



Electronic Correspondence

September 5, 2017

Ms. Olivia Yu  
Environmental Specialist, District I  
Oil Conservation Division, EMNRD  
Olivia.yu@state.nm.us

**APPROVED**

**By Olivia Yu at 1:26 pm, Sep 22, 2017**

**NMOCD grants closure to  
1RP-4564.**

Re: Closure Report - 4564  
Enervest Operating Jack B-30 #2 Tank Battery Lightning Strike  
Legal: Unit B, Sec 30, T24S R37E, Lea County, NM  
Latitude/Longitude: 32.1946487/ -103.1989975  
Etech Proj. Number: 498-7876-000  
Depth to Groundwater: 117-121 feet - Chevron/Texaco Lea County Depth to Groundwater Map  
- USGS National Water Information System: Web Interface  
Release Type: Produced Water and Crude Oil  
Contaminants of Concern (COCs)

	Threshold Levels
TPH	5000 mg/kg
Benzene	10 mg/kg
BTEX	50 mg/kg
Chlorides	600 mg/kg

Dear Olivia:

Etech Environmental & Safety Solutions, Inc. (Etech) is submitting the following corrective action plan on the aforementioned site for your review and approval.

#### **Background**

On January 15, 2017, lightning struck tanks located at the Enervest Operating Jack B-30 #2 lease causing a release of fluids inside the location's soil containment, and a small amount of fluid on the adjoining well pad and pasture. Approximately 80 barrels (bbls) of produced water and ten (10) bbls of crude oil were released. Approximately 85 bbls of fluid were recovered and disposed. Tank bottoms and solids were jetted using a hot oiler and taken to disposal.

An assessment and initial sampling were conducted of the impacted area on January 23, 2017 by Etech. It was determined that the release was inside the soil containment, on the well pad, and on the pasture. The release impacted an area of approximately 10,270 square feet.

Soil samples were collected by hand auger from four (4) locations of the impacted area (See Annotated Aerial Imagery). The results of field tests of the soil samples determined that chloride levels ranged from less than 320 mg/kg to 1100 mg/kg (See Attachment A, Annotated Aerial Imagery). In addition, the field tested soil samples displaying concentrations less than 320 mg/kg were submitted to Permian Basin Environmental Laboratory (PBELAB) and analyzed for chlorides, TPH, benzene, and BTEX. The laboratory results determined that the chloride levels ranged from 8.5 mg/kg to 68.2 mg/kg, TPH levels ranged from no analytical detection to 8,150 mg/kg, benzene levels ranged from no analytical detection to

0.0581 mg/kg, and BTEX levels ranged from no analytical detection to 0.6262 mg/kg (See Table 1, Summary of Delineation Sampling Analytical Results below).

### **Depth to Groundwater Data**

Depth to groundwater data was obtained from the Chevron/Texaco Lea County Depth to Groundwater Map and the USGS National Water Information System: Web Interface. The New Mexico Office of the State Engineer (OSE) Hydrology Bureau collaborates with the U. S. Geological Survey (USGS) to collect, store and make available measurements of water levels in over 2,200 wells across the state of New Mexico. Therefore, OSE groundwater data is part of the USGS National Water Information System database.

The USGS data correlates well with the Chevron/Texaco Lea County Depth to Groundwater Map data. The data points nearest the Jack B-30 #2 indicate that the depth to groundwater is between 117 feet (USGS 321131103115601 24S.37E.19.234442) to 121 feet (USGS 321127103112801 24S.37E.20.333441) below ground surface (bgs). These data points are approximately .22 miles north and .52 miles southeast of the Jack B-30 #2 location, respectively. In contrast, shallower depth to groundwater data points is observed approximately 1.77 miles to over 2.0 miles away from the Jack B-30 #2 location.

Attachment D contains an image of the pertinent area of the Chevron/ Texaco Lea County Depth to Groundwater Map with the location of the Jack B-30 #2 denoted, a map displaying the location of the Jack B-30 #2 and surrounding USGS data points, and the data files for the USGS data points displayed on the map.

### **Work Performed**

On February 9, 2017, a third party contractor (Panther Energy Services) was mobilized to the site to begin remediation by removal in an attempt to prevent further vertical migration of constituents of concern. A backhoe was utilized to excavate the impacted area approximately twelve (12) inches to twenty-four (24) inches below ground surface (bgs). A total of approximately four hundred eight (408) cubic yards of impacted soil were excavated and hauled for disposal at Sundance Services, Incorporated.

On February 17, 2017, Etech returned to the site to conduct additional delineation soil sampling and confirmation soil sampling. Delineation soil sampling was conducted utilizing a backhoe to excavate six (6) test trenches and collect twenty-three (23) soil samples labeled Test Trench 1 6.5', Test Trench 1 8', Test Trench 2 8', Test Trench 2 9', Test Trench 3 6', Test Trench 3 8.5', Test Trench 4 5.5', Test trench 4 7.5', Test Trench 5 2' through Test Trench 5 9', and Test Trench 6 2' through Test Trench 6 8' (See Annotated Aerial Imagery). The soil samples were submitted to PBELAB to be analyzed for chloride concentrations. In addition, six (6) confirmation soil samples labeled Bottom Hole 1 6", Bottom Hole 2 24 ", Bottom Hole 3 18", Bottom Hole 4 6", Bottom Hole 5 12", and Bottom Hole 6 12" were collected from the bottom of the excavation (See Attachment B, Annotated Aerial Imagery). The soil samples were submitted to PBELAB and analyzed for chlorides, TPH, benzene, and BTEX.

The laboratory results for the samples collected from the test trenches determined that the chloride levels ranged from 14.1 mg/kg to 1,900 mg/kg (See Table 1 Summary of Delineation Sampling Analytical Results below). The laboratory results for the bottom hole samples determined that the chloride levels ranged from 48.8 mg/kg to 1,180 mg/kg, TPH levels ranged from no analytical detection to 10,700 mg/kg, benzene levels ranged from no analytical detection to 0.509 mg/kg, and BTEX levels ranged from no analytical detection to 39.349 mg/kg (See Table 2, Summary of Remediation Sampling Analytical Results below). It should be noted that precipitation from a rain event that occurred approximately on Sunday February 12, 2017 apparently caused chlorides to wick to and concentrate at surface depths of the excavation in the pasture. Sample results from delineation soil samples collected on January 23, 2017 determined the range of chloride concentrations to be 14.9 to 43.2 mg/kg at or above the current

excavation depths. The chloride concentrations now range from 1,130 to 1,180 mg/kg as determined from confirmation soil samples collected on February 17, 2017.

On April 11, 2017, Etech returned to the site to conduct additional delineation soil sampling at the Bottom Hole 5 and Test Trench 5 location in order to delineate chloride concentrations to below 600 mg/kg. An air rotary drill rig was utilized to perform one (1) boring and collect three (3) soil samples labeled Boring 1 10', Boring 1 15', and Boring 1 20' (See Attachment B, Annotated Aerial Imagery and Attachment C, Well Record & Log). The soil samples were submitted to PBELAB and analyzed for chlorides.

The laboratory results for the samples collected from the boring determined that chloride levels were below 600 mg/kg and ranged from 6.73 mg/kg to 10.7 mg/kg (See Table 1, Summary of Delineation Sampling Analytical Results below). It appears that a layer of cemented sandstone (caliche) observed in the bottom of Test Trench 5 and in Boring 1 prevented the further downward migration of chlorides.

On May 8 2017, Etech returned to the site to conduct field oversight of excavation, chloride testing, and confirmation soil sampling. Excavation was conducted by Panther Energy Services utilizing a backhoe. The impacted area was excavated to approximately twenty-four (24) inches to forty-eight (48) inches below ground surface (bgs). Final depths of excavation were determined by field chloride testing and visual and olfactory observation. This included the excavation of apparent historical impact uncovered on May 9, 2017 in the northwest portion of the pad area. The final excavation depth of this portion of the pad area was approximately forty-eight (48) inches bgs. A total of approximately seven hundred eight (708) cubic yards of impacted soil were excavated and hauled for disposal at Sundance Services, Incorporated.

Seventeen (17) confirmation soil samples labeled Bottom Hole 2A, Bottom Hole 3A, Bottom Hole 5A, Bottom Hole 6A, Bottom Hole 7, and Sidewall 1 through Sidewall 12 were collected (See Attachment B, Annotated Aerial Imagery). The soil samples were submitted to PBELAB and analyzed for chlorides and/or TPH, benzene, and BTEX.

The laboratory results for the samples collected determined that chloride, TPH, benzene, and BTEX levels were below regulatory threshold limits. Chloride levels ranged from no analytical detection to 454 mg/kg. TPH levels ranged from no analytical detection to 38.9 mg/kg. Benzene and BTEX levels were no analytical detection for all samples (See Table 2, Summary of Remediation Sampling Analytical Results below).

On June 19, 2017, Panther Energy Services returned to the site to begin backfilling and restoration activities utilizing a backhoe. The pasture area was backfilled with clean soil of the same type as excavated and seeded with BLM #2 via hand broadcasting. The pad area was backfilled with caliche. The installation of the plastic liner in the pad area was completed on July 12, 2017. The rebuilding of the tank battery was completed on August 1, 2017 (See Attachment D, Photograph Log).

A summary of the depth and method of remediation for the site is provided below in Table 3, Summary of Depth and Method of Remediation.

<b>Table 1</b> <b>Summary of Delineation Sampling Analytical Results</b>									
Sample ID	Depth	Date	C6-C12	>C12- C28	>C28- C35	Total TPH (mg/kg)	Benzene (mg/kg)	BTEX (mg/kg)	Chlorides (mg/kg)

Auger Hole 1	6-12"	1/23/17	ND	ND	ND	ND	ND	ND	22.6
Auger Hole 1	12-18"	1/23/17	ND	ND	ND	ND	ND	ND	11.2
Auger Hole 2	18-24"	1/23/17	ND	ND	ND	ND	0.00137	0.00137	43.2
Auger Hole 2	30-36"	1/23/17	ND	ND	ND	ND	ND	ND	9.71
Auger Hole 3	0-6"	1/23/17	1,200	5,710	1,230	<b>8,150</b>	0.0581	26.3181	8.45
Auger Hole 3	6-12"	1/23/17	ND	105	ND	105	0.00171	0.00665	14.9
Auger Hole 4	0-6"	1/23/17	ND	390	65.3	456	ND	0.6262	68.2
Auger Hole 4	6-12"	1/23/17	ND	71.5	ND	71.5	0.00144	0.00144	19.0
Test Trench 1	6.5'	2/17/17	NA	NA	NA	NA	NA	NA	67.6
Test Trench 1	8'	2/17/17	NA	NA	NA	NA	NA	NA	155
Test Trench 2	8'	2/17/17	NA	NA	NA	NA	NA	NA	32.2
Test Trench 2	9'	2/17/17	NA	NA	NA	NA	NA	NA	169
Test Trench 3	6'	2/17/17	NA	NA	NA	NA	NA	NA	14.1
Test Trench 3	8.5'	2/17/17	NA	NA	NA	NA	NA	NA	66.0
Test Trench 4	5.5'	2/17/17	NA	NA	NA	NA	NA	NA	215
Test Trench 4	7.5'	2/17/17	NA	NA	NA	NA	NA	NA	34.2
Test Trench 5	2'	2/17/17	ND	201	53.8	255	NA	NA	395
Test Trench 5	3'	2/17/17	NA	NA	NA	NA	NA	NA	315
Test Trench 5	4'	2/17/17	NA	NA	NA	NA	NA	NA	412
Test Trench 5	5'	2/17/17	NA	NA	NA	NA	NA	NA	257
Test Trench 5	6'	2/17/17	NA	NA	NA	NA	NA	NA	192
Test Trench 5	7'	2/17/17	NA	NA	NA	NA	NA	NA	308
Test Trench 5	8'	2/17/17	NA	NA	NA	NA	NA	NA	418
Test Trench 5	9'	2/17/17	NA	NA	NA	NA	NA	NA	988
Test Trench 6	2'	2/17/17	NA	NA	NA	NA	NA	NA	<b>1,900</b>
Test Trench 6	3'	2/17/17	NA	NA	NA	NA	NA	NA	123
Test Trench 6	4'	2/17/17	NA	NA	NA	NA	NA	NA	261
Test Trench 6	5'	2/17/17	NA	NA	NA	NA	NA	NA	209
Test Trench 6	6'	2/17/17	NA	NA	NA	NA	NA	NA	326
Test Trench 6	7'	2/17/17	NA	NA	NA	NA	NA	NA	387
Test Trench 6	8'	2/17/17	NA	NA	NA	NA	NA	NA	410
Boring 1	10'	4/11/17	NA	NA	NA	NA	NA	NA	10.7
Boring 1	15'	4/11/17	NA	NA	NA	NA	NA	NA	6.73
Boring 1	20'	4/11/17	NA	NA	NA	NA	NA	NA	8.37

ND denotes no analytical detection.

NA denotes not applicable

**Bold** denotes analytical results above regulatory guidelines

**Table 2**  
**Summary of Remediation Sampling Analytical Results**

Sample ID	Depth	Date	C6-C12	>C12- C28	>C28- C35	Total TPH (mg/kg)	Benzene (mg/kg)	BTEX (mg/kg)	Chlorides (mg/kg)
Bottom Hole 1	6"	2/17/17	ND	ND	ND	ND	ND	ND	48.8
Bottom Hole 2	24"	2/17/17	ND	ND	ND	ND	ND	ND	<b>1,130</b>
Bottom Hole 3	18"	2/17/17	ND	42.4	ND	42.4	ND	ND	<b>1,180</b>
Bottom Hole 4	6"	2/17/17	31.4	179	ND	210	ND	ND	609



Bottom Hole 5	12"	2/17/17	4,330	5,520	847	<b>10,700</b>	0.509	39.349	391
Bottom Hole 6	12"	2/17/17	102	375	51.9	529	ND	0.43	<b>1,330</b>
Bottom Hole 2A	36"	5/12/17	NA	NA	NA	NA	NA	NA	397
Bottom Hole 3A	24"	5/8/17	NA	NA	NA	NA	NA	NA	135
Bottom Hole 5A	36"	5/12/17	ND	ND	ND	ND	ND	ND	NA
Bottom Hole 6A	48"	5/9/17	NA	NA	NA	NA	NA	NA	17.9
Bottom Hole 7	48"	5/9/17	ND	ND	ND	ND	ND	ND	36.7
Sidewall 1	18"	5/8/17	ND	ND	ND	ND	ND	ND	ND
Sidewall 2	18"	5/8/17	ND	ND	ND	ND	ND	ND	ND
Sidewall 3	30"	5/12/17	ND	ND	ND	ND	ND	ND	ND
Sidewall 4	30"	5/12/17	ND	ND	ND	ND	ND	ND	7.00
Sidewall 5	42"	5/9/17	ND	ND	ND	ND	ND	ND	76.7
Sidewall 6	42"	5/9/17	ND	ND	ND	ND	ND	ND	293
Sidewall 7	42"	5/10/17	ND	ND	ND	ND	ND	ND	45.1
Sidewall 8	42"	5/10/17	ND	ND	ND	ND	ND	ND	44.1
Sidewall 9	42"	5/9/17	ND	ND	ND	ND	ND	ND	ND
Sidewall 10	30"	5/12/17	ND	38.9	ND	38.9	ND	ND	ND
Sidewall 11	30"	5/12/17	ND	ND	ND	ND	ND	ND	ND
Sidewall 12	30"	5/12/17	ND	ND	ND	ND	ND	ND	454

ND denotes no analytical detection.

NA denotes not analyzed

**Bold** denotes analytical results above regulatory guidelines

### Depth and Method of Remediation

The following table displays the depth and method of remediation for each of the sample location areas. In addition, it describes whether the sample location is on the pad or in the pasture and the status of the remediation.

Table 3 Summary of Depth and Method of Remediation				
Sample Location	Location Type	Depth (bgs)	Method of Remediation	Status
Bottom Hole 1	Pad	6"	Excavation	Completed
Bottom Hole 2	Pasture	36"	Excavation	Completed
Bottom Hole 3	Pasture	24"	Excavation	Completed
Bottom Hole 4	Pad	6"	Excavation	Completed
Bottom Hole 5	Pad	36"	Excavation/Plastic Liner	Excavation Completed Plastic Liner Installed
Bottom Hole 6	Pad	48"	Excavation/Plastic Liner	Excavation Completed Plastic Liner Installed
Bottom Hole 7	Pad	48"	Excavation/Plastic Liner	Excavation Completed Plastic Liner Installed

### Conclusion

The final analytical results yielded TPH, benzene, BTEX, and chloride concentrations below regulatory guidelines. Based on the analytical results and the field activities conducted, Etech does not recommend any further corrective action activities regarding this release.

Respectfully:

A handwritten signature in black ink, appearing to read "Geoff Leking". The signature is written in a cursive, flowing style.

Geoff Leking,  
Project Manager  
Etech Environmental & Safety Solutions, Inc.

**Attachment A**  
**Initial C-141**  
**Final C-141**

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

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

Form C-141  
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in  
accordance with 19.15.29 NMAC.

## Release Notification and Corrective Action

### OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	Enervest Operating	Contact	Penny Dawson
Address	1217 Hwy 128 West Jal, NM 88252	Telephone No.	325-387-7226
Facility Name	Jack B-30 #2	Facility Type	Tank Battery
Surface Owner	Randy Crawford	Mineral Owner	State of NM/Enervest
		API No.	3002525871

### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	30	24 <b>S</b>	37 East	330'	North	1725'	East	Lea County

Latitude 32 11' 172 Longitude 103 7' 944 **32.1946487,-103.1989975**

### NATURE OF RELEASE

Type of Release	Produced Water and Oil	Volume of Release	80 bbl PW/ 10 Oil	Volume Recovered	76 bbl PW/9 Oil
Source of Release	Tank - Lightning Strike	Date and Hour of Occurrence	1/15/17	Date and Hour of Discovery	9:15 am
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Olivia Yu, OCD Shelly Tucker, BLM		
By Whom?	Penny Dawson	Date and Hour	1/17/17 8:00 am		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.\*

**RECEIVED**  
**By Olivia Yu at 3:16 pm, Jan 17, 2017**


Describe Cause of Problem and Remedial Action Taken.\*

Lightening struck tanks. Truck picked up oil and water from inside berm and moved oil out of tanks to other oil tank.  
Picked up water from outside on ground also. Berm put in around 2000, no liner.

Describe Area Affected and Cleanup Action Taken.\*

300 bbl fiberglass tank and two 300 bbl steel tanks affected. Liquids inside berm and a small amount outside. Area also burned. Move everything off of location, put in liner. Hauling off contained soil and bring in new.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature:		<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Penny Dawson		Approved by Environmental Specialist: 	
Title: HSE Associate		Approval Date: <b>01/17/2017</b>	Expiration Date:
E-mail Address: pdawson@enervest.net		Conditions of Approval:	Attached <input checked="" type="checkbox"/>
Date: 01/17/2017 Phone: 325-387-7226		<b>see attached directive</b>	

\* Attach Additional Sheets If Necessary

**nOY1701753606**

**RP4564**

**pOY1701753884**

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, 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

Form C-141  
Revised October 10, 2003

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

Submit 1 Copy to appropriate District Office in  
accordance with 19.15.29 NMAC

**Release Notification and Corrective Action**

**OPERATOR**

☐ Initial Report ☒ Final Report

Name of Company: Enervest Operating	Contact: Penny Dawson	
Address: 1217 Hwy 128 West Jal, NM 88252	Telephone No.: 325-387-7226	
Facility Name: Jack B-30 #2	Facility Type: Tank Battery	
Surface Owner: Randy Crawford	Mineral Owner: State of New Mexico/Enervest	API No.: 30-025-25871-00-00

**LOCATION OF RELEASE**

Unit Letter B	Section 30	Township 24S	Range 37E	Feet from the 330	North/South Line North	Feet from the 1,725	East/West Line West	County Lea
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Latitude: 32.1946487 Longitude: -103.1989975

**NATURE OF RELEASE**

Type of Release: Produced water and oil	Volume of Release: 80 bbls PW/ 10 bbls Oil	Volume Recovered: 76 bbls PW/9 bbls Oil
Source of Release: Tank - lightning strike	Date and Hour of Occurrence: 1/15/2017	Date and Hour of Discovery: 1/15/2017 - 9:15 AM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Olivia YU - NMOCD Shelly Tucker - BLM	
By Whom? Penny Dawson	Date and Hour 1/17/2017 - 8:00 AM	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.*:		
<b>APPROVED</b> <b>By Olivia Yu at 1:28 pm, Sep 22, 2017</b>		

Describe Cause of Problem and Remedial Action Taken.\*: Lightning struck tanks. Truck picked up oil and water from inside berm and moved oil out of tanks to other oil tank. Picked up water from outside on ground also. Berm put in around 2000, no liner.

Describe Area Affected and Cleanup Action Taken.\* : One (1) three hundred (300) barrel fiberglass tank and two (2) three hundred (300) barrel steel tanks affected. Liquids inside berm and a small amount outside. Area also burned. Approximately 10,270 square feet of area was affected including all of the tank battery pad, parts of the well pad north and east of the tank battery pad, and parts of the pasture south and west of the tank battery pad. Tanks and associated structures were moved off of the tank battery pad. The tank battery pad was excavated to depths of thirty-six (36) inches to forty-eight (48) inches below ground surface (bgs). The well pad was excavated to six (6) inches bgs. The pasture was excavated twenty-four (24) to thirty-six (36) inches bgs. Approximately seven hundred eight (708) cubic yards of excavated soil were transported and disposed of at Sundance Services, Incorporated - Eunice, New Mexico. The tank battery pad and well pad were backfilled with clean caliche. The pasture was backfilled with clean soil of the type as excavated and seeded with BLM #2 seed mix via hand broadcasting. The installation of the plastic liner at the tank battery pad was completed on July 12, 2017. The rebuilding of the tank battery was completed on August 1, 2017.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

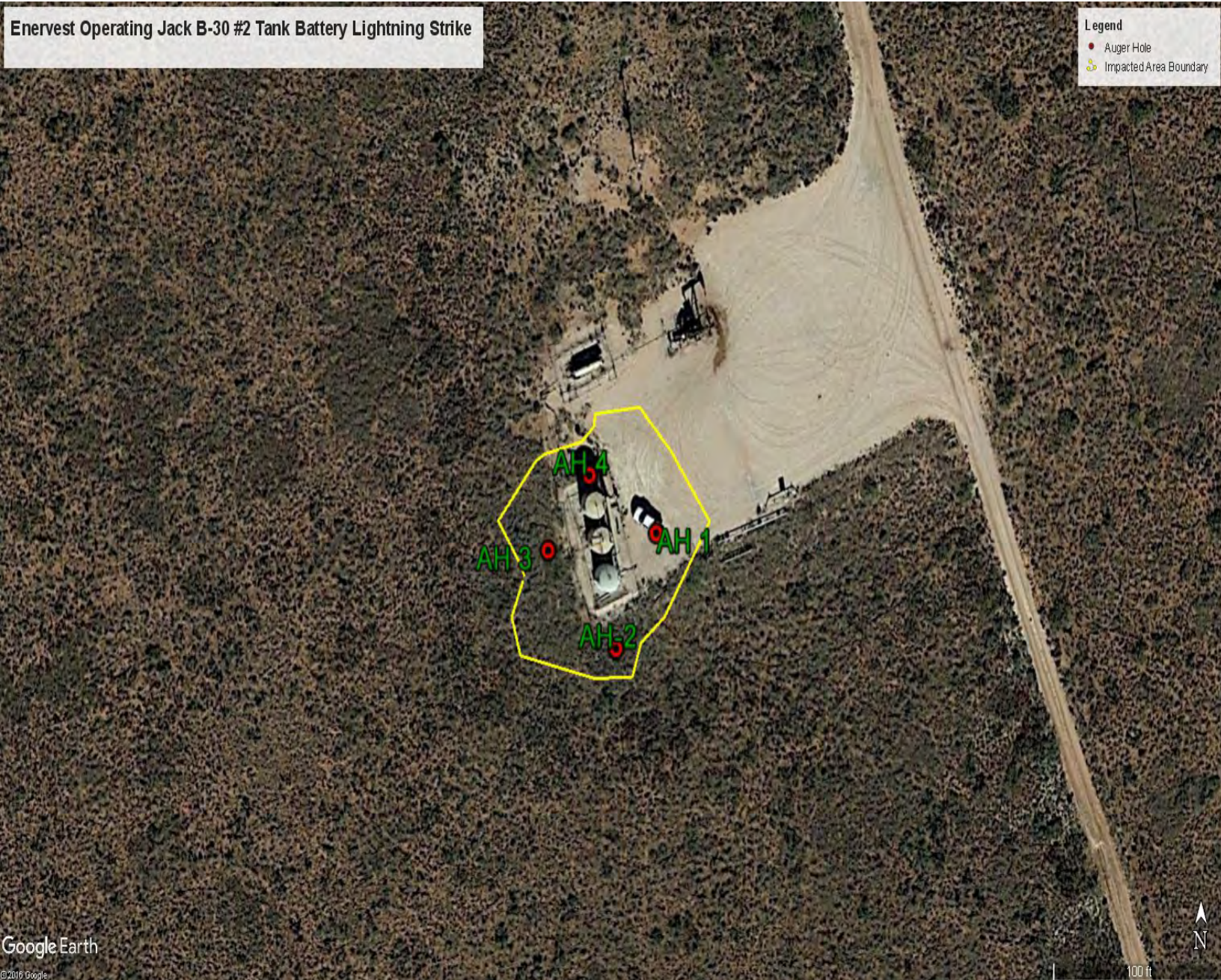
Signature: 		<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Penny Dawson		Approved by District Supervisor: 	
Title: HSE Associate		Approval Date: 9/22/2017	Expiration Date: xx/xx/xxxx
E-mail Address: pdawson@enervest.net		Conditions of Approval:	
Date: 9/5/2017 Phone: 325-387-7226		Attached <input type="checkbox"/>	

1RP-4564

**Attachment B**  
**Annotated Aerial Imagery**



**Enervest Operating Jack B-30 #2 Tank Battery Lightning Strike**



**Legend**

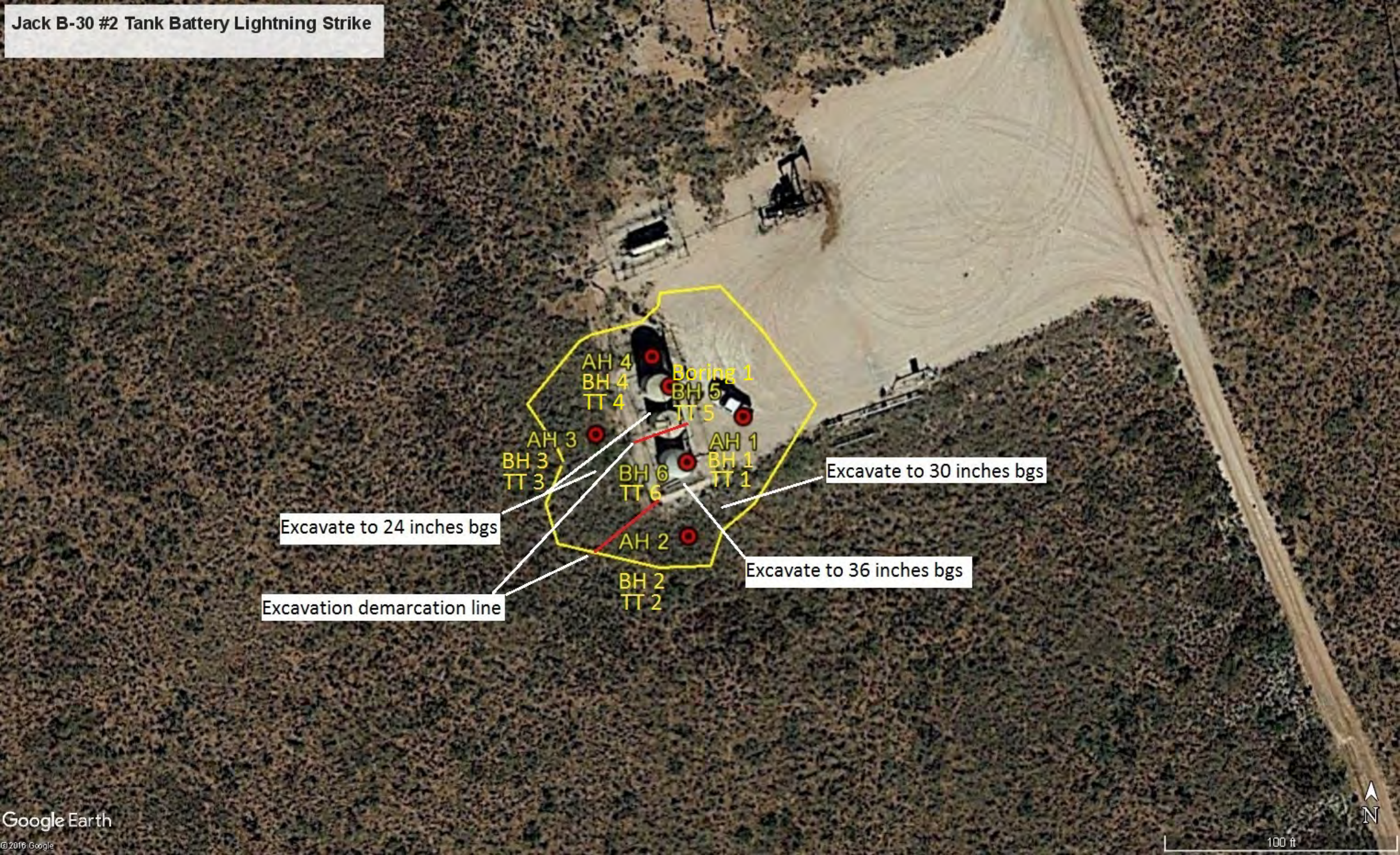
- Auger Hole
- ⬡ Impacted Area Boundary

Assessment Results		
Sample I.D.	Depth (ft.)	Chlorides (mg/kg)
AH 1	0-6"	320
AH 1	6-12"	<320
AH 1	12-18"	<320
AH 2	0-6"	910
AH 2	6-12"	1100
AH 2	12-18"	510
AH 2	18-24"	<320
AH 2	30-36"	<320
AH 3	0-6"	<320
AH 3	6-12"	<320
AH 4	0-6"	<320
AH 4	6-12"	<320

Above results based on field tests.



Jack B-30 #2 Tank Battery Lightning Strike





**Enervest Jack B-30 #2**

Tank Battery Lightning Strike  
1RP-4564  
May 12, 2017 Remediation

**Legend**

- BH
- May 12, 2017 Excavation Outline in Red
- SW



**Attachment C**  
**Well Record & Log**





# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

[www.ose.state.nm.us](http://www.ose.state.nm.us)

1. GENERAL AND WELL LOCATION	OSE POD NUMBER (WELL NUMBER) JACK B-30 #2 SB-1				OSE FILE NUMBER(S)					
	WELL OWNER NAME(S) ENERVEST OPERATING				PHONE (OPTIONAL)					
	WELL OWNER MAILING ADDRESS 1217 HWY128 WEST				CITY JAL		STATE NM		ZIP 88252	
	WELL LOCATION (FROM GPS)		DEGREES LATITUDE 32		MINUTES 11		SECONDS 40.3		N	
			LONGITUDE 103		11		56.8		W	
* ACCURACY REQUIRED: ONE TENTH OF A SECOND										
* DATUM REQUIRED: WGS 84										
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE FROM INTERSECTION OF HWY18 E KANSAS GO N 5.37 MI TURN L GO W CONTINUE DIRT RD FOR .55 MI TURN R TO LOCATION.										
2. DRILLING & CASING INFORMATION	LICENSE NUMBER WD1711		NAME OF LICENSED DRILLER EDWARD BRYAN				NAME OF WELL DRILLING COMPANY STRAUB CORPORATION			
	DRILLING STARTED 4-11-17		DRILLING ENDED 4-11-17		DEPTH OF COMPLETED WELL (FT) 20'		BORE HOLE DEPTH (FT) 20'		DEPTH WATER FIRST ENCOUNTERED (FT) N/A	
	COMPLETED WELL IS: <input type="radio"/> ARTESIAN <input checked="" type="radio"/> DRY HOLE <input type="radio"/> SHALLOW (UNCONFINED)				STATIC WATER LEVEL IN COMPLETED WELL (FT) N/A					
	DRILLING FLUID: <input checked="" type="radio"/> AIR <input type="radio"/> MUD ADDITIVES - SPECIFY									
	DRILLING METHOD: <input checked="" type="radio"/> ROTARY <input type="radio"/> HAMMER <input type="radio"/> CABLE TOOL <input type="radio"/> OTHER - SPECIFY:									
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)		
	FROM	TO								
	0 20'		6"	N/A	N/A	N/A	N/A	N/A		
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT				
	FROM	TO								
	0	2'	6"	1 CEMENT		TOPLOAD				
	2	20'	6"	6 BAGS OF 3/8 HOLEPLUG		TOPLOAD				

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/08/2012)

FILE NUMBER	POD NUMBER	TRN NUMBER
LOCATION	PAGE 1 OF 2	

	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	FROM	TO				
4. HYDROGEOLOGIC LOG OF WELL	0	1'	1'	TAN FINE SAND - CALICHE	<input type="radio"/> Y <input checked="" type="radio"/> N	N/A
	1'	6'	5	RED VERY FINE SAND - WITH CLAY	<input type="radio"/> Y <input checked="" type="radio"/> N	N/A
	6'	20'	14'	TAN FINE SAND - CEMENTED SANDSTONE	<input type="radio"/> Y <input checked="" type="radio"/> N	N/A
	TD	20'			<input type="radio"/> Y <input checked="" type="radio"/> N	
					<input type="radio"/> Y <input type="radio"/> N	
					<input type="radio"/> Y <input type="radio"/> N	
					<input type="radio"/> Y <input type="radio"/> N	
					<input type="radio"/> Y <input type="radio"/> N	
					<input type="radio"/> Y <input type="radio"/> N	
					<input type="radio"/> Y <input type="radio"/> N	
					<input type="radio"/> Y <input type="radio"/> N	
					<input type="radio"/> Y <input type="radio"/> N	
					<input type="radio"/> Y <input type="radio"/> N	
					<input type="radio"/> Y <input type="radio"/> N	
					<input type="radio"/> Y <input type="radio"/> N	
					<input type="radio"/> Y <input type="radio"/> N	
					<input type="radio"/> Y <input type="radio"/> N	
					<input type="radio"/> Y <input type="radio"/> N	
					<input type="radio"/> Y <input type="radio"/> N	
	METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: <input type="radio"/> PUMP <input type="radio"/> AIR LIFT <input type="radio"/> BAILER <input type="radio"/> OTHER - SPECIFY:					TOTAL ESTIMATED WELL YIELD (gpm):
5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.				
	MISCELLANEOUS INFORMATION:					
	SOIL BORING ONLY - SOIL BORING WAS PLUGGED AND ABANDONED UPON COMPLETION OF SAMPLING. LEA COUNTY, NM					
PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:						
6. SIGNATURE	THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:					
						<u>4-13-17</u> DATE

FOR OSE INTERNAL USE			WR-20 WELL RECORD & LOG (Version 06/08/2012)		
FILE NUMBER	POD NUMBER	TRN NUMBER			
LOCATION					PAGE 2 OF 2

**Attachment D**  
**Photograph Log**



View of front of tank battery looking to the southwest.



View of tank battery containment looking to the northwest.





View of well pad east of the tank battery looking north.



View of pasture south of tank battery looking west.





View of pasture west of tank battery looking northwest.



View of well pad north of tank battery looking south.





View of boring Auger Hole 1.



View of boring Auger Hole 2.





View of boring Auger Hole 3 (center foreground).



View of boring Auger Hole 4.





View of front of tank battery looking west after remediation activities.



View of well pad east of the tank battery looking west after remediation activities.





View of pasture south of tank battery looking southwest after remediation activities.



View of pasture west of tank battery looking northwest after remediation activities.





View of well pad north of tank battery looking south after remediation activities.



View of Bottom Hole 1 sample location.





View of Bottom Hole 2 sample location.



View of Bottom Hole 3 sample location.





View of Bottom Hole 4 sample location.



View of Test Trench 1 after excavation.





View of Test Trench 2 after excavation.



View of Test Trench 3 after excavation.





View of Test Trench 4 during excavation.



View of Test Trench 5 after excavation.





View of Test Trench 6 after excavation.



View of Test Trench 1 after backfill.





View of Test Trench 2 after backfill.



View of Test Trench 3 after backfill.





View of Test Trench 4 after backfill.



View of Test Trench 5 after backfill.





View of Test Trench 6 after backfill.



View of air rotary drill rig preparing to perform Boring 1.





View of performance of Boring 1.



View of Boring 1 at completion.





View of Boring 1 after plugging and abandonment.



View of pasture south of tank battery pad looking southeast. Sample locations Bottom Hole 2A, Sidewall 10, and Sidewall 11 visible.





View of pasture south of tank battery pad looking southeast. Sample locations Sidewall 11 and Sidewall 12 visible.



View of pasture west of the tank battery pad looking north. Sample locations Bottom Hole 3A, Sidewall 1, and Sidewall 2 visible.





View of the tank battery pad looking north. Sample locations Bottom Hole 5A, Sidewall 3, and Sidewall 4 visible.



View of tank battery pad looking northeast. Sample locations Bottom Hole 6A, Sidewall 4, and Sidewall 5 visible.





View of tank battery pad looking north. Sample location Sidewall 6 is in foreground. Sample locations Bottom Hole 7, Sidewall 7, Sidewall 8, Sidewall 9, Bottom Hole 5A and Sidewall 3 are in background.



View of tank battery pad looking north. Close up view of sample locations Bottom Hole 7, Sidewall 7, Sidewall 8 and Sidewall 9.





View of tank battery pad looking south. Sample locations Bottom Hole 5A, Sidewall 4, and Sidewall 9 are in the foreground.



View of tank battery pad looking south. Sample locations Bottom Hole 7A, Sidewall 7, Sidewall 9, and Bottom Hole 5A (far left of photo with top of pin flag out of view) are in the foreground.





View of tank battery pad looking southwest after the completion of backfilling and restoration activities. Soil in background is fill for the west pasture.



View of pasture south of tank battery pad looking southwest after the completion of backfilling and restoration activities.





View of pasture south of tank battery pad looking southeast after the completion of backfilling and restoration activities.



View of pasture west of tank battery pad looking north after the completion of backfilling and restoration activities.





View of pasture west of tank battery pad looking south after the completion of backfilling and restoration activities.



View of pasture west of tank battery pad looking southwest while BLM #2 seed mix is being hand broadcasted.





View of tank battery pad looking southwest after the installation of the plastic liner and tank ring bases.



View of tank battery pad looking northwest after installation of tanks, stairs, catwalk, and pea gravel.



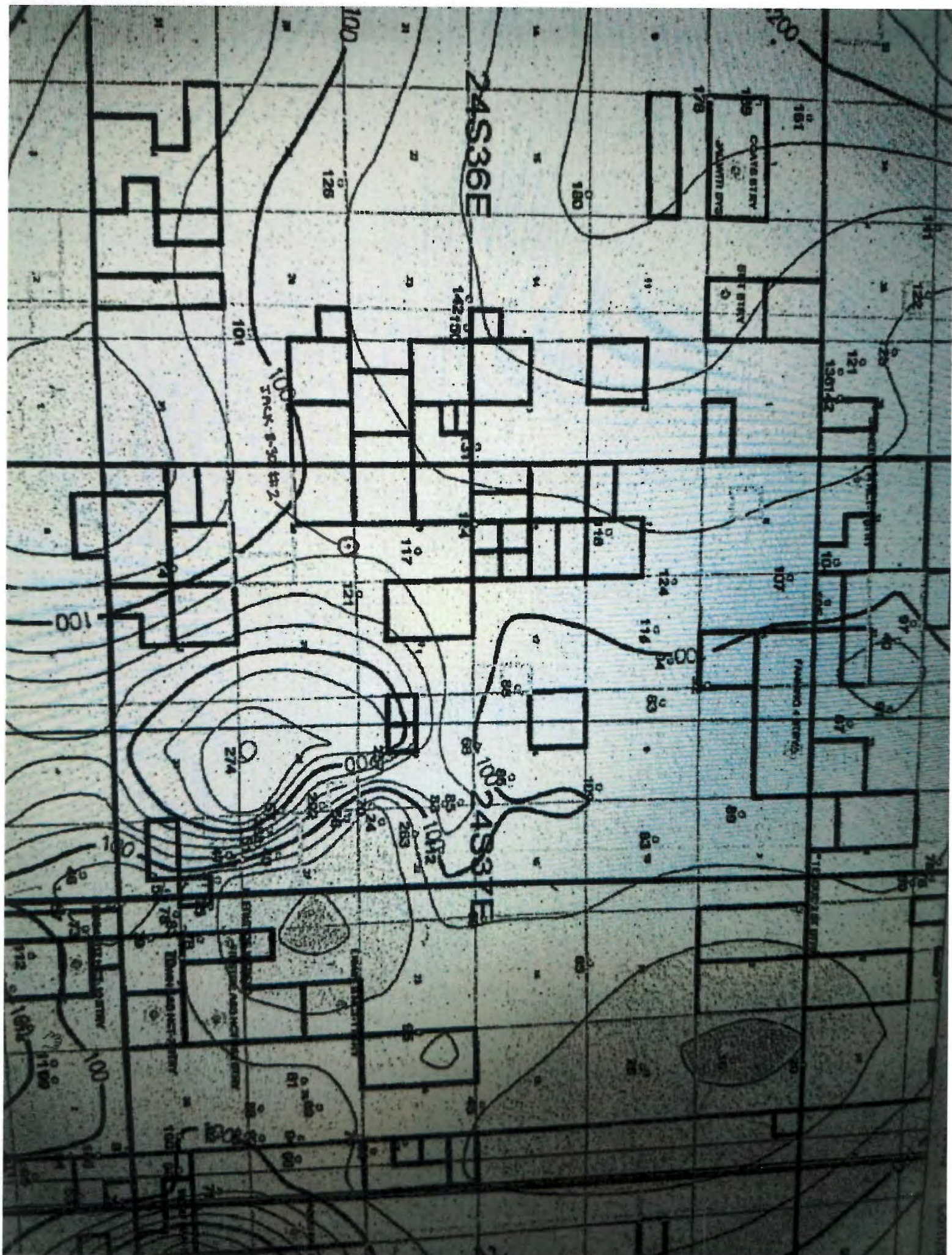


View of tank battery pad looking southwest after the completion of tank battery rebuilding activities.



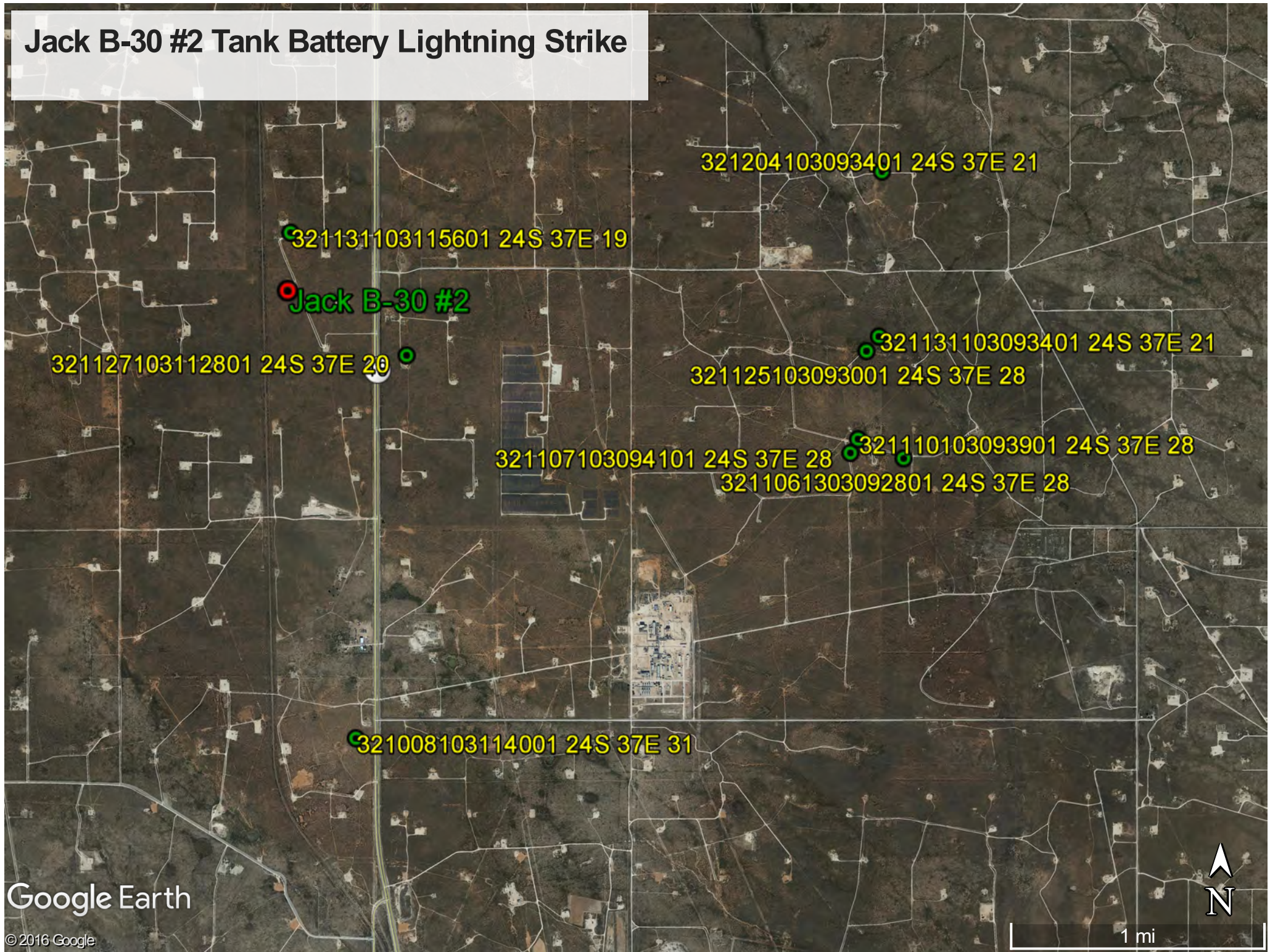
**Attachment E**  
**Depth to Groundwater Data**







# Jack B-30 #2 Tank Battery Lightning Strike







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### Search Results -- 1 sites found

Agency code = usgs

site\_no list =

- 321131103093401

Minimum number of levels = 1

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### USGS 321131103093401 24S.37E.21.444221

Lea County, New Mexico

Latitude 32°11'31", Longitude 103°09'34" NAD27

Land-surface elevation 3,203 feet above NAVD88

The depth of the well is 74 feet below land surface.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

#### Output formats

<a href="#">Table of data</a>
<a href="#">Tab-separated data</a>
<a href="#">Graph of data</a>
<a href="#">Reselect period</a>

Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurment
1953-03-02		D	69.64			2		U		

#### Explanation

Section	Code	Description
<a href="#">Water-level date-time accuracy</a>	D	Date is accurate to the Day
<a href="#">Water-level accuracy</a>	2	Water level accuracy to nearest hundredth of a foot
<a href="#">Status</a>		<a href="#">The reported water-level measurement represents a static level</a>
<a href="#">Method of measurement</a>	U	Unknown
<a href="#">Measuring agency</a>		<a href="#">Not determined</a>
<a href="#">Source of measurement</a>	U	Source is unknown.
<a href="#">Water-level approval status</a>	A	<a href="#">Approved for publication -- Processing and review completed.</a>

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### Search Results -- 1 sites found

Agency code = usgs

site\_no list =

- 321152103115601

Minimum number of levels = 1

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### USGS 321152103115601 24S.37E.19.234442

Lea County, New Mexico

Latitude 32°11'52", Longitude 103°11'56" NAD27

Land-surface elevation 3,280 feet above NAVD88

The depth of the well is 160 feet below land surface.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

#### Output formats

<a href="#">Table of data</a>
<a href="#">Tab-separated data</a>
<a href="#">Graph of data</a>
<a href="#">Reselect period</a>

Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurement
1953-03-05		D	117.43			2		U		

#### Explanation

Section	Code	Description
<a href="#">Water-level date-time accuracy</a>	D	Date is accurate to the Day
<a href="#">Water-level accuracy</a>	2	Water level accuracy to nearest hundredth of a foot
<a href="#">Status</a>		<a href="#">The reported water-level measurement represents a static level</a>
<a href="#">Method of measurement</a>	U	Unknown
<a href="#">Measuring agency</a>		<a href="#">Not determined</a>
<a href="#">Source of measurement</a>	U	Source is unknown.
<a href="#">Water-level approval status</a>	A	<a href="#">Approved for publication — Processing and review completed.</a>

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site\_no list =

- 321131103093401

Minimum number of levels = 1

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### USGS 321131103093401 24S.37E.21.444221

Lea County, New Mexico

Latitude 32°11'31", Longitude 103°09'34" NAD27

Land-surface elevation 3,203 feet above NAVD88

The depth of the well is 74 feet below land surface.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

#### Output formats

<a href="#">Table of data</a>
<a href="#">Tab-separated data</a>
<a href="#">Graph of data</a>
<a href="#">Reselect period</a>

Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurement
1953-03-02		D	69.64			2		U		

#### Explanation

Section	Code	Description
<a href="#">Water-level date-time accuracy</a>	D	Date is accurate to the Day
<a href="#">Water-level accuracy</a>	2	Water level accuracy to nearest hundredth of a foot
<a href="#">Status</a>		The reported water-level measurement represents a static level
<a href="#">Method of measurement</a>	U	Unknown
<a href="#">Measuring agency</a>		Not determined
<a href="#">Source of measurement</a>	U	Source is unknown.
<a href="#">Water-level approval status</a>	A	Approved for publication -- Processing and review completed.

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Agency code = usgs

site\_no list =

- 321127103112801

Minimum number of levels = 1

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### USGS 321127103112801 24S.37E.20.333441

Lea County, New Mexico

Latitude 32°11'27", Longitude 103°11'28" NAD27

Land-surface elevation 3,268 feet above NAVD88

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

#### Output formats

<a href="#">Table of data</a>
<a href="#">Tab-separated data</a>
<a href="#">Graph of data</a>
<a href="#">Reselect period</a>

Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurement
1968-02-27			D	122.07			2	R		U
1970-12-02			D	121.60			2	R		U
1976-01-15			D	121.55			2			U
1981-03-18			D	121.12			2			U
1986-03-05			D	120.69			2			U
1991-05-21			D	120.78			2			U
1996-02-28			D	120.54			2			S

#### Explanation

Section	Code	Description
<a href="#">Water-level date-time accuracy</a>	D	Date is accurate to the Day
<a href="#">Water-level accuracy</a>	2	Water level accuracy to nearest hundredth of a foot
<a href="#">Status</a>		<a href="#">The reported water-level measurement represents a static level</a>
<a href="#">Status</a>	R	Site had been pumped recently.
<a href="#">Method of measurement</a>	S	Steel-tape measurement.
<a href="#">Method of measurement</a>	U	Unknown
<a href="#">Measuring agency</a>		<a href="#">Not determined</a>
<a href="#">Source of measurement</a>	U	Source is unknown.
<a href="#">Water-level approval status</a>	A	Approved for publication -- Processing and review completed.





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Agency code = usgs

site\_no list =

- 321008103114001

Minimum number of levels = 1

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### USGS 321008103114001 24S.37E.31.243442

Lea County, New Mexico

Latitude 32°10'08", Longitude 103°11'40" NAD27

Land-surface elevation 3,240 feet above NAVD88

The depth of the well is 100 feet below land surface.

This well is completed in the Ogallala Formation (121OGLL) local aquifer.

#### Output formats

<a href="#">Table of data</a>
<a href="#">Tab-separated data</a>
<a href="#">Graph of data</a>
<a href="#">Reselect period</a>

Date	Time	? Water- level date- time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water- level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurem
1965-10-22		D	75.98				2		U	
1970-12-10		D	74.96				2		U	
1976-01-14		D	76.17				2		U	
1981-03-18		D	74.17				2		U	
1986-03-11		D	74.90				2		U	
1991-05-22		D	73.53				2		U	

#### Explanation

Section	Code	Description
<a href="#">Water-level date-time accuracy</a>	D	<a href="#">Date is accurate to the Day</a>
<a href="#">Water-level accuracy</a>	2	Water level accuracy to nearest hundredth of a foot
<a href="#">Status</a>		<a href="#">The reported water-level measurement represents a static level</a>
<a href="#">Method of measurement</a>	U	Unknown
<a href="#">Measuring agency</a>		<a href="#">Not determined</a>
<a href="#">Source of measurement</a>	U	Source is unknown.
<a href="#">Water-level approval status</a>	A	<a href="#">Approved for publication -- Processing and review completed.</a>

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Agency code = usgs

site\_no list =

- 321125103093001

Minimum number of levels = 1

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### USGS 321125103093001 24S.37E.28.242233

Lea County, New Mexico

Latitude 32°11'28", Longitude 103°09'37" NAD27

Land-surface elevation 3,205.00 feet above NGVD29

The depth of the well is 770 feet below land surface.

This well is completed in the Santa Rosa Sandstone (231SNRS) local aquifer.

#### Output formats

<a href="#">Table of data</a>
<a href="#">Tab-separated data</a>
<a href="#">Graph of data</a>
<a href="#">Reselect period</a>

Date	Time	? Water- level date- time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water- level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurem
1981-03-17		D	255.43				2		U	
1986-03-05		D	263.20				2		U	
1991-05-21		D	277.06				2		U	
1996-02-28		D	291.80				2		S	
2001-03-07		D	303.74				2		S	

#### Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Method of measurement	S	Steel-tape measurement.
Method of measurement	U	Unknown
Measuring agency		Not determined
Source of measurement	A	Reported by another government agency (do not use "A" if reported by owner, use "O")
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.





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Agency code = usgs

site\_no list =

- 321106103092801

Minimum number of levels = 1

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### USGS 321106103092801 24S.37E.28.424241

Lea County, New Mexico

Latitude 32°11'06", Longitude 103°09'28" NAD27

Land-surface elevation 3,199 feet above NAVD88

The depth of the well is 110 feet below land surface.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

#### Output formats

<a href="#">Table of data</a>
<a href="#">Tab-separated data</a>
<a href="#">Graph of data</a>
<a href="#">Reselect period</a>

Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurement
1977-10-27		D	57.24			2		U		

#### Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Method of measurement	U	Unknown
Measuring agency		Not determined
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication — Processing and review completed.

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### Search Results -- 1 sites found

Agency code = usgs

site\_no list =

- 321107103094101

Minimum number of levels = 1

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### USGS 321107103094101 24S.37E.28.241444

Lea County, New Mexico

Latitude 32°11'07", Longitude 103°09'41" NAD27

Land-surface elevation 3,203 feet above NAVD88

The depth of the well is 80 feet below land surface.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

#### Output formats

<a href="#">Table of data</a>
<a href="#">Tab-separated data</a>
<a href="#">Graph of data</a>
<a href="#">Reselect period</a>

Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurement
1976-01-14		D	57.71			2		U		

#### Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Method of measurement	U	Unknown
Measuring agency		Not determined
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.

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Groundwater levels for New Mexico

### Search Results -- 1 sites found

Agency code = usgs

site\_no list =

- 321110103093901

Minimum number of levels = 1

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### USGS 321110103093901 24S.37E.28.24213

Lea County, New Mexico

Latitude 32°11'10", Longitude 103°09'39" NAD27

Land-surface elevation 3,201 feet above NAVD88

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

#### Output formats

<a href="#">Table of data</a>
<a href="#">Tab-separated data</a>
<a href="#">Graph of data</a>
<a href="#">Reselect period</a>

Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurement
1965-10-14		D	64.46			2			U	
1968-02-26		D	64.42			2	R		U	
1970-12-10		D	64.66			2	P		U	
1976-01-14		D	64.42			2			U	
1981-03-17		D	64.39			2			U	

#### Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Status	P	Site was being pumped.
Status	R	Site had been pumped recently.
Method of measurement	U	Unknown
Measuring agency		Not determined
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.

[Questions about sites/data?](#)

[Feedback on this web site](#)



## **Attachment F**

### **Analytical Results**



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



# Analytical Report

**Prepared for:**

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

Project: Jack B-30 #2 Tank Battery Lightning Strike

Project Number: 498-7876-000

Location: JAL NM

Lab Order Number: 7A25001



NELAP/TCEQ # T104704156-13-3

Report Date: 02/01/17



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

Project: Jack B-30 #2 Tank Battery Lightning Strike  
Project Number: 498-7876-000  
Project Manager: Tim McMinn

Fax: (432) 563-2213

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Auger Hole 1 6-12"	7A25001-01	Soil	01/23/17 14:20	01-25-2017 09:16
Auger Hole 1 12-18"	7A25001-02	Soil	01/23/17 14:25	01-25-2017 09:16
Auger Hole 2 18-24"	7A25001-03	Soil	01/23/17 15:05	01-25-2017 09:16
Auger Hole 2 30-36"	7A25001-04	Soil	01/23/17 15:10	01-25-2017 09:16
Auger Hole 3 0-6"	7A25001-05	Soil	01/23/17 15:40	01-25-2017 09:16
Auger Hole 3 6-12"	7A25001-06	Soil	01/23/17 15:45	01-25-2017 09:16
Auger Hole 4 0-6"	7A25001-07	Soil	01/23/17 16:10	01-25-2017 09:16
Auger Hole 4 6-12"	7A25001-08	Soil	01/23/17 16:15	01-25-2017 09:16



E Tech Environmental & Safety Solutions, Inc.  
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Project Manager: Tim McMinn

Fax: (432) 563-2213

**Auger Hole 1 6-12"**

**7A25001-01 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00104	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B
Toluene	ND	0.00208	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B
Ethylbenzene	ND	0.00104	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B
Xylene (p/m)	ND	0.00208	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B
Xylene (o)	ND	0.00104	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B
Surrogate: 4-Bromofluorobenzene		111 %	75-125		P7A3012	01/26/17	01/27/17	EPA 8021B
Surrogate: 1,4-Difluorobenzene		92.5 %	75-125		P7A3012	01/26/17	01/27/17	EPA 8021B

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	22.6	1.04	mg/kg dry	1	P7A2704	01/27/17	01/30/17	EPA 300.0
% Moisture	4.0	0.1	%	1	P7A2601	01/26/17	01/26/17	% calculation

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.0	mg/kg dry	1	P7A3005	01/27/17	01/28/17	TPH 8015M
>C12-C28	ND	26.0	mg/kg dry	1	P7A3005	01/27/17	01/28/17	TPH 8015M
>C28-C35	ND	26.0	mg/kg dry	1	P7A3005	01/27/17	01/28/17	TPH 8015M
Surrogate: 1-Chlorooctane		92.9 %	70-130		P7A3005	01/27/17	01/28/17	TPH 8015M
Surrogate: o-Terphenyl		96.3 %	70-130		P7A3005	01/27/17	01/28/17	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	26.0	mg/kg dry	1	[CALC]	01/27/17	01/28/17	calc



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

Project: Jack B-30 #2 Tank Battery Lightning Strike  
Project Number: 498-7876-000  
Project Manager: Tim McMinn

Fax: (432) 563-2213

**Auger Hole 1 12-18"**

**7A25001-02 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00105	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B	
Toluene	ND	0.00211	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B	
Ethylbenzene	ND	0.00105	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B	
Xylene (p/m)	ND	0.00211	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B	
Xylene (o)	ND	0.00105	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		99.2 %	75-125		P7A3012	01/26/17	01/27/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		93.4 %	75-125		P7A3012	01/26/17	01/27/17	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	11.2	1.05	mg/kg dry	1	P7A2704	01/27/17	01/30/17	EPA 300.0	
% Moisture	5.0	0.1	%	1	P7A2601	01/26/17	01/26/17	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.3	mg/kg dry	1	P7A3005	01/27/17	01/28/17	TPH 8015M	
>C12-C28	ND	26.3	mg/kg dry	1	P7A3005	01/27/17	01/28/17	TPH 8015M	
>C28-C35	ND	26.3	mg/kg dry	1	P7A3005	01/27/17	01/28/17	TPH 8015M	
Surrogate: 1-Chlorooctane		92.4 %	70-130		P7A3005	01/27/17	01/28/17	TPH 8015M	
Surrogate: o-Terphenyl		96.0 %	70-130		P7A3005	01/27/17	01/28/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.3	mg/kg dry	1	[CALC]	01/27/17	01/28/17	calc	



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Fax: (432) 563-2213

**Auger Hole 2 18-24"**  
**7A25001-03 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

<b>Benzene</b>	<b>0.00137</b>	0.00109	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B
Toluene	ND	0.00217	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B
Ethylbenzene	ND	0.00109	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B
Xylene (o)	ND	0.00109	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B
<i>Surrogate: 1,4-Difluorobenzene</i>		92.8 %	75-125		P7A3012	01/26/17	01/27/17	EPA 8021B
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %	75-125		P7A3012	01/26/17	01/27/17	EPA 8021B

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>43.2</b>	1.09	mg/kg dry	1	P7A2704	01/27/17	01/30/17	EPA 300.0
<b>% Moisture</b>	<b>8.0</b>	0.1	%	1	P7A2601	01/26/17	01/26/17	% calculation

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	27.2	mg/kg dry	1	P7A3005	01/27/17	01/28/17	TPH 8015M
>C12-C28	ND	27.2	mg/kg dry	1	P7A3005	01/27/17	01/28/17	TPH 8015M
>C28-C35	ND	27.2	mg/kg dry	1	P7A3005	01/27/17	01/28/17	TPH 8015M
<i>Surrogate: 1-Chlorooctane</i>		91.4 %	70-130		P7A3005	01/27/17	01/28/17	TPH 8015M
<i>Surrogate: o-Terphenyl</i>		97.7 %	70-130		P7A3005	01/27/17	01/28/17	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	01/27/17	01/28/17	calc



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Fax: (432) 563-2213

**Auger Hole 2 30-36"**  
**7A25001-04 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00110	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B
Toluene	ND	0.00220	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B
Ethylbenzene	ND	0.00110	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B
Xylene (p/m)	ND	0.00220	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B
Xylene (o)	ND	0.00110	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B
Surrogate: 1,4-Difluorobenzene		91.1 %	75-125		P7A3012	01/26/17	01/27/17	EPA 8021B
Surrogate: 4-Bromofluorobenzene		103 %	75-125		P7A3012	01/26/17	01/27/17	EPA 8021B

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	9.71	1.10	mg/kg dry	1	P7A2704	01/27/17	01/30/17	EPA 300.0
% Moisture	9.0	0.1	%	1	P7A2601	01/26/17	01/26/17	% calculation

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	27.5	mg/kg dry	1	P7A3005	01/27/17	01/28/17	TPH 8015M
>C12-C28	ND	27.5	mg/kg dry	1	P7A3005	01/27/17	01/28/17	TPH 8015M
>C28-C35	ND	27.5	mg/kg dry	1	P7A3005	01/27/17	01/28/17	TPH 8015M
Surrogate: 1-Chlorooctane		92.0 %	70-130		P7A3005	01/27/17	01/28/17	TPH 8015M
Surrogate: o-Terphenyl		96.1 %	70-130		P7A3005	01/27/17	01/28/17	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	27.5	mg/kg dry	1	[CALC]	01/27/17	01/28/17	calc



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**Auger Hole 3 0-6"**  
**7A25001-05 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

<b>Benzene</b>	<b>0.0581</b>	0.0211	mg/kg dry	20	P7A3012	01/26/17	01/27/17	EPA 8021B	
<b>Toluene</b>	<b>1.56</b>	0.0421	mg/kg dry	20	P7A3012	01/26/17	01/27/17	EPA 8021B	
<b>Ethylbenzene</b>	<b>5.76</b>	0.0211	mg/kg dry	20	P7A3012	01/26/17	01/27/17	EPA 8021B	
<b>Xylene (p/m)</b>	<b>13.4</b>	0.0421	mg/kg dry	20	P7A3012	01/26/17	01/27/17	EPA 8021B	
<b>Xylene (o)</b>	<b>5.54</b>	0.0211	mg/kg dry	20	P7A3012	01/26/17	01/27/17	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %	75-125		P7A3012	01/26/17	01/27/17	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		99.8 %	75-125		P7A3012	01/26/17	01/27/17	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>8.45</b>	1.05	mg/kg dry	1	P7A2704	01/27/17	01/30/17	EPA 300.0	
<b>% Moisture</b>	<b>5.0</b>	0.1	%	1	P7A2601	01/26/17	01/26/17	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>1200</b>	263	mg/kg dry	10	P7A3005	01/27/17	01/28/17	TPH 8015M	
<b>&gt;C12-C28</b>	<b>5710</b>	263	mg/kg dry	10	P7A3005	01/27/17	01/28/17	TPH 8015M	
<b>&gt;C28-C35</b>	<b>1230</b>	263	mg/kg dry	10	P7A3005	01/27/17	01/28/17	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		115 %	70-130		P7A3005	01/27/17	01/28/17	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		112 %	70-130		P7A3005	01/27/17	01/28/17	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>8150</b>	263	mg/kg dry	10	[CALC]	01/27/17	01/28/17	calc	

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Fax: (432) 563-2213

**Auger Hole 3 6-12"**  
**7A25001-06 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

<b>Benzene</b>	<b>0.00171</b>	0.00104	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B	
Toluene	ND	0.00208	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B	
Ethylbenzene	ND	0.00104	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B	
<b>Xylene (p/m)</b>	<b>0.00309</b>	0.00208	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B	
<b>Xylene (o)</b>	<b>0.00185</b>	0.00104	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.2 %		75-125	P7A3012	01/26/17	01/27/17	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		89.6 %		75-125	P7A3012	01/26/17	01/27/17	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>14.9</b>	1.04	mg/kg dry	1	P7A2704	01/27/17	01/30/17	EPA 300.0	
<b>% Moisture</b>	<b>4.0</b>	0.1	%	1	P7A2601	01/26/17	01/26/17	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.0	mg/kg dry	1	P7A3006	01/27/17	01/28/17	TPH 8015M	
<b>&gt;C12-C28</b>	<b>105</b>	26.0	mg/kg dry	1	P7A3006	01/27/17	01/28/17	TPH 8015M	
>C28-C35	ND	26.0	mg/kg dry	1	P7A3006	01/27/17	01/28/17	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		93.9 %		70-130	P7A3006	01/27/17	01/28/17	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		98.9 %		70-130	P7A3006	01/27/17	01/28/17	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>105</b>	26.0	mg/kg dry	1	[CALC]	01/27/17	01/28/17	calc	



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Project Manager: Tim McMinn

Fax: (432) 563-2213

**Auger Hole 4 0-6"**  
**7A25001-07 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.0233	mg/kg dry	20	P7A3012	01/26/17	01/27/17	EPA 8021B	
Toluene	ND	0.0465	mg/kg dry	20	P7A3012	01/26/17	01/27/17	EPA 8021B	
Ethylbenzene	<b>0.458</b>	0.0233	mg/kg dry	20	P7A3012	01/26/17	01/27/17	EPA 8021B	
Xylene (p/m)	<b>0.107</b>	0.0465	mg/kg dry	20	P7A3012	01/26/17	01/27/17	EPA 8021B	
Xylene (o)	<b>0.0612</b>	0.0233	mg/kg dry	20	P7A3012	01/26/17	01/27/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		102 %	75-125		P7A3012	01/26/17	01/27/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		87.0 %	75-125		P7A3012	01/26/17	01/27/17	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	<b>68.2</b>	1.16	mg/kg dry	1	P7A2704	01/27/17	01/30/17	EPA 300.0	
% Moisture	<b>14.0</b>	0.1	%	1	P7A2601	01/26/17	01/26/17	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	29.1	mg/kg dry	1	P7A3006	01/27/17	01/28/17	TPH 8015M	
>C12-C28	<b>390</b>	29.1	mg/kg dry	1	P7A3006	01/27/17	01/28/17	TPH 8015M	
>C28-C35	<b>65.3</b>	29.1	mg/kg dry	1	P7A3006	01/27/17	01/28/17	TPH 8015M	
Surrogate: 1-Chlorooctane		91.8 %	70-130		P7A3006	01/27/17	01/28/17	TPH 8015M	
Surrogate: o-Terphenyl		95.9 %	70-130		P7A3006	01/27/17	01/28/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	<b>456</b>	29.1	mg/kg dry	1	[CALC]	01/27/17	01/28/17	calc	

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Project Manager: Tim McMinn

Fax: (432) 563-2213

**Auger Hole 4 6-12"**  
**7A25001-08 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

<b>Benzene</b>	<b>0.00144</b>	0.00108	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B
Toluene	ND	0.00215	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B
Ethylbenzene	ND	0.00108	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B
Xylene (p/m)	ND	0.00215	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B
Xylene (o)	ND	0.00108	mg/kg dry	1	P7A3012	01/26/17	01/27/17	EPA 8021B
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>109 %</i>	<i>75-125</i>		<i>P7A3012</i>	<i>01/26/17</i>	<i>01/27/17</i>	<i>EPA 8021B</i>
<i>Surrogate: 1,4-Difluorobenzene</i>		<i>91.5 %</i>	<i>75-125</i>		<i>P7A3012</i>	<i>01/26/17</i>	<i>01/27/17</i>	<i>EPA 8021B</i>

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>19.0</b>	1.08	mg/kg dry	1	P7A2704	01/27/17	01/30/17	EPA 300.0
<b>% Moisture</b>	<b>7.0</b>	0.1	%	1	P7A2601	01/26/17	01/26/17	% calculation

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.9	mg/kg dry	1	P7A3006	01/27/17	01/28/17	TPH 8015M
<b>&gt;C12-C28</b>	<b>71.5</b>	26.9	mg/kg dry	1	P7A3006	01/27/17	01/28/17	TPH 8015M
>C28-C35	ND	26.9	mg/kg dry	1	P7A3006	01/27/17	01/28/17	TPH 8015M
<i>Surrogate: 1-Chlorooctane</i>		<i>91.7 %</i>	<i>70-130</i>		<i>P7A3006</i>	<i>01/27/17</i>	<i>01/28/17</i>	<i>TPH 8015M</i>
<i>Surrogate: o-Terphenyl</i>		<i>94.5 %</i>	<i>70-130</i>		<i>P7A3006</i>	<i>01/27/17</i>	<i>01/28/17</i>	<i>TPH 8015M</i>
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>71.5</b>	26.9	mg/kg dry	1	[CALC]	01/27/17	01/28/17	calc



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13000 West County Road 100  
Odessa TX, 79765

Project: Jack B-30 #2 Tank Battery Lightning Strike  
Project Number: 498-7876-000  
Project Manager: Tim McMinn

Fax: (432) 563-2213

**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
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**Batch P7A3012 - General Preparation (GC)**

**Blank (P7A3012-BLK1)**

Prepared: 01/26/17 Analyzed: 01/27/17

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	0.0527		"	0.0600		87.9	75-125			
Surrogate: 4-Bromofluorobenzene	0.0668		"	0.0600		111	75-125			

**LCS (P7A3012-BS1)**

Prepared: 01/26/17 Analyzed: 01/27/17

Benzene	0.0910	0.00100	mg/kg wet	0.100		91.0	70-130			
Toluene	0.0967	0.00200	"	0.100		96.7	70-130			
Ethylbenzene	0.112	0.00100	"	0.100		112	70-130			
Xylene (p/m)	0.201	0.00200	"	0.200		101	70-130			
Xylene (o)	0.0970	0.00100	"	0.100		97.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.0713		"	0.0600		119	75-125			
Surrogate: 1,4-Difluorobenzene	0.0562		"	0.0600		93.6	75-125			

**LCS Dup (P7A3012-BSD1)**

Prepared: 01/26/17 Analyzed: 01/27/17

Benzene	0.0901	0.00100	mg/kg wet	0.100		90.1	70-130	0.950	20	
Toluene	0.0964	0.00200	"	0.100		96.4	70-130	0.311	20	
Ethylbenzene	0.114	0.00100	"	0.100		114	70-130	1.81	20	
Xylene (p/m)	0.200	0.00200	"	0.200		100	70-130	0.588	20	
Xylene (o)	0.0987	0.00100	"	0.100		98.7	70-130	1.70	20	
Surrogate: 4-Bromofluorobenzene	0.0762		"	0.0600		127	75-125			S-GC
Surrogate: 1,4-Difluorobenzene	0.0578		"	0.0600		96.3	75-125			

**Matrix Spike (P7A3012-MS1)**

Source: 7A25001-01

Prepared: 01/26/17 Analyzed: 01/27/17

Benzene	0.122	0.00104	mg/kg dry	0.104	ND	118	80-120			
Toluene	0.109	0.00208	"	0.104	ND	105	80-120			
Ethylbenzene	0.122	0.00104	"	0.104	ND	117	80-120			
Xylene (p/m)	0.220	0.00208	"	0.208	ND	105	80-120			
Xylene (o)	0.110	0.00104	"	0.104	ND	106	80-120			
Surrogate: 4-Bromofluorobenzene	0.0646		"	0.0625		103	75-125			
Surrogate: 1,4-Difluorobenzene	0.0613		"	0.0625		98.1	75-125			

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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
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**Batch P7A3012 - General Preparation (GC)**

**Matrix Spike Dup (P7A3012-MSD1)**

**Source: 7A25001-01**

Prepared: 01/26/17 Analyzed: 01/27/17

Benzene	0.147	0.00104	mg/kg dry	0.104	ND	141	80-120	18.4	20	QM-07
Toluene	0.140	0.00208	"	0.104	ND	134	80-120	24.6	20	QM-07
Ethylbenzene	0.142	0.00104	"	0.104	ND	137	80-120	15.6	20	QM-07
Xylene (p/m)	0.229	0.00208	"	0.208	ND	110	80-120	4.10	20	
Xylene (o)	0.123	0.00104	"	0.104	ND	118	80-120	10.8	20	
Surrogate: 1,4-Difluorobenzene	0.0608		"	0.0625		97.4	75-125			
Surrogate: 4-Bromofluorobenzene	0.0681		"	0.0625		109	75-125			



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**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
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**Batch P7A2601 - \*\*\* DEFAULT PREP \*\*\***

**Blank (P7A2601-BLK1)**

Prepared & Analyzed: 01/26/17

% Moisture ND 0.1 %

**Duplicate (P7A2601-DUP1)**

Source: 7A25002-19

Prepared & Analyzed: 01/26/17

% Moisture 16.0 0.1 % 16.0 0.00 20

**Duplicate (P7A2601-DUP2)**

Source: 7A25009-02

Prepared & Analyzed: 01/26/17

% Moisture 3.0 0.1 % 3.0 0.00 20

**Batch P7A2704 - \*\*\* DEFAULT PREP \*\*\***

**Blank (P7A2704-BLK1)**

Prepared: 01/27/17 Analyzed: 01/30/17

Chloride ND 1.00 mg/kg wet

**LCS (P7A2704-BS1)**

Prepared: 01/27/17 Analyzed: 01/30/17

Chloride 429 1.00 mg/kg wet 400 107 80-120

**LCS Dup (P7A2704-BSD1)**

Prepared: 01/27/17 Analyzed: 01/30/17

Chloride 428 1.00 mg/kg wet 400 107 80-120 0.133 20

**Duplicate (P7A2704-DUP1)**

Source: 7A24011-01

Prepared: 01/27/17 Analyzed: 01/30/17

Chloride 15900 58.1 mg/kg dry 16900 6.19 20

**Duplicate (P7A2704-DUP2)**

Source: 7A25001-04

Prepared: 01/27/17 Analyzed: 01/30/17

Chloride 9.74 1.10 mg/kg dry 9.71 0.226 20

**Matrix Spike (P7A2704-MS1)**

Source: 7A24011-01

Prepared: 01/27/17 Analyzed: 01/30/17

Chloride 16200 58.1 mg/kg dry 2330 16900 NR 80-120

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**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
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**Batch P7A3005 - TX 1005**

**Blank (P7A3005-BLK1)**

Prepared: 01/27/17 Analyzed: 01/28/17

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	86.0		"	100		86.0	70-130			
Surrogate: o-Terphenyl	45.1		"	50.0		90.2	70-130			

**LCS (P7A3005-BS1)**

Prepared: 01/27/17 Analyzed: 01/28/17

C6-C12	921	25.0	mg/kg wet	1000		92.1	75-125			
>C12-C28	807	25.0	"	1000		80.7	75-125			
Surrogate: 1-Chlorooctane	97.0		"	100		97.0	70-130			
Surrogate: o-Terphenyl	47.1		"	50.0		94.3	70-130			

**LCS Dup (P7A3005-BSD1)**

Prepared: 01/27/17 Analyzed: 01/28/17

C6-C12	902	25.0	mg/kg wet	1000		90.2	75-125	2.17	20	
>C12-C28	834	25.0	"	1000		83.4	75-125	3.24	20	
Surrogate: 1-Chlorooctane	113		"	100		113	70-130			
Surrogate: o-Terphenyl	50.6		"	50.0		101	70-130			

**Matrix Spike (P7A3005-MS1)**

Source: 7A25001-04

Prepared: 01/27/17 Analyzed: 01/28/17

C6-C12	913	27.5	mg/kg dry	1100	ND	83.1	75-125			
>C12-C28	912	27.5	"	1100	ND	83.0	75-125			
Surrogate: 1-Chlorooctane	122		"	110		111	70-130			
Surrogate: o-Terphenyl	52.7		"	54.9		95.9	70-130			

**Batch P7A3006 - TX 1005**

**Blank (P7A3006-BLK1)**

Prepared: 01/27/17 Analyzed: 01/28/17

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	102		"	100		102	70-130			
Surrogate: o-Terphenyl	54.0		"	50.0		108	70-130			



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Project: Jack B-30 #2 Tank Battery Lightning Strike  
Project Number: 498-7876-000  
Project Manager: Tim McMinn

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
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**Batch P7A3006 - TX 1005**

**LCS (P7A3006-BS1)**

Prepared: 01/27/17 Analyzed: 01/28/17

C6-C12	828	25.0	mg/kg wet	1000		82.8	75-125			
>C12-C28	816	25.0	"	1000		81.6	75-125			
Surrogate: 1-Chlorooctane	107		"	100		107	70-130			
Surrogate: o-Terphenyl	56.3		"	50.0		113	70-130			

**LCS Dup (P7A3006-BS1)**

Prepared: 01/27/17 Analyzed: 01/28/17

C6-C12	815	25.0	mg/kg wet	1000		81.5	75-125	1.62	20	
>C12-C28	820	25.0	"	1000		82.0	75-125	0.514	20	
Surrogate: 1-Chlorooctane	120		"	100		120	70-130			
Surrogate: o-Terphenyl	54.2		"	50.0		108	70-130			

**Matrix Spike (P7A3006-MS1)**

Source: 7A24008-03

Prepared: 01/27/17 Analyzed: 01/29/17

C6-C12	966	27.8	mg/kg dry	1110	29.3	84.3	75-125			
>C12-C28	1010	27.8	"	1110	188	74.1	75-125			QM-05
Surrogate: 1-Chlorooctane	136		"	111		122	70-130			
Surrogate: o-Terphenyl	71.9		"	55.6		129	70-130			

**Matrix Spike Dup (P7A3006-MSD1)**

Source: 7A24008-03

Prepared: 01/27/17 Analyzed: 01/29/17

C6-C12	894	27.8	mg/kg dry	1110	29.3	77.8	75-125	7.95	20	
>C12-C28	1000	27.8	"	1110	188	73.4	75-125	0.957	20	QM-05
Surrogate: 1-Chlorooctane	134		"	111		120	70-130			
Surrogate: o-Terphenyl	70.8		"	55.6		128	70-130			

### Notes and Definitions

S-GC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
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:



Date:

2/1/2017

Brent Barron, Laboratory Director/Technical Director

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

Project: Jack B-30 #2 Tank Battery Lightning Strike  
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## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Page 18 of 18



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



# Analytical Report

**Prepared for:**

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

Project: Enervest JackB-30 #2 Tank Battery Lightning Strike

Project Number: 498-7876-000

Location: Jal, NM

Lab Order Number: 7B20006



NELAP/TCEQ # T104704156-13-3

Report Date: 03/08/17

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

Project: Enervest JackB-30 #2 Tank Battery Lightning St  
Project Number: 498-7876-000  
Project Manager: Tim McMinn

Fax: (432) 563-2213

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Bottom Hole 1 6"	7B20006-01	Soil	02/17/17 13:15	02-20-2017 09:35
Test Trench 1 6.5'	7B20006-02	Soil	02/17/17 17:35	02-20-2017 09:35
Test Trench 1 8'	7B20006-03	Soil	02/17/17 17:50	02-20-2017 09:35
Bottom Hole 2 24"	7B20006-04	Soil	02/17/17 13:20	02-20-2017 09:35
Test Trench 2 8'	7B20006-05	Soil	02/17/17 16:55	02-20-2017 09:35
Test Trench 2 9'	7B20006-06	Soil	02/17/17 17:00	02-20-2017 09:35
Bottom Hole 3 18"	7B20006-07	Soil	02/17/17 13:25	02-20-2017 09:35
Test Trench 3 6'	7B20006-08	Soil	02/17/17 17:10	02-20-2017 09:35
Test Trench 3 8.5'	7B20006-09	Soil	02/17/17 17:20	02-20-2017 09:35
Bottom Hole 4 6"	7B20006-10	Soil	02/17/17 13:30	02-20-2017 09:35
Test Trench 4 5.5'	7B20006-11	Soil	02/17/17 17:25	02-20-2017 09:35
Test Trench 4 7.5'	7B20006-12	Soil	02/17/17 17:30	02-20-2017 09:35
Bottom Hole 5 12"	7B20006-13	Soil	02/17/17 10:55	02-20-2017 09:35
Test Trench 5 2'	7B20006-14	Soil	02/17/17 11:00	02-20-2017 09:35
Test Trench 5 3'	7B20006-15	Soil	02/17/17 11:05	02-20-2017 09:35
Test Trench 5 4'	7B20006-16	Soil	02/17/17 16:05	02-20-2017 09:35
Test Trench 5 5'	7B20006-17	Soil	02/17/17 16:10	02-20-2017 09:35
Test Trench 5 6'	7B20006-18	Soil	02/17/17 16:15	02-20-2017 09:35
Test Trench 5 7'	7B20006-19	Soil	02/17/17 16:20	02-20-2017 09:35
Test Trench 5 8'	7B20006-20	Soil	02/17/17 16:25	02-20-2017 09:35
Test Trench 5 9'	7B20006-21	Soil	02/17/17 16:30	02-20-2017 09:35
Bottom Hole 6 12"	7B20006-22	Soil	02/17/17 10:40	02-20-2017 09:35
Test Trench 6 2'	7B20006-23	Soil	02/17/17 10:45	02-20-2017 09:35
Test Trench 6 3'	7B20006-24	Soil	02/17/17 10:50	02-20-2017 09:35
Test Trench 6 4'	7B20006-25	Soil	02/17/17 15:30	02-20-2017 09:35
Test Trench 6 5'	7B20006-26	Soil	02/17/17 15:35	02-20-2017 09:35
Test Trench 6 6'	7B20006-27	Soil	02/17/17 15:40	02-20-2017 09:35
Test Trench 6 7'	7B20006-28	Soil	02/17/17 15:50	02-20-2017 09:35
Test Trench 6 8'	7B20006-29	Soil	02/17/17 16:00	02-20-2017 09:35



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**Bottom Hole 1 6"**

**7B20006-01 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00103	mg/kg dry	1	P7B2203	02/21/17	02/21/17	EPA 8021B
Toluene	ND	0.00206	mg/kg dry	1	P7B2203	02/21/17	02/21/17	EPA 8021B
Ethylbenzene	ND	0.00103	mg/kg dry	1	P7B2203	02/21/17	02/21/17	EPA 8021B
Xylene (p/m)	ND	0.00206	mg/kg dry	1	P7B2203	02/21/17	02/21/17	EPA 8021B
Xylene (o)	ND	0.00103	mg/kg dry	1	P7B2203	02/21/17	02/21/17	EPA 8021B
Surrogate: 4-Bromofluorobenzene		101 %	75-125		P7B2203	02/21/17	02/21/17	EPA 8021B
Surrogate: 1,4-Difluorobenzene		101 %	75-125		P7B2203	02/21/17	02/21/17	EPA 8021B

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	48.8	1.03	mg/kg dry	1	P7B2318	02/23/17	02/24/17	EPA 300.0
% Moisture	3.0	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	25.8	mg/kg dry	1	P7B2207	02/21/17	02/21/17	TPH 8015M
>C12-C28	ND	25.8	mg/kg dry	1	P7B2207	02/21/17	02/21/17	TPH 8015M
>C28-C35	ND	25.8	mg/kg dry	1	P7B2207	02/21/17	02/21/17	TPH 8015M
Surrogate: 1-Chlorooctane		98.4 %	70-130		P7B2207	02/21/17	02/21/17	TPH 8015M
Surrogate: o-Terphenyl		109 %	70-130		P7B2207	02/21/17	02/21/17	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	25.8	mg/kg dry	1	[CALC]	02/21/17	02/21/17	calc

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**Test Trench 1 6.5'**  
**7B20006-02 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>67.6</b>	1.04	mg/kg dry	1	P7B2318	02/23/17	02/24/17	EPA 300.0	
<b>% Moisture</b>	<b>4.0</b>	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation	



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**Test Trench 1 8'**  
**7B20006-03 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	155	1.08	mg/kg dry	1	P7B2403	02/24/17	02/27/17	EPA 300.0	
% Moisture	7.0	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation	

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**Bottom Hole 2 24"**

**7B20006-04 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00106	mg/kg dry	1	P7B2203	02/21/17	02/21/17	EPA 8021B
Toluene	ND	0.00213	mg/kg dry	1	P7B2203	02/21/17	02/21/17	EPA 8021B
Ethylbenzene	ND	0.00106	mg/kg dry	1	P7B2203	02/21/17	02/21/17	EPA 8021B
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P7B2203	02/21/17	02/21/17	EPA 8021B
Xylene (o)	ND	0.00106	mg/kg dry	1	P7B2203	02/21/17	02/21/17	EPA 8021B
Surrogate: 1,4-Difluorobenzene		105 %	75-125		P7B2203	02/21/17	02/21/17	EPA 8021B
Surrogate: 4-Bromofluorobenzene		113 %	75-125		P7B2203	02/21/17	02/21/17	EPA 8021B

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	1130	1.06	mg/kg dry	1	P7B2403	02/24/17	02/27/17	EPA 300.0
% Moisture	6.0	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.6	mg/kg dry	1	P7B2207	02/21/17	02/21/17	TPH 8015M
>C12-C28	ND	26.6	mg/kg dry	1	P7B2207	02/21/17	02/21/17	TPH 8015M
>C28-C35	ND	26.6	mg/kg dry	1	P7B2207	02/21/17	02/21/17	TPH 8015M
Surrogate: 1-Chlorooctane		92.1 %	70-130		P7B2207	02/21/17	02/21/17	TPH 8015M
Surrogate: o-Terphenyl		103 %	70-130		P7B2207	02/21/17	02/21/17	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	02/21/17	02/21/17	calc



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**Test Trench 2 8'**  
**7B20006-05 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	32.2	1.10	mg/kg dry	1	P7B2403	02/24/17	02/27/17	EPA 300.0	
% Moisture	9.0	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation	

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**Test Trench 2 9'**  
**7B20006-06 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>169</b>	1.12	mg/kg dry	1	P7B2403	02/24/17	02/27/17	EPA 300.0
<b>% Moisture</b>	<b>11.0</b>	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation



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**Bottom Hole 3 18"**  
**7B20006-07 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00104	mg/kg dry	1	P7B2203	02/21/17	02/21/17	EPA 8021B	
Toluene	ND	0.00208	mg/kg dry	1	P7B2203	02/21/17	02/21/17	EPA 8021B	
Ethylbenzene	ND	0.00104	mg/kg dry	1	P7B2203	02/21/17	02/21/17	EPA 8021B	
Xylene (p/m)	ND	0.00208	mg/kg dry	1	P7B2203	02/21/17	02/21/17	EPA 8021B	
Xylene (o)	ND	0.00104	mg/kg dry	1	P7B2203	02/21/17	02/21/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		105 %	75-125		P7B2203	02/21/17	02/21/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		110 %	75-125		P7B2203	02/21/17	02/21/17	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	1180	1.04	mg/kg dry	1	P7B2403	02/24/17	02/27/17	EPA 300.0	
% Moisture	4.0	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.0	mg/kg dry	1	P7B2207	02/21/17	02/21/17	TPH 8015M	
>C12-C28	42.4	26.0	mg/kg dry	1	P7B2207	02/21/17	02/21/17	TPH 8015M	
>C28-C35	ND	26.0	mg/kg dry	1	P7B2207	02/21/17	02/21/17	TPH 8015M	
Surrogate: 1-Chlorooctane		91.2 %	70-130		P7B2207	02/21/17	02/21/17	TPH 8015M	
Surrogate: o-Terphenyl		102 %	70-130		P7B2207	02/21/17	02/21/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	42.4	26.0	mg/kg dry	1	[CALC]	02/21/17	02/21/17	calc	

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**Test Trench 3 6'**  
**7B20006-08 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>14.1</b>	1.09	mg/kg dry	1	P7B2403	02/24/17	02/27/17	EPA 300.0	
<b>% Moisture</b>	<b>8.0</b>	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation	



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**Test Trench 3 8.5'**  
**7B20006-09 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	66.0	1.09	mg/kg dry	1	P7B2403	02/24/17	02/27/17	EPA 300.0	
% Moisture	8.0	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation	

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**Bottom Hole 4 6"**  
**7B20006-10 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.0220	mg/kg dry	20	P7B2203	02/21/17	02/21/17	EPA 8021B
Toluene	ND	0.0440	mg/kg dry	20	P7B2203	02/21/17	02/21/17	EPA 8021B
Ethylbenzene	ND	0.0220	mg/kg dry	20	P7B2203	02/21/17	02/21/17	EPA 8021B
Xylene (p/m)	ND	0.0440	mg/kg dry	20	P7B2203	02/21/17	02/21/17	EPA 8021B
Xylene (o)	ND	0.0220	mg/kg dry	20	P7B2203	02/21/17	02/21/17	EPA 8021B
Surrogate: 4-Bromofluorobenzene		84.6 %	75-125		P7B2203	02/21/17	02/21/17	EPA 8021B
Surrogate: 1,4-Difluorobenzene		93.2 %	75-125		P7B2203	02/21/17	02/21/17	EPA 8021B

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	609	1.10	mg/kg dry	1	P7B2403	02/24/17	02/27/17	EPA 300.0
% Moisture	9.0	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	31.4	27.5	mg/kg dry	1	P7B2207	02/21/17	02/21/17	TPH 8015M
>C12-C28	179	27.5	mg/kg dry	1	P7B2207	02/21/17	02/21/17	TPH 8015M
>C28-C35	ND	27.5	mg/kg dry	1	P7B2207	02/21/17	02/21/17	TPH 8015M
Surrogate: 1-Chlorooctane		90.7 %	70-130		P7B2207	02/21/17	02/21/17	TPH 8015M
Surrogate: o-Terphenyl		101 %	70-130		P7B2207	02/21/17	02/21/17	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	210	27.5	mg/kg dry	1	[CALC]	02/21/17	02/21/17	calc



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**Test Trench 4 5.5'**  
**7B20006-11 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>215</b>	1.06	mg/kg dry	1	P7B2403	02/24/17	02/27/17	EPA 300.0	
<b>% Moisture</b>	<b>6.0</b>	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation	

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**Test Trench 4 7.5'**  
**7B20006-12 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>34.2</b>	1.12	mg/kg dry	1	P7B2403	02/24/17	02/27/17	EPA 300.0
<b>% Moisture</b>	<b>11.0</b>	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation



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**Bottom Hole 5 12"**  
**7B20006-13 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

<b>Benzene</b>	<b>0.509</b>	0.0230	mg/kg dry	20	P7B2203	02/21/17	02/21/17	EPA 8021B	
<b>Toluene</b>	<b>6.81</b>	0.0460	mg/kg dry	20	P7B2203	02/21/17	02/21/17	EPA 8021B	
<b>Ethylbenzene</b>	<b>7.41</b>	0.0230	mg/kg dry	20	P7B2203	02/21/17	02/21/17	EPA 8021B	
<b>Xylene (p/m)</b>	<b>17.7</b>	0.0460	mg/kg dry	20	P7B2203	02/21/17	02/21/17	EPA 8021B	
<b>Xylene (o)</b>	<b>6.92</b>	0.0230	mg/kg dry	20	P7B2203	02/21/17	02/21/17	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		102 %	75-125		P7B2203	02/21/17	02/21/17	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		92.1 %	75-125		P7B2203	02/21/17	02/21/17	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>391</b>	1.15	mg/kg dry	1	P7B2403	02/24/17	02/27/17	EPA 300.0	
<b>% Moisture</b>	<b>13.0</b>	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>4330</b>	144	mg/kg dry	5	P7B2207	02/21/17	02/21/17	TPH 8015M	
<b>&gt;C12-C28</b>	<b>5520</b>	144	mg/kg dry	5	P7B2207	02/21/17	02/21/17	TPH 8015M	
<b>&gt;C28-C35</b>	<b>847</b>	144	mg/kg dry	5	P7B2207	02/21/17	02/21/17	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		106 %	70-130		P7B2207	02/21/17	02/21/17	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		88.6 %	70-130		P7B2207	02/21/17	02/21/17	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>10700</b>	144	mg/kg dry	5	[CALC]	02/21/17	02/21/17	calc	

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**Test Trench 5 2'**  
**7B20006-14 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	395	1.08	mg/kg dry	1	P7B2403	02/24/17	02/27/17	EPA 300.0
% Moisture	7.0	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.9	mg/kg dry	1	P7C0205	02/28/17	03/01/17	TPH 8015M
>C12-C28	201	26.9	mg/kg dry	1	P7C0205	02/28/17	03/01/17	TPH 8015M
>C28-C35	53.8	26.9	mg/kg dry	1	P7C0205	02/28/17	03/01/17	TPH 8015M
Surrogate: 1-Chlorooctane		103 %	70-130		P7C0205	02/28/17	03/01/17	TPH 8015M
Surrogate: o-Terphenyl		113 %	70-130		P7C0205	02/28/17	03/01/17	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	255	26.9	mg/kg dry	1	[CALC]	02/28/17	03/01/17	calc



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**Test Trench 5 3'**  
**7B20006-15 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>315</b>	1.08	mg/kg dry	1	P7B2403	02/24/17	02/27/17	EPA 300.0	
<b>% Moisture</b>	<b>7.0</b>	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation	

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**Test Trench 5 4'**  
**7B20006-16 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>412</b>	1.08	mg/kg dry	1	P7B2403	02/24/17	02/27/17	EPA 300.0	
<b>% Moisture</b>	<b>7.0</b>	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation	



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**Test Trench 5 5'**  
**7B20006-17 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	257	1.14	mg/kg dry	1	P7B2403	02/24/17	02/27/17	EPA 300.0
% Moisture	12.0	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation

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**Test Trench 5 6'**  
**7B20006-18 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>192</b>	1.16	mg/kg dry	1	P7B2403	02/24/17	02/27/17	EPA 300.0	
<b>% Moisture</b>	<b>14.0</b>	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation	



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**Test Trench 5 7'**  
**7B20006-19 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>308</b>	1.14	mg/kg dry	1	P7B2403	02/24/17	02/27/17	EPA 300.0	
<b>% Moisture</b>	<b>12.0</b>	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation	

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**Test Trench 5 8'**  
**7B20006-20 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>418</b>	1.09	mg/kg dry	1	P7B2403	02/24/17	02/27/17	EPA 300.0	
<b>% Moisture</b>	<b>8.0</b>	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation	



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**Test Trench 5 9'**  
**7B20006-21 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	988	5.38	mg/kg dry	5	P7B2403	02/24/17	02/27/17	EPA 300.0	
% Moisture	7.0	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation	

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**Bottom Hole 6 12"**  
**7B20006-22 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.0222	mg/kg dry	20	P7B2203	02/21/17	02/21/17	EPA 8021B	
Toluene	ND	0.0444	mg/kg dry	20	P7B2203	02/21/17	02/21/17	EPA 8021B	
Ethylbenzene	<b>0.120</b>	0.0222	mg/kg dry	20	P7B2203	02/21/17	02/21/17	EPA 8021B	
Xylene (p/m)	<b>0.214</b>	0.0444	mg/kg dry	20	P7B2203	02/21/17	02/21/17	EPA 8021B	
Xylene (o)	<b>0.0960</b>	0.0222	mg/kg dry	20	P7B2203	02/21/17	02/21/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		99.1 %	75-125		P7B2203	02/21/17	02/21/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		113 %	75-125		P7B2203	02/21/17	02/21/17	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	<b>1330</b>	5.56	mg/kg dry	5	P7B2403	02/24/17	02/27/17	EPA 300.0	
% Moisture	<b>10.0</b>	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	<b>102</b>	27.8	mg/kg dry	1	P7B2207	02/21/17	02/21/17	TPH 8015M	
>C12-C28	<b>375</b>	27.8	mg/kg dry	1	P7B2207	02/21/17	02/21/17	TPH 8015M	
>C28-C35	<b>51.9</b>	27.8	mg/kg dry	1	P7B2207	02/21/17	02/21/17	TPH 8015M	
Surrogate: 1-Chlorooctane		91.1 %	70-130		P7B2207	02/21/17	02/21/17	TPH 8015M	
Surrogate: o-Terphenyl		104 %	70-130		P7B2207	02/21/17	02/21/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	<b>529</b>	27.8	mg/kg dry	1	[CALC]	02/21/17	02/21/17	calc	



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Fax: (432) 563-2213

**Test Trench 6 2'**  
**7B20006-23 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>1900</b>	5.26	mg/kg dry	5	P7B2404	02/24/17	02/27/17	EPA 300.0	
<b>% Moisture</b>	<b>5.0</b>	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation	

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**Test Trench 6 3'**  
**7B20006-24 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>123</b>	1.05	mg/kg dry	1	P7B2404	02/24/17	02/27/17	EPA 300.0	
<b>% Moisture</b>	<b>5.0</b>	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation	

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**Test Trench 6 4'**  
**7B20006-25 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>261</b>	1.08	mg/kg dry	1	P7B2404	02/24/17	02/27/17	EPA 300.0
<b>% Moisture</b>	<b>7.0</b>	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation



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**Test Trench 6 5'**  
**7B20006-26 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>209</b>	1.06	mg/kg dry	1	P7B2404	02/24/17	02/27/17	EPA 300.0
<b>% Moisture</b>	<b>6.0</b>	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation

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**Test Trench 6 6'**  
**7B20006-27 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>326</b>	1.06	mg/kg dry	1	P7B2404	02/24/17	02/27/17	EPA 300.0	
<b>% Moisture</b>	<b>6.0</b>	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation	

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**Test Trench 6 7'**  
**7B20006-28 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	387	1.12	mg/kg dry	1	P7B2404	02/24/17	02/27/17	EPA 300.0
% Moisture	11.0	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation



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**Test Trench 6 8'**  
**7B20006-29 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	410	1.10	mg/kg dry	1	P7B2404	02/24/17	02/27/17	EPA 300.0	
% Moisture	9.0	0.1	%	1	P7B2102	02/21/17	02/21/17	% calculation	

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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
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**Batch P7B2203 - General Preparation (GC)**

**Blank (P7B2203-BLK1)**

Prepared & Analyzed: 02/21/17

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	0.0644		"	0.0600		107	75-125			
Surrogate: 4-Bromofluorobenzene	0.0646		"	0.0600		108	75-125			

**LCS (P7B2203-BS1)**

Prepared & Analyzed: 02/21/17

Benzene	0.0938	0.00100	mg/kg wet				70-130			
Toluene	0.0981	0.00200	"				70-130			
Ethylbenzene	0.114	0.00100	"				70-130			
Xylene (p/m)	0.210	0.00200	"				70-130			
Xylene (o)	0.104	0.00100	"				70-130			
Surrogate: 1,4-Difluorobenzene	0.0652		"	0.0600		109	75-125			
Surrogate: 4-Bromofluorobenzene	0.0690		"	0.0600		115	75-125			

**LCS Dup (P7B2203-BSD1)**

Prepared & Analyzed: 02/21/17

Benzene	0.0918	0.00100	mg/kg wet				70-130		20	
Toluene	0.0969	0.00200	"				70-130		20	
Ethylbenzene	0.116	0.00100	"				70-130		20	
Xylene (p/m)	0.208	0.00200	"				70-130		20	
Xylene (o)	0.105	0.00100	"				70-130		20	
Surrogate: 4-Bromofluorobenzene	0.0693		"	0.0600		116	75-125			
Surrogate: 1,4-Difluorobenzene	0.0655		"	0.0600		109	75-125			

**Matrix Spike (P7B2203-MS1)**

Source: 7B20006-01

Prepared & Analyzed: 02/21/17

Benzene	0.112	0.00103	mg/kg dry		ND		80-120			
Toluene	0.118	0.00206	"		ND		80-120			
Ethylbenzene	0.124	0.00103	"		ND		80-120			
Xylene (p/m)	0.221	0.00206	"		ND		80-120			
Xylene (o)	0.112	0.00103	"		ND		80-120			
Surrogate: 1,4-Difluorobenzene	0.0678		"	0.0619		110	75-125			
Surrogate: 4-Bromofluorobenzene	0.0670		"	0.0619		108	75-125			

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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
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**Batch P7B2203 - General Preparation (GC)**

**Matrix Spike Dup (P7B2203-MSD1)**

**Source: 7B20006-01**

Prepared & Analyzed: 02/21/17

Benzene	0.111	0.00103	mg/kg dry		ND		80-120		20	
Toluene	0.115	0.00206	"		ND		80-120		20	
Ethylbenzene	0.122	0.00103	"		ND		80-120		20	
Xylene (p/m)	0.213	0.00206	"		ND		80-120		20	
Xylene (o)	0.106	0.00103	"		ND		80-120		20	
Surrogate: 1,4-Difluorobenzene	0.0674		"	0.0619		109	75-125			
Surrogate: 4-Bromofluorobenzene	0.0709		"	0.0619		115	75-125			



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**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
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**Batch P7B2102 - \*\*\* DEFAULT PREP \*\*\***

**Blank (P7B2102-BLK1)**

Prepared & Analyzed: 02/21/17

% Moisture ND 0.1 %

**Blank (P7B2102-BLK2)**

Prepared & Analyzed: 02/21/17

% Moisture ND 0.1 %

**Duplicate (P7B2102-DUP1)**

Source: 7B20003-08

Prepared & Analyzed: 02/21/17

% Moisture 10.0 0.1 % 11.0 9.52 20

**Duplicate (P7B2102-DUP2)**

Source: 7B20004-11

Prepared & Analyzed: 02/21/17

% Moisture 7.0 0.1 % 8.0 13.3 20

**Duplicate (P7B2102-DUP3)**

Source: 7B20006-25

Prepared & Analyzed: 02/21/17

% Moisture 6.0 0.1 % 7.0 15.4 20

**Batch P7B2318 - \*\*\* DEFAULT PREP \*\*\***

**Blank (P7B2318-BLK1)**

Prepared: 02/23/17 Analyzed: 02/24/17

Chloride ND 1.00 mg/kg wet

**LCS (P7B2318-BS1)**

Prepared: 02/23/17 Analyzed: 02/24/17

Chloride 433 1.00 mg/kg wet 400 108 80-120

**LCS Dup (P7B2318-BSD1)**

Prepared: 02/23/17 Analyzed: 02/24/17

Chloride 434 1.00 mg/kg wet 400 108 80-120 0.178 20

**Duplicate (P7B2318-DUP1)**

Source: 7B20003-16

Prepared: 02/23/17 Analyzed: 02/24/17

Chloride 56.4 1.08 mg/kg dry 52.8 6.60 20

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**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
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**Batch P7B2318 - \*\*\* DEFAULT PREP \*\*\***

<b>Duplicate (P7B2318-DUP2)</b>		<b>Source: 7B20004-05</b>		Prepared: 02/23/17 Analyzed: 02/24/17						
Chloride	4250	27.2	mg/kg dry		4240			0.410	20	
<b>Matrix Spike (P7B2318-MS1)</b>		<b>Source: 7B20003-16</b>		Prepared: 02/23/17 Analyzed: 02/24/17						
Chloride	1090	1.08	mg/kg dry	1080	52.8	96.9	80-120			

**Batch P7B2403 - \*\*\* DEFAULT PREP \*\*\***

<b>Blank (P7B2403-BLK1)</b>				Prepared: 02/24/17 Analyzed: 02/27/17						
Chloride	ND	1.00	mg/kg wet							
<b>LCS (P7B2403-BS1)</b>				Prepared: 02/24/17 Analyzed: 02/27/17						
Chloride	431	1.00	mg/kg wet	400		108	80-120			
<b>LCS Dup (P7B2403-BSD1)</b>				Prepared: 02/24/17 Analyzed: 02/27/17						
Chloride	439	1.00	mg/kg wet	400		110	80-120	1.81	20	
<b>Duplicate (P7B2403-DUP1)</b>		<b>Source: 7B20006-03</b>		Prepared: 02/24/17 Analyzed: 02/27/17						
Chloride	156	1.08	mg/kg dry		155			0.581	20	
<b>Duplicate (P7B2403-DUP2)</b>		<b>Source: 7B20006-13</b>		Prepared: 02/24/17 Analyzed: 02/27/17						
Chloride	392	1.15	mg/kg dry		391			0.176	20	
<b>Matrix Spike (P7B2403-MS1)</b>		<b>Source: 7B20006-03</b>		Prepared: 02/24/17 Analyzed: 02/27/17						
Chloride	1430	1.08	mg/kg dry	1080	155	118	80-120			

**Batch P7B2404 - \*\*\* DEFAULT PREP \*\*\***

<b>Blank (P7B2404-BLK1)</b>				Prepared: 02/24/17 Analyzed: 02/27/17						
Chloride	ND	1.00	mg/kg wet							

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**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
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**Batch P7B2404 - \*\*\* DEFAULT PREP \*\*\***

**LCS (P7B2404-BS1)**

Prepared: 02/24/17 Analyzed: 02/27/17

Chloride	431	1.00	mg/kg wet	400	108	80-120
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**LCS Dup (P7B2404-BSD1)**

Prepared: 02/24/17 Analyzed: 02/27/17

Chloride	420	1.00	mg/kg wet	400	105	80-120	2.52	20
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**Duplicate (P7B2404-DUP1)**

Source: 7B20006-23

Prepared: 02/24/17 Analyzed: 02/27/17

Chloride	1940	5.26	mg/kg dry	1900	2.14	20
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**Duplicate (P7B2404-DUP2)**

Source: 7B21001-02

Prepared: 02/24/17 Analyzed: 02/27/17

Chloride	2290	10.8	mg/kg dry	2830	21.1	20
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**Matrix Spike (P7B2404-MS1)**

Source: 7B20006-23

Prepared: 02/24/17 Analyzed: 02/27/17

Chloride	3060	5.26	mg/kg dry	1050	1900	110	80-120
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**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
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**Batch P7B2207 - TX 1005**

**Blank (P7B2207-BLK1)**

Prepared & Analyzed: 02/21/17

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	130		"	100		130	70-130			
Surrogate: o-Terphenyl	74.7		"	50.0		149	70-130			S-GC

**LCS (P7B2207-BS1)**

Prepared & Analyzed: 02/21/17

C6-C12	1190	25.0	mg/kg wet	1000		119	75-125			
>C12-C28	1110	25.0	"	1000		111	75-125			
Surrogate: 1-Chlorooctane	124		"	100		124	70-130			
Surrogate: o-Terphenyl	68.3		"	50.0		137	70-130			S-GC

**LCS Dup (P7B2207-BSD1)**

Prepared & Analyzed: 02/21/17

C6-C12	1180	25.0	mg/kg wet	1000		118	75-125	1.26	20	
>C12-C28	1080	25.0	"	1000		108	75-125	3.02	20	
Surrogate: 1-Chlorooctane	120		"	100		120	70-130			
Surrogate: o-Terphenyl	65.9		"	50.0		132	70-130			S-GC

**Matrix Spike (P7B2207-MS1)**

Source: 7B20011-05

Prepared: 02/21/17 Analyzed: 02/22/17

C6-C12	1620	29.1	mg/kg dry	1160	19.2	138	75-125			QM-05
>C12-C28	2370	29.1	"	1160	308	177	75-125			QM-05
Surrogate: 1-Chlorooctane	132		"	116		114	70-130			
Surrogate: o-Terphenyl	50.1		"	58.1		86.2	70-130			

**Matrix Spike Dup (P7B2207-MSD1)**

Source: 7B20011-05

Prepared: 02/21/17 Analyzed: 02/22/17

C6-C12	1660	29.1	mg/kg dry	1160	19.2	141	75-125	2.42	20	QM-05
>C12-C28	2380	29.1	"	1160	308	178	75-125	0.454	20	QM-05
Surrogate: 1-Chlorooctane	133		"	116		114	70-130			
Surrogate: o-Terphenyl	62.7		"	58.1		108	70-130			

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**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
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**Batch P7C0205 - TX 1005**

**Blank (P7C0205-BLK1)**

Prepared: 02/28/17 Analyzed: 03/01/17

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
<i>Surrogate: 1-Chlorooctane</i>	<i>89.1</i>		<i>"</i>	<i>100</i>		<i>89.1</i>	<i>70-130</i>			
<i>Surrogate: o-Terphenyl</i>	<i>50.7</i>		<i>"</i>	<i>50.0</i>		<i>101</i>	<i>70-130</i>			

**LCS (P7C0205-BS1)**

Prepared: 02/28/17 Analyzed: 03/01/17

C6-C12	797	25.0	mg/kg wet	1000		79.7	75-125			
>C12-C28	1120	25.0	"	1000		112	75-125			
<i>Surrogate: 1-Chlorooctane</i>	<i>115</i>		<i>"</i>	<i>100</i>		<i>115</i>	<i>70-130</i>			
<i>Surrogate: o-Terphenyl</i>	<i>52.0</i>		<i>"</i>	<i>50.0</i>		<i>104</i>	<i>70-130</i>			

**LCS Dup (P7C0205-BSD1)**

Prepared: 02/28/17 Analyzed: 03/01/17

C6-C12	792	25.0	mg/kg wet	1000		79.2	75-125	0.624	20	
>C12-C28	1130	25.0	"	1000		113	75-125	0.862	20	
<i>Surrogate: 1-Chlorooctane</i>	<i>115</i>		<i>"</i>	<i>100</i>		<i>115</i>	<i>70-130</i>			
<i>Surrogate: o-Terphenyl</i>	<i>48.1</i>		<i>"</i>	<i>50.0</i>		<i>96.3</i>	<i>70-130</i>			

**Matrix Spike (P7C0205-MS1)**

**Source: 7B20006-21**

Prepared: 02/28/17 Analyzed: 03/02/17

C6-C12	907	26.9	mg/kg dry	1080	ND	84.4	75-125			
>C12-C28	1200	26.9	"	1080	ND	111	75-125			
<i>Surrogate: 1-Chlorooctane</i>	<i>127</i>		<i>"</i>	<i>108</i>		<i>119</i>	<i>70-130</i>			
<i>Surrogate: o-Terphenyl</i>	<i>61.5</i>		<i>"</i>	<i>53.8</i>		<i>114</i>	<i>70-130</i>			

**Matrix Spike Dup (P7C0205-MSD1)**

**Source: 7B20006-21**

Prepared: 02/28/17 Analyzed: 03/02/17

C6-C12	928	26.9	mg/kg dry	1080	ND	86.3	75-125	2.21	20	
>C12-C28	1280	26.9	"	1080	ND	119	75-125	6.59	20	
<i>Surrogate: 1-Chlorooctane</i>	<i>126</i>		<i>"</i>	<i>108</i>		<i>117</i>	<i>70-130</i>			
<i>Surrogate: o-Terphenyl</i>	<i>69.0</i>		<i>"</i>	<i>53.8</i>		<i>128</i>	<i>70-130</i>			

### Notes and Definitions

S-GC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
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:



Date:

3/8/2017

Brent Barron, Laboratory Director/Technical Director

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-686-7235.







# Etech Environmental & Safety Solutions, Inc.

12800 W. Hwy 80 E  
Odessa, Texas 79765

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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

Project Manager:

Project Name:

Company Name

Etech Environmental & Safety Solutions, Inc.

Project #:

Company Address: PO Box 8469

Project Loc:

City/State/Zip: Midland, Texas 79708

PO #:

Telephone No: 432-563-2200

Fax No: 432-563-2213

Report Format:

☐ Standard ☐ TRRP ☐ NPDES

Sampler Signature:

e-mail:

(lab use only)

ORDER #:

1620050

LAB # (lab use only)

FIELD CODE

Date Sampled

Time Sampled

No. of Containers

Preservation & # of Containers

Matrix

Analyze For:

TPH: 418.1 (8015M) 1005 1006  
Cations (Ca, Mg, Na, K)  
Anions (Cl, SO<sub>4</sub>, CO<sub>3</sub>, HCO<sub>3</sub>)  
SAR / ESP / CEC  
Metals: As Ag Ba Cd Cr Pb Hg Se  
Volatiles  
Semivolatiles  
BTX: 8021B/8030 or BTX 8260  
RCI  
N.O.R.M.  
Chlorides

RUSH TAT (Pre-Schedule) 24, 48, 72 hrs

Standard TAT

LAB # (lab use only)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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Special Instructions:

Laboratory Comments:

Sample Containers Intact?

VOCs Free of Headspace?

Custody seals on container(s)

Sample Hand Delivered

by Sampler/Client Rep?

UPS DHL FedEx Lone Star

Temperature Upon Receipt:

3.0mV

N N N N N

N N N N N

N N N N N

N N N N N



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



# Analytical Report

**Prepared for:**

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

Project: Jack B-30 #2 Tank Battery Lightning Strike

Project Number: 498-7876-000

Location: Jal NM

Lab Order Number: 7D12006



**NELAP/TCEQ # T104704156-13-3**

Report Date: 04/18/17

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

Project: Jack B-30 #2 Tank Battery Lightning Strike  
Project Number: 498-7876-000  
Project Manager: Tim McMinn

Fax: (432) 563-2213

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Boring 1 10'	7D12006-01	Soil	04/11/17 10:30	04-12-2017 09:12
Boring 1 15'	7D12006-02	Soil	04/11/17 10:40	04-12-2017 09:12
Boring 1 20'	7D12006-03	Soil	04/11/17 10:50	04-12-2017 09:12

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Odessa TX, 79765

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Fax: (432) 563-2213

**Boring 1 10'**  
**7D12006-01 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>10.7</b>	1.06	mg/kg dry	1	P7D1302	04/13/17	04/17/17	EPA 300.0
<b>% Moisture</b>	<b>6.0</b>	0.1	%	1	P7D1701	04/17/17	04/17/17	% calculation



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

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Fax: (432) 563-2213

**Boring 1 15'**  
**7D12006-02 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>6.73</b>	1.09	mg/kg dry	1	P7D1302	04/13/17	04/17/17	EPA 300.0
<b>% Moisture</b>	<b>8.0</b>	0.1	%	1	P7D1701	04/17/17	04/17/17	% calculation

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

Project: Jack B-30 #2 Tank Battery Lightning Strike  
Project Number: 498-7876-000  
Project Manager: Tim McMinn

Fax: (432) 563-2213

**Boring 1 20'**  
**7D12006-03 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>8.37</b>	1.08	mg/kg dry	1	P7D1303	04/13/17	04/17/17	EPA 300.0	
<b>% Moisture</b>	<b>7.0</b>	0.1	%	1	P7D1701	04/17/17	04/17/17	% calculation	

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

Project: Jack B-30 #2 Tank Battery Lightning Strike  
Project Number: 498-7876-000  
Project Manager: Tim McMinn

Fax: (432) 563-2213

**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
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**Batch P7D1302 - \*\*\* DEFAULT PREP \*\*\***

**Blank (P7D1302-BLK1)**

Prepared: 04/13/17 Analyzed: 04/17/17

Chloride	ND	1.00	mg/kg wet						
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**LCS (P7D1302-BS1)**

Prepared: 04/13/17 Analyzed: 04/17/17

Chloride	392	1.00	mg/kg wet	400		98.1	80-120		
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**LCS Dup (P7D1302-BSD1)**

Prepared: 04/13/17 Analyzed: 04/17/17

Chloride	392	1.00	mg/kg wet	400		98.1	80-120	0.0229	20
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**Duplicate (P7D1302-DUP1)**

**Source: 7D10008-58**

Prepared: 04/13/17 Analyzed: 04/17/17

Chloride	305	1.05	mg/kg dry		305			0.114	20
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**Duplicate (P7D1302-DUP2)**

**Source: 7D10008-76**

Prepared: 04/13/17 Analyzed: 04/17/17

Chloride	985	5.05	mg/kg dry		985			0.00512	20
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**Matrix Spike (P7D1302-MS1)**

**Source: 7D10008-58**

Prepared: 04/13/17 Analyzed: 04/17/17

Chloride	1310	1.05	mg/kg dry	1050	305	95.8	80-120		
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**Batch P7D1303 - \*\*\* DEFAULT PREP \*\*\***

**Blank (P7D1303-BLK1)**

Prepared: 04/13/17 Analyzed: 04/17/17

Chloride	ND	1.00	mg/kg wet						
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**LCS (P7D1303-BS1)**

Prepared: 04/13/17 Analyzed: 04/17/17

Chloride	391	1.00	mg/kg wet	400		97.8	80-120		
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**LCS Dup (P7D1303-BSD1)**

Prepared: 04/13/17 Analyzed: 04/17/17

Chloride	404	1.00	mg/kg wet	400		101	80-120	3.28	20
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13000 West County Road 100  
Odessa TX, 79765

Project: Jack B-30 #2 Tank Battery Lightning Strike  
Project Number: 498-7876-000  
Project Manager: Tim McMinn

Fax: (432) 563-2213

**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
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**Batch P7D1303 - \*\*\* DEFAULT PREP \*\*\***

<b>Duplicate (P7D1303-DUP1)</b>		<b>Source: 7D12007-01</b>		Prepared: 04/13/17 Analyzed: 04/17/17						
Chloride	2130	5.21	mg/kg dry		2360			10.6	20	
<b>Duplicate (P7D1303-DUP2)</b>		<b>Source: 7D12011-01</b>		Prepared: 04/13/17 Analyzed: 04/17/17						
Chloride	88.2	1.02	mg/kg dry		89.8			1.82	20	
<b>Matrix Spike (P7D1303-MS1)</b>		<b>Source: 7D12007-01</b>		Prepared: 04/13/17 Analyzed: 04/17/17						
Chloride	3170	5.21	mg/kg dry	1040	2360	77.8	80-120			QM-05

**Batch P7D1701 - \*\*\* DEFAULT PREP \*\*\***

<b>Blank (P7D1701-BLK1)</b>		Prepared & Analyzed: 04/17/17								
% Moisture	ND	0.1	%							
<b>Duplicate (P7D1701-DUP1)</b>		<b>Source: 7D10008-26</b>		Prepared & Analyzed: 04/17/17						
% Moisture	4.0	0.1	%		5.0			22.2	20	
<b>Duplicate (P7D1701-DUP2)</b>		<b>Source: 7D10008-53</b>		Prepared & Analyzed: 04/17/17						
% Moisture	7.0	0.1	%		7.0			0.00	20	
<b>Duplicate (P7D1701-DUP3)</b>		<b>Source: 7D10008-82</b>		Prepared & Analyzed: 04/17/17						
% Moisture	14.0	0.1	%		15.0			6.90	20	
<b>Duplicate (P7D1701-DUP4)</b>		<b>Source: 7D11003-03</b>		Prepared & Analyzed: 04/17/17						
% Moisture	9.0	0.1	%		8.0			11.8	20	
<b>Duplicate (P7D1701-DUP5)</b>		<b>Source: 7D12006-01</b>		Prepared & Analyzed: 04/17/17						
% Moisture	6.0	0.1	%		6.0			0.00	20	

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

Project: Jack B-30 #2 Tank Battery Lightning Strike  
Project Number: 498-7876-000  
Project Manager: Tim McMinn

Fax: (432) 563-2213

**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
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**Batch P7D1701 - \*\*\* DEFAULT PREP \*\*\***

**Duplicate (P7D1701-DUP6)**

**Source: 7D12011-16**

**Prepared & Analyzed: 04/17/17**

% Moisture	3.0	0.1	%		3.0			0.00	20	
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### Notes and Definitions

QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
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: \_\_\_\_\_



Date: 4/18/2017

Brent Barron, Laboratory Director/Technical Director

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-686-7235.



# Etech Environmental & Safety Solutions, Inc.

12800 W. Hwy 80 E  
Odessa, Texas 79765

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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

Project Manager: Tim McMINN

Company Name: Etech Environmental & Safety Solutions, Inc.

Company Address: PO Box 8469

City/State/Zip: Midland, Texas 79708

Telephone No.: 432-563-2200

Fax No.: 432-563-2213

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Sampler Signature: Shirley Brown

e-mail: GeoFF@etechenv.com

(lab use only)  
ORDER #: 1012000

Preservation & # of Containers

Matrix

Analyze For:

TCLP: ☐  
TOTAL: ☐

LAB # (lab use only)

FIELD CODE

Date Sampled

Time Sampled

No. of Containers

Ice ☐  
HNO<sub>3</sub> ☐  
HCl ☐  
H<sub>2</sub>SO<sub>4</sub> ☐  
NaOH ☐  
Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> ☐  
None ☐  
Other (Specify) ☐

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, SO<sub>4</sub>, CO<sub>3</sub>, HCO<sub>3</sub>)

SAR / ESP / CEC

Metals: As Ag Ba Cd Cr Pb Hg Se

Volatiles

Semivolatiles

BTEX 8021B/5030 or BTEX 8260

RCI

N.O.R.M.

Chlorides

RUSH TAT (Pre-Schedule) 24, 48, 72 hrs

Standard TAT

LAB # (lab use only)				FIELD CODE		Date Sampled		Time Sampled		No. of Containers		Ice		HNO <sub>3</sub>		HCl		H <sub>2</sub> SO <sub>4</sub>		NaOH		Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>		None		Other ( Specify)		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, SO <sub>4</sub> , CO <sub>3</sub> , HCO <sub>3</sub> )		SAR / ESP / CEC		Metals: As Ag Ba Cd Cr Pb Hg S		Volatiles		Semivolatiles		BTEX 8021B/5030 or BTEX 8260		RCI		N.O.R.M.		Chlorides		RUSH TAT (Pre-Schedule) 24, 48, 72		Standard TAT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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**PERMIAN BASIN  
ENVIRONMENTAL LAB, LP  
1400 Rankin Hwy  
Midland, TX 79701**



# Analytical Report

**Prepared for:**

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

Project: Enervest JackB-30 #2 Tank Battery Lightning Strike

Project Number: 498-7876-000

Location: Jal, NM

Lab Order Number: 7E11014



NELAP/TCEQ # T104704156-13-3

Report Date: 05/22/17

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

Project: Enervest JackB-30 #2 Tank Battery Lightning St  
Project Number: 498-7876-000  
Project Manager: Brian Ashburn

Fax: (432) 563-2213

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Sidewall 1 18"	7E11014-01	Soil	05/08/17 12:30	05-11-2017 10:10
Sidewall 2 18"	7E11014-02	Soil	05/08/17 12:40	05-11-2017 10:10
Sidewall 5 42"	7E11014-03	Soil	05/08/17 16:55	05-11-2017 10:10
Sidewall 6 42"	7E11014-04	Soil	05/09/17 15:00	05-11-2017 10:10
Sidewall 7 42"	7E11014-05	Soil	05/10/17 10:20	05-11-2017 10:10
Sidewall 8 42"	7E11014-06	Soil	05/10/17 10:25	05-11-2017 10:10
Sidewall 9 42"	7E11014-07	Soil	05/09/17 17:40	05-11-2017 10:10
Bottom Hole 3A 24"	7E11014-08	Soil	05/08/17 11:40	05-11-2017 10:10
Bottom Hole 6A 48"	7E11014-09	Soil	05/09/17 14:45	05-11-2017 10:10
Bottom Hole 7 48"	7E11014-10	Soil	05/09/17 17:25	05-11-2017 10:10



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**Sidewall 1 18"**  
**7E11014-01 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00104	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Toluene	ND	0.00208	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Ethylbenzene	ND	0.00104	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Xylene (p/m)	ND	0.00208	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Xylene (o)	ND	0.00104	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		41.3 %		75-125	P7E1609	05/15/17	05/15/17	EPA 8021B	S-GC
Surrogate: 1,4-Difluorobenzene		92.8 %		75-125	P7E1609	05/15/17	05/15/17	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	ND	1.04	mg/kg dry	1	P7E1502	05/15/17	05/16/17	EPA 300.0	
% Moisture	4.0	0.1	%	1	P7E1501	05/15/17	05/15/17	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.0	mg/kg dry	1	P7E1608	05/12/17	05/13/17	TPH 8015M	
>C12-C28	ND	26.0	mg/kg dry	1	P7E1608	05/12/17	05/13/17	TPH 8015M	
>C28-C35	ND	26.0	mg/kg dry	1	P7E1608	05/12/17	05/13/17	TPH 8015M	
Surrogate: 1-Chlorooctane		97.1 %		70-130	P7E1608	05/12/17	05/13/17	TPH 8015M	
Surrogate: o-Terphenyl		97.3 %		70-130	P7E1608	05/12/17	05/13/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.0	mg/kg dry	1	[CALC]	05/12/17	05/13/17	calc	

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**Sidewall 2 18"**  
**7E11014-02 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00102	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Toluene	ND	0.00204	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Ethylbenzene	ND	0.00102	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Xylene (p/m)	ND	0.00204	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Xylene (o)	ND	0.00102	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		41.9 %	75-125		P7E1609	05/15/17	05/15/17	EPA 8021B	S-GC
Surrogate: 1,4-Difluorobenzene		93.8 %	75-125		P7E1609	05/15/17	05/15/17	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	ND	1.02	mg/kg dry	1	P7E1502	05/15/17	05/16/17	EPA 300.0	
% Moisture	2.0	0.1	%	1	P7E1501	05/15/17	05/15/17	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	25.5	mg/kg dry	1	P7E1608	05/12/17	05/13/17	TPH 8015M	
>C12-C28	ND	25.5	mg/kg dry	1	P7E1608	05/12/17	05/13/17	TPH 8015M	
>C28-C35	ND	25.5	mg/kg dry	1	P7E1608	05/12/17	05/13/17	TPH 8015M	
Surrogate: 1-Chlorooctane		89.5 %	70-130		P7E1608	05/12/17	05/13/17	TPH 8015M	
Surrogate: o-Terphenyl		88.9 %	70-130		P7E1608	05/12/17	05/13/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.5	mg/kg dry	1	[CALC]	05/12/17	05/13/17	calc	

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Fax: (432) 563-2213

**Sidewall 5 42"**  
**7E11014-03 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00106	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Toluene	ND	0.00213	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Ethylbenzene	ND	0.00106	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Xylene (o)	ND	0.00106	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		99.6 %	75-125		P7E1609	05/15/17	05/15/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		43.6 %	75-125		P7E1609	05/15/17	05/15/17	EPA 8021B	S-GC

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	76.7	1.06	mg/kg dry	1	P7E1502	05/15/17	05/16/17	EPA 300.0	
% Moisture	6.0	0.1	%	1	P7E1501	05/15/17	05/15/17	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.6	mg/kg dry	1	P7E1508	05/12/17	05/14/17	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P7E1508	05/12/17	05/14/17	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P7E1508	05/12/17	05/14/17	TPH 8015M	
Surrogate: 1-Chlorooctane		92.1 %	70-130		P7E1508	05/12/17	05/14/17	TPH 8015M	
Surrogate: o-Terphenyl		95.7 %	70-130		P7E1508	05/12/17	05/14/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	05/12/17	05/14/17	calc	



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**Sidewall 6 42"**  
**7E11014-04 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00106	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Toluene	ND	0.00213	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Ethylbenzene	ND	0.00106	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Xylene (o)	ND	0.00106	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		45.1 %	75-125		P7E1609	05/15/17	05/15/17	EPA 8021B	S-GC
Surrogate: 1,4-Difluorobenzene		96.6 %	75-125		P7E1609	05/15/17	05/15/17	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	293	1.06	mg/kg dry	1	P7E1502	05/15/17	05/16/17	EPA 300.0	
% Moisture	6.0	0.1	%	1	P7E1501	05/15/17	05/15/17	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.6	mg/kg dry	1	P7E1508	05/12/17	05/14/17	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P7E1508	05/12/17	05/14/17	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P7E1508	05/12/17	05/14/17	TPH 8015M	
Surrogate: 1-Chlorooctane		89.9 %	70-130		P7E1508	05/12/17	05/14/17	TPH 8015M	
Surrogate: o-Terphenyl		92.2 %	70-130		P7E1508	05/12/17	05/14/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	05/12/17	05/14/17	calc	

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**Sidewall 7 42"**  
**7E11014-05 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00108	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Toluene	ND	0.00215	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Ethylbenzene	ND	0.00108	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Xylene (p/m)	ND	0.00215	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Xylene (o)	ND	0.00108	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		44.9 %	75-125		P7E1609	05/15/17	05/15/17	EPA 8021B	S-GC
Surrogate: 1,4-Difluorobenzene		99.2 %	75-125		P7E1609	05/15/17	05/15/17	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	45.1	1.08	mg/kg dry	1	P7E1502	05/15/17	05/16/17	EPA 300.0	
% Moisture	7.0	0.1	%	1	P7E1501	05/15/17	05/15/17	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.9	mg/kg dry	1	P7E1508	05/12/17	05/14/17	TPH 8015M	
>C12-C28	ND	26.9	mg/kg dry	1	P7E1508	05/12/17	05/14/17	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P7E1508	05/12/17	05/14/17	TPH 8015M	
Surrogate: 1-Chlorooctane		91.3 %	70-130		P7E1508	05/12/17	05/14/17	TPH 8015M	
Surrogate: o-Terphenyl		93.6 %	70-130		P7E1508	05/12/17	05/14/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.9	mg/kg dry	1	[CALC]	05/12/17	05/14/17	calc	

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**Sidewall 8 42"**  
**7E11014-06 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00106	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Toluene	ND	0.00213	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Ethylbenzene	ND	0.00106	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Xylene (o)	ND	0.00106	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		45.5 %	75-125		P7E1609	05/15/17	05/15/17	EPA 8021B	S-GC
Surrogate: 1,4-Difluorobenzene		97.6 %	75-125		P7E1609	05/15/17	05/15/17	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	44.1	1.06	mg/kg dry	1	P7E1502	05/15/17	05/16/17	EPA 300.0	
% Moisture	6.0	0.1	%	1	P7E1501	05/15/17	05/15/17	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.6	mg/kg dry	1	P7E1508	05/12/17	05/14/17	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P7E1508	05/12/17	05/14/17	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P7E1508	05/12/17	05/14/17	TPH 8015M	
Surrogate: 1-Chlorooctane		92.2 %	70-130		P7E1508	05/12/17	05/14/17	TPH 8015M	
Surrogate: o-Terphenyl		94.6 %	70-130		P7E1508	05/12/17	05/14/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	05/12/17	05/14/17	calc	



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**Sidewall 9 42"**  
**7E11014-07 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00110	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Toluene	ND	0.00220	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Ethylbenzene	ND	0.00110	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Xylene (p/m)	ND	0.00220	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Xylene (o)	ND	0.00110	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		94.8 %	75-125		P7E1609	05/15/17	05/15/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		42.6 %	75-125		P7E1609	05/15/17	05/15/17	EPA 8021B	S-GC

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	ND	1.10	mg/kg dry	1	P7E1502	05/15/17	05/16/17	EPA 300.0	
% Moisture	9.0	0.1	%	1	P7E1501	05/15/17	05/15/17	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	27.5	mg/kg dry	1	P7E1608	05/12/17	05/13/17	TPH 8015M	
>C12-C28	ND	27.5	mg/kg dry	1	P7E1608	05/12/17	05/13/17	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P7E1608	05/12/17	05/13/17	TPH 8015M	
Surrogate: 1-Chlorooctane		96.8 %	70-130		P7E1608	05/12/17	05/13/17	TPH 8015M	
Surrogate: o-Terphenyl		98.4 %	70-130		P7E1608	05/12/17	05/13/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.5	mg/kg dry	1	[CALC]	05/12/17	05/13/17	calc	

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**Bottom Hole 3A 24"**

**7E11014-08 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>135</b>	1.03	mg/kg dry	1	P7E1502	05/15/17	05/16/17	EPA 300.0	
<b>% Moisture</b>	<b>3.0</b>	0.1	%	1	P7E1501	05/15/17	05/15/17	% calculation	

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**Bottom Hole 6A 48"**

**7E11014-09 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>17.9</b>	1.08	mg/kg dry	1	P7E1502	05/15/17	05/16/17	EPA 300.0	
<b>% Moisture</b>	<b>7.0</b>	0.1	%	1	P7E1501	05/15/17	05/15/17	% calculation	

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Fax: (432) 563-2213

**Bottom Hole 7 48"**

**7E11014-10 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00109	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Toluene	ND	0.00217	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Xylene (o)	ND	0.00109	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		43.6 %	75-125		P7E1609	05/15/17	05/15/17	EPA 8021B	S-GC
Surrogate: 1,4-Difluorobenzene		96.6 %	75-125		P7E1609	05/15/17	05/15/17	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	36.7	1.09	mg/kg dry	1	P7E1502	05/15/17	05/16/17	EPA 300.0	
% Moisture	8.0	0.1	%	1	P7E1501	05/15/17	05/15/17	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	27.2	mg/kg dry	1	P7E1608	05/12/17	05/13/17	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P7E1608	05/12/17	05/13/17	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P7E1608	05/12/17	05/13/17	TPH 8015M	
Surrogate: 1-Chlorooctane		92.6 %	70-130		P7E1608	05/12/17	05/13/17	TPH 8015M	
Surrogate: o-Terphenyl		93.5 %	70-130		P7E1608	05/12/17	05/13/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	05/12/17	05/13/17	calc	



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

Project: Enervest JackB-30 #2 Tank Battery Lightning St  
Project Number: 498-7876-000  
Project Manager: Brian Ashburn

Fax: (432) 563-2213

**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
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**Batch P7E1609 - General Preparation (GC)**

**Blank (P7E1609-BLK1)**

Prepared & Analyzed: 05/15/17

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	0.0548		"	0.0600		91.3	75-125			
Surrogate: 4-Bromofluorobenzene	0.0264		"	0.0600		44.0	75-125			S-GC

**LCS (P7E1609-BS1)**

Prepared & Analyzed: 05/15/17

Benzene	0.114	0.00100	mg/kg wet	0.100		114	70-130			
Toluene	0.105	0.00200	"	0.100		105	70-130			
Ethylbenzene	0.111	0.00100	"	0.100		111	70-130			
Xylene (p/m)	0.212	0.00200	"				70-130			
Xylene (o)	0.104	0.00100	"				70-130			
Surrogate: 1,4-Difluorobenzene	0.0638		"	0.0600		106	75-125			
Surrogate: 4-Bromofluorobenzene	0.0264		"	0.0600		44.0	75-125			S-GC

**LCS Dup (P7E1609-BS1)**

Prepared & Analyzed: 05/15/17

Benzene	0.100	0.00100	mg/kg wet	0.100		100	70-130	12.8	20	
Toluene	0.0948	0.00200	"	0.100		94.8	70-130	9.82	20	
Ethylbenzene	0.107	0.00100	"	0.100		107	70-130	4.28	20	
Xylene (p/m)	0.174	0.00200	"				70-130		20	
Xylene (o)	0.0901	0.00100	"				70-130		20	
Surrogate: 4-Bromofluorobenzene	0.0214		"	0.0600		35.7	75-125			S-GC
Surrogate: 1,4-Difluorobenzene	0.0580		"	0.0600		96.6	75-125			

**Matrix Spike (P7E1609-MS1)**

Source: 7E15004-07

Prepared: 05/15/17 Analyzed: 05/16/17

Benzene	0.145	0.00104	mg/kg dry	0.104	ND	139	80-120			QM-05
Toluene	0.130	0.00208	"	0.104	ND	125	80-120			QM-05
Ethylbenzene	0.156	0.00104	"	0.104	ND	150	80-120			QM-05
Xylene (p/m)	0.239	0.00208	"		ND		80-120			
Xylene (o)	0.113	0.00104	"		ND		80-120			
Surrogate: 4-Bromofluorobenzene	0.0236		"	0.0625		37.7	75-125			S-GC
Surrogate: 1,4-Difluorobenzene	0.0625		"	0.0625		100	75-125			

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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
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**Batch P7E1609 - General Preparation (GC)**

**Matrix Spike Dup (P7E1609-MSD1)**

**Source: 7E15004-07**

Prepared: 05/15/17 Analyzed: 05/16/17

Benzene	0.148	0.00104	mg/kg dry	0.104	ND	142	80-120	2.45	20	QM-05
Toluene	0.132	0.00208	"	0.104	ND	127	80-120	1.30	20	QM-05
Ethylbenzene	0.166	0.00104	"	0.104	ND	160	80-120	6.67	20	QM-05
Xylene (p/m)	0.257	0.00208	"		ND		80-120		20	
Xylene (o)	0.121	0.00104	"		ND		80-120		20	
Surrogate: 1,4-Difluorobenzene	0.0650		"	0.0625		104	75-125			
Surrogate: 4-Bromofluorobenzene	0.0239		"	0.0625		38.3	75-125			S-GC

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**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
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**Batch P7E1501 - \*\*\* DEFAULT PREP \*\*\***

**Blank (P7E1501-BLK1)**

Prepared & Analyzed: 05/15/17

% Moisture ND 0.1 %

**Duplicate (P7E1501-DUP1)**

Source: 7E11002-01

Prepared & Analyzed: 05/15/17

% Moisture 2.0 0.1 % 2.0 0.00 20

**Duplicate (P7E1501-DUP2)**

Source: 7E11008-03

Prepared & Analyzed: 05/15/17

% Moisture 11.0 0.1 % 11.0 0.00 20

**Batch P7E1502 - \*\*\* DEFAULT PREP \*\*\***

**Blank (P7E1502-BLK1)**

Prepared: 05/15/17 Analyzed: 05/16/17

Chloride ND 1.00 mg/kg wet

**LCS (P7E1502-BS1)**

Prepared: 05/15/17 Analyzed: 05/16/17

Chloride 410 1.00 mg/kg wet 400 102 80-120

**LCS Dup (P7E1502-BSD1)**

Prepared: 05/15/17 Analyzed: 05/16/17

Chloride 408 1.00 mg/kg wet 400 102 80-120 0.441 20

**Duplicate (P7E1502-DUP1)**

Source: 7E11006-01

Prepared: 05/15/17 Analyzed: 05/16/17

Chloride 12300 53.8 mg/kg dry 12300 0.542 20

**Duplicate (P7E1502-DUP2)**

Source: 7E11014-05

Prepared: 05/15/17 Analyzed: 05/16/17

Chloride 45.4 1.08 mg/kg dry 45.1 0.571 20

**Matrix Spike (P7E1502-MS1)**

Source: 7E11006-01

Prepared: 05/15/17 Analyzed: 05/16/17

Chloride 20300 53.8 mg/kg dry 5380 12300 148 80-120 QM-05

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**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
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**Batch P7E1508 - TX 1005**

**Blank (P7E1508-BLK1)**

Prepared: 05/12/17 Analyzed: 05/13/17

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	89.2		"	100		89.2	70-130			
Surrogate: o-Terphenyl	45.5		"	50.0		91.1	70-130			

**LCS (P7E1508-BS1)**

Prepared: 05/12/17 Analyzed: 05/13/17

C6-C12	839	25.0	mg/kg wet	1000		83.9	75-125			
>C12-C28	883	25.0	"	1000		88.3	75-125			
Surrogate: 1-Chlorooctane	95.2		"	100		95.2	70-130			
Surrogate: o-Terphenyl	44.6		"	50.0		89.3	70-130			

**LCS Dup (P7E1508-BSD1)**

Prepared: 05/12/17 Analyzed: 05/13/17

C6-C12	844	25.0	mg/kg wet	1000		84.4	75-125	0.497	20	
>C12-C28	853	25.0	"	1000		85.3	75-125	3.54	20	
Surrogate: 1-Chlorooctane	93.2		"	100		93.2	70-130			
Surrogate: o-Terphenyl	42.8		"	50.0		85.7	70-130			

**Matrix Spike (P7E1508-MS1)**

Source: 7E11014-06

Prepared: 05/12/17 Analyzed: 05/15/17

C6-C12	505	26.6	mg/kg dry	1060	ND	47.4	75-125			QM-05
>C12-C28	492	26.6	"	1060	ND	46.3	75-125			QM-05
Surrogate: 1-Chlorooctane	52.1		"	106		49.0	70-130			S-DUP
Surrogate: o-Terphenyl	23.7		"	53.2		44.6	70-130			S-DUP

**Matrix Spike Dup (P7E1508-MSD1)**

Source: 7E11014-06

Prepared: 05/12/17 Analyzed: 05/15/17

C6-C12	692	26.6	mg/kg dry	1060	ND	65.1	75-125	31.3	20	QM-05
>C12-C28	699	26.6	"	1060	ND	65.7	75-125	34.7	20	QM-05
Surrogate: 1-Chlorooctane	75.0		"	106		70.5	70-130			S-DUP
Surrogate: o-Terphenyl	35.4		"	53.2		66.6	70-130			



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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
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**Batch P7E1608 - TX 1005**

**Blank (P7E1608-BLK1)**

Prepared: 05/12/17 Analyzed: 05/13/17

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	92.3		"	100		92.3	70-130			
Surrogate: o-Terphenyl	46.6		"	50.0		93.2	70-130			

**LCS (P7E1608-BS1)**

Prepared: 05/12/17 Analyzed: 05/13/17

C6-C12	910	25.0	mg/kg wet	1000		91.0	75-125			
>C12-C28	919	25.0	"	1000		91.9	75-125			
Surrogate: 1-Chlorooctane	98.7		"	100		98.7	70-130			
Surrogate: o-Terphenyl	46.5		"	50.0		92.9	70-130			

**LCS Dup (P7E1608-BSD1)**

Prepared: 05/12/17 Analyzed: 05/13/17

C6-C12	870	25.0	mg/kg wet	1000		87.0	75-125	4.53	20	
>C12-C28	896	25.0	"	1000		89.6	75-125	2.51	20	
Surrogate: 1-Chlorooctane	95.5		"	100		95.5	70-130			
Surrogate: o-Terphenyl	45.1		"	50.0		90.3	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.

S-DUP Duplicate analysis confirmed surrogate failure due to matrix effects.

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.

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:



Date:

5/22/2017

Brent Barron, Laboratory Director/Technical Director

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-686-7235.

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



# Analytical Report

**Prepared for:**

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

Project: Enervest JackB-30 #2 Tank Battery Lightning Strike

Project Number: 498-7876-000

Location: Jal, NM

Lab Order Number: 7E15004



NELAP/TCEQ # T104704156-13-3

Report Date: 05/22/17

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

Project: Enervest JackB-30 #2 Tank Battery Lightning St  
Project Number: 498-7876-000  
Project Manager: Brian Ashburn

Fax: (432) 563-2213

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Bottom Hole 5A 36"	7E15004-01	Soil	05/12/17 08:55	05-15-2017 08:51
Bottom Hole 2A 36"	7E15004-02	Soil	05/12/17 12:30	05-15-2017 08:51
Sidewall 3 30"	7E15004-03	Soil	05/12/17 12:05	05-15-2017 08:51
Sidewall 4 30"	7E15004-04	Soil	05/12/17 09:00	05-15-2017 08:51
Sidewall 10 30"	7E15004-05	Soil	05/12/17 10:05	05-15-2017 08:51
Sidewall 11 30"	7E15004-06	Soil	05/12/17 13:15	05-15-2017 08:51
Sidewall 12 30"	7E15004-07	Soil	05/12/17 13:20	05-15-2017 08:51

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

Project: Enervest JackB-30 #2 Tank Battery Lightning St  
Project Number: 498-7876-000  
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**Bottom Hole 5A 36"**  
**7E15004-01 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00106	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Toluene	ND	0.00213	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Ethylbenzene	ND	0.00106	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Xylene (o)	ND	0.00106	mg/kg dry	1	P7E1609	05/15/17	05/15/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		46.9 %		75-125	P7E1609	05/15/17	05/15/17	EPA 8021B	S-GC
Surrogate: 1,4-Difluorobenzene		101 %		75-125	P7E1609	05/15/17	05/15/17	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

% Moisture	6.0	0.1	%	1	P7E1702	05/17/17	05/17/17	% calculation	
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**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.6	mg/kg dry	1	P7E1705	05/15/17	05/16/17	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P7E1705	05/15/17	05/16/17	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P7E1705	05/15/17	05/16/17	TPH 8015M	
Surrogate: 1-Chlorooctane		98.3 %		70-130	P7E1705	05/15/17	05/16/17	TPH 8015M	
Surrogate: o-Terphenyl		101 %		70-130	P7E1705	05/15/17	05/16/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	05/15/17	05/16/17	calc	

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**Bottom Hole 2A 36"**

**7E15004-02 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>397</b>	1.09	mg/kg dry	1	P7E1803	05/18/17	05/19/17	EPA 300.0	
<b>% Moisture</b>	<b>8.0</b>	0.1	%	1	P7E1702	05/17/17	05/17/17	% calculation	



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**Sidewall 3 30"**  
**7E15004-03 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00108	mg/kg dry	1	P7E1609	05/15/17	05/16/17	EPA 8021B	
Toluene	ND	0.00215	mg/kg dry	1	P7E1609	05/15/17	05/16/17	EPA 8021B	
Ethylbenzene	ND	0.00108	mg/kg dry	1	P7E1609	05/15/17	05/16/17	EPA 8021B	
Xylene (p/m)	ND	0.00215	mg/kg dry	1	P7E1609	05/15/17	05/16/17	EPA 8021B	
Xylene (o)	ND	0.00108	mg/kg dry	1	P7E1609	05/15/17	05/16/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		47.2 %	75-125		P7E1609	05/15/17	05/16/17	EPA 8021B	S-GC
Surrogate: 1,4-Difluorobenzene		96.7 %	75-125		P7E1609	05/15/17	05/16/17	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	ND	1.08	mg/kg dry	1	P7E1803	05/18/17	05/19/17	EPA 300.0	
% Moisture	7.0	0.1	%	1	P7E1702	05/17/17	05/17/17	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.9	mg/kg dry	1	P7E1705	05/15/17	05/16/17	TPH 8015M	
>C12-C28	ND	26.9	mg/kg dry	1	P7E1705	05/15/17	05/16/17	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P7E1705	05/15/17	05/16/17	TPH 8015M	
Surrogate: 1-Chlorooctane		97.0 %	70-130		P7E1705	05/15/17	05/16/17	TPH 8015M	
Surrogate: o-Terphenyl		99.4 %	70-130		P7E1705	05/15/17	05/16/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.9	mg/kg dry	1	[CALC]	05/15/17	05/16/17	calc	

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Fax: (432) 563-2213

**Sidewall 4 30"**  
**7E15004-04 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00108	mg/kg dry	1	P7E1609	05/15/17	05/16/17	EPA 8021B	
Toluene	ND	0.00215	mg/kg dry	1	P7E1609	05/15/17	05/16/17	EPA 8021B	
Ethylbenzene	ND	0.00108	mg/kg dry	1	P7E1609	05/15/17	05/16/17	EPA 8021B	
Xylene (p/m)	ND	0.00215	mg/kg dry	1	P7E1609	05/15/17	05/16/17	EPA 8021B	
Xylene (o)	ND	0.00108	mg/kg dry	1	P7E1609	05/15/17	05/16/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		97.7 %	75-125		P7E1609	05/15/17	05/16/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		44.0 %	75-125		P7E1609	05/15/17	05/16/17	EPA 8021B	S-GC

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	7.00	1.08	mg/kg dry	1	P7E1803	05/18/17	05/19/17	EPA 300.0	
% Moisture	7.0	0.1	%	1	P7E1702	05/17/17	05/17/17	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.9	mg/kg dry	1	P7E1705	05/15/17	05/16/17	TPH 8015M	
>C12-C28	ND	26.9	mg/kg dry	1	P7E1705	05/15/17	05/16/17	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P7E1705	05/15/17	05/16/17	TPH 8015M	
Surrogate: 1-Chlorooctane		96.0 %	70-130		P7E1705	05/15/17	05/16/17	TPH 8015M	
Surrogate: o-Terphenyl		99.2 %	70-130		P7E1705	05/15/17	05/16/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.9	mg/kg dry	1	[CALC]	05/15/17	05/16/17	calc	

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13000 West County Road 100  
Odessa TX, 79765

Project: Enervest JackB-30 #2 Tank Battery Lightning St  
Project Number: 498-7876-000  
Project Manager: Brian Ashburn

Fax: (432) 563-2213

**Sidewall 10 30"**  
**7E15004-05 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00105	mg/kg dry	1	P7E1609	05/15/17	05/16/17	EPA 8021B	
Toluene	ND	0.00211	mg/kg dry	1	P7E1609	05/15/17	05/16/17	EPA 8021B	
Ethylbenzene	ND	0.00105	mg/kg dry	1	P7E1609	05/15/17	05/16/17	EPA 8021B	
Xylene (p/m)	ND	0.00211	mg/kg dry	1	P7E1609	05/15/17	05/16/17	EPA 8021B	
Xylene (o)	ND	0.00105	mg/kg dry	1	P7E1609	05/15/17	05/16/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		98.4 %	75-125		P7E1609	05/15/17	05/16/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		47.6 %	75-125		P7E1609	05/15/17	05/16/17	EPA 8021B	S-GC

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	ND	1.05	mg/kg dry	1	P7E1803	05/18/17	05/19/17	EPA 300.0	
% Moisture	5.0	0.1	%	1	P7E1702	05/17/17	05/17/17	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.3	mg/kg dry	1	P7E1704	05/16/17	05/17/17	TPH 8015M	
>C12-C28	38.9	26.3	mg/kg dry	1	P7E1704	05/16/17	05/17/17	TPH 8015M	
>C28-C35	ND	26.3	mg/kg dry	1	P7E1704	05/16/17	05/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		95.2 %	70-130		P7E1704	05/16/17	05/17/17	TPH 8015M	
Surrogate: o-Terphenyl		98.0 %	70-130		P7E1704	05/16/17	05/17/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	38.9	26.3	mg/kg dry	1	[CALC]	05/16/17	05/17/17	calc	

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**Sidewall 11 30"**  
**7E15004-06 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00104	mg/kg dry	1	P7E1609	05/15/17	05/16/17	EPA 8021B	
Toluene	ND	0.00208	mg/kg dry	1	P7E1609	05/15/17	05/16/17	EPA 8021B	
Ethylbenzene	ND	0.00104	mg/kg dry	1	P7E1609	05/15/17	05/16/17	EPA 8021B	
Xylene (p/m)	ND	0.00208	mg/kg dry	1	P7E1609	05/15/17	05/16/17	EPA 8021B	
Xylene (o)	ND	0.00104	mg/kg dry	1	P7E1609	05/15/17	05/16/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		99.2 %	75-125		P7E1609	05/15/17	05/16/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		46.8 %	75-125		P7E1609	05/15/17	05/16/17	EPA 8021B	S-GC

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	ND	1.04	mg/kg dry	1	P7E1803	05/18/17	05/19/17	EPA 300.0	
% Moisture	4.0	0.1	%	1	P7E1702	05/17/17	05/17/17	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.0	mg/kg dry	1	P7E1704	05/16/17	05/17/17	TPH 8015M	
>C12-C28	ND	26.0	mg/kg dry	1	P7E1704	05/16/17	05/17/17	TPH 8015M	
>C28-C35	ND	26.0	mg/kg dry	1	P7E1704	05/16/17	05/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		92.5 %	70-130		P7E1704	05/16/17	05/17/17	TPH 8015M	
Surrogate: o-Terphenyl		95.6 %	70-130		P7E1704	05/16/17	05/17/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.0	mg/kg dry	1	[CALC]	05/16/17	05/17/17	calc	



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**Sidewall 12 30"**  
**7E15004-07 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00104	mg/kg dry	1	P7E1609	05/15/17	05/16/17	EPA 8021B	
Toluene	ND	0.00208	mg/kg dry	1	P7E1609	05/15/17	05/16/17	EPA 8021B	
Ethylbenzene	ND	0.00104	mg/kg dry	1	P7E1609	05/15/17	05/16/17	EPA 8021B	
Xylene (p/m)	ND	0.00208	mg/kg dry	1	P7E1609	05/15/17	05/16/17	EPA 8021B	
Xylene (o)	ND	0.00104	mg/kg dry	1	P7E1609	05/15/17	05/16/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		47.4 %	75-125		P7E1609	05/15/17	05/16/17	EPA 8021B	S-GC
Surrogate: 1,4-Difluorobenzene		100 %	75-125		P7E1609	05/15/17	05/16/17	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	454	1.04	mg/kg dry	1	P7E1803	05/18/17	05/19/17	EPA 300.0	
% Moisture	4.0	0.1	%	1	P7E1702	05/17/17	05/17/17	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.0	mg/kg dry	1	P7E1704	05/16/17	05/17/17	TPH 8015M	
>C12-C28	ND	26.0	mg/kg dry	1	P7E1704	05/16/17	05/17/17	TPH 8015M	
>C28-C35	ND	26.0	mg/kg dry	1	P7E1704	05/16/17	05/17/17	TPH 8015M	
Surrogate: 1-Chlorooctane		94.6 %	70-130		P7E1704	05/16/17	05/17/17	TPH 8015M	
Surrogate: o-Terphenyl		97.4 %	70-130		P7E1704	05/16/17	05/17/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.0	mg/kg dry	1	[CALC]	05/16/17	05/17/17	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
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**Batch P7E1609 - General Preparation (GC)**

**Blank (P7E1609-BLK1)**

Prepared & Analyzed: 05/15/17

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	0.0548		"	0.0600		91.3	75-125			
Surrogate: 4-Bromofluorobenzene	0.0264		"	0.0600		44.0	75-125			S-GC

**LCS (P7E1609-BS1)**

Prepared & Analyzed: 05/15/17

Benzene	0.114	0.00100	mg/kg wet	0.100		114	70-130			
Toluene	0.105	0.00200	"	0.100		105	70-130			
Ethylbenzene	0.111	0.00100	"	0.100		111	70-130			
Xylene (p/m)	0.212	0.00200	"				70-130			
Xylene (o)	0.104	0.00100	"				70-130			
Surrogate: 1,4-Difluorobenzene	0.0638		"	0.0600		106	75-125			
Surrogate: 4-Bromofluorobenzene	0.0264		"	0.0600		44.0	75-125			S-GC

**LCS Dup (P7E1609-BSD1)**

Prepared & Analyzed: 05/15/17

Benzene	0.100	0.00100	mg/kg wet	0.100		100	70-130	12.8	20	
Toluene	0.0948	0.00200	"	0.100		94.8	70-130	9.82	20	
Ethylbenzene	0.107	0.00100	"	0.100		107	70-130	4.28	20	
Xylene (p/m)	0.174	0.00200	"				70-130		20	
Xylene (o)	0.0901	0.00100	"				70-130		20	
Surrogate: 1,4-Difluorobenzene	0.0580		"	0.0600		96.6	75-125			
Surrogate: 4-Bromofluorobenzene	0.0214		"	0.0600		35.7	75-125			S-GC

**Matrix Spike (P7E1609-MS1)**

Source: 7E15004-07

Prepared: 05/15/17 Analyzed: 05/16/17

Benzene	0.145	0.00104	mg/kg dry	0.104	ND	139	80-120			QM-05
Toluene	0.130	0.00208	"	0.104	ND	125	80-120			QM-05
Ethylbenzene	0.156	0.00104	"	0.104	ND	150	80-120			QM-05
Xylene (p/m)	0.239	0.00208	"		ND		80-120			
Xylene (o)	0.113	0.00104	"		ND		80-120			
Surrogate: 1,4-Difluorobenzene	0.0625		"	0.0625		100	75-125			
Surrogate: 4-Bromofluorobenzene	0.0236		"	0.0625		37.7	75-125			S-GC

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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
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**Batch P7E1609 - General Preparation (GC)**

**Matrix Spike Dup (P7E1609-MSD1)**

**Source: 7E15004-07**

Prepared: 05/15/17 Analyzed: 05/16/17

Benzene	0.148	0.00104	mg/kg dry	0.104	ND	142	80-120	2.45	20	QM-05
Toluene	0.132	0.00208	"	0.104	ND	127	80-120	1.30	20	QM-05
Ethylbenzene	0.166	0.00104	"	0.104	ND	160	80-120	6.67	20	QM-05
Xylene (p/m)	0.257	0.00208	"		ND		80-120		20	
Xylene (o)	0.121	0.00104	"		ND		80-120		20	
Surrogate: 4-Bromofluorobenzene	0.0239		"	0.0625		38.3	75-125			S-GC
Surrogate: 1,4-Difluorobenzene	0.0650		"	0.0625		104	75-125			

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**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
<b>Batch P7E1702 - *** DEFAULT PREP ***</b>										
<b>Blank (P7E1702-BLK1)</b>				Prepared & Analyzed: 05/17/17						
% Moisture	ND	0.1	%							
<b>Duplicate (P7E1702-DUP1)</b>				Source: 7E15005-03 Prepared & Analyzed: 05/17/17						
% Moisture	1.0	0.1	%		1.0			0.00	20	
<b>Batch P7E1803 - *** DEFAULT PREP ***</b>										
<b>Blank (P7E1803-BLK1)</b>				Prepared: 05/18/17 Analyzed: 05/19/17						
Chloride	ND	1.00	mg/kg wet							
<b>LCS (P7E1803-BS1)</b>				Prepared: 05/18/17 Analyzed: 05/19/17						
Chloride	414	1.00	mg/kg wet	400		103	80-120			
<b>LCS Dup (P7E1803-BSD1)</b>				Prepared: 05/18/17 Analyzed: 05/19/17						
Chloride	412	1.00	mg/kg wet	400		103	80-120	0.528	20	
<b>Duplicate (P7E1803-DUP1)</b>				Source: 7E12019-10 Prepared: 05/18/17 Analyzed: 05/19/17						
Chloride	109	1.03	mg/kg dry		111			2.21	20	
<b>Duplicate (P7E1803-DUP2)</b>				Source: 7E15004-06 Prepared: 05/18/17 Analyzed: 05/19/17						
Chloride	ND	1.04	mg/kg dry		ND				20	
<b>Matrix Spike (P7E1803-MS1)</b>				Source: 7E12019-10 Prepared: 05/18/17 Analyzed: 05/19/17						
Chloride	1210	1.03	mg/kg dry	1030	111	107	80-120			



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**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
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**Batch P7E1704 - TX 1005**

**Blank (P7E1704-BLK1)**

Prepared: 05/16/17 Analyzed: 05/17/17

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	97.0		"	100		97.0	70-130			
Surrogate: o-Terphenyl	51.0		"	50.0		102	70-130			

**LCS (P7E1704-BS1)**

Prepared: 05/16/17 Analyzed: 05/17/17

C6-C12	843	25.0	mg/kg wet	1000		84.3	75-125			
>C12-C28	839	25.0	"	1000		83.9	75-125			
Surrogate: 1-Chlorooctane	98.3		"	100		98.3	70-130			
Surrogate: o-Terphenyl	47.4		"	50.0		94.7	70-130			

**LCS Dup (P7E1704-BSD1)**

Prepared: 05/16/17 Analyzed: 05/17/17

C6-C12	883	25.0	mg/kg wet	1000		88.3	75-125	4.70	20	
>C12-C28	862	25.0	"	1000		86.2	75-125	2.71	20	
Surrogate: 1-Chlorooctane	100		"	100		100	70-130			
Surrogate: o-Terphenyl	48.0		"	50.0		96.1	70-130			

**Matrix Spike (P7E1704-MS1)**

Source: 7E15004-05

Prepared: 05/16/17 Analyzed: 05/17/17

C6-C12	868	26.3	mg/kg dry	1050	16.9	80.9	75-125			
>C12-C28	860	26.3	"	1050	38.9	78.0	75-125			
Surrogate: 1-Chlorooctane	102		"	105		96.8	70-130			
Surrogate: o-Terphenyl	52.0		"	52.6		98.9	70-130			

**Matrix Spike Dup (P7E1704-MSD1)**

Source: 7E15004-05

Prepared: 05/16/17 Analyzed: 05/17/17

C6-C12	865	26.3	mg/kg dry	1050	16.9	80.6	75-125	0.380	20	
>C12-C28	853	26.3	"	1050	38.9	77.4	75-125	0.880	20	
Surrogate: 1-Chlorooctane	103		"	105		97.7	70-130			
Surrogate: o-Terphenyl	48.9		"	52.6		92.9	70-130			

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**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
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**Batch P7E1705 - TX 1005**

**Blank (P7E1705-BLK1)**

Prepared: 05/15/17 Analyzed: 05/16/17

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	91.5		"	100		91.5	70-130			
Surrogate: o-Terphenyl	47.3		"	50.0		94.5	70-130			

**LCS (P7E1705-BS1)**

Prepared: 05/15/17 Analyzed: 05/16/17

C6-C12	922	25.0	mg/kg wet	1000		92.2	75-125			
>C12-C28	936	25.0	"	1000		93.6	75-125			
Surrogate: 1-Chlorooctane	100		"	100		100	70-130			
Surrogate: o-Terphenyl	46.7		"	50.0		93.4	70-130			

**LCS Dup (P7E1705-BSD1)**

Prepared: 05/15/17 Analyzed: 05/16/17

C6-C12	904	25.0	mg/kg wet	1000		90.4	75-125	1.89	20	
>C12-C28	934	25.0	"	1000		93.4	75-125	0.173	20	
Surrogate: 1-Chlorooctane	98.6		"	100		98.6	70-130			
Surrogate: o-Terphenyl	46.2		"	50.0		92.5	70-130			

**Matrix Spike (P7E1705-MS1)**

Source: 7E15004-04

Prepared: 05/15/17 Analyzed: 05/16/17

C6-C12	904	26.9	mg/kg dry	1080	13.5	82.8	75-125			
>C12-C28	882	26.9	"	1080	ND	82.0	75-125			
Surrogate: 1-Chlorooctane	109		"	108		101	70-130			
Surrogate: o-Terphenyl	50.6		"	53.8		94.2	70-130			

**Matrix Spike Dup (P7E1705-MSD1)**

Source: 7E15004-04

Prepared: 05/15/17 Analyzed: 05/17/17

C6-C12	895	26.9	mg/kg dry	1080	13.5	82.0	75-125	0.945	20	
>C12-C28	892	26.9	"	1080	ND	82.9	75-125	1.12	20	
Surrogate: 1-Chlorooctane	107		"	108		99.6	70-130			
Surrogate: o-Terphenyl	51.2		"	53.8		95.2	70-130			

### Notes and Definitions

S-GC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
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:



Date:

5/22/2017

Brent Barron, Laboratory Director/Technical Director

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