APPROVED
By Olivia Yu at 12:00 pm, Dec 28, 2017

NMOCD approves of the delineation completed and proposed remediation for 1RP-4673. See email correspondence for stipulations.

ETECH
Environmental & Safety Solutions, Inc.

Electronic Correspondence

December 12, 2017

Ms. Olivia Wu
Environmental Specialist
State of New Mexico
Oil Conservation Division
1625 N. French Drive
Hobbs, NM 88240
Olivia.wu@state.nm.us

Re: Assessment Report & Corrective Action Plan
Nearburg Producing – Chisolm Energy Pennzoil Battery
API No.: 30-025-26498, U-l, Sec 1, T19S, R33E – 2180' FSL & 660 FEL
Depth to Groundwater: 415-420' (USGS)
Lea County, NM
Latitude: 32.687958, Longitude: -103.6100569
RP#: 1RP-4673

Dear Ms. Wu:

Etech Environmental & Safety Solutions, Inc. (Etech) has been contracted by Nearburg Producing Company (Nearburg) to provide environmental services including mitigation on the Pennzoil Battery, 1RP-4673 which is currently operated by Chisolm Energy. As a part of the move towards completion of mitigation, Etech has performed an assessment of the site and also developed a corrective action plan pending your review and approval. Details of the assessment and the proposed corrective actions are presented below.

Assessment

Background

A release occurred at the site on March 27, 2017. The source of the release was from production processing equipment (heater treater). Notification was placed to Kent Caffal & Shelly Tucker (BLM) on the following day. According to the C-141, the release was listed as 65 bbls, with 30 bbls recovered. Corrective actions described were the excavation, transportation and disposal of the impacted soil to the R360 landfill following with the backfilling of the excavation. During the initial phase of the assessment, data collection on the events concerning the release and corrective actions were performed by Etech. It was found that Nearburg had sold the property to Chisolm Energy and former employees of Nearburg were no longer available to substantiate the information on the nature of the release, actual volumes reported, or what corrective actions had been taken. However, the course of the corrective action was consistent with what Nearburg had employed on similar spills as part of its standard operating procedures.

Physical Inspection

The site consisted of production storage tanks located on the south side of the pad on an east-west orientation. Production processing equipment including free water knockouts and a heater treater were located along the north side of the pad. There were separate containments for the storage tanks and production processing equipment. The heater treater was located closer to the west side of the pad near the northwest corner. Secondary containment for the production processing equipment was an inverted "L" shape approximately 120 feet long on the west side (long leg of the L), 20 feet wide and 2 feet tall. The northern portion of the containment that contained the free water knockouts was 55 feet long, 65feet wide and 2 feet tall. The heater treater was in the longer leg of the Inverted L.

The interior of the containment did not show any signs of significant impacts in the bottom or sides of the containment. There was an area directly west of the heater treater that had a slight discoloration. This area was approximately 60 feet long and 3-4 feet wide. It was also noted that this area was slightly concaved.

Delineation

Five (5) sampling points were selected within the discolored area. They were noted as follows:

SP 1:.....North end of discoloration
SP2: .....Between the heater treater and SP 1
SP 3:.....South of the heater treater and the end of the discoloration
SP 4: .....Southern end of the discoloration
SP 5:.....Due west of the heater treater

A hand auger was used to advance soil boings at each point. Samples were collected in 1 foot intervals. Each sample was evaluated for color and odor, then placed in a certified clean glass jar and chilled. A summary of the physical findings of each sample point are as follows:

Sample Point (SP)	Depth (ft.)	Composition	Color	Odor	Other Remarks
1	0-1	fine sandy loam	gray-tan	Strong	
1	1-2	fine sandy loam	tan	Slight	
1	2-3	fine sandy loam	tan	None	Refusal met after this sample was collected, boring terminated.
2	0-1	fine sandy loam	tan	None	
2	1-2	fine sandy loam	tan	None	
2	2-3	fine sandy loam	tan	None	Refusal met after this sample was collected, boring terminated.
3	0-1	fine sandy loam	tan	None	
3	1-2	fine sandy loam	tan	None	
3	2-3	fine sandy loam	tan	None	Refusal met after this sample was collected, boring terminated.
4	0-1	fine sandy loam	tan	None	
4	1-2	fine sandy loam	tan	None	
4	2-3	fine sandy loam	tan	None	Refusal met after this sample was collected, boring terminated.
5	0-1	fine sandy loam	gray tan	Strong	Sample moist, no free product noted
5	1-2	fine sandy loam	tan	Faint	Sample moist, no free product noted
5	2-3	fine sandy loam	tan	None	Sample moist, no free product noted
5	3-4	fine sandy loam	tan	Faint	Sample moist, no free product noted
5	4-5	fine sandy loam & clay	tan-gray	None	Sample slightly moist, bottom 2"of core was clay. Potential confining layer, boring terminated.

Samples were sent to Permian Basin Environmental Laboratories in Midland, Texas. Samples were analyzed for Total Petroleum Hydrocarbons, (TPH) by method 8015 modified, Chlorides by Standard Methods, and Benzene, Toluene, Ethylbenzene and M & P Xylenes (BTEX) by Gas Chromatography. Progressive analyses was utilized once a sample had cleared regulatory threshold levels, the next sample in line for the respective boring was not analyzed. The results of analyses are as follows:

Results of analyses following remediation activities are as follows:

Summary of Delineation Sampling Analytical Results
Total Petroleum Hydrocarbons - [TPH (mg/kg)] & Chlorides (mg/kg)

Sample #	Depth (ft)	Date	TPH C6-C12	TPH >C12-C28	TPH <C28-C35	Total TPH	Chlorides
SP-1	0-1	10/11/17	3050	9050	1520	13600	ND
SP-1	1-2	10/11/17	ND	100	29.1	130	NA
SP-1	2-3	10/11/17	ND	ND	ND	ND	NA
SP-2	0-1	10/11/17	ND	ND	ND	ND	ND
SP-3	0-1	10/11/17	ND	ND	ND	ND	492
SP-4	0-1	10/11/17	ND	ND	ND	ND	28.5
SP-5	0-1	10/11/17	54.2	3040	600	3690	4500
SP-5	1-2	10/11/17	ND	181	142	323	1340
SP-5	2-3	10/11/17	ND	212	102	314	1240
SP-5	3-4	10/11/17	ND	717	150	867	1960
SP-5	4-5	10/11/17	ND	45.6	ND	45.6	194

* ND = Non-Detect
NA = Not Analyzed

Summary of Delineation Sampling Analytical Results for BTEX (mg/kg)

Sample #	Depth (ft)	Date	Benzene	Toluene	Ethylbenzene	Xylene (p/m)	Xylene (o)
SP-1	0-1	10/11/17	ND	ND	0.214	5.52	4.43
SP-1	1-2	10/11/17	ND	ND	ND	ND	ND
SP-2	0-1	10/11/17	ND	ND	ND	ND	ND
SP-3	0-1	10/11/17	ND	ND	ND	ND	ND
SP-4	0-1	10/11/17	ND	ND	ND	ND	ND
SP-5	0-1	10/11/17	ND	0.598	0.254	0.762	0.405
SP-5	1-2	10/11/17	ND	ND	ND	ND	ND

* ND = Non-Detect

All sampling equipment was thoroughly decontaminated between each sample collection. Nitrile gloves were used when handling each sample and changed between each sample collection. All samples were placed in certified clean glass jars then immediately chilled. Routine chain of custody was observed in all phases.

Conclusion

Based upon all of the data collected from the assessment there does appear to be impacted soils adjacent to, north, and south of the heater treater. However, with the exception of the area directly next to the treater, the majority of the impacts are confined to the first 1-2 feet of soil. The area adjacent to the treater (SP5) does extend further vertically but appears to clear regulatory threshold levels by 4 feet vertical. However, due to the nature of the close proximity to the heater treater and the nature of the soils in the area, complete mitigation may not prove practicable.

Supportive documentation for the assessment is provided as follows:

The corrective action plan for the mitigation of the site is provided on the next page.

Corrective Action Plan

Scope of Work

The scope of this project is for the remediation of a produced water/hydrocarbon impact. Completion of remediation will involve the following actions:

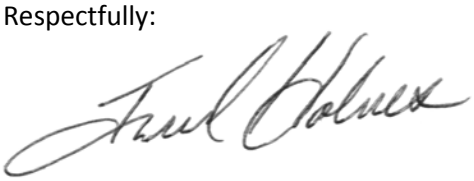
1. Placement of a one-call for utility location.
2. Excavation of impacted soils in pasture areas until the chloride levels are less than 1,000 mg/kg and/or hydrocarbon levels of less than 5,000 mg/kg are reached. However, with respect to SP-5, the maximum depth that can be safely achieved next to the treater is 2.5 feet vertical and will have to be sloped away from the treater itself.
3. Once excavation has reached the desired objective, the bottom of the excavation will be sampled to confirm that remediation goals have been reached. If the excavation depth is greater than 2 feet vertical, side wall samples will be collected as well. Samples will be collected from the same sample points used during the assessment and will be analyzed for the same parameters as used in the assessment.
4. If the results of analysis determine that the contaminant levels are above regulatory threshold levels, additional excavation will be performed until the remediation objectives are met. It should be noted that there may be circumstance that arise where additional excavation is not practical. This includes reaching the limits of excavation with chlorides that are close to objective levels, safety issues such as the close proximity of equipment, or other site specific issues. In this event, you will be contacted to discuss the issue at hand and determine any alternative course of action that could be employed or if the site can be backfilled.
5. Backfilling of the excavated area(s) will be achieved by placing clean fill similar to the existing material from the site to within 6 inches of the surface. The last 6" will be backfilled with caliche.

Notifications and Special Conditions

1. The OCD and BLM will be notified prior to the commencement of on-site operations.
2. The OCD and BLM will be notified prior to any sampling event to allow the opportunity to witness the sampling events. Splits will be made available if requested.
3. The OCD and BLM (if applicable) will be notified when the mitigation is complete.
4. A final report documenting the closure of the site will be submitted along with a final C-141 and Sundry Notice to the BLM.

Thank you for your assistance on this matter. Should you have any questions, require additional information, or have any additional stipulations for this site, me at (432) 631-3757 (cell) or via email at fred@etechenv.com.

Respectfully:



Fred Holmes
Senior Project Manager

Attachment A
Annotated Aerial Imagery and Topographic Map

Delineation & Assessment Report ©	Lease Name:	Pennzoil Battery	Case No.:	1RP-4673
	Date Assessed:	09/12/17 & 10/11/17	Project No:	894-8706-000

Assessment Results

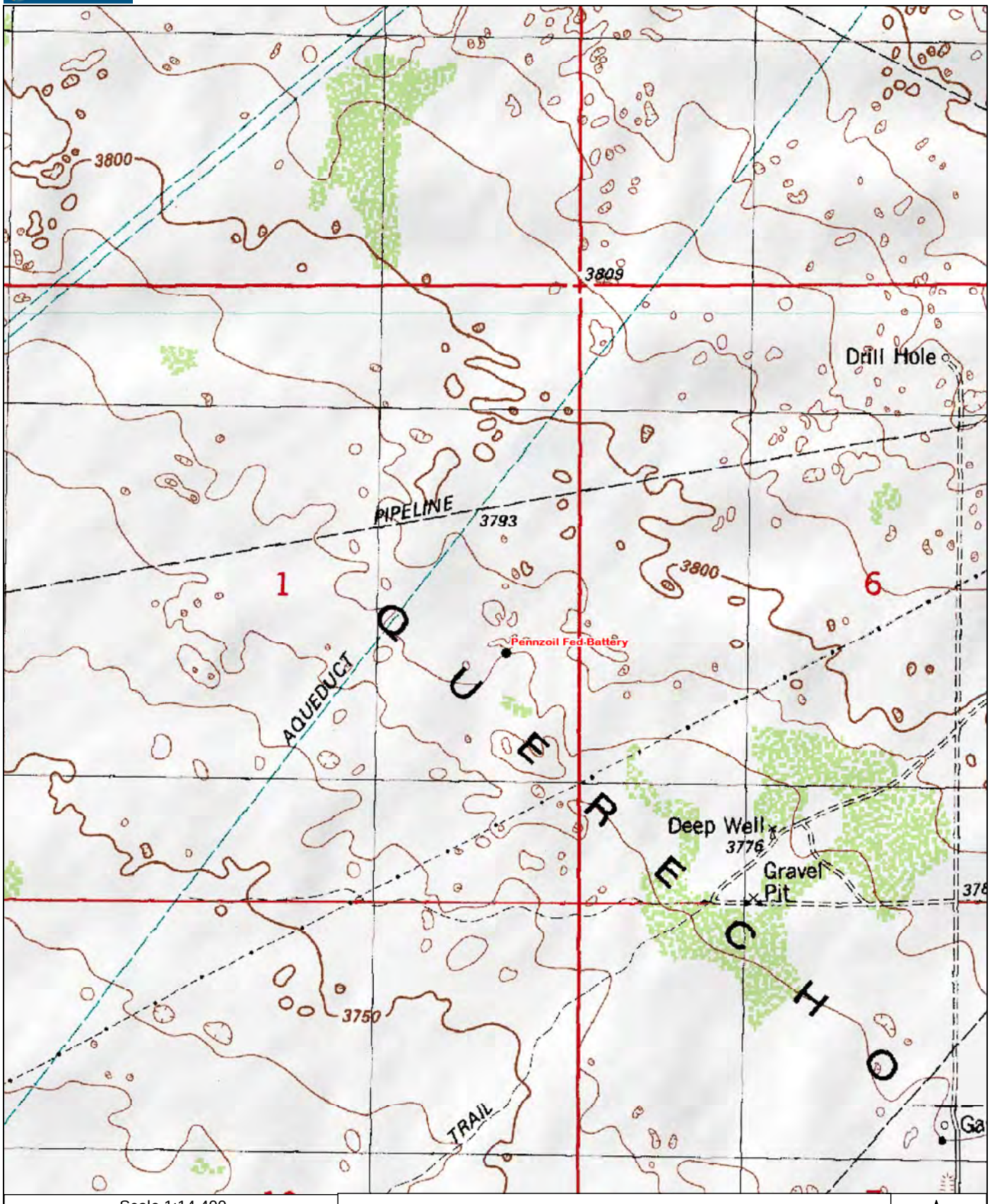
Sample I.D.	Depth (ft.)	Chlorides (mg/kg)	TPH (mg/kg)
SP1	0-1	ND	13600
SP1	1-2	NA	140
SP1	2-3	NA	ND
SP2	0-1	ND	ND
SP3	0-1	492	ND
SP4	0-1	28.5	ND
SP5	0-1	4500	3690
SP5	1-2	1340	323
SP5	2-3	1240	314
SP5	3-4	1960	867
SP5	4-5	194	45.6

Assessment BTEX Results

Sample I.D.	Depth (ft.)	B	T	E	X
SP1	0-1	ND	ND	0.214	9.95
SP1	1-2	ND	ND	ND	ND
SP2	0-1	ND	ND	ND	ND
SP3	0-1	ND	ND	ND	ND
SP4	0-1	ND	ND	ND	ND
SP5	0-1	0.598	0.254	0.762	0.405
SP5	1-2	ND	ND	ND	ND

Notes:

- ND= Non Detect, NA=Not Analyzed
- Encountered Refusal at 3' on SPs 1,2, 3,and 4.
- Encountered Dense Clay Layer at the bottom of the 4-5 interval (`2" of core). Terminated as potential confining layer.



Scale 1:14,400

0 400 800 1200 1600 2000 2400 ft

1" = 1,200.0 ft Data Zoom 13-7

Site Topographic Map
Pennzoil Fed Battery

MN (6.8° E)

Attachment B
USGS Groundwater Data

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater ▼ Geographic Area: United States ▼ GO

Click to hideNews Bulletins

- Please see news on new formats
- Full News

Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =
- 324126103411201

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

USGS 324126103411201 19S.33E.05.12322

Groundwater: Field measurements ▼ GO

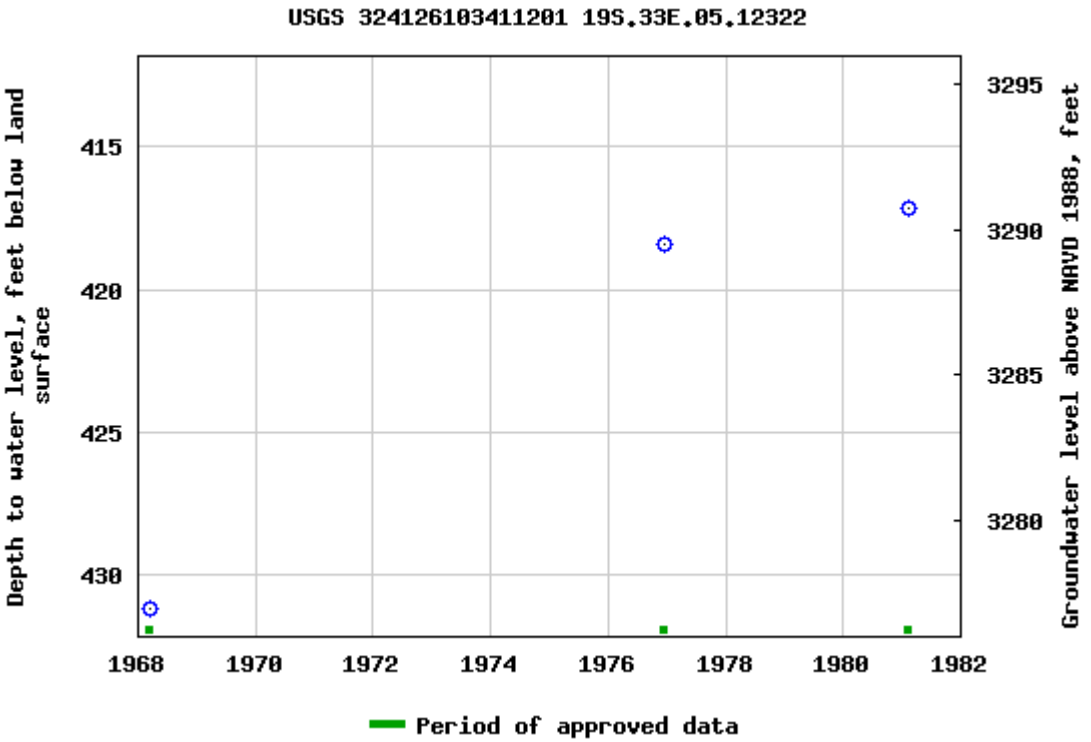
Lea County, New Mexico
Hydrologic Unit Code 13060011
Latitude 32°41'26", Longitude 103°41'12" NAD27
Land-surface elevation 3,708 feet above NAVD88
The depth of the well is 700 feet below land surface.
This well is completed in the Santa Rosa Sandstone (231SNRS) local aquifer.

Output formats

Table of data
Tab-separated data

Graph of data

Reselect period



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

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

U.S. Department of the Interior | U.S. Geological Survey
Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2017-12-12 18:37:04 EST
0.98 0.86 nadww01

Attachment C
Laboratory Analytical Data

PERMIAN BASIN
ENVIRONMENTAL LAB, LP
1400 Rankin Hwy
Midland, TX 79701

PBELAB

Analytical Report

Prepared for:

Fred Holmes
E Tech Environmental & Safety Solutions, Inc.
13000 West County Road 100
Odessa, TX 79765

Project: Pennzoil Battery
Project Number: 894-8706
Location: NM

Lab Order Number: 7J12018

NELAP/TCEQ # T104704516-16-7

Report Date: 10/16/17

E Tech Environmental & Safety Solutions, Inc.
13000 West County Road 100
Odessa TX, 79765

Project: Pennzoil Battery
Project Number: 894-8706
Project Manager: Fred Holmes

Fax: (432) 563-2213

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SP1 0-1'	7J12018-01	Soil	10/11/17 12:00	10-12-2017 13:14
SP1 1-2'	7J12018-02	Soil	10/11/17 12:10	10-12-2017 13:14
SP1 2-3'	7J12018-03	Soil	10/11/17 12:20	10-12-2017 13:14
SP2 0-1'	7J12018-04	Soil	10/11/17 12:30	10-12-2017 13:14
SP3 0-1'	7J12018-07	Soil	10/11/17 12:45	10-12-2017 13:14
SP4 0-1'	7J12018-10	Soil	10/11/17 13:05	10-12-2017 13:14
SP5 0-1'	7J12018-13	Soil	10/11/17 13:25	10-12-2017 13:14
SP5 1-2'	7J12018-14	Soil	10/11/17 13:30	10-12-2017 13:14
SP5 2-3'	7J12018-15	Soil	10/11/17 13:35	10-12-2017 13:14
SP5 3-4'	7J12018-16	Soil	10/11/17 13:40	10-12-2017 13:14
SP5 4-5'	7J12018-17	Soil	10/11/17 13:50	10-12-2017 13:14

E Tech Environmental & Safety Solutions, Inc.
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Odessa TX, 79765

Project: Pennzoil Battery
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Project Manager: Fred Holmes

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SP1 0-1'

7J12018-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.0217	mg/kg dry	20	P7J1214	10/12/17	10/13/17	EPA 8021B	
Toluene	ND	0.0435	mg/kg dry	20	P7J1214	10/12/17	10/13/17	EPA 8021B	
Ethylbenzene	**0.214**	0.0217	mg/kg dry	20	P7J1214	10/12/17	10/13/17	EPA 8021B	
Xylene (p/m)	**5.52**	0.0435	mg/kg dry	20	P7J1214	10/12/17	10/13/17	EPA 8021B	
Xylene (o)	**4.43**	0.0217	mg/kg dry	20	P7J1214	10/12/17	10/13/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*103 %*	*75-125*		*P7J1214*	*10/12/17*	*10/13/17*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*98.8 %*	*75-125*		*P7J1214*	*10/12/17*	*10/13/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	ND	1.09	mg/kg dry	1	P7J1301	10/13/17	10/13/17	EPA 300.0	
% Moisture	**8.0**	0.1	%	1	P7J1305	10/13/17	10/13/17	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	**3050**	136	mg/kg dry	5	P7J1206	10/12/17	10/13/17	TPH 8015M	
>C12-C28	**9050**	136	mg/kg dry	5	P7J1206	10/12/17	10/13/17	TPH 8015M	
>C28-C35	**1520**	136	mg/kg dry	5	P7J1206	10/12/17	10/13/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*116 %*	*70-130*		*P7J1206*	*10/12/17*	*10/13/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*131 %*	*70-130*		*P7J1206*	*10/12/17*	*10/13/17*	*TPH 8015M*	*S-GC*
Total Petroleum Hydrocarbon C6-C35	**13600**	136	mg/kg dry	5	[CALC]	10/12/17	10/13/17	calc	

SP1 1-2'

7J12018-02 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00104	mg/kg dry	1	P7J1214	10/12/17	10/12/17	EPA 8021B	
Toluene	ND	0.00208	mg/kg dry	1	P7J1214	10/12/17	10/12/17	EPA 8021B	
Ethylbenzene	ND	0.00104	mg/kg dry	1	P7J1214	10/12/17	10/12/17	EPA 8021B	
Xylene (p/m)	ND	0.00208	mg/kg dry	1	P7J1214	10/12/17	10/12/17	EPA 8021B	
Xylene (o)	ND	0.00104	mg/kg dry	1	P7J1214	10/12/17	10/12/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*92.0 %*	*75-125*		*P7J1214*	*10/12/17*	*10/12/17*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*98.0 %*	*75-125*		*P7J1214*	*10/12/17*	*10/12/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
% Moisture	**4.0**	0.1	%	1	P7J1305	10/13/17	10/13/17	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	26.0	mg/kg dry	1	P7J1206	10/12/17	10/13/17	TPH 8015M	
>C12-C28	**100**	26.0	mg/kg dry	1	P7J1206	10/12/17	10/13/17	TPH 8015M	
>C28-C35	**29.1**	26.0	mg/kg dry	1	P7J1206	10/12/17	10/13/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*104 %*	*70-130*		*P7J1206*	*10/12/17*	*10/13/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*122 %*	*70-130*		*P7J1206*	*10/12/17*	*10/13/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**130**	26.0	mg/kg dry	1	[CALC]	10/12/17	10/13/17	calc	

E Tech Environmental & Safety Solutions, Inc.
13000 West County Road 100
Odessa TX, 79765

Project: Pennzoil Battery
Project Number: 894-8706
Project Manager: Fred Holmes

Fax: (432) 563-2213

SP1 2-3'

7J12018-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
% Moisture	**5.0**	0.1	%	1	P7J1305	10/13/17	10/13/17	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	26.3	mg/kg dry	1	P7J1206	10/12/17	10/13/17	TPH 8015M	
>C12-C28	ND	26.3	mg/kg dry	1	P7J1206	10/12/17	10/13/17	TPH 8015M	
>C28-C35	ND	26.3	mg/kg dry	1	P7J1206	10/12/17	10/13/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*71.2 %*	*70-130*		*P7J1206*	*10/12/17*	*10/13/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*83.5 %*	*70-130*		*P7J1206*	*10/12/17*	*10/13/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	26.3	mg/kg dry	1	[CALC]	10/12/17	10/13/17	calc	

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Odessa TX, 79765

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SP2 0-1'

7J12018-04 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00110	mg/kg dry	1	P7J1214	10/12/17	10/13/17	EPA 8021B	
Toluene	ND	0.00220	mg/kg dry	1	P7J1214	10/12/17	10/13/17	EPA 8021B	
Ethylbenzene	ND	0.00110	mg/kg dry	1	P7J1214	10/12/17	10/13/17	EPA 8021B	
Xylene (p/m)	ND	0.00220	mg/kg dry	1	P7J1214	10/12/17	10/13/17	EPA 8021B	
Xylene (o)	ND	0.00110	mg/kg dry	1	P7J1214	10/12/17	10/13/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*107 %*	*75-125*		*P7J1214*	*10/12/17*	*10/13/17*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*97.4 %*	*75-125*		*P7J1214*	*10/12/17*	*10/13/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	ND	1.10	mg/kg dry	1	P7J1301	10/13/17	10/13/17	EPA 300.0	
% Moisture	**9.0**	0.1	%	1	P7J1305	10/13/17	10/13/17	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.5	mg/kg dry	1	P7J1206	10/12/17	10/13/17	TPH 8015M	
>C12-C28	ND	27.5	mg/kg dry	1	P7J1206	10/12/17	10/13/17	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P7J1206	10/12/17	10/13/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*109 %*	*70-130*		*P7J1206*	*10/12/17*	*10/13/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*128 %*	*70-130*		*P7J1206*	*10/12/17*	*10/13/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	27.5	mg/kg dry	1	[CALC]	10/12/17	10/13/17	calc	

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SP3 0-1'

7J12018-07 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00103	mg/kg dry	1	P7J1214	10/12/17	10/13/17	EPA 8021B	
Toluene	ND	0.00206	mg/kg dry	1	P7J1214	10/12/17	10/13/17	EPA 8021B	
Ethylbenzene	ND	0.00103	mg/kg dry	1	P7J1214	10/12/17	10/13/17	EPA 8021B	
Xylene (p/m)	ND	0.00206	mg/kg dry	1	P7J1214	10/12/17	10/13/17	EPA 8021B	
Xylene (o)	ND	0.00103	mg/kg dry	1	P7J1214	10/12/17	10/13/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*88.2 %*	*75-125*		*P7J1214*	*10/12/17*	*10/13/17*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*94.4 %*	*75-125*		*P7J1214*	*10/12/17*	*10/13/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**492**	1.03	mg/kg dry	1	P7J1301	10/13/17	10/13/17	EPA 300.0	
% Moisture	**3.0**	0.1	%	1	P7J1305	10/13/17	10/13/17	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	25.8	mg/kg dry	1	P7J1213	10/12/17	10/13/17	TPH 8015M	
>C12-C28	ND	25.8	mg/kg dry	1	P7J1213	10/12/17	10/13/17	TPH 8015M	
>C28-C35	ND	25.8	mg/kg dry	1	P7J1213	10/12/17	10/13/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*96.4 %*	*70-130*		*P7J1213*	*10/12/17*	*10/13/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*115 %*	*70-130*		*P7J1213*	*10/12/17*	*10/13/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	25.8	mg/kg dry	1	[CALC]	10/12/17	10/13/17	calc	

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Project: Pennzoil Battery
Project Number: 894-8706
Project Manager: Fred Holmes

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SP4 0-1'

7J12018-10 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00104	mg/kg dry	1	P7J1214	10/12/17	10/13/17	EPA 8021B	
Toluene	ND	0.00208	mg/kg dry	1	P7J1214	10/12/17	10/13/17	EPA 8021B	
Ethylbenzene	ND	0.00104	mg/kg dry	1	P7J1214	10/12/17	10/13/17	EPA 8021B	
Xylene (p/m)	ND	0.00208	mg/kg dry	1	P7J1214	10/12/17	10/13/17	EPA 8021B	
Xylene (o)	ND	0.00104	mg/kg dry	1	P7J1214	10/12/17	10/13/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*104 %*	*75-125*		*P7J1214*	*10/12/17*	*10/13/17*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*105 %*	*75-125*		*P7J1214*	*10/12/17*	*10/13/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**28.5**	1.04	mg/kg dry	1	P7J1301	10/13/17	10/13/17	EPA 300.0	
% Moisture	**4.0**	0.1	%	1	P7J1305	10/13/17	10/13/17	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	26.0	mg/kg dry	1	P7J1213	10/12/17	10/13/17	TPH 8015M	
>C12-C28	ND	26.0	mg/kg dry	1	P7J1213	10/12/17	10/13/17	TPH 8015M	
>C28-C35	ND	26.0	mg/kg dry	1	P7J1213	10/12/17	10/13/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*93.7 %*	*70-130*		*P7J1213*	*10/12/17*	*10/13/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*111 %*	*70-130*		*P7J1213*	*10/12/17*	*10/13/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	26.0	mg/kg dry	1	[CALC]	10/12/17	10/13/17	calc	

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SP5 0-1'

7J12018-13 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.0235	mg/kg dry	20	P7J1214	10/12/17	10/13/17	EPA 8021B	
Toluene	**0.598**	0.0471	mg/kg dry	20	P7J1214	10/12/17	10/13/17	EPA 8021B	
Ethylbenzene	**0.254**	0.0235	mg/kg dry	20	P7J1214	10/12/17	10/13/17	EPA 8021B	
Xylene (p/m)	**0.762**	0.0471	mg/kg dry	20	P7J1214	10/12/17	10/13/17	EPA 8021B	
Xylene (o)	**0.405**	0.0235	mg/kg dry	20	P7J1214	10/12/17	10/13/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*98.5 %*	*75-125*		*P7J1214*	*10/12/17*	*10/13/17*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*96.0 %*	*75-125*		*P7J1214*	*10/12/17*	*10/13/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**4500**	5.88	mg/kg dry	5	P7J1301	10/13/17	10/13/17	EPA 300.0	
% Moisture	**15.0**	0.1	%	1	P7J1305	10/13/17	10/13/17	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	**54.2**	29.4	mg/kg dry	1	P7J1213	10/12/17	10/16/17	TPH 8015M	
>C12-C28	**3040**	29.4	mg/kg dry	1	P7J1213	10/12/17	10/16/17	TPH 8015M	
>C28-C35	**600**	29.4	mg/kg dry	1	P7J1213	10/12/17	10/16/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*101 %*	*70-130*		*P7J1213*	*10/12/17*	*10/16/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*122 %*	*70-130*		*P7J1213*	*10/12/17*	*10/16/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**3690**	29.4	mg/kg dry	1	[CALC]	10/12/17	10/16/17	calc	

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SP5 1-2'

7J12018-14 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.0211	mg/kg dry	20	P7J1214	10/12/17	10/13/17	EPA 8021B	
Toluene	ND	0.0421	mg/kg dry	20	P7J1214	10/12/17	10/13/17	EPA 8021B	
Ethylbenzene	ND	0.0211	mg/kg dry	20	P7J1214	10/12/17	10/13/17	EPA 8021B	
Xylene (p/m)	ND	0.0421	mg/kg dry	20	P7J1214	10/12/17	10/13/17	EPA 8021B	
Xylene (o)	ND	0.0211	mg/kg dry	20	P7J1214	10/12/17	10/13/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*100 %*	*75-125*		*P7J1214*	*10/12/17*	*10/13/17*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*103 %*	*75-125*		*P7J1214*	*10/12/17*	*10/13/17*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**1340**	5.26	mg/kg dry	5	P7J1301	10/13/17	10/13/17	EPA 300.0	
% Moisture	**5.0**	0.1	%	1	P7J1305	10/13/17	10/13/17	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	26.3	mg/kg dry	1	P7J1213	10/12/17	10/16/17	TPH 8015M	
>C12-C28	**181**	26.3	mg/kg dry	1	P7J1213	10/12/17	10/16/17	TPH 8015M	
>C28-C35	**142**	26.3	mg/kg dry	1	P7J1213	10/12/17	10/16/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*100 %*	*70-130*		*P7J1213*	*10/12/17*	*10/16/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*119 %*	*70-130*		*P7J1213*	*10/12/17*	*10/16/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**323**	26.3	mg/kg dry	1	[CALC]	10/12/17	10/16/17	calc	

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SP5 2-3'

7J12018-15 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**1240**	1.05	mg/kg dry	1	P7J1301	10/13/17	10/13/17	EPA 300.0	
% Moisture	**5.0**	0.1	%	1	P7J1305	10/13/17	10/13/17	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	26.3	mg/kg dry	1	P7J1213	10/12/17	10/16/17	TPH 8015M	
>C12-C28	**212**	26.3	mg/kg dry	1	P7J1213	10/12/17	10/16/17	TPH 8015M	
>C28-C35	**102**	26.3	mg/kg dry	1	P7J1213	10/12/17	10/16/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*99.4 %*	*70-130*		*P7J1213*	*10/12/17*	*10/16/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*118 %*	*70-130*		*P7J1213*	*10/12/17*	*10/16/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**314**	26.3	mg/kg dry	1	[CALC]	10/12/17	10/16/17	calc	

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SP5 3-4'

7J12018-16 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**1960**	1.08	mg/kg dry	1	P7J1301	10/13/17	10/13/17	EPA 300.0	
% Moisture	**7.0**	0.1	%	1	P7J1305	10/13/17	10/13/17	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	26.9	mg/kg dry	1	P7J1213	10/12/17	10/14/17	TPH 8015M	
>C12-C28	**717**	26.9	mg/kg dry	1	P7J1213	10/12/17	10/14/17	TPH 8015M	
>C28-C35	**150**	26.9	mg/kg dry	1	P7J1213	10/12/17	10/14/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*101 %*	*70-130*		*P7J1213*	*10/12/17*	*10/14/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*122 %*	*70-130*		*P7J1213*	*10/12/17*	*10/14/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**867**	26.9	mg/kg dry	1	[CALC]	10/12/17	10/14/17	calc	

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Odessa TX, 79765	Project Manager: Fred Holmes	

SP5 4-5'

7J12018-17 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**194**	1.06	mg/kg dry	1	P7J1301	10/13/17	10/13/17	EPA 300.0	
% Moisture	**6.0**	0.1	%	1	P7J1305	10/13/17	10/13/17	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	26.6	mg/kg dry	1	P7J1213	10/12/17	10/14/17	TPH 8015M	
>C12-C28	**45.6**	26.6	mg/kg dry	1	P7J1213	10/12/17	10/14/17	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P7J1213	10/12/17	10/14/17	TPH 8015M	
Surrogate: 1-Chlorooctane		*98.4 %*	*70-130*		*P7J1213*	*10/12/17*	*10/14/17*	*TPH 8015M*	
Surrogate: o-Terphenyl		*116 %*	*70-130*		*P7J1213*	*10/12/17*	*10/14/17*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**45.6**	26.6	mg/kg dry	1	[CALC]	10/12/17	10/14/17	calc	

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Organics by GC - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P7J1214 - General Preparation (GC)										
Blank (P7J1214-BLK1)				Prepared & Analyzed: 10/12/17						
Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	*0.0564*		*"*	*0.0600*		*93.9*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0599*		*"*	*0.0600*		*99.8*	*75-125*			
LCS (P7J1214-BS1)				Prepared & Analyzed: 10/12/17						
Benzene	0.112	0.00100	mg/kg wet				70-130			
Toluene	0.106	0.00200	"				70-130			
Ethylbenzene	0.116	0.00100	"				70-130			
Xylene (p/m)	0.218	0.00200	"				70-130			
Xylene (o)	0.117	0.00100	"				70-130			
Surrogate: 4-Bromofluorobenzene	*0.0605*		*"*	*0.0600*		*101*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.0640*		*"*	*0.0600*		*107*	*75-125*			
LCS Dup (P7J1214-BSD1)				Prepared & Analyzed: 10/12/17						
Benzene	0.112	0.00100	mg/kg wet				70-130		20	
Toluene	0.109	0.00200	"				70-130		20	
Ethylbenzene	0.117	0.00100	"				70-130		20	
Xylene (p/m)	0.212	0.00200	"				70-130		20	
Xylene (o)	0.117	0.00100	"				70-130		20	
Surrogate: 1,4-Difluorobenzene	*0.0628*		*"*	*0.0600*		*105*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0631*		*"*	*0.0600*		*105*	*75-125*			
Calibration Check (P7J1214-CCV1)				Prepared & Analyzed: 10/12/17						
Benzene	0.110	0.00100	mg/kg wet	0.100		110	80-120			
Toluene	0.106	0.00200	"	0.100		106	80-120			
Ethylbenzene	0.107	0.00100	"	0.100		107	80-120			
Xylene (p/m)	0.219	0.00200	"	0.200		110	80-120			
Xylene (o)	0.114	0.00100	"	0.100		114	80-120			
Surrogate: 4-Bromofluorobenzene	*0.0602*		*"*	*0.0600*		*100*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.0642*		*"*	*0.0600*		*107*	*75-125*			

Organics by GC - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P7J1214 - General Preparation (GC)										
Calibration Check (P7J1214-CCV2)				Prepared: 10/12/17 Analyzed: 10/13/17						
Benzene	0.106	0.00100	mg/kg wet	0.100		106	80-120			
Toluene	0.0968	0.00200	"	0.100		96.8	80-120			
Ethylbenzene	0.100	0.00100	"	0.100		100	80-120			
Xylene (p/m)	0.216	0.00200	"	0.200		108	80-120			
Xylene (o)	0.114	0.00100	"	0.100		114	80-120			
Surrogate: 1,4-Difluorobenzene	*0.0614*		*"*	*0.0600*		*102*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0583*		*"*	*0.0600*		*97.2*	*75-125*			
Calibration Check (P7J1214-CCV3)				Prepared: 10/12/17 Analyzed: 10/13/17						
Benzene	0.0980	0.00100	mg/kg wet	0.100		98.0	80-120			
Toluene	0.0901	0.00200	"	0.100		90.1	80-120			
Ethylbenzene	0.0940	0.00100	"	0.100		94.0	80-120			
Xylene (p/m)	0.194	0.00200	"	0.200		97.2	80-120			
Xylene (o)	0.100	0.00100	"	0.100		100	80-120			
Surrogate: 1,4-Difluorobenzene	*0.0647*		*"*	*0.0600*		*108*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0589*		*"*	*0.0600*		*98.1*	*75-125*			
Matrix Spike (P7J1214-MS1)		**Source: 7J12018-17**		Prepared: 10/12/17 Analyzed: 10/13/17						
Benzene	0.0859	0.00106	mg/kg dry		ND		80-120			
Toluene	0.0856	0.00213	"		ND		80-120			
Ethylbenzene	0.0945	0.00106	"		0.000862		80-120			
Xylene (p/m)	0.195	0.00213	"		ND		80-120			
Xylene (o)	0.0823	0.00106	"		ND		80-120			
Surrogate: 4-Bromofluorobenzene	*0.0728*		*"*	*0.0638*		*114*	*75-125*			
Surrogate: 1,4-Difluorobenzene	*0.0685*		*"*	*0.0638*		*107*	*75-125*			

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P7J1301 - * DEFAULT PREP *** **										
Blank (P7J1301-BLK1)				Prepared & Analyzed: 10/13/17						
Chloride	ND	1.00	mg/kg wet							
LCS (P7J1301-BS1)				Prepared & Analyzed: 10/13/17						
Chloride	421	1.00	mg/kg wet	400		105	80-120			
LCS Dup (P7J1301-BSD1)				Prepared & Analyzed: 10/13/17						
Chloride	428	1.00	mg/kg wet	400		107	80-120	1.51	20	
Duplicate (P7J1301-DUP1)		**Source: 7J12018-01**		Prepared & Analyzed: 10/13/17						
Chloride	ND	1.09	mg/kg dry		ND				20	
Duplicate (P7J1301-DUP2)		**Source: 7J12018-11**		Prepared & Analyzed: 10/13/17						
Chloride	41.2	1.06	mg/kg dry		40.9			0.726	20	
Matrix Spike (P7J1301-MS1)		**Source: 7J12018-01**		Prepared & Analyzed: 10/13/17						
Chloride	1140	1.09	mg/kg dry	1090	ND	105	80-120			
Batch P7J1305 - * DEFAULT PREP *** **										
Blank (P7J1305-BLK1)				Prepared & Analyzed: 10/13/17						
% Moisture	ND	0.1	%							
Duplicate (P7J1305-DUP1)		**Source: 7J12018-16**		Prepared & Analyzed: 10/13/17						
% Moisture	6.0	0.1	%		7.0			15.4	20	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P7J1206 - General Preparation (GC)										
Blank (P7J1206-BLK1)				Prepared & Analyzed: 10/12/17						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	*95.1*		*"*	*100*		*95.1*	*70-130*			
Surrogate: o-Terphenyl	*55.9*		*"*	*50.0*		*112*	*70-130*			
LCS (P7J1206-BS1)				Prepared & Analyzed: 10/12/17						
C6-C12	921	25.0	mg/kg wet	1000		92.1	75-125			
>C12-C28	948	25.0	"	1000		94.8	75-125			
Surrogate: 1-Chlorooctane	*117*		*"*	*100*		*117*	*70-130*			
Surrogate: o-Terphenyl	*54.7*		*"*	*50.0*		*109*	*70-130*			
LCS Dup (P7J1206-BSD1)				Prepared & Analyzed: 10/12/17						
C6-C12	878	25.0	mg/kg wet	1000		87.8	75-125	4.80	20	
>C12-C28	906	25.0	"	1000		90.6	75-125	4.51	20	
Surrogate: 1-Chlorooctane	*115*		*"*	*100*		*115*	*70-130*			
Surrogate: o-Terphenyl	*56.3*		*"*	*50.0*		*113*	*70-130*			
Calibration Check (P7J1206-CCV1)				Prepared & Analyzed: 10/12/17						
C6-C12	532	25.0	mg/kg wet	500		106	85-115			
>C12-C28	551	25.0	"	500		110	85-115			
Surrogate: 1-Chlorooctane	*113*		*"*	*100*		*113*	*70-130*			
Surrogate: o-Terphenyl	*59.4*		*"*	*50.0*		*119*	*70-130*			
Calibration Check (P7J1206-CCV2)				Prepared: 10/12/17 Analyzed: 10/13/17						
C6-C12	560	25.0	mg/kg wet	500		112	85-115			
>C12-C28	569	25.0	"	500		114	85-115			
Surrogate: 1-Chlorooctane	*119*		*"*	*100*		*119*	*70-130*			
Surrogate: o-Terphenyl	*62.8*		*"*	*50.0*		*126*	*70-130*			

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P7J1206 - General Preparation (GC)										
Calibration Check (P7J1206-CCV3)				Prepared: 10/12/17 Analyzed: 10/13/17						
C6-C12	568	25.0	mg/kg wet	500		114	85-115			
>C12-C28	574	25.0	"	500		115	85-115			
Surrogate: 1-Chlorooctane	*121*		*"*	*100*		*121*	*70-130*			
Surrogate: o-Terphenyl	*63.8*		*"*	*50.0*		*128*	*70-130*			
Matrix Spike (P7J1206-MS1)	**Source: 7J12006-27**			Prepared: 10/12/17 Analyzed: 10/13/17						
C6-C12	1100	26.6	mg/kg dry	1060	12.2	102	75-125			
>C12-C28	1090	26.6	"	1060	14.0	101	75-125			
Surrogate: 1-Chlorooctane	*113*		*"*	*106*		*106*	*70-130*			
Surrogate: o-Terphenyl	*60.3*		*"*	*53.2*		*113*	*70-130*			
Matrix Spike Dup (P7J1206-MSD1)	**Source: 7J12006-27**			Prepared: 10/12/17 Analyzed: 10/13/17						
C6-C12	1040	26.6	mg/kg dry	1060	12.2	96.6	75-125	5.59	20	
>C12-C28	1060	26.6	"	1060	14.0	98.3	75-125	3.08	20	
Surrogate: 1-Chlorooctane	*133*		*"*	*106*		*125*	*70-130*			
Surrogate: o-Terphenyl	*58.0*		*"*	*53.2*		*109*	*70-130*			
Batch P7J1213 - General Preparation (GC)										
Blank (P7J1213-BLK1)				Prepared: 10/12/17 Analyzed: 10/13/17						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	*93.1*		*"*	*100*		*93.1*	*70-130*			
Surrogate: o-Terphenyl	*55.1*		*"*	*50.0*		*110*	*70-130*			
LCS (P7J1213-BS1)				Prepared: 10/12/17 Analyzed: 10/13/17						
C6-C12	887	25.0	mg/kg wet	1000		88.7	75-125			
>C12-C28	919	25.0	"	1000		91.9	75-125			
Surrogate: 1-Chlorooctane	*115*		*"*	*100*		*115*	*70-130*			
Surrogate: o-Terphenyl	*51.9*		*"*	*50.0*		*104*	*70-130*			

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P7J1213 - General Preparation (GC)										
LCS Dup (P7J1213-BSD1)				Prepared: 10/12/17 Analyzed: 10/13/17						
C6-C12	926	25.0	mg/kg wet	1000		92.6	75-125	4.33	20	
>C12-C28	957	25.0	"	1000		95.7	75-125	4.03	20	
Surrogate: 1-Chlorooctane	*119*		*"*	*100*		*119*	*70-130*			
Surrogate: o-Terphenyl	*54.2*		*"*	*50.0*		*108*	*70-130*			
Calibration Check (P7J1213-CCV1)				Prepared: 10/12/17 Analyzed: 10/13/17						
C6-C12	483	25.0	mg/kg wet	500		96.6	85-115			
>C12-C28	475	25.0	"	500		95.1	85-115			
Surrogate: 1-Chlorooctane	*103*		*"*	*100*		*103*	*70-130*			
Surrogate: o-Terphenyl	*58.6*		*"*	*50.0*		*117*	*70-130*			
Calibration Check (P7J1213-CCV2)				Prepared: 10/12/17 Analyzed: 10/13/17						
C6-C12	462	25.0	mg/kg wet	500		92.3	85-115			
>C12-C28	494	25.0	"	500		98.9	85-115			
Surrogate: 1-Chlorooctane	*101*		*"*	*100*		*101*	*70-130*			
Surrogate: o-Terphenyl	*57.0*		*"*	*50.0*		*114*	*70-130*			
Calibration Check (P7J1213-CCV3)				Prepared: 10/12/17 Analyzed: 10/14/17						
C6-C12	523	25.0	mg/kg wet	500		105	85-115			
>C12-C28	512	25.0	"	500		102	85-115			
Surrogate: 1-Chlorooctane	*111*		*"*	*100*		*111*	*70-130*			
Surrogate: o-Terphenyl	*58.3*		*"*	*50.0*		*117*	*70-130*			
Matrix Spike (P7J1213-MS1)	**Source: 7J12018-17**			Prepared: 10/12/17 Analyzed: 10/14/17						
C6-C12	1110	26.6	mg/kg dry	1060	12.8	104	75-125			
>C12-C28	1170	26.6	"	1060	45.6	105	75-125			
Surrogate: 1-Chlorooctane	*124*		*"*	*106*		*116*	*70-130*			
Surrogate: o-Terphenyl	*66.3*		*"*	*53.2*		*125*	*70-130*			

E Tech Environmental & Safety Solutions, Inc.
13000 West County Road 100
Odessa TX, 79765

Project: Pennzoil Battery
Project Number: 894-8706
Project Manager: Fred Holmes

Fax: (432) 563-2213

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P7J1213 - General Preparation (GC)										
Matrix Spike Dup (P7J1213-MSD1)	**Source: 7J12018-17**			Prepared: 10/12/17 Analyzed: 10/14/17						
C6-C12	1090	26.6	mg/kg dry	1060	12.8	102	75-125	1.90	20	
>C12-C28	1120	26.6	"	1060	45.6	101	75-125	3.90	20	
Surrogate: 1-Chlorooctane	*124*		*"*	*106*		*117*	*70-130*			
Surrogate: o-Terphenyl	*65.0*		*"*	*53.2*		*122*	*70-130*			

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Notes and Definitions

S-GC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
BULK	Samples received in Bulk soil containers
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By: Brent Barron Date: 10/16/2017

Brent Barron, Laboratory Director/Technical Director

PBELAB Permian Basin Environmental Lab, LP

1400 Rankin Hwy Midland, Texas 79701 Phone: 432-686-7235

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST 1/2

Project Name: PENNZOIL BATTERY

Project #: 894-8506 Project Loc: NM

Area: SRPA PO#: 894-8506

Project Manager: **BRANDON WILSON**

Company Name: **Etech Environmental & Safety Solutions, Inc.**

Company Mailing Address: **P.O Box 62228**

City/State/Zip: **Odessa, Texas 79765**

Phone: **432-563-2200** Fax: **432-563-2213**

Sampler Signature: Brandon Wilson FRED

email: **brandon@etechenv.com**

Report Format: STANDARD:☒ TRRP:☐ NPDES:☐

(lab use only) ORDER #: 711208

LAB # (lab use only)	FIELD CODE	Start Depth	End Depth	Date Sampled	Time Sampled	Preservation & # of Containers: No. of Containers	Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge	GW = Groundwater S=Soil/Solid	NP=Non-Potable Specify Other	Analyze For: TCLP: / TOTAL: TPH 418.1 / 8015M 1005 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semi volatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chlorides			RUSH TAT(Pre-Schedule) 24, 48, 72 hrs	STANDARD TAT
1	SP1 0-1'			10-11-17	12:00	1	☑											☑							☑			☑				☑
2	SP1 1-2'			10-11-17	12:10	1	☐											☐							☐			☐				☐
3	SP1 2-3'			10-11-17	12:20	1	☐											☐							☐			☐				☐
4	SP2 0-1'			10-11-17	12:30	1	☐											☐							☐			☐				☐
5	SP2 1-2'			10-11-17	12:35	1	☐											☐							☐			☐				☐
6	SP2 2-3'			10-11-17	12:40	1	☐											☐							☐			☐				☐
7	SP3 0-1'			10-11-17	12:45	1	☐											☐							☐			☐				☐
8	SP3 1-2'			10-11-17	12:50	1	☐											☐							☐			☐				☐
9	SP3 2-3'			10-11-17	12:55	1	☐											☐							☐			☐				☐
10	SP4 1-2'			10-11-17	13:10	1	☐											☐							☐			☐				☐
11	SP4 2-3'			10-11-17	13:15	1	☐											☐							☐			☐				☐
12	SP5 0-1'			10-11-17	13:25	1	☐											☐							☐			☐				☐
13	SP5 1-2'			10-11-17	13:30	1	☐											☐							☐			☐				☐
14	SP5 2-3'			10-11-17	13:35	1	☑											☑							☑			☑				☑

10 — SP4 0-1' 10-11-17 1305

Special Instructions:

PROGRESSIVE ANALYSES STOP @ N/D FOR TPH/BTEX 600 mg/kg CALCULUS

Relinquished by:	Date	Time	Received by:	Date	Time
	10/12	0900			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
				10/12/17	1153

Laboratory Comments:

Sample Containers Intact? N

VOCs Free of Headspace? N

Custody seals on container(s) N

Custody seals on cooler(s) N

Sample Hand Delivered N

Sar by Sampler/Client Rep. ? N

Sar by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 2.0 UFC °C

PBELAB Permian Basin Environmental Lab, LP

1400 Rankin Hwy Midland, Texas 79701 Phone: 432-686-7235

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST 2/2

Project Name: PENNZOIL BATTERY
Project #: ~~894-8811~~ 8706 Project Loc: NM
Area: PO#: 894-~~8807~~ 8706

Project Manager: **BRANDON WILSON**
Company Name: **Etech Environmental & Safety Solutions, Inc.**
Company Mailing Address: **P.O Box 62228**
City/State/Zip: **Odessa, Texas 79765**
Phone: **432-563-2200** Fax: **432-563-2213**
Sampler Signature: Brandon Wilson
email: ~~brandon~~ FRED @etechenv.com

Report Format: STANDARD: ☒ TRRP: ☐ NPDES: ☐

(lab use only)
ORDER #:

LAB # (lab use only)	FIELD CODE	Start Depth	End Depth	Date Sampled	Time Sampled	No. of Containers	Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix (DW=Drinking Water SL=Sludge, GW=Groundwater S=Soil/Solid, NP=Non-Potable Specify Other)	TPH: 418.1 8015M 1005 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semi volatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chlorides			RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	STANDARD TAT
10	SP5 3-4'			10-11-17	13:40	1	✓	☐	☐	☐	☐	☐	☐	☐		✓	☐	☐	☐	☐	☐	☐	✓	☐	☐	☐	☐	☐	☐	✓
10	SP5 4-5'			10-11-17	13:50	1	✓	☐	☐	☐	☐	☐	☐	☐		✓	☐	☐	☐	☐	☐	☐	✓	☐	☐	☐	☐	☐	☐	✓

Analyze For: TCLP: ☐ ☐ ☐ ☐ TOTAL: ☐ ☐ ☐ ☐

Special Instructions: PROGRESSIVE ANALYSIS STOP @ N/D FOR TPH/BTEX 600 or less Cl

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	10/12	[illegible]			
			[signature]	10/12/17	1153

Laboratory Comments:
Sample Containers Intact? (Y) N
VOCs Free of Headspace? (Y) N
Custody seals on container(s) (Y) N
Custody seals on cooler(s) (Y) N
Sample Hand Delivered (Y) N
Sar by Sampler/Client Rep.? Y N
Sar by Courier? UPS DHL FedEx Lone Star
Temperature Upon Receipt: 2.0NCF4 °C