



Electronic Correspondence

October 2, 2015

Mike Bratcher
State of New Mexico
Oil Conservation Division District 2
811 S. First Street
Artesia, New Mexico 88210
mike.bratcher@state.nm.us

Re: **Closure Report- 2RP-2982**
Memorial Resource Development, North Square Lake Unit #154
API No.: 30-015-04986
Legal: Unit F – Sec 34 – T16S – R31E – 2310 FNL, 1650 FWL - Eddy, NM
GPS: N 32.879576 W -103.860639
Depth to Groundwater: Approximately 200 feet below ground surface (bgs)
Release Type: Crude Oil

Contaminants of Concern (COC's)	Threshold Levels
Total Petroleum Hydrocarbons (TPH)	5,000 mg/kg
Chlorides	1,000 mg/kg

Dear Mike:

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

Background

The release occurred due to a pin hole that developed in the associated 2" steel flow line. The release occurred in the native pastureland approximately 60 yards north of the associated production pad. The majority of the spill had collected in the pooled area measuring approximately 40 feet long by 40 feet wide on the east side of the release point. A copy of the final C-141 is provided in Attachment A. An annotated aerial photograph showing the release area and TPH levels is provided in Attachment B. Photographs of the release area are provided in Attachment C.

Work Performed

The remediation of this site followed the approved corrective action plan submitted on August 4 of this year. To remediate the hydrocarbon and chloride impacted soils the soil was excavated and disposed of at a permitted disposal facility. Below is a summary of work performed.

1. Placement of a one-call for utility location.
2. Excavation of impacted soils as far as practicable or until COC threshold levels less regulatory threshold than are reached.

3. Confirmation samples were collected from the bottom and the sidewalls of the excavation and analyzed for the contaminants of concern (COC's) to confirm excavation goals were reached.
4. The impacted soil was excavated and hauled to Lea Land (Permit #- WM-01-035) for disposal. Two hundred and fifty cubic yards of material was disposed of.
5. Once remediation levels were confirmed, the excavated area was backfilled with clean fill from Lea Land similar to the existing material from the site, and properly contoured. The top foot of the excavated area was backfilled with surrounding soils to complete reclamation activities.

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:

A handwritten signature in black ink, appearing to read 'Tim McMinn', with a horizontal line above it.

Tim McMinn
Sr. Project Manager

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

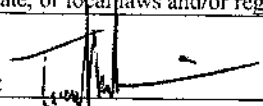
Name of Company: Memorial Production Operating LLC	Contact: Heather Dolphin	
Address: 500 Dallas Street Houston TX 77002	Telephone No.: 832-797-1334	
Facility Name: North Square Lake Unit #154 2RP-2982	Facility Type: Well	
Surface Owner:	Mineral Owner:	API No.: 30-015-04986

LOCATION OF RELEASE

Unit Letter F	Section 34	Township 16S	Range 31E	Feet from the	North/South Line	Feet from the	East/West Line	County Eddy
------------------	---------------	-----------------	--------------	---------------	------------------	---------------	----------------	----------------

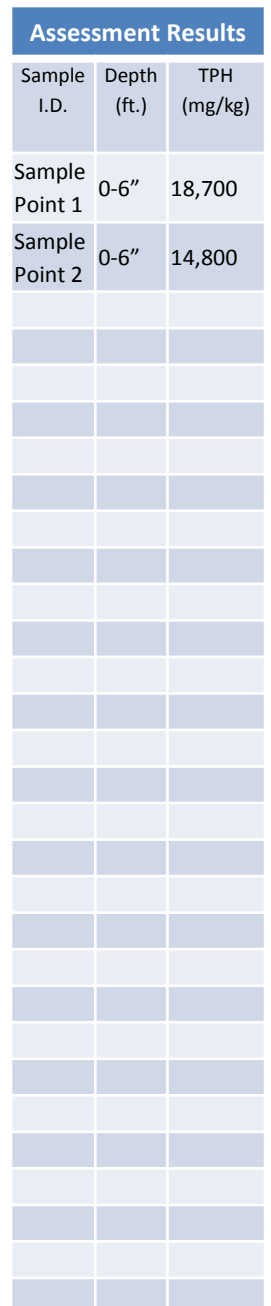
Latitude: 32.879576 Longitude: -103.860639

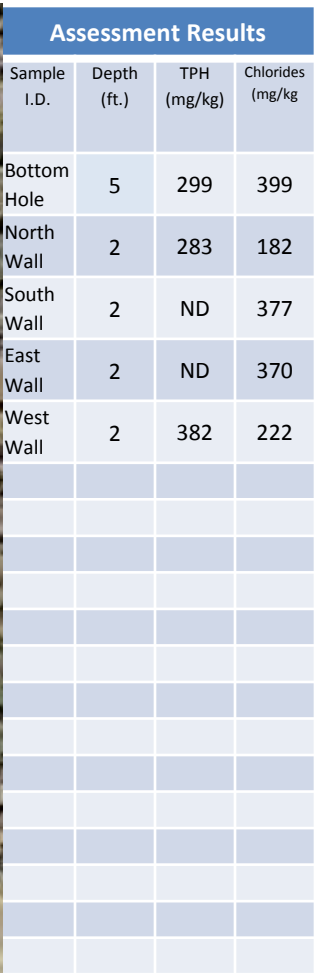
NATURE OF RELEASE

Type of Release: Oil	Volume of Release: 7 bbl.	Volume Recovered: 2 bbl.
Source of Release: 2" Steel Flowline	Date and Hour of Occurrence: 4/29/15	Date and Hour of Discovery: 11:35
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? BLM	
By Whom? Heather Dolphin	Date and Hour 4/30/15	
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.*: The 2" steel flow line going from the NSLU #154 to the battery developed a pin hole approximately 60 yards off location and out in the field. It spilled approx. 7 bbl. of oil.		
Describe Area Affected and Cleanup Action Taken.* : 2 bbl. were recovered by vac. truck. A clamp was put on the pipe to cover the hole. Etech Environmental excavated impacted soil and disposed of soil to Lea Land. Confirmation samples were collected to ensure excavated area was below state's threshold levels. Site was backfilled and topdressed with surrounding soil for reseeded to complete reclamation activities.		
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: 11/6/15	Phone: 432-967-9062	

* Attach Additional Sheets If Necessary

Attachment B
Annotated Aerial Imagery

[illegible]



Attachment C
Photograph Log







Attachment D
Analytical Results

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



Analytical Report

Prepared for:

Kit Prichard
E Tech Environmental & Safety Solutions, Inc.
12800 W Hwy 80 E
Odessa, TX 79765

Project: NSCU #154
Project Number: 416-6200-000
Location: Memorial
Lab Order Number: 5E22006



NELAP/TCEQ # T104704156-13-3

Report Date: 06/08/15

E Tech Environmental & Safety Solutions, Inc.
12800 W Hwy 80 E
Odessa TX, 79765

Project: NSCU #154
Project Number: 416-6200-000
Project Manager: Kit Prichard

Fax: (432) 563-2213

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Sample Point 1	5E22006-01	Soil	05/19/15 15:00	05-22-2015 13:15
Sample Point 2	5E22006-03	Soil	05/19/15 15:15	05-22-2015 13:15

E Tech Environmental & Safety Solutions, Inc.
12800 W Hwy 80 E
Odessa TX, 79765

Project: NSCU #154
Project Number: 416-6200-000
Project Manager: Kit Prichard

Fax: (432) 563-2213

Sample Point 1
5E22006-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	--------	-------

Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	1.18	0.0233	mg/kg dry	20	P5E2704	05/26/15	05/26/15	EPA 8021B
Toluene	0.195	0.0465	mg/kg dry	20	P5E2704	05/26/15	05/26/15	EPA 8021B
Ethylbenzene	0.0500	0.0233	mg/kg dry	20	P5E2704	05/26/15	05/26/15	EPA 8021B
Xylene (p/m)	0.0942	0.0465	mg/kg dry	20	P5E2704	05/26/15	05/26/15	EPA 8021B
Xylene (o)	0.134	0.0233	mg/kg dry	20	P5E2704	05/26/15	05/26/15	EPA 8021B
<i>Surrogate: 4-Bromofluorobenzene</i>		108 %	75-125		P5E2704	05/26/15	05/26/15	EPA 8021B
<i>Surrogate: 1,4-Difluorobenzene</i>		88.0 %	75-125		P5E2704	05/26/15	05/26/15	EPA 8021B

General Chemistry Parameters by EPA / Standard Methods

Chloride	32.1	1.16	mg/kg dry	1	P5F0403	06/04/15	06/04/15	EPA 300.0
% Moisture	14.0	0.1	%	1	P5E2601	05/26/15	05/26/15	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	1450	581	mg/kg dry	20	P5E2801	05/22/15	05/23/15	TPH 8015M
>C12-C28	15400	581	mg/kg dry	20	P5E2801	05/22/15	05/23/15	TPH 8015M
>C28-C35	1890	581	mg/kg dry	20	P5E2801	05/22/15	05/23/15	TPH 8015M
<i>Surrogate: 1-Chlorooctane</i>		111 %	70-130		P5E2801	05/22/15	05/23/15	TPH 8015M
<i>Surrogate: o-Terphenyl</i>		108 %	70-130		P5E2801	05/22/15	05/23/15	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	18700	581	mg/kg dry	20	[CALC]	05/22/15	05/23/15	calc

E Tech Environmental & Safety Solutions, Inc.
12800 W Hwy 80 E
Odessa TX, 79765

Project: NSCU #154
Project Number: 416-6200-000
Project Manager: Kit Prichard

Fax: (432) 563-2213

Sample Point 2
5E22006-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	--------	-------

Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	0.0316	0.0241	mg/kg dry	20	P5E2705	05/27/15	05/28/15	EPA 8021B	
Toluene	0.979	0.0482	mg/kg dry	20	P5E2705	05/27/15	05/28/15	EPA 8021B	
Ethylbenzene	3.14	0.0241	mg/kg dry	20	P5E2705	05/27/15	05/28/15	EPA 8021B	
Xylene (p/m)	4.71	0.0482	mg/kg dry	20	P5E2705	05/27/15	05/28/15	EPA 8021B	
Xylene (o)	2.61	0.0241	mg/kg dry	20	P5E2705	05/27/15	05/28/15	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		87.1 %		75-125	P5E2705	05/27/15	05/28/15	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		112 %		75-125	P5E2705	05/27/15	05/28/15	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	4290	30.1	mg/kg dry	25	P5F0403	06/04/15	06/05/15	EPA 300.0	
% Moisture	17.0	0.1	%	1	P5E2601	05/26/15	05/26/15	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	1380	301	mg/kg dry	10	P5E2801	05/22/15	05/23/15	TPH 8015M	
>C12-C28	12300	301	mg/kg dry	10	P5E2801	05/22/15	05/23/15	TPH 8015M	
>C28-C35	1090	301	mg/kg dry	10	P5E2801	05/22/15	05/23/15	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		116 %		70-130	P5E2801	05/22/15	05/23/15	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		98.6 %		70-130	P5E2801	05/22/15	05/23/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	14800	301	mg/kg dry	10	[CALC]	05/22/15	05/23/15	calc	

E Tech Environmental & Safety Solutions, Inc.
12800 W Hwy 80 E
Odessa TX, 79765

Project: NSCU #154
Project Number: 416-6200-000
Project Manager: Kit Prichard

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
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Batch P5E2704 - TX 1005

Blank (P5E2704-BLK1)

Prepared & Analyzed: 05/26/15

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: 1,4-Difluorobenzene	0.0472		"	0.0500		94.5	75-125			
Surrogate: 4-Bromofluorobenzene	0.0656		"	0.0500		131	75-125			S-GC

LCS (P5E2704-BS1)

Prepared & Analyzed: 05/26/15

Benzene	0.0812	0.00100	mg/kg wet	0.100		81.2	70-130			
Toluene	0.0922	0.00200	"	0.100		92.2	70-130			
Ethylbenzene	0.107	0.00100	"	0.100		107	70-130			
Xylene (p/m)	0.212	0.00200	"	0.200		106	70-130			
Xylene (o)	0.107	0.00100	"	0.100		107	70-130			
Surrogate: 1,4-Difluorobenzene	0.0538		"	0.0500		108	75-125			
Surrogate: 4-Bromofluorobenzene	0.0636		"	0.0500		127	75-125			S-GC

LCS Dup (P5E2704-BSD1)

Prepared & Analyzed: 05/26/15

Benzene	0.0850	0.00100	mg/kg wet	0.100		85.0	70-130	4.50	20	
Toluene	0.0971	0.00200	"	0.100		97.1	70-130	5.19	20	
Ethylbenzene	0.114	0.00100	"	0.100		114	70-130	6.44	20	
Xylene (p/m)	0.223	0.00200	"	0.200		111	70-130	4.65	20	
Xylene (o)	0.112	0.00100	"	0.100		112	70-130	4.60	20	
Surrogate: 4-Bromofluorobenzene	0.0643		"	0.0500		129	75-125			S-GC
Surrogate: 1,4-Difluorobenzene	0.0542		"	0.0500		108	75-125			

Batch P5E2705 - TX 1005

Blank (P5E2705-BLK1)

Prepared & Analyzed: 05/27/15

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: 1,4-Difluorobenzene	0.0581		"	0.0500		116	75-125			
Surrogate: 4-Bromofluorobenzene	0.0542		"	0.0500		108	75-125			

E Tech Environmental & Safety Solutions, Inc.
12800 W Hwy 80 E
Odessa TX, 79765

Project: NSCU #154
Project Number: 416-6200-000
Project Manager: Kit Prichard

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
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Batch P5E2705 - TX 1005

LCS (P5E2705-BS1)

Prepared & Analyzed: 05/27/15

Benzene	0.0938	0.00100	mg/kg wet	0.100		93.8	70-130			
Toluene	0.104	0.00200	"	0.100		104	70-130			
Ethylbenzene	0.108	0.00100	"	0.100		108	70-130			
Xylene (p/m)	0.210	0.00200	"	0.200		105	70-130			
Xylene (o)	0.103	0.00100	"	0.100		103	70-130			
Surrogate: 1,4-Difluorobenzene	0.0618		"	0.0500		124	75-125			
Surrogate: 4-Bromofluorobenzene	0.0558		"	0.0500		112	75-125			

LCS Dup (P5E2705-BSD1)

Prepared & Analyzed: 05/27/15

Benzene	0.0884	0.00100	mg/kg wet	0.100		88.4	70-130	5.94	20	
Toluene	0.102	0.00200	"	0.100		102	70-130	1.74	20	
Ethylbenzene	0.105	0.00100	"	0.100		105	70-130	2.50	20	
Xylene (p/m)	0.203	0.00200	"	0.200		101	70-130	3.53	20	
Xylene (o)	0.0980	0.00100	"	0.100		98.0	70-130	5.50	20	
Surrogate: 1,4-Difluorobenzene	0.0656		"	0.0500		131	75-125			S-GC
Surrogate: 4-Bromofluorobenzene	0.0579		"	0.0500		116	75-125			

E Tech Environmental & Safety Solutions, Inc.
12800 W Hwy 80 E
Odessa TX, 79765

Project: NSCU #154
Project Number: 416-6200-000
Project Manager: Kit Prichard

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 P5E2601 - * DEFAULT PREP *****

Blank (P5E2601-BLK1)

Prepared & Analyzed: 05/26/15

% Moisture ND 0.1 %

Duplicate (P5E2601-DUP1)

Source: 5E21006-01

Prepared & Analyzed: 05/26/15

% Moisture 1.0 0.1 % 1.0 0.00 20

Batch P5F0403 - * DEFAULT PREP *****

Blank (P5F0403-BLK1)

Prepared & Analyzed: 06/04/15

Chloride ND 1.00 mg/kg wet

LCS (P5F0403-BS1)

Prepared & Analyzed: 06/04/15

Chloride 104 1.00 mg/kg wet 100 104 80-120

LCS Dup (P5F0403-BSD1)

Prepared & Analyzed: 06/04/15

Chloride 98.0 1.00 mg/kg wet 100 98.0 80-120 5.97 20

Duplicate (P5F0403-DUP1)

Source: 5F03007-01

Prepared & Analyzed: 06/04/15

Chloride 4270 29.4 mg/kg dry 4190 1.84 20

Duplicate (P5F0403-DUP2)

Source: 5E22006-03

Prepared: 06/04/15 Analyzed: 06/05/15

Chloride 3880 30.1 mg/kg dry 4290 10.0 20

E Tech Environmental & Safety Solutions, Inc.
12800 W Hwy 80 E
Odessa TX, 79765

Project: NSCU #154
Project Number: 416-6200-000
Project Manager: Kit Prichard

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 P5E2801 - TX 1005

Blank (P5E2801-BLK1)

Prepared & Analyzed: 05/22/15

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	80.3		"	100		80.3	70-130			
Surrogate: o-Terphenyl	49.5		"	50.0		99.1	70-130			

LCS (P5E2801-BS1)

Prepared & Analyzed: 05/22/15

C6-C12	872	25.0	mg/kg wet	1000		87.2	75-125			
>C12-C28	938	25.0	"	1000		93.8	75-125			
Surrogate: 1-Chlorooctane	92.3		"	100		92.3	70-130			
Surrogate: o-Terphenyl	44.8		"	50.0		89.5	70-130			

LCS Dup (P5E2801-BSD1)

Prepared & Analyzed: 05/22/15

C6-C12	815	25.0	mg/kg wet	1000		81.5	75-125	6.75	20	
>C12-C28	821	25.0	"	1000		82.1	75-125	13.2	20	
Surrogate: 1-Chlorooctane	96.1		"	100		96.1	70-130			
Surrogate: o-Terphenyl	50.2		"	50.0		100	70-130			

Duplicate (P5E2801-DUP1)

Source: 5E22002-04

Prepared: 05/22/15 Analyzed: 05/23/15

C6-C12	21.8	28.1	mg/kg dry		18.9			14.3	20	
>C12-C28	124	28.1	"		91.2			30.2	20	R3
Surrogate: 1-Chlorooctane	90.7		"	112		80.7	70-130			
Surrogate: o-Terphenyl	55.8		"	56.2		99.4	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.
R3	The RPD exceeded the acceptance limit due to sample matrix effects.
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:

6/8/2015

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:

KA Picard

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:

KAPICARD@ETECH-ENV.COM

Report Format:

☐ Standard ☐ TRRP ☐ NPDES

Project Name:

NSCL #154

Project #:

410-020-02

Project Loc:

Memorial

PO #:

(lab use only)

ORDER #:

SE 22009

LAB # (lab use only)

FIELD CODE

01 Sample point 1
02 Sample point 2

Date Sampled

5/9/15

Time Sampled

3:00
3:15

No. of Containers

1

Preservation & # of Containers

☒ Ice
☐ HNO₃
☐ HCl
☐ H₂SO₄
☐ NaOH
☐ Na₂S₂O₃
☐ None
☐ Other (Specify)

Matrix

DW=Drinking Water SL=Sludge
GW = Groundwater S=Soil/Solid
NP=Non-Potable Specify Other

TPH: 418.1 8015M 1005 1006

Cations (Ca, Mg, Na, K)

Anions (Cl, SO₄, CO₃, HCO₃)

SAR / ESP / CEC

Metals: As Ag Ba Cd Cr Pb Hg Se

Volatiles

Semivolatiles

ETEX 8021B/8030 or BTEX 8260

RCI

N.O.R.M.

Chlorides

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

Standard TAT

Special Instructions:

Relinquished by:

KA Picard

Date

5/21/15

Time

4:00

Received by:

KA Picard

Date

5-21-15

Time

1345

Relinquished by:

Date

Time

Received by:

Date

Time

Laboratory Comments:

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

Temperature Upon Receipt

3.0 °C

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



Analytical Report

Prepared for:

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

Project: NSLU #154
Project Number: 416-6200-000
Location: Memorial
Lab Order Number: 5123003



NELAP/TCEQ # T104704156-13-3

Report Date: 09/24/15

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

Project: NSLU #154
Project Number: 416-6200-000
Project Manager: Kit Prichard

Fax: (432) 563-2213

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Bottom Hole	5I23003-01	Soil	09/16/15 14:30	09-23-2015 11:50
North Wall	5I23003-02	Soil	09/16/15 14:40	09-23-2015 11:50
South Wall	5I23003-03	Soil	09/16/15 14:45	09-23-2015 11:50
East Wall	5I23003-04	Soil	09/16/15 14:50	09-23-2015 11:50
West Wall	5I23003-05	Soil	09/16/15 15:00	09-23-2015 11:50

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

Project: NSLU #154
Project Number: 416-6200-000
Project Manager: Kit Prichard

Fax: (432) 563-2213

Bottom Hole
5I23003-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	--------	-------

Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	399	1.01	mg/kg dry	1	P5I2403	09/23/15	09/24/15	EPA 300.0
% Moisture	1.0	0.1	%	1	P5I2401	09/24/15	09/24/15	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.3	mg/kg dry	1	P5I2404	09/23/15	09/23/15	TPH 8015M
>C12-C28	259	25.3	mg/kg dry	1	P5I2404	09/23/15	09/23/15	TPH 8015M
>C28-C35	39.6	25.3	mg/kg dry	1	P5I2404	09/23/15	09/23/15	TPH 8015M
Surrogate: 1-Chlorooctane		90.0 %	70-130		P5I2404	09/23/15	09/23/15	TPH 8015M
Surrogate: o-Terphenyl		102 %	70-130		P5I2404	09/23/15	09/23/15	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	299	25.3	mg/kg dry	1	[CALC]	09/23/15	09/23/15	calc

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

Project: NSLU #154
Project Number: 416-6200-000
Project Manager: Kit Prichard

Fax: (432) 563-2213

North Wall
5123003-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	--------	-------

Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	182	1.10	mg/kg dry	1	P512403	09/23/15	09/24/15	EPA 300.0	
% Moisture	9.0	0.1	%	1	P512401	09/24/15	09/24/15	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	31.6	27.5	mg/kg dry	1	P512404	09/23/15	09/23/15	TPH 8015M	
>C12-C28	217	27.5	mg/kg dry	1	P512404	09/23/15	09/23/15	TPH 8015M	
>C28-C35	34.2	27.5	mg/kg dry	1	P512404	09/23/15	09/23/15	TPH 8015M	
Surrogate: 1-Chlorooctane		85.3 %	70-130		P512404	09/23/15	09/23/15	TPH 8015M	
Surrogate: o-Terphenyl		101 %	70-130		P512404	09/23/15	09/23/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	283	27.5	mg/kg dry	1	[CALC]	09/23/15	09/23/15	calc	

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

Project: NSLU #154
Project Number: 416-6200-000
Project Manager: Kit Prichard

Fax: (432) 563-2213

South Wall
5123003-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	--------	-------

Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	377	1.10	mg/kg dry	1	P512403	09/23/15	09/24/15	EPA 300.0
% Moisture	9.0	0.1	%	1	P512401	09/24/15	09/24/15	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.5	mg/kg dry	1	P512404	09/23/15	09/23/15	TPH 8015M
>C12-C28	ND	27.5	mg/kg dry	1	P512404	09/23/15	09/23/15	TPH 8015M
>C28-C35	ND	27.5	mg/kg dry	1	P512404	09/23/15	09/23/15	TPH 8015M
Surrogate: 1-Chlorooctane		89.3 %	70-130		P512404	09/23/15	09/23/15	TPH 8015M
Surrogate: o-Terphenyl		105 %	70-130		P512404	09/23/15	09/23/15	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	27.5	mg/kg dry	1	[CALC]	09/23/15	09/23/15	calc

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

Project: NSLU #154
Project Number: 416-6200-000
Project Manager: Kit Prichard

Fax: (432) 563-2213

East Wall
5123003-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	--------	-------

Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	370	1.11	mg/kg dry	1	P512403	09/23/15	09/24/15	EPA 300.0
% Moisture	10.0	0.1	%	1	P512401	09/24/15	09/24/15	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.8	mg/kg dry	1	P512404	09/23/15	09/23/15	TPH 8015M
>C12-C28	ND	27.8	mg/kg dry	1	P512404	09/23/15	09/23/15	TPH 8015M
>C28-C35	ND	27.8	mg/kg dry	1	P512404	09/23/15	09/23/15	TPH 8015M
Surrogate: 1-Chlorooctane		90.2 %	70-130		P512404	09/23/15	09/23/15	TPH 8015M
Surrogate: o-Terphenyl		104 %	70-130		P512404	09/23/15	09/23/15	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	27.8	mg/kg dry	1	[CALC]	09/23/15	09/23/15	calc

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

Project: NSLU #154
Project Number: 416-6200-000
Project Manager: Kit Prichard

Fax: (432) 563-2213

West Wall
5123003-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	--------	-------

Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	222	1.09	mg/kg dry	1	P512403	09/23/15	09/24/15	EPA 300.0
% Moisture	8.0	0.1	%	1	P512401	09/24/15	09/24/15	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P512404	09/23/15	09/23/15	TPH 8015M
>C12-C28	345	27.2	mg/kg dry	1	P512404	09/23/15	09/23/15	TPH 8015M
>C28-C35	36.6	27.2	mg/kg dry	1	P512404	09/23/15	09/23/15	TPH 8015M
Surrogate: 1-Chlorooctane		91.5 %	70-130		P512404	09/23/15	09/23/15	TPH 8015M
Surrogate: o-Terphenyl		105 %	70-130		P512404	09/23/15	09/23/15	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	382	27.2	mg/kg dry	1	[CALC]	09/23/15	09/23/15	calc

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

Project: NSLU #154
Project Number: 416-6200-000
Project Manager: Kit Prichard

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 P5I2401 - % Solids										
Blank (P5I2401-BLK1)				Prepared & Analyzed: 09/24/15						
% Moisture	ND	0.1	%							
Duplicate (P5I2401-DUP1)				Source: 5I23001-01 Prepared & Analyzed: 09/24/15						
% Moisture	3.0	0.1	%		2.0			40.0	20	R3
Duplicate (P5I2401-DUP2)				Source: 5I23001-04 Prepared & Analyzed: 09/24/15						
% Moisture	3.0	0.1	%		4.0			28.6	20	R3
Duplicate (P5I2401-DUP3)				Source: 5I23005-02 Prepared & Analyzed: 09/24/15						
% Moisture	10.0	0.1	%		10.0			0.00	20	
Batch P5I2403 - *** DEFAULT PREP ***										
Blank (P5I2403-BLK1)				Prepared: 09/23/15 Analyzed: 09/24/15						
Chloride	ND	1.00	mg/kg wet							
LCS (P5I2403-BS1)				Prepared: 09/23/15 Analyzed: 09/24/15						
Chloride	99.7	1.00	mg/kg wet	100		99.7	80-120			
LCS Dup (P5I2403-BSD1)				Prepared: 09/23/15 Analyzed: 09/24/15						
Chloride	97.0	1.00	mg/kg wet	100		97.0	80-120	2.75	20	
Duplicate (P5I2403-DUP1)				Source: 5I22011-02 Prepared: 09/23/15 Analyzed: 09/24/15						
Chloride	349	28.4	mg/kg dry		352			0.810	20	
Duplicate (P5I2403-DUP2)				Source: 5I22012-01 Prepared: 09/23/15 Analyzed: 09/24/15						
Chloride	149	1.03	mg/kg dry		149			0.00	20	

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

Project: NSLU #154
Project Number: 416-6200-000
Project Manager: Kit Prichard

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 P5I2403 - * DEFAULT PREP *****

Matrix Spike (P5I2403-MS1)

Source: 5I22011-02

Prepared: 09/23/15 Analyzed: 09/24/15

Chloride	511	28.4	mg/kg dry	114	352	140	80-120			QM-4X
----------	-----	------	-----------	-----	-----	-----	--------	--	--	-------

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

Project: NSLU #154
Project Number: 416-6200-000
Project Manager: Kit Prichard

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 P5I2404 - TX 1005

Blank (P5I2404-BLK1)

Prepared & Analyzed: 09/23/15

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	92.6		"	100		92.6	70-130			
Surrogate: o-Terphenyl	53.4		"	50.0		107	70-130			

LCS (P5I2404-BS1)

Prepared & Analyzed: 09/23/15

C6-C12	821	25.0	mg/kg wet	1000		82.1	75-125			
>C12-C28	866	25.0	"	1000		86.6	75-125			
Surrogate: 1-Chlorooctane	81.5		"	100		81.5	70-130			
Surrogate: o-Terphenyl	45.0		"	50.0		90.0	70-130			

LCS Dup (P5I2404-BSD1)

Prepared & Analyzed: 09/23/15

C6-C12	895	25.0	mg/kg wet	1000		89.5	75-125	8.62	20	
>C12-C28	942	25.0	"	1000		94.2	75-125	8.41	20	
Surrogate: 1-Chlorooctane	88.7		"	100		88.7	70-130			
Surrogate: o-Terphenyl	49.0		"	50.0		97.9	70-130			

Matrix Spike (P5I2404-MS1)

Source: 5I23001-01

Prepared & Analyzed: 09/23/15

C6-C12	912	25.5	mg/kg dry	1020	29.6	86.4	75-125			
>C12-C28	979	25.5	"	1020	75.5	88.5	75-125			
Surrogate: 1-Chlorooctane	88.7		"	102		86.9	70-130			
Surrogate: o-Terphenyl	50.7		"	51.0		99.4	70-130			

Matrix Spike Dup (P5I2404-MSD1)

Source: 5I23001-01

Prepared & Analyzed: 09/23/15

C6-C12	949	25.5	mg/kg dry	1020	29.6	90.1	75-125	4.13	20	
>C12-C28	996	25.5	"	1020	75.5	90.2	75-125	1.85	20	
Surrogate: 1-Chlorooctane	88.2		"	102		86.5	70-130			
Surrogate: o-Terphenyl	50.0		"	51.0		97.9	70-130			

Notes and Definitions

R3	The RPD exceeded the acceptance limit due to sample matrix effects.
QM-4X	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
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:

9/24/2015

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: _____

Project #: _____

Project Loc: Memorial

PO #: _____

Report Format: ☐ Standard ☐ TRRP ☐ NPDES

ORDER #: SI 23003

LAB # (lab use only)		FIELD CODE		Date Sampled	Time Sampled	No. of Containers	Preservation & # of Containers							Matrix	Analyze For:													
							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	Bottom Wtr			9/16/15	2:30	1	☒	☐	☐	☐	☐	☐	☐	☐			☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
02	North wall			"	2:40	1	☒	☐	☐	☐	☐	☐	☐	☐			☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
03	South wall			"	2:45	1	☒	☐	☐	☐	☐	☐	☐	☐			☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
04	East wall			"	2:50	1	☒	☐	☐	☐	☐	☐	☐	☐			☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
05	West wall			"	3:00	1	☒	☐	☐	☐	☐	☐	☐	☐			☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒

Special Instructions:

Relinquished by: [Signature] Date: 9/23/15 Time: 11:00 Received by: _____

Relinquished by: _____ Date: _____ Time: _____ Received by: _____

Relinquished by: _____ Date: _____ Time: _____ Received by: _____

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: 3.5

20°C

Attachment D
Waste Manifests



P.O. Box 8469
Midland, TX 79708
Tel: 432-563-2200
Fax: 432-563-2213

Non-Hazardous Waste Manifest

Manifest No: 416-6200-000 - 1
(Project No.) (Load No.)

Generator Information

Generator: Memorial Resource Development Corp. Contact: Shane Estep
Address: 400 East Loop 250 N. Suite 115 Phone: 432-563-2200
City/State: Midland Texas
Property/Lease Name: North Square Lake Unit #154 Lease No.: API No. 30-015-04986
County/State: Eddy, NM Facility Type: Oil and Gas Production

Waste Information

Description	Quantity	Unit	Waste Code
Crude oil and produced water impacted soil (E&P Exempt)	18		NA

Transporter Information

Transporter: QUEZADA TRUCKING I.D. No.:
Address: 1413 W. DOGWOOD Phone: 575-396-7446
City/State: LOVINGSTON N.M. Truck No: 7

Receiving Facility Information

Facility: Lea Land Inc. Phone: 405-236-4257
Address: 180 US 62 Permit No:
City/State: Carlsbad NM

Certification Statements

Generator: The waste(s) described above is not a hazardous waste pursuant to 40 CFR Part 261 and any applicable state or local regulations based upon process knowledge, and or analysis, and/or MSDS.

Transporter: I certify the waste in quantity above was received by me for shipment to the designated receiving facility.

Receiving Facility: I certify that the designated waste(s) were received via the designated transporter.

Signatures

Generator: [Signature] e-tech 09.21.15
Title Date
Transporter: SHANE QUEZADA DRIVER 9-21-15
Title Date
Receiving Facility: [Signature] 11:30 9/21/15
Title Date



P.O. Box 8469
Midland, TX 79708
Tel: 432-563-2200
Fax: 432-563-2213

Non-Hazardous Waste Manifest

Manifest No: 416-6200-000 - 2
(Project No.) (Load No.)

Generator Information

Generator: Memorial Resource Development Corp. Contact: Shane Estep
Address: 400 East Loop 250 N. Suite 115 Phone: 432-563-2200
City/State: Midland Texas

Property/Lease Name: North Square Lake Unit #154 Lease No.: API No. 30-015-04986
County/State: Eddy, NM Facility Type: Oil and Gas Production

Waste Information

Description	Quantity	Unit	Waste Code
Crude oil and produced water impacted soil (E&P Exempt)	18		NA

Transporter Information

Transporter: ALVARADOS TRUCKING I.D. No.:
Address: 419 W SKELLY Phone: 390 0712
City/State: HOBBS NM Truck No.: 04

Receiving Facility Information

Facility: Lea Land Inc. Phone: 405-236-4257
Address: 180 US 62 Permit No.:
City/State: Carlsbad NM

Certification Statements

Generator: The waste(s) described above is not a hazardous waste pursuant to 40 CFR Part 261 and any applicable state or local regulations based upon process knowledge, and or analysis, and/or MSDS.

Transporter: I certify the waste in quantity above was received by me for shipment to the designated receiving facility.

Receiving Facility: I certify that the designated waste(s) were received via the designated transporter.

Signatures

Generator: [Signature] E-tech 09-21-15
Title Date
Transporter: Raul Alvarado 09 21 15
Title Date
Receiving Facility: S. Gonzalez 11:45 9-21-15
Title Date



P.O. Box 8469
Midland, TX 79708
Tel: 432-563-2200
Fax: 432-563-2213

Non-Hazardous Waste Manifest

Manifest No: 416-6200-000 - 3
(Project No.) (Load No.)

Generator Information

Generator: Memorial Resource Development Corp. Contact: Shane Estep
Address: 400 East Loop 250 N. Suite 115 Phone: 432-563-2200
City/State: Midland Texas
Property/Lease Name: North Square Lake Unit #154 Lease No.: API No. 30-015-04986
County/State: Eddy, NM Facility Type: Oil and Gas Production

Waste Information

Description	Quantity	Unit	Waste Code
Crude oil and produced water impacted soi I (E&P Exempt)	18		NA

Transporter Information

Transporter: Bono Pallares Trucking I.D. No.:
Address: P.O. Box 831 Phone: 505-575-3441
City/State: Lovington N.M. 88260 Truck No.: #4

Receiving Facility Information

Facility: Lea Land Inc. Phone: 405-236-4257
Address: 180 US 62 Permit No.:
City/State: Carlsbad NM

Certification Statements

Generator: The waste(s) described above is not a hazardous waste pursuant to 40 CFR Part 261 and any applicable state or local regulations based upon process knowledge, and or analysis, and/or MSDS.

Transporter: I certify the waste in quantity above was received by me for shipment to the designated receiving facility.

Receiving Facility: I certify that the designated waste(s) were received via the designated transporter.

Signatures

Generator: [Signature] E-tech 09-21-15
Title Date
Transporter: Bono Pallares Driver 9-21-15
Title Date
Receiving Facility: [Signature] 12:25 9-21-15
Title Date



P.O. Box 8469
Midland, TX 79708
Tel: 432-563-2200
Fax: 432-563-2213

Non-Hazardous Waste Manifest

Manifest No: 416-6200-000 - 4
(Project No.) (Load No.)

Generator Information

Generator: Memorial Resource Development Corp. Contact: Shane Estep
Address: 400 East Loop 250 N. Suite 115 Phone: 432-563-2200
City/State: Midland Texas

Property/Lease Name: North Square Lake Unit #154 Lease No.: API No. 30-015-04986
County/State: Eddy, NM Facility Type: Oil and Gas Production

Waste Information

Description	Quantity	Unit	Waste Code
Crude oil and produced water impacted soil (E&P Exempt)	18		NA

Transporter Information

Transporter: QUOZADA TRUCKING I.D. No.:
Address: 1413 W. DOGWOOD Phone: 575-396-7440
City/State: LOVINGTON N.M. Truck No.: 09

Receiving Facility Information

Facility: Lea Land Inc. Phone: 405-236-4257
Address: 180 US 62 Permit No.:
City/State: Carlsbad NM

Certification Statements

Generator: The waste(s) described above is not a hazardous waste pursuant to 40 CFR Part 261 and any applicable state or local regulations based upon process knowledge, and or analysis, and/or MSDS.

Transporter: I certify the waste in quantity above was received by me for shipment to the designated receiving facility.

Receiving Facility: I certify that the designated waste(s) were received via the designated transporter.

Signatures

Generator: [Signature] E-TECH 09.21.15
Title Date

Transporter: [Signature] DRIVER 9.21.15
Title Date

Receiving Facility: [Signature] 12:25 9-21-15
Title Date



P.O. Box 8469
Midland, TX 79708
Tel: 432-563-2200
Fax: 432-563-2213

Non-Hazardous Waste Manifest

Manifest No: 416-6200-000 - 5
(Project No.) (Load No.)

Generator Information

Generator: Memorial Resource Development Corp. Contact: Shane Estep
Address: 400 East Loop 250 N. Suite 115 Phone: 432-563-2200
City/State: Midland Texas

Property/Lease Name: North Square Lake Unit #154 Lease No.: API No. 30-015-04986
County/State: Eddy, NM Facility Type: Oil and Gas Production

Waste Information

Description	Quantity	Unit	Waste Code
Crude oil and produced water impacted soil (E&P Exempt)	18		NA

Transporter Information

Transporter: QUEZADA TRUCKING I.D. No.:
Address: 1413 W. DOGWOOD Phone: (575) 396-7446
City/State: LOVINGTON N.M. Truck No.: 7

Receiving Facility Information

Facility: Lea Land Inc. Phone: 405-236-4257
Address: 180 US 62 Permit No.:
City/State: Carlsbad NM

Certification Statements

Generator: The waste(s) described above is not a hazardous waste pursuant to 40 CFR Part 261 and any applicable state or local regulations based upon process knowledge, and or analysis, and/or MSDS.

Transporter: I certify the waste in quantity above was received by me for shipment to the designated receiving facility.

Receiving Facility: I certify that the designated waste(s) were received via the designated transporter.

Signatures

Generator: [Signature] E-tech 09-21-15
Title Date
Transporter: JAME QUEZADA DRIVER 09-21-15
Title Date
Receiving Facility: [Signature] D. 45 9-21-15
Title Date



P.O. Box 8469
Midland, TX 79708
Tel: 432-563-2200
Fax: 432-563-2213

Non-Hazardous Waste Manifest

Manifest No: 416-6200-000 - 6
(Project No.) (Load No.)

Generator Information

Generator: Memorial Resource Development Corp. Contact: Shane Estep
Address: 400 East Loop 250 N. Suite 115 Phone: 432-563-2200
City/State: Midland Texas

Property/Lease Name: North Square Lake Unit #154 Lease No.: API No. 30-015-04986
County/State: Eddy, NM Facility Type: Oil and Gas Production

Waste Information

Description	Quantity	Unit	Waste Code
Crude oil and produced water impacted soil (E&P Exempt)	18		NA

Transporter Information

Transporter: ALVARADO TRUCKING I.D. No.: 3900712
Address: 419 W SKELLY Phone: 04
City/State: HOBBS NM Truck No. 04

Receiving Facility Information

Facility: Lea Land Inc. Phone: 405-236-4257
Address: 180 US 62 Permit No:
City/State: Carlsbad NM

Certification Statements

Generator: The waste(s) described above is not a hazardous waste pursuant to 40 CFR Part 261 and any applicable state or local regulations based upon process knowledge, and or analysis, and/or MSDS.

Transporter: I certify the waste in quantity above was received by me for shipment to the designated receiving facility.

Receiving Facility: I certify that the designated waste(s) were received via the designated transporter.

Signatures

Generator [Signature] E-tech 09-21-15
Title Date

Transporter Raul Alvarez 9 21 15
Title Date

Receiving Facility S. Gonzalez 2:50 9-21-15
Title Date



P.O. Box 8469
Midland, TX 79708
Tel: 432-563-2200
Fax: 432-563-2213

Non-Hazardous Waste Manifest

Manifest No: 416-6200-000 - 7
(Project No.) (Load No.)

Generator Information

Generator: Memorial Resource Development Corp. Contact: Shane Estep
Address: 400 East Loop 250 N. Suite 115 Phone: 432-563-2200
City/State: Midland Texas

Property/Lease Name: North Square Lake Unit #154 Lease No.: API No. 30-015-04986
County/State: Eddy, NM Facility Type: Oil and Gas Production

Waste Information

Description	Quantity	Unit	Waste Code
Crude oil and produced water impacted soil (E&P Exempt)	18		NA

Transporter Information

Transporter: QUICKZAD TRUCKING I.D. No.: _____
Address: _____ Phone: _____
City/State: NA Truck No. 09

Receiving Facility Information

Facility: Lea Land Inc. Phone: 405-236-4257
Address: 180 US 62 Permit No: _____
City/State: Carlsbad NM

Certification Statements

Generator: The waste(s) described above is not a hazardous waste pursuant to 40 CFR Part 261 and any applicable state or local regulations based upon process knowledge, and or analysis, and/or MSDS.

Transporter: I certify the waste in quantity above was received by me for shipment to the designated receiving facility.

Receiving Facility: I certify that the designated waste(s) were received via the designated transporter.

Signatures

Generator [Signature] E-Tech 09.21.15
Title Date

Transporter [Signature] DRIVER 09
Title Date

Receiving Facility [Signature] 9/21/15
Title Date



P.O. Box 8469
Midland, TX 79708
Tel: 432-563-2200
Fax: 432-563-2213

Non-Hazardous Waste Manifest

Manifest No: 416-6200-000 - 8
(Project No.) (Load No.)

Generator Information

Generator: Memorial Resource Development Corp. Contact: Shane Estep
Address: 400 East Loop 250 N. Suite 115 Phone: 432-563-2200
City/State: Midland Texas
Property/Lease Name: North Square Lake Unit #154 Lease No.: API No. 30-015-04986
County/State: Eddy, NM Facility Type: Oil and Gas Production

Waste Information

Description	Quantity	Unit	Waste Code
Crude oil and produced water impacted soi I (E&P Exempt)	18		NA

Transporter Information

Transporter: Pallares Trucking I.D. No.: _____
Address: P.O. Box 832 Phone: 575-399-1427
City/State: Lovington N.M. 88260 Truck No. #4

Receiving Facility Information

Facility: Lea Land Inc. Phone: 405-236-4257
Address: 180 US 62 Permit No.: _____
City/State: Carlsbad NM

Certification Statements

Generator: The waste(s) described above is not a hazardous waste pursuant to 40 CFR Part 261 and any applicable state or local regulations based upon process knowledge, and or analysis, and/or MSDS.

Transporter: I certify the waste in quantity above was received by me for shipment to the designated receiving facility.

Receiving Facility: I certify that the designated waste(s) were received via the designated transporter.

Signatures

Generator [Signature] E-tech 09-21-15
Title Date

Transporter Bruno Pallares Driver 9-21-15
Title Date

Receiving Facility [Signature] _____ 9/21/15
Title Date



P.O. Box 8469
Midland, TX 79708
Tel: 432-563-2200
Fax: 432-563-2213

Non-Hazardous Waste Manifest

Manifest No: 416-6200-000 - 9
(Project No.) (Load No.)

Generator Information

Generator: Memorial Resource Development Corp. Contact: Shane Estep
Address: 400 East Loop 250 N. Suite 115 Phone: 432-563-2200
City/State: Midland Texas

Property/Lease Name: North Square Lake Unit #154 Lease No.: API No. 30-015-04986
County/State: Eddy, NM Facility Type: Oil and Gas Production

Waste Information

Description	Quantity	Unit	Waste Code
Crude oil and produced water impacted soil (E&P Exempt)	18		NA

Transporter Information

Transporter: QUEZADA TRUCKING I.D. No.:
Address: 1413 W. DOGWOOD Phone: 579 396-7446
City/State: LOVINGTON N.M. Truck No. 7

Receiving Facility Information

Facility: Lea Land Inc. Phone: 405-236-4257
Address: 180 US 62 Permit No.:
City/State: Carlsbad NM

Certification Statements

Generator: The waste(s) described above is not a hazardous waste pursuant to 40 CFR Part 261 and any applicable state or local regulations based upon process knowledge, and or analysis, and/or MSDS.

Transporter: I certify the waste in quantity above was received by me for shipment to the designated receiving facility.

Receiving Facility: I certify that the designated waste(s) were received via the designated transporter.

Signatures

Generator: Jerry Miller E. Tech 9-22-15
Title Date
Transporter: JAIME QUEZADA DRIVER 9-22-15
Title Date
Receiving Facility: S. Gonzalez 11:50 9/22/15
Title Date

Non-Hazardous Waste Manifest

Manifest No: 416-6200-000 - 10
(Project No.) (Load No.)

Generator Information

Generator: Memorial Resource Development Corp. Contact: Shane Estep
Address: 400 East Loop 250 N. Suite 115 Phone: 432-563-2200
City/State: Midland Texas
Property/Lease Name: North Square Lake Unit #154 Lease No.: API No. 30-015-04986
County/State: Eddy, NM Facility Type: Oil and Gas Production

Waste Information			
Description	Quantity	Unit	Waste Code
Crude oil and produced water impacted soil (E&P Exempt)	18		NA

Transporter Information

Transporter: QUICK ZAPPA TRUCKING I.D. No.: _____
Address: 1030 VICTOR NM Phone: _____
City/State: _____ Truck No. 09

Receiving Facility Information

Facility: Lea Land Inc. Phone: 405-236-4257
Address: 180 US 62 Permit No.: _____
City/State: Carlsbad NM

Certification Statements

Generator: The waste(s) described above is not a hazardous waste pursuant to 40 CFR Part 261 and any applicable state or local regulations based upon process knowledge, and or analysis, and/or MSDS.
Transporter: I certify the waste in quantity above was received by me for shipment to the designated receiving facility.
Receiving Facility: I certify that the designated waste(s) were received via the designated transporter.

Signatures

Generator: Jerry Miller E-tech 9-22-15
Title Date
Transporter: DRIVER 09-29-15
Title Date
Receiving Facility: S. Gonzalez 12:00 9/22/15
Title Date

Non-Hazardous Waste Manifest

Manifest No: 416-6200-000 - 11
(Project No.) (Load No.)

Generator Information

Generator: Memorial Resource Development Corp. Contact: Shane Estep
Address: 400 East Loop 250 N. Suite 115 Phone: 432-563-2200
City/State: Midland Texas
Property/Lease Name: North Square Lake Unit #154 Lease No.: API No. 30-015-04986
County/State: Eddy, NM Facility Type: Oil and Gas Production

Waste Information			
Description	Quantity	Unit	Waste Code
Crude oil and produced water impacted soil (E&P Exempt)	18		NA

Transporter Information

Transporter: ALVARADO TRUCKING I.D. No.: 3900712
Address: 419 W SKELLY Phone: 04
City/State: HOBBS NM Truck No. 04

Receiving Facility Information

Facility: Lea Land Inc. Phone: 405-236-4257
Address: 180 US 62 Permit No:
City/State: Carlsbad NM

Certification Statements

Generator: The waste(s) described above is not a hazardous waste pursuant to 40 CFR Part 261 and any applicable state or local regulations based upon process knowledge, and or analysis, and/or MSDS.
Transporter: I certify the waste in quantity above was received by me for shipment to the designated receiving facility.
Receiving Facility: I certify that the designated waste(s) were received via the designated transporter.

Signatures

Generator: Jerry Mills E-tech 9-22-15
Title Date
Transporter: Raul Alvarado 9-22-15
Title Date
Receiving Facility: S. Gonzalez 11:50 9/22/15
Title Date



P.O. Box 8469
Midland, TX 79708
Tel: 432-563-2200
Fax: 432-563-2213

Non-Hazardous Waste Manifest

Manifest No: 416-6200-000
(Project No.)

12
(Load No.)

Generator Information

Generator: Memorial Resource Development Corp. Contact: Shane Estep
Address: 400 East Loop 250 N. Suite 115 Phone: 432-563-2200
City/State: Midland Texas
Property/Lease Name: North Square Lake Unit #154 Lease No.: API No. 30-015-04986
County/State: Eddy, NM Facility Type: Oil and Gas Production

Waste Information

Description	Quantity	Unit	Waste Code
Crude oil and produced water impacted soi (E&P Exempt)	18		NA

Transporter Information

Transporter: Pallares Truelling I.D. No.:
Address: P.O. Box 832 Phone: 575-399-1427
City/State: Levington N.M. 88260 Truck No. #4

Receiving Facility Information

Facility: Lea Land Inc. Phone: 405-236-4257
Address: 180 US 62 Permit No:
City/State: Carlsbad NM

Certification Statements

Generator: The waste(s) described above is not a hazardous waste pursuant to 40 CFR Part 261 and any applicable state or local regulations based upon process knowledge, and or analysis, and/or MSDS.

Transporter: I certify the waste in quantity above was received by me for shipment to the designated receiving facility.

Receiving Facility: I certify that the designated waste(s) were received via the designated transporter.

Signatures

Generator: Jerry Miller E-tech 9-22-16
Title Date
Transporter: Brian Pallares Driver 9-22-15
Title Date
Receiving Facility: S. Gonzalez 12:10 9/22/15
Title Date



P.O. Box 8469
Midland, TX 79708
Tel: 432-563-2200
Fax: 432-563-2213

Non-Hazardous Waste Manifest

Manifest No: 416-6200-000 - 13
(Project No.) (Load No.)

Generator Information

Generator: Memorial Resource Development Corp. Contact: Shane Estep
Address: 400 East Loop 250 N. Suite 115 Phone: 432-563-2200
City/State: Midland Texas

Property/Lease Name: North Square Lake Unit #154 Lease No.: API No. 30-015-04986
County/State: Eddy, NM Facility Type: Oil and Gas Production

Waste Information

Description	Quantity	Unit	Waste Code
Crude oil and produced water impacted soil (E&P Exempt)	18		NA

Transporter Information

Transporter: ALVARADO'S TRUCKING I.D. No.:
Address: 419 W SKELLY Phone: 390 07 12
City/State: Hobbs NM Truck No: 04

Receiving Facility Information

Facility: Lea Land Inc. Phone: 405-236-4257
Address: 180 US 62 Permit No:
City/State: Carlsbad NM

Certification Statements

Generator: The waste(s) described above is not a hazardous waste pursuant to 40 CFR Part 261 and any applicable state or local regulations based upon process knowledge, and/or analysis, and/or MSDS.

Transporter: I certify the waste in quantity above was received by me for shipment to the designated receiving facility.

Receiving Facility: I certify that the designated waste(s) were received via the designated transporter.

Signatures

Generator: Jerry Miller E-tech 9-22-15
Title Date
Transporter: Raul Alvarado 9-22-15
Title Date
Receiving Facility: S. Gonzalez 3:00 9/22/15
Title Date



P.O. Box 8469
Midland, TX 79708
Tel: 432-563-2200
Fax: 432-563-2213

Non-Hazardous Waste Manifest

Manifest No: 416-6200-000 - 14
(Project No.) (Load No.)

Generator Information

Generator: Memorial Resource Development Corp. Contact: Shane Estep
Address: 400 East Loop 250 N. Suite 115 Phone: 432-563-2200
City/State: Midland Texas

Property/Lease Name: North Square Lake Unit #154 Lease No.: 04986
County/State: Eddy, NM Facility Type: Oil and Gas Production

Waste Information

Description	Quantity	Unit	Waste Code
Crude oil and produced water impacted soil (E&P Exempt)	18		NA

Transporter Information

Transporter: QUEZADA TRUCKING I.D. No.: _____
Address: LOVINGTON Phone: _____
City/State: NM Truck No. 09

Receiving Facility Information

Facility: Lea Land Inc. Phone: 405-236-4257
Address: 180 US 62 Permit No: _____
City/State: Carlsbad NM

Certification Statements

Generator: The waste(s) described above is not a hazardous waste pursuant to 40 CFR Part 261 and any applicable state or local regulations based upon process knowledge, and or analysis, and/or MSDS.

Transporter: I certify the waste in quantity above was received by me for shipment to the designated receiving facility.

Receiving Facility: I certify that the designated waste(s) were received via the designated transporter.

Signatures

Generator: Jerry Miller E. Tech 9-22-15
Title Date
Transporter: [Signature] DRIVER 9-22-15
Title Date
Receiving Facility: [Signature] 9/22/15 3:05
Title Date