

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	
ТРН	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.

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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.

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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

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# FIGURES



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FIGURE

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# TABLES

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

Commite ID	Sample	Sample	Soil	Status		TPH (	mg/kg)		Benzene	Toluene	Ethlybenzene	Xylene	Total BTEX	Chloride
Sample ID	Date	Depth (ft)	In-Situ	Removed	GRO	DRO	MRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
AH-1	7/25/2019	0-0.5	Х		<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	Х		<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	Х		<14.9	<14.9	<14.9	<14.9	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	15,600
	7/25/2019	0-1	Х		<15.0	27.6	<15.0	27.6	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	14,400
AH-4	7/25/2019	1-1.5	Х		<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	Х		<15.0	<15.0	<15.0	<15.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	8,450
	7/25/2019	0-1	Х		<15.0	<15.0	<15.0	<15.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	11,300
AH-5	7/25/2019	1-1.5	Х		<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	Х		<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	Х		<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	Х		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	Х		<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	Х		147	523	49.4	719	0.0200	0.00522	0.0446	0.154	0.223	15,400
AH-10	7/25/2019	0.5	Х		<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	Х		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	Х		<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	Х		<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	Х		<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

Occurred to JD	Sample	Sample	Soil	Status		TPH (	mg/kg)		Benzene	Toluene	Ethlybenzene	Xylene	Total BTEX	Chloride
Sample ID	Date	Depth (ft)	In-Situ	Removed	GRO	DRO	MRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Pookground Tropph	8/8/2019	0-1	Х		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	16.0
Background Trench	8/8/2019	2	Х		<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	Х		<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	Х		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	< 0.300	960
Bottom Hole 2	8/13/2019	6	Х		<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	Х		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	< 0.300	512
Bottoill Hole 5	8/13/2019	6	Х		<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	-	Х		<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	-	Х		<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	-	Х		<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	-	Х		<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	-	Х		<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	-	Х		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	64.0
	8/13/2019	-	Х		<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

Quarter ID	Sample	Sample	Soil	Status		TPH (	mg/kg)		Benzene	Toluene	Ethlybenzene	Xylene	Total BTEX	Chloride
Sample ID	Date	Depth (ft)	In-Situ	Removed	GRO	DRO	MRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
	2/12/2020	0-1	Х		-	-	-	-	-	-	-	-	-	67.4
AH-2	2/12/2020	1-1.5	Х		-	-	-	-	-	-	-	-	-	197
Ап-2	5/1/2020	0-1	Х		-	-	-	-	-	-	-	-	-	1,850
	5/1/2020	1-1.5	Х		-	-	-	-	-	-	-	-	-	280
AUL 2	2/12/2020	0-1	Х		-	-	-	-	-	-	-	-	-	248
AH-3	5/1/2020	0-1	Х		-	-	-	-	-	-	-	-	-	18.5
	2/12/2020	0-1	Х		-	-	-	-	-	-	-	-	-	142
	2/12/2020	1-1.5	Х		-	-	-	-	-	-	-	-	-	189
	2/12/2020	1.5-2	Х		-	-	-	-	-	-	-	-	-	607
	5/1/2020	0-1	Х		-	-	-	-	-	-	-	-	-	54.2
AH-4	5/1/2020	1-1.5	Х		-	-	-	-	-	-	-	-	-	149
	5/1/2020	1.5-2	Х		-	-	-	-	-	-	-	-	-	335
	8/19/2020	0-1	Х		-	-	-	-	-	-	-	-	-	3,030
	8/19/2020	1-1.5	Х		-	-	-	-	-	-	-	-	-	5,010
	8/19/2020	1.5-2	Х		-	-	-	-	-	-	-	-	-	3,150
	2/12/2020	0-1	Х		-	-	-	-	-	-	-	-	-	624
	2/12/2020	1-1.5	Х		-	-	-	-	-	-	-	-	-	823
	2/12/2020	2-2.5	Х		-	-	-	-	-	-	-	-	-	1,040
	5/1/2020	0-1	Х		-	-	-	-	-	-	-	-	-	902
AH-5	5/1/2020	1-1.5	Х		I	-	-	-	-	-	-	-	-	1,250
	5/1/2020	2-2.5	Х		-	-	-	-	-	-	-	-	-	7,770
	8/19/2020	0-1	Х		-	-	-	-	-	-	-	-	-	1,930
	8/19/2020	1-1.5	Х		-	-	-	-	-	-	-	-	-	1,670
	8/19/2020	2-2.5	Х		-	-	-	-	-	-	-	-	-	1,630
	2/12/2020	0-1	Х		-	-	-	-	-	-	-	-	-	310
AH-6	5/1/2020	0-1	Х		-	-	-	-	-	-	-	-	-	977
	8/19/2020	0-1	Х		-	-	-	-	-	-	-	-	-	622
AH-7	2/12/2020	0.5	Х		-	-	-	-	-	-	-	-	-	69.7
AU-1	5/1/2020	0.5	Х		I	-	-	-	-	-	-	-	-	28.3

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

Semale ID	Sample	Sample	Soil	Status		TPH (	mg/kg)	-	Benzene	Toluene	Ethlybenzene	Xylene	Total BTEX	Chloride
Sample ID	Date	Depth (ft)	In-Situ	Removed	GRO	DRO	MRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
AH-8	2/12/2020	0.5	Х		-	-	-	-	-	-	-	-	-	<9.92
АП-0	5/1/2020	0.5	Х		-	-	-	-	-	-	-	-	-	25.8
	2/12/2020	0.5	Х		-	-	-	-	-	-	-	-	-	29.1
AH-9	5/1/2020	0.5	Х		-	-	-	-	-	-	-	-	-	37.5
	8/19/2020	0.5	Х		<50.0	<50.0	<50.0	<50.0	-	-	-	-	-	-
AUL 40	2/12/2020	0.5	Х		-	-	-	-	-	-	-	-	-	99.2
AH-10	5/1/2020	0.5	Х		-	-	-	-	-	-	-	-	-	382
	2/12/2020	0.5	Х		-	-	-	-	-	-	-	-	-	160
AH-11	5/1/2020	0.5	Х		-	-	-	-	-	-	-	-	-	277
	8/19/2020	0.5	Х		<50.0	<50.0	<50.0	<50.0	-	-	-	-	-	-
AUL 40	2/12/2020	0.5	Х		-	-	-	-	-	-	-	-	-	34.4
AH-12	5/1/2020	0.5	Х		-	-	-	-	-	-	-	-	-	23.6
AUL 40	2/12/2020	0.5	Х		-	-	-	-	-	-	-	-	-	29.6
AH-13	5/1/2020	0.5	Х		-	-	-	-	-	-	-	-	-	12.7
AU 44	2/12/2020	0.5	Х		-	-	-	-	-	-	-	-	-	15.3
AH-14	5/1/2020	0.5	Х		-	-	-	-	-	-	-	-	-	41.1
South 1 Sidewall	8/19/2020	-	Х		-	-	-	-	-	-	-	-	-	130
	8/19/2020	0-1	Х		-	-	-	-	-	-	-	-	-	122
	8/19/2020	1-1.5	Х		-	-	-	-	-	-	-	-	-	219
Bottom Hole 1	8/19/2020	2-2.5	Х		-	-	-	-	-	-	-	-	-	35.1
	8/19/2020	3-3.5	Х		-	-	-	-	-	-	-	-	-	33.4
	8/19/2020	3.5-4	Х		-	-	-	-	-	-	-	-	-	<10.0

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

Sample ID	Sample	Sample		Status		TPH (	mg/kg)		Benzene	Toluene	Ethlybenzene	Xylene	Total BTEX	Chloride
Sample ID	Date	Depth (ft)	In-Situ	Removed	GRO	DRO	MRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
	5/5/2021	0-1	Х		-	-	-	-	-	-	-	-	-	222
	5/5/2021	1-1.5	Х		-	-	-	-	-	-	-	-	-	681
AH-4	5/5/2021	1.5-2	Х		-	-	-	-	-	-	-	-	-	524
АП-4	12/22/2021	0-1	Х		-	-	-	-	-	-	-	-	-	47
	12/22/2021	1-1.5	Х		-	-	-	-	-	-	-	-	-	274
	12/22/2021	1.5-2	Х		-	-	-	-	-	-	-	-	-	100
	5/5/2021	0-1	Х		-	-	-	-	-	-	-	-	-	1,710
	5/5/2021	1-1.5	Х		-	-	-	-	-	-	-	-	-	1,950
AH-5	5/5/2021	2-2.5	Х		-	-	-	-	-	-	-	-	-	5,960
Ап-э	12/22/2021	0-1	Х		-	-	-	-	-	-	-	-	-	24.8
	12/22/2021	1-1.5	Х		-	-	-	-	-	-	-	-	-	72.2
	12/22/2021	1.5-2	Х		-	-	-	-	-	-	-	-	-	228
	5/5/2021	0-1	Х		-	-	-	-	-	-	-	-	-	583
AH-6	12/22/2021	0-1	Х		-	-	-	-	-	-	-	-	-	31.1
	12/22/2021	1-1.5	Х		-	-	-	-	-	-	-	-	-	47.5

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# APPENDIX A C-141 Forms

32.07719

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

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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

-103.99144Longitude

(NAD 83 in decimal degrees to 5 decimal places)

Site Name		Big Papi Fede	eral Com #002F	H Site Type Flowline
Date Release	Discovered	July 12, 2019		API# (if applicable)
Unit Letter	Section	Township	Range	County
С	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)

	volume Released (0013)	
Produced Water	Volume Released (bbls) 240	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	Ves 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.

Page	2
1 age	-

Oil Conservation Division

Incident ID	NAB1922035506
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? Yes No	If YES, for what reason(s) does the responsible party consider this a major release? The volume released was greater than 25 barrels.										
If YES, was immediate n	otice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?										
Immediate notice w and Jim Amos.	Immediate notice was given by Rebecca Haskell via e-mail July 12, 2019 at 2:44 pm to Mike Bratcher										

# **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:	Date: 7/19/2019
email: agrant@concho.com	Telephone: (432) 253-4513
OCD Only	
Received by:	Date:

#### Received by OCD: 2/21/2022 (9:08:902 3AMM



Received by OCD: 2/21/2022/9:08:02:4MI Form C-141 State of New Mexico

Oil Conservation Division

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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?	<u>78</u> (ft bgs)
Did this release impact groundwater or surface water?	🗌 Yes 🗹 No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	🗹 Yes 🗌 No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	🗌 Yes 🔽 No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	🗌 Yes 🔽 No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	🗌 Yes 🗹 No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	🗌 Yes 🗹 No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	🗌 Yes 🔽 No
Are the lateral extents of the release within 300 feet of a wetland?	🗌 Yes 🗹 No
Are the lateral extents of the release overlying a subsurface mine?	🗌 Yes 🗹 No
Are the lateral extents of the release overlying an unstable area such as karst geology?	🖌 Yes 🗌 No
Are the lateral extents of the release within a 100-year floodplain?	🗌 Yes 🗹 No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	🖌 Yes 🗌 No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

### Characterization Report Checklist: Each of the following items must be included in the report.

- 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.

Received by OCD: 2/21/202	State of New Mexico	Page 23 of 226
		Incident ID
Page 4	Oil Conservation Division	District RP
		Facility ID
		Application ID
regulations all operators are r public health or the environm failed to adequately investiga addition, OCD acceptance of and/or regulations. Printed Name: Signature:	required to report and/or file certain release noti nent. The acceptance of a C-141 report by the C ate and remediate contamination that pose a three a C-141 report does not relieve the operator of	best of my knowledge and understand that pursuant to OCD rules and ifications and perform corrective actions for releases which may endanger OCD does not relieve the operator of liability should their operations have eat to groundwater, surface water, human health or the environment. In Presponsibility for compliance with any other federal, state, or local laws 
OCD Only		
Received by:		Date:

Received by OCD: 2/21/2022 9:08:02 AM Form C-141 State of New Mexico

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Oil Conservation Division

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

Incident ID	NAB1922035506
District RP	
Facility ID	
Application ID	

# **Remediation Plan**

Detailed description of proposed remediation technique Scaled sitemap with GPS coordinates showing delineation points Estimated volume of material to be remediated Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required) Deferral Requests Only: Each of the following items must be 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 Date: 3/05/2020 Signature: email: itavarez@concho.com Telephone: 432-701-8630 **OCD Only** Date: 4/15/2020 Robert Hamlet Received by: Approved Approved with Attached Conditions of Approval Denied Deferral Approved Date: 4/15/2020 Signature:

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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.

<b><u>Closure Report Attachment Checklist</u></b> : Each of the following i	items must be included in the closure report.
A scaled site and sampling diagram as described in 19.15.29.1	11 NMAC
Photographs of the remediated site prior to backfill or photos must be notified 2 days prior to liner inspection)	of the liner integrity if applicable (Note: appropriate OCD District office
Laboratory analyses of final sampling (Note: appropriate ODC	C District office must be notified 2 days prior to final sampling)
Description of remediation activities	
and regulations all operators are required to report and/or file certai may endanger public health or the environment. The acceptance of should their operations have failed to adequately investigate and ren human health or the environment. In addition, OCD acceptance of compliance with any other federal, state, or local laws and/or regular restore, reclaim, and re-vegetate the impacted surface area to the co accordance with 19.15.29.13 NMAC including notification to the C	ations. The responsible party acknowledges they must substantially inditions that existed prior to the release or their final land use in OCD when reclamation and re-vegetation are complete.
Printed Name:	Title:
Signature: Jacque Atorios	Date:
email:	Telephone:
OCD Only	
Received by:	Date:
	of liability should their operations have failed to adequately investigate and water, human health, or the environment nor does not relieve the responsible for regulations.
Closure Approved by: <u>Jennifer Nobui</u>	Date:
Printed Name:	

# APPENDIX B Site Characterization Data

Received by OCD: 2/21/2022 9:08:02 AM Karst Potential wap Big Papi Federal Com #2H



2 mi

232.077580°, -103.991414°



212C-	-MD	-02671	[	IF .	FETR	ΑΤΕ	сн				LOG OF BORING GW Determination Boring		Page 1 of 3		
Project	Nar	ne: Bi	g Papi F	eder	al Co	om #(	)02H								
Sorehol	le L	ocation:	GPS C	oordina	ates: 3	2.077	56, -10	03.990	97		Surface Elevation: 2991'				
Borehole Number: GW Determination Boring Boreho										Boreh	e er (in ). 8" Date Started: 5/11/2021 Date Finish	ed: 5/1	d: 5/11/2021		
										WATER LEVEL OBSERVATIONS While Drilling $\underline{\nabla}$ DRY 24 Hours After Completion of Drilling	g <u>₹</u> D	RY_			
ION (pp			NOL	ERY (	ENT	cf)		IDEX	(9		Remarks:				
DEPTH (ft) OPERATION TYPES		CHLORIDE CONCENTRATION (ppm)	D D CONCENTRATION (ppm)	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)			MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL	_ DIAGRAM		
	$\overline{\lambda}$									a	CALICHE: Light tan to white, cemented, with fine-grained SAND, dry.				
$\neg$	X	295								<i>•</i>			<ul> <li>Bentonite Seal</li> </ul>		
$\neg$	为	7									-				
$\neg$	Y	410								a	-SW- SAND: Light tan to white, loose, fine-grained,				
-	汰										with CALICHE, dry.				
5	Y	202									-				
-	$\mathbf{x}$										_				
-	$\mathbf{x}$	277									_				
-	$\mathbf{S}$										_				
_	$\left\{ \right\}$									• • • • • • • • •	9				
0	$\langle \rangle$	356									-SW- SAND: Light tan, loose, fine to very fine-grained, with CALICHE, dry.				
										••••					
$\left  \right\rangle$										•••••					
											14				
5		1									-SW- SAND: Tan, loose, fine to very fine-grained,				
	ľ	373								••••	with CALICHE, dry.				
-	2										—				
-)	X										-				
->	X										-		Blank		
$-\rangle$											_		PVC Well Casing		
20_)											_				
	$\mathbf{x}$										_				
	$\mathbf{x}$														
	$\mathbf{x}$									 					
	$\sum$									· · · · · · · · · · · · · · · · · · ·	24				
25	$\langle $	$\langle$									-SW- SAND: Light brown, very loose, very fine-grained, with CALICHE, dry.				
amplei ypes:	er	Split Spoo	on 📕	Aceta	ite Line	er 1	Dpera	tion		· · · ·	Auger Notes:				
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Shell	64	Vane	Shear				ow Ste	em []	Air Rotary Temporary well was plugged using bentonite foll	owing ga	auging		
		Bulk Sam	nle 🕅	Califo	ornia				itinuou ht Aug	s er	Direct Push				
		Grab Sam		Test	Pit			Muc	1		Drive Casing				
								01	y						

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212C-M	1D-02671	Ŧŧ	TETR	ΑΤΕΟ	сн				LOG OF BO	RING GW Determinati	on Borir	ng	2	Page of 3
Project N	lame: Big	Papi Fede	ral Co	om #0	02H								1	
Borehole	Location:	GPS Coordir	nates: 3	2.077	56, -10	3.990	97		Surface Elevation:	2991'				
Borehole Number: <b>GW Determination Boring</b> Borehole									ble 8"	inished: 5/11/2021				
S	(mqq) NOI	ION (ppm)	ENT (%)	if)		IDEX				WATER LEVEL OBSE			<u>₹</u> DF	<u> </u>
DEPTH (ft) OPERATION TYPES	SAMPLE THE CHLORIDE CONCENTRATION (ppm)	UOC CONCENTRATION (ppm) SAMPI F RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)		PLASTICITY INDEX	MINUS NO. 200 (%)	GRAPHIC LOG	MATE	RIAL DESCRIPTION		DEPTH (ft)	WELLI	DIAGRAM
30 - - - - - - - - - - - - -	Split Spoon Shelby Bulk Sampl		ate Line e Shear fornia	ד   <sup>ייב</sup>	Derati ypes:	ion	ow Ste er tinuou i ary		-CL- SILTY CL medium stiff, d	-AY: Dark gray and reddish br ry. s: nporary well was plugged usin	own,		wing gau	20' PVC Slotted Screen
	oumpi			1										

212	C-M	1D-0	2671	T		ETR/	A TEC	н				LOG OF BORING GW Determination Boring
roje	ct N	lame	e: Big	Papi Fe	dera	l Co	m #0	02H				
oreł	nole	Loc	cation:	GPS Coo	rdinat	es: 32	2.0775	56, -10	3.990	97		Surface Elevation: 2991'
Borehole Number: GW Determination Boring Boreh Diam								oring		E	Boreho	ole
S S S S S S S S S S S S S S S S S S S		(mqq) NOI	(mqq) NOI	ERY (%)	-ENT (%)			JDEX			WATER LEVEL OBSERVATIONS While Drilling <u>V DRY</u> 24 Hours After Completion of Drilling <u>V DRY</u> Remarks:	
DEPTH (ft)	OPERATION TYPES	SAMPLE	CHLORIDE CONCENTRATION (ppm)	년 CONCENTRATION (ppm)	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	E LIQUID LIMIT		MINUS NO. 200 (%)	GRAPHIC LOG	
_	• • •										V///	
	22										<u> </u>	Bottom of borehole at 57.0 feet.
	22											

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

29 East

23 <mark>80</mark>

	25 Sc	outh	28	East	
6	5	4 <b>35</b>	3 <b>32</b>	2	1
	59				Site
7	8	9	10	11	12
18	17	16	15 <mark>48</mark>	14	13
67			49		
19	20	21	22	23	24
	96				$\sum$
30	29	28	27	26 <b>40</b>	25
	15	90			$\zeta$
31	32	33	34	35	36
					40

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

	25 So	outh	29		
6 <b>40</b>	5	4	3	2	1
۲ ۲	8	9	10 <b>40</b>	11	12
لر 18	17	16	15 <mark>60</mark>	14	13
19	20	21	22	23	24
30 <b>30</b>	29	28	27	26	25
31	32 <mark>98</mark>	33	34	35	36

26 South

<mark>4 Site</mark> 3

22 <mark>57</mark>

**78** 

		-				-				
		26 South 30 East								
	1	31	32	33	34	35	36			
		30	29	28	27	26	25			
		19	20	21 265 268	22	23	24			
		18	17	16	15	14	13			
		7 <mark>264</mark>	8	9 <b>295</b>	10	11	12 <mark>390</mark>			
-										

25 South

30 East

6	5 <b>179</b> 1 <mark>80</mark>	4	3	2	1
7	8 1 <b>72</b>	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24 <b>180</b>
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)

- NMOCD Groundwater Data
- 123 Tetra Tech installed temporary wells and field water level
- 143 NMOCD Groundwater map well location

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a	(R=POD replaced, O=orpha C=the fil	ned,		iarte	ers a	are	1=NW	/ 2=NI	E 3=SW	4=SE)				
water right file.)	closed)		(qı	lart	ers a	are s	smalle	st to la	irgest)	(NAD83	BUTM in meter	s) (In	feet)	
	~ .	POD Sub-		_	Q	_								ater
POD Number	Code	-	County	_					0	X	Y	DepthWellDepthV	Vater Col	umn
<u>C 01354 X-3</u>		CUB	ED	2	1	3	23	26S	29E	598323	3543837	170		
<u>C 02038</u>		С	ED	3	2	4	26	26S	29E	599204	3541992*	200		
C 03507 POD1		С	ED	1	3	3	05	26S	29E	593064	3548313	140	78	6
C 03508 POD1		С	ED	1	3	3	05	26S	29E	593063	3548361	140	75	6
C 03605 POD1		CUB	ED	4	2	3	27	26S	29E	596990	3541983	45	0	4
										A	Average Depth t	o Water:	51 feet	
											Minimu	ım Depth:	0 feet	
											Maximu	m Depth:	78 feet	

Township: 26S Range: 29E

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

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

8/6/19 3:52 PM

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WATER COLUMN/ AVERAGE DEPTH TO WATER USGS Home Contact USGS Search USGS

#### National Water Information System: Web Interface

US S Water Resources

Data Categor : Groundwater • eographic rea: New Mexico • GO

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- ull News RSS icon

Groundwater levels for New Mexico

Click to hide state-specific text

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 kand surface. This well is completed in the Rustler ormation (312RSLR) local aquifer.

his well is completed in the Rustler ormation (312RSLR) local aquifer. Output formats										
Table of data				oupar lornats						
Tab-separated data										
Graph of data										
Reselect period										
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1958-08-19	D	98.63			2					٨
1929-09-19	D	96.05			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	А	Approved for publication Processing and review completed.

\_uestions about sites/data\_ \_eedback on this web site Automated retrievals Help

## Received by OCD: 2/21/2022 9:08:02 AM

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USA.gov logo U.S. Department of the Interior U.S. Geological Survey Title: roundwater for New Me ico: Water Levels URL: https://wis/waterdata.usgs.gov.nm.nwis.gwlevels

Page Contact Information: <u>New Mexico Water Data Maintainer</u> Page Last Modified: 2019-08-06 17:55:49 EDT 0.44 0.42 malww02

# 🙊 NFHL Web Mapping Application

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+				
		.2984 ft		
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	100m			
Released t	100m to Imaging: 3/15/2022 9:42:49 AM			FEMA   Bureau of Land Management Texas Par



# 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,

Jession Vermer

Jessica Kramer Project Assistant

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



Sample 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')
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")
AH-9 (0-6")
AH-10 (0-6")
AH-11 (0-6")
AH-12 (0-6")
AH-13 (0-6")
AH-14 (0-6")

# Sample Cross Reference 632174



Pappy's Preference Federal #1

Matrix	Date Collected	Sample Depth	Lab Sample Id
S	07-25-19 00:00		632174-001
S	07-25-19 00:00		632174-002
S	07-25-19 00:00		632174-003
S	07-25-19 00:00		632174-004
S	07-25-19 00:00		632174-005
S	07-25-19 00:00		632174-006
S	07-25-19 00:00		632174-007
S	07-25-19 00:00		632174-008
S	07-25-19 00:00		632174-009
S	07-25-19 00:00		632174-010
S	07-25-19 00:00		632174-011
S	07-25-19 00:00		632174-012
S	07-25-19 00:00		632174-013
S	07-25-19 00:00		632174-014
S	07-25-19 00:00		632174-015
S	07-25-19 00:00		632174-016
S	07-25-19 00:00		632174-017
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.



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

### Certificate of Analysis Summary 632174

Tetra Tech- Midland, Midland, TX Project Name: Pappy's Preference Federal #1



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

Lab Id:	632174-0	001	632174-0	002	632174-0	003	632174-0	004	632174-0	005	632174-0	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	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
Extracted:	Jul-26-19	11:33	Jul-26-19	11:33	Jul-26-19 1	1:33	Jul-26-19	11:33	Jul-26-19	11:33	Jul-26-19	11:33
Analyzed:	Jul-27-19	21:48	Jul-27-192	22:08	Jul-27-19 2	22:28	Jul-27-192	22:48	Jul-27-192	23:08	Jul-27-192	23:28
Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
	< 0.00200	0.00200	< 0.00198	0.00198	< 0.00202	0.00202	< 0.00200	0.00200	< 0.00200	0.00200	< 0.00201	0.00201
	< 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	< 0.00198	0.00198	< 0.00202	0.00202	< 0.00200	0.00200	< 0.00200	0.00200	< 0.00201	0.00201
m,p-Xylenes		0.00401	< 0.00397	0.00397	< 0.00403	0.00403	< 0.00401	0.00401	< 0.00401	0.00401	< 0.00402	0.00402
	< 0.00200	0.00200	< 0.00198	0.00198	< 0.00202	0.00202	< 0.00200	0.00200	< 0.00200	0.00200	< 0.00201	0.00201
	< 0.00200	0.00200	< 0.00198	0.00198	< 0.00202	0.00202	< 0.00200	0.00200	< 0.00200	0.00200	< 0.00201	0.00201
	< 0.00200	0.00200	< 0.00198	0.00198	< 0.00202	0.00202	< 0.00200	0.00200	< 0.00200	0.00200	< 0.00201	0.00201
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 1	8:10	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
	20700	100	13300	100	15600	101	14400	99.6	9810	50.5	8450	49.7
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-27-192	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
	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
	36.7	15.0	22.8	15.0	<14.9	14.9	27.6	15.0	<15.0	15.0	<15.0	15.0
	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
	36.7	15.0	22.8	15.0	<14.9	14.9	27.6	15.0	<15.0	15.0	<15.0	15.0
	Field Id: Depth: Matrix: Sampled: Extracted: Analyzed: Units/RL: Extracted: Analyzed: Units/RL: Extracted: Analyzed:	Field Id:       AH-1 (0.10000000000000000000000000000000000	Field Id:       AH-1 (0-6")         Depth:       SOIL         Matrix:       SOIL         Sampled:       Jul-25-19 00:00         Extracted:       Jul-26-19 11:33         Analyzed:       Jul-27-19 21:48         Units/RL:       mg/kg       RL         <0.00200       0.00200         <0.00200       0.00200         <0.00200       0.00200         <0.00200       0.00200         <0.00200       0.00200         <0.00200       0.00200         <0.00200       0.00200         <0.00200       0.00200         <0.00200       0.00200         <0.00200       0.00200         <0.00200       0.00200         <0.00200       0.00200         <0.00200       0.00200         <0.00200       0.00200         <0.00200       0.00200         <0.00200       0.00200         <0.00200       0.00200         <0.00200       0.00200         <0.00200       0.00200         <0.00200       0.00200         <0.00200       0.00200         <0.00200       0.00200          Jul-27-19 12:30	Field Id:       AH-1 (0-6")       AH-2 (0-0000000000000000000000000000000000	Field Id:       AH-1 (0-6")       AH-2 (0-6")         Depth:       SOIL       SOIL         Matrix:       SOIL       SOIL         Sampled:       Jul-25-19 00:00       Jul-25-19 00:00         Extracted:       Jul-26-19 11:33       Jul-26-19 11:33         Analyzed:       Jul-27-19 21:48       Jul-27-19 22:08         Units/RL:       mg/kg       RL       mg/kg       RL         <0.00200       0.00200       <0.00198       0.00198         <0.00200       0.00200       <0.00198       0.00198         <0.00200       0.00200       <0.00198       0.00198         <0.00200       0.00200       <0.00198       0.00198         <0.00200       0.00200       <0.00198       0.00198         <0.00200       0.00200       <0.00198       0.00198         <0.00200       0.00200       <0.00198       0.00198         <0.00200       0.00200       <0.00198       0.00198         <0.00200       0.00200       <0.00198       0.00198         <0.00200       0.00200       <0.00198       0.00198         <0.00200       0.00200       <0.00198       0.00198         <0.00200       0.00200       <0.00198	Field Id:       AH-1 (0-6")       AH-2 (0-6")       AH-3 (0-7)         Depth:	Field Id:       AH-1 (0-6")       AH-2 (0-6")       AH-3 (0-1')         Depth:       SOIL       SOIL       SOIL         Matrix:       SOIL       Jul-25-19 00:00       Jul-25-19 00:00       Jul-25-19 00:00         Extracted:       Jul-25-19 00:00       Jul-25-19 00:00       Jul-25-19 00:00       Jul-25-19 00:00         Extracted:       Jul-27-19 21:48       Jul-27-19 22:08       Jul-27-19 22:28         Units/RL:       mg/kg       RL       mg/kg       RL       mg/kg       RL         <0.00200       0.00200       <0.00198       0.00198       <0.00202       0.00202         <0.00200       0.00200       <0.00198       0.00198       <0.00202       0.00202         <0.00200       0.00200       <0.00198       0.00198       <0.00202       0.00202         <0.00200       0.00200       <0.00198       0.0198       <0.00202       0.00202         <0.00200       0.00200       <0.00198       0.0198       <0.00202       0.00202         <0.00200       0.00200       <0.00198       0.0198       <0.00202       0.00202         <0.00200       0.00200       <0.00198       0.0198       <0.00202       0.00202         <0.00200       0.00200       <0	Field Id:       AH-1 (0-6")       AH-2 (0-6")       AH-3 (0-1')       AH-4 (0         Depth:       .	Field Id: Depth:       AH-1 (0-6")       AH-2 (0-6")       AH-3 (0-1')       AH-4 (0-1')         Matrix:       SOIL       SOID       SOID	Field Id:       AH-1 (0-6")       AH-2 (0-6")       AH-3 (0-1')       AH-4 (0-1')       AH-4 (1')         Depth:       Natrix:       SOIL       SOIL       SOIL       SOIL       SOIL       SOIL       SOIL         Sampled:       Jul-25-19 00:00       Jul-27-19 10:00       Jul-27-19 10:00       Jul-27-19 00:00       Jul-27-19 00:00       Jul-27-19 10:00       Jul-27-19 00:00       Jul-27-19 00:00       Jul-27-19 00:00       <	Field Id: Depth: Matrix:         AH-1 (0-6")         AH-2 (0-6")         AH-3 (0-1)         AH-4 (0-1)         AH-4 (1-1.5)           Matrix:         SOIL         SOID	Field Id: Depti:       AH-1 (0-6")       AH-2 (0-6")       AH-3 (0-1)       AH-4 (0-1)       AH-4 (1-1.5")       AH-4 (1.4)         Matrix:       SOIL       SOIL       SOIL       SOIL       Jul-25-19 0:00       Jul-27-19 0:00

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Version: 1.%

fession kramer

Jessica Kramer Project Assistant

Final 1.000



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

### Certificate of Analysis Summary 632174

Tetra Tech- Midland, Midland, TX Project Name: Pappy's Preference Federal #1



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

r													
	Lab Id:	632174-0	007	632174-0	008	632174-0	009	632174-	010	632174-	011	632174-	012
Analysis Requested	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")
Analysis Kequesiea	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										
	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										
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	< 0.00198	0.00198	< 0.00202	0.00202	< 0.00200	0.00200	< 0.00198	0.00198	< 0.00202	0.00202
Ethylbenzene	hylbenzene		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										
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 (	)9:00	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										
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

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Version: 1.%

fession kramer

Jessica Kramer Project Assistant

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

### Certificate of Analysis Summary 632174

Tetra Tech- Midland, Midland, TX Project Name: Pappy's Preference Federal #1



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

Lab Id:	632174-	013	632174-	014	632174-0	015	632174-	016	632174-0	017	632174-0	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
Extracted:	Jul-26-19	11:33	Jul-26-19	11:33	Jul-26-19 1	1:33	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
	0.0200	0.00198	< 0.00201	0.00201	< 0.00200	0.00200	< 0.00202	0.00202	< 0.00202	0.00202	< 0.00200	0.00200
	0.00522	0.00198	< 0.00201	0.00201	< 0.00200	0.00200	< 0.00202	0.00202	< 0.00202	0.00202	< 0.00200	0.00200
hylbenzene		0.00198	< 0.00201	0.00201	< 0.00200	0.00200	< 0.00202	0.00202	< 0.00202	0.00202	< 0.00200	0.00200
	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		0.00198	< 0.00201	0.00201	< 0.00200	0.00200	< 0.00202	0.00202	< 0.00202	0.00202	< 0.00200	0.00200
	0.154	0.00198	< 0.00201	0.00201	< 0.00200	0.00200	< 0.00202	0.00202	< 0.00202	0.00202	< 0.00200	0.00200
	0.223	0.00198	< 0.00201	0.00201	< 0.00200	0.00200	< 0.00202	0.00202	< 0.00202	0.00202	< 0.00200	0.00200
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 1	9:45	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
	15400	101	12600	99.2	13700	99.8	13300	100	17200	100	12.5	4.98
Extracted:	Jul-27-19	09:00	Jul-27-19	09:00	Jul-27-19 (	9:00	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 (	5:23	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
	147	15.0	<15.0	15.0	38.2	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
	523	15.0	37.8	15.0	903	15.0	170	15.0	<15.0	15.0	<15.0	15.0
	49.4	15.0	<15.0	15.0	76.7	15.0	26.2	15.0	<15.0	15.0	<15.0	15.0
	719	15.0	37.8	15.0	1020	15.0	196	15.0	<15.0	15.0	<15.0	15.0
	Field Id: Depth: Matrix: Sampled: Extracted: Analyzed: Units/RL: Extracted: Analyzed: Units/RL: Extracted: Analyzed:	Field Id:       AH-9 (0         Depth:       A         Matrix:       SOII         Sampled:       Jul-25-19         Extracted:       Jul-26-19         Analyzed:       Jul-28-19         Units/RL:       mg/kg         0.0200       0.00522         0.0466       0.133         0.0205       0.154         0.1233       0.0205         Extracted:       Jul-27-19         Analyzed:       Jul-28-19         Units/RL:       mg/kg         147       523         49.4       49.4	Field Id:       AH-9 (0-6")         Depth:       SOIL         Matrix:       SOIL         Sampled:       Jul-25-19 00:00         Extracted:       Jul-26-19 11:33         Analyzed:       Jul-28-19 05:09         Units/RL:       mg/kg       RL         0.0200       0.00198         0.0322       0.00198         0.0446       0.00198         0.033       0.00396         0.133       0.00198         0.154       0.00198         0.223       0.00198         0.154       0.00198         0.223       0.00198         0.223       0.00198         0.154       0.00198         0.223       0.00198         Extracted:       Jul-27-19 14:00         Analyzed:       Jul-27-19 19:23         Units/RL:       mg/kg       RL         15400       101         Extracted:       Jul-27-19 09:00         Analyzed:       Jul-28-19 04:36         Units/RL:       mg/kg       RL         147       15.0         523       15.0         49.4       15.0	Field Id:       AH-9 (0-6")       AH-10 (0         Depth:       SOIL       SOIL         Matrix:       SOIL       SOIL         Sampled:       Jul-25-19 00:00       Jul-25-19 0         Extracted:       Jul-26-19 11:33       Jul-26-19 1         Analyzed:       Jul-28-19 05:09       Jul-28-19 0         Units/RL:       mg/kg       RL       mg/kg         0.00200       0.00198       <0.00201	Field Id:       AH-9 (0-6")       AH-10 (0-6")         Depth:       .       SOIL       SOIL         Matrix:       SOIL       Jul-25-19 00:00       Jul-25-19 00:00         Extracted:       Jul-26-19 11:33       Jul-26-19 11:33       Jul-28-19 02:48         Units/RL:       mg/kg       RL       mg/kg       RL         0.0200       0.00198       <0.00201       0.00201         0.0322       0.00198       <0.00201       0.00201         0.0446       0.00198       <0.00201       0.00201         0.0205       0.00198       <0.00201       0.00201         0.133       0.00396       <0.00201       0.00201         0.133       0.00396       <0.00201       0.00201         0.0223       0.00198       <0.00201       0.00201         0.154       0.0198       <0.00201       0.00201         0.0223       0.00198       <0.00201       0.00201         0.154       0.0198       <0.00201       0.00201         Malyzed:       Jul-27-19 14:00       Jul-27-19 14:00         Jul-27-19 19:23       Jul-27-19 09:00       Jul-27-19 09:00         Analyzed:       Jul-27-19 09:00       Jul-27-19 09:00         Analyz	Field Id:         AH-9 (0-6")         AH-10 (0-6")         AH-11 (0           Depth:	Field Id:       AH-9 (0-6")       AH-10 (0-6")       AH-11 (0-6")         Depth:       SOIL       SOIL       SOIL         Matrix:       SOIL       SOIL       SOIL         Sampled:       Jul-25-19 00:00       Jul-25-19 00:00       Jul-25-19 00:00         Extracted:       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         Units/RL:       mg/kg       RL       mg/kg       RL       mg/kg       RL         0.0020       0.00198       <0.00201       0.00200       <0.00200       0.00200         0.00522       0.00198       <0.00201       0.00201       <0.00200       0.00200         0.0133       0.00396       <0.00201       0.00201       <0.00200       0.00200         0.0223       0.0198       <0.00201       0.00201       <0.00200       0.00200         0.0233       0.0198       <0.00201       0.00201       <0.00200       0.00200         0.133       0.00198       <0.00201       0.00201       <0.00200       0.00200         0.154       0.0198       <0.00201       0.00201       <0.00200       0.00200         101227-19<	Field Id:       AH-9 (0-6")       AH-10 (0-6")       AH-11 (0-6")       AH-12 (0         Depth:       . <th>Field Id: Depth:         AH-9 (0-6")         AH-10 (0-6")         AH-11 (0-6")         AH-12 (0-6")           Matrix:         SOIL         SOIL         SOIL         SOIL         SOIL         SOIL           Sampled:         Jul-25-19 00:00         Jul-27-19 19:00         Jul-27-19 19:00</th> <th>Field Id:       AH-9 (0-6")       AH-10 (0-6")       AH-11 (0-6")       AH-12 (0-6")       AH-13 (0         Depth:        A       AH-10 (0-6")       AH-11 (0-6")       AH-12 (0-6")       AH-13 (0         Matrix:       SOIL       SOIL       SOIL       SOIL       SOIL       SOIL         Sampled:       Jul-25-19 0:00       Jul-27-19 0:00       Jul-27-19 0:00       &lt;</th> <th>Field Id: Depth:       AH-9 (0-6")       AH-10 (0-6")       AH-11 (0-6")       AH-12 (0-6")       AH-13 (0-6")         Matrix:       SOIL       S</th> <th>Field d: Deptin:       AH-9 (<math>0-6^-</math>)       AH-10 (<math>0-6^-</math>)       AH-11 (<math>0-6^-</math>)       AH-12 (<math>0-6^-</math>)       AH-13 (<math>0-6^-</math>)       AH-14 (<math>0-6^-</math>)         Matrix:       SOIL       SOIL       SOIL       SOIL       SOIL       Jul-25-19 0:00       Jul-27-19 0:00       J</th>	Field Id: Depth:         AH-9 (0-6")         AH-10 (0-6")         AH-11 (0-6")         AH-12 (0-6")           Matrix:         SOIL         SOIL         SOIL         SOIL         SOIL         SOIL           Sampled:         Jul-25-19 00:00         Jul-27-19 19:00         Jul-27-19 19:00	Field Id:       AH-9 (0-6")       AH-10 (0-6")       AH-11 (0-6")       AH-12 (0-6")       AH-13 (0         Depth:        A       AH-10 (0-6")       AH-11 (0-6")       AH-12 (0-6")       AH-13 (0         Matrix:       SOIL       SOIL       SOIL       SOIL       SOIL       SOIL         Sampled:       Jul-25-19 0:00       Jul-27-19 0:00       Jul-27-19 0:00       <	Field Id: Depth:       AH-9 (0-6")       AH-10 (0-6")       AH-11 (0-6")       AH-12 (0-6")       AH-13 (0-6")         Matrix:       SOIL       S	Field d: Deptin:       AH-9 ( $0-6^-$ )       AH-10 ( $0-6^-$ )       AH-11 ( $0-6^-$ )       AH-12 ( $0-6^-$ )       AH-13 ( $0-6^-$ )       AH-14 ( $0-6^-$ )         Matrix:       SOIL       SOIL       SOIL       SOIL       SOIL       Jul-25-19 0:00       Jul-27-19 0:00       J

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Version: 1.%

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# **Flagging Criteria**



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- 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 LimitSDLSample Detection LimitLOD Limit of Detection
- PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation
- DL Method Detection Limit
- NC Non-Calculable

SMP Clie	ent Sample	BLK	Method Blank	
BKS/LCS	S Blank Spike/Laboratory Control Sample	BKSD/LCSD	Blank Spike Duplicate/Labo	ratory 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



Work Ord Lab Batch #	lers : 632174 : 3096779	4, Sample: 632174-001 / SMP	Batch		: 212C-MD-0 : Soil	01855	
Units:	mg/kg	<b>Date Analyzed:</b> 07/27/19 21:48	SU	RROGATE R	ECOVERYS	STUDY	
	BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluorot	oenzene		0.0320	0.0300	107	70-130	
4-Bromofluor	robenzene		0.0310	0.0300	103	70-130	
Lab Batch #	: 3096779	Sample: 632174-002 / SMP	Batch	n: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 07/27/19 22:08	SU	RROGATE R	ECOVERY	STUDY	
		X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorot		Anarytes	0.0325	0.0300	108	70-130	
4-Bromofluor			0.0349	0.0300	116	70-130	
Lab Batch #		Sample: 632174-003 / SMP	Batch			10 150	
Units:	mg/kg	<b>Date Analyzed:</b> 07/27/19 22:28		RROGATE R		STUDY	
	RTFX	X by EPA 8021B	Amount	True		Control	
		Analytes	Found [A]	Amount [B]	Recovery %R [D]	Limits %R	Flags
1,4-Difluorot			0.0314	0.0300	105	70-130	
4-Bromofluor	robenzene		0.0329	0.0300	110	70-130	
Lab Batch #	: 3096731	Sample: 632174-001 / SMP	Batch			10 100	
Units:	mg/kg	<b>Date Analyzed:</b> 07/27/19 22:43		RROGATE R		STUDY	
		oy SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chloroocta	ne		79.9	99.9	80	70-135	
o-Terphenyl			36.6	50.0	73	70-135	
Lab Batch #	: 3096779	Sample: 632174-004 / SMP	Batch	n: 1 Matrix	: Soil		
Units:	mg/kg	<b>Date Analyzed:</b> 07/27/19 22:48	SU	RROGATE R	ECOVERY	STUDY	
		X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
				1	-		
1,4-Difluorob	enzene		0.0314	0.0300	105	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



	<b>ders :</b> 632174 #: 3096779	4, Sample: 632174-005 / SMP	Batch		212C-MD-0	01855	
Units:	mg/kg	Date Analyzed: 07/27/19 23:08	SU	RROGATE R	ECOVERYS	STUDY	
	BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluoro	benzene		0.0307	0.0300	102	70-130	
4-Bromoflue	orobenzene		0.0318	0.0300	106	70-130	
Lab Batch	#: 3096779	Sample: 632174-006 / SMP	Batch	n: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 07/27/19 23:28	SU	RROGATE R	ECOVERY	STUDY	
		X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluoro			0.0321	0.0300	107	70-130	
4-Bromoflue	orobenzene		0.0357	0.0300	119	70-130	
Lab Batch	#: 3096779	Sample: 632174-007 / SMP	Batch			10 100	
Units:	mg/kg	<b>Date Analyzed:</b> 07/27/19 23:49		RROGATE R		STUDY	
	DØDEN		Amount	True		Control	
		X by EPA 8021B Analytes	Found [A]	Amount [B]	Recovery %R [D]	Limits %R	Flags
1,4-Difluoro			0.0307	0.0300	102	70-130	
4-Bromoflue			0.0322	0.0300	102	70-130	
	#: 3096731	Sample: 632174-002 / SMP	Batch			10 150	
Units:	mg/kg	<b>Date Analyzed:</b> 07/27/19 23:54		RROGATE R		STUDY	
		oy SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooct	ane		79.2	99.9	79	70-135	
o-Terphenyl			35.1	50.0	70	70-135	
	#: 3096779	Sample: 632174-008 / SMP	Batch				
U <b>nits:</b>	mg/kg	Date Analyzed: 07/28/19 00:09	SU	RROGATE R	ECOVERY	STUDY	
		X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
			0.0308	0.0300	103	70-130	
1,4-Difluoro	obenzene		0.0508	0.0300	105	/0-150	

\* 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



Work Or Lab Batch #	<b>ders :</b> 632174 #: 3096731	4, Sample: 632174-003 / SMP	Batch		: 212C-MD-0 : Soil	)1855	
Units:	mg/kg	Date Analyzed: 07/28/19 00:17	SU	RROGATE R	ECOVERYS	STUDY	
	TPH I	oy SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chloroocta	ane		79.7	99.6	80	70-135	
o-Terphenyl			35.9	49.8	72	70-135	
Lab Batch #	#: 3096779	Sample: 632174-009 / SMP	Batch	a: 1 Matrix	: Soil		
U <b>nits:</b>	mg/kg	Date Analyzed: 07/28/19 00:29	SUI	RROGATE R	ECOVERY	STUDY	
	ВТЕХ	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluoro	benzene		0.0310	0.0300	103	70-130	
4-Bromofluo			0.0335	0.0300	112	70-130	
	#: 3096731	Sample: 632174-004 / SMP	Batch			70-150	
Units:	mg/kg	Date Analyzed: 07/28/19 00:41		RROGATE R		STUDV	
	TPH I	oy SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chloroocta	ane		172	99.7	173	70-135	**
o-Terphenyl			63.1	49.9	126	70-135	
	#: 3096779	Sample: 632174-010 / SMP	Batch		-	70-155	
Units:	mg/kg	Date Analyzed: 07/28/19 00:49		RROGATE R		STUDY	
	BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluoro	benzene		0.0308	0.0300	103	70-130	
4-Bromofluo	orobenzene		0.0324	0.0300	108	70-130	
Lab Batch #	#: 3096731	Sample: 632174-005 / SMP	Batch	a: 1 Matrix	: Soil		
J <b>nits:</b>	mg/kg	Date Analyzed: 07/28/19 01:05	SUI	RROGATE R	ECOVERY	STUDY	
	TPH I	oy SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
		-	84.1	99.9	84	70-135	
1-Chloroocta	ane		04.1	99.9	0-	10-155	

\* Surrogate outside of Laboratory QC limits

Released to Imaging: 3/15/2022 9:42:49 AM

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

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



# Form 2 - Surrogate Recoveries

Lab Batch #: 3096	731	Sample: 632174-006 / SMP	P Batch: 1 Matrix: Soil									
J <b>nits:</b> mg/k	g	Date Analyzed: 07/28/19 01:28	SU	RROGATE R	ECOVERY S	STUDY						
	·	v SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
1 Chlans a stand	F	Analytes	70.7	00.0		70.105						
1-Chlorooctane			79.7	99.8	80	70-135	**					
o-Terphenyl Lab Batch #: 3096	721	Sample: 632174-007 / SMP	33.7 Batal	49.9 n: 1 Matrix	68	70-135	**					
		•	Batch		-							
Units: mg/k	g	Date Analyzed: 07/28/19 01:51	SURROGATE RECOVERY STUDY									
	·	v SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags					
	A	Analytes			[D]							
1-Chlorooctane			79.8	100	80	70-135						
o-Terphenyl			35.7	50.0	71	70-135						
Lab Batch #: 3096	779	Sample: 632174-011 / SMP	Batch	n: 1 Matrix	: Soil							
U <b>nits:</b> mg/k	g	Date Analyzed: 07/28/19 02:07	SU	RROGATE R	ECOVERY S	STUDY						
	BTEX	by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags					
	A	Analytes	[1]	[2]	[D]	/011						
1,4-Difluorobenzene			0.0338	0.0300	113	70-130						
4-Bromofluorobenzer	ne		0.0337	0.0300	112	70-130						
Lab Batch #: 3096	731	Sample: 632174-008 / SMP	Batch	n: 1 Matrix	: Soil	11						
U <b>nits:</b> mg/k	g	Date Analyzed: 07/28/19 02:15	SU	RROGATE R	ECOVERY S	STUDY						
	·	v SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
1-Chlorooctane			80.3	99.9	80	70-135						
					1	1						

Lab Bate Date Analyzed: 07/28/19 02:28 Units: mg/kg

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.

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Work Ore Lab Batch #	<b>ders :</b> 632174 <b>#:</b> 3096731	4, Sample: 632174-009 / SMP	Batch		: 212C-MD-0 :: Soil	01855	
Units:	mg/kg	Date Analyzed: 07/28/19 02:38	SU	RROGATE R	ECOVERY	STUDY	
	TPH b	oy SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chloroocta	ine		80.3	99.7	81	70-135	
o-Terphenyl			35.7	49.9	72	70-135	
Lab Batch #	<b>#:</b> 3096779	Sample: 632174-014 / SMP	Batch	n: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 07/28/19 02:48	SU	RROGATE R	ECOVERY	STUDY	
		X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorol			0.0316	0.0300	105	70-130	
4-Bromofluo			0.0326	0.0300	109	70-130	
Lab Batch #	#: 3096731	Sample: 632174-010 / SMP	Batch			10 100	
Units:	mg/kg	Date Analyzed: 07/28/19 03:02		RROGATE R		STUDY	
			Amount	True		Control	
		oy SW8015 Mod Analytes	Found [A]	Amount [B]	Recovery %R [D]	Limits %R	Flags
1-Chloroocta			81.4	100	81	70-135	
o-Terphenyl			33.4	50.0	67	70-135	**
Lab Batch #	#: 3096779	Sample: 632174-016 / SMP	Batch			10 100	
Units:	mg/kg	Date Analyzed: 07/28/19 03:08		RROGATE R		STUDY	
		X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluorol			0.0311	0.0300	104	70-130	
4-Bromofluo			0.0345	0.0300	115	70-130	
Lab Batch #		Sample: 632174-017 / SMP	Batch	n: 1 Matrix	: Soil		
U <b>nits:</b>	mg/kg	Date Analyzed: 07/28/19 03:28	SU	RROGATE R	ECOVERY	STUDY	
		X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1 1 5 1 1			0.0316	0.0300	105	70-130	
1,4-Difluorol	Delizene			0.0500			

\* Surrogate outside of Laboratory QC limits

Released to Imaging: 3/15/2022 9:42:49 AM

\*\* 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.

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Work Ord Lab Batch #	lers : 632174 : 3096779	4, Sample: 632174-018 / SMP	Batch	0	212C-MD-0 Soil	)1855	
Units:	mg/kg	Date Analyzed: 07/28/19 03:48	SU	RROGATE R	ECOVERYS	STUDY	
	BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluorob	enzene		0.0307	0.0300	102	70-130	
4-Bromofluor			0.0327	0.0300	109	70-130	
Lab Batch #	: 3096731	Sample: 632174-011 / SMP	Batch	n: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 07/28/19 03:49	SU	RROGATE R	ECOVERY	STUDY	
		oy SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chloroocta			74.3	99.9	74	70-135	
o-Terphenyl			32.5	50.0	65	70-135	**
Lab Batch #	: 3096731	Sample: 632174-012 / SMP	Batch		: Soil		
Units:	mg/kg	Date Analyzed: 07/28/19 04:12		RROGATE R		STUDY	
	трн і	by SW8015 Mod	Amount	True		Control	
		Analytes	Found [A]	Amount [B]	Recovery %R [D]	Limits %R	Flags
1-Chloroocta			80.4	99.8	81	70-135	
o-Terphenyl			33.1	49.9	66	70-135	**
Lab Batch #	: 3096731	Sample: 632174-013 / SMP	Batch	n: 1 Matrix	: Soil		
Units:	mg/kg	<b>Date Analyzed:</b> 07/28/19 04:36	SU	RROGATE R	ECOVERYS	STUDY	
		oy SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chloroocta	ne		77.2	99.9	77	70-135	
o-Terphenyl		~	39.9	50.0	80	70-135	
Lab Batch #		Sample: 632174-015 / SMP	Batch				
U <b>nits:</b>	mg/kg	Date Analyzed: 07/28/19 04:49	SU	RROGATE R	ECOVERY	STUDY	
		X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorob		· ·	0.0300	0.0300	100	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



Work Orders : 6 Lab Batch #: 30967		Sample: 632174-014 / SMP	Batch	-	: 212C-MD-0	)1855	
Units: mg/kg	5	Date Analyzed: 07/28/19 04:59	SUF	RROGATE F	RECOVERY	STUDY	
1	•	W8015 Mod	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 #: 30967	79	Sample: 632174-013 / SMP	Batch			, , , , , , , , , , , , , , , , , , , ,	
Units: mg/kg	ŗ	Date Analyzed: 07/28/19 05:09	SUE	ROGATE F	ECOVERY	STUDY	
I	BTEX by	EPA 8021B	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	2		0.0493	0.0300	164	70-130	**
Lab Batch #: 30967		Sample: 632174-015 / SMP	Batch		_	10 150	
Units: mg/kg	ç	Date Analyzed: 07/28/19 05:23		ROGATE R		STUDY	
1	TPH by S	W8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	An	alytes	[]	[-]	[D]	,	
1-Chlorooctane			77.8	99.9	78	70-135	
o-Terphenyl			43.5	50.0	87	70-135	
Lab Batch #: 30967	/31	Sample: 632174-016 / SMP	Batch	1 Matrix	: Soil	1	1
Units: mg/kg	5	Date Analyzed: 07/28/19 05:46	SUF	ROGATE F	RECOVERY	STUDY	
T		W8015 Mod	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 #: 30967	/31	Sample: 632174-017 / SMP	Batch	1 Matrix	: Soil	1	1
Units: mg/kg	5	Date Analyzed: 07/28/19 06:10	SUF	ROGATE F	RECOVERY	STUDY	
ſ	•	W8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1 Chloroostana		•	72.4	00.0	72	70.125	

72.4

39.2

99.9

50.0

\* 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.

1-Chlorooctane

o-Terphenyl

72

78

70-135

70-135



	<b>#:</b> 3096731	Sample: 632174-018 / SMF	P Batc	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 07/28/19 06:33	SU	JRROGATE R	ECOVERY	STUDY	
	TPH I	oy SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooct	tane		71.9	100	72	70-135	
o-Terpheny	1		31.6	50.0	63	70-135	**
Lab Batch	#: 3096779	Sample: 7682924-1-BLK /	BLK Batc	h: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 07/27/19 21:28	SU	JRROGATE R	ECOVERY	STUDY	
		X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluoro			0.0317	0.0300	106	70-130	
4-Bromoflu	orobenzene		0.0313	0.0300	104	70-130	
Lab Batch	#: 3096731	Sample: 7682996-1-BLK /	BLK Batc	h: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 07/27/19 21:32	SU	JRROGATE R	ECOVERY	STUDY	
	TPH b	oy SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooct	tane		76.8	100	77	70-135	
o-Terpheny	1		33.8	50.0	68	70-135	**
Lab Batch	#: 3096779	Sample: 7682924-1-BKS /	BKS Batc	h: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 07/27/19 19:48	SU	JRROGATE R	ECOVERY	STUDY	
		X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	obenzene		0.0306	0.0300	102	70-130	
1,4-Difluoro	onchangana		0.0300	0.0300	100	70-130	
1,4-Difluoro 4-Bromoflu	orobelizene			h: 1 Matrix	: Solid		
4-Bromoflu	#: 3096731	Sample: 7682996-1-BKS / 2	BKS Bate				
4-Bromoflu Lab Batch		Sample: 7682996-1-BKS / 2 Date Analyzed: 07/27/19 21:56		JRROGATE R	ECOVERY	STUDY	
4-Bromoflu Lab Batch	#: 3096731 mg/kg <b>TPH k</b>	-			ECOVERY S Recovery %R [D]	STUDY Control Limits %R	Flags
4-Bromoflu	#: 3096731 mg/kg <b>TPH k</b>	Date Analyzed: 07/27/19 21:56	Amount Found	JRROGATE R True Amount	Recovery %R	Control Limits	Flags

\* Surrogate outside of Laboratory QC limits

Released to Imaging: 3/15/2022 9:42:49 AM

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

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



# Project Name: Pappy's Preference Federal #1

Units:	#: 3096779	Sample: 7682924-1-BSD / E Date Analyzed: 07/27/19 20:08			: Solid		
Units:	mg/kg	Date Analyzed: 07/27/19 20:08	SU	RROGATE R	ECOVERY S	STUDY	
	BTEX	<b>X by EPA 8021B</b>	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluor	obenzene		0.0309	0.0300	103	70-130	
4-Bromoflu	orobenzene		0.0305	0.0300	102	70-130	
Lab Batch	<b>#:</b> 3096731	Sample: 7682996-1-BSD / E	BSD Bate	h: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 07/27/19 22:20	SU	RROGATE R	ECOVERY S	STUDY	
		oy SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1 (11		Analytes		100		70.107	
1-Chlorooc			75.5	100	76	70-135	
o-Terpheny		S (20174.001.5./) / / / / /	38.3	50.0	77	70-135	
	#: 3096779	Sample: 632174-001 S / MS					
Units:	mg/kg	Date Analyzed: 07/27/19 20:28	SU	RROGATE R	ECOVERY S	STUDY	
	BTEX	<b>X by EPA 8021B</b>	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluor	obenzene		0.0312	0.0300	104	70-130	
4-Bromoflu	orobenzene		0.0320	0.0300	107	70-130	
Lab Batch	<b>#:</b> 3096731	Sample: 632174-001 S / MS	Batc	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 07/27/19 23:07	SU	RROGATE R	ECOVERY S	STUDY	
		oy SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooc			75.6	99.8	76	70-135	
o-Terpheny			38.9	49.9	78	70-135	
	#: 3096779	Sample: 632174-001 SD / M					
Units:	mg/kg	<b>Date Analyzed:</b> 07/27/19 20:48	SU	RROGATE R	ECOVERY S	STUDY	
		C by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
4 4 79 - 77		Analytes			[D]		
1,4-Difluor			0.0315	0.0300	105	70-130	
4-Bromoflu	orobenzene		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



# Form 2 - Surrogate Recoveries

Page :	54 d	of 2.	20
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Work Orders : 632174,           Lab Batch #: 3096731           Units:         mg/kg	Sample: 632174-001 SD / M Date Analyzed: 07/27/19 23:30		Project ID: n: 1 Matrix: RROGATE RE	Soil		
	y 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



### **BS / BSD Recoveries**



### **Project Name:** Pappy's Preference Federal #1

Work Orde	<b>r #:</b> 632174							Pro	ject ID:	212C-MD-0	)1855	
Analyst:	FOV	D	ate Prepar	ed: 07/26/20	19			Date A	nalyzed: (	07/27/2019		
Lab Batch ID	<b>Sample:</b> 7682924	-1-BKS	Batc	<b>h #:</b> 1					Matrix: S	Solid		
Units:	mg/kg		BLAN	K/BLANK	SPIKE / ]	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	ЭY	
	BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Anal	ytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
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	
Ethylbenz	zene	< 0.00200	0.100	0.0889	89	0.100	0.0855	86	4	70-130	35	
m,p-Xyle	nes	< 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	D	ate Prepar	red: 07/27/20	19			Date A	nalyzed: (	)7/27/2019	+	
Lab Batch ID	<b>Sample:</b> 7682945	-1-BKS	Bate	<b>h #:</b> 1					Matrix: S	Solid		
Units:	mg/kg		BLAN	K/BLANK	SPIKE / 1	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	ЭY	
Anal	Chloride by EPA 300 ytes	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	r #: 632174								Proj	ject ID:	212C-MD-(	)1855	
Analyst:	SPC		D	ate Prepar	red: 07/27/202	19			Date A	nalyzed: (	07/27/2019		
Lab Batch ID	<b>S</b> : 3096754	ample: 7682948-1-	-BKS	Batc	<b>h #:</b> 1					Matrix: S	Solid		
Units:	mg/kg			BLAN	K/BLANK	SPIKE / ]	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
	Chloride by EPA 3	300	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
Analy	ytes												
Chloride			< 0.858	250	263	105	250	260	104	1	90-110	20	
								1					
Analyst:	ARM		D	ate Prepar	red: 07/27/20	19		I	Date A	nalyzed: (	)7/27/2019	ļ	ļ
Analyst: Lab Batch ID		ample: 7682996-1-		_	red: 07/27/202 h #: 1	19	4	1		nalyzed: ( Matrix: S		1	I
-		ample: 7682996-1-		Batc			BLANK	SPIKE DUP		Matrix: S	Solid	DY	
Lab Batch ID	e: 3096731 Samg/kg TPH by SW8015 M			Batc	<b>h #:</b> 1		BLANK S Spike Added [E]	SPIKE DUP Blank Spike Duplicate Result [F]		Matrix: S	Solid	DY Control Limits %RPD	Flag
Lab Batch ID Units: Analy	e: 3096731 Samg/kg TPH by SW8015 M		-BKS Blank Sample Result	Batc BLAN Spike Added	h #: 1 K /BLANK Blank Spike Result	SPIKE / ] Blank Spike %R	Spike Added	Blank Spike Duplicate	LICATE Blk. Spk Dup. %R	Matrix: S RECOVI	Solid ERY STUI Control Limits	Control Limits	Flag

Relative Percent Difference RPD =  $200^{\circ}|(C-F)/(C+F)|$ Blank Spike Recovery [D] =  $100^{\circ}(C)/[B]$ Blank Spike Duplicate Recovery [G] =  $100^{\circ}(F)/[E]$ 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**

<b>Work Order # :</b> 632174						Project II	<b>):</b> 212C-N	MD-01855	5		
Lab Batch ID: 3096779	QC- Sample ID:	632174	-001 S	Ba	tch #:	1 Matrix	k: Soil				
<b>Date Analyzed:</b> 07/27/2019	Date Prepared:	07/26/2	019	An	alyst: F	FOV					
<b>Reporting Units:</b> mg/kg		Μ	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
BTEX by EPA 8021B	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	[B]	1-1	[D]	[E]		[G]		,		
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	Ba	tch #:	1 Matrix	k: Soil				
<b>Date Analyzed:</b> 07/27/2019	<b>Date Prepared:</b>	07/27/2	019	An	alyst: S	SPC					
Date Analyzed:07/27/2019Reporting Units:mg/kg	Date Prepared:				-	SPC <b>KE DUPLICA</b>	TE REC	OVERY S	STUDY		
	Parent Sample	M	ATRIX SPIK Spiked Sample Result	E / MAT Spiked Sample	RIX SPI	KE DUPLICA Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Reporting Units: mg/kg	Parent	Μ	ATRIX SPIK	E / MAT Spiked	RIX SPI	KE DUPLICA Duplicate	Spiked		Control		Flag
Reporting Units:     mg/kg       Chloride by EPA 300	Parent Sample Result	M Spike Added	ATRIX SPIK Spiked Sample Result	E / MAT Spiked Sample %R	RIX SPI Spike Added	KE DUPLICA Duplicate Spiked Sample	Spiked Dup. %R	RPD	Control Limits	Limits	Flag
Reporting Units:     mg/kg       Chloride by EPA 300       Analytes       Chloride	Parent Sample Result [A]	M Spike Added [B] 249	ATRIX SPIK Spiked Sample Result [C] 271	E / MAT Spiked Sample %R [D] 107	RIX SPI Spike Added [E]	KE DUPLICA Duplicate Spiked Sample Result [F]	<b>Spiked</b> <b>Dup.</b> <b>%R</b> [G] 107	RPD %	Control Limits %R	Limits %RPD	Flag
Reporting Units:     mg/kg       Chloride by EPA 300       Analytes       Chloride	Parent Sample Result [A] 4.89	M Spike Added [B] 249 631951	ATRIX SPIK Spiked Sample Result [C] 271 -040 S	E / MAT Spiked Sample %R [D] 107 Ba	RIX SPI Spike Added [E] 249	KE DUPLICA Duplicate Spiked Sample Result [F] 272 1 Matrix	<b>Spiked</b> <b>Dup.</b> <b>%R</b> [G] 107	RPD %	Control Limits %R	Limits %RPD	Flag
Reporting Units:     mg/kg       Chloride by EPA 300       Analytes       Chloride       Lab Batch ID:     3096746	Parent Sample Result [A] 4.89 QC- Sample ID:	M Spike Added [B] 249 631951 07/27/2	ATRIX SPIK Spiked Sample Result [C] 271 -040 S 019	E / MAT Spiked Sample %R [D] 107 Ba An	RIX SPI Spike Added [E] 249 tch #: aalyst: S	KE DUPLICA Duplicate Spiked Sample Result [F] 272 1 Matrix	Spiked           Dup.           %R           [G]           107           k:         Soil	<b>RPD</b> %	Control Limits %R 90-110	Limits %RPD	Flag
Reporting Units:       mg/kg         Chloride by EPA 300         Analytes         Chloride         Lab Batch ID:       3096746         Date Analyzed:       07/27/2019         Reporting Units:       mg/kg         Chloride by EPA 300	Parent Sample Result [A] 4.89 QC- Sample ID: Date Prepared: Parent Sample Result	M Spike Added [B] 249 631951 07/27/2 M Spike Added	ATRIX SPIK Spiked Sample Result [C] 271 -040 S 019	E / MAT Spiked Sample %R [D] 107 Ba An E / MAT Spiked Sample %R	RIX SPI Spike Added [E] 249 tch #: alyst: S RIX SPI Spike Added	KE DUPLICA Duplicate Spiked Sample Result [F] 272 1 Matrix SPC	Spiked Dup. %R [G] 107 x: Soil TE REC Spiked Dup. %R	<b>RPD</b> %	Control Limits %R 90-110	Limits %RPD	Flag
Reporting Units:     mg/kg       Chloride by EPA 300       Analytes       Chloride       Lab Batch ID:     3096746       Date Analyzed:     07/27/2019       Reporting Units:     mg/kg	Parent Sample Result [A] 4.89 QC- Sample ID: Date Prepared: Parent Sample	M Spike Added [B] 249 631951 07/27/2 M Spike	ATRIX SPIK Spiked Sample Result [C] 271 -040 S 019 ATRIX SPIK Spiked Sample Result	E / MAT Spiked Sample %R [D] 107 Ba An E / MAT Spiked Sample	RIX SPI Spike Added [E] 249 tch #: alyst: S RIX SPI Spike	KE DUPLICA Duplicate Spiked Sample Result [F] 272 1 Matrix SPC KE DUPLICA Duplicate Spiked Sample	Spiked Dup. %R [G] 107 x: Soil TE REC Spiked Dup.	RPD % 0 OVERY S RPD	Control Limits %R 90-110 STUDY Control Limits	Limits %RPD 20 Control Limits	

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.

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### Form 3 - MS / MSD Recoveries



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### **Project Name: Pappy's Preference Federal #1**

Work Order # :	632174						Project II	<b>):</b> 212C-1	MD-0185	5		
Lab Batch ID:	3096754	QC- Sample ID:	632058	-001 S	Ba	tch #:	1 Matrix	: Soil				
Date Analyzed:	07/27/2019	Date Prepared:	07/27/2	019	An	alyst: S	SPC					
<b>Reporting Units:</b>	mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
	Chloride by EPA 300	Parent Sample Result	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
	Analytes	[A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
Chloride		194	249	454	104	249	454	104	0	90-110	20	
Lab Batch ID:	3096754	QC- Sample ID:	632174	-018 S	Ba	tch #:	1 Matrix	: Soil				
Date Analyzed:	07/27/2019	Date Prepared:	07/27/2	.019	An	alyst: S	SPC					
<b>Reporting Units:</b>	mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
	Chloride by EPA 300	Parent Sample	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
	Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
Chloride		12.5	249	276	106	249	274	105	1	90-110	20	
Lab Batch ID:	3096731	QC- Sample ID:	632174	-001 S	Ba	tch #:	1 Matrix	: Soil				
Date Analyzed:	07/27/2019	Date Prepared:	07/27/2	.019	An	alyst: A	ARM					
<b>Reporting Units:</b>	mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
	TPH by SW8015 Mod	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes	[A]	[B]	[~]	[D]	[E]	Acout [1]	[G]				
Gasoline Rang	e 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.

Page 22 of 24

eceived by	<b>OCI</b>	D: 2/21/	/2022	9:08	8:02	AN	1																		Pa	ige 59
		Relinquished by:		Relinquished by:	Helinquisned by:											( LAB USE )	LAB #		Commente.	necervitig Laboratory:	invoice to:	Project Location: state)	Project Name:	Client Name:		
			*		Ð	AH-6 (0-1')	AH-5 (2'-2.5')	AH-5 (1'-1.5')	AH-5 (0-1')	AH-4 (1.5'-2')	AH-4 (1'-1.5')	AH-4 (0-1')	AH-3 (0-1')	AH-2 (0-6")	AH-1 (0-6")		-	-				(county,		900 J		quest of Chair
		Date: Time:		Date: Time:	Date: Time:												SAMPLE IDENTIFICATION			Xenco Midland Tx	COG lke Tavarez	Eddy County, NM	Pappy's Preference Federal #1	G	Tetra Tech, Inc.	Analysis Request of Chain of Custody Record
		Received by:		Beceived hv:	Received by:	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	DATE	YEAR: 2019	SAMPLING		Sampler Signature:		Project #:		Site Manager:		
		Date:	C.	DIL.	<b>ک</b> <sup>0</sup>	×	×	×	×	×	×	×	×	×	×	WATE	R	MATRIX		Mike Ca		212C-N		Mike Carmona	901 West Midland Tel (42 Fax (4	
		te: Time:		The I M IC.	te: Time:	×	×	×	×	×	×	×	×	×	×	HCL HNO <sub>3</sub> ICE None		PRESERVATIVE METHOD		Mike Carmona-Devin [	·	212C-MD-01855		ona	901 West Wall, Suite 100 Midland, Texas 79701 Tel (432) 682-4559 Fax (432) 682-3946	
	0		<u> </u>	E	1000									Т.	1 Z	# CONT FILTER BTEX 8	ED (	Y/N)	EX 8260	D						PGN
	(Circle)	1.513.	Sample Temperature	) C	AB LISE ONI V					×						трн тх	1005	(Ext to	o C35)							<u>p</u>
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	AND DELIVERED		ture		Ň V			_		_	<u>.                                    </u>	_	_						Ba Cd Cr Ba Cd Ci							7
	ERED			аг	REM			-	_						-	TCLP V							e or	Ą		
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	#	Special Report Limits or TRRP Report	24 III	X h	ŀ	×	×	×	<u>×</u>	×	× :	×	$\rightarrow$	×		Chloride Chloride		ulfate	TDS				0			je
		чр Неі	40 11	10 5	Ì	_		4								General Anion/C			mistry (s	see atta	ached I	ist)	_:`	·		
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leased to	Imag	ging: 3/	/15/20	22 9	0:42	:49	AM	Γ.	1							Hold			-		Final	1 000				N

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Received by O		Relinquished by:			Relinquished by	AM									LAB #			Comments:	Invoice to:	Project Location: state)	Project Name:	Client Name:	(P)	Analysis Re
		/: Date: Time:		1/36/	L Date: Time:		AH-14 (0-6")	AH-13 (0-6")	AH-12 (0-6")	AH-11 (0-6")	AH-10 (0-6")	AH-9 (0-6")	AH-8 (0-6")	AH-7 (0-6")	SAMPLE IDENTIFICATION			Xenco Midland Tx	COG Ike Tavarez	county, Eddy County, NM	Pappy's Preference Federal #1	COG	Tetra Tech, Inc.	quest of Chain of Custody Record
ORIGINAL COPY	i received by.	Received hv:	Heceived by:	M	Received by:		7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	DATE DATE	SAMPLING		Sampler Signature:		Project #:		Site Manager:	lnc.	
γο			Date: Time:	a la	Date: Time:		×	X		X	×	×	XX	X X	TIME WATER SOIL HCL HNO <sub>3</sub> ICE None	MATRIX PRESERVATIVE		Mike Carmona-Devin		212C-MD-01855		Mike Carmona	901 West Wall, Suite 100 Midland,Texas 79701 Tel (432) 682-4559 Fax (432) 682-3946	
(Circle)		er v	Sample				×		×	×	×	×	×		# CONTAIN FILTERED ( BTEX 8021E TPH TX1005	ERS Y/N) (Ext	TEX 8260 to C35)	DB					S	U U
HAND DELIVERED			Sample Temperature				×	×	×	×	×	×	×		TPH 8015M PAH 8270C Total Metals / TCLP Metals TCLP Volatile TCLP Semi V RCI	Ag As Ag As s	Ba Cd Cl s Ba Cd C	<sup>·</sup> Pb Se	Hg		(Circle or S	ξ		1
EDEX UPS Tracking #:	Special Report Limits or TRRP Report	Rush Charges Authorized	X RUSH: Same Day 24	TANDARD			×	×				×	×		GC/MS Vol. 6 GC/MS Semi. PCB's 8082 / NORM PLM (Asbesto Chloride	Vol. 608		25		······································	Specify Method	REQUEST		Page
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Released to In	naging	<b>z: 3</b> /	/15/2	2022 9	42:	<b>49</b> A	1 <i>M</i>							24	Hold				Fin	al 1.00				N

### Rec

of 220



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 <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

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,

Whe Singh

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



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	Analyze	d 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	% 73.3-12	9						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/09/2019	ND	448	112	400	3.64	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	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 9	% 41-142							
Surrogate: 1-Chlorooctadecane	122	% 37.6-14	7						

#### Cardinal Laboratories

\*=Accredited Analyte

Mite Sugar

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



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 ( 2' ) (H902738-02)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	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 9	73.3-12	9						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/09/2019	ND	448	112	400	3.64	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	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 9	% 41-142	,						
Surrogate: 1-Chlorooctadecane	123 9	37.6-14	7						

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\*=Accredited Analyte

Mite Sugar

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



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	Analyze	d 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 9	73.3-12	9						
Chloride, SM4500Cl-B	mg/	′kg	Analyze	d 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	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	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 9	% 41-142							
Surrogate: 1-Chlorooctadecane	120 9	% 37.6-14	7						

#### Cardinal Laboratories

\*=Accredited Analyte

Mite Sugar

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



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	Analyze	d 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

Mite Sugar

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



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	Analyze	d 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 5	73.3-12	9						
Chloride, SM4500Cl-B	mg,	′kg	Analyze	d 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	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	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 9	% 41-142							
Surrogate: 1-Chlorooctadecane	123	% 37.6-14	7						

#### Cardinal Laboratories

#### \*=Accredited Analyte

Mite Sugar

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



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	CI-B mg/kg		Analyze	d 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, SM4500CI-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	Analyze	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	Analyze						
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	Analyze	d 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	

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\*=Accredited Analyte

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



#### **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 SM4500CI-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

Mite Sugar

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

Kecetvel	a by	bcb:nellinquisried by:		selinquished by:	Grun y	D ID TRENCH	9 TRENCH	5 TRENCH	7 TRENCH	6 TRENCH	5 TRENCH	4 TRENCH	3 TRENCH	2 Backy	Backs	( LAB USE )	LAB #	H902738	Comments:	necciving raboratory.	Deceiving Laboratory	Project Location: (county, state)	Project Name:	Client Name:	<b>F</b>	geAnalysis Request c	Page 9 of 9
		Date: Time:		Date: Time:	young 8/8/19 1560	2 (4" BEB) (6")	CH 2 (4'\$ BEB) 15')	H 2 (4.3EB) (4')	H 2 (4' BEB) (3')	CH 2 (4' BEB) (2')	H 2 (4' BEB) (1')	HI ( 4' BEB) (2')	H 1 (4' BEB)(1')	round #1 ( 2')	round #1 (0+1')		SAMPLE IDENTIFICATION			Cardinal	COG - Ike Tavarez	Eddy Co, NM	Big Papi Fed Com 2H (7.12.14)	Concho	Tetra Tech, Inc.	Synalysis Request of Chain of Custody Record	
		Received by:		Received by:	Heceived by.	4									2/8/19	DATE TIME	YEAR: 2019	SAMPLING		Sampler Signature:	5	Project #:		Site Manager:			
		Date: Time:		e: Tin	Date: Time:	*									×	WATEI SOIL HCL HNO <sub>3</sub> ICE None	R	MATRIX PRESERVATIVE		Conner Moehring		212C-MD-01885		Mike Carmona	901W Wall Street. Ste 100 Midland, Texas 79705 Tel (432) 682-4559 Fax (432) 682-3946		
	(Circle)	1.2	D. Sample		NOC-LI			-			X		X		X	# CONT FILTERI BTEX 80 TPH TX	ED (Y 021B 1005	(/N) BTE: (Ext to									
(	HAND DELIVERED FEI	[b#/]	Sample Temperature								X		X	×		TPH 801 PAH 827 Total Me TCLP Me TCLP Vo TCLP Se	70C tals A etals / latiles	ng As Ba Ag As B s	a Cd Cr F	Pb Se I	Нg			ANAL			
	FEDEX UPS Tracking #:	Special Report Limits or TRRP Report	orized	RUSH: Same Day 24 hr 48 hr	KS: STANDARD	×	×	X	×	×	×	×	×	X	×	RCI GC/MS V GC/MS S PCB'S 80 NORM PLM (Ast Chloride Chloride General <sup>1</sup> Anion/Ca	Semi. 282 / Desto: Su Wate	Vol. 82 608 s) Ilfate	TDS		ched lis	:t)		YSIS REQUEST	0	Page	
Ralansa				72 hr												Hold										of	



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 <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

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,

Whe Singh

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



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	Analyze	d 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 9	% 73.3-12	9						
Chloride, SM4500Cl-B	mg/	′kg	Analyze	d 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	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	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 9	% 41-142	2						
Surrogate: 1-Chlorooctadecane	115 9	37.6-14	7						

#### Cardinal Laboratories

\*=Accredited Analyte

Mite Sugar

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



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 #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 9	73.3-12	9						
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 9	% 41-142							
Surrogate: 1-Chlorooctadecane	113 9	37.6-14	7						

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


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	Analyze	d 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 9	73.3-12	9						
Chloride, SM4500Cl-B	mg/	′kg	Analyze	d 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	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	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 9	% 41-142							
Surrogate: 1-Chlorooctadecane	109 \$	% 37.6-14	7						

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\*=Accredited Analyte

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



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	Analyze	d 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	% 73.3-12	9						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d 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	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	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 9	% 41-142	,						
Surrogate: 1-Chlorooctadecane	121	% 37.6-14	7						

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



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	Analyze	d 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 9	% 73.3-12	9						
Chloride, SM4500Cl-B	mg/	′kg	Analyze	d 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	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	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 9	% 41-142							
Surrogate: 1-Chlorooctadecane	124 9	% 37.6-14	7						

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\*=Accredited Analyte

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



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	Analyze	d 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	73.3-12	9						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d 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	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	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 9	% 41-142	,						
Surrogate: 1-Chlorooctadecane	128 9	37.6-14	7						

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



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	Analyze	d 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	% 73.3-12	9						
Chloride, SM4500Cl-B	mg/	′kg	Analyze	d 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	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	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 9	% 41-142							
Surrogate: 1-Chlorooctadecane	118 9	37.6-14	7						

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\*=Accredited Analyte

Mite Sugar

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



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	Analyze	d 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	% 73.3-12	9						
Chloride, SM4500Cl-B	mg/	′kg	Analyze	d 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	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	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 9	% 41-142	,						
Surrogate: 1-Chlorooctadecane	114 9	37.6-14	7						

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\*=Accredited Analyte

Mite Sugar

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



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	Analyze	d 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	% 73.3-12	9						
Chloride, SM4500Cl-B	mg/	′kg	Analyze	d 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	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	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 9	% 41-142							
Surrogate: 1-Chlorooctadecane	124 9	% 37.6-14	7						

### Cardinal Laboratories

\*=Accredited Analyte

Mite Sugar

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



## **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 SM4500CI-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

Mite Sugar

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

Received by		Relinguished by:		-	he	Pelinguished by:	SOUTH	0 WEST	2 WEST	1 Chest 2	-	4 NORTH	5 BOTTOM		BOTTOM	( LAB USE )	LAB #	HADZJZd	comments:		Invoice to:	Project Location: (county, state)	Project Name:		Client Name:	Analysis Request of
		Date: Time:		U I I	ochini 8/8/19 1700	Date: Time-	1 1 SIDEWALL	2 SIDEWALL	1 SIDEWALL	SIDEWALL	SIDEWALL	1	AL HOLE #3	M HOLE #2 (1)	W HOLE#1 (4' BEB)		SAMPLE IDENTIFICATION			Cardinal	COG - Ike Tavarez	Eddy Co, NM	Big Papi Fed Com 2H ( 7.12.14)	Concho	Tetra Tech, Inc.	ge 81 of 21 abed Analysis Request of Chain of Custody Record
ORIGINAL COPY			Occived by:	S	neceived by:		2182	5183	1-1 8 8	18/8/19	21312	181 (318	6188	121818	18 3	DATE	YEAR: 2019	SAMPLING		Sampler Signature:		Project #:		One manager.		
	Date: Time:		Date: Ime:	18	Date:		×	×	×	×	×	×	×	×	×	WATEF SOIL HCL HNO <sub>3</sub> ICE	3	MATRIX PRESERVATIVE METHOD		Conner Moehring		212C-MD-01885		Mike Carmona	901W Wall Street, Ste 100 Midland,Texas 79705 Fal (432) 682-4559 Fax (432) 682-3946	
(Circle)				90.LI			- 2 X	- 2 X	- 2 X	- Z X	- Z X	· v ×	- 7 ×	- Z X	Z X	None # CONT/ FILTERE BTEX 80	D (Y. 21B	RS /N) BTEX								
HAND DELIVERED			Sample Temperature	ONLY	LAB USE REMARKS		×	×	×	×	×	X	×	×	×	TPH TX1 TPH 801 PAH 827 Total Meta TCLP Met TCLP Vola	5M ( OC als Ag tals A atiles	GRO - g As Ba Ig As Ba	DRO - O	b Se H	g		(Circle or S			
FEDEX UPS Tracking #:	Special Report Limits or TRRP Report	Rush Charges Authorized	RUSH: Same Day (24 hr) 48 hr 7	עראטארט	RKS:		×	×	×	×	×	×	×	×	×	RCI GC/MS Vo GC/MS Se PCB's 800 NORM PLM (Asba Chloride Chloride General V Anion/Cat	ol. 82 emi. \ 82 / 6 estos Sul Vater	260B / 6 /ol. 82 508 ) ifate Chemi	70C/625 TDS istry (see	e attac	hed list	)	Specify Method No.)	<b>YSIS REQUEST</b>		Page 1
Released to		110	72 hr	5/3		9-/	2-00									lold										of C



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 <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

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,

Whe Singh

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



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	Analyze	d 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	% 73.3-12	9						
Chloride, SM4500Cl-B	mg	/kg	Analyze	d 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	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	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	% 37.6-14	7						

### Cardinal Laboratories

\*=Accredited Analyte

Mite Sugar

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



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	Analyze	d 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	% 73.3-12	9						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	08/14/2019	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	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	% 37.6-14	7						

### Cardinal Laboratories

\*=Accredited Analyte

Mite Sugar

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



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	Analyze	d 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 9	6 73.3-12	9						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/14/2019	ND	432	108	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	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	% 37.6-14	7						

### Cardinal Laboratories

\*=Accredited Analyte

Mite Sugar

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



## **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

Mite Sugar

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

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eceived by	linquished by:	/21/20 eninquisried by	CONVER	linguished by:				nu	_	-		LAB #	and	Comments:			Project Location: (county, state)	Project Name:	Client Name:	5	9 jo 9 app nalysis Req
	Date: Time:	Date: lime:	young 8/13/19	Date: Time:			ſ	EAST > CIDELET	5) Q 7 # 7.1			SAMPLE IDENTIFICATION			ry. Cardinal	COG - Ike Tavarez	Eddy Co, NM	Big Papi Fed Com 2H (ヿ.ぃぇ ぃゝゝ	Concho	Tetra Tech, Inc.	87 of 19 Jo 9 abed Analysis Request of Chain of Custody Record
ORIGINAL COPY	Received by:	Received by:	ana	Beceived hv:				5/12/12	Lileile	elino (re	ATE	YEAR: 2019	SAMPLING		Sampler Signature:	-	Project #:		Site Manager:		
γqq	Di	D	ra Eldal					< _		W < S(	ME /ATER OIL		G MATRIX				212C-1		Mike Carmona	901W W Midlar Tel (- Fax (	
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HAND DELIVERED	B	2	2	2			_	_		-	LP Meta		g As B	a Cd Cr I	Pb Se	Hg			A		
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Project Id:	212C-MD-01855
Contact:	Mike Carmona
Project Location:	Eddy Co, NM

# Certificate of Analysis Summary 652156

Tetra Tech- Midland, Midland, TX Project Name: Big Pappy Fed Com 2H (7-12-19)

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

	Lab Id:	652156-0	01	652156-0	02	652156-0	03	652156-0	04	652156-0	005	652156-0	06
Analysis Requested	Field Id:	AH#2 (0-	-1')	AH#2 (1-1	AH#2 (1-1.5')		AH#3(0-1')		AH#4(0-1')		1.5')	AH#4 (1.5-2')	
Analysis Kequestea	Depth:	0-1 ft		1-1.5 fi	t	0-1 ft		0-1 ft		1-1.5 f	t	1.5-2 ft	:
	Matrix:	SOIL	SOIL		SOIL		SOIL		SOIL			SOIL	
	Sampled:	Feb-12-20 (	Feb-12-20 00:00		Feb-12-20 00:00		00:00	Feb-12-20 0	00:00	Feb-12-20 (	00:00	Feb-12-200	00:00
Chloride by EPA 300	Extracted:	Feb-12-20	14:30	Feb-12-20 14:30		Feb-12-20 1	4:30	Feb-12-20 1	4:30	Feb-12-20	14:30	Feb-12-20 1	4:30
	Analyzed:	Feb-12-20	Feb-12-20 16:31		6:37	Feb-12-20 1	6:43	Feb-12-20 1	6:49	Feb-12-20	16:55	Feb-12-20 1	7:01
	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

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Version: 1.%

fession kenner

Jessica Kramer Project Assistant



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

## Certificate of Analysis Summary 652156

Tetra Tech- Midland, Midland, TX Project Name: Big Pappy Fed Com 2H (7-12-19) Page 89 of 220

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

	Lab Id:	652156-0	07	652156-0	08	652156-0	09	652156-0	10	652156-0	011	652156-0	12
Analysis Requested	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 (0-0	6")
Analysis Kequeslea	Depth:	0-1 ft		1-1.5 ft	:	2-2.5 ft		0-1 ft		0-6 In		0-6 In	
Matri		SOIL	SOIL		SOIL		SOIL			SOIL		SOIL	
	Sampled:	Feb-12-20 0	Feb-12-20 00:00		Feb-12-20 00:00		00:00	Feb-12-20 (	00:00	Feb-12-20	00:00	Feb-12-20 0	00:00
Chloride by EPA 300	Extracted:	Feb-12-20 1	Feb-12-20 14:30		4:30	Feb-12-20 1	4:30	Feb-12-20 1	4:30	Feb-12-20	14:30	Feb-12-20 1	4:30
	Analyzed:	Feb-12-20 1	Feb-12-20 17:19		7:25	Feb-12-20 1	7:42	Feb-12-20 1	7:48	Feb-12-20	17:54	Feb-12-20 1	8:00
	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

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Version: 1.%

fession kramer

Jessica Kramer Project Assistant



Certificate of A	Analysis Summary	652156
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Tetra Tech- Midland, Midland, TX

Page 90 of 220

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

 Project Name: Big Pappy Fed Com 2H (7-12-19)
 Date Received in Lab:
 Wed Feb-12-20 01:15 pm

 Report Date:
 14-FEB-20
 Project Manager:
 Jessica Kramer

	Lab Id:	652156-0	13	652156-0	14	652156-0	15	652156-0	16	652156-0	17	652156-0	18
Analysis Requested	Field Id:	AH#9 (0-	6")	AH#10 (0-	AH#10 (0-6")		AH#11 (0-6")		6")	AH#13 (0	-6")	AH#14 (0-	·6")
Anulysis Kequesieu	Depth:	0-6 In		0-6 In		0-6 In		0-6 In		0-6 In		0-6 In	
	Matrix:	Matrix: SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-12-20 (	Feb-12-20 00:00		00:00	Feb-12-20 (	00:00	Feb-12-20 0	0:00	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 1	4:30	Feb-12-20 1	7:31	Feb-12-20	7:31	Feb-12-20 1	7:31
	Analyzed:	Feb-12-20	Feb-12-20 18:06		8:12	Feb-12-20 1	8:18	Feb-12-20 1	8:56	Feb-12-20	9:15	Feb-12-20 1	9:22
	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

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Version: 1.%

fession kenner

Jessica Kramer Project Assistant

# 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) Received by OCD: 2/21/2022 9:08:02 AM



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 Veramer

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 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')
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")
AH#9 (0-6")
AH#10 (0-6")
AH#11 (0-6")
AH#12 (0-6")
AH#13 (0-6")
AH#14 (0-6")

# Sample Cross Reference 652156

## Tetra Tech- Midland, Midland, TX

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

Matrix	Date Collected	Sample Depth	Lab Sample Id
S	02-12-20 00:00	0 - 1 ft	652156-001
S	02-12-20 00:00	1 - 1.5 ft	652156-002
S	02-12-20 00:00	0 - 1 ft	652156-003
S	02-12-20 00:00	0 - 1 ft	652156-004
S	02-12-20 00:00	1 - 1.5 ft	652156-005
S	02-12-20 00:00	1.5 - 2 ft	652156-006
S	02-12-20 00:00	0 - 1 ft	652156-007
S	02-12-20 00:00	1 - 1.5 ft	652156-008
S	02-12-20 00:00	2 - 2.5 ft	652156-009
S	02-12-20 00:00	0 - 1 ft	652156-010
S	02-12-20 00:00	0 - 6 In	652156-011
S	02-12-20 00:00	0 - 6 In	652156-012
S	02-12-20 00:00	0 - 6 In	652156-013
S	02-12-20 00:00	0 - 6 In	652156-014
S	02-12-20 00:00	0 - 6 In	652156-015
S	02-12-20 00:00	0 - 6 In	652156-016
S	02-12-20 00:00	0 - 6 In	652156-017
S	02-12-20 00:00	0 - 6 In	652156-018

.





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

TORIES

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.



1

## Tetra Tech- Midland, Midland, TX

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

Sample Id:         AH#2 (0-1')           Lab Sample Id:         652156-001		Matrix: Date Collecte	Soil d: 02.12.20 00.00		Date Received Sample Depth		3.15
Analytical Method: Chloride by Tech: MAB	EPA 300				Prep Method: % Moisture:	E300P	
Analyst: MAB		Date Prep:	02.12.20 14.30		Basis:	Wet Weight	t
Seq Number: 3116357							
Parameter	Cas Number	Result R	L	Units	Analysis Da	ate Flag	Dil

16887-00-6 **67.4** 

10.0

mg/kg

02.12.20 16.31

Released to Imaging: 3/15/2022 9:42:49 AM



1

## Tetra Tech- Midland, Midland, TX

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

Sample Id:         AH#2 (1-1.5')           Lab Sample Id:         652156-002		Matrix: Date Collecte	Soil ed: 02.12.20 00.00	Date Received:02.12.20 13.15 Sample Depth: 1 - 1.5 ft					
Analytical Method: Chloride by EPA Tech: MAB	300				Prep Method: % Moisture:	E300P			
Analyst: MAB		Date Prep:	02.12.20 14.30		Basis:	Wet Weig	ght		
Seq Number: 3116357									
Parameter	Cas Number	Result F	RL	Units	Analysis D	ate Fla	g Dil		

Chloride

16887-00-6 197

10.1

02.12.20 16.37

mg/kg

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## Tetra Tech- Midland, Midland, TX

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

Sample Id:         AH#3(0-1')           Lab Sample Id:         652156-003		Matrix: Date Collecte	Soil ed: 02.12.20 00.00	Date Received:02.12.20 13.15 Sample Depth: 0 - 1 ft					
Analytical Method: Chloride by EPA Tech: MAB	300				Prep Method: % Moisture:	E300P			
Analyst: MAB		Date Prep:	02.12.20 14.30		Basis:	Wet We	ight		
Seq Number: 3116357									
Parameter	Cas Number	Result F	RL	Units	Analysis D	ate Fl	ag D	Dil	

248

Chloride

16887-00-6

9.98

02.12.20 16.43

mg/kg



## Tetra Tech- Midland, Midland, TX

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

Sample Id:         AH#4(0-1')           Lab Sample Id:         652156-004		Matrix: Date Collecte	Soil d: 02.12.20 00.00	Date Received:02.12.20 13.15 Sample Depth: 0 - 1 ft					
Analytical Method: Chloride by EPA Tech: MAB Analyst: MAB	300	Date Prep:	02.12.20 14.30	%	rep Method: E 6 Moisture: 8asis: W	300P Yet Weight			
Seq Number: 3116357 Parameter	Cas Number	Result F	RL	Units	Analysis Date	Flag	Dil		

16887-00-6 142

9.88

mg/kg 02.12.20 16.49



## Tetra Tech- Midland, Midland, TX

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

Sample Id:         AH#4 (1-1.5')           Lab Sample Id:         652156-005		Matrix: Date Collecte	Soil ed: 02.12.20 00.00		3.15		
Analytical Method: Chloride by EPA 3 Tech: MAB Analyst: MAB	300	Dete Drees	02.12.20 14.30		Prep Method: % Moisture: Basis:	E300P Wet Weig	ht
Seq Number: 3116357		Date Prep:	02.12.20 14.30		Dasis.	wet weig	iit.
Parameter	Cas Number	Result I	RL	Units	Analysis D	ate Flag	Dil

189

16887-00-6

9.94

mg/kg 02.12.20 16.55



1

## Tetra Tech- Midland, Midland, TX

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

Sample Id:         AH#4 (1.5-2')           Lab Sample Id:         652156-006		Matrix: Date Collecte	Soil d: 02.12.20 00.00	Date Received:02.12.20 13.15 Sample Depth: 1.5 - 2 ft				
Analytical Method: Chloride Tech: MAB	by EPA 300				Prep Method % Moisture:		)P	
Analyst: MAB		Date Prep:	02.12.20 14.30		Basis:	Wet	Weight	
Seq Number: 3116357								
Parameter	Cas Number	Result F	RL	Units	Analysis I	Date	Flag	Dil

607

16887-00-6

9.90

02.12.20 17.01

mg/kg



## Tetra Tech- Midland, Midland, TX

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

Sample Id:         AH#5(0-1')           Lab Sample Id:         652156-007		Matrix: Date Collecte	Soil ed: 02.12.20 00.00		15		
Analytical Method: Chloride by EPA 3 Tech: MAB	300				Prep Method: % Moisture:	E300P	
Analyst: MAB		Date Prep:	02.12.20 14.30		Basis:	Wet Weight	
Seq Number: 3116357							
Parameter	Cas Number	Result I	RL	Units	Analysis D	ate Flag	Dil

624

Chloride

16887-00-6

9.98

mg/kg 02.12.20 17.19



## Tetra Tech- Midland, Midland, TX

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

Sample Id: A Lab Sample Id: 6	<b>AH#5 (1-1.5')</b> 552156-008		Matrix: Date Collec	Soil ted: 02.12.20 00.00		.15		
5	od: Chloride by EPA 3 IAB	00				Prep Method: % Moisture:	E300P	
Analyst: M	ÍAB		Date Prep:	02.12.20 14.30		Basis:	Wet Weight	
Seq Number: 31	116357							
Parameter		Cas Number	Result	RL	Units	Analysis D	ate Flag	Dil

16887-00-6 823

10.0

0

mg/kg

02.12.20 17.25



## Tetra Tech- Midland, Midland, TX

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

Sample Id:         AH#5 (2-2.5')           Lab Sample Id:         652156-009		Matrix: Date Collecte	Soil ed: 02.12.20 00.00		Date Received:02.12.20 13.1 Sample Depth: 2 - 2.5 ft			
Analytical Method: Chloride by I Tech: MAB	EPA 300				Prep Method: E % Moisture:	300P		
Analyst: MAB		Date Prep:	02.12.20 14.30		Basis: V	/et Weight		
Seq Number: 3116357								
Parameter	Cas Number	Result I	RL	Units	Analysis Date	Flag	Dil	

1040

Chloride

16887-00-6

9.96

mg/kg 02.12.20 17.42



## Tetra Tech- Midland, Midland, TX

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

Sample Id:         AH#6(0-1')           Lab Sample Id:         652156-010		Matrix: Date Collecte	Soil ed: 02.12.20 00.00	Date Received:02.12.20 13.15 Sample Depth: 0 - 1 ft			5
Analytical Method: Chloride by EPA 3 Tech: MAB	300				Prep Method: % Moisture:	E300P	
Analyst: MAB		Date Prep:	02.12.20 14.30		Basis:	Wet Weight	
Seq Number: 3116357							
Parameter	Cas Number	Result 1	RL	Units	Analysis D	ate Flag	Dil

Chloride

16887-00-6 **310** 

9.98

mg/kg 02.12.20 17.48

1

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## Tetra Tech- Midland, Midland, TX

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

Sample Id:         AH#7 (0-6")           Lab Sample Id:         652156-011		Matrix: Date Collecte	Soil ed: 02.12.20 00.00	Date Received:02.12.20 13.15 Sample Depth: 0 - 6 In			
Analytical Method: Chloride by EPA ( Tech: MAB	300				Prep Method: % Moisture:		
Analyst: MAB Seq Number: 3116357		Date Prep:	02.12.20 14.30		Basis:	Wet Weight	
Parameter	Cas Number	Result F	RL	Units	Analysis D	ate Flag	Dil

69.7

Chloride

16887-00-6

9.98

mg/kg 02.12.20 17.54



## Tetra Tech- Midland, Midland, TX

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

Sample Id:         AH#8 (0-6'')           Lab Sample Id:         652156-012		Matrix: Date Collecte	Soil ed: 02.12.20 00.00	Date Received:02.12.20 13.1 Sample Depth: 0 - 6 In			
Analytical Method: Chloride by EPA	300				Prep Method: E3	00P	
Tech: MAB Analyst: MAB		Date Prep:	02.12.20 14.30		6 Moisture: Basis: We	et Weight	
Seq Number: 3116357		Date Plep:	02.12.20 14.30	D	Jasis. W	A Weight	
Parameter	Cas Number	Result J	RL	Units	Analysis Date	Flag	Dil

<9.92

Chloride

16887-00-6

9.92

mg/kg 02.12

02.12.20 18.00

U



1

## Tetra Tech- Midland, Midland, TX

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

Sample Id:         AH#9 (0-6")           Lab Sample Id:         652156-013		Matrix: Date Collecte	Soil ed: 02.12.20 00.00	Date Received:02.12.20 13.15 Sample Depth: 0 - 6 In			
Analytical Method: Chloride by EPA	300				Prep Method: % Moisture:		
Analyst: MAB Seq Number: 3116357		Date Prep:	02.12.20 14.30		Basis:	Wet Weight	
Parameter	Cas Number	Result F	RL	Units	Analysis D	ate Flag	Dil

Chloride

29.1

16887-00-6

9.92

02.12.20 18.06

mg/kg



## Tetra Tech- Midland, Midland, TX

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

Sample Id:         AH#10 (0-6'')           Lab Sample Id:         652156-014		Matrix: Date Collecte	Soil ed: 02.12.20 00.00		15		
Analytical Method: Chloride by EPA 3 Tech: MAB Analyst: MAB	300	Date Prep:	02.12.20 14.30		Prep Method: % Moisture: Basis:	E300P Wet Weight	
Seq Number: 3116357							
Parameter	Cas Number	Result I	RL	Units	Analysis D	ate Flag	Dil

99.2

Chloride

16887-00-6

9.98

02.12.20 18.12

mg/kg


#### Tetra Tech- Midland, Midland, TX

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

Sample Id:         AH#11 (0-6'')           Lab Sample Id:         652156-015		Matrix: Date Collecte	Soil d: 02.12.20 00.00		Date Received Sample Depth	d:02.12.20 13.1 1:0 - 6 In	5
Analytical Method: Chloride by EPA 3 Tech: MAB	300		02 12 20 14 20		Prep Method: % Moisture:		
Analyst: MAB Seq Number: 3116357		Date Prep:	02.12.20 14.30		Basis:	Wet Weight	
Parameter	Cas Number	Result F	RL	Units	Analysis D	ate Flag	Dil

160

Chloride

16887-00-6

9.90

90

02.12.20 18.18

mg/kg

1

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#### Tetra Tech- Midland, Midland, TX

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

Sample Id:         AH#12 (0-6'')           Lab Sample Id:         652156-016		Matrix: Date Collecte	Soil d: 02.12.20 00.00		Date Received Sample Depth	d:02.12.20 13.1 1:0 - 6 In	5
Analytical Method: Chloride by EPA 3 Tech: MAB	300				Prep Method: % Moisture:		
Analyst: MAB Seq Number: 3116368		Date Prep:	02.12.20 17.31		Basis:	Wet Weight	
Parameter	Cas Number	Result F	RL	Units	Analysis D	ate Flag	Dil

Chloride

16887-00-6 **34.4** 

9.98

mg/kg 02.12.20 18.56



#### Tetra Tech- Midland, Midland, TX

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

Sample Id:         AH#13 (0-6")           Lab Sample Id:         652156-017		Matrix: Date Collecte	Soil d: 02.12.20 00.00		Date Received Sample Depth		3.15
Analytical Method: Chloride by EPA Tech: MAB	300				Prep Method: % Moisture:	E300P	
Analyst: MAB		Date Prep:	02.12.20 17.31		Basis:	Wet Weigh	nt
Seq Number: 3116368							
Parameter	Cas Number	Result F	RL	Units	Analysis D	ate Flag	Dil

29.6

16887-00-6

9.88

mg/kg 02.12.20 19.15



1

#### Tetra Tech- Midland, Midland, TX

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

Sample Id: Lab Sample Id:	<b>AH#14 (0-6'')</b> 652156-018		Matrix: Date Collecte	Soil ed: 02.12.20 00.00		Date Received Sample Depth			
5	hod: Chloride by EPA 3 MAB	00				Prep Method: % Moisture:	E300P		
Analyst:	MAB		Date Prep:	02.12.20 17.31		Basis:	Wet We	eight	
Seq Number:	3116368								
Parameter		Cas Number	Result J	8L	Units	Analysis D	ate F	lag	Dil

15.3

16887-00-6

9.92

02.12.20 19.22

mg/kg

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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.
- RL Reporting Limit
- MDL Method Detection LimitSDLSample Detection LimitLOD Limit of Detection
- PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation
- DL Method Detection Limit
- NC Non-Calculable

SMP Clie	ent Sample	BLK	Method Blank	
BKS/LCS	S Blank Spike/Laboratory Control Sample	BKSD/LCSD	Blank Spike Duplicate/Labo	ratory 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



BORATORIES

Analytical Method: Chloride by EPA 300



Prep Method: E300P

# **Tetra Tech- Midland**

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

Seq Number:	3116357			Matrix:	Solid				Date Pr	ep: 02.1	2.20	
MB Sample Id:	7696526-1-BLK		LCS Sat	nple Id:	7696526-	1-BKS		LCS	D Sampl	e Id: 769	6526-1-BSD	
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Lin	nit 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 3	300						Pı	rep Meth	od: E30	0P	
Seq Number:	3116368			Matrix:	Solid				Date Pr		2.20	
MB Sample Id:	7696527-1-BLK		LCS Sat	nple Id:	7696527-	1-BKS		LCS	D Sampl	e Id: 769	6527-1-BSD	
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Lin	it Units	Analysis Date	Flag
Chloride	<10.0	250	256	102	258	103	90-110	1	20	mg/kg	02.12.20 18:43	
Amelasi Mathada	Chlorida ha EDA 2	200						D	<b>N</b> - 4	1 E20	0D	
Analytical Method: Seq Number:	3116357	500		Matrix:	Soil			Pi	rep Meth Date Pi			
Parent Sample Id:	652152-004				652152-0	04 S		MS		•	2.20 152-004 SD	
Parameter	Parent	Spike	MS	MS	MSD	MSD	Limits		r RPD Lin		Analysis	Flag
	Result	Amount	Result	<b>%Rec</b> 94	Result	%Rec	00 110	1	20		Date	-
Chloride	17.5	200	205	94	207	95	90-110	1	20	mg/kg	02.12.20 15:44	
Analytical Method:	Chloride by EPA 3	300						Pı	rep Meth	od: E30	0P	
Seq Number:	3116357			Matrix:					Date Pr	-		
Parent Sample Id:	652156-006		MS Sar	nple Id:	652156-0	06 S		MS	D Sampl	e Id: 652	156-006 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Lin	it Units	Analysis Date	Flag
Chloride	607	199	812	103	816	105	90-110	0	20	mg/kg	02.12.20 17:07	
Analytical Method:										. 500	0 D	
•	Chloride by EPA 3	500						Pi	rep Meth	od: E30	OP	
Seq Number:	Chloride by EPA 3 3116368	500		Matrix:	Soil				Date Pr	rep: 02.1		

Parent Sample Id:	652156-016		MS Sar	nple Id:	652156-01	16 S		MS	D Sample	Id: 6521	56-016 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limi	it Units	Analysis Date	Flag
Chloride	34.4	200	253	109	264	115	90-110	4	20	mg/kg	02.12.20 19:02	Х

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

.

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#### **QC Summary** 652156

# **Tetra Tech- Midland**

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

<b>Analytical Method:</b> Seq Number: Parent Sample Id:	<b>Chloride by EPA 3</b> ( 3116368 652161-008	00		Matrix: nple Id:	Soil 652161-00	08 S			Date Pr	od: E30 ep: 02.1 e Id: 652		
Parameter Chloride	Parent Result 25.8	Spike Amount 200	MS Result 237	<b>MS</b> %Rec 106	MSD Result 239	<b>MSD</b> %Rec 107	<b>Limits</b> 90-110	<b>%RPD</b> 1	<b>RPD Lim</b> 20	<b>it Units</b> mg/kg	<b>Analysis</b> <b>Date</b> 02.12.20 20:32	Flag

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

[D] = 100\*(C-A) / BRPD = 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

Terra Tech, Inc.         sustainability susto sustaina sustainability sustainability susto sustainability sus	ed by	OCD Relinquished by:	2/21	Inquished by:	Come M	8:02										( LAB USE )	LAB #		Comments:	Hecelving Laboratory:	Invoice to:	(county, state)		Project Name:	Client Name:	
Simpler Signature:         Conner Moehring         All C-MD-01855           Sampler Signature:         Conner Moehring         Conner Moehring         Circle or           TriAtz zoo         Mike Carmona         Circle or         All           TriAtz zoo         Marrier         Conner Moehring         Circle or           TriAtz zoo         Marrier         Marrier         Conner Moehring         Circle or           TriAtz zoo         Time         WSOIL         HCL         Sompler Signature:         Conner Moehring           Circle or         X         X         X         X         X         X         X           TriAtz zoo         Time:         WSOIL         HCL         No         BTEX 8021B         BTEX 8021B         Circle Voil         All V           Circle Voil         X         X         X         X         X         X         X         X         X           Circle Voil         X         X         X         X		Date:		Date:	bury 2/12/20	AH#6 (0-1)	5 (2-2	5 (1-	~	ч (	2	0	(0		~		SAMPLE IDENTIFICATION				COG - Ike		Big Pappy Fed Com 2H (7.12.		Concho	5
Silve damatch Street, Ste 100       Mike Carmona       Mike Carmona       Conner Moehring       Containers       All       X       All       Containers       All       All       Containers       All       Date:       Time:       Date:		Received by:		Heceived by:	A L	2/12/20	12	2 11/21	2/12/10	2/12/20			12	2/12/26	2/12/2020		YEAR: 2020	SAMPLING		Sampler Signature:		Project #:			Site Manager:	•
Time:       Time: <th< td=""><td></td><td>Date:</td><td></td><td>Date</td><td>Luc 2/1</td><td>X</td><td>X</td><td>×</td><td>×</td><td>X</td><td>X</td><td>×</td><td>×</td><td>X</td><td>×</td><td>WATE SOIL</td><td>R</td><td></td><td></td><td>Conner M</td><td></td><td>212C-MI</td><td></td><td></td><td>Mike Carmo</td><td>901W Wali \$ Midland,T Tel (432 Fax (432</td></th<>		Date:		Date	Luc 2/1	X	X	×	×	X	X	×	×	X	×	WATE SOIL	R			Conner M		212C-MI			Mike Carmo	901W Wali \$ Midland,T Tel (432 Fax (432
Circle VFND       Z <td< td=""><td></td><td></td><td></td><td>- 20</td><td></td><td></td><td>×</td><td>X</td><td>×</td><td>X</td><td>X</td><td>X</td><td>X</td><td>×</td><td>×</td><td>HNO<sub>3</sub> ICE</td><td></td><td>PRESERVATIVE METHOD</td><td></td><td>Moehring</td><td></td><td>D-01855</td><td></td><td></td><td>AUC A</td><td>Street, Ste 100 rexas 79705 () 682-4559 () 682-3946</td></td<>				- 20			×	X	×	X	X	X	X	×	×	HNO <sub>3</sub> ICE		PRESERVATIVE METHOD		Moehring		D-01855			AUC A	Street, Ste 100 rexas 79705 () 682-4559 () 682-3946
TCLP Semi Volatiles	(Circle)		2	Sample	/	- 7	-	5			2	- 2	- 2	- 2	Z	FILTER BTEX 8	ED (Y 021B	/N) BTE		В					_	
FFDTX IIPS       Trackine #:         Image: Strand Argon and the strategy of	WAND DEI IVERRD			Temperature												PAH 82 Total Me TCLP M	70C etals A etals /	g As B Ag As E	la Cd Cr	Pb Se	Hg			e	A	
Authonized	FEDEX UPS	Special Report	Rush Charges	RUSH: Same	MARKS: X STANDA											RCI GC/MS GC/MS PCB's 8	Vol. 8 Semi.	260B / Vol. 8	624	25				ť	VALYSIS REQU	
	acking #:	Limits or TRRP Rep	Authorized	24 hr 48	RD	X	X	X	×	X	X	X	X	×		PLM (As Chloride Chloride Genera	e Si Wate	ulfate er Cher	mistry (s	see atta	iched li	st)		a	UEST	

Relinquished by:		elinquished by	Bringuished by:										( LAB USE )	LAB #		Comments:	Receiving Laboratory:	Invoice to:	Project Location: (county, state)	Project Name:	Client Name:	
			Capala		нн нн (о-о")	("0-0) EI#HA	AH#12 (0-6")	AH # 11 (0~6")	AH #10 (0-6")	PH#9 (0.6")	AH#8 (0.6")	AH#7 (0-6")		ß			atory: Xenco	COG -	Eddy Co, NM		Concho	T
Date: T		Date: 1	Date: 2/i2/20			1								SAMPLE IDENTIFICATION				lke Tavarez	, NM	Big Pappy Fed Com 2H		Tetra Tech,
Time:		Time:	Time: 1315											N						(7.12.19)		ch, Inc.
Received by:		Received by:	Received by:	*	02/21/2	02/21/2	2/22/20	2/12/20	2/12/20	2/12/20	2/12/20	2/12/2020	DATE	YEAH: 2020	SAMPLING		Sampler Signature:		Project #:		Site Manager:	
			YY										TIME WATE	R			e:				Mi	
Date:		Date:	2/12/20		X	×	×	×	X	×	×	×	SOIL HCL		MATRIX		Conner Moehring		212C-MD-01855		Mike Carmona	901W Wall S Midland, Te Tel (432) Fax (432)
Time:		ime:	ime:		×	X	×	×	×	×	X	×	HNO <sub>3</sub> ICE None		PRESERVATIVE METHOD		loehring		-01855		na	901W Wall Street, Ste 100 Midland, Texas 79705 Tel (432) 682-4559 Fax (432) 682-3946
			1315		1	1	1	1 1	1	1	1	1 N	# CONT		ERS							
S	Sample	1	-		2	2	2	2	Z	2	2		FILTER BTEX 8 TPH TX	3021E	BTE	X 8260B						
N.	Sample Temperature		LAB USE										TPH 80 PAH 82	15M	( GRO -	DRO - C				_	6	
	ہ 	7												letals olatile	Ag As E s	Ba Cd Cr	_			(	AN	
Special F		RUSH	REMARKS:										RCI GC/MS	Vol.	8260B /	20.00V2.K				- 0	ANALYSIS	
Special Report Limits or T	arrise Auth	RUSH: Same Dav	s: STANDARD						_				PCB's 8 NORM	3082	608	270C/625		_		_ <	REQUEST	
Special Report Limits or TRRP Report		24 hr			X	X	X	×	X	X	X	×	PLM (As Chloride Chloride	) a 5	ulfate	TDS					ST	
Report		48 hr 72 hr											Anion/C			nistry (se :e	e atta	uned lis	5()	_		
													Hold				1					

#### **XENCO** Laboratories

#### Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland	Acceptable Temperature Range: 0 - 6 degC
Date/ Time Received: 02.12.2020 01.15.00 PM	Air and Metal samples Acceptable Range: Ambient
Work Order #: 652156	Temperature Measuring device used : T-NM-007
Sample Recei	pt 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)?	Νο
#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
Checklist reviewed by: Jessica Warmer

Date: 02.12.2020

Jessica Kramer

Date: 02.12.2020



# 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)



212C-MD-01855

Eddy County, NM

Mike Carmona



**Project Id:** 

**Project Location:** 

**Contact:** 

### Certificate of Analysis Summary 660477

Tetra Tech- Midland, Midland, TX

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

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

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') Analysis Requested 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 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 Extracted: 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 mg/kg RL mg/kg RL mg/kg RL mg/kg RL mg/kg RL mg/kg Units/RL: 1850 24.9 280 4.98 18.5 4.99 54.2 5.00 149 4.97 335 Chloride

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Jession Vramer

Jessica Kramer Project Manager

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RL



212C-MD-01855

Eddy County, NM

Mike Carmona



**Project Id:** 

**Project Location:** 

**Contact:** 

### Certificate of Analysis Summary 660477

Tetra Tech- Midland, Midland, TX

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

 Date Received in Lab:
 Mon 05.04.2020 10:24

 Report Date:
 05.07.2020 12:24

 Project Manager:
 Jessica Kramer

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") Analysis Requested 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 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 Extracted: 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 mg/kg RL mg/kg RL mg/kg RL mg/kg RL mg/kg RL mg/kg RL Units/RL: 902 5.01 1250 5.04 7770 50.3 977 25.0 28.3 5.00 25.8 4.98 Chloride

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Jessica Kramer Project Manager

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212C-MD-01855

Eddy County, NM

Mike Carmona



**Project Id:** 

**Project Location:** 

**Contact:** 

### Certificate of Analysis Summary 660477

Tetra Tech- Midland, Midland, TX

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

 Date Received in Lab:
 Mon 05.04.2020 10:24

 Report Date:
 05.07.2020 12:24

 Project Manager:
 Jessica Kramer

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") Analysis Requested 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 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 Extracted: 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 mg/kg RL mg/kg RL mg/kg RL mg/kg RL mg/kg RL mg/kg RL Units/RL: 37.5 5.01 382 5.02 277 4.96 23.6 5.03 12.7 4.99 41.1 4.95 Chloride

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Jessica Kramer Project Manager

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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,

fession kenner

Jessica Kramer Project Manager

A Small Business and Minority Company

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#### Sample 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')
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")
AH-9 (0-6")
AH-10 (0-6")
AH-11 (0-6")
AH-12 (0-6")
AH-13 (0-6")
AH-14 (0-6")

#### Sample Cross Reference 660477

#### Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Matrix	Date Collected	Sample Depth	Lab Sample Id
S	05.01.2020 00:00		660477-001
S	05.01.2020 00:00		660477-002
S	05.01.2020 00:00		660477-003
S	05.01.2020 00:00		660477-004
S	05.01.2020 00:00		660477-005
S	05.01.2020 00:00		660477-006
S	05.01.2020 00:00		660477-007
S	05.01.2020 00:00		660477-008
S	05.01.2020 00:00		660477-009
S	05.01.2020 00:00		660477-010
S	05.01.2020 00:00		660477-011
S	05.01.2020 00:00		660477-012
S	05.01.2020 00:00		660477-013
S	05.01.2020 00:00		660477-014
S	05.01.2020 00:00		660477-015
S	05.01.2020 00:00		660477-016
S	05.01.2020 00:00		660477-017
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 Work Order Number(s): 660477 
 Report Date:
 05.07.2020

 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')           Lab Sample Id:         660477-001	Matrix: Date Co	Soil ollected: 05.01.2020 00:00		Date Received:05.04.2020 10:24			
Analytical Method: Chloride by EPA 300 Tech: SPC Analyst: SPC	Data Br	en: 05.04.2020 16:55		Prep Method: % Moisture: Basis:	E300P Wet We	eight	
Seq Number: 3125066	Date Pr	-p.		Dasis.	wel we	eigiit	
Parameter Cas N	umber Result	RL	Units	Analysis Da	ate I	Flag	Dil
Chloride 16887-	00-6 1850	24.9	mg/kg	05.05.2020 02	2:07		5

Released to Imaging: 3/15/2022 9:42:49 AM



### **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')           Lab Sample Id:         660477-002		Matrix:SoilDate Received:05.04.20Date Collected:05.01.202000:00						4
Analytical Method: Chloride by EPA 300 Tech: SPC	)				Prep Method: % Moisture:	E300F	P	
Analyst: SPC Seg Number: 3125066		Date Prep:	05.04.2020 16:55		Basis:	Wet V	Veight	
1	Cas Number R	lesult R	L	Units	Analysis Da	ate	Flag	Dil
Chloride 16	6887-00-6	280	4.98	mg/kg	05.05.2020 02	2:14		1

Released to Imaging: 3/15/2022 9:42:49 AM



### **Certificate of Analytical Results 660477**

#### Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Chlavida	16997 00 6	10 5	4.00	ma/Ira	05 05 2020 02.2	1	1	
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil	
Seq Number: 3125066								
Analyst: SPC		Date Prep	: 05.04.2020 16:53	5	Basis: W	/et Weight		
Tech: SPC					% Moisture:			
Analytical Method: Chloride	by EPA 300				Prep Method: E	300P		
Lab Sample Id: 660477-003	ab Sample Id: 660477-003 Date Collected: 05.01.2020 00:00							
Sample Id: <b>AH-3</b> (0'-1')		Matrix:	Soil		Date Received:05.04.2020 10:24			

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)

Parameter		Cas Number	Result	RL		Units	Analysis D	ate	Flag	Dil
Seq Number:	3125066									
Analyst:	SPC		Date Pre	ep:	05.04.2020 16:55		Basis:	Wet	Weight	
Tech:	SPC						% Moisture:			
Analytical Me	ethod: Chloride by EPA	300					Prep Method:	E300	OP	
Lab Sample I	d: 660477-004		Date Collected: 05.01.2020 00:00							
Sample Id:	AH-4 (0'-1')		Matrix:		Soil		Date Received	1:05.0	4.2020 10:	24

16887-00-6 **54.2** 

5.00

mg/kg 05.05.2020 02:28



# **Certificate of Analytical Results 660477**

#### Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Parameter		Cas Number	Result	RL		Units	Analysis D	ate	Flag	Dil
Seq Number:	3125116									
Analyst:	CHE		Date Prep	<b>)</b> :	05.05.2020 12:00		Basis:	Wet	Weight	
Tech:	CHE						% Moisture:			
Analytical Me	ethod: Chloride by EPA	300					Prep Method:	E300	)P	
Lab Sample I		Date Coll	lected	1: 05.01.2020 00:00						
Sample Id:	Sample Id: <b>AH-4 (1'-1.5')</b> Lab Sample Id: 660477-005				Soil		Date Received:05.04.2020 10:24			

Chloride

16887-00-6 149

4.97

mg/kg 05.05.2020 13:33

**Released to Imaging: 3/15/2022 9:42:49 AM** 



### **Certificate of Analytical Results 660477**

#### Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Chloride		16887-00-6	335	4.98	mg/kg	05.05.2020 14	4:00		1
Parameter		Cas Number	Result	RL	Units	Analysis Da	ate	Flag	Dil
Seq Number:	3125116								
Analyst:	CHE		Date Pre	p: 05.05.2020 12:0	0	Basis:	Wet W	eight	
Tech:	CHE					% Moisture:			
Analytical Me	thod: Chloride by EPA	300				Prep Method:	E300P	•	
Lab Sample Io	l: 660477-006		Date Col	lected: 05.01.2020 00:0	0				
Sample Id:	Sample Id: <b>AH-4 (1.5'-2')</b> Lab Sample Id: 660477-006			Soil	Date Received:05.04.2020 10:24				

4.98



#### **Certificate of Analytical Results 660477**

#### Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Sample Id: <b>AH-5 (0'-1'</b> ) Lab Sample Id: 660477-007		Matrix: Date Col	Soil lected: 05.01.2020 00:00	)	05.04.2020 10	):24	
Analytical Method: Chloride by EPA Tech: CHE	A 300				Prep Method: % Moisture:	E300P	
Analyst: CHE		Date Pre	p: 05.05.2020 12:00	)		Wet Weight	
Seq Number: 3125116			-				
Parameter	Cas Number	Result	RL	Units	Analysis Dat	te Flag	Dil
Chloride	16887-00-6	902	5.01	mg/kg	05.05.2020 14:	:06	1

5.01



# **Certificate of Analytical Results 660477**

#### Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Parameter		Cas Number	Result	RL		Units	Analysis D	ate	Flag	Dil
Seq Number:	3125116									
Analyst:	CHE		Date Pre	p:	05.05.2020 12:00		Basis:	Wet	Weight	
Tech:	CHE						% Moisture:			
Analytical Me	ethod: Chloride by EPA	300					Prep Method:	E300	OP	
Lab Sample I		Date Col	1: 05.01.2020 00:00							
Sample Id:	AH-5 (1'-1.5')		Matrix:		Soil		Date Received	d:05.04	4.2020 10:	24

Chloride

16887-00-6 1250

5.04

mg/kg 05.05.2020 14:11



# **Certificate of Analytical Results 660477**

#### Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Sample Id: Lab Sample Id	Matrix: Date Coll	lected	Soil l: 05.01.2020 00:00		Date Received:05.04.2020 10:24					
Analytical Me Tech:	ethod: Chloride by EPA 3 CHE	300					Prep Method: % Moisture:	E300	P	
Analyst:	CHE		Date Prep	<b>)</b> :	05.05.2020 12:00		Basis:	Wet	Weight	
Seq Number:	3125116									
Parameter		Cas Number	Result	RL		Units	Analysis D	ate	Flag	Dil

Chloride

16887-00-6 7770

50.3

mg/kg 05.05.2020 14:16



5

### **Certificate of Analytical Results 660477**

#### Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Tech: Analyst:	CHE CHE		Date Pre	p:	05.05.2020 12:00		% Moisture: Basis:	Wet V	Weight	
Seq Number:	3125116									
Parameter		Cas Number	Result	RL		Units	Analysis D	ate	Flag	Dil

16887-00-6 **977** 

25.0

mg/kg 05.05.2020 14:40



# **Certificate of Analytical Results 660477**

#### Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Parameter		Cas Number	Result	RL		Units	Analysis D	ate	Flag	Dil
Seq Number:	3125116									
Analyst:	CHE		Date Pre	p:	05.05.2020 12:00		Basis:	Wet	Weight	
Tech:	CHE						% Moisture:			
Analytical Me	ethod: Chloride by EPA	300					Prep Method:	E300	OP	
Lab Sample I	mple Id:         660477-011         Date Collected:         05.01.2020         00:00									
Sample Id:					Soil		Date Received:05.04.2020 10:24			

Chloride

28.3

16887-00-6

5.00

mg/kg 05.05.2020 14:45

1

**Released to Imaging: 3/15/2022 9:42:49 AM** 



# **Certificate of Analytical Results 660477**

#### Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Sample Id: Lab Sample Id	<b>AH-8 (0-6'')</b> l: 660477-012		Matrix: Date Col	lected	Soil d: 05.01.2020 00:00		Date Received	1:05.0	4.2020 10:	24
Analytical Me Tech:	thod: Chloride by EPA 3 CHE	300					Prep Method: % Moisture:	E30	)P	
Analyst:	CHE		Date Pre	p:	05.05.2020 12:00		Basis:	Wet	Weight	
Seq Number:	3125116									
Parameter		Cas Number	Result	RL	1	Units	Analysis D	ate	Flag	Dil

Chloride

16887-00-6 **25.8** 

4.98

mg/kg 05.05.2020 14:50



# **Certificate of Analytical Results 660477**

#### Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Sample Id: Lab Sample Id	<b>AH-9 (0-6'')</b> l: 660477-013		Matrix: Date Col	lected	Soil 1: 05.01.2020 00:00		Date Received	1:05.04	4.2020 10:	24
Analytical Me Tech:	thod: Chloride by EPA 3 CHE	600					Prep Method: % Moisture:	E300	)P	
Analyst:	CHE		Date Prep	<b>)</b> :	05.05.2020 12:00		Basis:	Wet	Weight	
Seq Number:	3125116									
Parameter		Cas Number	Result	RL		Units	Analysis D	ate	Flag	Dil

Chloride

16887-00-6 **37.5** 

5.01

mg/kg 05.05.2020 14:55



### **Certificate of Analytical Results 660477**

#### Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Sample Id:         AH-10 (0-6")           Lab Sample Id:         660477-014		Matrix: Date Colle	Soil ected: 05.01.2020 00:00	Date Received:05.04.202			4.2020 10:	24
Analytical Method: Chloride by EPA 300 Tech: CHE					Prep Method: % Moisture:	E300	P	
Analyst: CHE		Date Prep	05.05.2020 12:00		Basis:	Wet	Weight	
Seq Number: 3125116								
Parameter Cas	Number	Result	RL	Units	Analysis Da	ate	Flag	Dil
Chlorida 1690	7.00.6	282	5.02	ma/ka	05 05 2020 14	5.01		1

16887-00-6 382

5.02

mg/kg 05.05.2020 15:01



# **Certificate of Analytical Results 660477**

#### Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Sample Id: Lab Sample Id	<b>AH-11 (0-6'')</b> l: 660477-015		Matrix: Date Coll	ected	Soil l: 05.01.2020 00:00		Date Received	1:05.04	4.2020 10:	24
Analytical Me Tech:	thod: Chloride by EPA 3 CHE	800					Prep Method: % Moisture:	E300	)P	
Analyst:	CHE		Date Prep	):	05.05.2020 12:00		Basis:	Wet	Weight	
Seq Number:	3125116									
Parameter		Cas Number	Result	RL		Units	Analysis D	ate	Flag	Dil

Chloride

16887-00-6 277

4.96

mg/kg 05.05.2020 15:22



# **Certificate of Analytical Results 660477**

#### Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Parameter		Cas Number	Result	RL		Units	Analysis D	ate	Flag	Dil
Seq Number:	3125116									
Analyst:	CHE		Date Prep	<b>)</b> :	05.05.2020 12:00		Basis:	Wet	Weight	
Tech:	CHE						% Moisture:			
Analytical Me	ethod: Chloride by EPA	300					Prep Method:	E300	)P	
Lab Sample I	d: 660477-016		Date Coll	lected	1: 05.01.2020 00:00					
Sample Id:	AH-12 (0-6'')		Matrix:		Soil		Date Received	1:05.04	4.2020 10:	24

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: Lab Sample Id	<b>AH-13 (0-6'')</b> l: 660477-017		Matrix: Date Coll	ected	Soil l: 05.01.2020 00:00		Date Received	d:05.04	4.2020 10:	24
Analytical Me Tech:	thod: Chloride by EPA 3 CHE	800					Prep Method: % Moisture:	E300	)P	
Analyst:	CHE		Date Prep	<b>)</b> :	05.05.2020 12:00		Basis:	Wet	Weight	
Seq Number:	3125116									
Parameter		Cas Number	Result	RL		Units	Analysis D	ate	Flag	Dil

Chloride

16887-00-6 12.7

4.99

05.05.2020 15:27

mg/kg



# **Certificate of Analytical Results 660477**

#### Tetra Tech- Midland, Midland, TX

Big Papi Federal Com #2H (7.12.19)

Parameter		Cas Number	Result	RL		Units	Analysis D	ate	Flag	Dil
Seq Number:	3125116									
Analyst:	CHE		Date Prep	<b>)</b> :	05.05.2020 12:00		Basis:	Wet	Weight	
Tech:	CHE						% Moisture:			
Analytical Me	ethod: Chloride by EPA	300					Prep Method:	E300	)P	
Lab Sample I	d: 660477-018		Date Coll	lected	1: 05.01.2020 00:00					
Sample Id:	AH-14 (0-6'')		Matrix:		Soil		Date Received	1:05.04	4.2020 10:	24

16887-00-6 **41.1** 

4.95

mg/kg 05.05.2020 15:43

- **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					
<b>RL</b> Reporting Limit						
MDL Method Detection Limit	SDL Sample De	tection Limit	LOD Limit of Detection			
PQL Practical Quantitation Limit	ntitation 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/Labo	ratory Control Sample Duplicate		
MD/SD Method Duplicate/Samp	ple Duplicate	MS	Matrix Spike	MSD: Matrix Spike Duplicate		
+ NELAC certification not offered	l for this compound.					

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


# Tetra Tech- Midland

Big Papi Federal Com #2H (7.12.19)

<b>Analytical Method:</b> Seq Number: MB Sample Id:	<b>Chloride by EP</b> A 3125066 7702663-1-BLK	300		Matrix: nple Id:	Solid 7702663-	1-BKS			ep Methe Date Pr D Sample	ep: 05.0	0P )4.2020 2663-1-BSD	
Parameter	M	-	LCS Berult		LCSD	LCSD	Limits	%RPD	RPD	Units	Analysis Date	Flag
Chloride	<b>Resu</b> <5.0		Result 272	<b>%Rec</b> 109	Result 273	<b>%Rec</b> 109	90-110	0	Limit 20	mg/kg	05.04.2020 23:09	
Analytical Method:	-	300			G 1' 1			Pr	ep Meth			
Seq Number: MB Sample Id:	3125116 7702747-1-BLK			Matrix: mple Id:	Solid 7702747-1	1-BKS		LCSI	Date Pr D Sample		)5.2020 2747-1-BSD	
Parameter	М	-	LCS	LCS	LCSD	LCSD	Limits	%RPD	RPD	Units	Analysis	Flag
Chloride	<b>Resu</b> <5.0		Result 261	<b>%Rec</b> 104	Result 244	<b>%Rec</b> 98	90-110	7	Limit 20	mg/kg	Date 05.05.2020 13:15	
Analytical Method: Seq Number:	<b>Chloride by EP</b> A 3125066	300		Matrix:	Soil			Pr	ep Meth Date Pr		0P )4.2020	
Parent Sample Id:	660467-001				660467-0	01 S		MS		-	467-001 SD	
Parameter	Paren Resu	-	MS Result	MS %Rec	MSD	MSD	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride		It         Amount           32         248	593	105	Result 594	<b>%Rec</b> 106	90-110	0	20	mg/kg	05.04.2020 23:30	
Analytical Method:	-	300						Pr	ep Meth		OP	
Seq Number:	3125066	300		Matrix:		15 8			Date Pr	ep: 05.0	04.2020	
Seq Number: Parent Sample Id:	-				660467-0		Limits	MS	Date Pr	ep: 05.0	)4.2020 467-005 SD	Flag
Seq Number: Parent Sample Id: <b>Parameter</b>	3125066 660467-005 Paren Resu	nt Spike It Amount	MS Sai MS Result	mple Id: MS %Rec	660467-00 MSD Result	MSD %Rec		MS] %RPD	Date Pr D Sample RPD Limit	ep: 05.0 e Id: 660 Units	)4.2020 467-005 SD Analysis Date	Flag
Seq Number: Parent Sample Id:	3125066 660467-005 Paren	nt Spike It Amount	MS Saı MS	mple Id: MS	660467-00 MSD	MSD	<b>Limits</b> 90-110	MS	Date Pr D Sample <b>RPD</b>	ep: 05.0 e Id: 660	)4.2020 467-005 SD Analysis	Flag
Seq Number: Parent Sample Id: <b>Parameter</b> Chloride	3125066 660467-005 Paren Resu 7.0	nt Spike It Amount )1 249	MS Sai MS Result	mple Id: MS %Rec	660467-00 MSD Result	MSD %Rec		MS] <b>%RPD</b> 0	Date Pr D Sample <b>RPD</b> Limit 20	ep: 05.0 e Id: 660 Units mg/kg	04.2020 467-005 SD Analysis Date 05.05.2020 01:06	Flag
Seq Number: Parent Sample Id: <b>Parameter</b>	3125066 660467-005 Paren Resu 7.0	nt Spike It Amount )1 249	MS San MS Result 274	mple Id: MS %Rec	660467-00 MSD Result 274	MSD %Rec		MS] <b>%RPD</b> 0	Date Pr D Sample RPD Limit	ep: 05.0 e Id: 660 Units mg/kg od: E30	04.2020 467-005 SD Analysis Date 05.05.2020 01:06	Flag
Seq Number: Parent Sample Id: Parameter Chloride Analytical Method:	3125066 660467-005 Paren Resu 7.0 Chloride by EPA	nt Spike It Amount )1 249	MS San MS Result 274	mple Id: MS %Rec 107 Matrix:	660467-00 MSD Result 274	<b>MSD</b> %Rec 107		MSI <b>%RPD</b> 0 Pr	Date Pr D Sample RPD Limit 20	ep: 05.0 e Id: 660 Units mg/kg od: E30 ep: 05.0	04.2020 467-005 SD Analysis Date 05.05.2020 01:06	Flag
Seq Number: Parent Sample Id: Parameter Chloride Analytical Method: Seq Number:	3125066 660467-005 Paren Resu 7.0 Chloride by EPA 3125116 660477-005 Paren	nt Spike lt Amount )1 249 x 300 nt Spike	MS San MS Result 274 MS San MS San	mple Id: MS %Rec 107 Matrix: mple Id: MS	660467-00 MSD Result 274 Soil 660477-00 MSD	MSD %Rec 107		MSI <b>%RPD</b> 0 Pr	Date Pr D Sample RPD Limit 20	ep: 05.0 e Id: 660 Units mg/kg od: E30 ep: 05.0	04.2020 467-005 SD Analysis Date 05.05.2020 01:06	Flag Flag
Seq Number: Parent Sample Id: Parameter Chloride Analytical Method: Seq Number: Parent Sample Id:	3125066 660467-005 Paren Resu 7.4 Chloride by EPA 3125116 660477-005 Paren Resu	nt Spike lt Amount )1 249 x 300 nt Spike	MS Sar MS Result 274 MS Sar	mple Id: MS %Rec 107 Matrix: mple Id:	660467-00 MSD Result 274 Soil 660477-00	MSD %Rec 107	90-110 Limits	MSI <b>%RPD</b> 0 Pr MSI	Date Pr D Sample RPD Limit 20 rep Methe Date Pr D Sample RPD	ep: 05.0 e Id: 660 Units mg/kg od: E30 ep: 05.0 e Id: 660	94.2020 467-005 SD Analysis Date 05.05.2020 01:06 0P 05.2020 477-005 SD Analysis	
Seq Number: Parent Sample Id: Parameter Chloride Analytical Method: Seq Number: Parent Sample Id: Parameter	3125066 660467-005 Paren Resu 7.4 Chloride by EPA 3125116 660477-005 Paren Resu	nt Spike lt Amount )1 249 \$ 300 ht Spike lt Amount	MS San MS Result 274 MS San MS Result	mple Id: MS %Rec 107 Matrix: mple Id: MS %Rec	660467-00 MSD Result 274 Soil 660477-00 MSD Result	MSD %Rec 107	90-110 Limits	MSI %RPD 0 Pr MSI %RPD	Date Pr D Sample RPD Limit 20 rep Methe Date Pr D Sample RPD Limit	ep: 05.0 e Id: 660 Units mg/kg od: E30 ep: 05.0 e Id: 660 Units	04.2020 467-005 SD <b>Analysis</b> 05.05.2020 01:06 0P 05.2020 477-005 SD <b>Analysis</b> Date	
Seq Number: Parent Sample Id: Parameter Chloride Analytical Method: Seq Number: Parent Sample Id: Parameter Chloride Analytical Method:	3125066 660467-005 Paren Resu 7.4 Chloride by EPA 3125116 660477-005 Paren Resu 14 Chloride by EPA	nt Spike It Amount )1 249 x 300 nt Spike It Amount 49 249	MS San MS Result 274 MS San MS Result 376	mple Id: MS %Rec 107 Matrix: mple Id: MS %Rec 91	660467-00 MSD Result 274 Soil 660477-00 MSD Result 380	MSD %Rec 107	90-110 Limits	MS <b>%RPD</b> 0 Pr MS <b>%RPD</b> 1	Date Pr D Sample RPD Limit 20 ep Metho Date Pr D Sample RPD Limit 20	ep: 05.0 e Id: 660 Units mg/kg od: E30 ep: 05.0 e Id: 660 Units mg/kg od: E30	94.2020 467-005 SD Analysis Date 05.05.2020 01:06 0P 05.2020 477-005 SD Analysis Date 05.05.2020 13:42	
Seq Number: Parent Sample Id: Parameter Chloride Analytical Method: Seq Number: Parent Sample Id: Parameter Chloride Analytical Method: Seq Number:	3125066 660467-005 Paren Resu 7.4 Chloride by EPA 3125116 660477-005 Paren Resu 14 Chloride by EPA 3125116	nt Spike It Amount )1 249 x 300 nt Spike It Amount 49 249	MS San MS Result 274 MS San MS Result 376	mple Id: MS %Rec 107 Matrix: mple Id: MS %Rec 91 Matrix:	660467-00 MSD Result 274 Soil 660477-00 MSD Result 380 Soil	MSD %Rec 107	90-110 Limits	MSI %RPD 0 Pr MSI %RPD 1 Pr	Date Pr D Sample RPD Limit 20 ep Methe Date Pr D Sample Limit 20 ep Methe Date Pr	ep: 05.0 e Id: 660 Units mg/kg od: E30 ep: 05.0 e Id: 660 Units mg/kg od: E30 ep: 05.0	94.2020 467-005 SD Analysis Date 05.05.2020 01:06 0P 05.2020 477-005 SD Analysis Date 05.05.2020 13:42	
Seq Number: Parent Sample Id: Parameter Chloride Analytical Method: Seq Number: Parent Sample Id: Parameter Chloride Analytical Method: Seq Number: Parent Sample Id:	3125066 660467-005 Paren Resu 7,4 Chloride by EPA 3125116 660477-005 Paren Resu 14 Chloride by EPA 3125116 660477-016 Paren	nt Spike It Amount )1 249 x 300 nt Spike It Amount 49 249 x 300 x 300 nt Spike	MS San MS Result 274 MS San MS Result 376 MS San MS San	mple Id: MS %Rec 107 Matrix: mple Id: 91 Matrix: mple Id: MS %Rec 91 Matrix: MS	660467-00 MSD Result 274 Soil 660477-00 MSD Result 380 Soil 660477-0 MSD	MSD %Rec 107 05 S MSD %Rec 93 16 S MSD	90-110 Limits	MSI %RPD 0 Pr MSI %RPD 1 Pr	Date Pr D Sample RPD Limit 20 rep Methe Date Pr D Sample RPD Limit 20 rep Methe Date Pr Date Pr Date Pr Date Pr Date Pr	ep: 05.0 e Id: 660 Units mg/kg od: E30 ep: 05.0 e Id: 660 Units mg/kg od: E30 ep: 05.0	94.2020 467-005 SD Analysis Date 05.05.2020 01:06 0P 05.2020 477-005 SD Analysis Date 05.05.2020 13:42 0P 05.2020 477-016 SD Analysis	
Seq Number: Parent Sample Id: Parameter Chloride Analytical Method: Seq Number: Parent Sample Id: Parameter Chloride Analytical Method: Seq Number:	3125066 660467-005 Paren Resu 7.0 Chloride by EPA 3125116 660477-005 Paren Resu 1. Chloride by EPA 3125116 660477-016	nt Spike 14 Amount 11 249 A 300 A 300 A 300 A 300 A 300 A 300 A 300 A 300	MS San MS Result 274 MS San MS Result 376	mple Id: MS %Rec 107 Matrix: mple Id: MS %Rec 91 Matrix: mple Id:	660467-00 MSD Result 274 Soil 660477-00 MSD Result 380 Soil 660477-0	MSD %Rec 107 05 S MSD %Rec 93	90-110 Limits 90-110 Limits	MSI %RPD 0 Pr MSI %RPD 1 Pr MSI	Date Pr D Sample RPD Limit 20 rep Methe Date Pr D Sample RPD Limit 20 rep Methe Date Pr Date Pr D Sample	ep: 05.0 e Id: 660 Units mg/kg od: E30 ep: 05.0 e Id: 660 Units mg/kg od: E30 ep: 05.0 e Id: 660	94.2020 467-005 SD Analysis Date 05.05.2020 01:06 0P 05.2020 477-005 SD Analysis Date 05.05.2020 13:42 0P 05.0200 477-016 SD	Flag

MS/MSD Percent Recovery Relative Percent Difference LCS/LCSD Recovery Log Difference  $\begin{array}{l} [D] = 100*(C-A) \ / \ B \\ RPD = 200* \ | \ (C-E) \ / \ (C+E) \ | \\ [D] = 100*(C) \ / \ [B] \\ Log \ Diff. = Log(Sample \ Duplicate) \ - \ Log(Original \ Sample) \end{array}$ 

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

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				he fin	 2						AH-10 (0-6")	AH-9 (0-6")	AH-8 (0-6")	AH-7 (0-6")		SAMF			Xenco	COG - Attn:	Eddy County, NM		cog	Tet	Analysis Request of Chain of Custody Record
	Date: Time:		Date: Time:	SH12020 1024	Date: Time:											SAMPLE IDENTIFICATION				: Ike Tavarez	ty, NM	Big Papi Federal Com #2H (7.12.19)		letra Tech, Inc.	stody Record
ORIGINAL COPY	Received by:		Received by:	AN I	Received by:			5/1/2020	5/1/2020	5/1/2020	5/1/2020	5/1/2020	5/1/2020	5/1/2020	DATE	YEAR:	SAMPLING		Sampler Signature:		Project #:		Site Manager:		
γq	De		De	$\sim$				×	×	×	×	×	×	×	TIME WATEF SOIL	<u>م</u>	MATRIX		Carlos		212C-N		Mike Carmona	4000 N. Big 401 Midia Tel (43 Fax (43	
	Date: Time:		Daté: Time:	2	Date: Time:			×	×	×	×	×	×	×	HCL HNO <sub>3</sub> ICE		PRESERVATIVE METHOD		Tomlinson/Tony		212C-MD-01855		nona	4000 N. Big Spring Street, Ste 401 Mirdand, Texas 79705 Tel (432) 682-4559 Fax (432) 682-3946	Jolu
Circle	,	samp 2		/ad				Z	Z	1 Z	1 N	1 N	1 N		# CONT FILTERE BTEX 80 TPH TX1	D (Y 21B	/N) BTE	X 8260B	Legarda						WWW
HAND DELINGRED	O(10)	Sample Lemperature		ONLY											TPH 801 PAH 827 Total Met TCLP Me TCLP Vo	5M ( OC als A tals A	GRO - g As Ba sg As B	DRO - O a Cd Cr F	b Se I	⊣g			AI		
D FEDEX UPS 1	Snecial Renor		RUSH: Same Day	X Standard	REMARKS:										TCLP Ser RCI GC/MS V GC/MS S PCB's 80	ol. 82 emi. 1	260B / Vol. 82						ANALYSIS REQUEST		
Tracking #:	Special Report Limits or TBRP Report		Day 24 hr 48 hr					×	×	×	X	×	×	×	NORM PLM (Ast Chloride Chloride General V	Su Wate	lfate r Cherr		e atta	ched lis	t)				Page
oport	enor	1	hr 72 hr												Anion/Ca	uon E	baianc	e							2 of

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# **Analytical Report 670700**

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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)

eurofins Environment Testing

Project Id:

**Project Location:** 

**Contact:** 

Xenco

212C-MD-01855 Mike Carmona

Eddy County, NM

# Certificate of Analysis Summary 670700

Tetra Tech- Midland, Midland, TX

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

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

1 logeet Docution:									0,000,000	unuger			
	Lab Id:	670700-00	01	670700-0	02	670700-0	03	670700-00	)4	670700-00	05	670700-00	06
Analysis Requested	Field Id:	AH #4 (0-	1')	AH #4 (-1	.5')	AH #4 (1.5-2	2')	AH #5 (0-1	)	AH #5 (1-1.5	5')	AH #5 (2-2.5	5')
Analysis Requested	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:		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 0	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 1	3:00	08.21.2020	13:00	08.21.2020 1	13:00
	Analyzed:	08.21.2020	15:35	08.21.2020	15:41	08.21.2020	15:57	08.21.2020 1	6:03	08.21.2020	16:20	08.21.2020 1	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

Jession Vramer

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eurofins Environment Testing

**Project Location:** 

Project Id:

**Contact:** 

Xenco

212C-MD-01855

Eddy County, NM

Mike Carmona

# Certificate of Analysis Summary 670700

Tetra Tech- Midland, Midland, TX

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

Date Received in Lab: Fri 08.21.2020 10:55

**Report Date:** 08.24.2020 08:14

Project Manager: Jessica Kramer

	Lab Id:	670700-0	07	670700-00	)8	670700-00	)9	670700-0	010	670700-0	11	670700-01	12
Analysis Requested	Field Id:	AH #6 (0-	1')	AH #9 (0-0	.5')	AH #11 (0-0.	5')	South 1 Side	wall	Bottom Hole #1	(0-1')	Bottom Hole #1 (	1-1.5)
Analysis Requesieu	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 0	0:00	08.19.2020 0	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 1	13:00
	Analyzed:	08.21.2020	16:31					08.21.2020	16:36	08.21.2020	16:42	08.21.2020 1	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 1	3:00	08.21.2020 1	3:00						
	Analyzed:			08.21.2020 1	4:17	08.21.2020 1	5:18						
	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

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

Jession Vramer

eurofins Environment Testing

Project Id:

**Project Location:** 

**Contact:** 

Xenco

212C-MD-01855

Eddy County, NM

Mike Carmona

Certificate of Analysis Summary 670700

Tetra Tech- Midland, Midland, TX

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

Date Received in Lab: Fri 08.21.2020 10:55

Report Date: 08.24.2020 08:14

Project Manager: Jessica Kramer

Annalis Democrated	Lab Id: Field Id:	670700-0 Bottom Hole #1		670700-02 Bottom Hole #1		670700-01 Bottom Hole #1 (3	-		
Analysis Requested	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 0	00:00		
Inorganic Anions by EPA 300/300.1	Extracted:	08.21.2020	13:00	08.21.2020 1	6:20	08.21.2020 1	6:20		
	Analyzed:	08.21.2020	16:53	08.21.2020 1	7:27	08.21.2020 1	7:43		
	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

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

Jession Vramer

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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,

fession kenner

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 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') 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) Bottom Hole #1 (2-2.5') Bottom Hole #1 (3-3.5') Bottom Hole #1 (3.5-4')

# Sample Cross Reference 670700

#### Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

Matrix	Date Collected	Sample Depth	Lab Sample Id
S	08.19.2020 00:00	0 - 1 ft	670700-001
S	08.19.2020 00:00	1 - 1.5 ft	670700-002
S	08.19.2020 00:00	1.5 - 2 ft	670700-003
S	08.19.2020 00:00	0 - 1 ft	670700-004
S	08.19.2020 00:00	1 - 1.5 ft	670700-005
S	08.19.2020 00:00	2 - 2.5 ft	670700-006
S	08.19.2020 00:00	0 - 1 ft	670700-007
S	08.19.2020 00:00	0 - 0.5 ft	670700-008
S	08.19.2020 00:00	0 - 0.5 ft	670700-009
S	08.19.2020 00:00	0 - 0 ft	670700-010
S	08.19.2020 00:00	0 - 1 ft	670700-011
S	08.19.2020 00:00	1 - 1.5 ft	670700-012
S	08.19.2020 00:00	2 - 2.5 ft	670700-013
S	08.19.2020 00:00	3 - 3.5 ft	670700-014
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

# **Certificate of Analytical Results 670700**

#### Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

Sample Id: <b>AH #4</b> ( Lab Sample Id: 670700-(	,	Matrix: Date Colle	Soil ected: 08.19.2020 00:00		Date Received Sample Depth			55
Analytical Method: Inor Tech: MAB	rganic Anions by EPA 300/300.1				Prep Method: % Moisture:	E300	)P	
Analyst: MAB		Date Prep:	08.21.2020 13:00		Basis:	Wet	Weight	
Seq Number: 3135303								
Parameter	Cas Number	Result	RL	Units	Analysis D	ate	Flag	Dil
Chloride	16887-00-6	3030	50.1	mg/kg	08.21.2020 1	5:35		5

# **Certificate of Analytical Results 670700**

#### Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

Sample Id: Lab Sample Id	<b>AH #4 (-1.5')</b> d: 670700-002		Matrix: Date Col	lected:	Soil 08.19.2020 00:00		Date Received Sample Depth			:55
Analytical Me Tech:	ethod: Inorganic Anions MAB	by EPA 300/300.1					Prep Method: % Moisture:	E300	)P	
Analyst:	MAB		Date Prej	p:	08.21.2020 13:00		Basis:	Wet	Weight	
Seq Number:	3135303									
Parameter		Cas Number	Result	RL		Units	Analysis D	ate	Flag	Dil
Chloride		16887-00-6	5010	49	.7	mg/kg	08.21.2020 1	5:41		5

#### Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

Sample Id:         AH #4 (1.5-2')           Lab Sample Id:         670700-003		Matrix: Date Colle	Soil ected: 08.19.2020 00:00		Date Received Sample Depth			55
Analytical Method: Inorganic Anions Tech: MAB	by EPA 300/300.1				Prep Method: % Moisture:	E300	P	
Analyst: MAB Seq Number: 3135303		Date Prep	: 08.21.2020 13:00		Basis:	Wet '	Weight	
Parameter	Cas Number	Result	RL	Units	Analysis D	ate	Flag	Dil
Chloride	16887-00-6	3150	49.9	mg/kg	08.21.2020 1	5:57		5

# **Certificate of Analytical Results 670700**

#### Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

Sample Id: Lab Sample Id	<b>AH #5 (0-1')</b> d: 670700-004		Matrix: Date Coll	Soil ected: 08.19.2020 00:0	00	Date Received Sample Depth		0 10:55
Analytical Me Tech:	ethod: Inorganic Anions MAB	s by EPA 300/300.1				Prep Method: % Moisture:	E300P	
Analyst:	MAB		Date Prep	o: 08.21.2020 13:0	00	Basis:	Wet Weig	ht
Seq Number:	3135303							
Parameter		Cas Number	Result	RL	Units	Analysis Da	ate Fla	g Dil
Chloride		16887-00-6	1930	49.9	mg/kg	08.21.2020 16	5:03	5

# **Certificate of Analytical Results 670700**

### Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

Sample Id: Lab Sample Id	<b>AH #5 (1-1.5')</b> d: 670700-005		Matrix: Date Coll	Soil ected: 08.19.2020 00:00	)	Date Received Sample Depth			55
Analytical Me Tech:	ethod: Inorganic Anions MAB	s by EPA 300/300.1				Prep Method: % Moisture:	E3001	Р	
Analyst:	MAB		Date Prep	o: 08.21.2020 13:00	)	Basis:	Wet V	Weight	
Seq Number:	3135303								
Parameter		Cas Number	Result	RL	Units	Analysis Da	ate	Flag	Dil
Chloride		16887-00-6	1670	50.1	mg/kg	08.21.2020 16	6:20		5

#### Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

Sample Id:         AH #5 (2-2.5')           Lab Sample Id:         670700-006		Matrix: Date Colle	Soil ected: 08.19.2020 00:00		Date Received Sample Depth			55
Analytical Method:Inorganic AnionsTech:MABAnalyst:MABSeq Number:3135303	by EPA 300/300.1	Date Prep	: 08.21.2020 13:00		Prep Method: % Moisture: Basis:		P Weight	
Parameter	Cas Number	Result	RL	Units	Analysis D	ate	Flag	Dil
Chloride	16887-00-6	1630	50.2	mg/kg	08.21.2020 1	6:25		5

# **Certificate of Analytical Results 670700**

#### Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

Sample Id:         AH #6 (0-1')           Lab Sample Id:         670700-007		Matrix: Date Colle	Soil ected: 08.19.2020 00:00		Date Received Sample Depth			55
Analytical Method: Inorganic Anions Tech: MAB	s by EPA 300/300.1				Prep Method: % Moisture:	E300	Р	
Analyst: MAB Seq Number: 3135303		Date Prep	08.21.2020 13:00		Basis:	Wet V	Weight	
Parameter	Cas Number	Result	RL	Units	Analysis D	ate	Flag	Dil
Chloride	16887-00-6	622	10.0	mg/kg	08.21.2020 1	6:31		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: Al	H #9 (0-0.5')		Matrix:	Soil		Date Received	1:08.21.2	2020 10:5	5
Lab Sample Id: 67	70700-008		Date Collec	ted: 08.19.2020 00:00		Sample Depth	:0-0.5	ft	
Analytical Method	l: TPH By SW8015 M	lod				Prep Method:	SW801	15P	
Tech: DT	Ή					% Moisture:			
Analyst: DT	Ή		Date Prep:	08.21.2020 13:00		Basis:	Wet W	eight	
Seq Number: 313	35293								
Parameter		Cas Number	Result	RL	Units	Analysis D	ate	Flag	Dil

I arameter	Casitumbe	i itesuit	KL/		Units	Analysis Date	Flag	Dii	
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			

# **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	1:08.21	.2020 10:5	55
Lab Sample Id	l: 670700-009		Date Collecte	d: 08.19.2020 00:00		Sample Depth	1:0-0.	5 ft	
Analytical Me	thod: TPH By SW8015	Mod				Prep Method:	SW8	015P	
Tech:	DTH					% Moisture:			
Analyst:	DTH		Date Prep:	08.21.2020 13:00		Basis:	Wet	Weight	
Seq Number:	3135293								
Parameter		Cas Number	Result RI		Units	Analysis D	ate	Flag	Dil

1 al allicici	Cas Mullibe	i Ktsuit	KL		Units	Analysis Date	riag	DII	
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			

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# **Certificate of Analytical Results 670700**

#### Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

Sample Id: Lab Sample Id	South 1 Sidewall d: 670700-010		Matrix: Date Coll	Soil ected: 08.19.2020 00:00	)	Date Received Sample Depth			55
Analytical Me Tech:	ethod: Inorganic Anions MAB	s by EPA 300/300.1				Prep Method: % Moisture:	E300F	)	
Analyst:	MAB		Date Prep	o: 08.21.2020 13:00	)	Basis:	Wet W	Veight	
Seq Number:	3135303								
Parameter		Cas Number	Result	RL	Units	Analysis Da	ate	Flag	Dil
Chloride		16887-00-6	130	9.98	mg/kg	08.21.2020 16	5:36		1

#### Xenco

#### Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

Sample Id: Lab Sample Id	Bottom Hole #1 (0-1' d: 670700-011	)	Matrix: Date Col	Soil lected: 08.19.2020 00:0	00	Date Received: Sample Depth: (		:55
Analytical Me Tech:	ethod: Inorganic Anions MAB	s by EPA 300/300.1				Prep Method: 1 % Moisture:	E300P	
Analyst:	MAB		Date Prep	o: 08.21.2020 13:0	00	Basis:	Wet Weight	
Seq Number:	3135303							
Parameter		Cas Number	Result	RL	Units	Analysis Date	e Flag	Dil
Chloride		16887-00-6	122	9.94	mg/kg	08.21.2020 16:4	42	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: Lab Sample Id	<b>Bottom Hole #1 (1-1.</b> d: 670700-012	5)	Matrix: Date Col		Soil 08.19.2020 00:00		Date Received Sample Depth			55
Tech: Analyst:	ethod: Inorganic Anions MAB MAB	by EPA 300/300.1	Date Prej	p: (	08.21.2020 13:00		Prep Method: % Moisture: Basis:		)P Weight	
Seq Number: Parameter	3135303	Cas Number	Result	RL		Units	Analysis Da	ate	Flag	Dil
Chloride		16887-00-6	219	9.90	)	mg/kg	08.21.2020 10	5:48		1

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# **Certificate of Analytical Results 670700**

#### Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

					Sample Depth:	. 2 - 2.3	π	
Analytical Method: Inorganic Anions b Tech: MAB Analyst: MAB Sea Number: 3135303	by EPA 300/300.1	Date Prep	: 08.21.202	20 13:00	Prep Method: % Moisture: Basis:	E300P Wet W		
Seq Number: 3135303 Parameter Chloride	Cas Number	Result 35.1	<b>RL</b>	Units mg/kg	<b>Analysis Da</b> 08.21.2020 16		Flag	Dil

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#### Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

Sample Id:         Bottom Hole #1 (3-3.5)           Lab Sample Id:         670700-014	5')	Matrix: Date Colle	Soil ected: 08.19.2020 00:00		Date Received Sample Depth			55
Analytical Method: Inorganic Anions Tech: MAB Analyst: MAB Seq Number: 3135304	by EPA 300/300.1	Date Prep	: 08.21.2020 16:20		Prep Method: % Moisture: Basis:	E300P Wet W		
Parameter	Cas Number	Result	RL	Units	Analysis Da	ate	Flag	Dil
Chloride	16887-00-6	33.4	9.94	mg/kg	08.21.2020 17	7:27		1

#### Xenco

#### Tetra Tech- Midland, Midland, TX

Big Pappy Fed Com 2H (7.12.19)

Sample Id: Lab Sample Id	<b>Bottom Hole #1 (3.5-</b> d: 670700-015	4')	Matrix: Date Coll	Soil ected: 08.19.2020 00:00		Date Received Sample Depth:		0 10:55
Analytical Me Tech:	ethod: Inorganic Anions MAB	s by EPA 300/300.1				Prep Method: % Moisture:	E300P	
Analyst:	MAB		Date Prep	: 08.21.2020 16:20		Basis:	Wet Weig	ht
Seq Number:	3135304							
Parameter		Cas Number	Result	RL	Units	Analysis Da	ite Fla	g Dil
Chloride		16887-00-6	<10.0	10.0	mg/kg	08.21.2020 17	:43 U	1

#### Environment Testing Xenco

- 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	<b>SDL</b> Sample De	tection Limit	LOD Limit of Detection	
PQL Practical Quantitation Limit	MQL Method Qu	antitation Limit	LOQ Limit of Quantitatio	n
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/Labo	ratory Control Sample Duplicate
MD/SD Method Duplicate/Samp	ble 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

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#### **QC Summary** 670700

#### **Tetra Tech- Midland**

Big Pappy Fed Com 2H (7.12.19)

Analytical Method: Seq Number: MB Sample Id: Parameter Chloride	Inorganic Anions b 3135303 7709983-1-BLK MB Result <10.0	y EPA 300/ Spike Amount 250	Matrix: nple Id: LCS %Rec 105	Solid 7709983- LCSD Result 266	1-BKS LCSD %Rec 106	<b>Limits</b> 90-110	rep Metho Date Pro D Sample RPD Limit 20	ep: 08.2	0P 21.2020 9983-1-BSD Analysis Date 08.21.2020 14:11	Flag
<b>Analytical Method:</b> Seq Number: MB Sample Id: <b>Parameter</b> Chloride	Inorganic Anions b 3135304 7709984-1-BLK MB Result <10.0	y EPA 300/ Spike Amount 250	Matrix: nple Id: LCS %Rec 105	Solid 7709984- LCSD Result 266	1-BKS LCSD %Rec 106	<b>Limits</b> 90-110	rep Metho Date Pro D Sample <b>RPD</b> Limit 20	ep: 08.2	0P 21.2020 9984-1-BSD Analysis Date 08.21.2020 17:15	Flag
<b>Analytical Method:</b> Seq Number: Parent Sample Id: <b>Parameter</b> Chloride	Inorganic Anions b 3135303 670695-001 Parent Result 17600	y EPA 300/ Spike Amount 200	Matrix: nple Id: <b>MS</b> %Rec 100	Soil 670695-00 <b>MSD</b> Result 17800	01 S MSD %Rec 101	<b>Limits</b> 90-110	rep Metho Date Pro D Sample RPD Limit 20	ep: 08.2	0P 21.2020 695-001 SD Analysis Date 08.21.2020 14:28	Flag
<b>Analytical Method:</b> Seq Number: Parent Sample Id: <b>Parameter</b> Chloride	Inorganic Anions b 3135303 670700-002 Parent Result 5010	y EPA 300/ Spike Amount 198	Matrix: nple Id: <b>MS</b> %Rec 101	Soil 670700-00 <b>MSD</b> Result 5210	02 S MSD %Rec 99	<b>Limits</b> 90-110	rep Metho Date Pro D Sample <b>RPD</b> Limit 20	ep: 08.2	0P 21.2020 700-002 SD Analysis Date 08.21.2020 15:46	Flag
<b>Analytical Method:</b> Seq Number: Parent Sample Id: <b>Parameter</b> Chloride	Inorganic Anions by 3135304 670700-014 Parent Result 33.4	y EPA 300/ Spike Amount 199	Matrix: nple Id: <b>MS</b> %Rec 102	Soil 670700-0. <b>MSD</b> Result 237	14 S MSD %Rec 102	<b>Limits</b> 90-110	rep Metho Date Pro D Sample RPD Limit 20	ep: 08.2	0P 21.2020 700-014 SD Analysis Date 08.21.2020 17:32	Flag

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

[D] = 100\*(C-A) / B $\begin{array}{l} \text{[D]} & = 100^{+} \left[ (\text{C-E}) / (\text{C+E}) \right] \\ \text{[D]} & = 100^{+} (\text{C}) / [\text{B}] \\ \text{Log Diff.} & = \text{Log(Sample Duplicate)} - \text{Log(Original Sample)} \end{array}$  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

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Final 1.000
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Xenco

**Environment Testing** 

🔅 eurofins

QC Summary 670700

# Tetra Tech- Midland

Big Pappy Fed Com 2H (7.12.19)

Analytical Method:	TPH By S	W8015 M	od						Pi	rep Metho	od: SW	8015P	
Seq Number:	3135293				Matrix:	Solid				Date Pr	ep: 08.2	21.2020	
MB Sample Id:	7709972-1	-BLK		LCS San	nple Id:	7709972-	1-BKS		LCS	D Sample	e Id: 770	9972-1-BSD	
Parameter		MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbo	ons (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		CS Rec	LCS Flag	LCSI %Re			imits	Units	Analysis Date	
1-Chlorooctane		87		1	10		111		70	-135	%	08.21.2020 13:37	
o-Terphenyl		87		1	00		101		70	-135	%	08.21.2020 13:37	

Analytical Method: Seq Number:	<b>TPH By SW8015 Mod</b> 3135293	Matrix: MB Sample Id:	Solid 7709972-1-BLK	Prep Method: Date Prep:		8015P 1.2020	
Parameter Motor Oil Range Hydrocarb	oons (MRO)	MB Result <50.0			J <b>nits</b> ng/kg	<b>Analysis</b> <b>Date</b> 08.21.2020 11:57	Flag

Analytical Method:	TPH By S	W8015 M	lod						Pi	rep Meth	od: SW	8015P	
Seq Number:	3135293			]	Matrix:	Soil				Date Pr	ep: 08.2	21.2020	
Parent Sample Id:	670700-00	8		MS San	nple Id:	670700-00	08 S		MS	D Sample	e Id: 670	700-008 SD	
Parameter		Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarb	ons (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					IS Rec	MS Flag	MSD %Re			imits	Units	Analysis Date	
1-Chlorooctane				1	20		119		70	-135	%	08.21.2020 14:37	
o-Terphenyl				1	07		109		70	-135	%	08.21.2020 14:37	

MS/MSD Percent Recovery Relative Percent Difference LCS/LCSD Recovery Log Difference  $\label{eq:c-A} \begin{array}{l} [D] = 100^{*}(C\text{-A}) \ / \ B \\ RPD = 200^{*} \ | \ (C\text{-E}) \ / \ (C\text{+E}) \ | \\ [D] = 100^{*} \ (C) \ / \ [B] \\ Log \ Diff. = Log(Sample \ Duplicate) \ - \ Log(Original \ Sample) \end{array}$ 

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

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

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	nquished by:	1/202	ished by:	8 linquished by:		AH	AH				2	A 1	Δ	A	ONLY	LAB #			Comments:	Receiving Laboratory:	(county, state) Invoice to:	Project Location:	Project Name:	Client Name:	
	Date: Time:	Date: Time:	5	Date: Time:		AH #11 (0-0 5')	AH #9 (0-0 5')	#D (D 1)	AH #5 (9.9 E)					AH#4 (0-1')		SAMPLE IDENTIFICATION			Xenco	COG - Ike Taverez	Eddy Co, NM	Big Pappy Fed Com 2H (7.12.19)			Tetra Tech Inc
	Received by:	Received by:	()	Received by:	8/19/2020	8/19/2020	8/19/2020	8/19/2020	8/19/2020	8/19/2020	8/19/2020	8/19/2020	8/19/2020	T	DATE	YEAR: 2020	SAMPLING		sampler signature:	2	Project #:			Site Manager:	
	Date: Time:	Date: Time:	00	Date: Timo:	×	×	x	×	X	X	XX	X	×	N S H H IC	IME VATER OIL CL NO <sub>3</sub> DE one		MATRIX PRESERVATIVE		Conner Moehring		212C-MD-01855		Mike Carmona	Midland, Texas 7705 Tel (432) 682-4559 Fax (432) 682-3946	901W Wall Street Ste 100
	1	Sam	0:55		1 N	1 N	1 N	1 N	1 N	1 N	1 N	1 N	N	FIL	CONTAI	NERS (Y/N	S )	8260B							
	C.h/h.h	ole Temperatura	LAB USE		×	×								TP TPI PA	H TX100 H 8015N H 82700 al Metals	05 (E) // ( GF ; Ag A	t to C: RO - D	35) RO - Ol Cd Cr Pl	RO - MI	1			ò		
Special Repor	Rush Charges Authorized	X RUSH: Same Day	REMARKS:											TCL TCL RCI GC/ GC/ PCE	LP Volati LP Semi MS Vol. MS Sem 3's 8082	les Volati 8260 i. Vol. / 608	les )B / 62 . 8270	4	ro Se H	9		or Specify	ANALYSIS RI	م	
t Limits or TRRP Report	orized	24 hr 48 hr 72 hr					× >	< >	× >	< >	< >	< >	× 0	Chic Chic Gen	1 (Asbest oride oride S eral Wa on/Catior	Sulfat	nemist	DS try (see	attach	ed list)		Method No.)	EST	90 F O F O	- ugo - 0

		felinguished by	22 ellinquished by:	quished by:									LAB USE )	I AR #			Comments:	Receiving Laboratory	Invoice to:	Project Location: (county, state)	roject Malile.		Client Name:
	Date: Lime:	2	2/21/20 1055 Date: Time:	Date: Time:			Bottom hole #1 (3.5-4')	Bottom hole #1 (3-3.5')	Bottom hole #1 (2-2.5')	Bottom hole #1 (1-1.5')	Bottom hole #1 (0-1')	South 1 Sidewall	SAMPLE IDENTIFICATION				Xenco	COG - Ike Taverez		n: Eddy Co, NM	Big Pappy Fed Com 2H (7.12.19)	CUG	Tetra Tech, Inc.
ORIGINAL COPY	Received by:		D	Received by:			8/19/2020	8/19/2020	8/19/2020	8/19/2020	8/19/2020	8/19/2020	DATE	YEAR: 2020	SAMPLING		Sampler Signature:		-	Project #:		ono manager.	
PΥ	0	ſ	AnAch Bia				×	×	×	×	×	×	TIME WATER SOIL	-	NG MATRIX				l	212		Mike C	901
	Date: Time:	Date. ITTTE:		Date: Time:			×	X	×	×	×	×	HCL HNO <sub>3</sub> ICE None		PRESERVATIVE		Conner Moehring			212C-MD-01855		Mike Carmona	901W Wall Street, Ste 100 Midland,Texas 79705 Tel (432) 682-4559 Fax (432) 682-3946
Ъ М			10:55				1 N	1 N	1 N	1 N	1 N	-	# CONTAINI FILTERED ('	ER	IS								
(Circle) HAND DELIVERED		Sample Temperature	LAB USE ONLY									-	BTEX 8021B TPH TX1005 TPH 8015M PAH 8270C Fotal Metals A	( G	Ext to C3	5) 70 - OF					(Circ		
ERED FEDEX UPS	Special Re	X RUSH: Same Day										F	CLP Metals CLP Volatile CLP Semi Vo RCI GC/MS Vol. 8 GC/MS Semi.	Ag ola	As Ba C tiles 60B / 624	Cd Cr Pl	b Se Hg	1			rcle or Speci	ANALYSIS	
S Tracking #:	Special Report Limits or TRRP Report	24 hr				;	× >	< ;	× ;	× >	× ;	F P X C	CB's 8082 / IORM LM (Asbesto hloride	60 s)	ate TD	DS					ify Method No.	REQUEST	0020E)
	' Report	48 hr 72 hr	)									A	ieneral Wate nion/Cation I	Ba	Chemistr lance	ry (see	attache	ed list)			<u>.</u>		50

# **Eurofins Xenco, LLC**

#### Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland	Acceptable Temperature R	ange: 0 - 6 degC
Date/ Time Received: 08.21.2020 10.55.00 AM	Air and Metal samples Acc	eptable Range: Ambient
Work Order #: 670700	Temperature Measuring de	evice used : T_NM_007
Sample Recei	pt 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:

Date: 08.21.2020

Checklist reviewed by: Jessica Kramer

Date: 08.21.2020

# 🔅 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

RAMER

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.

Have a Question? Ask The Expert Visit us at: www.eurofinsus.com/Env Released to Imaging: 3/15/2022 9:42:49 AM

LINKS

Review your project results through

Total Access

•

Laboratory Job ID: 880-1905-1

SDG: Eddy County, NM

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#### **Definitions/Glossary**

Client: Tetra Tech, Inc. Project/Site: COG - Big Papi Fed. Com #2H

Job ID: 880-1905-1 SDG: Eddy County, NM

Qualifiers		3
HPLC/IC		
Qualifier	Qualifier Description	
U	Indicates the analyte was analyzed for but not detected.	
Glossary		5
Abbreviation	These commonly used abbreviations may or may not be present in this report.	6
¤	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	0
CNF	Contains No Free Liquid	ŏ
DER	Duplicate Error Ratio (normalized absolute difference)	
Dil Fac	Dilution Factor	9
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)	13
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	

4

5

#### **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 R	esults	;				
Client: Tetra Tech, Inc. Project/Site: COG - Big Papi Fed. Com	#2H							Job ID: 880 SDG: Eddy Cou	
	#211							-	
Client Sample ID: AH-4 (0'-1')							Lab Sa	mple ID: 880-	
Date Collected: 05/05/21 00:00								Matr	x: Soli
Date Received: 05/05/21 16:17									
Method: 300.0 - Anions, Ion Chroma	tography -	Soluble							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Chloride	222		4.99		mg/Kg			05/06/21 14:08	
Client Sample ID: AH-4 (1'-1.5')							Lab Sa	mple ID: 880-	1905-
Date Collected: 05/05/21 00:00								Matri	x: Soli
Date Received: 05/05/21 16:17									
– Method: 300.0 - Anions, Ion Chroma	tography -	Soluble							
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Chloride	681		4.97		mg/Kg			05/06/21 14:13	
Client Sample ID: AH-4 (1.5'-2')							Lah Sa	mple ID: 880-	1905-
Date Collected: 05/05/21 00:00									x: Soli
Date Received: 05/05/21 16:17								in a constant	
Method: 300.0 - Anions, Ion Chroma						-	<b>.</b> .		
Analyte	524	Qualifier	RL 4.98	MDL		<u>D</u>	Prepared	Analyzed 05/06/21 14:28	Dil Fa
	524		4.90		mg/Kg			03/00/21 14:28	
Client Sample ID: AH-5 (0'-1')							Lab Sa	mple ID: 880-	1905-4
Date Collected: 05/05/21 00:00								Matr	ix: Soli
Date Received: 05/05/21 16:17									
Method: 300.0 - Anions, Ion Chroma	tography -	Soluble							
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Chloride	1710		25.2		mg/Kg			05/06/21 14:33	
Client Sample ID: AH-5 (1'-1.5')							Lab Sa	mple ID: 880-	1905-
Date Collected: 05/05/21 00:00									ix: Soli
Date Received: 05/05/21 16:17									
Method: 300.0 - Anions, Ion Chroma	tography -	Solublo							
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Chloride	1950		25.2		mg/Kg			05/06/21 14:38	
Client Sample ID: AH-5 (2'-2.5')							l ah Sa	mple ID: 880-	1005
Date Collected: 05/05/21 00:00									ix: Soli
Date Received: 05/05/21 16:17								Wat	. 00m
Method: 300.0 - Anions, Ion Chroma	• • •					_			
Analyte	Result 5960	Qualifier		MDL	Unit mg/Kg	D	Prepared	Analyzed 05/06/21 14:43	Dil Fa
Chloride	5960		49.9		ilig/itg			03/00/21 14:43	I
Client Sample ID: AH-6 (0'-1')							Lab Sa	mple ID: 880-	1905-
Date Collected: 05/05/21 00:00								Matr	ix: Soli
Date Received: 05/05/21 16:17									
Method: 300.0 - Anions, Ion Chroma	tography -	Soluble							
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa

Eurofins Xenco, Midland

05/06/21 14:48

Released to Imaging: 3/15/2022 9:42:49 AM

Chloride

5.00

mg/Kg

583

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										C	Client S	ample ID: Prep		l Blank Soluble
Analysis Batch: 2784													.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
	MB	MB												
Analyte	Result	Qualifier		RL		MDL	Unit		D	Pre	epared	Analyz	zed	Dil Fac
Chloride	<5.00	U		5.00			mg/Kg					05/06/21	13:28	1
Lab Sample ID: LCS 880-2752/2-A									Cli	ent S	Sample	ID: Lab C	ontrol S	Sample
Matrix: Solid												Prep	Type: S	Soluble
Analysis Batch: 2784														
			Spike		LCS	LCS						%Rec.		
Analyte			Added		Result	Quali	fier	Unit		D	%Rec	Limits		
Chloride			250		242.5			mg/Kg			97	90 - 110		
Lab Sample ID: LCSD 880-2752/3-A								Cli	ent S	amp	ole ID: I	_ab Contro	ol Samp	le Dup
Matrix: Solid												Prep	Type: S	Soluble
Analysis Batch: 2784														
			Spike		LCSD	LCSE	)					%Rec.		RPD
Analyte			Added		Result	Quali	fier	Unit		D	%Rec	Limits	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

IPLC/IC					
each Batch: 2752					
Lab Sample ID	Client Sample ID	Ргер Туре	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

Matrix: Solid

Matrix: Solid

Matrix: Solid

Matrix: Solid

Matrix: Solid

Matrix: Solid

Lab	Chro	nicle
LUN	VIIIU	

Job ID: 880-1905	-1
SDG: Eddy County, N	M

Lab Sample ID: 880-1905-1

Lab Sample ID: 880-1905-2

Lab Sample ID: 880-1905-3

Lab Sample ID: 880-1905-4

Lab Sample ID: 880-1905-5

Lab Sample ID: 880-1905-6

Client Sample ID: AH-4 (0'-1')

Project/Site: COG - Big Papi Fed. Com #2H

Date Collected: 05/05/21 00:00 Date Received: 05/05/21 16:17

Client: Tetra Tech, Inc.

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	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	СН	XM

#### Client Sample ID: AH-4 (1'-1.5') Date Collected: 05/05/21 00:00 Date Received: 05/05/21 16:17

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	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	СН	XM

## Client Sample ID: AH-4 (1.5'-2')

Date Collected: 05/05/21 00:00

Date Received: 05/05/21 16:17

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	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	СН	XM

## Client Sample ID: AH-5 (0'-1')

Date Collected: 05/05/21 00:00

Date Received: 05/05/21 16:17

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	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	СН	XM

## Client Sample ID: AH-5 (1'-1.5')

Date Collected: 05/05/21 00:00 Date Received: 05/05/21 16:17

	Batch	Batch		Dilution	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Number	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	СН	XM

#### Client Sample ID: AH-5 (2'-2.5') Date Collected: 05/05/21 00:00 Date Received: 05/05/21 16:17

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	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	СН	XM

Matrix: Solid

5 6 7

## Lab Chronicle

Client: Tetra Tech, Inc. Project/Site: COG - Big Papi Fed. Com #2H Job ID: 880-1905-1 SDG: Eddy County, NM

Lab Sample ID: 880-1905-7

#### Client Sample ID: AH-6 (0'-1') Date Collected: 05/05/21 00:00 Date Received: 05/05/21 16:17

_	Batch	Batch		Dilution	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Number	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	СН	XM

#### Laboratory References:

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

Eurofins Xenco, Midland

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Job ID: 880-1905-1 SDG: Eddy County, NM

## Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Project/Site: COG - Big Papi Fed. Com #2H

Laboratory: Eurofins Xenco, Midland

The accreditations/certifications listed below are applicable to this report.

Authority<br/>TexasProgram<br/>NELAPIdentification Number<br/>T104704400-20-21Expiration Date<br/>06-30-214678

## **Method Summary**

Client: Tetra Tech, Inc. Project/Site: COG - Big Papi Fed. Com #2H

Job ID: 880-1905-1 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 Re	eferences:			5
ASTM =	ASTM International			
MCAW	V = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, Ma	rch 1983 And Subsequent Revisions.		
Laboratory	References:			
XM = E	urofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-544	0		6
				ð
				0

#### Laboratory References:

Eurofins Xenco, Midland

Client: Tetra Tech, Inc. Project/Site: COG - Big Papi Fed. Com #2H

#### Job ID: 880-1905-1 SDG: Eddy County, NM

ab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID	
80-1905-1	AH-4 (0'-1')	Solid	05/05/21 00:00	05/05/21 16:17		
80-1905-2	AH-4 (1'-1.5')	Solid	05/05/21 00:00	05/05/21 16:17		
80-1905-3	AH-4 (1.5'-2')	Solid	05/05/21 00:00	05/05/21 16:17		
80-1905-4	AH-5 (0'-1')	Solid	05/05/21 00:00	05/05/21 16:17		
80-1905-5	AH-5 (1'-1.5')	Solid	05/05/21 00:00	05/05/21 16:17		
80-1905-6	AH-5 (2'-2.5')	Solid	05/05/21 00:00	05/05/21 16:17		
80-1905-7	AH-6 (0'-1')	Solid	05/05/21 00:00	05/05/21 16:17		

Eurofins Xenco, Midland

a by OC	1000	Relinguished by	Relinguished by		Relinguished by									( LAB USE )	LAB #		Comments		Bereiving   abore	(county, state)	Project Name			Analysis Re
		Date Time	Date Time	5/5/21	Date Time		AH-6 (0'-1')	AH-5 (2'-2 5')	AH-5 (1'-1 5')	AH-5 (0'-1')	AH-4 (1 5'-2')	AH-4 (1'-1 5')	AH-4 (0'-1')		SAMPLE IDENTIFICATION			Eurofins Xenco	COG, Attention Ike Tavarez	Eddy County	Big Papi Fed Com #2H	COG	Tetra Tech, Inc.	Analysis Request of Chain of Custody Record
ORIGINAL COPY		Received by	Réceived/by'	4 Chr	Bacewood bur		5/5/2021	5/5/2021	5/5/2021	5/5/2021	5/5/2021	5/5/2021	5/5/2021	DATE	YEAR	SAMPLING		Sampler Signature		Project #:		Site Manager <sup>.</sup>		
γο			Date Time	1 e 2/3 m	╞		x	x	×	×	×	×	×	WATE SOIL HCL HNO <sub>3</sub> ICE	ER	MATRIX PRESERVATIV METHOD		Colton Bickerstaff		212C-MD-01855		Claır Gonzales	901 W Wall St. Suite 10 Midiand,Texas 79701 Tel (432) 682-4559 Fax (432) 682-3946	
(Circ	. 1			1617			1 Z	1 N	1 N	1 N	1 N	1 N	1 N	# CON FILTEI BTEX	RED ( 8021B	ERS Y/N) BTE	EX 8260						880-1905 Chain of	
(Circle) HAND DELIVERED FEDEX	+0,5	5,5/6,0 DRus	ple Temperature	ONLY										PAH 8 Total M TCLP M TCLP V TCLP S RCI	015M 270C etals / fetals /olatile iemi V	( GRO - Ag As E Ag As I s olatiles	- DRO - ( Ba Cd Cr Ba Cd Cr	Pb Se	Hg			Ą	Custody	
EX UPS Tracking #	Special Report Limits or TRRP Report	Rush Charges Authorized	Same Day 24 hr 48 hr				×	×	×	×	X	X	×	PCB's NORM PLM (A Chloride Chlorid	Semi 8082 / sbestc e e S I Wate	Vol 8 608 os) ulfate er Cher	270C/62 TDS mistry (s		ached	list)		ANALYSIS REQUEST	880-1905	Page 1
d to Ima		3/7 =									Pa	ge	13	Hold										9 7 <del>/</del> 202

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Job Number: 880-1905-1 SDG Number: Eddy County, NM

List Source: Eurofins Midland

## Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Login Number: 1905 List Number: 1 Creator: Phillips, Kerianna

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

RAMER

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.

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The

Expert

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Laboratory Job ID: 880-9675-1 SDG: Eddy County, New Mexico

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3

## **Definitions/Glossary**

Client: Tetra Tech, Inc. Project/Site: Big Papi Federal Com #2H Job ID: 880-9675-1 SDG: Eddy County, New Mexico

### Qualifiers

			_
HF	PLO	C/I	С
	_		Ξ.

Qualifier	Qualifier Description	
U	Indicates the analyte was analyzed for but not detected.	
Glossary		5
Abbreviation	These commonly used abbreviations may or may not be present in this report.	6
¤	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	o
CNF	Contains No Free Liquid	•
DER	Duplicate Error Ratio (normalized absolute difference)	
Dil Fac	Dilution Factor	9
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	

Project/Site: Big Papi Federal Com #2H

Job ID: 880-9675-1 SDG: Eddy County, New Mexico

#### Job ID: 880-9675-1

Client: Tetra Tech, Inc.

#### 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 R	esults	;				
Client: Tetra Tech, Inc. Project/Site: Big Papi Federal Com #21	4						SDG: Ed	Job ID: 880 dy County, New	
Client Sample ID: AH-4 (0-1') Date Collected: 12/22/21 11:20 Date Received: 12/22/21 16:38							Lab Sa	mple ID: 880- Matr	•9675-1 ix: Solid
Method: 300.0 - Anions, Ion Chroma		Soluble Qualifier	RL	MDL	Unit	D	Prepared	Applyzed	Dil Eso
Analyte	47.0	Quaimer	4.98		mg/Kg	D	Prepared	Analyzed 12/30/21 19:31	Dil Fac
Client Sample ID: AH-4 (1'-1.5') Date Collected: 12/22/21 11:25 Date Received: 12/22/21 16:38							Lab Sa	mple ID: 880- Matr	•9675-2 ix: Solid
Method: 300.0 - Anions, Ion Chroma Analyte		Soluble Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	274		4.95		mg/Kg		Ticparca	12/30/21 19:43	1
Client Sample ID: AH-4 (1.5'-2') Date Collected: 12/22/21 11:30 Date Received: 12/22/21 16:38							Lab Sa	mple ID: 880- Matr	•9675-3 ix: Solid
Method: 300.0 - Anions, Ion Chroma Analyte		Soluble Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	100		4.99		mg/Kg		riepaieu	12/30/21 19:55	1
Client Sample ID: AH-5 (0-1') Date Collected: 12/22/21 11:35 Date Received: 12/22/21 16:38 Method: 300.0 - Anions, Ion Chroma	atography -	Soluble						mple ID: 880- Matr	ix: Solid
Analyte	Result	Qualifier	RL	MDL		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') Date Collected: 12/22/21 11:40 Date Received: 12/22/21 16:38							Lab Sa	mple ID: 880- Matr	•9675-5 ix: Solid
Method: 300.0 - Anions, Ion Chroma	atography -	Soluble							
Analyte Chloride	Result 72.2	Qualifier	<b>RL</b> 5.01	MDL	Unit mg/Kg	D	Prepared	Analyzed 12/30/21 20:19	Dil Fac
—	12.2		0.01		ilig/itg				
Client Sample ID: AH-5 (1.5'-2') Date Collected: 12/22/21 11:45 Date Received: 12/22/21 16:38							Lab Sa	mple ID: 880- Matr	•9675-6 ix: Solid
Method: 300.0 - Anions, Ion Chroma							_		
Analyte	Result 228	Qualifier		MDL	Unit mg/Kg	<u>D</u>	Prepared	Analyzed 12/30/21 20:54	Dil Fac
<u>L.</u> 							l ch Co		0675 7
Client Sample ID: AH-6 (0-1') Date Collected: 12/22/21 11:50 Date Received: 12/22/21 16:38							Lab Sa	mple ID: 880- Matr	ix: Solid
Method: 300.0 - Anions, Ion Chroma	tography -	Soluble							
Analyte		Qualifier	RL	MDL	l Init	D	Prepared	Analyzed	Dil Fac

Eurofins Xenco, Midland

Released to Imaging: 3/15/2022 9:42:49 AM

		Client	Sample R	esults	;					
Client: Tetra Tech, Inc. Project/Site: Big Papi Federal Co	m #2H						SDG: Ed	Job ID: 880 ddy County, New		2
Client Sample ID: AH-6 (1- Date Collected: 12/22/21 11:55	1.5')						Lab Sa	mple ID: 880- Matri	9675-8 ix: Solid	
Date Received: 12/22/21 16:38										
Method: 300.0 - Anions, Ion Cl Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	5
Chloride	47.5		5.05		mg/Kg			12/30/21 21:42	1	6
										8
										9
										13

5 6 7

## **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											C	lient S	ample ID:	Method	Blank
Matrix: Solid													Prep	Type: S	oluble
Analysis Batch: 15816															
		MB N	ИВ												
Analyte			Qualifier		RL		MDL			D	Pre	epared	Analy		Dil Fac
Chloride	<	<5.00 L	J		5.00			mg/Kg					12/30/21	16:57	1
Lab Sample ID: LCS 880-15520/2-4	4									Clie	ent S	Sample	ID: Lab C	ontrol S	ample
Matrix: Solid													Prep	Type: S	oluble
Analysis Batch: 15816															
				Spike		LCS	LCS						%Rec.		
Analyte				Added		Result	Qual	lifier	Unit	[	D _	%Rec	Limits		
Chloride				250		246.1			mg/Kg			98	90 - 110		
Lab Sample ID: LCSD 880-15520/3	-A								Cli	ent Sa	amp	ole ID: I	Lab Contro	ol Sampl	le Dup
Matrix: Solid													Prep	Type: S	oluble
Analysis Batch: 15816															
				Spike		LCSD	LCS	D					%Rec.		RPD
Analyte				Added		Result	Qual	lifier	Unit	I	D	%Rec	Limits	RPD	Limit
Chloride				250		250.5			mg/Kg			100	90 - 110	2	20
Lab Sample ID: 880-9675-5 MS												Client	Sample ID	): AH-5 ( <sup>,</sup>	1'-1.5')
Matrix: Solid														Type: S	
Analysis Batch: 15816															
	Sample	Sampl	e	Spike		MS	MS						%Rec.		
Analyte	Result	Qualifi	ier	Added		Result	Qual	lifier	Unit	I	D _	%Rec	Limits		
Chloride	72.2			251		331.2			mg/Kg			103	90 - 110		
Lab Sample ID: 880-9675-5 MSD												Client	Sample ID	): AH-5 ( <sup>,</sup>	1'-1.5')
Matrix: Solid														Type: S	
Analysis Batch: 15816															
Analysis Dalun. 15010		Comm		Spike		MSD	MSD	)					%Rec.		RPD
Analysis Batch. 15010	Sample	Sampi	e	opine											
Analyte		Qualifi		Added		Result	Qual	lifier	Unit	I	D	%Rec	Limits	RPD	Limit

## **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

each Batch: 15520					
ach Batch. 19920					
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

Project/Site: Big Papi Federal Com #2H

Matrix: Solid

Matrix: Solid

## Lab Chronicle

Job ID: 880-9675-1
SDG: Eddy County, New Mexico

Lab Sample ID: 880-9675-1

Lab Sample ID: 880-9675-2

### Client Sample ID: AH-4 (0-1') Date Collected: 12/22/21 11:20

Date Received: 12/22/21 16:38

Client: Tetra Tech, Inc.

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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	СН	XEN MID

#### Client Sample ID: AH-4 (1'-1.5') Date Collected: 12/22/21 11:25 Date Received: 12/22/21 16:38

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	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	СН	XEN MID

## Client Sample ID: AH-4 (1.5'-2')

Lab Sample ID: 880-9675-3 Matrix: Solid

Lab Sample ID: 880-9675-4

Lab Sample ID: 880-9675-5

Lab Sample ID: 880-9675-6

Date Collected: 12/22/21 11:30 Date Received: 12/22/21 16:38

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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	СН	XEN MID

## Client Sample ID: AH-5 (0-1')

Date Collected: 12/22/21 11:35

Date Received: 12/22/21 16:38

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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	СН	XEN MID

## Client Sample ID: AH-5 (1'-1.5')

Date Collected: 12/22/21 11:40

Date Received: 12/22/21 16:38

	Batch	Batch	_	Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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	СН	XEN MID

#### Client Sample ID: AH-5 (1.5'-2') Date Collected: 12/22/21 11:45 Date Received: 12/22/21 16:38

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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	СН	XEN MID

Matrix: Solid

Matrix: Solid

Matrix: Solid

Matrix: Solid

Matrix: Solid

8

## Lab Chronicle

Job ID: 880-9675-1 SDG: Eddy County, New Mexico

Lab Sample ID: 880-9675-7

Lab Sample ID: 880-9675-8

## Client Sample ID: AH-6 (0-1') Date Collected: 12/22/21 11:50

Project/Site: Big Papi Federal Com #2H

Client: Tetra Tech, Inc.

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.02 g	50 mL	15520	12/24/21 19:53	SC	XEN MI
Soluble	Analysis	300.0		1			15816	12/30/21 21:06	СН	XEN MI

#### Client Sample ID: AH-6 (1-1.5') Date Collected: 12/22/21 11:55 Date Received: 12/22/21 16:38

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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	СН	XEN MID

#### Laboratory References:

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

#### Eurofins Xenco, Midland

Released to Imaging: 3/15/2022 9:42:49 AM

## Accreditation/Certification Summary

Client: Tetra Tech, Inc. Project/Site: Big Papi Federal Com #2H

Job ID: 880-9675-1 SDG: Eddy County, New Mexico

Laboratory: Eurofins Xenco, Midland

NELAP T104704400-21-22 06-30-22	Authority	Program	Identification Number	Expiration Date	
	Texas	NELAP	T104704400-21-22	06-30-22	

Eurofins Xenco, Midland

## **Method Summary**

#### Client: Tetra Tech, Inc. Project/Site: Big Papi Federal Com #2H

Job ID: 880-9675-1 SDG: Eddy County, New Mexico

	Method Description	Protocol	Laboratory	
0.0	Anions, Ion Chromatography	MCAWW	XEN MID	-
I Leach	Deionized Water Leaching Procedure	ASTM	XEN MID	
Protocol Ref	ferences:			Ę
ASTM =	ASTM International			
MCAWW	/ = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, Mar	ch 1983 And Subsequent Revisions.		
Laboratory F	References:			
XEN MIC	D = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704	1-5440		

#### Laboratory References:

Eurofins Xenco, Midland

## **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

Released to Imaging: 3/15/2022 9:42:49 AM

Terra Tech, Inc.       arometric to the formation of the formation				Relinguished by		Colton Bickerstaff Relinguished by	Relinquished by										LAB USE ONLY	LAB #			Comments	Involce to	Project Location (county, state)	Project Name	Client Name	5	Analysis Re
Open Time Big Provide State S				Date		Iff 12/22/21 18-05-6	Date		AH-6 (1'-1 5')	AH-6 (0-1')	AH-5 (1 5'-2')	AH-5 (1'-1 5')	AH-5 (0-1')	AH-4 (1 5'-2')	AH-4 (1'-1 5)	AH-4 (0-1')		SAMPLE IDENTIFICATION		Send invoice, results to Clair Gonzales at Clair.Gonzales@		Tetra Tech, Attention			ConocoPhillips	Tetra Tech, Inc.	Analysis Request of Chain of Custody Record
Open Time Big Provide State S				Received by:		AUT.	Received by		12/22/2021	12/22/2021	12/22/2021	12/22/2021	12/22/2021	12/22/2021	12/22/2021	12/22/2021	DATE	YEAR.	SAMPL	tetratech.com	Sampler Signat		Project #·		Site Manager		
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## Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

<6mm (1/4").

Job Number: 880-9675-1 SDG Number: Eddy County, New Mexico

List Source: Eurofins Xenco, Midland

Login Number: 9675	
List Number: 1	
Creator: Rodriguez, Leticia	

Question	Answer Comment	6
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	8
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	9
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	13
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	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

Page 206 of 220

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

Page 207 of 220

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

Eddy County, New Mexico



View East, area of AH-7



View West, area of AH-8

Eddy County, New Mexico



View South, area of AH-9



View South, area of AH-10 and AH-11

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

đ

**TETRA TECH** 

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

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

Eddy County, New Mexico



View East, area of AH-7



View West, area of AH-8

E TETRA TECH

Eddy County, New Mexico



View South, area of AH-9



View South, area of AH-10 and AH-11

Eddy County, New Mexico



View West, area of AH-12, AH-3, and AH-14

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:	OGRID:
COG OPERATING LLC	229137
600 W Illinois Ave	Action Number:
Midland, TX 79701	82914
	Action Type:
	[C-141] Release Corrective Action (C-141)

#### CONDITIONS

Created By		Condition Date
jnobui	None	3/15/2022