



Electronic Correspondence

January 11, 2016

Mike Bratcher
State of New Mexico
Oil Conservation Division
811 S. 1st Street
Atresia, NM 88210
mike.bratcher@state.nm.us

Re: **Closure Report- 2RP-1922 & 2RP-3188**
Memorial Resource Development, KLM Battery
API No.: 30-015-04411
Legal: Sec 31, T17S, R30E - Eddy Co., NM
GPS: 32.791267, -104.012383
Depth to Groundwater: No Groundwater in this area
Release Type: Crude Oil

Contaminants of Concern (COC's)

Total Petroleum Hydrocarbons (TPH)
Benzene
BTEX
Chlorides

Threshold Levels

5000 mg/kg
10 mg/kg
50 mg/kg
1000 mg/kg

Dear Mike:

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

Background

The release on August 2, 2015 (2RP-3188) occurred due to failure of a circulating pump in its ability to hold back fluid. The fluid overflowed it's containment around the pump and migrated approximately 200 feet on the lease road before pooling adjacent to a county road. All free standing liquids were removed and the areas assessed. A small amount of pasture areas (less than 800 SF) was impacted. A copy of the final C-141 (2RP-3188) is provided in Attachment A. An annotated aerial photograph showing the release area and the contaminant levels is provided In Attachment B. Photographs of the release area are provided in Attachment C.

This site had a release on July 27, 2013 when it was operated by Boaz Energy, LLC (291993), which to our knowledge was not closed with the OCD or BLM. According to the C-141 and the OCD, the release affected the same area as the release 2RP-3188. Memorial and Etech were requested to close this release with 3188 using the same data. A copy of the C-141 is provided in Attachment A.

Work Performed

The scope of this project was for the remediation of a hydrocarbon impact. After discussion with the BLM and NMOCD the BLM verbally approved a technical approach for remediation involving the maximum of resource conservation. Completion of remediation involved the following actions:

1. Placement of a one-call for utility location.
2. Analytical data indicated that the surface interval of the impacted area is above regulatory threshold levels for TPH. Chlorides were below regulatory threshold levels in all areas sampled. All other areas were below corrective action threshold levels. Copies of TPH and chloride analytical results from the assessment are provided in Attachment D.
3. A lined treatment area was constructed on the north side of the tank battery.
4. The impacted soils on the first 6 inches of the road area, the impacted soil around the pump and pasture areas were removed and placed in the treatment area. Note pasture soils were kept segregated from road and pump soils.
5. A biological amendment was applied to the impacted soils. The soil in the treatment area was initially blended to disperse the amendment through the impacted soils.
6. Confirmation samples were collected to verify the excavated areas are below corrective action levels.
7. The soils in the treatment area were periodically rolled and screened for TPH until the TPH levels showed to be below regulatory threshold levels. Confirmation samples were collected from the treated soils and submitted for laboratory analyses.
8. Once the treated soils were below regulatory threshold levels, the pasture soils were returned to the area they were removed from and properly contoured. Clean soil was purchased from Lea Land and used to backfill around the transfer pump. The soils collected from the road and pump area were placed back onto the lease road area and used to reinforce containments at the facility.

Thank you for your assistance on this matter. Should you have any questions, require additional information, or have any additional stipulations for this site, please contact Fred Holmes or myself at (432) 563-2200 (office) or via email at fred@etechnv.com, or tim@etechnv.com.

Respectfully:



Tim McMinn
Sr. Project Manager

Cc: heather.patterson@state.nm.us
stucker@blm.gov

Attachment A
Final C-141

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

Form C-141
Revised October 10, 2003

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: Memorial Production Operating LLC	Contact: Heather Dolphin	
Address: 500 Dallas Street Houston TX 77002	Telephone No.: 832-797-1334	
Facility Name: KLM Battery	Facility Type: Production	
Surface Owner:	Mineral Owner:	API No.: 30-015-04411

LOCATION OF RELEASE

Unit Letter	Section 31	Township 17S	Range 30E	Feet from the	North/South Line	Feet from the	East/West Line	County Eddy
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Latitude: 32.791267 Longitude: -104.012383

NATURE OF RELEASE

Type of Release: Oil	Volume of Release: 7 bbls oil 23 bbls PW	Volume Recovered: 30 bbls
Source of Release: Battery	Date and Hour of Occurrence: 8/2/15	Date and Hour of Discovery: 8/2/15 10am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Jim Amos, BLM & Heather Patterson, NMOCD	
By Whom? Heather Dolphin Sr. Regulatory Specialist	Date and Hour 8/2/15 4:17 PM	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. n/a	

If a Watercourse was Impacted, Describe Fully.*: n/a

Describe Cause of Problem and Remedial Action Taken.*: A valve upstream from the circulating pump washed out and wouldn't hold fluid back. The spill filled up the berm around the circ. pump and overflowed it.

Describe Area Affected and Cleanup Action Taken.* : Impacted area around transfer pump inside containment; containment overflowed and fluid ran down lease road approx. 220 ft, through the pasture approx 100 ft, and down the bar ditch of the county road approx. 80 ft. Vacuumed up all free standing fluid. Site was excavated and soils were treated per OCD and BLM requirements in approved CAP.

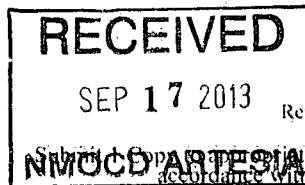
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger 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: 		OIL CONSERVATION DIVISION	
Printed Name: Tim McMinn		Approved by District Supervisor:	
Title: Etech Environmental	Approval Date:	Expiration Date:	
E-mail Address: tim@etechenv.com	Conditions of Approval:		Attached ☐
Date: 1/11/16	Phone: 432-967-9062		

* Attach Additional Sheets If Necessary

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
District Office in
accordance with 19.15.29 NMAC

Release Notification and Corrective Action

Operator ☒ Initial Report ☐ Final Report
Name of Company: BOAZ Energy LLC 291993 Contact: Joel Hale
Address: 2608 Loma, Midland TX, 79705 Telephone No.: 432-253-7074
Facility Name: Federal KLM Facility Type: Tank Battery
Surface Owner: Federal KLM Mineral Owner: T. Brey API No.: 30-015-0441

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	31	17S	30E					Eddy
31 17S 30E				Latitude Longitude				

NATURE OF RELEASE

Type of Release: <u>Oil Spill</u>	Volume of Release: <u>10 barrels</u>	Volume Recovered: <u>6 barrels</u>
Source of Release: <u>Equipment Failure</u>	Date and Hour of Occurrence: <u>July 27, 2013 - Unknown</u>	Date and Hour of Discovery: <u>July 27, 2013 - 10AM</u>
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

Circulation line between separator and production tanks developed hole.
Circulation pump has been placed in containment and line has been replaced.
PCC has been installed on loading lines at production tanks.

Describe Area Affected and Cleanup Action Taken.*

Areas inside firewall around separator and ground area around circulation pump and down hillside to county road 217.
Standing fluids within firewall were vacuumed and Microblaze was sprayed on oil on ground outside firewall.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOC 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 NMOC 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, NMOC 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: <u>Joel Hale</u>		OIL CONSERVATION DIVISION	
Printed Name: <u>Joel Hale</u>	Approved by Environmental Specialist: <u>Mike Brannon</u>	Signed By: <u>Mike Brannon</u>	
Title: <u>Engineer</u>	Approval Date: <u>SEP 20 2013</u>	Expiration Date:	
E-mail Address: <u>joelhale@gmail.com</u>	Conditions of Approval: Remediation per OCD Rule & Guidelines, & like approval by BLM. SUBMIT REMEDIATION	Attached ☐	
Date: <u>9/13/13</u>	Phone: <u>432-253-7074</u>		

* Attach Additional Sheets If Necessary

PROPOSAL NO LATER THAN:
October 20, 2013

2RP-1922

Attachment B
Annotated Aerial Imagery



Assessment Results

Sample I.D.	Depth (ft.)	Chlorides (mg/kg)	TPH (mg/kg)
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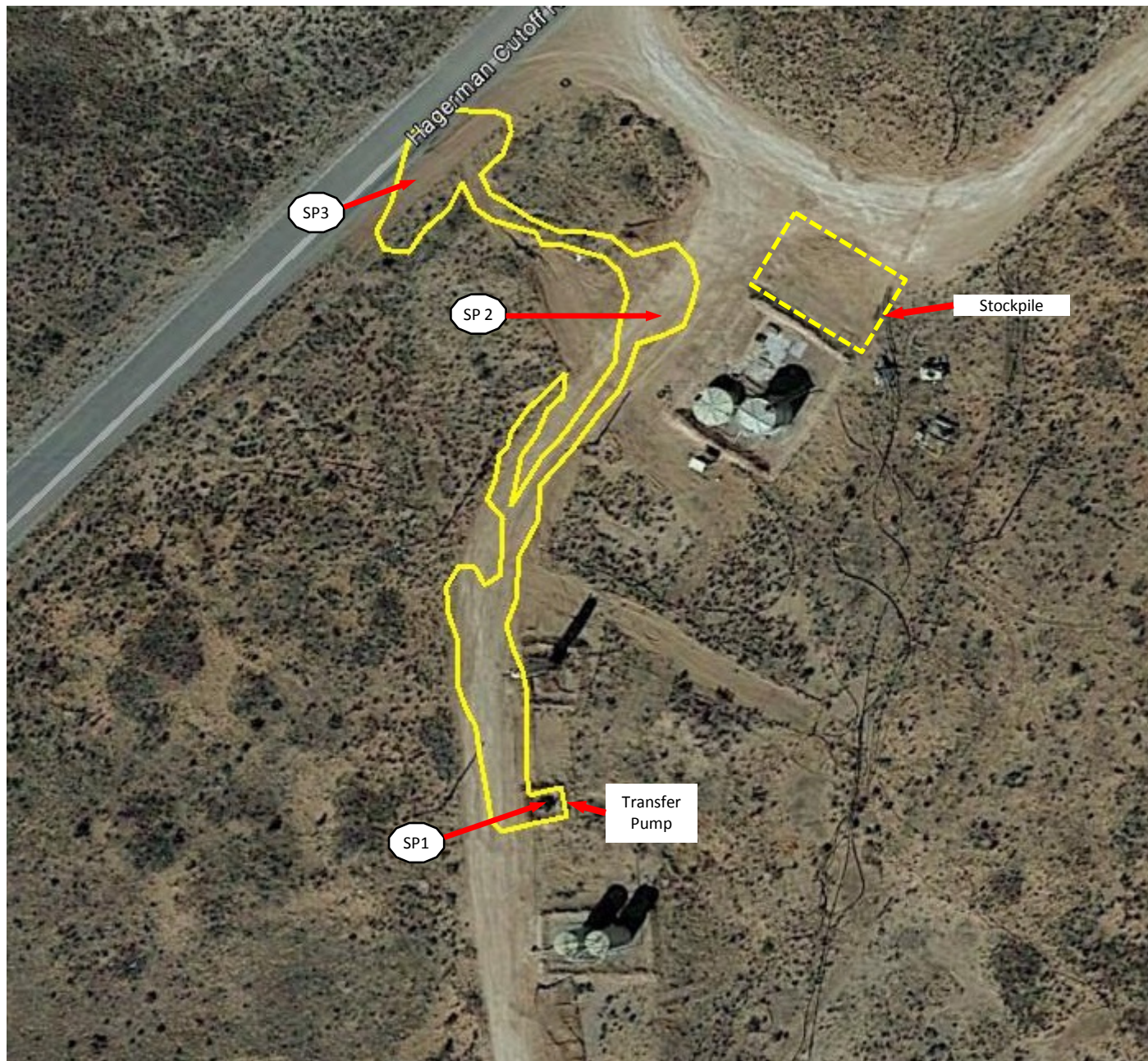
In-House Analytical Results

AH1	0'	BDL	7,114
AH1	1'	BDL	4,060
AH1	2'	BDL	3,468
AH1	3'	BDL	2,718
AH2	0'	BDL	9,524
AH2	1'	BDL	6,498
AH2	2'	480	1,329
AH2	3'	BDL	398
AH3	0'	BDL	16,296
AH3	1'	BDL	2,123
AH3	2'	BDL	2,157
AH3	3'	BDL	BDL

PBELAB Confirmation Analytical Results

AH1	1'	32.7	2,560
AH1	3'	29.1	1,130
AH2	1'	168	4,820
AH2	3'	495	339
AH3	1'	4.47	689
AH3	3'	527	367

BDL denotes Below Detection Limit



Assessment Results

Sample I.D.	Depth (ft.)	TPH (mg/kg)
SP 1- TP	4	203
SP 2*	1	1460
SP 3	1	1570
Stockpile	NA	3320

Denoted as 'Sample Point 1' on analytical report 5K17008.

Attachment C
Photograph Log

KLM Battery



KLM Battery



KLM Battery



KLM Battery



KLM Battery



KLM Battery



KLM Battery



KLM Battery



Attachment D
Analytical Results

Quantab Chloride Test Strip Analysis Sheet

Date: 8/6/2015 **Client:** MEMORIAL

Site: KLM BATTERY **Project Number:** 416-6439

Technician: BB Strip Lot Number(s):

[illegible]

Titrator Range: A= 30-600 B=300-6000 ppm

Soil Sample Volume: 10 Grams

Distilled Water Volume = 100 ml

Extended Diesel Range Organic Hydrocarbons Analysis Report

site LAB® EDRO C10-C40 Aromatics in Soil, Sediment & Water

Client: Memorial

Address:

Phone:

Contact:

Operator:

Signature:

Project Name: KLM Battery

Job #: 416-6439-000

File #: 1

Matrix: soil

Date Collected: 8/5/2015

Date Received: 8/5/2015

Date Extracted: 8/7/2015

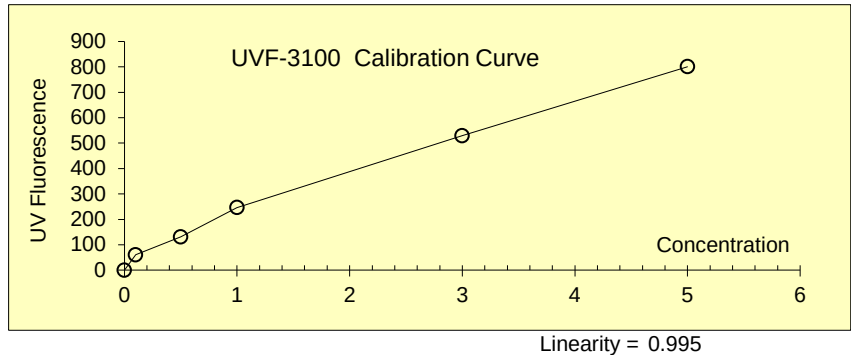
Date Analyzed: 8/7/2015

Date Reported: 8/7/2015

Date: Time:

Standard Concentration	UVF-3100 Calibration Raw Fluorescence
0	0
0.1	60.6
0.5	131.0
1.0	246.2
3.0	529.4
5.0	800.6

site LAB
Calibration Product #: CAL-042
Units (ppm or mg/Kg): ppm



UVF Run#:	Sample ID & Description	UVF Raw Fluorescence	Test Sample Concentration (ppm)	Dilution Factor	Test Result:
1	AH 1 SURFACE	605.00	3.557	2,000	7,114.0 ppm
2	AH 1 1'	673.10	4.06	1,000	4,060.0 ppm
3	AH 1 2'	592.90	3.468	1,000	3,468.0 ppm
4	AH 1 3'	489.50	2.718	1,000	2,718.0 ppm
5	AH 2 SURFACE	768.30	4.762	2,000	9,524.0 ppm
6	AH 2 1'	563.10	3.249	2,000	6,498.0 ppm
7	AH 2 2'	292.80	1.329	1,000	1,329.0 ppm
8	AH 2 3'	113.00	0.398	1,000	398.0 ppm
9	AH 3 SURFACE	675.10	4.074	4,000	16,296.0 ppm
10	AH 3 1'	405.10	2.123	1,000	2,123.0 ppm
11	AH 3 2'	410.10	2.157	1,000	2,157.0 ppm
12	AH 3 3'	38.37	0.063	10,000	Concentration... Too Low (ND)
13		1.00	1	1	1.0 ppm
14		1.00	1	1	1.0 ppm
15		1.00	1	1	1.0 ppm
16		1.00	1	1	1.0 ppm
17		1.00	1	1	1.0 ppm
18		1.00	1	1	1.0 ppm
19		1.00	1	1	1.0 ppm
20		1.00	1	1	1.0 ppm

Comments: Results reported in wet weight.

**PERMIAN BASIN
ENVIRONMENTAL LAB, LP
10014 SCR 1213
Midland, TX 79706**



Analytical Report

Prepared for:

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

Project: KLM Battery
Project Number: 416-6439-000
Location: Memorial
Lab Order Number: 5H11009



NELAP/TCEQ # T104704156-13-3

Report Date: 09/16/15

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

Project: KLM Battery
Project Number: 416-6439-000
Project Manager: Brandon Wilson

Fax: (432) 563-2213

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AH1 @ 1'	5H11009-01	Soil	08/05/15 00:00	08-11-2015 10:16
AH1 @ 3'	5H11009-02	Soil	08/05/15 00:00	08-11-2015 10:16
AH2 @ 1'	5H11009-03	Soil	08/05/15 00:00	08-11-2015 10:16
AH2 @ 3'	5H11009-04	Soil	08/05/15 00:00	08-11-2015 10:16
AH3 @ 1'	5H11009-05	Soil	08/05/15 00:00	08-11-2015 10:16
AH3 @ 3'	5H11009-06	Soil	08/05/15 00:00	08-11-2015 10:16

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

Project: KLM Battery
Project Number: 416-6439-000
Project Manager: Brandon Wilson

Fax: (432) 563-2213

AH1 @ 1'
5H11009-01 (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

Chloride	32.7	1.01	mg/kg dry	1	P5H1607	08/28/15	08/28/15	EPA 300.0	
% Moisture	1.0	0.1	%	1	P5H1301	08/13/15	08/13/15	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	64.9	25.3	mg/kg dry	1	P5H1304	08/12/15	08/13/15	TPH 8015M	
>C12-C28	1860	25.3	mg/kg dry	1	P5H1304	08/12/15	08/13/15	TPH 8015M	
>C28-C35	632	25.3	mg/kg dry	1	P5H1304	08/12/15	08/13/15	TPH 8015M	
Surrogate: 1-Chlorooctane		69.8 %	70-130		P5H1304	08/12/15	08/13/15	TPH 8015M	S-GC
Surrogate: o-Terphenyl		85.3 %	70-130		P5H1304	08/12/15	08/13/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	2560	25.3	mg/kg dry	1	[CALC]	08/12/15	08/13/15	calc	

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

Project: KLM Battery
Project Number: 416-6439-000
Project Manager: Brandon Wilson

Fax: (432) 563-2213

AH1 @ 3'
5H11009-02 (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

Chloride	29.1	1.02	mg/kg dry	1	P5H1607	08/28/15	08/28/15	EPA 300.0	
% Moisture	2.0	0.1	%	1	P5H1301	08/13/15	08/13/15	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	36.9	25.5	mg/kg dry	1	P5H1304	08/12/15	08/14/15	TPH 8015M	
>C12-C28	786	25.5	mg/kg dry	1	P5H1304	08/12/15	08/14/15	TPH 8015M	
>C28-C35	308	25.5	mg/kg dry	1	P5H1304	08/12/15	08/14/15	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		105 %	70-130		P5H1304	08/12/15	08/14/15	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		133 %	70-130		P5H1304	08/12/15	08/14/15	TPH 8015M	S-GC
Total Petroleum Hydrocarbon C6-C35	1130	25.5	mg/kg dry	1	[CALC]	08/12/15	08/14/15	calc	

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

Project: KLM Battery
Project Number: 416-6439-000
Project Manager: Brandon Wilson

Fax: (432) 563-2213

AH2 @ 1'
5H11009-03 (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	168	1.05	mg/kg dry	1	P5H1607	08/28/15	08/28/15	EPA 300.0
% Moisture	5.0	0.1	%	1	P5H1301	08/13/15	08/13/15	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	132	mg/kg dry	5	P5H1304	08/12/15	08/13/15	TPH 8015M	
>C12-C28	3840	132	mg/kg dry	5	P5H1304	08/12/15	08/13/15	TPH 8015M	
>C28-C35	979	132	mg/kg dry	5	P5H1304	08/12/15	08/13/15	TPH 8015M	
Surrogate: 1-Chlorooctane		58.3 %	70-130		P5H1304	08/12/15	08/13/15	TPH 8015M	S-GC
Surrogate: o-Terphenyl		72.2 %	70-130		P5H1304	08/12/15	08/13/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	4820	132	mg/kg dry	5	[CALC]	08/12/15	08/13/15	calc	

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

Project: KLM Battery
Project Number: 416-6439-000
Project Manager: Brandon Wilson

Fax: (432) 563-2213

AH2 @ 3'
5H11009-04 (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	495	1.04	mg/kg dry	1	P5H1607	08/28/15	08/28/15	EPA 300.0	
% Moisture	4.0	0.1	%	1	P5H1301	08/13/15	08/13/15	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.0	mg/kg dry	1	P5H1304	08/12/15	08/13/15	TPH 8015M	
>C12-C28	252	26.0	mg/kg dry	1	P5H1304	08/12/15	08/13/15	TPH 8015M	
>C28-C35	87.0	26.0	mg/kg dry	1	P5H1304	08/12/15	08/13/15	TPH 8015M	
Surrogate: 1-Chlorooctane		57.6 %	70-130		P5H1304	08/12/15	08/13/15	TPH 8015M	S-GC
Surrogate: o-Terphenyl		75.9 %	70-130		P5H1304	08/12/15	08/13/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	339	26.0	mg/kg dry	1	[CALC]	08/12/15	08/13/15	calc	

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

Project: KLM Battery
Project Number: 416-6439-000
Project Manager: Brandon Wilson

Fax: (432) 563-2213

AH3 @ 1'
5H11009-05 (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	4.47	1.06	mg/kg dry	1	P5H1607	08/28/15	08/28/15	EPA 300.0
% Moisture	6.0	0.1	%	1	P5H1301	08/13/15	08/13/15	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.6	mg/kg dry	1	P5H1403	08/13/15	08/13/15	TPH 8015M	
>C12-C28	530	26.6	mg/kg dry	1	P5H1403	08/13/15	08/13/15	TPH 8015M	
>C28-C35	159	26.6	mg/kg dry	1	P5H1403	08/13/15	08/13/15	TPH 8015M	
Surrogate: 1-Chlorooctane		65.9 %	70-130		P5H1403	08/13/15	08/13/15	TPH 8015M	S-GC
Surrogate: o-Terphenyl		84.2 %	70-130		P5H1403	08/13/15	08/13/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	689	26.6	mg/kg dry	1	[CALC]	08/13/15	08/13/15	calc	

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

Project: KLM Battery
Project Number: 416-6439-000
Project Manager: Brandon Wilson

Fax: (432) 563-2213

AH3 @ 3'
5H11009-06 (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

Chloride	527	1.09	mg/kg dry	1	P5H1607	08/28/15	08/28/15	EPA 300.0
% Moisture	8.0	0.1	%	1	P5H1301	08/13/15	08/13/15	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P5H1403	08/13/15	08/13/15	TPH 8015M	
>C12-C28	301	27.2	mg/kg dry	1	P5H1403	08/13/15	08/13/15	TPH 8015M	
>C28-C35	66.8	27.2	mg/kg dry	1	P5H1403	08/13/15	08/13/15	TPH 8015M	
Surrogate: 1-Chlorooctane		65.0 %	70-130		P5H1403	08/13/15	08/13/15	TPH 8015M	S-GC
Surrogate: o-Terphenyl		82.2 %	70-130		P5H1403	08/13/15	08/13/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	367	27.2	mg/kg dry	1	[CALC]	08/13/15	08/13/15	calc	

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

Project: KLM Battery
Project Number: 416-6439-000
Project Manager: Brandon Wilson

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
Batch P5H1301 - % Solids										
Blank (P5H1301-BLK1)				Prepared & Analyzed: 08/13/15						
% Moisture	ND	0.1	%							
Duplicate (P5H1301-DUP1)				Source: 5H11005-01 Prepared & Analyzed: 08/13/15						
% Moisture	9.0	0.1	%		9.0			0.00	20	
Duplicate (P5H1301-DUP2)				Source: 5H11009-03 Prepared & Analyzed: 08/13/15						
% Moisture	4.0	0.1	%		5.0			22.2	20	
Duplicate (P5H1301-DUP3)				Source: 5H12009-08 Prepared & Analyzed: 08/13/15						
% Moisture	5.0	0.1	%		5.0			0.00	20	
Batch P5I1607 - *** DEFAULT PREP ***										
Blank (P5I1607-BLK1)				Prepared & Analyzed: 09/11/15						
Chloride	ND	1.00	mg/kg wet							
LCS (P5I1607-BS1)				Prepared & Analyzed: 09/11/15						
Chloride	96.9	1.00	mg/kg wet	100		96.9	80-120			
Duplicate (P5I1607-DUP1)				Source: 5H11009-05 Prepared & Analyzed: 09/11/15						
Chloride	4.53	1.06	mg/kg dry		4.47			1.42	20	
Matrix Spike (P5I1607-MS1)				Source: 5H11009-05 Prepared & Analyzed: 09/11/15						
Chloride	112	1.06	mg/kg dry	106	4.47	101	80-120			

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Odessa TX, 79765

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Project Manager: Brandon Wilson

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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 P5H1403 - TX 1005

Blank (P5H1403-BLK1)

Prepared & Analyzed: 08/13/15

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	71.8		"	100		71.8	70-130			
Surrogate: o-Terphenyl	45.0		"	50.0		90.0	70-130			

LCS (P5H1403-BS1)

Prepared & Analyzed: 08/13/15

C6-C12	857	25.0	mg/kg wet	1000		85.7	75-125			
>C12-C28	999	25.0	"	1000		99.9	75-125			
Surrogate: 1-Chlorooctane	92.1		"	100		92.1	70-130			
Surrogate: o-Terphenyl	46.5		"	50.0		93.1	70-130			

LCS Dup (P5H1403-BSD1)

Prepared & Analyzed: 08/13/15

C6-C12	873	25.0	mg/kg wet	1000		87.3	75-125	1.86	20	
>C12-C28	1100	25.0	"	1000		110	75-125	9.58	20	
Surrogate: 1-Chlorooctane	99.7		"	100		99.7	70-130			
Surrogate: o-Terphenyl	48.1		"	50.0		96.2	70-130			

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13000 West County Road 100
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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.

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:

9/16/2015

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: Brandon Wilson

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

Sampler Signature: _____ e-mail: Brandon@etechenv.com

Project Name: KLM Battery

Project #: 4116-16439-00

Project Loc: Municipal

PO #:

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

ORDER #: 5411009

LAB # (lab use only)		FIELD CODE		Date Sampled	Time Sampled	No. of Containers	Preservation & # of Containers							Matrix	Analyze For:											
LAB # (lab use only)	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Ice	HNO ₃	HCl	H ₂ SO ₄	NaOH	Na ₂ S ₂ O ₃	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 ₄ , CO ₃ , HCO ₃)	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.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT	
01	PH I	8-5-15		1	☒	☐	☐	☐	☐	☐	☐		S	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☒
02	PH I			3	☒	☐	☐	☐	☐	☐	☐		S	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☒	
03	PH II			1	☒	☐	☐	☐	☐	☐	☐		S	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☒	
04	PH II			3	☒	☐	☐	☐	☐	☐	☐		S	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☒	
05	PH III			1	☒	☐	☐	☐	☐	☐	☐		S	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☒	
06	PH III			3	☒	☐	☐	☐	☐	☐	☐		S	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☒	

Special Instructions:

Relinquished by:

Relinquished by:

Relinquished by:

Date

Date

Date

Time

Time

Time

Received by:

Received by:

Received by:

Date

Date

Date

Time

Time

Time

Laboratory Comments:

Sample Containers Intact?
VOCs Free of Headspaces?
Custody seals on container(s)
Custody seals on cooler(s)
Sample Hand Delivered
by Sampler/Client Rep.?
by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 40 NCE

**PERMIAN BASIN
ENVIRONMENTAL LAB, LP
10014 SCR 1213
Midland, TX 79706**



Analytical Report

Prepared for:

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

Project: KLM Battery
Project Number: 416-6439-000
Location: Loco Hills, NM
Lab Order Number: 5J16004



NELAP/TCEQ # T104704156-13-3

Report Date: 10/21/15

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

Project: KLM Battery
Project Number: 416-6439-000
Project Manager: Tim McMinn

Fax: (432) 563-2213

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SP1- Transfer Pump 4'	5J16004-01	Soil	10/12/15 15:45	10-15-2015 16:40
SP2 6"	5J16004-02	Soil	10/12/15 15:50	10-15-2015 16:40
SP3 1'	5J16004-03	Soil	10/12/15 15:52	10-15-2015 16:40
Stockpile	5J16004-04	Soil	10/12/15 15:55	10-15-2015 16:40

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

Project: KLM Battery
Project Number: 416-6439-000
Project Manager: Tim McMinn

Fax: (432) 563-2213

SP1- Transfer Pump 4'

5J16004-01 (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	P5J1608	10/15/15	10/16/15	EPA 8021B	
Toluene	ND	0.00206	mg/kg dry	1	P5J1608	10/15/15	10/16/15	EPA 8021B	
Ethylbenzene	ND	0.00103	mg/kg dry	1	P5J1608	10/15/15	10/16/15	EPA 8021B	
Xylene (p/m)	ND	0.00206	mg/kg dry	1	P5J1608	10/15/15	10/16/15	EPA 8021B	
Xylene (o)	ND	0.00103	mg/kg dry	1	P5J1608	10/15/15	10/16/15	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		130 %	75-125		P5J1608	10/15/15	10/16/15	EPA 8021B	S-GC
Surrogate: 1,4-Difluorobenzene		110 %	75-125		P5J1608	10/15/15	10/16/15	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

% Moisture	3.0	0.1	%	1	P5J1610	10/16/15	10/16/15	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.8	mg/kg dry	1	P5J1609	10/16/15	10/16/15	TPH 8015M	
>C12-C28	166	25.8	mg/kg dry	1	P5J1609	10/16/15	10/16/15	TPH 8015M	
>C28-C35	37.7	25.8	mg/kg dry	1	P5J1609	10/16/15	10/16/15	TPH 8015M	
Surrogate: 1-Chlorooctane		111 %	70-130		P5J1609	10/16/15	10/16/15	TPH 8015M	
Surrogate: o-Terphenyl		137 %	70-130		P5J1609	10/16/15	10/16/15	TPH 8015M	S-GC
Total Petroleum Hydrocarbon C6-C35	203	25.8	mg/kg dry	1	[CALC]	10/16/15	10/16/15	calc	

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

Project: KLM Battery
Project Number: 416-6439-000
Project Manager: Tim McMinn

Fax: (432) 563-2213

SP2 6"
5J16004-02 (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	0.00107	0.00104	mg/kg dry	1	P5J1608	10/15/15	10/16/15	EPA 8021B	
Toluene	0.00777	0.00208	mg/kg dry	1	P5J1608	10/15/15	10/16/15	EPA 8021B	
Ethylbenzene	0.00583	0.00104	mg/kg dry	1	P5J1608	10/15/15	10/16/15	EPA 8021B	
Xylene (p/m)	0.0178	0.00208	mg/kg dry	1	P5J1608	10/15/15	10/16/15	EPA 8021B	
Xylene (o)	0.0174	0.00104	mg/kg dry	1	P5J1608	10/15/15	10/16/15	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		85.8 %	75-125		P5J1608	10/15/15	10/16/15	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.1 %	75-125		P5J1608	10/15/15	10/16/15	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

% Moisture	4.0	0.1	%	1	P5J1610	10/16/15	10/16/15	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	266	26.0	mg/kg dry	1	P5J1609	10/16/15	10/16/15	TPH 8015M	
>C12-C28	4970	26.0	mg/kg dry	1	P5J1609	10/16/15	10/16/15	TPH 8015M	
>C28-C35	637	26.0	mg/kg dry	1	P5J1609	10/16/15	10/16/15	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		114 %	70-130		P5J1609	10/16/15	10/16/15	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		121 %	70-130		P5J1609	10/16/15	10/16/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	5870	26.0	mg/kg dry	1	[CALC]	10/16/15	10/16/15	calc	

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

Project: KLM Battery
Project Number: 416-6439-000
Project Manager: Tim McMinn

Fax: (432) 563-2213

SP3 1'
5J16004-03 (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	0.00104	mg/kg dry	1	P5J1608	10/15/15	10/16/15	EPA 8021B	
Toluene	ND	0.00208	mg/kg dry	1	P5J1608	10/15/15	10/16/15	EPA 8021B	
Ethylbenzene	ND	0.00104	mg/kg dry	1	P5J1608	10/15/15	10/16/15	EPA 8021B	
Xylene (p/m)	ND	0.00208	mg/kg dry	1	P5J1608	10/15/15	10/16/15	EPA 8021B	
Xylene (o)	ND	0.00104	mg/kg dry	1	P5J1608	10/15/15	10/16/15	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		120 %	75-125		P5J1608	10/15/15	10/16/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		118 %	75-125		P5J1608	10/15/15	10/16/15	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

% Moisture	4.0	0.1	%	1	P5J1610	10/16/15	10/16/15	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	31.1	26.0	mg/kg dry	1	P5J1609	10/16/15	10/16/15	TPH 8015M	
>C12-C28	1330	26.0	mg/kg dry	1	P5J1609	10/16/15	10/16/15	TPH 8015M	
>C28-C35	214	26.0	mg/kg dry	1	P5J1609	10/16/15	10/16/15	TPH 8015M	
Surrogate: 1-Chlorooctane		107 %	70-130		P5J1609	10/16/15	10/16/15	TPH 8015M	
Surrogate: o-Terphenyl		135 %	70-130		P5J1609	10/16/15	10/16/15	TPH 8015M	S-GC
Total Petroleum Hydrocarbon C6-C35	1570	26.0	mg/kg dry	1	[CALC]	10/16/15	10/16/15	calc	

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

Project: KLM Battery
Project Number: 416-6439-000
Project Manager: Tim McMinn

Fax: (432) 563-2213

Stockpile
5J16004-04 (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	P5J1608	10/15/15	10/16/15	EPA 8021B	
Toluene	0.0181	0.00213	mg/kg dry	1	P5J1608	10/15/15	10/16/15	EPA 8021B	
Ethylbenzene	0.0224	0.00106	mg/kg dry	1	P5J1608	10/15/15	10/16/15	EPA 8021B	
Xylene (p/m)	0.0454	0.00213	mg/kg dry	1	P5J1608	10/15/15	10/16/15	EPA 8021B	
Xylene (o)	0.0397	0.00106	mg/kg dry	1	P5J1608	10/15/15	10/16/15	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		89.8 %	75-125		P5J1608	10/15/15	10/16/15	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		84.0 %	75-125		P5J1608	10/15/15	10/16/15	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

% Moisture	6.0	0.1	%	1	P5J1610	10/16/15	10/16/15	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	230	133	mg/kg dry	5	P5J1609	10/16/15	10/16/15	TPH 8015M	
>C12-C28	2630	133	mg/kg dry	5	P5J1609	10/16/15	10/16/15	TPH 8015M	
>C28-C35	453	133	mg/kg dry	5	P5J1609	10/16/15	10/16/15	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		98.0 %	70-130		P5J1609	10/16/15	10/16/15	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		118 %	70-130		P5J1609	10/16/15	10/16/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	3320	133	mg/kg dry	5	[CALC]	10/16/15	10/16/15	calc	

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

Project: KLM Battery
Project Number: 416-6439-000
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 P5J1608 - General Preparation (GC)

Blank (P5J1608-BLK1)

Prepared & Analyzed: 10/15/15

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: 4-Bromofluorobenzene	0.0726		"	0.0500		145	75-125			S-GC
Surrogate: 1,4-Difluorobenzene	0.0538		"	0.0500		108	75-125			

LCS (P5J1608-BS1)

Prepared & Analyzed: 10/15/15

Benzene	0.0824	0.00100	mg/kg wet	0.100		82.4	70-130			
Toluene	0.0994	0.00200	"	0.100		99.4	70-130			
Ethylbenzene	0.115	0.00100	"	0.100		115	70-130			
Xylene (p/m)	0.221	0.00200	"	0.200		111	70-130			
Xylene (o)	0.109	0.00100	"	0.100		109	70-130			
Surrogate: 1,4-Difluorobenzene	0.0535		"	0.0500		107	75-125			
Surrogate: 4-Bromofluorobenzene	0.0737		"	0.0500		147	75-125			S-GC

LCS Dup (P5J1608-BSD1)

Prepared & Analyzed: 10/15/15

Benzene	0.0876	0.00100	mg/kg wet	0.100		87.6	70-130	6.14	20	
Toluene	0.106	0.00200	"	0.100		106	70-130	6.80	20	
Ethylbenzene	0.107	0.00100	"	0.100		107	70-130	6.40	20	
Xylene (p/m)	0.221	0.00200	"	0.200		111	70-130	0.104	20	
Xylene (o)	0.118	0.00100	"	0.100		118	70-130	8.46	20	
Surrogate: 1,4-Difluorobenzene	0.0523		"	0.0500		105	75-125			
Surrogate: 4-Bromofluorobenzene	0.0784		"	0.0500		157	75-125			S-GC

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

Project: KLM Battery
Project Number: 416-6439-000
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 P5J1610 - % Solids

Blank (P5J1610-BLK1)

Prepared & Analyzed: 10/16/15

% Moisture	ND	0.1	%
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Duplicate (P5J1610-DUP1)

Source: 5J16001-01

Prepared & Analyzed: 10/16/15

% Moisture	2.0	0.1	%	2.0	0.00	20
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Duplicate (P5J1610-DUP2)

Source: 5J16005-07

Prepared & Analyzed: 10/16/15

% Moisture	6.0	0.1	%	6.0	0.00	20
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Duplicate (P5J1610-DUP3)

Source: 5J16010-01

Prepared & Analyzed: 10/16/15

% Moisture	4.0	0.1	%	4.0	0.00	20
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E Tech Environmental & Safety Solutions, Inc.
13000 West County Road 100
Odessa TX, 79765

Project: KLM Battery
Project Number: 416-6439-000
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
Batch P5J1609 - TX 1005										
Blank (P5J1609-BLK1)				Prepared & Analyzed: 10/16/15						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	87.0		"	100		87.0	70-130			
Surrogate: o-Terphenyl	52.7		"	50.0		105	70-130			
LCS (P5J1609-BS1)				Prepared & Analyzed: 10/16/15						
C6-C12	885	25.0	mg/kg wet	1000		88.5	75-125			
>C12-C28	901	25.0	"	1000		90.1	75-125			
Surrogate: 1-Chlorooctane	104		"	100		104	70-130			
Surrogate: o-Terphenyl	50.3		"	50.0		101	70-130			
LCS Dup (P5J1609-BSD1)				Prepared & Analyzed: 10/16/15						
C6-C12	863	25.0	mg/kg wet	1000		86.3	75-125	2.56	20	
>C12-C28	855	25.0	"	1000		85.5	75-125	5.22	20	
Surrogate: 1-Chlorooctane	98.7		"	100		98.7	70-130			
Surrogate: o-Terphenyl	47.2		"	50.0		94.5	70-130			
Duplicate (P5J1609-DUP1)				Source: 5J16008-02	Prepared & Analyzed: 10/16/15					
C6-C12	267	26.9	mg/kg dry		238			11.4	20	
>C12-C28	1230	26.9	"		1120			9.42	20	
Surrogate: 1-Chlorooctane	123		"	108		115	70-130			
Surrogate: o-Terphenyl	73.9		"	53.8		138	70-130			S-GC

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

Project: KLM Battery
Project Number: 416-6439-000
Project Manager: Tim McMinn

Fax: (432) 563-2213

Notes and Definitions

S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.

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:

10/21/2015

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.

P.O. Box 8469
Midland, Texas 79708

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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

Project Manager: Tim McManus

Company Name: Etech Environmental & Safety Solutions, Inc.

Company Address: P.O. Box 8469

City/State/Zip: Midland/TX/79708

Telephone No: 432-563-2200

Sampler Signature: Edy McManus

e-mail: tim@etechenv.com

Fax No: 432-563-2213

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

PO #:

Project Name: KLIM Battery

Project #: 416-6439

Project Loc: Love Hills, NM

LAB: SPL - Lafayette, LA

ORDER #: 5616054

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	No. of Containers	Preservation & # of Containers	Matrix	TPH: 418.1 (8015M) 1005 1006	TCLP:	TOTAL:	Analyze For:	RUSH TAT (Pre-Schedule) 24HOUR	Standard TAT
01	SPI-Transfer Pump	4'	10/12/15	1545	1	☒	☐	☐	☐	☐	☐	☐	☐	☐
02	SPI	6"	10/12/15	1550	1	☒	☐	☐	☐	☐	☐	☐	☐	☐
03	SPI	1'	10/12/15	1552	1	☒	☐	☐	☐	☐	☐	☐	☐	☐
04	Stockpile	-	10/12/15	1555	1	☒	☐	☐	☐	☐	☐	☐	☐	☐

Special Instructions:

Relinquished by: 10/15/15 Date 1315 Time Received by: 10/15/15 Date 16:40 Time

Relinquished by: 10/15/15 Date 1315 Time Received by: 10/15/15 Date 16:40 Time

Relinquished by: 10/15/15 Date 1315 Time Received by: 10/15/15 Date 16:40 Time

Laboratory Comments:

Sample Containers Intact?

VOCs Free of Headspace?

Labels on container(s)?

Custody seals on container(s)?

Sample Hand Delivered by Sampler/Client Rep.?

Temperature Upon Receipt: 41.0 NCEC

**PERMIAN BASIN
ENVIRONMENTAL LAB, LP
10014 SCR 1213
Midland, TX 79706**



Analytical Report

Prepared for:

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

Project: KLM Battery
Project Number: 416-6439-000
Location: Memorial
Lab Order Number: 5K17008



NELAP/TCEQ # T104704156-13-3

Report Date: 11/20/15

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

Project: KLM Battery
Project Number: 416-6439-000
Project Manager: Tim McMinn

Fax: (432) 563-2213

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Sample Point 1	5K17008-01	Soil	11/13/15 09:45	11-16-2015 15:15

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

Project: KLM Battery
Project Number: 416-6439-000
Project Manager: Tim McMinn

Fax: (432) 563-2213

Sample Point 1
5K17008-01 (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

% Moisture	ND	0.1	%	1	P5K1701	11/17/15	11/17/15	% calculation
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	32.2	25.0	mg/kg dry	1	P5K1806	11/17/15	11/17/15	TPH 8015M
>C12-C28	1210	25.0	mg/kg dry	1	P5K1806	11/17/15	11/17/15	TPH 8015M
>C28-C35	220	25.0	mg/kg dry	1	P5K1806	11/17/15	11/17/15	TPH 8015M
Surrogate: 1-Chlorooctane		95.9 %	70-130		P5K1806	11/17/15	11/17/15	TPH 8015M
Surrogate: o-Terphenyl		107 %	70-130		P5K1806	11/17/15	11/17/15	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	1460	25.0	mg/kg dry	1	[CALC]	11/17/15	11/17/15	calc

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

Project: KLM Battery
Project Number: 416-6439-000
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 P5K1701 - * DEFAULT PREP *****

Blank (P5K1701-BLK1)

Prepared & Analyzed: 11/17/15

% Moisture ND 0.1 %

Duplicate (P5K1701-DUP1)

Source: 5K17001-01

Prepared & Analyzed: 11/17/15

% Moisture 15.0 0.1 % 15.0 0.00 20

Duplicate (P5K1701-DUP2)

Source: 5K17009-01

Prepared & Analyzed: 11/17/15

% Moisture 10.0 0.1 % 10.0 0.00 20

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

Project: KLM Battery
Project Number: 416-6439-000
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 P5K1806 - TX 1005

Blank (P5K1806-BLK1)

Prepared & Analyzed: 11/17/15

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	99.9		"	100		99.9	70-130			
Surrogate: o-Terphenyl	56.2		"	50.0		112	70-130			

LCS (P5K1806-BS1)

Prepared & Analyzed: 11/17/15

C6-C12	946	25.0	mg/kg wet	1000		94.6	75-125			
>C12-C28	893	25.0	"	1000		89.3	75-125			
Surrogate: 1-Chlorooctane	113		"	100		113	70-130			
Surrogate: o-Terphenyl	49.6		"	50.0		99.3	70-130			

LCS Dup (P5K1806-BSD1)

Prepared & Analyzed: 11/17/15

C6-C12	845	25.0	mg/kg wet	1000		84.5	75-125	11.2	20	
>C12-C28	832	25.0	"	1000		83.2	75-125	7.10	20	
Surrogate: 1-Chlorooctane	104		"	100		104	70-130			
Surrogate: o-Terphenyl	49.7		"	50.0		99.3	70-130			

Matrix Spike (P5K1806-MS1)

Source: 5K17001-01

Prepared & Analyzed: 11/17/15

C6-C12	974	29.4	mg/kg dry	1180	23.0	80.9	75-125			
>C12-C28	923	29.4	"	1180	ND	78.5	75-125			
Surrogate: 1-Chlorooctane	129		"	118		109	70-130			
Surrogate: o-Terphenyl	53.5		"	58.8		90.9	70-130			

Matrix Spike Dup (P5K1806-MSD1)

Source: 5K17001-01

Prepared & Analyzed: 11/17/15

C6-C12	1000	29.4	mg/kg dry	1180	23.0	83.3	75-125	2.94	20	
>C12-C28	940	29.4	"	1180	ND	79.9	75-125	1.75	20	
Surrogate: 1-Chlorooctane	123		"	118		105	70-130			
Surrogate: o-Terphenyl	54.6		"	58.8		92.8	70-130			

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

Project: KLM Battery
Project Number: 416-6439-000
Project Manager: Tim McMinn

Fax: (432) 563-2213

Notes and Definitions

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:

11/20/2015

Brent Barron, Laboratory Director/Technical Director

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