\CONCHO RESOURCES - COG\212C-MD-01855 BIG PAPI FEDERAL COM #2H\MXD\212C-MD-01855 BIG PAPI FEDERAL COM #2H FIG. 1.mxd



SITE LOCATION

N
W
E
S

0 900 1,800

Approximate Scale in Feet

Service Layer Credits: Copyright:© 2013 National Geographic Society, i-cubed

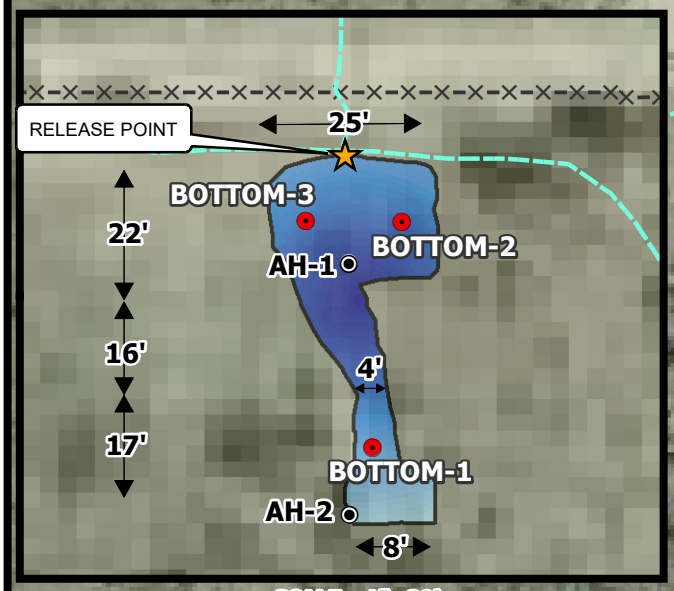
TOPOGRAPHIC MAP
BIG PAPI FEDERAL COM #2H
Property Located at coordinates 32.077580°,-103.991414°
EDDY COUNTY, NEW MEXICO

CONCHO

Project #:
212C-MD-01855
Date: 10/14/2019

FIGURE
2

Document Path: H:\GIS\CONCHO RESOURCES - COG\212C-MD-01855 BIG PAPI FEDERAL COM #2H\MXD\212C-MD-01855 BIG PAPI FEDERAL COM #2H FIG. 2.mxd



AH-1
AH-2
AH-3
AH-4
AH-5
AH-6
AH-7
AH-8
AH-9
AH-10
AH-11
AH-12
AH-13
AH-14

BORE HOLE/TRENCH/AUGERHOLE SAMPLE DESIGNATIONS	LATITUDE	LONGITUDE
BH-1	32.077088	-103.991435
BH-2	32.077201	-103.991422
BH-3	32.077202	-103.991461
T-1	32.077201	-103.99144
T-2	32.077119	-103.991432
AH-1	32.077182°	-103.991443°
AH-2	32.077074°	-103.991443°
AH-3	32.076870°	-103.991412°
AH-4	32.076639°	-103.991428°
AH-5	32.076427°	-103.991353°
AH-6	32.076159°	-103.991326°
AH-7	32.075970°	-103.991227°
AH-8	32.075813°	-103.991426°
AH-9	32.075562°	-103.991386°
AH-10	32.075357°	-103.991381°
AH-11	32.075182°	-103.991494°
AH-12	32.075189°	-103.991717°
AH-13	32.075094°	-103.992039°
AH-14	32.075053°	-103.992100°

BOTTOM HOLE SAMPLE LOCATION
AUGERHOLE SAMPLE LOCATIONS
SOURCE
FLOWLINE
FENCELINE
AFFECTED SPILL AREA

N
W
E
S

0 60 120
Approximate Scale in Feet

Source: "New Mexico". 32° 4'39.29"N, 103°59'29.09"W. **Google Earth**. February 2019.October 14,2019.

SPILL ASSESSMENT MAP
BIG PAPI FEDERAL COM #2H
Property Located at coordinates 32.077580°,-103.991414°
EDDY COUNTY, NEW MEXICO

CONCHO

Project #:
212C-MD-01855
Date: 01-09-2020

FIGURE
3

Date: 3/5/2020 Document Path: H:\GIS\CONCHO RESOURCES - COG\212C-MD-01855 BIG PAPI FEDERAL COM #2H\MXD\212C-MD-01855 BIG PAPI FEDERAL COM #2H FIG. 3a.mxd

BOTTOM HOLE SAMPLE LOCATION
SIDEWALL SAMPLE LOCATION
FENCELINE
FLOWLINE
4.0' EXCAVATED DEPTH AREA
6.0' EXCAVATED DEPTH AREA

N
W E
S

0 10 20
Approximate Scale in Feet

Source: "New Mexico". 32° 4'39.29"N, 103°59'29.09"W. **Google Earth**. February 2019.October 14,2019.

EXCAVATION AREA & DEPTH MAP
BIG PAPI FEDERAL COM #2H
Property Located at coordinates 32.077580°,-103.991414°
EDDY COUNTY, NEW MEXICO

CONCHO

Project #:
212C-MD-01855
Date: 10/14/2019

FIGURE
4

Date: 3/6/2020 Document Path: H:\GIS\CONCHO RESOURCES - COG\212C-MD-01855 BIG PAPI FEDERAL COM #2H\MXD\212C-MD-01855 BIG PAPI FEDERAL COM #2H FIG. 4.mxd

TABLES

Table 1- Initial Site Assessment
ConocoPhillips (hCXO)
Big Papi Federal Com #002H- NAB1922035506
Eddy County, New Mexico

Sample ID	Sample Date	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	MRO	Total						
AH-1	7/25/2019	0-0.5	X		<15.0	36.7	<15.0	36.7	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	**20,700**
AH-2	7/25/2019	0-0.5	X		<15.0	22.8	<15.0	22.8	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	**13,300**
AH-3	7/25/2019	0-1	X		<14.9	<14.9	<14.9	<14.9	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	**15,600**
AH-4	7/25/2019	0-1	X		<15.0	27.6	<15.0	27.6	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	**14,400**
	7/25/2019	1-1.5	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	**9,810**
	7/25/2019	1.5-2	X		<15.0	<15.0	<15.0	<15.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	**8,450**
AH-5	7/25/2019	0-1	X		<15.0	<15.0	<15.0	<15.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	**11,300**
	7/25/2019	1-1.5	X		<15.0	<15.0	<15.0	<15.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	**5,000**
	7/25/2019	2-2.5	X		<15.0	<15.0	<15.0	<15.0	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	**1,250**
AH-6	7/25/2019	0-1	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	**9,240**
AH-7	7/25/2019	0.5	X		18.9	50.5	<15.0	69.4	0.00345	<0.00198	<0.00198	0.00842	0.0119	**15,700**
AH-8	7/25/2019	0.5	X		<15.0	29.9	<15.0	29.9	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	**14,000**
AH-9	7/25/2019	0.5	X		**147**	**523**	**49.4**	**719**	0.0200	0.00522	0.0446	0.154	0.223	**15,400**
AH-10	7/25/2019	0.5	X		<15.0	37.8	<15.0	37.8	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	**12,600**
AH-11	7/25/2019	0.5	X		**38.2**	**903**	**76.7**	**1,020**	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	**13,700**
AH-12	7/25/2019	0.5	X		<15.0	170	26.2	196	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	**13,300**
AH-13	7/25/2019	0.5	X		<15.0	<15.0	<15.0	<15.0	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	**17,200**
AH-14	7/25/2019	0.5	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	12.5

Table 2- Remediation Confirmation Sampling
ConocoPhillips (hCXO)
Big Papi Federal Com #002H- NAB1922035506
Eddy County, New Mexico

Sample ID	Sample Date	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	MRO	Total						
Background Trench	8/8/2019	0-1	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	16.0
	8/8/2019	2	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	16.0
Bottom Hole 1	8/8/2019	4	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	**2,480**
Bottom Hole 2	8/8/2019	4	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	**960**
	8/13/2019	6	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	112
Bottom Hole 3	8/8/2019	4	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	512
	8/13/2019	6	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	144
North 1 Sidewall	8/8/2019	-	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	592
South 1 Sidewall	8/8/2019	-	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	**7,520**
West Sidewall 1	8/8/2019	-	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	272
West Sidewall 2	8/8/2019	-	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	**1,250**
East Sidewall 1	8/8/2019	-	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	**1,500**
East Sidewall 2	8/8/2019	-	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	64.0
	8/13/2019	-	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	48.0

Table 3- 2020 Monitoring Plan
ConocoPhillips (hCXO)
Big Papi Federal Com #002H- NAB1922035506
Eddy County, New Mexico

Sample ID	Sample Date	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	MRO	Total						
AH-2	2/12/2020	0-1	X		-	-	-	-	-	-	-	-	-	67.4
	2/12/2020	1-1.5	X		-	-	-	-	-	-	-	-	-	197
	5/1/2020	0-1	X		-	-	-	-	-	-	-	-	-	**1,850**
	5/1/2020	1-1.5	X		-	-	-	-	-	-	-	-	-	280
AH-3	2/12/2020	0-1	X		-	-	-	-	-	-	-	-	-	248
	5/1/2020	0-1	X		-	-	-	-	-	-	-	-	-	18.5
AH-4	2/12/2020	0-1	X		-	-	-	-	-	-	-	-	-	142
	2/12/2020	1-1.5	X		-	-	-	-	-	-	-	-	-	189
	2/12/2020	1.5-2	X		-	-	-	-	-	-	-	-	-	**607**
	5/1/2020	0-1	X		-	-	-	-	-	-	-	-	-	54.2
	5/1/2020	1-1.5	X		-	-	-	-	-	-	-	-	-	149
	5/1/2020	1.5-2	X		-	-	-	-	-	-	-	-	-	335
	8/19/2020	0-1	X		-	-	-	-	-	-	-	-	-	**3,030**
	8/19/2020	1-1.5	X		-	-	-	-	-	-	-	-	-	**5,010**
	8/19/2020	1.5-2	X		-	-	-	-	-	-	-	-	-	**3,150**
AH-5	2/12/2020	0-1	X		-	-	-	-	-	-	-	-	-	**624**
	2/12/2020	1-1.5	X		-	-	-	-	-	-	-	-	-	**823**
	2/12/2020	2-2.5	X		-	-	-	-	-	-	-	-	-	**1,040**
	5/1/2020	0-1	X		-	-	-	-	-	-	-	-	-	**902**
	5/1/2020	1-1.5	X		-	-	-	-	-	-	-	-	-	**1,250**
	5/1/2020	2-2.5	X		-	-	-	-	-	-	-	-	-	**7,770**
	8/19/2020	0-1	X		-	-	-	-	-	-	-	-	-	**1,930**
	8/19/2020	1-1.5	X		-	-	-	-	-	-	-	-	-	**1,670**
	8/19/2020	2-2.5	X		-	-	-	-	-	-	-	-	-	**1,630**
AH-6	2/12/2020	0-1	X		-	-	-	-	-	-	-	-	-	310
	5/1/2020	0-1	X		-	-	-	-	-	-	-	-	-	**977**
	8/19/2020	0-1	X		-	-	-	-	-	-	-	-	-	**622**
AH-7	2/12/2020	0.5	X		-	-	-	-	-	-	-	-	-	69.7
	5/1/2020	0.5	X		-	-	-	-	-	-	-	-	-	28.3

Table 3- 2020 Monitoring Plan
ConocoPhillips (hCXO)
Big Papi Federal Com #002H- NAB1922035506
Eddy County, New Mexico

Sample ID	Sample Date	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	MRO	Total						
AH-8	2/12/2020	0.5	X		-	-	-	-	-	-	-	-	-	<9.92
	5/1/2020	0.5	X		-	-	-	-	-	-	-	-	-	25.8
AH-9	2/12/2020	0.5	X		-	-	-	-	-	-	-	-	-	29.1
	5/1/2020	0.5	X		-	-	-	-	-	-	-	-	-	37.5
	8/19/2020	0.5	X		<50.0	<50.0	<50.0	<50.0	-	-	-	-	-	-
AH-10	2/12/2020	0.5	X		-	-	-	-	-	-	-	-	-	99.2
	5/1/2020	0.5	X		-	-	-	-	-	-	-	-	-	382
AH-11	2/12/2020	0.5	X		-	-	-	-	-	-	-	-	-	160
	5/1/2020	0.5	X		-	-	-	-	-	-	-	-	-	277
	8/19/2020	0.5	X		<50.0	<50.0	<50.0	<50.0	-	-	-	-	-	-
AH-12	2/12/2020	0.5	X		-	-	-	-	-	-	-	-	-	34.4
	5/1/2020	0.5	X		-	-	-	-	-	-	-	-	-	23.6
AH-13	2/12/2020	0.5	X		-	-	-	-	-	-	-	-	-	29.6
	5/1/2020	0.5	X		-	-	-	-	-	-	-	-	-	12.7
AH-14	2/12/2020	0.5	X		-	-	-	-	-	-	-	-	-	15.3
	5/1/2020	0.5	X		-	-	-	-	-	-	-	-	-	41.1
South 1 Sidewall	8/19/2020	-	X		-	-	-	-	-	-	-	-	-	130
Bottom Hole 1	8/19/2020	0-1	X		-	-	-	-	-	-	-	-	-	122
	8/19/2020	1-1.5	X		-	-	-	-	-	-	-	-	-	219
	8/19/2020	2-2.5	X		-	-	-	-	-	-	-	-	-	35.1
	8/19/2020	3-3.5	X		-	-	-	-	-	-	-	-	-	33.4
	8/19/2020	3.5-4	X		-	-	-	-	-	-	-	-	-	<10.0

Table 4- 2021 Monitoring Plan
ConocoPhillips (hCXO)
Big Papi Federal Com #002H- NAB1922035506
Eddy County, New Mexico

Sample ID	Sample Date	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	MRO	Total						
AH-4	5/5/2021	0-1	X		-	-	-	-	-	-	-	-	-	222
	5/5/2021	1-1.5	X		-	-	-	-	-	-	-	-	-	**681**
	5/5/2021	1.5-2	X		-	-	-	-	-	-	-	-	-	524
	12/22/2021	0-1	X		-	-	-	-	-	-	-	-	-	47
	12/22/2021	1-1.5	X		-	-	-	-	-	-	-	-	-	274
	12/22/2021	1.5-2	X		-	-	-	-	-	-	-	-	-	100
AH-5	5/5/2021	0-1	X		-	-	-	-	-	-	-	-	-	**1,710**
	5/5/2021	1-1.5	X		-	-	-	-	-	-	-	-	-	**1,950**
	5/5/2021	2-2.5	X		-	-	-	-	-	-	-	-	-	**5,960**
	12/22/2021	0-1	X		-	-	-	-	-	-	-	-	-	24.8
	12/22/2021	1-1.5	X		-	-	-	-	-	-	-	-	-	72.2
	12/22/2021	1.5-2	X		-	-	-	-	-	-	-	-	-	228
AH-6	5/5/2021	0-1	X		-	-	-	-	-	-	-	-	-	583
	12/22/2021	0-1	X		-	-	-	-	-	-	-	-	-	31.1
	12/22/2021	1-1.5	X		-	-	-	-	-	-	-	-	-	47.5

APPENDIX A
C-141 Forms

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	NAB1922035506
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 32.07719 Longitude -103.99144
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Big Papi Federal Com #002H	Site Type	Flowline
Date Release Discovered	July 12, 2019	API# *(if applicable)*	

Unit Letter	Section	Township	Range	County
C	04	26S	29E	Eddy

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)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 240	Volume Recovered (bbls) 0
	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 by a ruptured flowline. The flowline is being repaired.
The release was in the pasture. A vacuum truck was dispatched to remove all freestanding fluids. Concho will evaluate the site to determine if we may commence remediation immediately or delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NAB1922035506
District RP	
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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 Rebecca Haskell via e-mail July 12, 2019 at 2:44 pm to Mike Bratcher and Jim Amos.

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: 7/19/2019

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

OCD Only

Received by: _____ Date: _____

****** LIQUID SPILLS - VOLUME CALCULATIONS ******

Location of spill: Big Papi Federal Com #2H **Date of Spill:** 12-Jul-2019

If the leak/spill is associated with production equipment, i.e. - wellhead, stuffing box, flowline, tank battery, production vessel, transfer pump, or storage tank **place an "X" here:** X

Input Data:

	OIL:	WATER:
If spill volumes from measurement, i.e. metering, tank volumes, etc. are known enter the volumes here:	0.0 BBL	0.0 BBL

If "known" spill volumes are given, input data for the following "Area Calculations" is optional. The above will override the calculated volumes.

Total Area Calculations

Total Surface Area	width		length		wet soil depth	oil (%)
Rectangle Area #1	20 ft	X	1,445 ft	X	4.00 in	0%
Rectangle Area #2	0 ft	X	0 ft	X	0 in	0%
Rectangle Area #3	0 ft	X	0 ft	X	0 in	0%
Rectangle Area #4	0 ft	X	0 ft	X	0 in	0%
Rectangle Area #5	0 ft	X	0 ft	X	0 in	0%
Rectangle Area #6	0 ft	X	0 ft	X	0 in	0%
Rectangle Area #7	0 ft	X	0 ft	X	0 in	0%
Rectangle Area #8	0 ft	X	0 ft	X	0 in	0%

Standing Liquid Calculations

Standing Liquid Area	width		length		liquid depth	oil (%)
Rectangle Area #1	0 ft	X	0 ft	X	0 in	0%
Rectangle Area #2	0 ft	X	0 ft	X	0 in	0%
Rectangle Area #3	0 ft	X	0 ft	X	0 in	0%
Rectangle Area #4	0 ft	X	0 ft	X	0 in	0%
Rectangle Area #5	0 ft	X	0 ft	X	0 in	0%
Rectangle Area #6	0 ft	X	0 ft	X	0 in	0%
Rectangle Area #7	0 ft	X	0 ft	X	0 in	0%
Rectangle Area #8	0 ft	X	0 ft	X	0 in	0%

okay

production system leak - DAILY PRODUCTION DATA REQUIRED

Average Daily Production: Oil 0 BBL Water 0 BBL 0 Gas (MCFD)

Total Hydrocarbon Content in gas: 0% (percentage)

Did leak occur before the separator?: YES N/A *(place an "X")*

H2S Content in Produced Gas: 0 PPM

H2S Content in Tank Vapors: 0 PPM

Amount of Free Liquid Recovered: 0 BBL okay

Percentage of Oil in Free Liquid Recovered: 0% (percentage)

Liquid holding factor *: 0.14 gal per gal

Use the following when the spill wets the grains of the soil.
* Sand = **0.08** gallon (gal.) liquid per gal. volume of soil.
* Gravelly (caliche) loam = **0.14** gal. liquid per gal. volume of soil.
* Sandy clay loam soil = **0.14** gal liquid per gal. volume of soil.
* Clay loam = **0.16** gal. liquid per gal. volume of soil.

Use the following when the liquid completely fills the pore space of the soil:
Occurs when the spill soaked soil is contained by barriers, natural (or not).
* Clay loam = **0.20** gal. liquid per gal. volume of soil.
* Gravelly (caliche) loam = **0.25** gal. liquid per gal. volume of soil.
* Sandy loam = **0.5** gal. liquid per gal. volume of soil.

Total Solid/Liquid Volume: **28,900 sq. ft.** **9,633 cu. ft.** **cu. ft.**

Total Free Liquid Volume: **sq. ft.** **cu. ft.** **cu. ft.**

Estimated Volumes Spilled

	H2O	OIL
Liquid in Soil:	240.2 BBL	0.0 BBL
Free Liquid:	0.0 BBL	0.0 BBL
Totals:	**240.2 BBL**	**0.0 BBL**
Total Liquid Spill Liquid:	**240.2 BBL**	**0.00 BBL**

Estimated Production Volumes Lost

	H2O	OIL
Estimated Production Spilled:	**0.0** BBL	**0.0** BBL

Estimated Surface Damage

Surface Area: 28,900 sq. ft.

Surface Area: .6635 acre

Recovered Volumes

Estimated oil recovered: **BBL** check - okay

Estimated water recovered: **BBL** check - okay

Estimated Weights, and Volumes

Saturated Soil =	1,078,933 lbs	9,633 cu. ft.	357 cu. yds.
Total Liquid =	240 BBL	10,088 gallon	83,932 lbs

Air Emission from flowline leaks:

Volume of oil spill:	-	BBL
Separator gas calculated:	-	MCF
Separator gas released:	-	MCF
Gas released from oil:	-	lb
H2S released:	-	lb
Total HC gas released:	-	lb
Total HC gas released:	-	MCF

Air Emission of Reporting Requirements:

	New Mexico	Texas
HC gas release reportable?	**NO**	**NO**
H2S release reportable?	**NO**	**NO**

State of New Mexico
Oil Conservation Division

Incident ID	NAB1922035506
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?	78 (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.

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State of New Mexico
Oil Conservation Division

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

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NAB1922035506
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

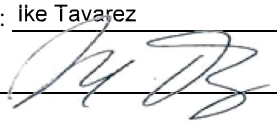
- [x] Detailed description of proposed remediation technique
- [x] Scaled sitemap with GPS coordinates showing delineation points
- [ ] Estimated volume of material to be remediated
- [ ] Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- [x] Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

- [ ] Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- [ ] Extents of contamination must be fully delineated.
- [ ] Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Ike Tavarez Title: Sr HSE Supervisor

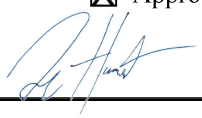
Signature:  Date: 3/05/2020

email: itavarez@concho.com Telephone: 432-701-8630

OCD Only

Received by: Robert Hamlet Date: 4/15/2020

- [ ] Approved
- [x] Approved with Attached Conditions of Approval
- [ ] Denied
- [ ] Deferral Approved

Signature:  Date: 4/15/2020

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: _____ Title: _____

Signature: Jacqui Harris Date: _____

email: _____ Telephone: _____

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.

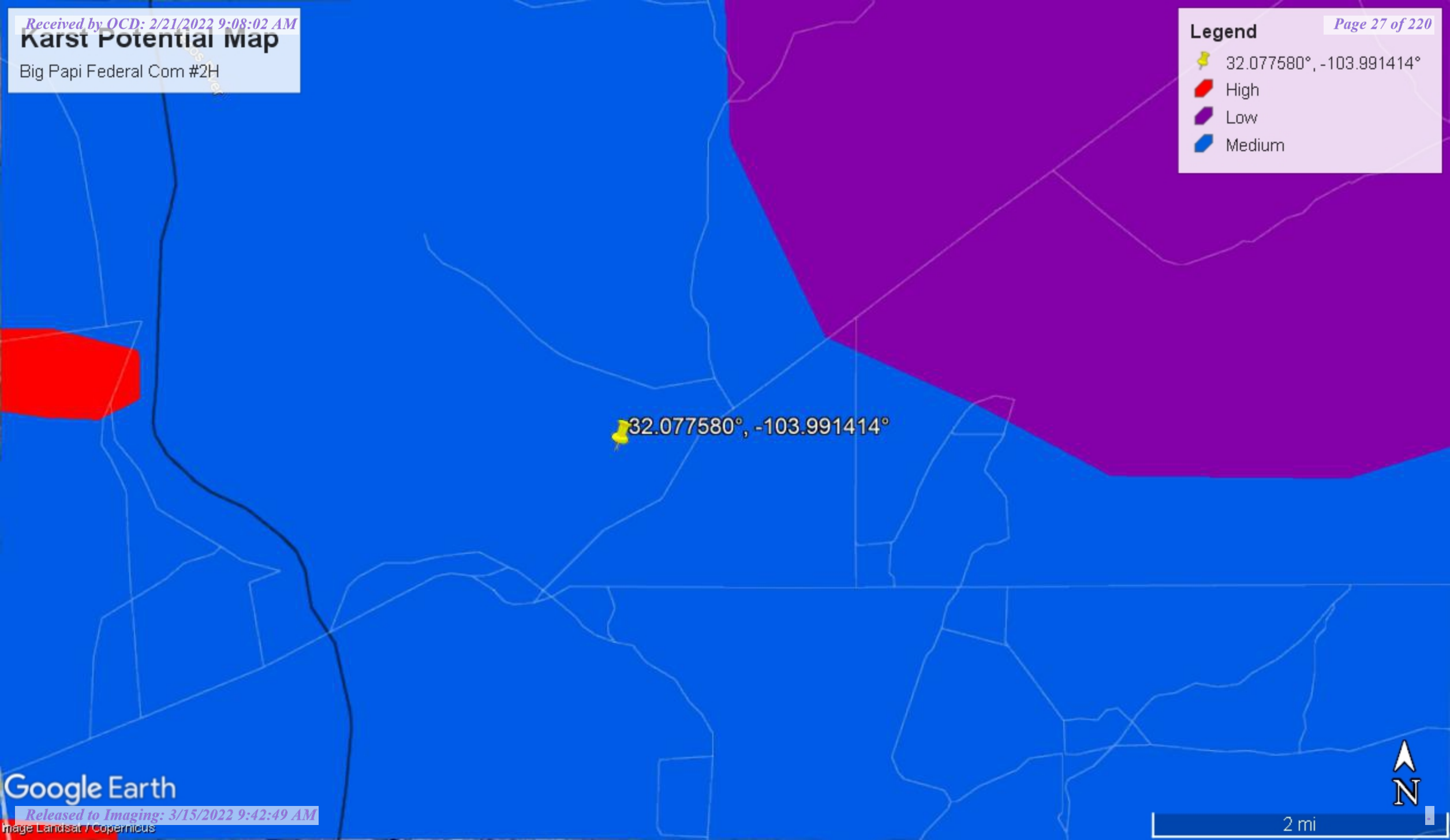
Closure Approved by: Jennifer Nobui Date: _____

Printed Name: _____ Title: _____

APPENDIX B
Site Characterization Data

Karst Potential Map

Big Papi Federal Com #2H



212C-MD-02671 | TETRA TECH | **LOG OF BORING GW Determination Boring** | Page 1 of 3

Project Name: Big Papi Federal Com #002H

Borehole Location: GPS Coordinates: 32.07756, -103.99097 | Surface Elevation: 2991'

Borehole Number: **GW Determination Boring** | Borehole Diameter (in.): 8" | Date Started: 5/11/2021 | Date Finished: 5/11/2021

WATER LEVEL OBSERVATIONS

While Drilling ▽ DRY | 24 Hours After Completion of Drilling ▽ DRY

Remarks:

DEPTH (ft)	OPERATION TYPES	SAMPLE	CHLORIDE CONCENTRATION (ppm) ExStik	VOC CONCENTRATION (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	WELL DIAGRAM
			295									-- CALICHE: Light tan to white, cemented, with fine-grained SAND, dry.		Bentonite Seal
			410										3	
5			202									**-SW-** SAND: Light tan to white, loose, fine-grained, with CALICHE, dry.		
			277										9	
10			356									**-SW-** SAND: Light tan, loose, fine to very fine-grained, with CALICHE, dry.		
													14	
15			373									**-SW-** SAND: Tan, loose, fine to very fine-grained, with CALICHE, dry.		Blank PVC Well Casing
20													24	
25												**-SW-** SAND: Light brown, very loose, very fine-grained, with CALICHE, dry.		

Sampler Types: Split Spoon, Shelby, Bulk Sample, Grab Sample, Acetate Liner, Vane Shear, California, Test Pit

Operation Types: Hollow Stem Auger, Continuous Flight Auger, Mud Rotary, Auger, Air Rotary, Direct Push, Drive Casing

Notes:

Temporary well was plugged using bentonite following gauging of well.

Logger: Colton Bickerstaff | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

BIG PAPI FED COM 2H.GPJ `2-3-22`.`TT_AUSTIN_GEOTECH_WELL3 ' '2015 TT TEMPLATE DECEMBER WELL.GDT ' Revised 5-16-12 (RHM)

212C-MD-02671 | TETRA TECH | **LOG OF BORING GW Determination Boring** | Page 2 of 3

Project Name: Big Papi Federal Com #002H

Borehole Location: GPS Coordinates: 32.07756, -103.99097 | Surface Elevation: 2991'

Borehole Number: **GW Determination Boring** | Borehole Diameter (in.): 8" | Date Started: 5/11/2021 | Date Finished: 5/11/2021

WATER LEVEL OBSERVATIONS

While Drilling ▽ DRY | 24 Hours After Completion of Drilling ▽ DRY

Remarks:

DEPTH (ft)	OPERATION TYPES	SAMPLE	CHLORIDE CONCENTRATION (ppm) ExStik	VOC CONCENTRATION (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	WELL DIAGRAM
30														
35														
40												**-GW-** GRAVEL: Light tan and brown, very loose, with abundant SAND, dry.	39	
45														20' PVC Slotted Screen
50												**-CL-** SILTY CLAY: Dark gray and reddish brown, medium stiff, dry.	48	

Sampler Types: Split Spoon, Shelby, Bulk Sample, Grab Sample, Acetate Liner, Vane Shear, California, Test Pit

Operation Types: Hollow Stem Auger, Continuous Flight Auger, Mud Rotary, Auger, Air Rotary, Direct Push, Drive Casing

Notes:

Temporary well was plugged using bentonite following gauging of well.

Logger: Colton Bickerstaff | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

212C-MD-02671	TETRA TECH	**LOG OF BORING GW Determination Boring**	Page 3 of 3

Project Name: Big Papi Federal Com #002H

Borehole Location: GPS Coordinates: 32.07756, -103.99097 | Surface Elevation: 2991'

Borehole Number: **GW Determination Boring** | Borehole Diameter (in.): 8" | Date Started: 5/11/2021 | Date Finished: 5/11/2021

WATER LEVEL OBSERVATIONS

While Drilling ▽ DRY | 24 Hours After Completion of Drilling ▽ DRY

Remarks:

DEPTH (ft)	OPERATION TYPES	SAMPLE	CHLORIDE CONCENTRATION (ppm) ExStik	VOC CONCENTRATION (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	WELL DIAGRAM
55													57	

Bottom of borehole at 57.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, California, Grab Sample, Test Pit

Operation Types: Auger, Hollow Stem Auger, Air Rotary, Continuous Flight Auger, Direct Push, Mud Rotary, Drive Casing

Notes:
Temporary well was plugged using bentonite following gauging of well.

Logger: Colton Bickerstaff | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

Water Well Data
Average Depth to Groundwater (ft)
Big Papi Federal #2H
Eddy County, New Mexico

25 South 28 East

6	5 59	4 35	3 32	2	1 Site
7	8	9	10	11	12
18 67	17	16	15 48 49	14	13
19	20 96	21	22	23	24
30	29 15	28 90	27	26 40	25
31	32	33	34	35	36 40

25 South 29 East

6 40	5	4	3	2	1
7	8	9	10 40	11	12
18	17	16	15 60	14	13
19	20	21	22	23	24
30 30	29	28	27	26	25
31	32 98	33	34	35	36

25 South 30 East

6	5	4	3	2 295	1
7 264	8	9 295	10	11	12 390
18	17	16	15	14	13
19	20	21 265 268	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

26 South 28 East

6	5	4	3	2 120 21	1
7	8	9	10	11	12 100
18	17	16	15	14 120	13 56
19	20	21	22 120	23	24
30	29	28	27	26	25
31	32	33	34	35	36

26 South 29 East

6	5 78	4 Site	3	2	1
7	8	9	10	11	12
18	17	16 125	15	14	13
19	20	21	22 57	23 80	24
30	29	28	27	26	25
31	32	33	34	35	36

26 South 30 East

6	5 179 180	4	3	2	1
7	8 172	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24 180
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

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 01354 X-3		CUB	ED	2	1	3	23	26S	29E	598323	3543837		170		
C 02038		C	ED	3	2	4	26	26S	29E	599204	3541992*		200		
C 03507 POD1		C	ED	1	3	3	05	26S	29E	593064	3548313		140	78	62
C 03508 POD1		C	ED	1	3	3	05	26S	29E	593063	3548361		140	75	65
C 03605 POD1		CUB	ED	4	2	3	27	26S	29E	596990	3541983		45	0	45

Average Depth to Water: **51 feet**
Minimum Depth: **0 feet**
Maximum Depth: **78 feet**

Record Count: 5

PLSS Search:

Township: 26S **Range:** 29E

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

8/6/19 3:52 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

Search Results -- 1 sites found

genc code usgs
site no list
- 320532104001701

Minimum number of levels 1
Save file of selected sites to local disk for future upload

US S 05 104001701 5S 1111

Eddy County, New Mexico
Latitude 32 05 32 , Longitude 104 00 17 NAD27
Land-surface elevation 2,988 feet above NAVD88
The depth of the well is 128 feet below land surface.
This well is completed in the Rustler ormation (312RSLR) local aquifer.

Output formats

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

1958-08-19		D	98.63		2		U		U		A
1978-01-13		D	95.23		2		U		U		A
1987-10-14		D	96.69		2		U		U		A
1992-11-03		D	98.13		2		S		U		A

Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Method of measurement	S	Steel-tape measurement.
Measuring agency		Not determined
Water-level approval status	A	Approved for publication -- Processing and review completed.

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

NMHL Web Mapping Application

Please select a county | About

Measure | Print | Bookmarks | Switch Basemap

Data Layers

32.077319 -103.991242

2984 ft

2950 ft

Search Result

Y:32.077319 X:-103.991242

2975 ft

100m

FEMA | Bureau of Land Management, Texas Parks & Wildlife, Esri, HERE, Garmin, INCREMENT P, USGS, EPA, USDA

APPENDIX C
Laboratory Analytical Reports

Analytical Report 632174

for

Tetra Tech- Midland

Project Manager: Mike Carmona

Pappy's Preference Federal #1

212C-MD-01855

29-JUL-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

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-JUL-19

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

Reference: XENCO Report No(s): **632174**
Pappy's Preference Federal #1
Project Address: Eddy County,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) 632174. 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. 632174 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 632174

Tetra Tech- Midland, Midland, TX

Pappy's Preference Federal #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
AH-1 (0-6")	S	07-25-19 00:00		632174-001
AH-2 (0-6")	S	07-25-19 00:00		632174-002
AH-3 (0-1')	S	07-25-19 00:00		632174-003
AH-4 (0-1')	S	07-25-19 00:00		632174-004
AH-4 (1'-1.5')	S	07-25-19 00:00		632174-005
AH-4 (1.5'-2')	S	07-25-19 00:00		632174-006
AH-5 (0-1')	S	07-25-19 00:00		632174-007
AH-5 (1'-1.5')	S	07-25-19 00:00		632174-008
AH-2 (2'-2.5')	S	07-25-19 00:00		632174-009
AH-6 (0-1')	S	07-25-19 00:00		632174-010
AH-7 (0-6")	S	07-25-19 00:00		632174-011
AH-8 (0-6")	S	07-25-19 00:00		632174-012
AH-9 (0-6")	S	07-25-19 00:00		632174-013
AH-10 (0-6")	S	07-25-19 00:00		632174-014
AH-11 (0-6")	S	07-25-19 00:00		632174-015
AH-12 (0-6")	S	07-25-19 00:00		632174-016
AH-13 (0-6")	S	07-25-19 00:00		632174-017
AH-14 (0-6")	S	07-25-19 00:00		632174-018

CASE NARRATIVE

Client Name: Tetra Tech- Midland

Project Name: Pappy's Preference Federal #1

Project ID: *212C-MD-01855*
Work Order Number(s): *632174*

Report Date: *29-JUL-19*
Date Received: *07/26/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3096731 TPH by SW8015 Mod
Surrogate o-Terphenyl recovered below QC limits. Samples affected are: 7682996-1-BLK,632174-010,632174-011,632174-012,632174-018,632174-006,632174-008.
Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 632174-004.

Batch: LBA-3096779 BTEX by EPA 8021B
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 632174-013.

Lab Sample ID 632174-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 632174-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018.
The Laboratory Control Sample for Toluene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 632174

Tetra Tech- Midland, Midland, TX

Project Name: Pappy's Preference Federal #1

Project Id: 212C-MD-01855
Contact: Mike Carmona
Project Location: Eddy County,NM

Date Received in Lab: Fri Jul-26-19 10:20 am
Report Date: 29-JUL-19
Project Manager: Jessica Kramer

Analysis Requested		632174-001		632174-002		632174-003		632174-004		632174-005		632174-006	
	Lab Id:	632174-001		632174-002		632174-003		632174-004		632174-005		632174-006	
	Field Id:	AH-1 (0-6")		AH-2 (0-6")		AH-3 (0-1')		AH-4 (0-1')		AH-4 (1'-1.5')		AH-4 (1.5'-2')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-25-19 00:00		Jul-25-19 00:00		Jul-25-19 00:00		Jul-25-19 00:00		Jul-25-19 00:00		Jul-25-19 00:00	
BTEX by EPA 8021B	*Extracted:*	Jul-26-19 11:33		Jul-26-19 11:33		Jul-26-19 11:33		Jul-26-19 11:33		Jul-26-19 11:33		Jul-26-19 11:33	
	Analyzed:	Jul-27-19 21:48		Jul-27-19 22:08		Jul-27-19 22:28		Jul-27-19 22:48		Jul-27-19 23:08		Jul-27-19 23:28	
	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	<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Toluene		<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Ethylbenzene		<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
m,p-Xylenes		<0.00401	0.00401	<0.00397	0.00397	<0.00403	0.00403	<0.00401	0.00401	<0.00401	0.00401	<0.00402	0.00402
o-Xylene		<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Total Xylenes		<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Total BTEX		<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Chloride by EPA 300	*Extracted:*	Jul-27-19 12:30		Jul-27-19 12:30		Jul-27-19 12:30		Jul-27-19 12:30		Jul-27-19 12:30		Jul-27-19 12:30	
	Analyzed:	Jul-27-19 17:43		Jul-27-19 18:04		Jul-27-19 18:10		Jul-27-19 18:26		Jul-27-19 18:32		Jul-27-19 18:37	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		20700	100	13300	100	15600	101	14400	99.6	9810	50.5	8450	49.7
TPH by SW8015 Mod	*Extracted:*	Jul-27-19 09:00		Jul-27-19 09:00		Jul-27-19 09:00		Jul-27-19 09:00		Jul-27-19 09:00		Jul-27-19 09:00	
	Analyzed:	Jul-27-19 22:43		Jul-27-19 23:54		Jul-28-19 00:17		Jul-28-19 00:41		Jul-28-19 01:05		Jul-28-19 01:28	
	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	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		36.7	15.0	22.8	15.0	<14.9	14.9	27.6	15.0	<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		36.7	15.0	22.8	15.0	<14.9	14.9	27.6	15.0	<15.0	15.0	<15.0	15.0

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 632174

Tetra Tech- Midland, Midland, TX

Project Name: Pappy's Preference Federal #1

Project Id: 212C-MD-01855
Contact: Mike Carmona
Project Location: Eddy County,NM

Date Received in Lab: Fri Jul-26-19 10:20 am
Report Date: 29-JUL-19
Project Manager: Jessica Kramer

Analysis Requested		632174-007		632174-008		632174-009		632174-010		632174-011		632174-012	
	Field Id:	AH-5 (0-1')		AH-5 (1'-1.5')		AH-2 (2'-2.5')		AH-6 (0-1')		AH-7 (0-6")		AH-8 (0-6")	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-25-19 00:00		Jul-25-19 00:00		Jul-25-19 00:00		Jul-25-19 00:00		Jul-25-19 00:00		Jul-25-19 00:00	
BTEX by EPA 8021B	Extracted:	Jul-26-19 11:33		Jul-26-19 11:33		Jul-26-19 11:33		Jul-26-19 11:33		Jul-26-19 11:33		Jul-26-19 11:33	
	Analyzed:	Jul-27-19 23:49		Jul-28-19 00:09		Jul-28-19 00:29		Jul-28-19 00:49		Jul-28-19 02:07		Jul-28-19 02:28	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00201	0.00201	<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	0.00345	0.00198	<0.00202	0.00202
Toluene		<0.00201	0.00201	<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202
Ethylbenzene		<0.00201	0.00201	<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202
m,p-Xylenes		<0.00402	0.00402	<0.00396	0.00396	<0.00404	0.00404	<0.00400	0.00400	0.00842	0.00396	<0.00404	0.00404
o-Xylene		<0.00201	0.00201	<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202
Total Xylenes		<0.00201	0.00201	<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	0.00842	0.00198	<0.00202	0.00202
Total BTEX		<0.00201	0.00201	<0.00198	0.00198	<0.00202	0.00202	<0.00200	0.00200	0.0119	0.00198	<0.00202	0.00202
Chloride by EPA 300	Extracted:	Jul-27-19 12:30		Jul-27-19 12:30		Jul-27-19 12:30		Jul-27-19 12:30		Jul-27-19 14:00		Jul-27-19 14:00	
	Analyzed:	Jul-27-19 18:42		Jul-27-19 18:48		Jul-27-19 18:53		Jul-27-19 18:59		Jul-27-19 19:13		Jul-27-19 19:18	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		11300	49.9	5000	25.1	1250	25.3	9240	49.7	15700	100	14000	99.8
TPH by SW8015 Mod	Extracted:	Jul-27-19 09:00		Jul-27-19 09:00		Jul-27-19 09:00		Jul-27-19 09:00		Jul-27-19 09:00		Jul-27-19 09:00	
	Analyzed:	Jul-28-19 01:51		Jul-28-19 02:15		Jul-28-19 02:38		Jul-28-19 03:02		Jul-28-19 03:49		Jul-28-19 04:12	
	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	<15.0	15.0	<15.0	15.0	18.9	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	50.5	15.0	29.9	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	69.4	15.0	29.9	15.0

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 632174

Tetra Tech- Midland, Midland, TX

Project Name: Pappy's Preference Federal #1

Project Id: 212C-MD-01855
Contact: Mike Carmona
Project Location: Eddy County,NM

Date Received in Lab: Fri Jul-26-19 10:20 am
Report Date: 29-JUL-19
Project Manager: Jessica Kramer

Analysis Requested		632174-013		632174-014		632174-015		632174-016		632174-017		632174-018	
	Lab Id:	632174-013		632174-014		632174-015		632174-016		632174-017		632174-018	
	Field Id:	AH-9 (0-6")		AH-10 (0-6")		AH-11 (0-6")		AH-12 (0-6")		AH-13 (0-6")		AH-14 (0-6")	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-25-19 00:00		Jul-25-19 00:00		Jul-25-19 00:00		Jul-25-19 00:00		Jul-25-19 00:00		Jul-25-19 00:00	
BTEX by EPA 8021B	Extracted:	Jul-26-19 11:33		Jul-26-19 11:33		Jul-26-19 11:33		Jul-26-19 11:33		Jul-26-19 11:33		Jul-26-19 11:33	
	Analyzed:	Jul-28-19 05:09		Jul-28-19 02:48		Jul-28-19 04:49		Jul-28-19 03:08		Jul-28-19 03:28		Jul-28-19 03:48	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		0.0200	0.00198	<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200
Toluene		0.00522	0.00198	<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200
Ethylbenzene		0.0446	0.00198	<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200
m,p-Xylenes		0.133	0.00396	<0.00402	0.00402	<0.00400	0.00400	<0.00403	0.00403	<0.00403	0.00403	<0.00399	0.00399
o-Xylene		0.0205	0.00198	<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200
Total Xylenes		0.154	0.00198	<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200
Total BTEX		0.223	0.00198	<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00200	0.00200
Chloride by EPA 300	Extracted:	Jul-27-19 14:00		Jul-27-19 14:00		Jul-27-19 14:00		Jul-27-19 14:00		Jul-27-19 14:00		Jul-27-19 14:00	
	Analyzed:	Jul-27-19 19:23		Jul-27-19 19:29		Jul-27-19 19:45		Jul-27-19 19:50		Jul-27-19 19:55		Jul-27-19 18:57	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		15400	101	12600	99.2	13700	99.8	13300	100	17200	100	12.5	4.98
TPH by SW8015 Mod	Extracted:	Jul-27-19 09:00		Jul-27-19 09:00		Jul-27-19 09:00		Jul-27-19 09:00		Jul-27-19 09:00		Jul-27-19 09:00	
	Analyzed:	Jul-28-19 04:36		Jul-28-19 04:59		Jul-28-19 05:23		Jul-28-19 05:46		Jul-28-19 06:10		Jul-28-19 06:33	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		147	15.0	<15.0	15.0	38.2	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		523	15.0	37.8	15.0	903	15.0	170	15.0	<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		49.4	15.0	<15.0	15.0	76.7	15.0	26.2	15.0	<15.0	15.0	<15.0	15.0
Total TPH		719	15.0	37.8	15.0	1020	15.0	196	15.0	<15.0	15.0	<15.0	15.0

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Version: 1.%

Jessica Kramer
Project Assistant

Final 1.000

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

Form 2 - Surrogate Recoveries

Project Name: Pappy's Preference Federal #1

Work Orders : 632174,

Project ID: 212C-MD-01855

Lab Batch #: 3096779 **Sample:** 632174-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/27/19 21:48

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0320	0.0300	107	70-130	
4-Bromofluorobenzene	0.0310	0.0300	103	70-130	

Lab Batch #: 3096779 **Sample:** 632174-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/27/19 22:08

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0325	0.0300	108	70-130	
4-Bromofluorobenzene	0.0349	0.0300	116	70-130	

Lab Batch #: 3096779 **Sample:** 632174-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/27/19 22:28

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0314	0.0300	105	70-130	
4-Bromofluorobenzene	0.0329	0.0300	110	70-130	

Lab Batch #: 3096731 **Sample:** 632174-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/27/19 22:43

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.9	99.9	80	70-135	
o-Terphenyl	36.6	50.0	73	70-135	

Lab Batch #: 3096779 **Sample:** 632174-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/27/19 22:48

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0314	0.0300	105	70-130	
4-Bromofluorobenzene	0.0320	0.0300	107	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Pappy's Preference Federal #1

Work Orders : 632174,

Project ID: 212C-MD-01855

Lab Batch #: 3096779 **Sample:** 632174-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/27/19 23:08

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0307	0.0300	102	70-130	
4-Bromofluorobenzene	0.0318	0.0300	106	70-130	

Lab Batch #: 3096779 **Sample:** 632174-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/27/19 23:28

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0321	0.0300	107	70-130	
4-Bromofluorobenzene	0.0357	0.0300	119	70-130	

Lab Batch #: 3096779 **Sample:** 632174-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/27/19 23:49

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0307	0.0300	102	70-130	
4-Bromofluorobenzene	0.0322	0.0300	107	70-130	

Lab Batch #: 3096731 **Sample:** 632174-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/27/19 23:54

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.2	99.9	79	70-135	
o-Terphenyl	35.1	50.0	70	70-135	

Lab Batch #: 3096779 **Sample:** 632174-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/28/19 00:09

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0308	0.0300	103	70-130	
4-Bromofluorobenzene	0.0320	0.0300	107	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Pappy's Preference Federal #1

Work Orders : 632174,

Project ID: 212C-MD-01855

Lab Batch #: 3096731 **Sample:** 632174-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/28/19 00:17

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.7	99.6	80	70-135	
o-Terphenyl	35.9	49.8	72	70-135	

Lab Batch #: 3096779 **Sample:** 632174-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/28/19 00:29

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0310	0.0300	103	70-130	
4-Bromofluorobenzene	0.0335	0.0300	112	70-130	

Lab Batch #: 3096731 **Sample:** 632174-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/28/19 00:41

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	172	99.7	173	70-135	**
o-Terphenyl	63.1	49.9	126	70-135	

Lab Batch #: 3096779 **Sample:** 632174-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/28/19 00:49

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0308	0.0300	103	70-130	
4-Bromofluorobenzene	0.0324	0.0300	108	70-130	

Lab Batch #: 3096731 **Sample:** 632174-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/28/19 01:05

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	84.1	99.9	84	70-135	
o-Terphenyl	35.1	50.0	70	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Pappy's Preference Federal #1

Work Orders : 632174,

Project ID: 212C-MD-01855

Lab Batch #: 3096731 **Sample:** 632174-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/28/19 01:28

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.7	99.8	80	70-135	
o-Terphenyl	33.7	49.9	68	70-135	**

Lab Batch #: 3096731 **Sample:** 632174-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/28/19 01:51

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.8	100	80	70-135	
o-Terphenyl	35.7	50.0	71	70-135	

Lab Batch #: 3096779 **Sample:** 632174-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/28/19 02:07

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0338	0.0300	113	70-130	
4-Bromofluorobenzene	0.0337	0.0300	112	70-130	

Lab Batch #: 3096731 **Sample:** 632174-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/28/19 02:15

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.3	99.9	80	70-135	
o-Terphenyl	32.2	50.0	64	70-135	**

Lab Batch #: 3096779 **Sample:** 632174-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/28/19 02:28

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0310	0.0300	103	70-130	
4-Bromofluorobenzene	0.0336	0.0300	112	70-130	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Pappy's Preference Federal #1

Work Orders : 632174,

Project ID: 212C-MD-01855

Lab Batch #: 3096731 **Sample:** 632174-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/28/19 02:38

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.3	99.7	81	70-135	
o-Terphenyl	35.7	49.9	72	70-135	

Lab Batch #: 3096779 **Sample:** 632174-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/28/19 02:48

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0316	0.0300	105	70-130	
4-Bromofluorobenzene	0.0326	0.0300	109	70-130	

Lab Batch #: 3096731 **Sample:** 632174-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/28/19 03:02

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81.4	100	81	70-135	
o-Terphenyl	33.4	50.0	67	70-135	**

Lab Batch #: 3096779 **Sample:** 632174-016 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/28/19 03:08

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0311	0.0300	104	70-130	
4-Bromofluorobenzene	0.0345	0.0300	115	70-130	

Lab Batch #: 3096779 **Sample:** 632174-017 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/28/19 03:28

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0316	0.0300	105	70-130	
4-Bromofluorobenzene	0.0357	0.0300	119	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Pappy's Preference Federal #1

Work Orders : 632174,

Project ID: 212C-MD-01855

Lab Batch #: 3096779 **Sample:** 632174-018 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/28/19 03:48

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0307	0.0300	102	70-130	
4-Bromofluorobenzene	0.0327	0.0300	109	70-130	

Lab Batch #: 3096731 **Sample:** 632174-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/28/19 03:49

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	74.3	99.9	74	70-135	
o-Terphenyl	32.5	50.0	65	70-135	**

Lab Batch #: 3096731 **Sample:** 632174-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/28/19 04:12

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.4	99.8	81	70-135	
o-Terphenyl	33.1	49.9	66	70-135	**

Lab Batch #: 3096731 **Sample:** 632174-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/28/19 04:36

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.2	99.9	77	70-135	
o-Terphenyl	39.9	50.0	80	70-135	

Lab Batch #: 3096779 **Sample:** 632174-015 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/28/19 04:49

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0300	0.0300	100	70-130	
4-Bromofluorobenzene	0.0364	0.0300	121	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Pappy's Preference Federal #1

Work Orders : 632174,

Project ID: 212C-MD-01855

Lab Batch #: 3096731 **Sample:** 632174-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/28/19 04:59

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76.3	100	76	70-135	
o-Terphenyl	35.0	50.0	70	70-135	

Lab Batch #: 3096779 **Sample:** 632174-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/28/19 05:09

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0352	0.0300	117	70-130	
4-Bromofluorobenzene	0.0493	0.0300	164	70-130	**

Lab Batch #: 3096731 **Sample:** 632174-015 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/28/19 05:23

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.8	99.9	78	70-135	
o-Terphenyl	43.5	50.0	87	70-135	

Lab Batch #: 3096731 **Sample:** 632174-016 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/28/19 05:46

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.4	99.7	76	70-135	
o-Terphenyl	36.3	49.9	73	70-135	

Lab Batch #: 3096731 **Sample:** 632174-017 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/28/19 06:10

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	72.4	99.9	72	70-135	
o-Terphenyl	39.2	50.0	78	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Pappy's Preference Federal #1

Work Orders : 632174,

Project ID: 212C-MD-01855

Lab Batch #: 3096731 **Sample:** 632174-018 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/28/19 06:33

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	71.9	100	72	70-135	
o-Terphenyl	31.6	50.0	63	70-135	**

Lab Batch #: 3096779 **Sample:** 7682924-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/27/19 21:28

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0317	0.0300	106	70-130	
4-Bromofluorobenzene	0.0313	0.0300	104	70-130	

Lab Batch #: 3096731 **Sample:** 7682996-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/27/19 21:32

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76.8	100	77	70-135	
o-Terphenyl	33.8	50.0	68	70-135	**

Lab Batch #: 3096779 **Sample:** 7682924-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/27/19 19:48

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	70-130	
4-Bromofluorobenzene	0.0300	0.0300	100	70-130	

Lab Batch #: 3096731 **Sample:** 7682996-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/27/19 21:56

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.7	100	83	70-135	
o-Terphenyl	39.4	50.0	79	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Pappy's Preference Federal #1

Work Orders : 632174,

Project ID: 212C-MD-01855

Lab Batch #: 3096779 **Sample:** 7682924-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/27/19 20:08

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0309	0.0300	103	70-130	
4-Bromofluorobenzene	0.0305	0.0300	102	70-130	

Lab Batch #: 3096731 **Sample:** 7682996-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/27/19 22:20

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.5	100	76	70-135	
o-Terphenyl	38.3	50.0	77	70-135	

Lab Batch #: 3096779 **Sample:** 632174-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/27/19 20:28

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0312	0.0300	104	70-130	
4-Bromofluorobenzene	0.0320	0.0300	107	70-130	

Lab Batch #: 3096731 **Sample:** 632174-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/27/19 23:07

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.6	99.8	76	70-135	
o-Terphenyl	38.9	49.9	78	70-135	

Lab Batch #: 3096779 **Sample:** 632174-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/27/19 20:48

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0315	0.0300	105	70-130	
4-Bromofluorobenzene	0.0317	0.0300	106	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Pappy's Preference Federal #1

Work Orders : 632174,

Project ID: 212C-MD-01855

Lab Batch #: 3096731 **Sample:** 632174-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/27/19 23:30

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.7	99.7	81	70-135	
o-Terphenyl	39.7	49.9	80	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Version: 1.%

BS / BSD Recoveries

Project Name: Pappy's Preference Federal #1

Work Order #: 632174 **Project ID:** 212C-MD-01855

Analyst: FOV **Date Prepared:** 07/26/2019 **Date Analyzed:** 07/27/2019

Lab Batch ID: 3096779 **Sample:** 7682924-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000385	0.100	0.103	103	0.100	0.0994	99	4	70-130	35	
Toluene	<0.000456	0.100	0.0909	91	0.100	0.0880	88	3	70-130	35	
Ethylbenzene	<0.00200	0.100	0.0889	89	0.100	0.0855	86	4	70-130	35	
m,p-Xylenes	<0.00101	0.200	0.176	88	0.200	0.170	85	3	70-130	35	
o-Xylene	<0.000344	0.100	0.0931	93	0.100	0.0914	91	2	70-130	35	

Analyst: SPC **Date Prepared:** 07/27/2019 **Date Analyzed:** 07/27/2019

Lab Batch ID: 3096746 **Sample:** 7682945-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	266	106	250	265	106	0	90-110	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Version: 1.%

BS / BSD Recoveries

Project Name: Pappy's Preference Federal #1

Work Order #: 632174 **Project ID:** 212C-MD-01855

Analyst: SPC **Date Prepared:** 07/27/2019 **Date Analyzed:** 07/27/2019

Lab Batch ID: 3096754 **Sample:** 7682948-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.858	250	263	105	250	260	104	1	90-110	20	

Analyst: ARM **Date Prepared:** 07/27/2019 **Date Analyzed:** 07/27/2019

Lab Batch ID: 3096731 **Sample:** 7682996-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1010	101	1000	875	88	14	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	1040	104	1000	964	96	8	70-135	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Version: 1.%

Form 3 - MS / MSD Recoveries

Project Name: Pappy's Preference Federal #1

Work Order # : 632174 **Project ID:** 212C-MD-01855

Lab Batch ID: 3096779 **QC- Sample ID:** 632174-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/27/2019 **Date Prepared:** 07/26/2019 **Analyst:** FOV

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000386	0.100	0.0925	93	0.101	0.0780	77	17	70-130	35	
Toluene	0.000661	0.100	0.0822	82	0.101	0.0649	64	24	70-130	35	X
Ethylbenzene	<0.00201	0.100	0.0780	78	0.101	0.0578	57	30	70-130	35	X
m,p-Xylenes	<0.00102	0.201	0.163	81	0.202	0.116	57	34	70-130	35	X
o-Xylene	<0.000346	0.100	0.0864	86	0.101	0.0611	60	34	70-130	35	X

Lab Batch ID: 3096746 **QC- Sample ID:** 631951-033 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/27/2019 **Date Prepared:** 07/27/2019 **Analyst:** SPC

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	4.89	249	271	107	249	272	107	0	90-110	20	

Lab Batch ID: 3096746 **QC- Sample ID:** 631951-040 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/27/2019 **Date Prepared:** 07/27/2019 **Analyst:** SPC

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	2.16	249	282	112	249	278	111	1	90-110	20	X

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: Pappy's Preference Federal #1

Work Order # : 632174 **Project ID:** 212C-MD-01855

Lab Batch ID: 3096754 **QC- Sample ID:** 632058-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/27/2019 **Date Prepared:** 07/27/2019 **Analyst:** SPC

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	194	249	454	104	249	454	104	0	90-110	20	

Lab Batch ID: 3096754 **QC- Sample ID:** 632174-018 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/27/2019 **Date Prepared:** 07/27/2019 **Analyst:** SPC

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	12.5	249	276	106	249	274	105	1	90-110	20	

Lab Batch ID: 3096731 **QC- Sample ID:** 632174-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/27/2019 **Date Prepared:** 07/27/2019 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	10.0	998	848	84	997	918	91	8	70-135	20	
Diesel Range Organics (DRO)	36.7	998	930	90	997	992	96	6	70-135	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Analysis Request of Chain of Custody Record

E32174

Tetra Tech, Inc.

901 West Wall, Suite 100
Midland,Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: COG	**Site Manager:** Mike Carmona
Project Name: Pappy's Preference Federal #1	
Project Location: (county, state) Eddy County, NM	**Project #:** 212C-MD-01855
Invoice to: COG Ike Tavarez	
Receiving Laboratory: Xenco Midland Tx	**Sampler Signature:** Mike Carmona-Devin D
Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	PRESERVATIVE METHOD	# 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
	AH-1 (0-6")	7/25/2019			X				X			1	N	X		X												X							
	AH-2 (0-6")	7/25/2019			X				X			1	N	X		X												X							
	AH-3 (0-1')	7/25/2019			X				X			1	N	X		X												X							
	AH-4 (0-1')	7/25/2019			X				X			1	N	X		X												X							
	AH-4 (1'-1.5')	7/25/2019			X				X			1	N	X		X												X							
	AH-4 (1.5'-2')	7/25/2019			X				X			1	N	X		X												X							
	AH-5 (0-1')	7/25/2019			X				X			1	N	X		X												X							
	AH-5 (1'-1.5')	7/25/2019			X				X			1	N	X		X												X							
	AH-5 (2'-2.5')	7/25/2019			X				X			1	N	X		X												X							
	AH-6 (0-1')	7/25/2019			X				X			1	N	X		X												X							

ANALYSIS REQUEST
(Circle or Specify Method No.)

Final 1.000

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Relinquished by:	Date: 7/26/19	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:

Date: 7/26/19 Time: 1020

LAB USE ONLY

Sample Temperature: 3.3 | 3.1

REMARKS:

- ☐ STANDARD
- ☒ RUSH: Same Day 24 hr 48 hr (2 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

637174

Page 2 of 2

Tetra Tech, Inc.

901 West Wall, Suite 100
Midland,Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: COG	**Site Manager:** Mike Carmona
Project Name: Pappy's Preference Federal #1	
Project Location: (county, state) Eddy County, NM	**Project #:** 212C-MD-01855
Invoice to: COG Ike Tavarez	
Receiving Laboratory: Xenco Midland Tx	**Sampler Signature:** Mike Carmona-Devin D
Comments:	

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 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)	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
	AH-7 (0-6")	7/25/2019			X				X			1	N	X		X												X							
	AH-8 (0-6")	7/25/2019			X				X			1	N	X		X												X							
	AH-9 (0-6")	7/25/2019			X				X			1	N	X		X												X							
	AH-10 (0-6")	7/25/2019			X				X			1	N	X		X												X							
	AH-11 (0-6")	7/25/2019			X				X			1	N	X		X												X							
	AH-12 (0-6")	7/25/2019			X				X			1	N	X		X												X							
	AH-13 (0-6")	7/25/2019			X				X			1	N	X		X												X							
	AH-14 (0-6")	7/25/2019			X				X			1	N	X		X												X							

Final 1.000
Page 24 of 24

Relinquished by:	Date: 7/26/19	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:

Received by: Date: 7/Helia Time: 1020

LAB USE ONLY

Sample Temperature 3.3/3.1

REMARKS:

- ☐ STANDARD
- ☒ RUSH: Same Day 24 hr 48 hr (2 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

August 09, 2019

MIKE CARMONA

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: BIG PAPI FEDERAL COM 2H

Enclosed are the results of analyses for samples received by the laboratory on 08/08/19 17:06.

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,

Mike Snyder For 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:	08/08/2019	Sampling Date:	08/08/2019
Reported:	08/09/2019	Sampling Type:	Soil
Project Name:	BIG PAPI FEDERAL COM 2H	Sampling Condition:	Cool & Intact
Project Number:	212C -MD - 01885	Sample Received By:	Jodi Henson
Project Location:	COG - EDDY CO NM		

Sample ID: BACKGROUND #1 (0-1') (H902738-01)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/09/2019	ND	1.91	95.5	2.00	3.81	
Toluene*	<0.050	0.050	08/09/2019	ND	1.92	96.2	2.00	1.60	
Ethylbenzene*	<0.050	0.050	08/09/2019	ND	1.92	95.8	2.00	2.17	
Total Xylenes*	<0.150	0.150	08/09/2019	ND	5.82	97.0	6.00	1.74	
Total BTEX	<0.300	0.300	08/09/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *100 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	08/09/2019	ND	448	112	400	3.64	

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	08/09/2019	ND	203	102	200	2.11	
DRO >C10-C28*	<10.0	10.0	08/09/2019	ND	195	97.5	200	1.28	
EXT DRO >C28-C36	<10.0	10.0	08/09/2019	ND					

Surrogate: 1-Chlorooctane *118 %* *41-142*

Surrogate: 1-Chlorooctadecane *122 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

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

Received:	08/08/2019	Sampling Date:	08/08/2019
Reported:	08/09/2019	Sampling Type:	Soil
Project Name:	BIG PAPI FEDERAL COM 2H	Sampling Condition:	Cool & Intact
Project Number:	212C -MD - 01885	Sample Received By:	Jodi Henson
Project Location:	COG - EDDY CO NM		

Sample ID: BACKGROUND #1 (2') (H902738-02)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/09/2019	ND	1.91	95.5	2.00	3.81	
Toluene*	<0.050	0.050	08/09/2019	ND	1.92	96.2	2.00	1.60	
Ethylbenzene*	<0.050	0.050	08/09/2019	ND	1.92	95.8	2.00	2.17	
Total Xylenes*	<0.150	0.150	08/09/2019	ND	5.82	97.0	6.00	1.74	
Total BTEX	<0.300	0.300	08/09/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *104 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	08/09/2019	ND	448	112	400	3.64	

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	08/09/2019	ND	203	102	200	2.11	
DRO >C10-C28*	<10.0	10.0	08/09/2019	ND	195	97.5	200	1.28	
EXT DRO >C28-C36	<10.0	10.0	08/09/2019	ND					

Surrogate: 1-Chlorooctane *117 %* *41-142*

Surrogate: 1-Chlorooctadecane *123 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

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Analytical Results For:

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

Received:	08/08/2019	Sampling Date:	08/08/2019
Reported:	08/09/2019	Sampling Type:	Soil
Project Name:	BIG PAPI FEDERAL COM 2H	Sampling Condition:	Cool & Intact
Project Number:	212C -MD - 01885	Sample Received By:	Jodi Henson
Project Location:	COG - EDDY CO NM		

Sample ID: TRENCH 1 (4' BEB) (1') (H902738-03)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/09/2019	ND	1.91	95.5	2.00	3.81	
Toluene*	<0.050	0.050	08/09/2019	ND	1.92	96.2	2.00	1.60	
Ethylbenzene*	<0.050	0.050	08/09/2019	ND	1.92	95.8	2.00	2.17	
Total Xylenes*	<0.150	0.150	08/09/2019	ND	5.82	97.0	6.00	1.74	
Total BTEX	<0.300	0.300	08/09/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *107 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**5280**	16.0	08/09/2019	ND	448	112	400	3.64	

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	08/09/2019	ND	203	102	200	2.11	
DRO >C10-C28*	<10.0	10.0	08/09/2019	ND	195	97.5	200	1.28	
EXT DRO >C28-C36	<10.0	10.0	08/09/2019	ND					

Surrogate: 1-Chlorooctane *117 %* *41-142*

Surrogate: 1-Chlorooctadecane *120 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For 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:	08/08/2019	Sampling Date:	08/08/2019
Reported:	08/09/2019	Sampling Type:	Soil
Project Name:	BIG PAPI FEDERAL COM 2H	Sampling Condition:	Cool & Intact
Project Number:	212C -MD - 01885	Sample Received By:	Jodi Henson
Project Location:	COG - EDDY CO NM		

Sample ID: TRENCH 1 (4' BEB) (2') (H902738-04)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**160**	16.0	08/09/2019	ND	448	112	400	3.64	

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For 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:	08/08/2019	Sampling Date:	08/08/2019
Reported:	08/09/2019	Sampling Type:	Soil
Project Name:	BIG PAPI FEDERAL COM 2H	Sampling Condition:	Cool & Intact
Project Number:	212C -MD - 01885	Sample Received By:	Jodi Henson
Project Location:	COG - EDDY CO NM		

Sample ID: TRENCH 2 (4' BEB) (1') (H902738-05)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/09/2019	ND	1.91	95.5	2.00	3.81	
Toluene*	<0.050	0.050	08/09/2019	ND	1.92	96.2	2.00	1.60	
Ethylbenzene*	<0.050	0.050	08/09/2019	ND	1.92	95.8	2.00	2.17	
Total Xylenes*	<0.150	0.150	08/09/2019	ND	5.82	97.0	6.00	1.74	
Total BTEX	<0.300	0.300	08/09/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *107 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**768**	16.0	08/09/2019	ND	448	112	400	3.64	

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	08/09/2019	ND	203	102	200	2.11	
DRO >C10-C28*	<10.0	10.0	08/09/2019	ND	195	97.5	200	1.28	
EXT DRO >C28-C36	<10.0	10.0	08/09/2019	ND					

Surrogate: 1-Chlorooctane *119 %* *41-142*

Surrogate: 1-Chlorooctadecane *123 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

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

Received:	08/08/2019	Sampling Date:	08/08/2019
Reported:	08/09/2019	Sampling Type:	Soil
Project Name:	BIG PAPI FEDERAL COM 2H	Sampling Condition:	Cool & Intact
Project Number:	212C -MD - 01885	Sample Received By:	Jodi Henson
Project Location:	COG - EDDY CO NM		

Sample ID: TRENCH 2 (4' BEB) (2') (H902738-06)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3880**	16.0	08/09/2019	ND	448	112	400	3.64	

Sample ID: TRENCH 2 (4' BEB) (3') (H902738-07)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**6960**	16.0	08/09/2019	ND	448	112	400	3.64	

Sample ID: TRENCH 2 (4' BEB) (4') (H902738-08)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**8400**	16.0	08/09/2019	ND	448	112	400	3.64	

Sample ID: TRENCH 2 (4' BEB) (5') (H902738-09)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**11500**	16.0	08/09/2019	ND	448	112	400	3.64	

Sample ID: TRENCH 2 (4' BEB) (6') (H902738-10)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**9200**	16.0	08/09/2019	ND	448	112	400	3.64	

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record

Page 1 of 1

Tetra Tech, Inc.

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

Client Name: Concho	Site Manager: Mike Carmona
Project Name: Big Papi Fed Com 2H (7.12.19)	
Project Location: (county, state) Eddy Co, NM	Project #: 212C-MD-01885
Invoice to: COG - Ike Tavarez	
Receiving Laboratory: Cardinal	Sampler Signature: Conner Moehring
Comments:	

H902738

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 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	Sulfate TDS	Chloride	General Water Chemistry (see attached list)	Anion/Cation Balance	Hold
1	Background #1 (0-1')	8/8/19			X			X		1	N	X			X												X						
2	Background #1 (2')											X			X												X						
3	TRENCH 1 (4' BEB) (1')											X			X												X						
4	TRENCH 1 (4' BEB) (2')																										X						
5	TRENCH 2 (4' BEB) (1')											X			X												X						
6	TRENCH 2 (4' BEB) (2')																										X						
7	TRENCH 2 (4' BEB) (3')																										X						
8	TRENCH 2 (4' BEB) (4')																										X						
9	TRENCH 2 (4 1/2' BEB) (5')																										X						
10	TRENCH 2 (4' BEB) (6')	↓		↓	↓			↓		↓	↓																X						

Relinquished by: Conner Moehring Date: 8/8/19 Time: 1500

Received by: Jodi Henson Date: 8/8/19 Time: 17:06

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

ORIGINAL COPY

LAB USE ONLY

Sample Temperature 0.8°C +.4 1.2°C /#97

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 #: _____

CARDINAL Laboratories

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

August 09, 2019

MIKE CARMONA

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: BIG PAPI FEDERAL COM 2H

Enclosed are the results of analyses for samples received by the laboratory on 08/08/19 17:06.

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,

Mike Snyder For 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:	08/08/2019	Sampling Date:	08/08/2019
Reported:	08/09/2019	Sampling Type:	Soil
Project Name:	BIG PAPI FEDERAL COM 2H	Sampling Condition:	Cool & Intact
Project Number:	212C -MD - 01885 (7-12-19)	Sample Received By:	Jodi Henson
Project Location:	COG - EDDY CO NM		

Sample ID: BOTTOM HOLE #1 (4' BEB) (H902739-01)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/09/2019	ND	1.91	95.5	2.00	3.81	
Toluene*	<0.050	0.050	08/09/2019	ND	1.92	96.2	2.00	1.60	
Ethylbenzene*	<0.050	0.050	08/09/2019	ND	1.92	95.8	2.00	2.17	
Total Xylenes*	<0.150	0.150	08/09/2019	ND	5.82	97.0	6.00	1.74	
Total BTEX	<0.300	0.300	08/09/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2480**	16.0	08/09/2019	ND	416	104	400	0.00	QM-07

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	08/09/2019	ND	203	102	200	2.11	
DRO >C10-C28*	<10.0	10.0	08/09/2019	ND	195	97.5	200	1.28	
EXT DRO >C28-C36	<10.0	10.0	08/09/2019	ND					

Surrogate: 1-Chlorooctane *112 %* *41-142*

Surrogate: 1-Chlorooctadecane *115 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

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

Received:	08/08/2019	Sampling Date:	08/08/2019
Reported:	08/09/2019	Sampling Type:	Soil
Project Name:	BIG PAPI FEDERAL COM 2H	Sampling Condition:	Cool & Intact
Project Number:	212C -MD - 01885 (7-12-19)	Sample Received By:	Jodi Henson
Project Location:	COG - EDDY CO NM		

Sample ID: BOTTOM HOLE #2 (4' BEB) (H902739-02)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/09/2019	ND	1.91	95.5	2.00	3.81	
Toluene*	<0.050	0.050	08/09/2019	ND	1.92	96.2	2.00	1.60	
Ethylbenzene*	<0.050	0.050	08/09/2019	ND	1.92	95.8	2.00	2.17	
Total Xylenes*	<0.150	0.150	08/09/2019	ND	5.82	97.0	6.00	1.74	
Total BTEX	<0.300	0.300	08/09/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *105 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**960**	16.0	08/09/2019	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/09/2019	ND	203	102	200	2.11	
DRO >C10-C28*	<10.0	10.0	08/09/2019	ND	195	97.5	200	1.28	
EXT DRO >C28-C36	<10.0	10.0	08/09/2019	ND					

Surrogate: 1-Chlorooctane *111 %* *41-142*

Surrogate: 1-Chlorooctadecane *113 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For 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:	08/08/2019	Sampling Date:	08/08/2019
Reported:	08/09/2019	Sampling Type:	Soil
Project Name:	BIG PAPI FEDERAL COM 2H	Sampling Condition:	Cool & Intact
Project Number:	212C -MD - 01885 (7-12-19)	Sample Received By:	Jodi Henson
Project Location:	COG - EDDY CO NM		

Sample ID: BOTTOM HOLE #3 (4' BEB) (H902739-03)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/09/2019	ND	1.91	95.5	2.00	3.81	
Toluene*	<0.050	0.050	08/09/2019	ND	1.92	96.2	2.00	1.60	
Ethylbenzene*	<0.050	0.050	08/09/2019	ND	1.92	95.8	2.00	2.17	
Total Xylenes*	<0.150	0.150	08/09/2019	ND	5.82	97.0	6.00	1.74	
Total BTEX	<0.300	0.300	08/09/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *103 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**512**	16.0	08/09/2019	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/09/2019	ND	195	97.7	200	4.87	
DRO >C10-C28*	<10.0	10.0	08/09/2019	ND	191	95.7	200	5.50	
EXT DRO >C28-C36	<10.0	10.0	08/09/2019	ND					

Surrogate: 1-Chlorooctane *106 %* *41-142*

Surrogate: 1-Chlorooctadecane *109 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For 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:	08/08/2019	Sampling Date:	08/08/2019
Reported:	08/09/2019	Sampling Type:	Soil
Project Name:	BIG PAPI FEDERAL COM 2H	Sampling Condition:	Cool & Intact
Project Number:	212C -MD - 01885 (7-12-19)	Sample Received By:	Jodi Henson
Project Location:	COG - EDDY CO NM		

Sample ID: NORTH SIDEWALL (H902739-04)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/09/2019	ND	1.91	95.5	2.00	3.81	
Toluene*	<0.050	0.050	08/09/2019	ND	1.92	96.2	2.00	1.60	
Ethylbenzene*	<0.050	0.050	08/09/2019	ND	1.92	95.8	2.00	2.17	
Total Xylenes*	<0.150	0.150	08/09/2019	ND	5.82	97.0	6.00	1.74	
Total BTEX	<0.300	0.300	08/09/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**592**	16.0	08/09/2019	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/09/2019	ND	195	97.7	200	4.87	
DRO >C10-C28*	<10.0	10.0	08/09/2019	ND	191	95.7	200	5.50	
EXT DRO >C28-C36	<10.0	10.0	08/09/2019	ND					

Surrogate: 1-Chlorooctane *116 %* *41-142*

Surrogate: 1-Chlorooctadecane *121 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For 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:	08/08/2019	Sampling Date:	08/08/2019
Reported:	08/09/2019	Sampling Type:	Soil
Project Name:	BIG PAPI FEDERAL COM 2H	Sampling Condition:	Cool & Intact
Project Number:	212C -MD - 01885 (7-12-19)	Sample Received By:	Jodi Henson
Project Location:	COG - EDDY CO NM		

Sample ID: EAST 1 SIDEWALL (H902739-05)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/09/2019	ND	1.91	95.5	2.00	3.81	
Toluene*	<0.050	0.050	08/09/2019	ND	1.92	96.2	2.00	1.60	
Ethylbenzene*	<0.050	0.050	08/09/2019	ND	1.92	95.8	2.00	2.17	
Total Xylenes*	<0.150	0.150	08/09/2019	ND	5.82	97.0	6.00	1.74	
Total BTEX	<0.300	0.300	08/09/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *104 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1500**	16.0	08/09/2019	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/09/2019	ND	195	97.7	200	4.87	
DRO >C10-C28*	<10.0	10.0	08/09/2019	ND	191	95.7	200	5.50	
EXT DRO >C28-C36	<10.0	10.0	08/09/2019	ND					

Surrogate: 1-Chlorooctane *118 %* *41-142*

Surrogate: 1-Chlorooctadecane *124 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For 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:	08/08/2019	Sampling Date:	08/08/2019
Reported:	08/09/2019	Sampling Type:	Soil
Project Name:	BIG PAPI FEDERAL COM 2H	Sampling Condition:	Cool & Intact
Project Number:	212C -MD - 01885 (7-12-19)	Sample Received By:	Jodi Henson
Project Location:	COG - EDDY CO NM		

Sample ID: EAST 2 SIDEWALL (H902739-06)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/09/2019	ND	2.05	102	2.00	0.251	
Toluene*	<0.050	0.050	08/09/2019	ND	2.15	108	2.00	1.81	
Ethylbenzene*	<0.050	0.050	08/09/2019	ND	2.03	102	2.00	1.25	
Total Xylenes*	<0.150	0.150	08/09/2019	ND	6.09	102	6.00	0.936	
Total BTEX	<0.300	0.300	08/09/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.8 %* *73.3-129*

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	08/09/2019	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/09/2019	ND	195	97.7	200	4.87	
DRO >C10-C28*	<10.0	10.0	08/09/2019	ND	191	95.7	200	5.50	
EXT DRO >C28-C36	<10.0	10.0	08/09/2019	ND					

Surrogate: 1-Chlorooctane *123 %* *41-142*

Surrogate: 1-Chlorooctadecane *128 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For 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:	08/08/2019	Sampling Date:	08/08/2019
Reported:	08/09/2019	Sampling Type:	Soil
Project Name:	BIG PAPI FEDERAL COM 2H	Sampling Condition:	Cool & Intact
Project Number:	212C -MD - 01885 (7-12-19)	Sample Received By:	Jodi Henson
Project Location:	COG - EDDY CO NM		

Sample ID: WEST 1 SIDEWALL (H902739-07)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/09/2019	ND	2.05	102	2.00	0.251	
Toluene*	<0.050	0.050	08/09/2019	ND	2.15	108	2.00	1.81	
Ethylbenzene*	<0.050	0.050	08/09/2019	ND	2.03	102	2.00	1.25	
Total Xylenes*	<0.150	0.150	08/09/2019	ND	6.09	102	6.00	0.936	
Total BTEX	<0.300	0.300	08/09/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.6 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**272**	16.0	08/09/2019	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/09/2019	ND	195	97.7	200	4.87	
DRO >C10-C28*	<10.0	10.0	08/09/2019	ND	191	95.7	200	5.50	
EXT DRO >C28-C36	<10.0	10.0	08/09/2019	ND					

Surrogate: 1-Chlorooctane *112 %* *41-142*

Surrogate: 1-Chlorooctadecane *118 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For 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:	08/08/2019	Sampling Date:	08/08/2019
Reported:	08/09/2019	Sampling Type:	Soil
Project Name:	BIG PAPI FEDERAL COM 2H	Sampling Condition:	Cool & Intact
Project Number:	212C -MD - 01885 (7-12-19)	Sample Received By:	Jodi Henson
Project Location:	COG - EDDY CO NM		

Sample ID: WEST 2 SIDEWALL (H902739-08)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/09/2019	ND	2.05	102	2.00	0.251	
Toluene*	<0.050	0.050	08/09/2019	ND	2.15	108	2.00	1.81	
Ethylbenzene*	<0.050	0.050	08/09/2019	ND	2.03	102	2.00	1.25	
Total Xylenes*	<0.150	0.150	08/09/2019	ND	6.09	102	6.00	0.936	
Total BTEX	<0.300	0.300	08/09/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.8 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1250**	16.0	08/09/2019	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/09/2019	ND	195	97.7	200	4.87	
DRO >C10-C28*	<10.0	10.0	08/09/2019	ND	191	95.7	200	5.50	
EXT DRO >C28-C36	<10.0	10.0	08/09/2019	ND					

Surrogate: 1-Chlorooctane *110 %* *41-142*

Surrogate: 1-Chlorooctadecane *114 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For 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:	08/08/2019	Sampling Date:	08/08/2019
Reported:	08/09/2019	Sampling Type:	Soil
Project Name:	BIG PAPI FEDERAL COM 2H	Sampling Condition:	Cool & Intact
Project Number:	212C -MD - 01885 (7-12-19)	Sample Received By:	Jodi Henson
Project Location:	COG - EDDY CO NM		

Sample ID: SOUTH 1 SIDEWALL (H902739-09)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/09/2019	ND	2.05	102	2.00	0.251	
Toluene*	<0.050	0.050	08/09/2019	ND	2.15	108	2.00	1.81	
Ethylbenzene*	<0.050	0.050	08/09/2019	ND	2.03	102	2.00	1.25	
Total Xylenes*	<0.150	0.150	08/09/2019	ND	6.09	102	6.00	0.936	
Total BTEX	<0.300	0.300	08/09/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.2 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**7520**	16.0	08/09/2019	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/09/2019	ND	195	97.7	200	4.87	
DRO >C10-C28*	<10.0	10.0	08/09/2019	ND	191	95.7	200	5.50	
EXT DRO >C28-C36	<10.0	10.0	08/09/2019	ND					

Surrogate: 1-Chlorooctane *120 %* *41-142*

Surrogate: 1-Chlorooctadecane *124 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For 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

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record

Page 1 of 1

Tetra Tech, Inc.

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

Client Name: Concho	Site Manager: Mike Carmona
Project Name: Big Papi Fed Com 2H (7.12.19)	
Project Location: (county, state) Eddy Co, NM	Project #: 212C-MD-01885
Invoice to: COG - Ike Tavarez	
Receiving Laboratory: Cardinal	Sampler Signature: Conner Moehring
Comments:	

H902739

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)
1	BOTTOM HOLE #1 (4' BEB)	8/8/19			X				X			1	N
2	BOTTOM HOLE #2 (1'	8/8/19			X				X			1	N
3	BOTTOM HOLE #3	8/8/19			X				X			1	N
4	NORTH SIDEWALL	8/8/19			X				X			1	N
5	EAST 1 SIDEWALL	8/8/19			X				X			1	N
6	EAST 2 SIDEWALL	8/8/19			X				X			1	N
7	WEST 1 SIDEWALL	8/8/19			X				X			1	N
8	WEST 2 SIDEWALL	8/8/19			X				X			1	N
9	SOUTH 1 SIDEWALL	8/8/19			X				X			1	N

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB #	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							
6	X			X												X							
7	X			X												X							
8	X			X												X							
9	X			X												X							

Relinquished by: Conner Moehring	Date: 8/8/19	Time: 1700	Received by: Jodi Henson
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:

Received by: Jodi Henson 8/8/19 17:06

LAB USE ONLY

Sample Temperature 0.8°C + .4 corrected 1.2°C / #97

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

August 14, 2019

MIKE CARMONA

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: BIG PAPI FEDERAL COM 2H

Enclosed are the results of analyses for samples received by the laboratory on 08/13/19 17:10.

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,

Mike Snyder For 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:	08/13/2019	Sampling Date:	08/13/2019
Reported:	08/14/2019	Sampling Type:	Soil
Project Name:	BIG PAPI FEDERAL COM 2H	Sampling Condition:	Cool & Intact
Project Number:	212C -MD - 01885 (7-12-19)	Sample Received By:	Tamara Oldaker
Project Location:	COG - EDDY CO NM		

Sample ID: BOTTOM HOLE #2 (6' BEB) (H902775-01)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/14/2019	ND	1.85	92.4	2.00	1.69	
Toluene*	<0.050	0.050	08/14/2019	ND	1.97	98.6	2.00	4.30	
Ethylbenzene*	<0.050	0.050	08/14/2019	ND	1.97	98.7	2.00	4.93	
Total Xylenes*	<0.150	0.150	08/14/2019	ND	5.99	99.8	6.00	6.80	
Total BTEX	<0.300	0.300	08/14/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	08/14/2019	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2019	ND	194	97.1	200	7.24	
DRO >C10-C28*	<10.0	10.0	08/14/2019	ND	180	90.0	200	9.13	
EXT DRO >C28-C36	<10.0	10.0	08/14/2019	ND					

Surrogate: 1-Chlorooctane *69.8 %* *41-142*

Surrogate: 1-Chlorooctadecane *67.9 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For 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:	08/13/2019	Sampling Date:	08/13/2019
Reported:	08/14/2019	Sampling Type:	Soil
Project Name:	BIG PAPI FEDERAL COM 2H	Sampling Condition:	Cool & Intact
Project Number:	212C -MD - 01885 (7-12-19)	Sample Received By:	Tamara Oldaker
Project Location:	COG - EDDY CO NM		

Sample ID: BOTTOM HOLE #3 (6' BEB) (H902775-02)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/14/2019	ND	1.85	92.4	2.00	1.69	
Toluene*	<0.050	0.050	08/14/2019	ND	1.97	98.6	2.00	4.30	
Ethylbenzene*	<0.050	0.050	08/14/2019	ND	1.97	98.7	2.00	4.93	
Total Xylenes*	<0.150	0.150	08/14/2019	ND	5.99	99.8	6.00	6.80	
Total BTEX	<0.300	0.300	08/14/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *104 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**144**	16.0	08/14/2019	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2019	ND	194	97.1	200	7.24	
DRO >C10-C28*	<10.0	10.0	08/14/2019	ND	180	90.0	200	9.13	
EXT DRO >C28-C36	<10.0	10.0	08/14/2019	ND					

Surrogate: 1-Chlorooctane *70.5 %* *41-142*

Surrogate: 1-Chlorooctadecane *70.7 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For 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:	08/13/2019	Sampling Date:	08/13/2019
Reported:	08/14/2019	Sampling Type:	Soil
Project Name:	BIG PAPI FEDERAL COM 2H	Sampling Condition:	Cool & Intact
Project Number:	212C -MD - 01885 (7-12-19)	Sample Received By:	Tamara Oldaker
Project Location:	COG - EDDY CO NM		

Sample ID: EAST 2 SIDEWALL (H902775-03)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/14/2019	ND	1.85	92.4	2.00	1.69	
Toluene*	<0.050	0.050	08/14/2019	ND	1.97	98.6	2.00	4.30	
Ethylbenzene*	<0.050	0.050	08/14/2019	ND	1.97	98.7	2.00	4.93	
Total Xylenes*	<0.150	0.150	08/14/2019	ND	5.99	99.8	6.00	6.80	
Total BTEX	<0.300	0.300	08/14/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *103 %* *73.3-129*

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	08/14/2019	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2019	ND	194	97.1	200	7.24	
DRO >C10-C28*	<10.0	10.0	08/14/2019	ND	180	90.0	200	9.13	
EXT DRO >C28-C36	<10.0	10.0	08/14/2019	ND					

Surrogate: 1-Chlorooctane *76.2 %* *41-142*

Surrogate: 1-Chlorooctadecane *75.5 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record

Page 1 of 1

Tetra Tech, Inc.

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

Client Name: Concho	Site Manager: Mike Carmona
Project Name: Big Papi Fed Com 2H (7.12.19)	
Project Location: (county, state) Eddy Co, NM	Project #: 212C-MD-01885
Invoice to: COG - Ike Tavarez	
Receiving Laboratory: Cardinal	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	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	PRESERVATIVE METHOD	# 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
H902775																																				
1	Bottom Hole #2 @ (6' BER)	8/13/19			X				X			1	N	X		X												X								
2	Bottom Hole #3 (6' BER)	8/13/19			X				X			1	N	X		X												X								
3	EAST 2 SIDEWALL	8/13/19			X				X			1	N	X		X												X								

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Conner Moehring	8/13/19		Tamara Oldaker	8-13-19	17:10
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature 3.8c #97 Corrected 4.2c

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 652156

Tetra Tech- Midland, Midland, TX

Project Name: Big Pappy Fed Com 2H (7-12-19)

Project Id: 212C-MD-01855
Contact: Mike Carmona
Project Location: Eddy Co, NM

Date Received in Lab: Wed Feb-12-20 01:15 pm
Report Date: 14-FEB-20
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	652156-001		652156-002		652156-003		652156-004		652156-005		652156-006	
	Field Id:	AH#2 (0-1')		AH#2 (1-1.5')		AH#3(0-1')		AH#4(0-1')		AH#4 (1-1.5')		AH#4 (1.5-2')	
	Depth:	0-1 ft		1-1.5 ft		0-1 ft		0-1 ft		1-1.5 ft		1.5-2 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-12-20 00:00		Feb-12-20 00:00		Feb-12-20 00:00		Feb-12-20 00:00		Feb-12-20 00:00		Feb-12-20 00:00	
Chloride by EPA 300	***Extracted:***	Feb-12-20 14:30		Feb-12-20 14:30		Feb-12-20 14:30		Feb-12-20 14:30		Feb-12-20 14:30		Feb-12-20 14:30	
	Analyzed:	Feb-12-20 16:31		Feb-12-20 16:37		Feb-12-20 16:43		Feb-12-20 16:49		Feb-12-20 16:55		Feb-12-20 17:01	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		67.4	10.0	197	10.1	248	9.98	142	9.88	189	9.94	607	9.90

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Version: 1.%

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analysis Summary 652156

Tetra Tech- Midland, Midland, TX

Project Name: Big Pappy Fed Com 2H (7-12-19)

Project Id: 212C-MD-01855
Contact: Mike Carmona
Project Location: Eddy Co, NM

Date Received in Lab: Wed Feb-12-20 01:15 pm
Report Date: 14-FEB-20
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	652156-007		652156-008		652156-009		652156-010		652156-011		652156-012	
	Field Id:	AH#5(0-1')		AH#5 (1-1.5')		AH#5 (2-2.5')		AH#6(0-1')		AH#7 (0-6")		AH#8 (0-6")	
	Depth:	0-1 ft		1-1.5 ft		2-2.5 ft		0-1 ft		0-6 In		0-6 In	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-12-20 00:00		Feb-12-20 00:00		Feb-12-20 00:00		Feb-12-20 00:00		Feb-12-20 00:00		Feb-12-20 00:00	
Chloride by EPA 300	***Extracted:***	Feb-12-20 14:30		Feb-12-20 14:30		Feb-12-20 14:30		Feb-12-20 14:30		Feb-12-20 14:30		Feb-12-20 14:30	
	Analyzed:	Feb-12-20 17:19		Feb-12-20 17:25		Feb-12-20 17:42		Feb-12-20 17:48		Feb-12-20 17:54		Feb-12-20 18:00	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		624	9.98	823	10.0	1040	9.96	310	9.98	69.7	9.98	<9.92	9.92

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Version: 1.%

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analysis Summary 652156

Tetra Tech- Midland, Midland, TX

Project Name: Big Pappy Fed Com 2H (7-12-19)

Project Id: 212C-MD-01855
Contact: Mike Carmona
Project Location: Eddy Co, NM

Date Received in Lab: Wed Feb-12-20 01:15 pm
Report Date: 14-FEB-20
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	652156-013		652156-014		652156-015		652156-016		652156-017		652156-018	
	Field Id:	AH#9 (0-6")		AH#10 (0-6")		AH#11 (0-6")		AH#12 (0-6")		AH#13 (0-6")		AH#14 (0-6")	
	Depth:	0-6 In		0-6 In		0-6 In		0-6 In		0-6 In		0-6 In	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-12-20 00:00		Feb-12-20 00:00		Feb-12-20 00:00		Feb-12-20 00:00		Feb-12-20 00:00		Feb-12-20 00:00	
Chloride by EPA 300	***Extracted:***	Feb-12-20 14:30		Feb-12-20 14:30		Feb-12-20 14:30		Feb-12-20 17:31		Feb-12-20 17:31		Feb-12-20 17:31	
	Analyzed:	Feb-12-20 18:06		Feb-12-20 18:12		Feb-12-20 18:18		Feb-12-20 18:56		Feb-12-20 19:15		Feb-12-20 19:22	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		29.1	9.92	99.2	9.98	160	9.90	34.4	9.98	29.6	9.88	15.3	9.92

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Version: 1.%

Jessica Kramer
Project Assistant

Final 1.000

Analytical Report 652156

for

Tetra Tech- Midland

Project Manager: Mike Carmona

Big Pappy Fed Com 2H (7-12-19)

212C-MD-01855

14-FEB-20

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

14-FEB-20

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

Reference: XENCO Report No(s): **652156**
Big Pappy Fed Com 2H (7-12-19)
Project Address: Eddy 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) 652156. 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. 652156 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 652156

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7-12-19)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
AH#2 (0-1')	S	02-12-20 00:00	0 - 1 ft	652156-001
AH#2 (1-1.5')	S	02-12-20 00:00	1 - 1.5 ft	652156-002
AH#3(0-1')	S	02-12-20 00:00	0 - 1 ft	652156-003
AH#4(0-1')	S	02-12-20 00:00	0 - 1 ft	652156-004
AH#4 (1-1.5')	S	02-12-20 00:00	1 - 1.5 ft	652156-005
AH#4 (1.5-2')	S	02-12-20 00:00	1.5 - 2 ft	652156-006
AH#5(0-1')	S	02-12-20 00:00	0 - 1 ft	652156-007
AH#5 (1-1.5')	S	02-12-20 00:00	1 - 1.5 ft	652156-008
AH#5 (2-2.5')	S	02-12-20 00:00	2 - 2.5 ft	652156-009
AH#6(0-1')	S	02-12-20 00:00	0 - 1 ft	652156-010
AH#7 (0-6")	S	02-12-20 00:00	0 - 6 In	652156-011
AH#8 (0-6")	S	02-12-20 00:00	0 - 6 In	652156-012
AH#9 (0-6")	S	02-12-20 00:00	0 - 6 In	652156-013
AH#10 (0-6")	S	02-12-20 00:00	0 - 6 In	652156-014
AH#11 (0-6")	S	02-12-20 00:00	0 - 6 In	652156-015
AH#12 (0-6")	S	02-12-20 00:00	0 - 6 In	652156-016
AH#13 (0-6")	S	02-12-20 00:00	0 - 6 In	652156-017
AH#14 (0-6")	S	02-12-20 00:00	0 - 6 In	652156-018

CASE NARRATIVE

Client Name: Tetra Tech- Midland

Project Name: Big Pappy Fed Com 2H (7-12-19)

Project ID: *212C-MD-01855*
Work Order Number(s): *652156*

Report Date: *14-FEB-20*
Date Received: *02/12/2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3116368 Chloride by EPA 300

Lab Sample ID 652161-008 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 652156-016, -017, -018.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analytical Results 652156

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7-12-19)

Sample Id:	**AH#2 (0-1')**	Matrix:	Soil	Date Received:	02.12.20 13.15
Lab Sample Id:	652156-001	Date Collected:	02.12.20 00.00	Sample Depth:	0 - 1 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.12.20 14.30	Basis:	Wet Weight
Seq Number:	3116357				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**67.4**	10.0	mg/kg	02.12.20 16.31		1

Certificate of Analytical Results 652156

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7-12-19)

Sample Id:	**AH#2 (1-1.5')**	Matrix:	Soil	Date Received:	02.12.20 13.15
Lab Sample Id:	652156-002	Date Collected:	02.12.20 00.00	Sample Depth:	1 - 1.5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.12.20 14.30	Basis:	Wet Weight
Seq Number:	3116357				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**197**	10.1	mg/kg	02.12.20 16.37		1

Certificate of Analytical Results 652156

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7-12-19)

Sample Id:	**AH#3(0-1')**	Matrix:	Soil	Date Received:	02.12.20 13.15
Lab Sample Id:	652156-003	Date Collected:	02.12.20 00.00	Sample Depth:	0 - 1 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.12.20 14.30	Basis:	Wet Weight
Seq Number:	3116357				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**248**	9.98	mg/kg	02.12.20 16.43		1

Certificate of Analytical Results 652156

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7-12-19)

Sample Id:	**AH#4(0-1')**	Matrix:	Soil	Date Received:	02.12.20 13.15
Lab Sample Id:	652156-004	Date Collected:	02.12.20 00.00	Sample Depth:	0 - 1 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.12.20 14.30	Basis:	Wet Weight
Seq Number:	3116357				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**142**	9.88	mg/kg	02.12.20 16.49		1

Certificate of Analytical Results 652156

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7-12-19)

Sample Id:	**AH#4 (1-1.5')**	Matrix:	Soil	Date Received:	02.12.20 13.15
Lab Sample Id:	652156-005	Date Collected:	02.12.20 00.00	Sample Depth:	1 - 1.5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.12.20 14.30	Basis:	Wet Weight
Seq Number:	3116357				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**189**	9.94	mg/kg	02.12.20 16.55		1

Certificate of Analytical Results 652156

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7-12-19)

Sample Id:	**AH#4 (1.5-2')**	Matrix:	Soil	Date Received:	02.12.20 13.15
Lab Sample Id:	652156-006	Date Collected:	02.12.20 00.00	Sample Depth:	1.5 - 2 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.12.20 14.30	Basis:	Wet Weight
Seq Number:	3116357				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**607**	9.90	mg/kg	02.12.20 17.01		1

Certificate of Analytical Results 652156

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7-12-19)

Sample Id:	**AH#5(0-1')**	Matrix:	Soil	Date Received:	02.12.20 13.15
Lab Sample Id:	652156-007	Date Collected:	02.12.20 00.00	Sample Depth:	0 - 1 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.12.20 14.30	Basis:	Wet Weight
Seq Number:	3116357				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**624**	9.98	mg/kg	02.12.20 17.19		1

Certificate of Analytical Results 652156

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7-12-19)

Sample Id:	**AH#5 (1-1.5')**	Matrix:	Soil	Date Received:	02.12.20 13.15
Lab Sample Id:	652156-008	Date Collected:	02.12.20 00.00	Sample Depth:	1 - 1.5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.12.20 14.30	Basis:	Wet Weight
Seq Number:	3116357				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**823**	10.0	mg/kg	02.12.20 17.25		1

Certificate of Analytical Results 652156

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7-12-19)

Sample Id:	**AH#5 (2-2.5')**	Matrix:	Soil	Date Received:	02.12.20 13.15
Lab Sample Id:	652156-009	Date Collected:	02.12.20 00.00	Sample Depth:	2 - 2.5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.12.20 14.30	Basis:	Wet Weight
Seq Number:	3116357				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1040**	9.96	mg/kg	02.12.20 17.42		1

Certificate of Analytical Results 652156

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7-12-19)

Sample Id:	**AH#6(0-1')**	Matrix:	Soil	Date Received:	02.12.20 13.15
Lab Sample Id:	652156-010	Date Collected:	02.12.20 00.00	Sample Depth:	0 - 1 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.12.20 14.30	Basis:	Wet Weight
Seq Number:	3116357				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**310**	9.98	mg/kg	02.12.20 17.48		1

Certificate of Analytical Results 652156

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7-12-19)

Sample Id:	**AH#7 (0-6")**	Matrix:	Soil	Date Received:	02.12.20 13.15
Lab Sample Id:	652156-011	Date Collected:	02.12.20 00.00	Sample Depth:	0 - 6 In
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.12.20 14.30	Basis:	Wet Weight
Seq Number:	3116357				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**69.7**	9.98	mg/kg	02.12.20 17.54		1

Certificate of Analytical Results 652156

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7-12-19)

Sample Id:	**AH#8 (0-6")**	Matrix:	Soil	Date Received:	02.12.20 13.15
Lab Sample Id:	652156-012	Date Collected:	02.12.20 00.00	Sample Depth:	0 - 6 In
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.12.20 14.30	Basis:	Wet Weight
Seq Number:	3116357				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.92	9.92	mg/kg	02.12.20 18.00	U	1

Certificate of Analytical Results 652156

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7-12-19)

Sample Id:	**AH#9 (0-6")**	Matrix:	Soil	Date Received:	02.12.20 13.15
Lab Sample Id:	652156-013	Date Collected:	02.12.20 00.00	Sample Depth:	0 - 6 In
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.12.20 14.30	Basis:	Wet Weight
Seq Number:	3116357				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**29.1**	9.92	mg/kg	02.12.20 18.06		1

Certificate of Analytical Results 652156

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7-12-19)

Sample Id:	**AH#10 (0-6")**	Matrix:	Soil	Date Received:	02.12.20 13.15
Lab Sample Id:	652156-014	Date Collected:	02.12.20 00.00	Sample Depth:	0 - 6 In
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.12.20 14.30	Basis:	Wet Weight
Seq Number:	3116357				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**99.2**	9.98	mg/kg	02.12.20 18.12		1

Certificate of Analytical Results 652156

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7-12-19)

Sample Id:	**AH#11 (0-6")**	Matrix:	Soil	Date Received:	02.12.20 13.15
Lab Sample Id:	652156-015	Date Collected:	02.12.20 00.00	Sample Depth:	0 - 6 In
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.12.20 14.30	Basis:	Wet Weight
Seq Number:	3116357				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**160**	9.90	mg/kg	02.12.20 18.18		1

Certificate of Analytical Results 652156

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7-12-19)

Sample Id:	**AH#12 (0-6")**	Matrix:	Soil	Date Received:	02.12.20 13.15
Lab Sample Id:	652156-016	Date Collected:	02.12.20 00.00	Sample Depth:	0 - 6 In
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.12.20 17.31	Basis:	Wet Weight
Seq Number:	3116368				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**34.4**	9.98	mg/kg	02.12.20 18.56		1

Certificate of Analytical Results 652156

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7-12-19)

Sample Id:	**AH#13 (0-6")**	Matrix:	Soil	Date Received:	02.12.20 13.15
Lab Sample Id:	652156-017	Date Collected:	02.12.20 00.00	Sample Depth:	0 - 6 In
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.12.20 17.31	Basis:	Wet Weight
Seq Number:	3116368				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**29.6**	9.88	mg/kg	02.12.20 19.15		1

Certificate of Analytical Results 652156

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7-12-19)

Sample Id:	**AH#14 (0-6")**	Matrix:	Soil	Date Received:	02.12.20 13.15
Lab Sample Id:	652156-018	Date Collected:	02.12.20 00.00	Sample Depth:	0 - 6 In
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.12.20 17.31	Basis:	Wet Weight
Seq Number:	3116368				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**15.3**	9.92	mg/kg	02.12.20 19.22		1

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 652156

Tetra Tech- Midland

Big Pappy Fed Com 2H (7-12-19)

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3116357 Matrix: Solid Date Prep: 02.12.20
MB Sample Id: 7696526-1-BLK LCS Sample Id: 7696526-1-BKS LCSD Sample Id: 7696526-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	255	102	256	102	90-110	0	20	mg/kg	02.12.20 15:26	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3116368 Matrix: Solid Date Prep: 02.12.20
MB Sample Id: 7696527-1-BLK LCS Sample Id: 7696527-1-BKS LCSD Sample Id: 7696527-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	256	102	258	103	90-110	1	20	mg/kg	02.12.20 18:43	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3116357 Matrix: Soil Date Prep: 02.12.20
Parent Sample Id: 652152-004 MS Sample Id: 652152-004 S MSD Sample Id: 652152-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	17.5	200	205	94	207	95	90-110	1	20	mg/kg	02.12.20 15:44	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3116357 Matrix: Soil Date Prep: 02.12.20
Parent Sample Id: 652156-006 MS Sample Id: 652156-006 S MSD Sample Id: 652156-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	607	199	812	103	816	105	90-110	0	20	mg/kg	02.12.20 17:07	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3116368 Matrix: Soil Date Prep: 02.12.20
Parent Sample Id: 652156-016 MS Sample Id: 652156-016 S MSD Sample Id: 652156-016 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	34.4	200	253	109	264	115	90-110	4	20	mg/kg	02.12.20 19:02	X

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

QC Summary 652156

Tetra Tech- Midland

Big Pappy Fed Com 2H (7-12-19)

Analytical Method:	**Chloride by EPA 300**			Prep Method:	E300P
Seq Number:	3116368	Matrix:	Soil	Date Prep:	02.12.20
Parent Sample Id:	652161-008	MS Sample Id:	652161-008 S	MSD Sample Id:	652161-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	25.8	200	237	106	239	107	90-110	1	20	mg/kg	02.12.20 20:32	

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	

652156

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: Concho	Site Manager: Mike Carmona
Project Name: Big Pappy Fed Com 2H (7.12.19)	
Project Location: (county, state) Eddy Co, NM	Project #: 212C-MD-01855
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	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	# CONTAINERS	FILTERED (Y/N)
	AH#2 (0-1')	2/12/2020			X			X		1	N
	AH#2 (1-1.5')	2/12/20			X			X		1	N
	AH#3 (0-1')	2/12/20			X			X		1	N
	AH#4 (0-1')	2/12/20			X			X		1	N
	AH#4 (1-1.5')	2/12/20			X			X		1	N
	AH#4 (1.5-2')	2/12/20			X			X		1	N
	AH#5 (0-1')	2/12/20			X			X		1	N
	AH#5 (1-1.5')	2/12/20			X			X		1	N
	AH#5 (2-2.5')	2/12/20			X			X		1	N
	AH#6 (0-1')	2/12/20			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	PCBs 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							

Relinquished by: Conner Moehring Date: 2/12/20 Time: 1315
Received by: Date: 2/12/20 Time: 1515

Relinquished by: Date: Time:
Received by: Date: Time:

Relinquished by: Date: Time:
Received by: Date: Time:

LAB USE ONLY
Sample Temperature 3.2

REMARKS:
- [X] 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

652156

Analysis Request of Chain of Custody Record

Page 2 of 2

Tetra Tech, Inc.

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

Client Name: Concho	Site Manager: Mike Carmona
Project Name: Big Pappy Fed Com 2H (7.12.19)	
Project Location: (county, state) Eddy Co, NM	Project #: 212C-MD-01855
Invoice to: COG - Ike Tavarez	
Receiving Laboratory: Xenco	Sampler Signature: Conner Moehring
Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE (YEAR: 2020)	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
	AH #7 (0-6")	2/12/2020			X			X		1	N															X				
	AH #8 (0-6")	2/12/20			X			X		1	N															X				
	AH #9 (0-6")	2/12/20			X			X		1	N															X				
	AH #10 (0-6")	2/12/20			X			X		1	N															X				
	AH #11 (0-6")	2/12/20			X			X		1	N															X				
	AH #12 (0-6")	2/12/20			X			X		1	N															X				
	AH #13 (0-6")	2/12/20			X			X		1	N															X				
	AH #14 (0-6")	2/12/20			X			X		1	N															X				

ANALYSIS REQUEST
(Circle or Specify Method No.)

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Conner Moehring	2/12/20	1315		2/12/20	1315

LAB USE ONLY

Sample Temperature 3.2

REMARKS:

- [X] 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

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 02.12.2020 01.15.00 PM

Work Order #: 652156

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)?	3.2
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6*Custody Seals Signed and dated?	**Yes**
#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)?	**No**
#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: 02.12.2020

Checklist reviewed by: Jessica Kramer Date: 02.12.2020

Jessica Kramer

Analytical Report 660477

for

Tetra Tech- Midland

Project Manager: Mike Carmona

Big Papi Federal Com #2H (7.12.19)

212C-MD-01855

05.07.2020

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-32), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-23), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

Certificate of Analysis Summary 660477

Tetra Tech- Midland, Midland, TX

Project Name: Big Papi Federal Com #2H (7.12.19)

Project Id: 212C-MD-01855
Contact: Mike Carmona
Project Location: Eddy County, NM

Date Received in Lab: Mon 05.04.2020 10:24
Report Date: 05.07.2020 12:24
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	660477-001		660477-002		660477-003		660477-004		660477-005		660477-006	
	Field Id:	AH-2 (0'-1')		AH-2 (1'-1.5')		AH-3 (0'-1')		AH-4 (0'-1')		AH-4 (1'-1.5')		AH-4 (1.5'-2')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	05.01.2020 00:00		05.01.2020 00:00		05.01.2020 00:00		05.01.2020 00:00		05.01.2020 00:00		05.01.2020 00:00	
Chloride by EPA 300	***Extracted:***	05.04.2020 16:55		05.04.2020 16:55		05.04.2020 16:55		05.04.2020 16:55		05.05.2020 12:00		05.05.2020 12:00	
	Analyzed:	05.05.2020 02:07		05.05.2020 02:14		05.05.2020 02:21		05.05.2020 02:28		05.05.2020 13:33		05.05.2020 14:00	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1850	24.9	280	4.98	18.5	4.99	54.2	5.00	149	4.97	335	4.98

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer
Project Manager

Certificate of Analysis Summary 660477

Tetra Tech- Midland, Midland, TX

Project Name: Big Papi Federal Com #2H (7.12.19)

Project Id: 212C-MD-01855
Contact: Mike Carmona
Project Location: Eddy County, NM

Date Received in Lab: Mon 05.04.2020 10:24
Report Date: 05.07.2020 12:24
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	660477-007		660477-008		660477-009		660477-010		660477-011		660477-012	
	Field Id:	AH-5 (0'-1')		AH-5 (1'-1.5')		AH-5 (2'-2.5')		AH-6 (0'-1')		AH-7 (0-6")		AH-8 (0-6")	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	05.01.2020 00:00		05.01.2020 00:00		05.01.2020 00:00		05.01.2020 00:00		05.01.2020 00:00		05.01.2020 00:00	
Chloride by EPA 300	***Extracted:***	05.05.2020 12:00		05.05.2020 12:00		05.05.2020 12:00		05.05.2020 12:00		05.05.2020 12:00		05.05.2020 12:00	
	Analyzed:	05.05.2020 14:06		05.05.2020 14:11		05.05.2020 14:16		05.05.2020 14:40		05.05.2020 14:45		05.05.2020 14:50	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		902	5.01	1250	5.04	7770	50.3	977	25.0	28.3	5.00	25.8	4.98

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer
Project Manager

Certificate of Analysis Summary 660477

Tetra Tech- Midland, Midland, TX

Project Name: Big Papi Federal Com #2H (7.12.19)

Project Id: 212C-MD-01855
Contact: Mike Carmona
Project Location: Eddy County, NM

Date Received in Lab: Mon 05.04.2020 10:24
Report Date: 05.07.2020 12:24
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	660477-013		660477-014		660477-015		660477-016		660477-017		660477-018	
	Field Id:	AH-9 (0-6")		AH-10 (0-6")		AH-11 (0-6")		AH-12 (0-6")		AH-13 (0-6")		AH-14 (0-6")	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	05.01.2020 00:00		05.01.2020 00:00		05.01.2020 00:00		05.01.2020 00:00		05.01.2020 00:00		05.01.2020 00:00	
Chloride by EPA 300	***Extracted:***	05.05.2020 12:00		05.05.2020 12:00		05.05.2020 12:00		05.05.2020 12:00		05.05.2020 12:00		05.05.2020 12:00	
	Analyzed:	05.05.2020 14:55		05.05.2020 15:01		05.05.2020 15:22		05.05.2020 15:06		05.05.2020 15:27		05.05.2020 15:43	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		37.5	5.01	382	5.02	277	4.96	23.6	5.03	12.7	4.99	41.1	4.95

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer
Project Manager

05.07.2020

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

Reference: XENCO Report No(s): **660477**
Big Papi Federal Com #2H (7.12.19)
Project Address: Eddy County, 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) 660477. 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. 660477 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 Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Sample Cross Reference 660477

Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
AH-2 (0'-1')	S	05.01.2020 00:00		660477-001
AH-2 (1'-1.5')	S	05.01.2020 00:00		660477-002
AH-3 (0'-1')	S	05.01.2020 00:00		660477-003
AH-4 (0'-1')	S	05.01.2020 00:00		660477-004
AH-4 (1'-1.5')	S	05.01.2020 00:00		660477-005
AH-4 (1.5'-2')	S	05.01.2020 00:00		660477-006
AH-5 (0'-1')	S	05.01.2020 00:00		660477-007
AH-5 (1'-1.5')	S	05.01.2020 00:00		660477-008
AH-5 (2'-2.5')	S	05.01.2020 00:00		660477-009
AH-6 (0'-1')	S	05.01.2020 00:00		660477-010
AH-7 (0-6")	S	05.01.2020 00:00		660477-011
AH-8 (0-6")	S	05.01.2020 00:00		660477-012
AH-9 (0-6")	S	05.01.2020 00:00		660477-013
AH-10 (0-6")	S	05.01.2020 00:00		660477-014
AH-11 (0-6")	S	05.01.2020 00:00		660477-015
AH-12 (0-6")	S	05.01.2020 00:00		660477-016
AH-13 (0-6")	S	05.01.2020 00:00		660477-017
AH-14 (0-6")	S	05.01.2020 00:00		660477-018

CASE NARRATIVE

Client Name: Tetra Tech- Midland

Project Name: Big Papi Federal Com #2H (7.12.19)

Project ID:	*212C-MD-01855*	Report Date:	*05.07.2020*
Work Order Number(s):	*660477*	Date Received:	*05.04.2020*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analytical Results 660477

Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Sample Id:	**AH-2 (0'-1')**	Matrix:	Soil	Date Received:	05.04.2020 10:24
Lab Sample Id:	660477-001	Date Collected:	05.01.2020 00:00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	05.04.2020 16:55	Basis:	Wet Weight
Seq Number:	3125066				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1850**	24.9	mg/kg	05.05.2020 02:07		5

Certificate of Analytical Results 660477

Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Sample Id:	**AH-2 (1'-1.5')**	Matrix:	Soil	Date Received:	05.04.2020 10:24
Lab Sample Id:	660477-002	Date Collected:	05.01.2020 00:00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	05.04.2020 16:55	Basis:	Wet Weight
Seq Number:	3125066				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**280**	4.98	mg/kg	05.05.2020 02:14		1

Certificate of Analytical Results 660477

Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Sample Id:	**AH-3 (0'-1')**	Matrix:	Soil	Date Received:	05.04.2020 10:24
Lab Sample Id:	660477-003	Date Collected:	05.01.2020 00:00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	05.04.2020 16:55	Basis:	Wet Weight
Seq Number:	3125066				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**18.5**	4.99	mg/kg	05.05.2020 02:21		1

Certificate of Analytical Results 660477

Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Sample Id:	**AH-4 (0'-1')**	Matrix:	Soil	Date Received:	05.04.2020 10:24
Lab Sample Id:	660477-004	Date Collected:	05.01.2020 00:00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	05.04.2020 16:55	Basis:	Wet Weight
Seq Number:	3125066				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**54.2**	5.00	mg/kg	05.05.2020 02:28		1

Certificate of Analytical Results 660477

Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Sample Id:	**AH-4 (1'-1.5')**	Matrix:	Soil	Date Received:	05.04.2020 10:24
Lab Sample Id:	660477-005	Date Collected:	05.01.2020 00:00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.05.2020 12:00	Basis:	Wet Weight
Seq Number:	3125116				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**149**	4.97	mg/kg	05.05.2020 13:33		1

Certificate of Analytical Results 660477

Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Sample Id:	**AH-4 (1.5'-2')**	Matrix:	Soil	Date Received:	05.04.2020 10:24
Lab Sample Id:	660477-006	Date Collected:	05.01.2020 00:00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.05.2020 12:00	Basis:	Wet Weight
Seq Number:	3125116				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**335**	4.98	mg/kg	05.05.2020 14:00		1

Certificate of Analytical Results 660477

Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Sample Id:	**AH-5 (0'-1')**	Matrix:	Soil	Date Received:	05.04.2020 10:24
Lab Sample Id:	660477-007	Date Collected:	05.01.2020 00:00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.05.2020 12:00	Basis:	Wet Weight
Seq Number:	3125116				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**902**	5.01	mg/kg	05.05.2020 14:06		1

Certificate of Analytical Results 660477

Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Sample Id:	**AH-5 (1'-1.5')**	Matrix:	Soil	Date Received:	05.04.2020 10:24
Lab Sample Id:	660477-008	Date Collected:	05.01.2020 00:00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.05.2020 12:00	Basis:	Wet Weight
Seq Number:	3125116				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1250**	5.04	mg/kg	05.05.2020 14:11		1

Certificate of Analytical Results 660477

Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Sample Id:	**AH-5 (2'-2.5')**	Matrix:	Soil	Date Received:	05.04.2020 10:24
Lab Sample Id:	660477-009	Date Collected:	05.01.2020 00:00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.05.2020 12:00	Basis:	Wet Weight
Seq Number:	3125116				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7770**	50.3	mg/kg	05.05.2020 14:16		10

Certificate of Analytical Results 660477

Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Sample Id:	**AH-6 (0'-1')**	Matrix:	Soil	Date Received:	05.04.2020 10:24
Lab Sample Id:	660477-010	Date Collected:	05.01.2020 00:00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.05.2020 12:00	Basis:	Wet Weight
Seq Number:	3125116				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**977**	25.0	mg/kg	05.05.2020 14:40		5

Certificate of Analytical Results 660477

Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Sample Id:	**AH-7 (0-6")**	Matrix:	Soil	Date Received:	05.04.2020 10:24
Lab Sample Id:	660477-011	Date Collected:	05.01.2020 00:00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.05.2020 12:00	Basis:	Wet Weight
Seq Number:	3125116				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**28.3**	5.00	mg/kg	05.05.2020 14:45		1

Certificate of Analytical Results 660477

Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Sample Id:	**AH-8 (0-6")**	Matrix:	Soil	Date Received:	05.04.2020 10:24
Lab Sample Id:	660477-012	Date Collected:	05.01.2020 00:00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.05.2020 12:00	Basis:	Wet Weight
Seq Number:	3125116				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**25.8**	4.98	mg/kg	05.05.2020 14:50		1

Certificate of Analytical Results 660477

Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Sample Id:	**AH-9 (0-6")**	Matrix:	Soil	Date Received:	05.04.2020 10:24
Lab Sample Id:	660477-013	Date Collected:	05.01.2020 00:00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.05.2020 12:00	Basis:	Wet Weight
Seq Number:	3125116				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**37.5**	5.01	mg/kg	05.05.2020 14:55		1

Certificate of Analytical Results 660477

Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Sample Id:	**AH-10 (0-6")**	Matrix:	Soil	Date Received:	05.04.2020 10:24
Lab Sample Id:	660477-014	Date Collected:	05.01.2020 00:00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.05.2020 12:00	Basis:	Wet Weight
Seq Number:	3125116				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**382**	5.02	mg/kg	05.05.2020 15:01		1

Certificate of Analytical Results 660477

Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Sample Id:	**AH-11 (0-6")**	Matrix:	Soil	Date Received:	05.04.2020 10:24
Lab Sample Id:	660477-015	Date Collected:	05.01.2020 00:00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.05.2020 12:00	Basis:	Wet Weight
Seq Number:	3125116				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**277**	4.96	mg/kg	05.05.2020 15:22		1

Certificate of Analytical Results 660477

Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Sample Id:	**AH-12 (0-6")**	Matrix:	Soil	Date Received:	05.04.2020 10:24
Lab Sample Id:	660477-016	Date Collected:	05.01.2020 00:00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.05.2020 12:00	Basis:	Wet Weight
Seq Number:	3125116				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**23.6**	5.03	mg/kg	05.05.2020 15:06		1

Certificate of Analytical Results 660477

Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Sample Id:	**AH-13 (0-6")**	Matrix:	Soil	Date Received:	05.04.2020 10:24
Lab Sample Id:	660477-017	Date Collected:	05.01.2020 00:00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.05.2020 12:00	Basis:	Wet Weight
Seq Number:	3125116				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**12.7**	4.99	mg/kg	05.05.2020 15:27		1

Certificate of Analytical Results 660477

Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Sample Id:	**AH-14 (0-6")**	Matrix:	Soil	Date Received:	05.04.2020 10:24
Lab Sample Id:	660477-018	Date Collected:	05.01.2020 00:00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.05.2020 12:00	Basis:	Wet Weight
Seq Number:	3125116				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**41.1**	4.95	mg/kg	05.05.2020 15:43		1

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. **ND** Not Detected.

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 660477

Tetra Tech- Midland

Big Papi Federal Com #2H (7.12.19)

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3125066 — Matrix: Solid — Date Prep: 05.04.2020
MB Sample Id: 7702663-1-BLK — LCS Sample Id: 7702663-1-BKS — LCSD Sample Id: 7702663-1-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	272	109	273	109	90-110	0	20	mg/kg	05.04.2020 23:09	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3125116 — Matrix: Solid — Date Prep: 05.05.2020
MB Sample Id: 7702747-1-BLK — LCS Sample Id: 7702747-1-BKS — LCSD Sample Id: 7702747-1-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	261	104	244	98	90-110	7	20	mg/kg	05.05.2020 13:15	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3125066 — Matrix: Soil — Date Prep: 05.04.2020
Parent Sample Id: 660467-001 — MS Sample Id: 660467-001 S — MSD Sample Id: 660467-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	332	248	593	105	594	106	90-110	0	20	mg/kg	05.04.2020 23:30	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3125066 — Matrix: Soil — Date Prep: 05.04.2020
Parent Sample Id: 660467-005 — MS Sample Id: 660467-005 S — MSD Sample Id: 660467-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	7.01	249	274	107	274	107	90-110	0	20	mg/kg	05.05.2020 01:06	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3125116 — Matrix: Soil — Date Prep: 05.05.2020
Parent Sample Id: 660477-005 — MS Sample Id: 660477-005 S — MSD Sample Id: 660477-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	149	249	376	91	380	93	90-110	1	20	mg/kg	05.05.2020 13:42	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3125116 — Matrix: Soil — Date Prep: 05.05.2020
Parent Sample Id: 660477-016 — MS Sample Id: 660477-016 S — MSD Sample Id: 660477-016 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	23.6	252	262	95	260	94	90-110	1	20	mg/kg	05.05.2020 15:11	

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

160477

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland,Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: COG	**Site Manager:** Mike Carmona
Project Name: Big Papi Federal Com #2H (7.12.19)	
Project Location: (county, state) Eddy County, NM	**Project #:** 212C-MD-01855
Invoice to: COG - Attn: Ike Tavarez	
Receiving Laboratory: Xenco	**Sampler Signature:** Carlos Tomlinson/Tony Legarda
Comments:	

ANALYSIS REQUEST
(Circle or Specify Method No.)

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	PRESERVATIVE METHOD	# 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
	AH-2 (0'-1')	5/1/2020			X				X			1	N															X							
	AH-2 (1'-1.5')	5/1/2020			X				X			1	N															X							
	AH-3 (0'-1')	5/1/2020			X				X			1	N															X							
	AH-4 (0'-1')	5/1/2020			X				X			1	N															X							
	AH-4 (1'-1.5')	5/1/2020			X				X			1	N															X							
	AH-4 (1.5'-2')	5/1/2020			X				X			1	N															X							
	AH-5 (0'-1')	5/1/2020			X				X			1	N															X							
	AH-5 (1'-1.5')	5/1/2020			X				X			1	N															X							
	AH-5 (2'-2.5')	5/1/2020			X				X			1	N															X							
	AH-6 (0'-1')	5/1/2020			X				X			1	N															X							

Relinquished by: Mike Carmona	Date: 5/4/2020	Time: 1024	Received by: [signature] Date: 5/4/20 Time: 1024
Relinquished by:	Date:	Time:	Received by: Date: Time:
Relinquished by:	Date:	Time:	Received by: Date: Time:

LAB USE ONLY

Sample Temperature
3.3/3.0
-0.3 RM

REMARKS:

- [X] 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

Analysis Request of Chain of Custody Record

6160477

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland, Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: COG	**Site Manager:** Mike Carmona
Project Name: Big Papi Federal Com #2H (7.12.19)	
Project Location: (county, state) Eddy County, NM	**Project #:** 212C-MD-01855
Invoice to: COG - Attn: Ike Tavarez	
Receiving Laboratory: Xenco	**Sampler Signature:** Carlos Tomlinson/Tony Legarda
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:	PRESERVATIVE METHOD:	# CONTAINERS	FILTERED (Y/N)
	AH-7 (0-6")	5/1/2020			X				X			1	N
	AH-8 (0-6")	5/1/2020			X				X			1	N
	AH-9 (0-6")	5/1/2020			X				X			1	N
	AH-10 (0-6")	5/1/2020			X				X			1	N
	AH-11 (0-6")	5/1/2020			X				X			1	N
	AH-12 (0-6")	5/1/2020			X				X			1	N
	AH-13 (0-6")	5/1/2020			X				X			1	N
	AH-14 (0-6")												

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							

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
mike	5/4/2020	1024		5/4/20	1024
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY
Sample Temperature
3.3/3.0

REMARKS:
- [X] 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

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Analytical Report 670700

for

Tetra Tech- Midland

Project Manager: Mike Carmona

Big Pappy Fed Com 2H (7.12.19)

212C-MD-01855

08.24.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-37), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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Certificate of Analysis Summary 670700

Tetra Tech- Midland, Midland, TX

Project Name: Big Pappy Fed Com 2H (7.12.19)

Project Id: 212C-MD-01855
Contact: Mike Carmona
Project Location: Eddy County, NM

Date Received in Lab: Fri 08.21.2020 10:55
Report Date: 08.24.2020 08:14
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	670700-001		670700-002		670700-003		670700-004		670700-005		670700-006	
	Field Id:	AH #4 (0-1')		AH #4 (-1.5')		AH #4 (1.5-2')		AH #5 (0-1')		AH #5 (1-1.5')		AH #5 (2-2.5')	
	Depth:	0-1 ft		1-1.5 ft		1.5-2 ft		0-1 ft		1-1.5 ft		2-2.5 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	08.19.2020 00:00		08.19.2020 00:00		08.19.2020 00:00		08.19.2020 00:00		08.19.2020 00:00		08.19.2020 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	08.21.2020 13:00		08.21.2020 13:00		08.21.2020 13:00		08.21.2020 13:00		08.21.2020 13:00		08.21.2020 13:00	
	Analyzed:	08.21.2020 15:35		08.21.2020 15:41		08.21.2020 15:57		08.21.2020 16:03		08.21.2020 16:20		08.21.2020 16:25	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		3030	50.1	5010	49.7	3150	49.9	1930	49.9	1670	50.1	1630	50.2

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer

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Certificate of Analysis Summary 670700

Tetra Tech- Midland, Midland, TX

Project Name: Big Pappy Fed Com 2H (7.12.19)

Project Id: 212C-MD-01855
Contact: Mike Carmona
Project Location: Eddy County, NM

Date Received in Lab: Fri 08.21.2020 10:55
Report Date: 08.24.2020 08:14
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	670700-007		670700-008		670700-009		670700-010		670700-011		670700-012	
	Field Id:	AH #6 (0-1')		AH #9 (0-0.5')		AH #11 (0-0.5')		South 1 Sidewall		Bottom Hole #1 (0-1')		Bottom Hole #1 (1-1.5)	
	Depth:	0-1 ft		0-0.5 ft		0-0.5 ft		0-0 ft		0-1 ft		1-1.5 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	08.19.2020 00:00		08.19.2020 00:00		08.19.2020 00:00		08.19.2020 00:00		08.19.2020 00:00		08.19.2020 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	08.21.2020 13:00						08.21.2020 13:00		08.21.2020 13:00		08.21.2020 13:00	
	Analyzed:	08.21.2020 16:31						08.21.2020 16:36		08.21.2020 16:42		08.21.2020 16:48	
	Units/RL:	mg/kg	RL					mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		622	10.0					130	9.98	122	9.94	219	9.90
TPH By SW8015 Mod	***Extracted:***			08.21.2020 13:00		08.21.2020 13:00							
	Analyzed:			08.21.2020 14:17		08.21.2020 15:18							
	Units/RL:			mg/kg	RL	mg/kg	RL						
Gasoline Range Hydrocarbons (GRO)				<50.0	50.0	<50.0	50.0						
Diesel Range Organics (DRO)				<50.0	50.0	<50.0	50.0						
Motor Oil Range Hydrocarbons (MRO)				<50.0	50.0	<50.0	50.0						
Total TPH				<50.0	50.0	<50.0	50.0						

BRL - Below Reporting Limit

Jessica Kramer

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Certificate of Analysis Summary 670700

Tetra Tech- Midland, Midland, TX

Project Name: Big Pappy Fed Com 2H (7.12.19)

Project Id: 212C-MD-01855
Contact: Mike Carmona
Project Location: Eddy County, NM

Date Received in Lab: Fri 08.21.2020 10:55
Report Date: 08.24.2020 08:14
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	670700-013		670700-014		670700-015					
	Field Id:	Bottom Hole #1 (2-2.5')		Bottom Hole #1 (3-3.5')		Bottom Hole #1 (3.5-4')					
	Depth:	2-2.5 ft		3-3.5 ft		3.5-4 ft					
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	08.19.2020 00:00		08.19.2020 00:00		08.19.2020 00:00					
Inorganic Anions by EPA 300/300.1	***Extracted:***	08.21.2020 13:00		08.21.2020 16:20		08.21.2020 16:20					
	Analyzed:	08.21.2020 16:53		08.21.2020 17:27		08.21.2020 17:43					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		35.1	10.1	33.4	9.94	<10.0	10.0				

BRL - Below Reporting Limit

Jessica Kramer

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08.24.2020

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

Reference: Eurofins Xenco, LLC Report No(s): **670700**
Big Pappy Fed Com 2H (7.12.19)
Project Address: Eddy County, 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 Eurofins Xenco, LLC Report Number(s) 670700. 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 Eurofins Xenco, LLC. 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. 670700 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 Eurofins Xenco, LLC 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 Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

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Sample Cross Reference 670700

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
AH #4 (0-1')	S	08.19.2020 00:00	0 - 1 ft	670700-001
AH #4 (-1.5')	S	08.19.2020 00:00	1 - 1.5 ft	670700-002
AH #4 (1.5-2')	S	08.19.2020 00:00	1.5 - 2 ft	670700-003
AH #5 (0-1')	S	08.19.2020 00:00	0 - 1 ft	670700-004
AH #5 (1-1.5')	S	08.19.2020 00:00	1 - 1.5 ft	670700-005
AH #5 (2-2.5')	S	08.19.2020 00:00	2 - 2.5 ft	670700-006
AH #6 (0-1')	S	08.19.2020 00:00	0 - 1 ft	670700-007
AH #9 (0-0.5')	S	08.19.2020 00:00	0 - 0.5 ft	670700-008
AH #11 (0-0.5')	S	08.19.2020 00:00	0 - 0.5 ft	670700-009
South 1 Sidewall	S	08.19.2020 00:00	0 - 0 ft	670700-010
Bottom Hole #1 (0-1')	S	08.19.2020 00:00	0 - 1 ft	670700-011
Bottom Hole #1 (1-1.5)	S	08.19.2020 00:00	1 - 1.5 ft	670700-012
Bottom Hole #1 (2-2.5')	S	08.19.2020 00:00	2 - 2.5 ft	670700-013
Bottom Hole #1 (3-3.5')	S	08.19.2020 00:00	3 - 3.5 ft	670700-014
Bottom Hole #1 (3.5-4')	S	08.19.2020 00:00	3.5 - 4 ft	670700-015

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CASE NARRATIVE

Client Name: Tetra Tech- Midland

Project Name: Big Pappy Fed Com 2H (7.12.19)

Project ID: *212C-MD-01855*
Work Order Number(s): *670700*

Report Date: *08.24.2020*
Date Received: *08.21.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 670700

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

Sample Id:	**AH #4 (0-1')**	Matrix:	Soil	Date Received:	08.21.2020 10:55
Lab Sample Id:	670700-001	Date Collected:	08.19.2020 00:00	Sample Depth:	0 - 1 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.21.2020 13:00	Basis:	Wet Weight
Seq Number:	3135303				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3030**	50.1	mg/kg	08.21.2020 15:35		5

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Certificate of Analytical Results 670700

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

Sample Id:	**AH #4 (-1.5')**	Matrix:	Soil	Date Received:	08.21.2020 10:55
Lab Sample Id:	670700-002	Date Collected:	08.19.2020 00:00	Sample Depth:	1 - 1.5 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.21.2020 13:00	Basis:	Wet Weight
Seq Number:	3135303				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5010**	49.7	mg/kg	08.21.2020 15:41		5

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Certificate of Analytical Results 670700

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

Sample Id:	**AH #4 (1.5-2')**	Matrix:	Soil	Date Received:	08.21.2020 10:55
Lab Sample Id:	670700-003	Date Collected:	08.19.2020 00:00	Sample Depth:	1.5 - 2 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.21.2020 13:00	Basis:	Wet Weight
Seq Number:	3135303				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3150**	49.9	mg/kg	08.21.2020 15:57		5

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Certificate of Analytical Results 670700

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

Sample Id:	**AH #5 (0-1')**	Matrix:	Soil	Date Received:	08.21.2020 10:55
Lab Sample Id:	670700-004	Date Collected:	08.19.2020 00:00	Sample Depth:	0 - 1 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.21.2020 13:00	Basis:	Wet Weight
Seq Number:	3135303				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1930**	49.9	mg/kg	08.21.2020 16:03		5

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Certificate of Analytical Results 670700

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

Sample Id:	**AH #5 (1-1.5')**	Matrix:	Soil	Date Received:	08.21.2020 10:55
Lab Sample Id:	670700-005	Date Collected:	08.19.2020 00:00	Sample Depth:	1 - 1.5 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.21.2020 13:00	Basis:	Wet Weight
Seq Number:	3135303				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1670**	50.1	mg/kg	08.21.2020 16:20		5

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Certificate of Analytical Results 670700

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

Sample Id:	**AH #5 (2-2.5')**	Matrix:	Soil	Date Received:	08.21.2020 10:55
Lab Sample Id:	670700-006	Date Collected:	08.19.2020 00:00	Sample Depth:	2 - 2.5 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.21.2020 13:00	Basis:	Wet Weight
Seq Number:	3135303				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1630**	50.2	mg/kg	08.21.2020 16:25		5

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Certificate of Analytical Results 670700

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

Sample Id:	**AH #6 (0-1')**	Matrix:	Soil	Date Received:	08.21.2020 10:55
Lab Sample Id:	670700-007	Date Collected:	08.19.2020 00:00	Sample Depth:	0 - 1 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.21.2020 13:00	Basis:	Wet Weight
Seq Number:	3135303				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**622**	10.0	mg/kg	08.21.2020 16:31		1

eurofins | Environment Testing Xenco

Certificate of Analytical Results 670700

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

Sample Id:	**AH #9 (0-0.5')**	Matrix:	Soil	Date Received:	08.21.2020 10:55
Lab Sample Id:	670700-008	Date Collected:	08.19.2020 00:00	Sample Depth:	0 - 0.5 ft
Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.21.2020 13:00	Basis:	Wet Weight
Seq Number:	3135293				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	08.21.2020 14:17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	08.21.2020 14:17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	08.21.2020 14:17	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	08.21.2020 14:17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	08.21.2020 14:17	
o-Terphenyl	84-15-1	90	%	70-135	08.21.2020 14:17	

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Certificate of Analytical Results 670700

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

Sample Id:	**AH #11 (0-0.5')**	Matrix:	Soil	Date Received:	08.21.2020 10:55
Lab Sample Id:	670700-009	Date Collected:	08.19.2020 00:00	Sample Depth:	0 - 0.5 ft
Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.21.2020 13:00	Basis:	Wet Weight
Seq Number:	3135293				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	08.21.2020 15:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	08.21.2020 15:18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	08.21.2020 15:18	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	08.21.2020 15:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	08.21.2020 15:18	
o-Terphenyl	84-15-1	90	%	70-135	08.21.2020 15:18	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 670700

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

Sample Id:	**South 1 Sidewall**	Matrix:	Soil	Date Received:	08.21.2020 10:55
Lab Sample Id:	670700-010	Date Collected:	08.19.2020 00:00	Sample Depth:	0 - 0 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.21.2020 13:00	Basis:	Wet Weight
Seq Number:	3135303				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**130**	9.98	mg/kg	08.21.2020 16:36		1

eurofins | Environment Testing Xenco

Certificate of Analytical Results 670700

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

Sample Id:	**Bottom Hole #1 (0-1')**	Matrix:	Soil	Date Received:	08.21.2020 10:55
Lab Sample Id:	670700-011	Date Collected:	08.19.2020 00:00	Sample Depth:	0 - 1 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.21.2020 13:00	Basis:	Wet Weight
Seq Number:	3135303				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**122**	9.94	mg/kg	08.21.2020 16:42		1

eurofins | Environment Testing Xenco

Certificate of Analytical Results 670700

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

Sample Id:	**Bottom Hole #1 (1-1.5)**	Matrix:	Soil	Date Received:	08.21.2020 10:55
Lab Sample Id:	670700-012	Date Collected:	08.19.2020 00:00	Sample Depth:	1 - 1.5 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.21.2020 13:00	Basis:	Wet Weight
Seq Number:	3135303				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**219**	9.90	mg/kg	08.21.2020 16:48		1

eurofins | Environment Testing Xenco

Certificate of Analytical Results 670700

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

Sample Id:	**Bottom Hole #1 (2-2.5')**	Matrix:	Soil	Date Received:	08.21.2020 10:55
Lab Sample Id:	670700-013	Date Collected:	08.19.2020 00:00	Sample Depth:	2 - 2.5 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.21.2020 13:00	Basis:	Wet Weight
Seq Number:	3135303				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**35.1**	10.1	mg/kg	08.21.2020 16:53		1

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Certificate of Analytical Results 670700

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

Sample Id:	**Bottom Hole #1 (3-3.5')**	Matrix:	Soil	Date Received:	08.21.2020 10:55
Lab Sample Id:	670700-014	Date Collected:	08.19.2020 00:00	Sample Depth:	3 - 3.5 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.21.2020 16:20	Basis:	Wet Weight
Seq Number:	3135304				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**33.4**	9.94	mg/kg	08.21.2020 17:27		1

eurofins | Environment Testing Xenco

Certificate of Analytical Results 670700

Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

Sample Id:	**Bottom Hole #1 (3.5-4')**	Matrix:	Soil	Date Received:	08.21.2020 10:55
Lab Sample Id:	670700-015	Date Collected:	08.19.2020 00:00	Sample Depth:	3.5 - 4 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.21.2020 16:20	Basis:	Wet Weight
Seq Number:	3135304				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	08.21.2020 17:43	U	1

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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. **ND** Not Detected.

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 670700

eurofins | Environment Testing Xenco

Tetra Tech- Midland

Big Pappy Fed Com 2H (7.12.19)

Analytical Method: Inorganic Anions by EPA 300/300.1 — Prep Method: E300P
Seq Number: 3135303 — Matrix: Solid — Date Prep: 08.21.2020
MB Sample Id: 7709983-1-BLK — LCS Sample Id: 7709983-1-BKS — LCSD Sample Id: 7709983-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	263	105	266	106	90-110	1	20	mg/kg	08.21.2020 14:11	

Analytical Method: Inorganic Anions by EPA 300/300.1 — Prep Method: E300P
Seq Number: 3135304 — Matrix: Solid — Date Prep: 08.21.2020
MB Sample Id: 7709984-1-BLK — LCS Sample Id: 7709984-1-BKS — LCSD Sample Id: 7709984-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	263	105	266	106	90-110	1	20	mg/kg	08.21.2020 17:15	

Analytical Method: Inorganic Anions by EPA 300/300.1 — Prep Method: E300P
Seq Number: 3135303 — Matrix: Soil — Date Prep: 08.21.2020
Parent Sample Id: 670695-001 — MS Sample Id: 670695-001 S — MSD Sample Id: 670695-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	17600	200	17800	100	17800	101	90-110	0	20	mg/kg	08.21.2020 14:28	

Analytical Method: Inorganic Anions by EPA 300/300.1 — Prep Method: E300P
Seq Number: 3135303 — Matrix: Soil — Date Prep: 08.21.2020
Parent Sample Id: 670700-002 — MS Sample Id: 670700-002 S — MSD Sample Id: 670700-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	5010	198	5210	101	5210	99	90-110	0	20	mg/kg	08.21.2020 15:46	

Analytical Method: Inorganic Anions by EPA 300/300.1 — Prep Method: E300P
Seq Number: 3135304 — Matrix: Soil — Date Prep: 08.21.2020
Parent Sample Id: 670700-014 — MS Sample Id: 670700-014 S — MSD Sample Id: 670700-014 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	33.4	199	236	102	237	102	90-110	0	20	mg/kg	08.21.2020 17:32	

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 670700

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Tetra Tech- Midland

Big Pappy Fed Com 2H (7.12.19)

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3135293 — Matrix: Solid — Date Prep: 08.21.2020
MB Sample Id: 7709972-1-BLK — LCS Sample Id: 7709972-1-BKS — LCSD Sample Id: 7709972-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	929	93	956	96	70-135	3	35	mg/kg	08.21.2020 13:37	
Diesel Range Organics (DRO)	<50.0	1000	977	98	1010	101	70-135	3	35	mg/kg	08.21.2020 13:37	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	87		110		111		70-135	%	08.21.2020 13:37
o-Terphenyl	87		100		101		70-135	%	08.21.2020 13:37

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3135293 — Matrix: Solid — Date Prep: 08.21.2020
MB Sample Id: 7709972-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	08.21.2020 11:57	

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3135293 — Matrix: Soil — Date Prep: 08.21.2020
Parent Sample Id: 670700-008 — MS Sample Id: 670700-008 S — MSD Sample Id: 670700-008 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)	<50.0	1000	968	97	968	97	70-135	0	35	mg/kg	08.21.2020 14:37	
Diesel Range Organics (DRO)	<50.0	1000	1010	101	1020	102	70-135	1	35	mg/kg	08.21.2020 14:37	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	120		119		70-135	%	08.21.2020 14:37
o-Terphenyl	107		109		70-135	%	08.21.2020 14:37

MS/MSD Percent Recovery — [D] = 100*(C-A) / B
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery — [D] = 100 * (C) / [B]
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

Final 1.000

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

670700

Client Name: COG	Site Manager: Mike Carmona
Project Name: Big Pappy Fed Com 2H (7.12.19)	
Project Location: (county, state) Eddy Co, NM	Project #: 212C-MD-01855
Invoice to: COG - Ike Taverez	
Receiving Laboratory: Xenco	Sampler Signature: Conner Moehring
Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE (YEAR: 2020)	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	MATRIX:	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
	AH#4 (0-1')	8/19/2020			X				X		1	N															X						
	AH#4 (1-1.5')	8/19/2020			X				X		1	N															X						
	AH#4 (1.5-2')	8/19/2020			X				X		1	N															X						
	AH #5 (0-1')	8/19/2020			X				X		1	N															X						
	AH #5 (1-1.5')	8/19/2020			X				X		1	N															X						
	AH #5 (2-2.5')	8/19/2020			X				X		1	N															X						
	AH #6 (0-1')	8/19/2020			X				X		1	N															X						
	AH #9 (0-0.5')	8/19/2020			X				X		1	N															X						
	AH #11 (0-0.5')	8/19/2020			X				X		1	N		X																			
														X																			

ANALYSIS REQUEST
(Circle or Specify Method No.)

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
	8/21/20	1055	Cloe Clifton	8.21.20	10:55
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature 4.4/4.2

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

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

670700

Client Name: COG	Site Manager: Mike Carmona
Project Name: Big Pappy Fed Com 2H (7.12.19)	
Project Location: (county, state) Eddy Co, NM	Project #: 212C-MD-01855
Invoice to: COG - Ike Taverez	
Receiving Laboratory: Xenco	Sampler Signature: Conner Moehring
Comments:	

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2020 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
	South 1 Sidewall	8/19/2020			X			X		1	N															X							
	Bottom hole #1 (0-1')	8/19/2020			X			X		1	N															X							
	Bottom hole #1 (1-1.5')	8/19/2020			X			X		1	N															X							
	Bottom hole #1 (2-2.5')	8/19/2020			X			X		1	N															X							
	Bottom hole #1 (3-3.5')	8/19/2020			X			X		1	N															X							
	Bottom hole #1 (3.5-4')	8/19/2020			X			X		1	N															X							
																										X							

Relinquished by: Date: 8/21/20 Time: 1055
Received by: Cloe Clifton Date: 8.21.20 Time: 10:55

Relinquished by: Date: Time:
Received by: Date: Time:

Relinquished by: Date: Time:
Received by: Date: Time:

ORIGINAL COPY

LAB USE ONLY
Sample Temperature 4.4/4.2

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 #:

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 08.21.2020 10.55.00 AM

Work Order #: 670700

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)?	4.2	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**	
#5 Custody Seals intact on sample bottles?	**Yes**	
#6*Custody Seals Signed and dated?	**Yes**	
#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**	Samples received in bulk containers.
#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)?	**No**	
#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: Cloe Clifton Date: 08.21.2020

Checklist reviewed by: Jessica Kramer Date: 08.21.2020

Jessica Kramer

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 880-1905-1
Laboratory Sample Delivery Group: Eddy County, NM
Client Project/Site: COG - Big Papi Fed. Com #2H

For:
Tetra Tech, Inc.
901 W Wall
Ste 100
Midland, Texas 79701

Attn: Brittany Long

JKramer

Authorized for release by:
5/7/2021 10:10:41 AM

Jessica Kramer, Project Manager
(432)704-5440
jessica.kramer@eurofinset.com

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

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

Client: Tetra Tech, Inc.
Project/Site: COG - Big Papi Fed. Com #2H

Laboratory Job ID: 880-1905-1
SDG: Eddy County, NM

Table of Contents

Definitions/Glossary

Client: Tetra Tech, Inc. Job ID: 880-1905-1
Project/Site: COG - Big Papi Fed. Com #2H SDG: Eddy County, NM

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Tetra Tech, Inc.
Project/Site: COG - Big Papi Fed. Com #2H

Job ID: 880-1905-1
SDG: Eddy County, NM

Job ID: 880-1905-1

Laboratory: Eurofins Xenco, Midland

Narrative

Job Narrative
880-1905-1

Receipt

The samples were received on 5/5/2021 4:17 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 6.0°C

HPLC/IC

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

Client Sample Results

Client: Tetra Tech, Inc. Job ID: 880-1905-1
Project/Site: COG - Big Papi Fed. Com #2H SDG: Eddy County, NM

Client Sample ID: AH-4 (0'-1') Lab Sample ID: 880-1905-1
Date Collected: 05/05/21 00:00 **Matrix: Solid**
Date Received: 05/05/21 16:17

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	222		4.99		mg/Kg			05/06/21 14:08	1

Client Sample ID: AH-4 (1'-1.5') Lab Sample ID: 880-1905-2
Date Collected: 05/05/21 00:00 **Matrix: Solid**
Date Received: 05/05/21 16:17

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	681		4.97		mg/Kg			05/06/21 14:13	1

Client Sample ID: AH-4 (1.5'-2') Lab Sample ID: 880-1905-3
Date Collected: 05/05/21 00:00 **Matrix: Solid**
Date Received: 05/05/21 16:17

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	524		4.98		mg/Kg			05/06/21 14:28	1

Client Sample ID: AH-5 (0'-1') Lab Sample ID: 880-1905-4
Date Collected: 05/05/21 00:00 **Matrix: Solid**
Date Received: 05/05/21 16:17

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1710		25.2		mg/Kg			05/06/21 14:33	5

Client Sample ID: AH-5 (1'-1.5') Lab Sample ID: 880-1905-5
Date Collected: 05/05/21 00:00 **Matrix: Solid**
Date Received: 05/05/21 16:17

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1950		25.2		mg/Kg			05/06/21 14:38	5

Client Sample ID: AH-5 (2'-2.5') Lab Sample ID: 880-1905-6
Date Collected: 05/05/21 00:00 **Matrix: Solid**
Date Received: 05/05/21 16:17

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5960		49.9		mg/Kg			05/06/21 14:43	10

Client Sample ID: AH-6 (0'-1') Lab Sample ID: 880-1905-7
Date Collected: 05/05/21 00:00 **Matrix: Solid**
Date Received: 05/05/21 16:17

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	583		5.00		mg/Kg			05/06/21 14:48	1

QC Sample Results

Client: Tetra Tech, Inc.
Project/Site: COG - Big Papi Fed. Com #2H

Job ID: 880-1905-1
SDG: Eddy County, NM

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-2752/1-A
Matrix: Solid
Analysis Batch: 2784

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			05/06/21 13:28	1

Lab Sample ID: LCS 880-2752/2-A
Matrix: Solid
Analysis Batch: 2784

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	242.5		mg/Kg		97	90 - 110

Lab Sample ID: LCSD 880-2752/3-A
Matrix: Solid
Analysis Batch: 2784

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	242.8		mg/Kg		97	90 - 110	0	20

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: COG - Big Papi Fed. Com #2H

Job ID: 880-1905-1
SDG: Eddy County, NM

HPLC/IC

Leach Batch: 2752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-1905-1	AH-4 (0'-1')	Soluble	Solid	DI Leach	
880-1905-2	AH-4 (1'-1.5')	Soluble	Solid	DI Leach	
880-1905-3	AH-4 (1.5'-2')	Soluble	Solid	DI Leach	
880-1905-4	AH-5 (0'-1')	Soluble	Solid	DI Leach	
880-1905-5	AH-5 (1'-1.5')	Soluble	Solid	DI Leach	
880-1905-6	AH-5 (2'-2.5')	Soluble	Solid	DI Leach	
880-1905-7	AH-6 (0'-1')	Soluble	Solid	DI Leach	
MB 880-2752/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-2752/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-2752/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 2784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-1905-1	AH-4 (0'-1')	Soluble	Solid	300.0	2752
880-1905-2	AH-4 (1'-1.5')	Soluble	Solid	300.0	2752
880-1905-3	AH-4 (1.5'-2')	Soluble	Solid	300.0	2752
880-1905-4	AH-5 (0'-1')	Soluble	Solid	300.0	2752
880-1905-5	AH-5 (1'-1.5')	Soluble	Solid	300.0	2752
880-1905-6	AH-5 (2'-2.5')	Soluble	Solid	300.0	2752
880-1905-7	AH-6 (0'-1')	Soluble	Solid	300.0	2752
MB 880-2752/1-A	Method Blank	Soluble	Solid	300.0	2752
LCS 880-2752/2-A	Lab Control Sample	Soluble	Solid	300.0	2752
LCSD 880-2752/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	2752

Lab Chronicle

Client: Tetra Tech, Inc. Job ID: 880-1905-1
Project/Site: COG - Big Papi Fed. Com #2H SDG: Eddy County, NM

Client Sample ID: AH-4 (0'-1') Lab Sample ID: 880-1905-1

Date Collected: 05/05/21 00:00 **Matrix: Solid**
Date Received: 05/05/21 16:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			2752	05/06/21 13:00	SC	XM
Soluble	Analysis	300.0		1	2784	05/06/21 14:08	CH	XM

Client Sample ID: AH-4 (1'-1.5') Lab Sample ID: 880-1905-2

Date Collected: 05/05/21 00:00 **Matrix: Solid**
Date Received: 05/05/21 16:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			2752	05/06/21 13:00	SC	XM
Soluble	Analysis	300.0		1	2784	05/06/21 14:13	CH	XM

Client Sample ID: AH-4 (1.5'-2') Lab Sample ID: 880-1905-3

Date Collected: 05/05/21 00:00 **Matrix: Solid**
Date Received: 05/05/21 16:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			2752	05/06/21 13:00	SC	XM
Soluble	Analysis	300.0		1	2784	05/06/21 14:28	CH	XM

Client Sample ID: AH-5 (0'-1') Lab Sample ID: 880-1905-4

Date Collected: 05/05/21 00:00 **Matrix: Solid**
Date Received: 05/05/21 16:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			2752	05/06/21 13:00	SC	XM
Soluble	Analysis	300.0		5	2784	05/06/21 14:33	CH	XM

Client Sample ID: AH-5 (1'-1.5') Lab Sample ID: 880-1905-5

Date Collected: 05/05/21 00:00 **Matrix: Solid**
Date Received: 05/05/21 16:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			2752	05/06/21 13:00	SC	XM
Soluble	Analysis	300.0		5	2784	05/06/21 14:38	CH	XM

Client Sample ID: AH-5 (2'-2.5') Lab Sample ID: 880-1905-6

Date Collected: 05/05/21 00:00 **Matrix: Solid**
Date Received: 05/05/21 16:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			2752	05/06/21 13:00	SC	XM
Soluble	Analysis	300.0		10	2784	05/06/21 14:43	CH	XM

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: COG - Big Papi Fed. Com #2H

Job ID: 880-1905-1
SDG: Eddy County, NM

Client Sample ID: AH-6 (0'-1')

Date Collected: 05/05/21 00:00
Date Received: 05/05/21 16:17

Lab Sample ID: 880-1905-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			2752	05/06/21 13:00	SC	XM
Soluble	Analysis	300.0		1	2784	05/06/21 14:48	CH	XM

Laboratory References:

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

Accreditation/Certification Summary

Client: Tetra Tech, Inc. Job ID: 880-1905-1
Project/Site: COG - Big Papi Fed. Com #2H SDG: Eddy County, NM

Laboratory: Eurofins Xenco, Midland

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	06-30-21

Method Summary

Client: Tetra Tech, Inc. Job ID: 880-1905-1
Project/Site: COG - Big Papi Fed. Com #2H SDG: Eddy County, NM

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	XM
DI Leach	Deionized Water Leaching Procedure	ASTM	XM

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

Laboratory References:

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

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: COG - Big Papi Fed. Com #2H

Job ID: 880-1905-1
SDG: Eddy County, NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
880-1905-1	AH-4 (0'-1')	Solid	05/05/21 00:00	05/05/21 16:17	
880-1905-2	AH-4 (1'-1.5')	Solid	05/05/21 00:00	05/05/21 16:17	
880-1905-3	AH-4 (1.5'-2')	Solid	05/05/21 00:00	05/05/21 16:17	
880-1905-4	AH-5 (0'-1')	Solid	05/05/21 00:00	05/05/21 16:17	
880-1905-5	AH-5 (1'-1.5')	Solid	05/05/21 00:00	05/05/21 16:17	
880-1905-6	AH-5 (2'-2.5')	Solid	05/05/21 00:00	05/05/21 16:17	
880-1905-7	AH-6 (0'-1')	Solid	05/05/21 00:00	05/05/21 16:17	

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

901 W Wall St. Suite 10
Midland,Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

880-1905 Chain of Custody

Page 1 of

880-1905

5/7/2021

Client Name	COG
Site Manager	Clair Gonzales
Project Name	Big Papi Fed Com #2H
Project Location (county, state)	Eddy County
Project #:	212C-MD-01855
Invoice to	COG, Attention Ike Tavarez
Receiving Laboratory	Eurofins Xenco
Sampler Signature	Colton Bickerstaff
Comments	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	# CONTAINERS	FILTERED (Y/N)	Chloride
	AH-4 (0'-1')	5/5/2021			X			X	1	N	X
	AH-4 (1'-1 5')	5/5/2021			X			X	1	N	X
	AH-4 (1 5'-2')	5/5/2021			X			X	1	N	X
	AH-5 (0'-1')	5/5/2021			X			X	1	N	X
	AH-5 (1'-1 5')	5/5/2021			X			X	1	N	X
	AH-5 (2'-2 5')	5/5/2021			X			X	1	N	X
	AH-6 (0'-1')	5/5/2021			X			X	1	N	X

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

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Relinquished by	Date	Time	Received by	Date	Time
Colton Bickerstaff	5/5/21	16:15	K Phillips	5/5/21	1617
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time

LAB USE ONLY

Sample Temperature 5.5/6.0 +0.5

REMARKS:

[X] 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

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 880-1905-1
SDG Number: Eddy County, NM

Login Number: 1905
List Number: 1
Creator: Phillips, Kerianna

List Source: Eurofins Midland

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

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 880-9675-1
Laboratory Sample Delivery Group: Eddy County, New Mexico
Client Project/Site: Big Papi Federal Com #2H

For:
Tetra Tech, Inc.
901 W Wall
Ste 100
Midland, Texas 79701

Attn: Clair Gonzales

JKramer

Authorized for release by:
12/31/2021 10:40:38 AM

Jessica Kramer, Project Manager
(432)704-5440
jessica.kramer@eurofinset.com

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

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

Client: Tetra Tech, Inc.
Project/Site: Big Papi Federal Com #2H

Laboratory Job ID: 880-9675-1
SDG: Eddy County, New Mexico

Table of Contents

Definitions/Glossary

Client: Tetra Tech, Inc. Job ID: 880-9675-1
Project/Site: Big Papi Federal Com #2H SDG: Eddy County, New Mexico

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Tetra Tech, Inc.
Project/Site: Big Papi Federal Com #2H

Job ID: 880-9675-1
SDG: Eddy County, New Mexico

Job ID: 880-9675-1

Laboratory: Eurofins Xenco, Midland

Narrative

Job Narrative
880-9675-1

Receipt

The samples were received on 12/22/2021 4:38 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.5°C

HPLC/IC

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

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: Big Papi Federal Com #2H

Job ID: 880-9675-1
SDG: Eddy County, New Mexico

Client Sample ID: AH-4 (0-1')
Lab Sample ID: 880-9675-1
Date Collected: 12/22/21 11:20
Matrix: Solid
Date Received: 12/22/21 16:38

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	47.0		4.98		mg/Kg			12/30/21 19:31	1

Client Sample ID: AH-4 (1'-1.5')
Lab Sample ID: 880-9675-2
Date Collected: 12/22/21 11:25
Matrix: Solid
Date Received: 12/22/21 16:38

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	274		4.95		mg/Kg			12/30/21 19:43	1

Client Sample ID: AH-4 (1.5'-2')
Lab Sample ID: 880-9675-3
Date Collected: 12/22/21 11:30
Matrix: Solid
Date Received: 12/22/21 16:38

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	100		4.99		mg/Kg			12/30/21 19:55	1

Client Sample ID: AH-5 (0-1')
Lab Sample ID: 880-9675-4
Date Collected: 12/22/21 11:35
Matrix: Solid
Date Received: 12/22/21 16:38

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	24.8		4.95		mg/Kg			12/30/21 20:07	1

Client Sample ID: AH-5 (1'-1.5')
Lab Sample ID: 880-9675-5
Date Collected: 12/22/21 11:40
Matrix: Solid
Date Received: 12/22/21 16:38

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	72.2		5.01		mg/Kg			12/30/21 20:19	1

Client Sample ID: AH-5 (1.5'-2')
Lab Sample ID: 880-9675-6
Date Collected: 12/22/21 11:45
Matrix: Solid
Date Received: 12/22/21 16:38

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	228		5.02		mg/Kg			12/30/21 20:54	1

Client Sample ID: AH-6 (0-1')
Lab Sample ID: 880-9675-7
Date Collected: 12/22/21 11:50
Matrix: Solid
Date Received: 12/22/21 16:38

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	31.1		4.98		mg/Kg			12/30/21 21:06	1

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: Big Papi Federal Com #2H

Job ID: 880-9675-1
SDG: Eddy County, New Mexico

Client Sample ID: AH-6 (1-1.5')

Date Collected: 12/22/21 11:55
Date Received: 12/22/21 16:38

Lab Sample ID: 880-9675-8

Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	47.5		5.05		mg/Kg			12/30/21 21:42	1

QC Sample Results

Client: Tetra Tech, Inc.
Project/Site: Big Papi Federal Com #2H

Job ID: 880-9675-1
SDG: Eddy County, New Mexico

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-15520/1-A
Matrix: Solid
Analysis Batch: 15816

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			12/30/21 16:57	1

Lab Sample ID: LCS 880-15520/2-A
Matrix: Solid
Analysis Batch: 15816

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	246.1		mg/Kg		98	90 - 110		

Lab Sample ID: LCSD 880-15520/3-A
Matrix: Solid
Analysis Batch: 15816

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			250	250.5		mg/Kg		100	90 - 110	2	20

Lab Sample ID: 880-9675-5 MS
Matrix: Solid
Analysis Batch: 15816

Client Sample ID: AH-5 (1'-1.5')
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	72.2		251	331.2		mg/Kg		103	90 - 110		

Lab Sample ID: 880-9675-5 MSD
Matrix: Solid
Analysis Batch: 15816

Client Sample ID: AH-5 (1'-1.5')
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	72.2		251	336.9		mg/Kg		106	90 - 110	2	20

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: Big Papi Federal Com #2H

Job ID: 880-9675-1
SDG: Eddy County, New Mexico

HPLC/IC

Leach Batch: 15520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9675-1	AH-4 (0-1')	Soluble	Solid	DI Leach	
880-9675-2	AH-4 (1'-1.5')	Soluble	Solid	DI Leach	
880-9675-3	AH-4 (1.5'-2')	Soluble	Solid	DI Leach	
880-9675-4	AH-5 (0-1')	Soluble	Solid	DI Leach	
880-9675-5	AH-5 (1'-1.5')	Soluble	Solid	DI Leach	
880-9675-6	AH-5 (1.5'-2')	Soluble	Solid	DI Leach	
880-9675-7	AH-6 (0-1')	Soluble	Solid	DI Leach	
880-9675-8	AH-6 (1-1.5')	Soluble	Solid	DI Leach	
MB 880-15520/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-15520/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-15520/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-9675-5 MS	AH-5 (1'-1.5')	Soluble	Solid	DI Leach	
880-9675-5 MSD	AH-5 (1'-1.5')	Soluble	Solid	DI Leach	

Analysis Batch: 15816

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9675-1	AH-4 (0-1')	Soluble	Solid	300.0	15520
880-9675-2	AH-4 (1'-1.5')	Soluble	Solid	300.0	15520
880-9675-3	AH-4 (1.5'-2')	Soluble	Solid	300.0	15520
880-9675-4	AH-5 (0-1')	Soluble	Solid	300.0	15520
880-9675-5	AH-5 (1'-1.5')	Soluble	Solid	300.0	15520
880-9675-6	AH-5 (1.5'-2')	Soluble	Solid	300.0	15520
880-9675-7	AH-6 (0-1')	Soluble	Solid	300.0	15520
880-9675-8	AH-6 (1-1.5')	Soluble	Solid	300.0	15520
MB 880-15520/1-A	Method Blank	Soluble	Solid	300.0	15520
LCS 880-15520/2-A	Lab Control Sample	Soluble	Solid	300.0	15520
LCSD 880-15520/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	15520
880-9675-5 MS	AH-5 (1'-1.5')	Soluble	Solid	300.0	15520
880-9675-5 MSD	AH-5 (1'-1.5')	Soluble	Solid	300.0	15520

Lab Chronicle

Client: Tetra Tech, Inc. Job ID: 880-9675-1
Project/Site: Big Papi Federal Com #2H SDG: Eddy County, New Mexico

Client Sample ID: AH-4 (0-1') Lab Sample ID: 880-9675-1

Date Collected: 12/22/21 11:20 **Matrix: Solid**
Date Received: 12/22/21 16:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.02 g	50 mL	15520	12/24/21 19:53	SC	XEN MID
Soluble	Analysis	300.0		1			15816	12/30/21 19:31	CH	XEN MID

Client Sample ID: AH-4 (1'-1.5') Lab Sample ID: 880-9675-2

Date Collected: 12/22/21 11:25 **Matrix: Solid**
Date Received: 12/22/21 16:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	15520	12/24/21 19:53	SC	XEN MID
Soluble	Analysis	300.0		1			15816	12/30/21 19:43	CH	XEN MID

Client Sample ID: AH-4 (1.5'-2') Lab Sample ID: 880-9675-3

Date Collected: 12/22/21 11:30 **Matrix: Solid**
Date Received: 12/22/21 16:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	15520	12/24/21 19:53	SC	XEN MID
Soluble	Analysis	300.0		1			15816	12/30/21 19:55	CH	XEN MID

Client Sample ID: AH-5 (0-1') Lab Sample ID: 880-9675-4

Date Collected: 12/22/21 11:35 **Matrix: Solid**
Date Received: 12/22/21 16:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	15520	12/24/21 19:53	SC	XEN MID
Soluble	Analysis	300.0		1			15816	12/30/21 20:07	CH	XEN MID

Client Sample ID: AH-5 (1'-1.5') Lab Sample ID: 880-9675-5

Date Collected: 12/22/21 11:40 **Matrix: Solid**
Date Received: 12/22/21 16:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.99 g	50 mL	15520	12/24/21 19:53	SC	XEN MID
Soluble	Analysis	300.0		1			15816	12/30/21 20:19	CH	XEN MID

Client Sample ID: AH-5 (1.5'-2') Lab Sample ID: 880-9675-6

Date Collected: 12/22/21 11:45 **Matrix: Solid**
Date Received: 12/22/21 16:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.98 g	50 mL	15520	12/24/21 19:53	SC	XEN MID
Soluble	Analysis	300.0		1			15816	12/30/21 20:54	CH	XEN MID

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: Big Papi Federal Com #2H

Job ID: 880-9675-1
SDG: Eddy County, New Mexico

Client Sample ID: AH-6 (0-1')

Lab Sample ID: 880-9675-7
Matrix: Solid
Date Collected: 12/22/21 11:50
Date Received: 12/22/21 16:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.02 g	50 mL	15520	12/24/21 19:53	SC	XEN MID
Soluble	Analysis	300.0		1			15816	12/30/21 21:06	CH	XEN MID

Client Sample ID: AH-6 (1-1.5')

Lab Sample ID: 880-9675-8
Matrix: Solid
Date Collected: 12/22/21 11:55
Date Received: 12/22/21 16:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.95 g	50 mL	15520	12/24/21 19:53	SC	XEN MID
Soluble	Analysis	300.0		1			15816	12/30/21 21:42	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 880-9675-1
Project/Site: Big Papi Federal Com #2H
SDG: Eddy County, New Mexico

Laboratory: Eurofins Xenco, Midland

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-21-22	06-30-22

Method Summary

Client: Tetra Tech, Inc. Job ID: 880-9675-1
Project/Site: Big Papi Federal Com #2H SDG: Eddy County, New Mexico

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	XEN MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

Laboratory References:

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

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: Big Papi Federal Com #2H

Job ID: 880-9675-1
SDG: Eddy County, New Mexico

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-9675-1	AH-4 (0-1')	Solid	12/22/21 11:20	12/22/21 16:38
880-9675-2	AH-4 (1'-1.5')	Solid	12/22/21 11:25	12/22/21 16:38
880-9675-3	AH-4 (1.5'-2')	Solid	12/22/21 11:30	12/22/21 16:38
880-9675-4	AH-5 (0-1')	Solid	12/22/21 11:35	12/22/21 16:38
880-9675-5	AH-5 (1'-1.5')	Solid	12/22/21 11:40	12/22/21 16:38
880-9675-6	AH-5 (1.5'-2')	Solid	12/22/21 11:45	12/22/21 16:38
880-9675-7	AH-6 (0-1')	Solid	12/22/21 11:50	12/22/21 16:38
880-9675-8	AH-6 (1-1.5')	Solid	12/22/21 11:55	12/22/21 16:38

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

901 West Wall St, Suite 100
Midland,Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

880-9675 Chain of Custody

12/31/2021

Client Name	ConocoPhillips
Site Manager	Clair Gonzales
Project Name	Big Papi Federal Com #2H
Project Location (county, state)	Eddy County, New Mexico
Project #	
Invoice to	Tetra Tech, Attention Clair Gonzales
Receiving Laboratory	Eurofins Xenco
Sampler Signature	Colton Bickerstaff

Comments

Send invoice, results to Clair Gonzales at Clair.Gonzales@tetratech.com

ANALYSIS REQUEST
(Circle or Specify Method No.)

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	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO)	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	Chlonde Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	Asbestos			Hold
	AH-4 (0-1')	12/22/2021	11 20		X				X			1	N															X						
	AH-4 (1'-1 5')	12/22/2021	11 25		X				X			1	N															X						
	AH-4 (1 5'-2')	12/22/2021	11 30		X				X			1	N															X						
	AH-5 (0-1')	12/22/2021	11 35		X				X			1	N															X						
	AH-5 (1'-1 5')	12/22/2021	11 40		X				X			1	N															X						
	AH-5 (1 5'-2')	12/22/2021	11 45		X				X			1	N															X						
	AH-6 (0-1')	12/22/2021	11 50		X				X			1	N															X						
	AH-6 (1'-1 5')	12/22/2021	11 55		X				X			1	N															X						

Relinquished by	Date	Time	Received by	Date	Time
Colton Bickerstaff	12/22/21	~~16:00~~ 16:38	[signature]	12/22/21	16:38
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time

LAB USE ONLY

Sample Temperature 1.4/1.5 .10 IR

REMARKS: Standard TAT

- ☐ 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

402

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 880-9675-1
SDG Number: Eddy County, New Mexico

Login Number: 9675
List Number: 1
Creator: Rodriguez, Leticia

List Source: Eurofins Xenco, Midland

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

APPENDIX D
Photographic Documentation

Concho Big Papi Federal Com #002H (7.12.19)

Eddy County, New Mexico

View South, area of Bottomholes 2 and 3

View South, area of bottomhole 1

Concho Big Papi Federal Com #002H (7.12.19)

Eddy County, New Mexico

View South, area of Bottom Hole 1

View South, area of AH-1

Concho Big Papi Federal Com #002H (7.12.19)

Eddy County, New Mexico

View North, area of AH-3 and AH-4

View South, AH-5 and AH-6

Concho Big Papi Federal Com #002H (7.12.19)

Eddy County, New Mexico

TETRA TECH

View Southeast, area of AH-3 and AH-4

View Southeast, area of AH-3 and AH-4

Concho Big Papi Federal Com #002H (7.12.19)

Eddy County, New Mexico

View East, area of AH-7

View West, area of AH-8

Concho Big Papi Federal Com #002H (7.12.19)

Eddy County, New Mexico

View South, area of AH-9

View South, area of AH-10 and AH-11

Concho Big Papi Federal Com #002H (7.12.19)

Eddy County, New Mexico

View West, area of AH-12, AH-3, and AH-14

Concho Big Papi Federal Com #002H (7.12.19)

Eddy County, New Mexico

View South, area of Bottomholes 2 and 3

View South, area of bottomhole 1

Concho Big Papi Federal Com #002H (7.12.19)

Eddy County, New Mexico

View South, area of Bottom Hole 1

View South, area of AH-1

Concho Big Papi Federal Com #002H (7.12.19)

Eddy County, New Mexico

View North, area of AH-3 and AH-4

View South, AH-5 and AH-6

Concho Big Papi Federal Com #002H (7.12.19)

Eddy County, New Mexico

View Southeast, area of AH-3 and AH-4

View Southeast, area of AH-3 and AH-4

Concho Big Papi Federal Com #002H (7.12.19)

Eddy County, New Mexico

View East, area of AH-7

View West, area of AH-8

Concho Big Papi Federal Com #002H (7.12.19)

Eddy County, New Mexico

View South, area of AH-9

View South, area of AH-10 and AH-11

Concho Big Papi Federal Com #002H (7.12.19)

Eddy County, New Mexico

View West, area of AH-12, AH-3, and AH-14

TETRA TECH

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 82914
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	None	3/15/2022