SITE INFORMATION

Report Type: Work Plan 2RP-5360

General Site Information:						
Site:	**Burch Keely Unit Satellite G CTB**					
Company:	**COG Operating LLC**					
Section, Township and Range	**Unit L**	**Sec. 19**	**T 17S**	**R 30E**		
Lease Number:						
County:	**Eddy County**					
GPS:	**32.81624**			**-104.01595**		
Surface Owner:	**Fee**					
Mineral Owner:						
Directions:	From the intersection of Lovington HWY and General American Rd (CR 216), travel south on CR 216 for approximately 415 feet, turn east onto Arco Rd and continue for 0.20 miles to the location on the south side of the road.					

Release Data:	
Date Released:	3/27/2019
Type Release:	Oil & Produced Water
Source of Contamination:	Flowline
Fluid Released:	8 bbl oil & 9 bbls water
Fluids Recovered:	2 bbls oil & 3 bbls water

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

Site Characterization	
Depth to Groundwater:	*Greater than 100' below surface*

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

VJK0L-190816-C-1410

TETRA TECH

August 6, 2019

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

Re: Work Plan for the COG Operating, LLC, Burch Keely Unit Satellite G CTB, Unit L, Section 19, Township 17 South, Range 30 East, Eddy County, New Mexico. 2RP-5360

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating, LLC (COG) to assess a release that occurred at the Burch Keely Unit Satellite G CTB, Unit L, Section 19, Township 17 South, Range 30 East, Eddy County, New Mexico (Site). The spill site coordinates are 32.81624°, -104.01595°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the release was discovered on March 27, 2019 and released approximately 8 barrels of oil and 9 barrels of produced water due to a hole in a flowline. A vacuum truck was dispatched to remove all freestanding fluids, recovering approximately 2 barrels of oil and 3 barrels of produced water. The release occurred in the pasture impacting an area measuring approximately 20' x 65'. The C-141 form is included in Appendix A.

Site Characterization

A site characterization was performed for the site and no watercourses, lakebeds, sinkholes, playa lakes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, springs, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains are located within the specified distances. Additionally, the site is located in a low karst potential area.

The nearest water well is reported in Section 20 on the New Mexico Office of the State Engineer's (NMOSE) database, approximately 1.70 miles northeast of the site, and has a reported depth to groundwater of 80 feet below surface. However, two monitor wells (2" and 4") were found approximately ¼ mile south of the site (32.813690, -104.018250), that were not listed with the USGS or NMOSE database. COG personnel gauged the monitor wells and found that the 2" well was dry with a total depth of 157' below surface. The 4" monitor well

Tetra Tech
901 West Wall St, Suite 100, Midland, TX 79701
Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com

gauged showed a static water level of 266' below surface, but could not measure the total depth of the well.

Additionally, a borehole installed the site was drilled to a depth of 145'-150' below surface and no groundwater was encountered. Based on the new well information, the depth to the water is greater than 250' below surface. The site characterization data is shown in Appendix B.

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, updated August 14, 2018. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the site characterization, the proposed RRAL for TPH is 1,000 mg/kg (GRO +DRO) or 2,500 mg/kg (GRO + DRO + MRO). Additionally, based on the site characterization, the proposed RRAL for chlorides is 20,000 mg/kg.

Soil Assessment and Analytical Results

Borehole Installation

On April 16, 2019, Tetra Tech personnel were onsite to evaluate and sample the release area. Prior to the sampling event, the release point was hydro-vacuumed to between 5.0' and 6.0' below surface to locate the buried lines in the area. A total of two (2) boreholes (BH-1 and BH-2) were installed in the release footprint to total depths of 89'-90' (BH-1) and 59'-60' (BH-2). 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 sampling results are summarized in Table 1. The borehole logs are included in Appendix D. The sample locations are shown on Figure 3.

Referring to Table 1, the area of BH-1 did not show any benzene or chloride concentrations above the RRALs. However, total BTEX concentrations above 50 mg/kg were detected with a BTEX high of 397 mg/kg at 49'-50', before declining with depth to 77.6 mg/kg at 89'-90' below surface. Additionally, BH-1 showed elevated TPH concentrations above the RRAL from surface to 89'-90' below surface, with a bottom hole concentration of 8,080 mg/kg and the area was not vertically defined. Deeper samples were not collected due to a dense clay formation that hindered the drilling rig's ability to drill deeper.

Borehole (BH-2) showed elevated TPH concentrations to a total depth of 29'-30' below surface with a concentration of 2,840 mg/kg. The TPH concentrations then declined with depth to 38.7 mg/kg at 49'-50' and showed a bottom hole concentration of 16.8 mg/kg at 59'-60' below surface. None of the samples collected at BH-2 showed benzene, total BTEX, or chloride concentrations above the RRALs.

Additional Borehole Sampling

Based on the laboratory results. COG personnel returned to the site on May 13, 2019 to install one deeper borehole (BH-3) with a larger rig to a total depth of 145'-150' below surface in order to vertically define the impact. 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 Figure 3.

Referring to Table 1, the area of BH-3 showed TPH concentrations above the RRALs at 80'-85' and 90'-95' with concentrations of 7,090 mg/kg and 3,290 mg/kg, respectively. The TPH concentrations then declined with depth to below the RRAL at 95'-100' with a concentration of 1,010 mg/kg and declined with depth showing a bottom hole concentration of <15.0 mg/kg at 145'-150' below surface. Additionally, benzene and total BTEX concentrations above the RRALs were detected at 80'-85', which then declined to below thresholds at 90'-95' and showed bottom hole concentrations below the laboratory reporting limits at 145'-150' below surface.

Work Plan

COG met the NMOCD to discuss the sampling results and proposed remediation for the site. As verbally approved, COG proposes to excavate the areas of BH-1, BH-2, and BH-3 to 4.0' below surface, as highlighted (green) in Table 1 and shown on Figure 4. Once excavated, composite sidewall samples will be collected every 200 square feet to ensure proper removal of the impacted soils.

Liner Variance

Per rule 19.15.29.14, COG requests a variance to install a 20-mil liner at 3.0'-4.0' below surface, to prevent vertical migration of the deeper hydrocarbon impact. Once the excavation is complete, the areas will be backfilled with clean material to surface grade. COG estimates approximately 300 cubic yards will be excavated, and the remediation to be implemented 90 days after the work plan is approved.

Installation of Passive - Soil Vapor Extraction (SVE) Wells

As discussed with NMOCD, COG proposes to install three (3) passive soil vapor extraction wells in the release area to address and remediate the deeper hydrocarbon impact. A total of three (3) passive SVE wells will be installed at the site. In the area of BH-1, two (2) passive SVE wells (shallow and deep) will be installed to a depth of 50' and 100' below surface, respectively. The third well will be installed in the area of BH-2 to a total depth of 40' below surface. The proposed locations of the passive SVE wells are shown on Figure 5.

The SVE wells will be drilled using an air rotary drilling rig and constructed using 4-inch diameter Schedule 40 PVC threaded casing and factory slotted screen. All of the wells will be screened from total depth of the borehole to approximately 5-7' below surface. The PVC screens will be surrounded with graded silica sand to a depth of approximately 1.0' above the screens and bentonite pellets will be placed in the borehole to the ground surface. The top

PVC pipe will be fitted with wind turbine vents to complete the passive vapor well. The bore construction logs are included in Appendix E.

SVE Monitoring and Reporting

COG proposes to monitor the passive SVE on a quarterly basis. Every quarter the turbine will be removed, and a PVC cap will be installed on the well to seal and allow the vapors to accumulate for approximately couple of days. The vapors will then be field screened using a photoionization detector (PID) from the sampling port on the cap. The field results will be recorded and reported to the NMOCD on an annual basis to monitor the progress of the remediation.

Conclusion

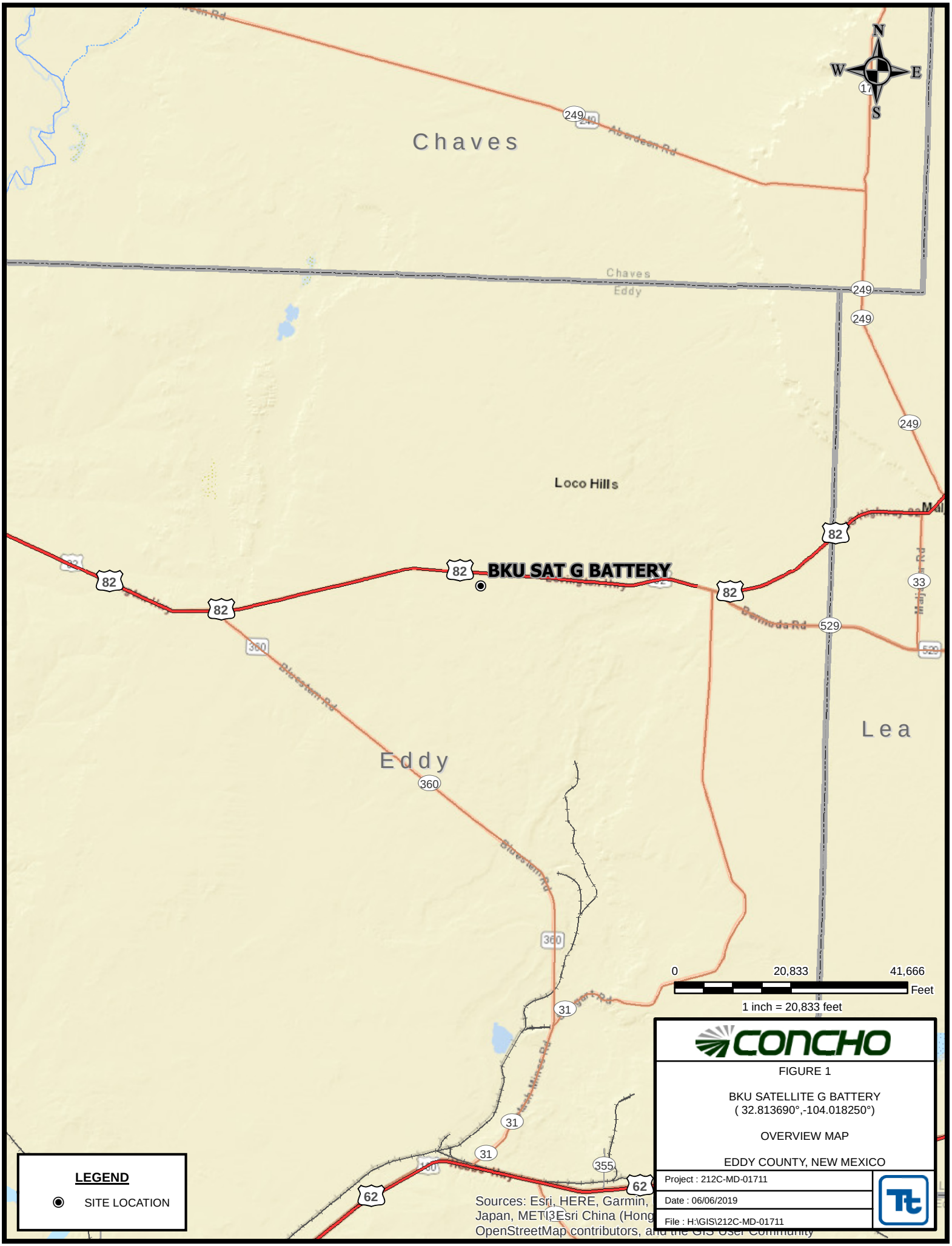
Once the remediation activities have been completed, a final report will be submitted. If you have any questions or comments concerning the assessment or remediation activities for this site, please call at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Clair Gonzales, P.G.
Project Manager

cc:
Ike Tavarez - COG

Figures



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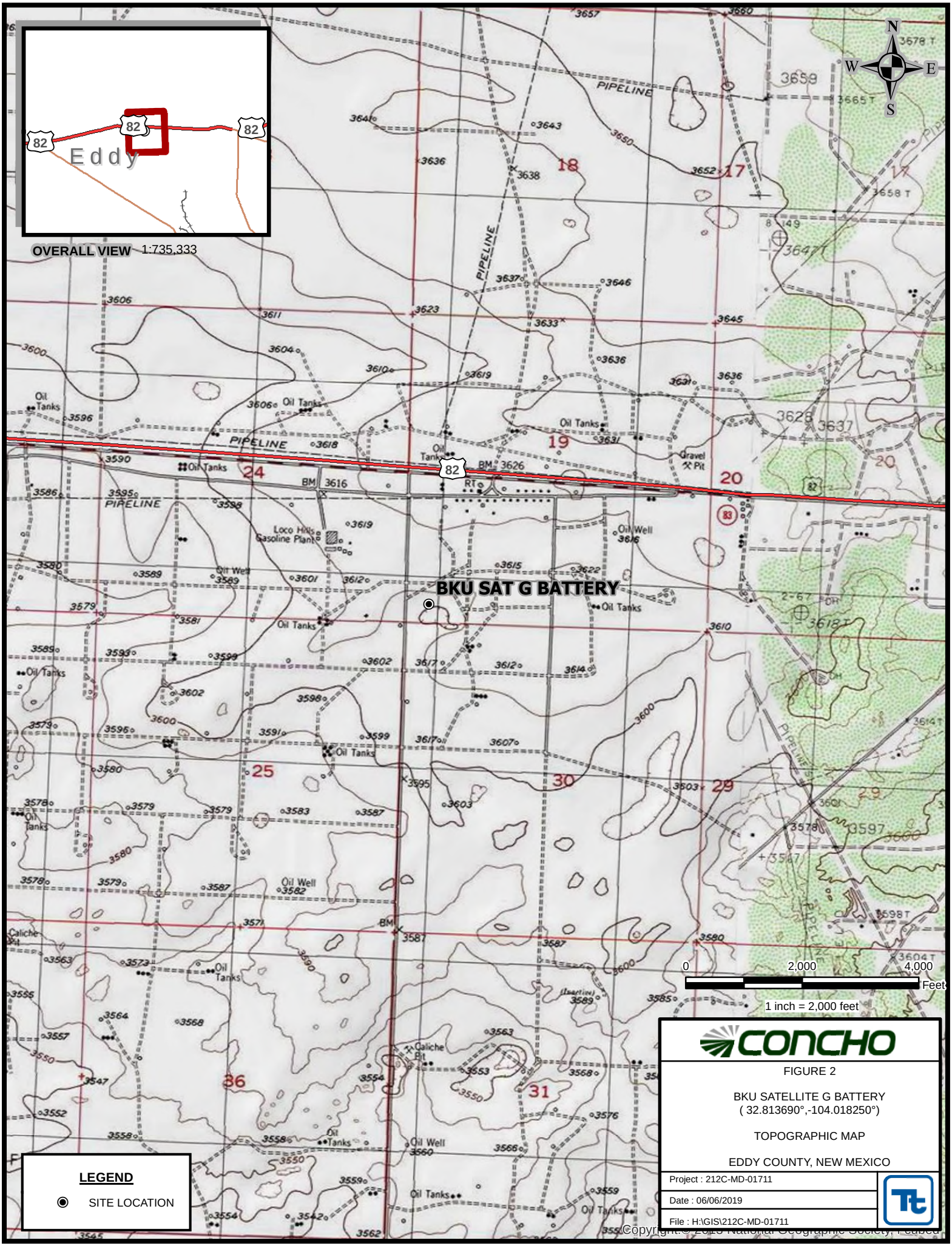

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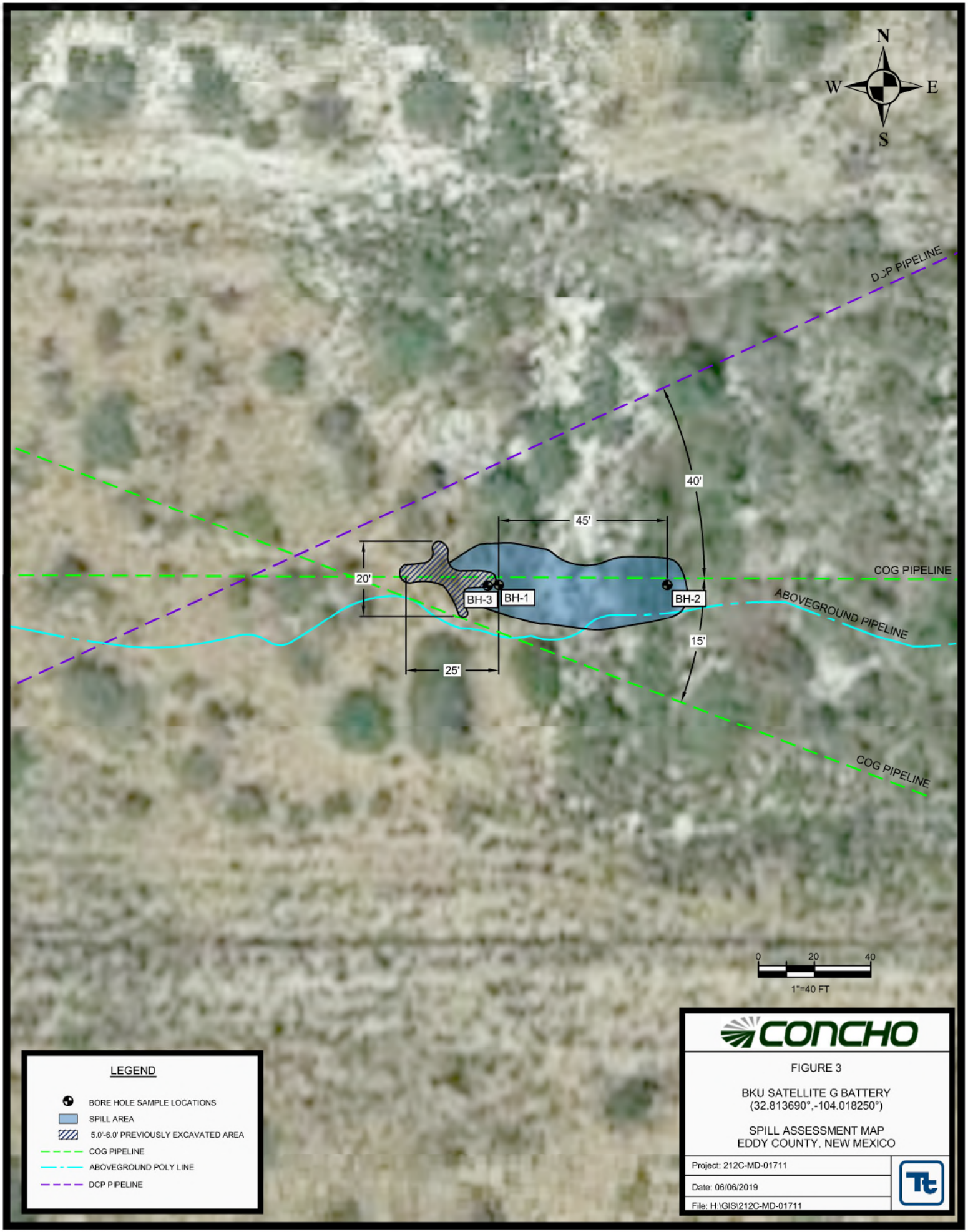
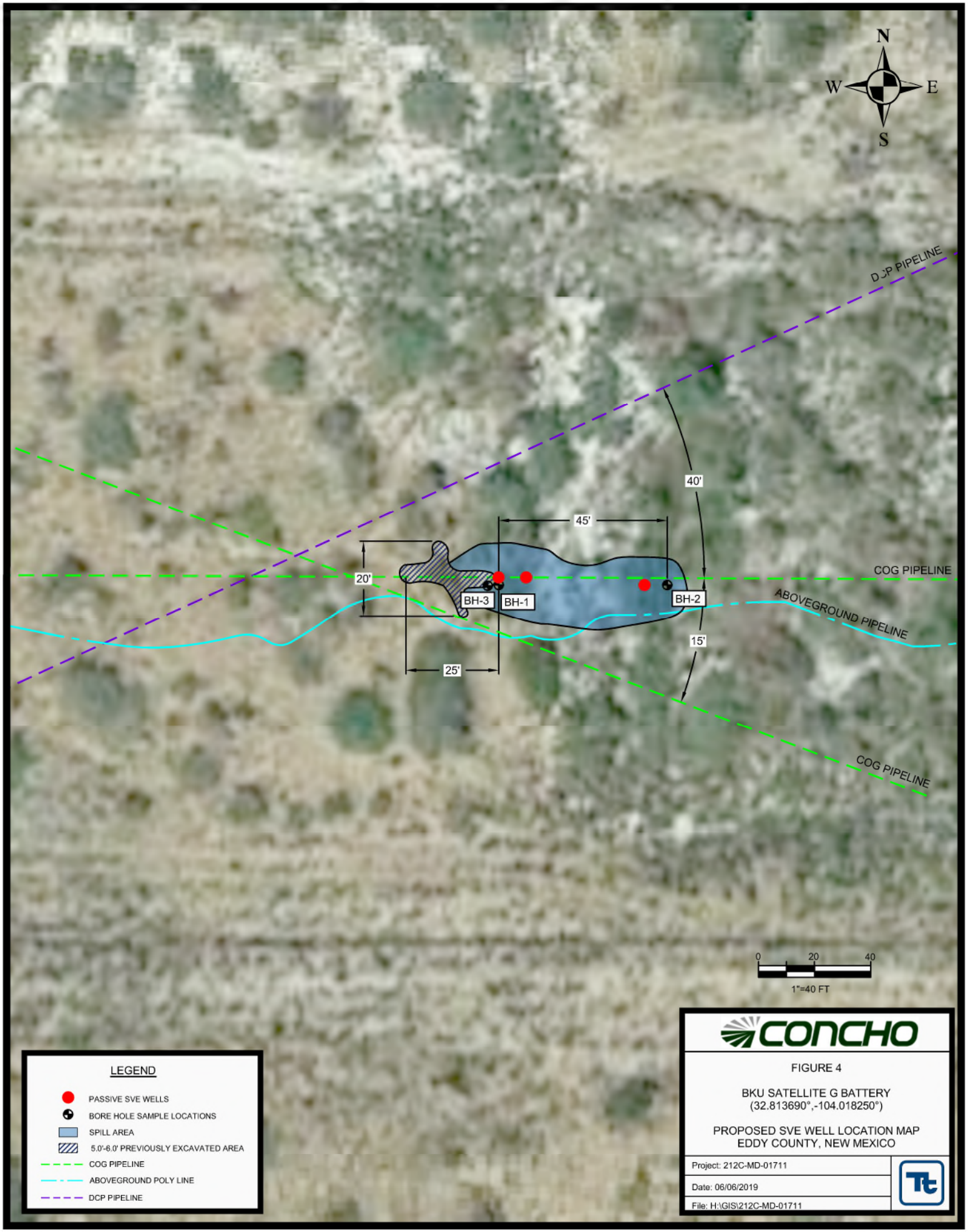

N
W
E
S
DCP PIPELINE
COG PIPELINE
ABOVEGROUND PIPELINE
COG PIPELINE
40'
45'
20'
15'
25'
BH-3
BH-1
BH-2
0
20
40
1"=40 FT
LEGEND
BORE HOLE SAMPLE LOCATIONS
SPILL AREA
5.0'-6.0' PREVIOUSLY EXCAVATED AREA
COG PIPELINE
ABOVEGROUND POLY LINE
DCP PIPELINE
CONCHO
FIGURE 3
BKU SATELLITE G BATTERY
(32.813690°,-104.018250°)
SPILL ASSESSMENT MAP
EDDY COUNTY, NEW MEXICO
Project: 212C-MD-01711
Date: 06/06/2019
File: H:\GIS\212C-MD-01711
Drawn By: MISTI MORGAN
SOURCE:GOOGLE IMAGE 11/2017



Drawn By: MISTI MORGAN

SOURCE:GOOGLE IMAGE 11/2017

Tables

Table 1
COG
BKU Satellite G Battery
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)					Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	GRO+DRO	MRO	Total						
BH-1	4/16/2019	0-1	X		2,120	18,000	**20,120**	2,590	**22,700**	1.63	11.8	13.2	19.4	46.1	12,200
	"	2-3	X		908	5,740	**6,648**	818	**7,470**	1.03	9.84	12.1	18.3	41.2	7,470
	"	4-5	X		2,030	5,220	**7,250**	681	**7,930**	2.04	9.27	19.8	27.9	**60.2**	646
	"	6-7	X		2,480	5,480	**7,960**	771	**8,730**	7.77	<0.504	25.8	25.4	**58.9**	259
	"	9-10	X		522	1,650	**2,172**	213	**2,390**	1.37	0.977	9.13	11.1	22.5	46.6
	"	14-15	X		2,740	6,030	**8,770**	802	**9,570**	-	-	-	-	-	-
	"	19-20	X		1,010	3,700	**4,710**	489	**5,200**	2.00	6.10	13.5	17.5	39.1	-
	"	24-25	X		4,230	7,250	**11,480**	988	**12,500**	-	-	-	-	-	-
	"	29-30	X		2,090	3,620	**5,710**	488	**6,200**	6.00	35.8	25.4	32.3	**99.5**	-
	"	34-35	X		3,230	5,810	**9,040**	755	**9,800**	6.87	89.6	76.1	99.1	**272**	-
	"	39-40	X		1,120	5,110	**6,230**	654	**6,880**	1.53	11.3	12.3	16.8	41.9	-
	"	44-45	X		4,080	6,600	**10,680**	896	**11,600**	-	-	-	-	-	-
	"	49-50	X		3,370	6,830	**10,200**	732	**10,900**	4.89	129	115	148	**397**	-
	"	54-55	X		2,360	5,830	**8,190**	668	**8,860**						-
	"	59-60	X		2,640	4,380	**7,020**	537	**7,560**	6.67	77.6	61.7	78.5	**224**	-
		64-65	X		-	-	**-**	-	-	-	-	-	-	-	-
	"	69-70	X		3,490	5,620	**9,110**	705	**9,820**	6.09	95.1	79.5	103	**283**	-
	"	79-80	X		3,790	6,250	**10,040**	766	**10,800**	5.23	85.2	76.3	96.7	**263**	-
	"	89-90	X		1,660	5,720	**7,380**	698	**8,080**	0.902	18.5	24.0	34.2	77.6	-
BH-2	4/16/2019	0-1	X		385	19,700	**20,085**	2,570	**22,700**	0.125	<0.0499	0.0796	0.607	0.812	1,050
	"	2-3	X		21.8	1,020	**1,042**	173	**1,210**	0.0948	0.0517	0.158	0.217	0.521	843
	"	4-5	X		25.3	195	**220**	26.0	246	0.0860	0.0336	0.101	0.146	0.367	32.0
	"	6-7	X		3,590	17,700	**21,290**	2,020	**23,300**	<0.990	4.35	1.76	10.8	16.9	47.5
	"	9-10	X		371	1,900	**2,271**	227	**2,500**	<0.202	<0.202	1.85	4.05	5.90	94.5
	"	14-15	X		1,860	5,300	**7,160**	720	**7,880**	-	-	-	-	-	-
	"	19-20	X		107	832	939	101	1,040	-	-	-	-	-	-
	"	24-25	X		866	3,530	**4,396**	329	**4,730**	-	-	-	-	-	-
	"	29-30	X		304	2,310	**2,614**	221.0	**2,840**	<0.200	<0.200	1.74	3.28	5.02	-
	"	34-35	X		-	-	-	-	-	-	-	-	-	-	-
	"	39-40	X		-	-	-	-	-	-	-	-	-	-	-
	"	44-45	X		-	-	-	-	-	-	-	-	-	-	-
	"	49-50	X		<15.0	38.7	38.7	<15.0	38.7	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	"	59-60	X		<15.0	16.8	16.8	<15.0	16.8	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201
BH-3	5/13/2019	80-85	X		1,530	5,010	**6,540**	549	**7,090**	**10.0**	39.4	32.4	42.3	**124**	135
	"	90-95	X		300	2,730	**3,030**	263	**3,290**	<0.0199	<0.0199	0.0945	0.0741	0.169	-
	"	95-100	X		59.1	860	919	93.5	1,010	<0.00198	0.0154	0.0380	0.0652	0.119	-
	"	100-105	X		55.6	768	824	87.5	911	0.00221	0.0329	0.0661	0.104	0.205	-
	"	105-110	X		19.1	205	224	25.1	249	<0.00200	<0.00200	0.00418	0.00799	0.0122	-
	"	110-115	X		33.3	660	693	79.1	772	<0.00201	0.00546	0.0200	0.0336	0.0591	-
	"	115-120	X		30.2	474	504	58.5	563	<0.00199	0.00309	0.0297	0.0397	0.0725	-
	"	120-125	X		17.5	308	326	35.5	361	<0.00199	<0.00199	0.0107	0.0171	0.0278	-
	"	125-130	X		<14.9	<14.9	<14.9	<14.9	<14.9	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	-
	"	130-135	X		16.3	208	224.3	20.3	245	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	-
	"	135-140	X		<15.0	50.4	50.4	<15.0	50.4	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	-
	"	140-145	X		<15.0	28.4	28.4	<15.0	28.4	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	-
	"	145-150	X		<15.0	<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	-

(-) Not Analyzed

Photos

COG Operating LLC
BKU Satellite G CTB
Eddy County, New Mexico

View East – Release Area

View Northwest – Release Area

COG Operating LLC
BKU Satellite G CTB
Eddy County, New Mexico

Wells Found ¼ Mile South of Site

Appendix A

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

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

Location of Release Source

Latitude 32.81624 Longitude -104.01595
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Burch Keely Unit Satellite G CTB	Site Type	Flowline
Date Release Discovered	March 27, 2019	API# *(if applicable)*	

Unit Letter	Section	Township	Range	County
L	19	17S	30E	Eddy

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (*Name:* COG Operating LLC & Concho Oil & Gas LLC)

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) 8	Volume Recovered (bbls) 2
☒ Produced Water	Volume Released (bbls) 9	Volume Recovered (bbls) 3
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

The release was caused by a hole in the 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.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ■ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

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

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

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

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

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

Printed Name: DeAnn Grant Title: HSE Administrative Assistant

Signature: DeAnn Grant Date: 4/4/2019

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

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5360
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?	266 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☑ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☑ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☑ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☑ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☑ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☑ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☑ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☑ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☑ Yes ☐ No

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: Ike Tavarez Title: Senior HSE Supervisor

Signature: Date: 8/16/2019

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

OCD Only

Received by: _____ Date: _____

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG BKU Sat. G Battery
Eddy County, New Mexico

16 South 29 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14 220 dry	13
19 110	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

16 South 30 East

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

16 South 31 East

6	5	4	3	2 290	1
7	8	9	10	11	12 288
18	17	16	15	14 113 314	13 299
19	20	21	22	23	24
30	29	28	27	26	25
31 290	32	33	34	35	36

17 South 29 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22 76 80	23	24
30	29 210 208	28	27	26	25
31	32	33	34	35 153	36

17 South 30 East

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

17 South 31 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34 271	35	36

18 South 29 East

6	5	4	3	2	1
7	8	9	10 95	11	12
18	17	16	15	14	13
19	20	21	22	23	24 158
30	29	28	27	26	25
31	32	33	34	35	36

18 South 30 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23 44	24
30	29	28	27	26	25
31	32	33	34	35	36

18 South 31 East

6	5	4	3	2	1
7	8	9	10	11	12 400
18	17	16	15 98	14 317	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35 261	36

88 New Mexico State Engineers Well Reports

105 USGS Well Reports

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

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

34 NMOCD - Groundwater Data

123 Tetra Tech installed temporary wells and field water level

143 NMOCD Groundwater map well location

COG

BKU Sat G Battery

Legend

Kewanee Rd

Goat Ropers Rd

32.821945 -103.987222 - State Engineer - GW 80' - Elevation (3657')

82

Lovington Hwy

Arco Rd

Loco Hills

32.81624 -104.01595 Site Location - Elevation (3624')

32.812145 -104.015973 Monitor wells Elevation(3620')

2" Well (Shallow) - WL -Dry TD-157'
4" Well (Deep) - WL - 266' TD - Not Measured

216

General American Rd

Hagerman Cutoff Rd

32.796125 -104.047214 USGS - GW 152' Elevation (3560')

Google Earth

N

5000 ft


USGS
science for a changing world
USGS Home
Contact USGS
Search USGS
National Water Information System: Mapper
Help
Info
Sites
Map
Search
Search by Street Address:
32.813690, -104.018250
Search by Place Name:
Enter Placename
Search by Site Number(s):
Enter Site Number(s)
Search by State/Territory:
Select an Area
Search by Watershed Region:
Select a Region
Surface-Water Sites
Groundwater Sites
Springs
Atmospheric Sites
-104.084, 32.798
USDA FSA, DigitalGlobe, GeoEye, CNES/Airbus DS | Esri, HERE, Garmin
esri

National Water Information System: Web Interface

Click to hideNews Bulletins

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

Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =

- 324746104025001

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

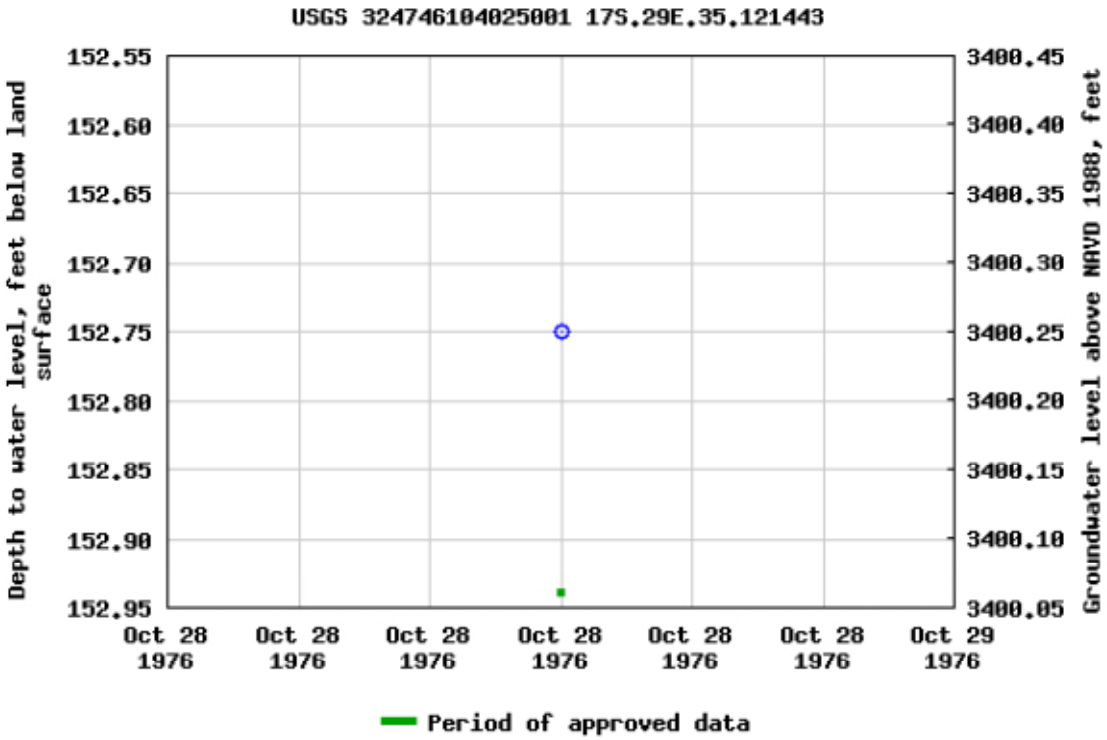
USGS 324746104025001 17S.29E.35.121443

Available data for this site Groundwater: Field measurements | GO

Eddy County, New Mexico
Hydrologic Unit Code --
Latitude 32°47'46", Longitude 104°02'50" NAD27
Land-surface elevation 3,553 feet above NAVD88
This well is completed in the San Andres Limestone (313SADR) local aquifer.

Output formats

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



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

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

New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Depth Well	Depth Water	Water Column
RA 11914 POD1		RA	ED	2	4	2	20	17S	30E	594801	3632002	85	80	5

Average Depth to Water: **80 feet**

Minimum Depth: **80 feet**

Maximum Depth: **80 feet**

Record Count: 1

PLSS Search:

Township: 17S **Range:** 30E

Appendix C

TETRA TECH

Borehole ID:
BH-1

Soil Drilling Log with Field Testing Results

Project Name : COG BKU Sat. G Battery
Project No. : 212C-MD-01711
Location : Lea County, New Mexico
Coordinates : 32.81369, -104.01825
Elevation : NA

Date : Tuesday, April 16, 2019
Sampler : Joe Tyler, Mike Carmona
Driller : Scarborough Drilling
Method : Air Rotary

Depth (ft.)	WL	Soil Description	Organic Analyzer (ppm)	Chloride Field Test (ppm)
0		Silty sand, HO, HS	396	5,510
			704	4,910
5		Sandy clay w/ pea gravel, HO, HS	1,005	295
			1,920	170
10		Silty clay, HO, LS	952	136
15			1,470	260
20			1,360	230
25		Silty clayey sand, HO	1,621	215
30		Silty sand, HO	2,931	212
35		Silty sand w/few gravel, HO	1,864	170
40		Silty sand, HO	877	100
45		Silty sand, HO, (encountered moisture)	941	140
50		Silty sand, HO	1,260	94
55		Silty sand, HO	1,240	-
60		Silty sand w/few gravel, HO	1,182	-
65			1,110	-
70		Silty sand, HO	1,260	-
80			1,360	-
90		Silty sand, HO	951	90
100		Total Depth = 90' due to poor drilling circulation down-hole caused by characteristics of drilling through sand.		

* *H.O. = Heavy Odor*
* *H.S. = Heavy Staining*
* *L.O. = Low Odor*
* *L.S. = Low Staining*

TETRA TECH

Borehole ID:
BH-2

Soil Drilling Log with Field Testing Results

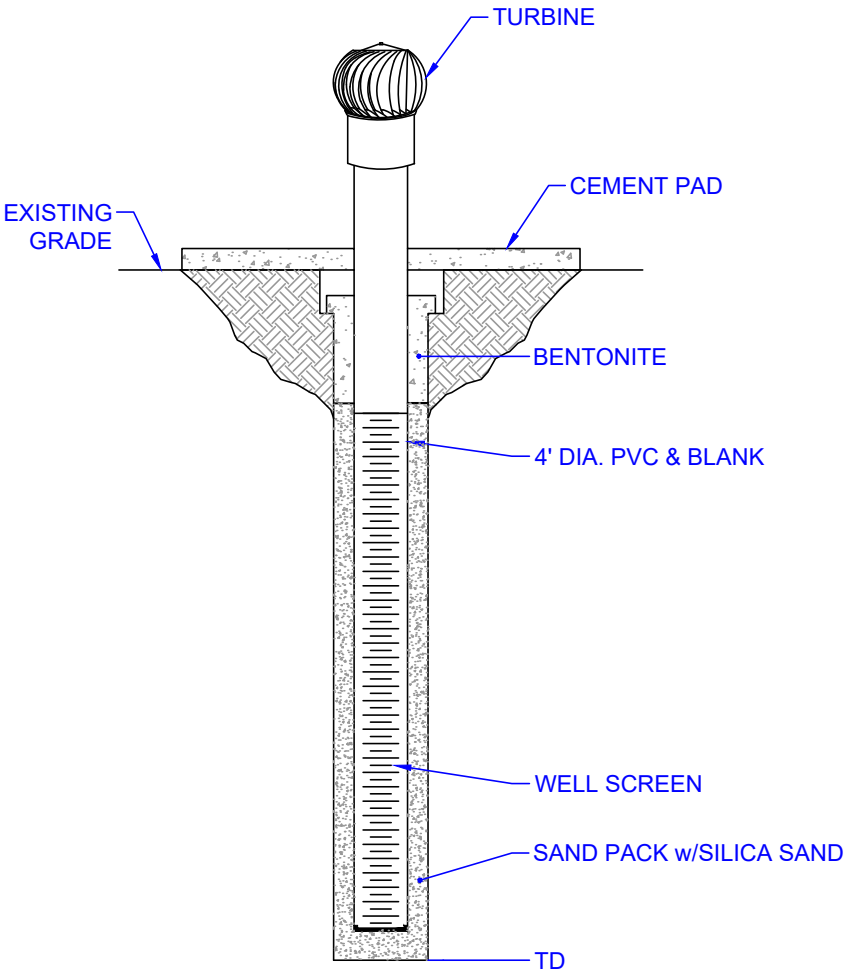
Project Name : COG BKU Sat. G Battery
Project No. : 212C-MD-01711
Location : Lea County, New Mexico
Coordinates : 32.81625, -104.01578
Elevation : NA

Date : Tuesday, April 16, 2019
Sampler : Joe Tyler, Mike Carmona
Driller : Scarborough Drilling
Method : Air Rotary

Depth (ft.)	WL	Soil Description	Organic Analyzer (ppm)	Chloride Field Test (ppm)
0		Silty sand, LO	188	681
			130	2,160
5		Silty sandy clay w/few gravel, HO	100	126
			370	113
10		Silty sandy clay, HO	450	140
15			510	136
20			360	130
25		Silty sand, HO	930	125
30			781	120
35		Silty sand, LO	22	130
40			72	150
45			229	-
50		Silty sand, no odor	13	-
55				
60		Silty sand w/few gravel, no odor	9	100
		Total Depth = 60' due to field testing dilineation		
65				
70				
75				
80				
85				
90				
95				
100				

* *H.O. = Heavy Odor*
* *H.S. = Heavy Staining*
* *L.O. = Low Odor*
* *L.S. = Low Staining*

TYPICAL SOIL (SVE) WELL



Not to Scale

CONCHO

SVE CONSTRUCTION LOG

BKU SATELLITE G

WELL No: PVR-1, PVR-2,PVR-3	
Date: 7/1/2019	
Drawn By: MISTI MORGAN	

H:\Acad Data\COG\212C-MD-01711 VAPOR RECOVERY WELL LOG

Appendix D

Analytical Report 621482

for

Tetra Tech- Midland

Project Manager: Mike Carmona

BKU Sat. G Battery

212C-MD-01711

07-MAY-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)

07-MAY-19

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

Reference: XENCO Report No(s): **621482**
BKU Sat. G Battery
Project Address: Eddy County, New Mexico

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) 621482. 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. 621482 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,

Kalei Stout
Midland Laboratory Director

Sample Cross Reference 621482

Tetra Tech- Midland, Midland, TX

BKU Sat. G Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH-1 (0'-1')	S	04-16-19 00:00		621482-001
BH-1 (2'-3')	S	04-16-19 00:00		621482-002
BH-1 (4'-5')	S	04-16-19 00:00		621482-003
BH-1 (6'-7')	S	04-16-19 00:00		621482-004
BH-1 (9'-10')	S	04-16-19 00:00		621482-005
BH-1 (14'-15')	S	04-16-19 00:00		621482-006
BH-1 (19'-20')	S	04-16-19 00:00		621482-007
BH-1 (24'-25')	S	04-16-19 00:00		621482-008
BH-1 (29'-30')	S	04-16-19 00:00		621482-009
BH-1 (34'-35')	S	04-16-19 00:00		621482-010
BH-1 (39'-40')	S	04-16-19 00:00		621482-011
BH-1 (44'-45')	S	04-16-19 00:00		621482-012
BH-1 (49'-50')	S	04-16-19 00:00		621482-013
BH-1 (54'-55')	S	04-16-19 00:00		621482-014
BH-1 (59'-60')	S	04-16-19 00:00		621482-015
BH-1 (69'-70')	S	04-16-19 00:00		621482-017
BH-1 (79'-80')	S	04-16-19 00:00		621482-018
BH-1 (89'-90')	S	04-16-19 00:00		621482-019
BH-2 (0'-1')	S	04-16-19 00:00		621482-020
BH-2 (2'-3')	S	04-16-19 00:00		621482-021
BH-2 (4'-5')	S	04-16-19 00:00		621482-022
BH-2 (6'-7')	S	04-16-19 00:00		621482-023
BH-2 (9'-10')	S	04-16-19 00:00		621482-024
BH-2 (14'-15')	S	04-16-19 00:00		621482-025
BH-2 (19'-20')	S	04-16-19 00:00		621482-026
BH-2 (24'-25')	S	04-16-19 00:00		621482-027
BH-2 (29'-30')	S	04-16-19 00:00		621482-028
BH-2 (49'-50')	S	04-16-19 00:00		621482-032
BH-2 (59'-60')	S	04-16-19 00:00		621482-033
BH-1 (64'-65')	S	04-16-19 00:00		Not Analyzed
BH-2 (34'-35')	S	04-16-19 00:00		Not Analyzed
BH-2 (39'-40')	S	04-16-19 00:00		Not Analyzed
BH-2 (44'-45')	S	04-16-19 00:00		Not Analyzed

Sample receipt non conformances and comments:

05/01/19: Per Clair run the sample intevals 49-50, 59-60, 69-70, 79-80, and 89-90.
05/03/19: Mike Carmona run BH-2 (29-30) for BTEX & TPH out of hold.

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3086240 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 621482-003.

Batch: LBA-3086484 TPH by SW8015 Mod
Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 621482-007,621482-023,621482-011,621482-009.

Batch: LBA-3087047 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3087232 TPH by SW8015 Mod
Surrogate o-Terphenyl recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 621482-027.
Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 621482-013,621482-014.

Batch: LBA-3087639 TPH by SW8015 Mod
Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 621482-015,621482-019,621482-018,621482-017.

Batch: LBA-3087706 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 621482-019.

Batch: LBA-3087714 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3087784 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 621482

Tetra Tech- Midland, Midland, TX

Project Name: BKU Sat. G Battery

Project Id: 212C-MD-01711
Contact: Mike Carmona
Project Location: Eddy County, New Mexico

Date Received in Lab: Wed Apr-17-19 04:21 pm
Report Date: 07-MAY-19
Project Manager: Kalei Stout

Analysis Requested													
	Lab Id:	621482-001		621482-002		621482-003		621482-004		621482-005		621482-006	
	Field Id:	BH-1 (0'-1')		BH-1 (2'-3')		BH-1 (4'-5')		BH-1 (6'-7')		BH-1 (9'-10')		BH-1 (14'-15')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Apr-16-19 00:00		Apr-16-19 00:00		Apr-16-19 00:00		Apr-16-19 00:00		Apr-16-19 00:00		Apr-16-19 00:00	
BTEX by EPA 8021B	***Extracted:***	Apr-18-19 08:30		Apr-18-19 08:30		Apr-18-19 08:30		Apr-18-19 08:30		Apr-18-19 08:30			
	Analyzed:	Apr-18-19 15:29		Apr-18-19 15:48		Apr-18-19 17:23		Apr-18-19 16:26		Apr-18-19 18:37			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene		1.63	1.00	1.03	0.996	2.04	0.200	7.77	0.504	1.37	0.199		
Toluene		11.8	1.00	9.84	0.996	9.27	0.200	<0.504	0.504	0.977	0.199		
Ethylbenzene		13.2	1.00	12.1	0.996	19.8	0.200	25.8	0.504	9.13	0.199		
m,p-Xylenes		13.1	2.00	12.4	1.99	27.9	0.399	24.5	1.01	8.87	0.398		
o-Xylene		6.34	1.00	5.87	0.996	1.19	0.200	0.872	0.504	2.20	0.199		
Total Xylenes		19.4	1.00	18.3	0.996	29.1	0.200	25.4	0.504	11.1	0.199		
Total BTEX		46.1	1.00	41.2	0.996	60.2	0.200	58.9	0.504	22.5	0.199		
Chloride by EPA 300	***Extracted:***	Apr-18-19 15:00		Apr-18-19 15:00		Apr-18-19 15:00		Apr-18-19 15:00		Apr-18-19 15:00			
	Analyzed:	Apr-18-19 18:25		Apr-18-19 18:44		Apr-18-19 18:50		Apr-18-19 18:57		Apr-18-19 19:03			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		12200	100	7310	50.2	646	4.95	259	4.97	46.6	4.97		
TPH by SW8015 Mod	***Extracted:***	Apr-19-19 13:00		Apr-19-19 13:00		Apr-19-19 13:00		Apr-19-19 13:00		Apr-19-19 13:00		Apr-24-19 14:00	
	Analyzed:	Apr-19-19 14:36		Apr-19-19 14:56		Apr-19-19 15:15		Apr-19-19 15:35		Apr-20-19 07:52		Apr-25-19 08:19	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		2120	75.0	908	74.9	2030	74.8	2480	75.0	522	15.0	2740	74.8
Diesel Range Organics (DRO)		18000	75.0	5740	74.9	5220	74.8	5480	75.0	1650	15.0	6030	74.8
Motor Oil Range Hydrocarbons (MRO)		2590	75.0	818	74.9	681	74.8	771	75.0	213	15.0	802	74.8
Total TPH		22700	75.0	7470	74.9	7930	74.8	8730	75.0	2390	15.0	9570	74.8

Kalei Stout
Midland Laboratory Director

Certificate of Analysis Summary 621482

Tetra Tech- Midland, Midland, TX

Project Name: BKU Sat. G Battery

Project Id: 212C-MD-01711
Contact: Mike Carmona
Project Location: Eddy County, New Mexico

Date Received in Lab: Wed Apr-17-19 04:21 pm
Report Date: 07-MAY-19
Project Manager: Kalei Stout

Analysis Requested													
	Lab Id:	621482-007		621482-008		621482-009		621482-010		621482-011		621482-012	
	Field Id:	BH-1 (19'-20')		BH-1 (24'-25')		BH-1 (29'-30')		BH-1 (34'-35')		BH-1 (39'-40')		BH-1 (44'-45')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Apr-16-19 00:00		Apr-16-19 00:00		Apr-16-19 00:00		Apr-16-19 00:00		Apr-16-19 00:00		Apr-16-19 00:00	
BTEX by EPA 8021B	***Extracted:***	Apr-18-19 08:30				Apr-18-19 08:30		Apr-25-19 17:00		Apr-18-19 08:30			
	Analyzed:	Apr-18-19 18:56				Apr-18-19 16:45		Apr-26-19 12:26		Apr-18-19 17:04			
	Units/RL:	mg/kg	RL			mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene		2.00	0.201			6.00	0.497	6.87	1.00	1.53	0.501		
Toluene		6.10	0.201			35.8	0.497	89.6	1.00	11.3	0.501		
Ethylbenzene		13.5	0.201			25.4	0.497	76.1	1.00	12.3	0.501		
m,p-Xylenes		12.2	0.402			22.3	0.994	67.7	2.01	11.4	1.00		
o-Xylene		5.34	0.201			10.0	0.497	31.4	1.00	5.37	0.501		
Total Xylenes		17.5	0.201			32.3	0.497	99.1	1.00	16.8	0.501		
Total BTEX		39.1	0.201			99.5	0.497	272	1.00	41.9	0.501		
TPH by SW8015 Mod	***Extracted:***	Apr-19-19 13:00		Apr-24-19 14:00		Apr-19-19 13:00		Apr-24-19 14:00		Apr-19-19 13:00		Apr-24-19 14:00	
	Analyzed:	Apr-19-19 16:52		Apr-25-19 08:39		Apr-19-19 17:12		Apr-25-19 08:58		Apr-19-19 17:31		Apr-25-19 09:18	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		1010	74.8	4230	74.9	2090	74.8	3230	74.8	1120	74.7	4080	74.9
Diesel Range Organics (DRO)		3700	74.8	7250	74.9	3620	74.8	5810	74.8	5110	74.7	6600	74.9
Motor Oil Range Hydrocarbons (MRO)		489	74.8	988	74.9	488	74.8	755	74.8	654	74.7	896	74.9
Total TPH		5200	74.8	12500	74.9	6200	74.8	9800	74.8	6880	74.7	11600	74.9

Kalei Stout
Midland Laboratory Director

Certificate of Analysis Summary 621482

Tetra Tech- Midland, Midland, TX

Project Name: BKU Sat. G Battery

Project Id: 212C-MD-01711
Contact: Mike Carmona
Project Location: Eddy County, New Mexico

Date Received in Lab: Wed Apr-17-19 04:21 pm
Report Date: 07-MAY-19
Project Manager: Kalei Stout

Analysis Requested													
	Lab Id:	621482-013		621482-014		621482-015		621482-017		621482-018		621482-019	
	Field Id:	BH-1 (49'-50')		BH-1 (54'-55')		BH-1 (59'-60')		BH-1 (69'-70')		BH-1 (79'-80')		BH-1 (89'-90')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Apr-16-19 00:00		Apr-16-19 00:00		Apr-16-19 00:00		Apr-16-19 00:00		Apr-16-19 00:00		Apr-16-19 00:00	
BTEX by EPA 8021B	***Extracted:***	May-01-19 15:00				May-01-19 15:00		May-01-19 15:00		May-01-19 15:00		May-01-19 15:00	
	Analyzed:	May-02-19 12:46				May-02-19 13:05		May-02-19 13:24		May-02-19 13:43		May-01-19 22:59	
	Units/RL:	mg/kg	RL			mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		4.89 K	1.01			6.67 K	0.992	6.09 K	1.00	5.23 K	0.998	0.902 K	0.200
Toluene		129 K	1.01			77.6 K	0.992	95.1 K	1.00	85.2 K	0.998	18.5 K	0.200
Ethylbenzene		115 K	1.01			61.7 K	0.992	79.5 K	1.00	76.3 K	0.998	24.0 K	0.200
m,p-Xylenes		102 K	2.02			55.1 K	1.98	70.7 K	2.01	67.5 K	2.00	22.6 K	0.400
o-Xylene		46.0 K	1.01			23.4 K	0.992	31.9 K	1.00	29.2 K	0.998	11.6 K	0.200
Total Xylenes		148 K	1.01			78.5 K	0.992	103 K	1.00	96.7 K	0.998	34.2 K	0.200
Total BTEX		397 K	1.01			224 K	0.992	283 K	1.00	263 K	0.998	77.6 K	0.200
TPH by SW8015 Mod	***Extracted:***	Apr-27-19 15:00		Apr-27-19 15:00		May-01-19 17:00		May-01-19 17:00		May-01-19 17:00		May-01-19 17:00	
	Analyzed:	Apr-28-19 21:09		Apr-28-19 21:29		May-02-19 01:14		May-02-19 01:55		May-02-19 02:15		May-02-19 02:35	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		3370	74.7	2360	74.7	2640 K	74.9	3490 K	74.9	3790 K	74.8	1660 K	74.8
Diesel Range Organics (DRO)		6830	74.7	5830	74.7	4380 K	74.9	5620 K	74.9	6250 K	74.8	5720 K	74.8
Motor Oil Range Hydrocarbons (MRO)		732	74.7	668	74.7	537 K	74.9	705 K	74.9	766 K	74.8	698 K	74.8
Total TPH		10900	74.7	8860	74.7	7560 K	74.9	9820 K	74.9	10800 K	74.8	8080 K	74.8

Kalei Stout
Midland Laboratory Director

Certificate of Analysis Summary 621482

Tetra Tech- Midland, Midland, TX

Project Name: BKU Sat. G Battery

Project Id: 212C-MD-01711
Contact: Mike Carmona
Project Location: Eddy County, New Mexico

Date Received in Lab: Wed Apr-17-19 04:21 pm
Report Date: 07-MAY-19
Project Manager: Kalei Stout

Analysis Requested													
	Lab Id:	621482-020		621482-021		621482-022		621482-023		621482-024		621482-025	
	Field Id:	BH-2 (0'-1')		BH-2 (2'-3')		BH-2 (4'-5')		BH-2 (6'-7')		BH-2 (9'-10')		BH-2 (14'-15')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Apr-16-19 00:00		Apr-16-19 00:00		Apr-16-19 00:00		Apr-16-19 00:00		Apr-16-19 00:00		Apr-16-19 00:00	
BTEX by EPA 8021B	***Extracted:***	Apr-18-19 08:30		Apr-18-19 08:30		Apr-18-19 08:30		Apr-18-19 08:30		Apr-18-19 08:30			
	Analyzed:	Apr-18-19 19:34		Apr-18-19 19:53		Apr-18-19 20:12		Apr-18-19 16:07		Apr-18-19 19:15			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene		0.125	0.0499	0.0948	0.0504	0.0860	0.0198	<0.990	0.990	<0.202	0.202		
Toluene		<0.0499	0.0499	0.0517	0.0504	0.0336	0.0198	4.35	0.990	<0.202	0.202		
Ethylbenzene		0.0796	0.0499	0.158	0.0504	0.101	0.0198	1.76	0.990	1.85	0.202		
m,p-Xylenes		0.379	0.0998	0.142	0.101	0.0926	0.0397	8.88	1.98	3.71	0.404		
o-Xylene		0.228	0.0499	0.0746	0.0504	0.0534	0.0198	1.90	0.990	0.338	0.202		
Total Xylenes		0.607	0.0499	0.217	0.0504	0.146	0.0198	10.8	0.990	4.05	0.202		
Total BTEX		0.812	0.0499	0.521	0.0504	0.367	0.0198	16.9	0.990	5.90	0.202		
Chloride by EPA 300	***Extracted:***	Apr-18-19 15:00		Apr-18-19 15:00		Apr-18-19 15:00		Apr-18-19 15:00		Apr-18-19 15:00			
	Analyzed:	Apr-18-19 19:10		Apr-19-19 11:54		Apr-18-19 19:42		Apr-18-19 19:16		Apr-18-19 20:01			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		1050	24.9	843	25.0	32.0	5.01	47.5	4.98	94.5	4.99		
TPH by SW8015 Mod	***Extracted:***	Apr-19-19 13:00		Apr-19-19 13:00		Apr-19-19 13:00		Apr-19-19 13:00		Apr-19-19 13:00		Apr-24-19 14:00	
	Analyzed:	Apr-19-19 17:51		Apr-19-19 18:10		Apr-19-19 18:49		Apr-19-19 19:08		Apr-20-19 08:12		Apr-25-19 09:38	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		385	74.9	21.8	14.9	25.3	15.0	3590	75.0	371	15.0	1860	75.0
Diesel Range Organics (DRO)		19700	74.9	1020	14.9	195	15.0	17700	75.0	1900	15.0	5300	75.0
Motor Oil Range Hydrocarbons (MRO)		2570	74.9	173	14.9	26.0	15.0	2020	75.0	227	15.0	720	75.0
Total TPH		22700	74.9	1210	14.9	246	15.0	23300	75.0	2500	15.0	7880	75.0

Kalei Stout
Midland Laboratory Director

Certificate of Analysis Summary 621482

Tetra Tech- Midland, Midland, TX

Project Name: BKU Sat. G Battery

Project Id: 212C-MD-01711
Contact: Mike Carmona
Project Location: Eddy County, New Mexico

Date Received in Lab: Wed Apr-17-19 04:21 pm
Report Date: 07-MAY-19
Project Manager: Kalei Stout

Analysis Requested												
	Lab Id:	621482-026		621482-027		621482-028		621482-032		621482-033		
	Field Id:	BH-2 (19'-20')		BH-2 (24'-25')		BH-2 (29'-30')		BH-2 (49'-50')		BH-2 (59'-60')		
	Depth:											
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		
	Sampled:	Apr-16-19 00:00		Apr-16-19 00:00		Apr-16-19 00:00		Apr-16-19 00:00		Apr-16-19 00:00		
BTEX by EPA 8021B	***Extracted:***					May-03-19 09:00		May-01-19 15:00		May-01-19 15:00		
	Analyzed:					May-03-19 10:24		May-02-19 06:30		May-02-19 06:49		
	Units/RL:					mg/kg	RL	mg/kg	RL	mg/kg	RL	
Benzene						<0.200	0.200	<0.00200	0.00200	<0.00201	0.00201	
Toluene						<0.200	0.200	<0.00200	0.00200	<0.00201	0.00201	
Ethylbenzene						1.74 K	0.200	<0.00200	0.00200	<0.00201	0.00201	
m,p-Xylenes						2.10 K	0.401	<0.00399	0.00399	<0.00402	0.00402	
o-Xylene						1.18 K	0.200	<0.00200	0.00200	<0.00201	0.00201	
Total Xylenes						3.28 K	0.200	<0.00200	0.00200	<0.00201	0.00201	
Total BTEX						5.02 K	0.200	<0.00200	0.00200	<0.00201	0.00201	
TPH by SW8015 Mod	***Extracted:***	Apr-27-19 15:00		Apr-27-19 15:00		May-04-19 10:00		May-01-19 17:00		May-01-19 17:00		
	Analyzed:	Apr-28-19 21:49		Apr-28-19 22:09		May-05-19 06:53		May-01-19 23:33		May-01-19 23:53		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	
Gasoline Range Hydrocarbons (GRO)		107	15.0	866	75.0	304 K	15.0	<15.0	15.0	<15.0	15.0	
Diesel Range Organics (DRO)		832	15.0	3530	75.0	2310 K	15.0	38.7 K	15.0	16.8 K	15.0	
Motor Oil Range Hydrocarbons (MRO)		101	15.0	329	75.0	221 K	15.0	<15.0	15.0	<15.0	15.0	
Total TPH		1040	15.0	4730	75.0	2840 K	15.0	38.7 K	15.0	16.8 K	15.0	

Kalei Stout
Midland Laboratory Director

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

Form 2 - Surrogate Recoveries

Project Name: BKU Sat. G Battery

Work Orders : 621482,

Project ID: 212C-MD-01711

Lab Batch #: 3086240 **Sample:** 621482-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/18/19 15:29

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	70-130	
4-Bromofluorobenzene	0.0299	0.0300	100	70-130	

Lab Batch #: 3086240 **Sample:** 621482-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/18/19 15:48

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0298	0.0300	99	70-130	
4-Bromofluorobenzene	0.0322	0.0300	107	70-130	

Lab Batch #: 3086240 **Sample:** 621482-023 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/18/19 16:07

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	70-130	
4-Bromofluorobenzene	0.0325	0.0300	108	70-130	

Lab Batch #: 3086240 **Sample:** 621482-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/18/19 16:26

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0298	0.0300	99	70-130	
4-Bromofluorobenzene	0.0365	0.0300	122	70-130	

Lab Batch #: 3086240 **Sample:** 621482-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/18/19 16:45

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0300	0.0300	100	70-130	
4-Bromofluorobenzene	0.0373	0.0300	124	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.

Form 2 - Surrogate Recoveries

Project Name: BKU Sat. G Battery

Work Orders : 621482,

Project ID: 212C-MD-01711

Lab Batch #: 3086240 **Sample:** 621482-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/18/19 17:04

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0296	0.0300	99	70-130	
4-Bromofluorobenzene	0.0338	0.0300	113	70-130	

Lab Batch #: 3086240 **Sample:** 621482-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/18/19 17:23

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	70-130	
4-Bromofluorobenzene	0.0447	0.0300	149	70-130	**

Lab Batch #: 3086240 **Sample:** 621482-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/18/19 18:37

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	70-130	
4-Bromofluorobenzene	0.0353	0.0300	118	70-130	

Lab Batch #: 3086240 **Sample:** 621482-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/18/19 18:56

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0290	0.0300	97	70-130	
4-Bromofluorobenzene	0.0386	0.0300	129	70-130	

Lab Batch #: 3086240 **Sample:** 621482-024 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/18/19 19:15

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	70-130	
4-Bromofluorobenzene	0.0376	0.0300	125	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.

Form 2 - Surrogate Recoveries

Project Name: BKU Sat. G Battery

Work Orders : 621482,

Project ID: 212C-MD-01711

Lab Batch #: 3086240 **Sample:** 621482-020 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/18/19 19:34

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	70-130	
4-Bromofluorobenzene	0.0338	0.0300	113	70-130	

Lab Batch #: 3086240 **Sample:** 621482-021 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/18/19 19:53

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0283	0.0300	94	70-130	
4-Bromofluorobenzene	0.0305	0.0300	102	70-130	

Lab Batch #: 3086240 **Sample:** 621482-022 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/18/19 20:12

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

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

Lab Batch #: 3086484 **Sample:** 621482-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/19/19 14:36

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	100	129	70-135	
o-Terphenyl	44.8	50.0	90	70-135	

Lab Batch #: 3086484 **Sample:** 621482-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/19/19 14:56

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	99.8	116	70-135	
o-Terphenyl	40.9	49.9	82	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries

Project Name: BKU Sat. G Battery

Work Orders : 621482,

Project ID: 212C-MD-01711

Lab Batch #: 3086484 **Sample:** 621482-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/19/19 15:15

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	122	99.7	122	70-135	
o-Terphenyl	35.5	49.9	71	70-135	

Lab Batch #: 3086484 **Sample:** 621482-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/19/19 15:35

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.8	100	99	70-135	
o-Terphenyl	38.7	50.0	77	70-135	

Lab Batch #: 3086484 **Sample:** 621482-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/19/19 16:52

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	122	99.7	122	70-135	
o-Terphenyl	78.2	49.9	157	70-135	**

Lab Batch #: 3086484 **Sample:** 621482-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/19/19 17:12

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	124	99.7	124	70-135	
o-Terphenyl	75.0	49.9	150	70-135	**

Lab Batch #: 3086484 **Sample:** 621482-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/19/19 17:31

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	128	99.6	129	70-135	
o-Terphenyl	87.5	49.8	176	70-135	**

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries

Project Name: BKU Sat. G Battery

Work Orders : 621482,

Project ID: 212C-MD-01711

Lab Batch #: 3086484 **Sample:** 621482-020 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/19/19 17:51

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	99.8	107	70-135	
o-Terphenyl	47.4	49.9	95	70-135	

Lab Batch #: 3086484 **Sample:** 621482-021 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/19/19 18:10

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.6	99.6	95	70-135	
o-Terphenyl	57.4	49.8	115	70-135	

Lab Batch #: 3086484 **Sample:** 621482-022 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/19/19 18:49

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.0	99.9	94	70-135	
o-Terphenyl	48.4	50.0	97	70-135	

Lab Batch #: 3086484 **Sample:** 621482-023 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/19/19 19:08

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	100	114	70-135	
o-Terphenyl	94.8	50.0	190	70-135	**

Lab Batch #: 3086484 **Sample:** 621482-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/20/19 07:52

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	99.9	120	70-135	
o-Terphenyl	63.0	50.0	126	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries

Project Name: BKU Sat. G Battery

Work Orders : 621482,

Project ID: 212C-MD-01711

Lab Batch #: 3086484 **Sample:** 621482-024 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/20/19 08:12

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	99.7	117	70-135	
o-Terphenyl	59.3	49.9	119	70-135	

Lab Batch #: 3086863 **Sample:** 621482-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/25/19 08:19

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.6	99.7	98	70-135	
o-Terphenyl	40.7	49.9	82	70-135	

Lab Batch #: 3086863 **Sample:** 621482-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/25/19 08:39

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	123	99.8	123	70-135	
o-Terphenyl	47.6	49.9	95	70-135	

Lab Batch #: 3086863 **Sample:** 621482-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/25/19 08:58

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	99.7	114	70-135	
o-Terphenyl	42.9	49.9	86	70-135	

Lab Batch #: 3086863 **Sample:** 621482-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/25/19 09:18

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	99.9	129	70-135	
o-Terphenyl	48.0	50.0	96	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries

Project Name: BKU Sat. G Battery

Work Orders : 621482,

Project ID: 212C-MD-01711

Lab Batch #: 3086863 **Sample:** 621482-025 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/25/19 09:38

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.8	100	95	70-135	
o-Terphenyl	40.1	50.0	80	70-135	

Lab Batch #: 3087047 **Sample:** 621482-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/26/19 12:26

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0305	0.0300	102	70-130	
4-Bromofluorobenzene	0.0377	0.0300	126	70-130	

Lab Batch #: 3087232 **Sample:** 621482-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/28/19 21:09

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	159	99.6	160	70-135	**
o-Terphenyl	47.9	49.8	96	70-135	

Lab Batch #: 3087232 **Sample:** 621482-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/28/19 21:29

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	140	99.6	141	70-135	**
o-Terphenyl	40.5	49.8	81	70-135	

Lab Batch #: 3087232 **Sample:** 621482-026 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/28/19 21:49

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.3	99.7	94	70-135	
o-Terphenyl	47.4	49.9	95	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries

Project Name: BKU Sat. G Battery

Work Orders : 621482,

Project ID: 212C-MD-01711

Lab Batch #: 3087232 **Sample:** 621482-027 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/28/19 22:09

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	135	100	135	70-135	
o-Terphenyl	26.3	50.0	53	70-135	*****

Lab Batch #: 3087706 **Sample:** 621482-019 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/01/19 22:59

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	0.0504	0.0300	168	70-130	**

Lab Batch #: 3087639 **Sample:** 621482-032 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/01/19 23:33

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	99.8	104	70-135	
o-Terphenyl	51.8	49.9	104	70-135	

Lab Batch #: 3087639 **Sample:** 621482-033 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/01/19 23:53

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	50.5	50.0	101	70-135	

Lab Batch #: 3087639 **Sample:** 621482-015 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/02/19 01:14

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	99.8	102	70-135	
o-Terphenyl	86.0	49.9	172	70-135	**

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries

Project Name: BKU Sat. G Battery

Work Orders : 621482,

Project ID: 212C-MD-01711

Lab Batch #: 3087639 **Sample:** 621482-017 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/02/19 01:55

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	99.9	113	70-135	
o-Terphenyl	91.9	50.0	184	70-135	**

Lab Batch #: 3087639 **Sample:** 621482-018 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/02/19 02:15

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	122	99.7	122	70-135	
o-Terphenyl	106	49.9	212	70-135	**

Lab Batch #: 3087639 **Sample:** 621482-019 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/02/19 02:35

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	99.7	112	70-135	
o-Terphenyl	89.8	49.9	180	70-135	**

Lab Batch #: 3087714 **Sample:** 621482-032 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/02/19 06:30

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0298	0.0300	99	70-130	
4-Bromofluorobenzene	0.0355	0.0300	118	70-130	

Lab Batch #: 3087714 **Sample:** 621482-033 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/02/19 06:49

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	70-130	
4-Bromofluorobenzene	0.0363	0.0300	121	70-130	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries

Project Name: BKU Sat. G Battery

Work Orders : 621482,

Project ID: 212C-MD-01711

Lab Batch #: 3087706 **Sample:** 621482-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/02/19 12:46

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0316	0.0300	105	70-130	
4-Bromofluorobenzene	0.0382	0.0300	127	70-130	

Lab Batch #: 3087706 **Sample:** 621482-015 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/02/19 13:05

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0307	0.0300	102	70-130	
4-Bromofluorobenzene	0.0339	0.0300	113	70-130	

Lab Batch #: 3087706 **Sample:** 621482-017 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/02/19 13:24

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0312	0.0300	104	70-130	
4-Bromofluorobenzene	0.0378	0.0300	126	70-130	

Lab Batch #: 3087706 **Sample:** 621482-018 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/02/19 13:43

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	70-130	
4-Bromofluorobenzene	0.0376	0.0300	125	70-130	

Lab Batch #: 3087784 **Sample:** 621482-028 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/03/19 10:24

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	70-130	
4-Bromofluorobenzene	0.0390	0.0300	130	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.

Form 2 - Surrogate Recoveries

Project Name: BKU Sat. G Battery

Work Orders : 621482,

Project ID: 212C-MD-01711

Lab Batch #: 3088044 **Sample:** 621482-028 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/05/19 06:53

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	128	99.8	128	70-135	
o-Terphenyl	48.2	49.9	97	70-135	

Lab Batch #: 3086240 **Sample:** 7676126-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/18/19 14:13

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0273	0.0300	91	70-130	
4-Bromofluorobenzene	0.0260	0.0300	87	70-130	

Lab Batch #: 3086484 **Sample:** 7676238-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/19/19 11:21

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.2	100	99	70-135	
o-Terphenyl	50.3	50.0	101	70-135	

Lab Batch #: 3086863 **Sample:** 7676473-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/25/19 00:10

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.2	100	98	70-135	
o-Terphenyl	49.6	50.0	99	70-135	

Lab Batch #: 3087047 **Sample:** 7676618-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/26/19 02:58

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	0.0286	0.0300	95	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.

Form 2 - Surrogate Recoveries

Project Name: BKU Sat. G Battery

Work Orders : 621482,

Project ID: 212C-MD-01711

Lab Batch #: 3087232 **Sample:** 7676735-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/28/19 13:19

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	84.1	100	84	70-135	
o-Terphenyl	41.0	50.0	82	70-135	

Lab Batch #: 3087706 **Sample:** 7676935-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/01/19 16:22

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0320	0.0300	107	70-130	
4-Bromofluorobenzene	0.0298	0.0300	99	70-130	

Lab Batch #: 3087639 **Sample:** 7676976-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/01/19 19:14

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	100	108	70-135	
o-Terphenyl	55.2	50.0	110	70-135	

Lab Batch #: 3087714 **Sample:** 7677023-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/02/19 02:06

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0311	0.0300	104	70-130	
4-Bromofluorobenzene	0.0320	0.0300	107	70-130	

Lab Batch #: 3087784 **Sample:** 7677041-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/03/19 04:25

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0321	0.0300	107	70-130	
4-Bromofluorobenzene	0.0305	0.0300	102	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.

Form 2 - Surrogate Recoveries

Project Name: BKU Sat. G Battery

Work Orders : 621482,

Project ID: 212C-MD-01711

Lab Batch #: 3088044 **Sample:** 7677204-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/04/19 22:02

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	100	109	70-135	
o-Terphenyl	55.4	50.0	111	70-135	

Lab Batch #: 3086240 **Sample:** 7676126-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/18/19 12:40

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0304	0.0300	101	70-130	
4-Bromofluorobenzene	0.0287	0.0300	96	70-130	

Lab Batch #: 3086484 **Sample:** 7676238-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/19/19 11:40

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	61.2	50.0	122	70-135	

Lab Batch #: 3086863 **Sample:** 7676473-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/25/19 00:30

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	123	100	123	70-135	
o-Terphenyl	57.0	50.0	114	70-135	

Lab Batch #: 3087047 **Sample:** 7676618-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/26/19 01:24

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	70-130	
4-Bromofluorobenzene	0.0291	0.0300	97	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.

Form 2 - Surrogate Recoveries

Project Name: BKU Sat. G Battery

Work Orders : 621482,

Project ID: 212C-MD-01711

Lab Batch #: 3087232 **Sample:** 7676735-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/28/19 13:39

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.6	100	96	70-135	
o-Terphenyl	41.1	50.0	82	70-135	

Lab Batch #: 3087706 **Sample:** 7676935-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/01/19 14:48

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0275	0.0300	92	70-130	
4-Bromofluorobenzene	0.0283	0.0300	94	70-130	

Lab Batch #: 3087639 **Sample:** 7676976-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/01/19 19:35

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	121	100	121	70-135	
o-Terphenyl	56.7	50.0	113	70-135	

Lab Batch #: 3087714 **Sample:** 7677023-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/02/19 00:33

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0275	0.0300	92	70-130	
4-Bromofluorobenzene	0.0313	0.0300	104	70-130	

Lab Batch #: 3087784 **Sample:** 7677041-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/03/19 02:52

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	70-130	
4-Bromofluorobenzene	0.0321	0.0300	107	70-130	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries

Project Name: BKU Sat. G Battery

Work Orders : 621482,

Project ID: 212C-MD-01711

Lab Batch #: 3088044 **Sample:** 7677204-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/04/19 22:22

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	125	100	125	70-135	
o-Terphenyl	61.1	50.0	122	70-135	

Lab Batch #: 3086240 **Sample:** 7676126-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/18/19 12:59

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0301	0.0300	100	70-130	
4-Bromofluorobenzene	0.0283	0.0300	94	70-130	

Lab Batch #: 3086484 **Sample:** 7676238-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/19/19 12:00

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	100	129	70-135	
o-Terphenyl	63.5	50.0	127	70-135	

Lab Batch #: 3086863 **Sample:** 7676473-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/25/19 00:49

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	126	100	126	70-135	
o-Terphenyl	58.3	50.0	117	70-135	

Lab Batch #: 3087047 **Sample:** 7676618-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/26/19 01:43

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0296	0.0300	99	70-130	
4-Bromofluorobenzene	0.0297	0.0300	99	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.

Form 2 - Surrogate Recoveries

Project Name: BKU Sat. G Battery

Work Orders : 621482,

Project ID: 212C-MD-01711

Lab Batch #: 3087232 **Sample:** 7676735-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/28/19 14:00

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.2	100	88	70-135	
o-Terphenyl	36.6	50.0	73	70-135	

Lab Batch #: 3087706 **Sample:** 7676935-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/01/19 15:07

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0277	0.0300	92	70-130	
4-Bromofluorobenzene	0.0270	0.0300	90	70-130	

Lab Batch #: 3087639 **Sample:** 7676976-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/01/19 19:55

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	100	129	70-135	
o-Terphenyl	56.0	50.0	112	70-135	

Lab Batch #: 3087714 **Sample:** 7677023-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/02/19 00:52

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0271	0.0300	90	70-130	
4-Bromofluorobenzene	0.0302	0.0300	101	70-130	

Lab Batch #: 3087784 **Sample:** 7677041-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/03/19 03:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	70-130	
4-Bromofluorobenzene	0.0320	0.0300	107	70-130	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries

Project Name: BKU Sat. G Battery

Work Orders : 621482,

Project ID: 212C-MD-01711

Lab Batch #: 3088044 **Sample:** 7677204-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

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

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	125	100	125	70-135	
o-Terphenyl	56.3	50.0	113	70-135	

Lab Batch #: 3086240 **Sample:** 621515-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/18/19 13:18

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0304	0.0300	101	70-130	
4-Bromofluorobenzene	0.0286	0.0300	95	70-130	

Lab Batch #: 3086484 **Sample:** 621515-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/19/19 12:39

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	119	99.9	119	70-135	
o-Terphenyl	55.3	50.0	111	70-135	

Lab Batch #: 3086863 **Sample:** 621715-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/25/19 01:29

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	124	99.8	124	70-135	
o-Terphenyl	50.8	49.9	102	70-135	

Lab Batch #: 3087047 **Sample:** 622230-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/26/19 02:02

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0298	0.0300	99	70-130	
4-Bromofluorobenzene	0.0309	0.0300	103	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.

Form 2 - Surrogate Recoveries

Project Name: BKU Sat. G Battery

Work Orders : 621482,

Project ID: 212C-MD-01711

Lab Batch #: 3087232 **Sample:** 622383-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/28/19 14:40

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.0	99.7	89	70-135	
o-Terphenyl	38.0	49.9	76	70-135	

Lab Batch #: 3087706 **Sample:** 622518-002 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/01/19 15:26

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0288	0.0300	96	70-130	
4-Bromofluorobenzene	0.0312	0.0300	104	70-130	

Lab Batch #: 3087639 **Sample:** 622747-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/01/19 20:35

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	128	99.9	128	70-135	
o-Terphenyl	53.7	50.0	107	70-135	

Lab Batch #: 3087714 **Sample:** 622834-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/02/19 01:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	70-130	
4-Bromofluorobenzene	0.0331	0.0300	110	70-130	

Lab Batch #: 3087784 **Sample:** 622975-002 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/03/19 03:30

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0290	0.0300	97	70-130	
4-Bromofluorobenzene	0.0321	0.0300	107	70-130	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries

Project Name: BKU Sat. G Battery

Work Orders : 621482,

Project ID: 212C-MD-01711

Lab Batch #: 3088044 **Sample:** 623115-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/04/19 23:24

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	122	99.8	122	70-135	
o-Terphenyl	53.9	49.9	108	70-135	

Lab Batch #: 3086240 **Sample:** 621515-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/18/19 13:37

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0301	0.0300	100	70-130	
4-Bromofluorobenzene	0.0290	0.0300	97	70-130	

Lab Batch #: 3086484 **Sample:** 621515-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/19/19 12:58

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	119	99.7	119	70-135	
o-Terphenyl	56.2	49.9	113	70-135	

Lab Batch #: 3086863 **Sample:** 621715-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/25/19 01:49

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	99.9	127	70-135	
o-Terphenyl	54.2	50.0	108	70-135	

Lab Batch #: 3087047 **Sample:** 622230-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/26/19 02:21

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0296	0.0300	99	70-130	
4-Bromofluorobenzene	0.0308	0.0300	103	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.

Form 2 - Surrogate Recoveries

Project Name: BKU Sat. G Battery

Work Orders : 621482, **Project ID:** 212C-MD-01711

Lab Batch #: 3087232 **Sample:** 622383-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/28/19 15:01

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.4	99.9	93	70-135	
o-Terphenyl	38.8	50.0	78	70-135	

Lab Batch #: 3087706 **Sample:** 622518-002 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/01/19 15:45

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	70-130	
4-Bromofluorobenzene	0.0316	0.0300	105	70-130	

Lab Batch #: 3087639 **Sample:** 622747-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/01/19 20:55

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	125	99.6	126	70-135	
o-Terphenyl	56.7	49.8	114	70-135	

Lab Batch #: 3087714 **Sample:** 622834-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/02/19 01:30

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	70-130	
4-Bromofluorobenzene	0.0327	0.0300	109	70-130	

Lab Batch #: 3087784 **Sample:** 622975-002 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/03/19 03:49

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	70-130	
4-Bromofluorobenzene	0.0320	0.0300	107	70-130	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries

Project Name: BKU Sat. G Battery

Work Orders : 621482, **Project ID:** 212C-MD-01711

Lab Batch #: 3088044 **Sample:** 623115-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/04/19 23:44

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	99.9	129	70-135	
o-Terphenyl	63.5	50.0	127	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

BS / BSD Recoveries

Project Name: BKU Sat. G Battery

Work Order #: 621482 **Project ID:** 212C-MD-01711

Analyst: SCM **Date Prepared:** 04/18/2019 **Date Analyzed:** 04/18/2019

Lab Batch ID: 3086240 **Sample:** 7676126-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000383	0.0996	0.0921	92	0.0998	0.0920	92	0	70-130	35	
Toluene	<0.000454	0.0996	0.0926	93	0.0998	0.0922	92	0	70-130	35	
Ethylbenzene	<0.000563	0.0996	0.0858	86	0.0998	0.0853	85	1	70-130	35	
m,p-Xylenes	<0.00101	0.199	0.170	85	0.200	0.169	85	1	70-130	35	
o-Xylene	<0.000343	0.0996	0.0861	86	0.0998	0.0856	86	1	70-130	35	

Analyst: SCM **Date Prepared:** 04/25/2019 **Date Analyzed:** 04/26/2019

Lab Batch ID: 3087047 **Sample:** 7676618-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00200	0.0998	0.108	108	0.100	0.111	111	3	70-130	35	
Toluene	<0.00200	0.0998	0.0979	98	0.100	0.0996	100	2	70-130	35	
Ethylbenzene	<0.00200	0.0998	0.104	104	0.100	0.106	106	2	70-130	35	
m,p-Xylenes	<0.00399	0.200	0.213	107	0.200	0.217	109	2	70-130	35	
o-Xylene	<0.00200	0.0998	0.105	105	0.100	0.107	107	2	70-130	35	

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

BS / BSD Recoveries

Project Name: BKU Sat. G Battery

Work Order #: 621482 **Project ID:** 212C-MD-01711

Analyst: SCM **Date Prepared:** 05/01/2019 **Date Analyzed:** 05/01/2019

Lab Batch ID: 3087706 **Sample:** 7676935-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00198	0.0992	0.100	101	0.100	0.0984	98	2	70-130	35	
Toluene	<0.00198	0.0992	0.0982	99	0.100	0.0948	95	4	70-130	35	
Ethylbenzene	<0.00198	0.0992	0.108	109	0.100	0.103	103	5	70-130	35	
m,p-Xylenes	<0.00397	0.198	0.224	113	0.200	0.214	107	5	70-130	35	
o-Xylene	<0.00198	0.0992	0.107	108	0.100	0.102	102	5	70-130	35	

Analyst: SCM **Date Prepared:** 05/01/2019 **Date Analyzed:** 05/02/2019

Lab Batch ID: 3087714 **Sample:** 7677023-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00199	0.0996	0.100	100	0.0998	0.101	101	1	70-130	35	
Toluene	<0.00199	0.0996	0.104	104	0.0998	0.103	103	1	70-130	35	
Ethylbenzene	<0.00199	0.0996	0.113	113	0.0998	0.112	112	1	70-130	35	
m,p-Xylenes	<0.00398	0.199	0.236	119	0.200	0.234	117	1	70-130	35	
o-Xylene	<0.00199	0.0996	0.114	114	0.0998	0.112	112	2	70-130	35	

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

BS / BSD Recoveries

Project Name: BKU Sat. G Battery

Work Order #: 621482 **Project ID:** 212C-MD-01711

Analyst: SCM **Date Prepared:** 05/02/2019 **Date Analyzed:** 05/03/2019

Lab Batch ID: 3087784 **Sample:** 7677041-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00200	0.100	0.0945	95	0.0994	0.0994	100	5	70-130	35	
Toluene	<0.00200	0.100	0.0915	92	0.0994	0.0950	96	4	70-130	35	
Ethylbenzene	<0.00200	0.100	0.0993	99	0.0994	0.102	103	3	70-130	35	
m,p-Xylenes	<0.00400	0.200	0.205	103	0.199	0.211	106	3	70-130	35	
o-Xylene	<0.00200	0.100	0.102	102	0.0994	0.105	106	3	70-130	35	

Analyst: SPC **Date Prepared:** 04/18/2019 **Date Analyzed:** 04/18/2019

Lab Batch ID: 3086261 **Sample:** 7676091-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	242	97	250	241	96	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

BS / BSD Recoveries

Project Name: BKU Sat. G Battery

Work Order #: 621482 **Project ID:** 212C-MD-01711

Analyst: ARM **Date Prepared:** 04/19/2019 **Date Analyzed:** 04/19/2019

Lab Batch ID: 3086484 **Sample:** 7676238-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1010	101	1000	1050	105	4	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	1070	107	1000	1090	109	2	70-135	20	

Analyst: ARM **Date Prepared:** 04/24/2019 **Date Analyzed:** 04/25/2019

Lab Batch ID: 3086863 **Sample:** 7676473-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1020	102	1000	1030	103	1	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	1050	105	1000	1070	107	2	70-135	20	

Analyst: ARM **Date Prepared:** 04/27/2019 **Date Analyzed:** 04/28/2019

Lab Batch ID: 3087232 **Sample:** 7676735-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	944	94	1000	917	92	3	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	856	86	1000	861	86	1	70-135	20	

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

BS / BSD Recoveries

Project Name: BKU Sat. G Battery

Work Order #: 621482 **Project ID:** 212C-MD-01711

Analyst: ARM **Date Prepared:** 05/01/2019 **Date Analyzed:** 05/01/2019

Lab Batch ID: 3087639 **Sample:** 7676976-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1040	104	1000	1010	101	3	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	1090	109	1000	1030	103	6	70-135	20	

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

Form 3 - MS / MSD Recoveries

Project Name: BKU Sat. G Battery

Work Order # : 621482 **Project ID:** 212C-MD-01711

Lab Batch ID: 3086240 **QC- Sample ID:** 621515-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/18/2019 **Date Prepared:** 04/18/2019 **Analyst:** SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000383	0.0994	0.0786	79	0.101	0.0841	83	7	70-130	35	
Toluene	<0.000453	0.0994	0.0781	79	0.101	0.0839	83	7	70-130	35	
Ethylbenzene	<0.000561	0.0994	0.0715	72	0.101	0.0774	77	8	70-130	35	
m,p-Xylenes	<0.00101	0.199	0.141	71	0.201	0.153	76	8	70-130	35	
o-Xylene	0.000393	0.0994	0.0712	71	0.101	0.0773	76	8	70-130	35	

Lab Batch ID: 3087047 **QC- Sample ID:** 622230-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/26/2019 **Date Prepared:** 04/25/2019 **Analyst:** SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00198	0.0992	0.103	104	0.101	0.102	101	1	70-130	35	
Toluene	<0.00198	0.0992	0.0920	93	0.101	0.0921	91	0	70-130	35	
Ethylbenzene	<0.00198	0.0992	0.0965	97	0.101	0.0981	97	2	70-130	35	
m,p-Xylenes	<0.00397	0.198	0.197	99	0.202	0.198	98	1	70-130	35	
o-Xylene	<0.00198	0.0992	0.0975	98	0.101	0.0984	97	1	70-130	35	

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

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

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

Form 3 - MS / MSD Recoveries

Project Name: BKU Sat. G Battery

Work Order # : 621482 **Project ID:** 212C-MD-01711

Lab Batch ID: 3087706 **QC- Sample ID:** 622518-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/01/2019 **Date Prepared:** 05/01/2019 **Analyst:** SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00200	0.0998	0.0915	92	0.0994	0.0951	96	4	70-130	35	
Toluene	<0.00200	0.0998	0.0854	86	0.0994	0.0871	88	2	70-130	35	
Ethylbenzene	<0.00200	0.0998	0.0893	89	0.0994	0.0898	90	1	70-130	35	
m,p-Xylenes	<0.00399	0.200	0.184	92	0.199	0.185	93	1	70-130	35	
o-Xylene	<0.00200	0.0998	0.0901	90	0.0994	0.0907	91	1	70-130	35	

Lab Batch ID: 3087714 **QC- Sample ID:** 622834-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/02/2019 **Date Prepared:** 05/01/2019 **Analyst:** SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00202	0.101	0.0924	91	0.100	0.0930	93	1	70-130	35	
Toluene	<0.00202	0.101	0.0863	85	0.100	0.0811	81	6	70-130	35	
Ethylbenzene	<0.00202	0.101	0.0821	81	0.100	0.0676	68	19	70-130	35	X
m,p-Xylenes	<0.00403	0.202	0.174	86	0.200	0.144	72	19	70-130	35	
o-Xylene	<0.00202	0.101	0.0884	88	0.100	0.0739	74	18	70-130	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

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

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: BKU Sat. G Battery

Work Order # : 621482 **Project ID:** 212C-MD-01711

Lab Batch ID: 3087784 **QC- Sample ID:** 622975-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/03/2019 **Date Prepared:** 05/02/2019 **Analyst:** SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00199	0.0996	0.0962	97	0.100	0.0967	97	1	70-130	35	
Toluene	<0.00199	0.0996	0.0913	92	0.100	0.0911	91	0	70-130	35	
Ethylbenzene	<0.00199	0.0996	0.0969	97	0.100	0.0960	96	1	70-130	35	
m,p-Xylenes	<0.00398	0.199	0.200	101	0.201	0.199	99	1	70-130	35	
o-Xylene	<0.00199	0.0996	0.0996	100	0.100	0.0990	99	1	70-130	35	

Lab Batch ID: 3086261 **QC- Sample ID:** 621482-023 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/18/2019 **Date Prepared:** 04/18/2019 **Analyst:** SPC

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	47.5	249	299	101	249	302	102	1	90-110	20	

Lab Batch ID: 3086261 **QC- Sample ID:** 621515-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/18/2019 **Date Prepared:** 04/18/2019 **Analyst:** SPC

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	4.14	250	257	101	250	254	100	1	90-110	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.

Form 3 - MS / MSD Recoveries

Project Name: BKU Sat. G Battery

Work Order # : 621482 **Project ID:** 212C-MD-01711

Lab Batch ID: 3086484 **QC- Sample ID:** 621515-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/19/2019 **Date Prepared:** 04/19/2019 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	999	883	88	997	888	89	1	70-135	20	
Diesel Range Organics (DRO)	<8.12	999	905	91	997	917	92	1	70-135	20	

Lab Batch ID: 3086863 **QC- Sample ID:** 621715-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/25/2019 **Date Prepared:** 04/24/2019 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	12.7	998	974	96	999	992	98	2	70-135	20	
Diesel Range Organics (DRO)	<8.11	998	1040	104	999	1060	106	2	70-135	20	

Lab Batch ID: 3087232 **QC- Sample ID:** 622383-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/28/2019 **Date Prepared:** 04/27/2019 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<7.98	997	871	87	999	902	90	3	70-135	20	
Diesel Range Organics (DRO)	<8.10	997	811	81	999	856	86	5	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.

Form 3 - MS / MSD Recoveries

Project Name: BKU Sat. G Battery

Work Order # : 621482 **Project ID:** 212C-MD-01711

Lab Batch ID: 3087639 **QC- Sample ID:** 622747-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/01/2019 **Date Prepared:** 05/01/2019 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	999	1020	102	996	1030	103	1	70-135	20	
Diesel Range Organics (DRO)	<8.12	999	1040	104	996	1050	105	1	70-135	20	

Lab Batch ID: 3088044 **QC- Sample ID:** 623115-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/04/2019 **Date Prepared:** 05/04/2019 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	998	978	98	999	1160	116	17	70-135	20	
Diesel Range Organics (DRO)	406	998	1250	85	999	1530	113	20	70-135	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

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

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

900 West Wall Street, Ste 100
Midland,Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

621482

Client Name:	COG	**Site Manager:**	Mike Carmona
Project Name:	BKU Sat. G Battery		
Project Location: (county, state)	Eddy County, New Mexico	**Project #:**	212C-MD-01711
Invoice to:	COG attn. Ike Tavarez		
Receiving Laboratory:	Xenco	**Sampler Signature:**	Joe T/Mike C

Comments: Run deeper samples if TPH (GRO + DRO + MRO) exceeds 2,500 mg/kg or (GRO + DRO) exceeds 1,000 mg/kg. Run deeper samples if benzene exceeds 10 mg/kg or Total BTEX exceeds 50 mg/kg

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD NONE	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R		HOLD
	BH-1 (0'-1')	4/16/2019			X				X		1	N	X		X												X						
	BH-1 (2'-3')	4/16/2019			X				X		1	N	X		X												X						
	BH-1 (4'-5')	4/16/2019			X				X		1	N	X		X												X						
	BH-1 (6'-7')	4/16/2019			X				X		1	N	X		X												X						
	BH-1 (9'-10')	4/16/2019			X				X		1	N	X		X												X						
	BH-1 (14'-15')	4/16/2019			X				X		1	N																					X
	BH-1 (19'-20')	4/16/2019			X				X		1	N	X		X																		
	BH-1 (24'-25')	4/16/2019			X				X		1	N																					X
	BH-1 (29'-30')	4/16/2019			X				X		1	N	X		X																		
	BH-1 (34'-35')	4/16/2019			X				X		1	N																					X

Relinquished by:	Date: 4-17-19	Time: 1621	Received by: Date: 4/17/19 Time: 1621
Relinquished by:	Date:	Time:	Received by: Date: Time:
Relinquished by:	Date:	Time:	Received by: Date: Time:

LAB USE ONLY

Sample Temperature 3.1/3.0 1.2@

REMARKS:

- [ ] STANDARD
- [X] RUSH: Same Day 24 hr 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

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Final 1.002

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Tetra Tech, Inc.

900 West Wall Street, Ste 100
Midland,Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

621482

Client Name:	COG	**Site Manager:**	Mike Carmona
Project Name:	BKU Sat. G Battery		
Project Location: (county, state)	Eddy County, New Mexico	**Project #:**	212C-MD-01711
Invoice to:	COG attn. Ike Tavarez		
Receiving Laboratory:	Xenco	**Sampler Signature:**	Joe T/Mike C

Comments: Run deeper samples if TPH (GRO + DRO + MRO) exceeds 2,500 mg/kg or (GRO + DRO) exceeds 1,000 mg/kg. Run deeper samples if benzene exceeds 10 mg/kg or Total BTEX exceeds 50 mg/kg

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD NONE	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R		HOLD
	BH-1 (39'-40')	4/16/2019			X				X			1	N	X		X																	
	BH-1 (44'-45')	4/16/2019			X				X			1	N																				X
	BH-1 (49'-50')	4/16/2019			X				X			1	N																				X
	BH-1 (54'-55')	4/16/2019			X				X			1	N																				X
	BH-1 (59'-60')	4/16/2019			X				X			1	N																				X
	BH-1 (64'-65')	4/16/2019			X				X			1	N																				X
	BH-1 (69'-70')	4/16/2019			X				X			1	N																				X
	BH-1 (79'-80')	4/16/2019			X				X			1	N																				X
	BH-1 (89'-90')	4/16/2019			X				X			1	N																				X

ANALYSIS REQUEST
(Circle or Specify Method No.)

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
	4-17-19	1620		4/17/19	1620
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature

5.1/3.0

REMARKS:

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

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

900 West Wall Street, Ste 100
Midland,Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

602482

Client Name:	COG	**Site Manager:**	Mike Carmona
Project Name:	BKU Sat. G Battery		
Project Location: (county, state)	Eddy County, New Mexico	**Project #:**	212C-MD-01711
Invoice to:	COG attn. Ike Tavarez		
Receiving Laboratory:	Xenco	**Sampler Signature:**	Joe T/Mike C

Comments: Run deeper samples if TPH (GRO + DRO + MRO) exceeds 2,500 mg/kg or (GRO + DRO) exceeds 1,000 mg/kg. Run deeper samples if benzene exceeds 10 mg/kg or Total BTEX exceeds 50 mg/kg

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD NONE	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R		HOLD
	BH-2 (0'-1')	4/16/2019			X				X			1	N	X		X												X						
	BH-2 (2'-3')	4/16/2019			X				X			1	N	X		X												X						
	BH-2 (4'-5')	4/16/2019			X				X			1	N	X		X												X						
	BH-2 (6'-7')	4/16/2019			X				X			1	N	X		X												X						
	BH-2 (9'-10')	4/16/2019			X				X			1	N	X		X												X						
	BH-2 (14'-15')	4/16/2019			X				X			1	N																					X
	BH-2 (19'-20')	4/16/2019			X				X			1	N																					X
	BH-2 (24'-25')	4/16/2019			X				X			1	N																					X
	BH-2 (29'-30')	4/16/2019			X				X			1	N																					X
	BH-2 (34'-35')	4/16/2019			X				X			1	N																					X

Relinquished by:	Date: 4-17-19	Time: 1620	Received by: Date: 4/17/19 Time: 1620
Relinquished by:	Date:	Time:	Received by: Date: Time:
Relinquished by:	Date:	Time:	Received by: Date: Time:

LAB USE ONLY
Sample Temperature 3-1 | 30

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

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

900 West Wall Street, Ste 100
Midland,Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

621482

Client Name:	COG	**Site Manager:**	Mike Carmona
Project Name:	BKU Sat. G Battery		
Project Location: (county, state)	Eddy County, New Mexico	**Project #:**	212C-MD-01711
Invoice to:	COG attn. Ike Tavarez		
Receiving Laboratory:	Xenco	**Sampler Signature:**	Joe T/Mike C

Comments: Run deeper samples if TPH (GRO + DRO + MRO) exceeds 2,500 mg/kg or (GRO + DRO) exceeds 1,000 mg/kg. Run deeper samples if benzene exceeds 10 mg/kg or Total BTEX exceeds 50 mg/kg

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	MATRIX:	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	PRESERVATIVE METHOD: NONE	PRESERVATIVE METHOD:	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R		HOLD
	BH-2 (39'-40')	4/16/2019			X				X			1	N																				X
	BH-2 (44'-45')	4/16/2019			X				X			1	N																				X
	BH-2 (49'-50')	4/16/2019			X				X			1	N																				X
	BH-2 (59'-60')	4/16/2019			X				X			1	N																				X

Relinquished by:	Date: 4-17-19	Time: 1620	Received by:	Date: 4/17/19	Time: 1620
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature 3.1/3.0

REMARKS:

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

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 04/17/2019 04:21:00 PM

Work Order #: 621482

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**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: Katie Lowe Date: 04/17/2019

Checklist reviewed by: Kalei Stout Date: 04/18/2019