



Electronic Correspondence

November 12, 2015

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

Re: Corrective Action Plan- 2RP-3264 and 2RP-3281
Memorial Production Operating, NSLU #100
Legal: Unit B, Sec 31, T16S R31E, Eddy County, NM
Latitude/Longitude: 32.885231/ -103.909161
Etech Proj. Number: 416-6564-000
Depth to Groundwater: >300 feet
Release Type: Produced Water
Contaminants of Concern (COC's)

	Threshold Levels
Chlorides	1000 mg/kg
SAR	<12

Dear Mike:

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

Background

On September 14th, 2015 a leak was discovered and reported from the NSLU #100 injection well. A valve on the wellhead failed releasing fluid onto the location and pasture. Approximately 10 barrels of produced water was released; no fluid was able to be recovered. Memorial notified the OCD and BLM of the release on September 14th and a job number 2RP-3264 was issued.

On September 17th, 2015 another leak occurred at the location in the same area. The injection line on the well developed a leak resulting in a release of approximately 20 bbl. of produced water; no fluid was recovered. Memorial notified the OCD and BLM of the release on September 17th and a job number 2RP-3281 was issued.

An assessment of the site was conducted on September 22, 2015 by Etech. The releases flowed north from the wellhead for approximately 114 feet and had varying widths. There was also an area north of the wellhead impacted by overspray that was approximately 45 feet by 30 feet. The impacted area affected approximately 3,420 square feet of surface area.

An initial sampling was conducted of the impacted area on September 22, 2015. Samples were collected from the first 10 feet in two (2) locations of the impacted area. Note: All of the samples were collected from low areas to present a "worse case" basis. The samples were sent for laboratory analyses for TPH

and Chlorides. The results of analyses determined that TPH values ranged from non-detect to 828 mg/kg. Chloride levels ranged from 184 mg/kg to 8,250 mg/kg. A copy of the assessment sheet and the analytical results are attached.

Scope of Work

The corrective action for this site will be to treat the top three feet of impacted soil with DeSalt Plus to lower the chloride and sodium levels in the root zone. Depth to groundwater in the area is greater than 300 feet. Therefore, the corrective action goals for this project will be 1,000 mg/kg of chlorides. The levels of TPH found from the assessment are below action levels for this project. The particulars for remediation will involve the actions summarized as follows:

1. Placement of a one-call for utility location.
2. The first eighteen inches of soil will be mechanically tilled to break up the soil. The impacted area will then be treated with a mixture of DeSalt and fresh water. The impacted area will then be blended again.
3. Once screening determines the remediation objectives have been reached, confirmation samples will be collected from the remediation to confirm that remediation goals have been reached.
4. If the results of analysis indicate that the chloride levels are above regulatory threshold levels, additional treatment will be performed until the remediation objectives are met.
5. The site will be seeded with BLM #2. Seeding will take place when the seasonal conditions are conducive to maximizing the potential for seed germination. Actual seeding will be accomplished by broadcast or drilling; whichever is the most practical for the site.

Notifications and Special Conditions

1. The OCD and BLM will be notified prior to the commencement of on-site operations.
2. The OCD and BLM will be notified prior to each sampling event to allow the opportunity to witness the sampling events. Splits will be made available if requested.
3. Prior to seeding, the OCD and BLM will be notified when the site is closed for final inspection.
4. A final report documenting the closure of the site will be submitted along with a final C-141.

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 me at (432) 563-2200 (office) or via email at tim@etechenvironment.com.

Respectfully:



Tim McMinn

cc: Heather Patterson, NMOCD Division 2 Office
Shelly Tucker, BLM Carlsbad District Office

Attachment A
Initial C-141

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

NAB1526142024 303900 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 #100	Facility Type	Well
Surface Owner	Mineral Owner	BLM	API No. 30-015-10752

LOCATION OF RELEASE

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

Latitude 32°53'6.83"N Longitude 103°54'32.98"W

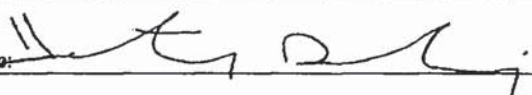
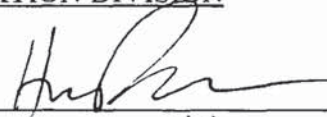
NATURE OF RELEASE

Type of Release	Produced Water	Volume of Release	10bbls	Volume Recovered	0bbls
Source of Release	Well	Date and Hour of Occurrence	9/14/15	Date and Hour of Discovery	2pm
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Heather Patterson, OCD / Art Arias, BLM		
By Whom?	Heather Dolphin	Date and Hour	09/14/2015 5pm	NM OIL CONSERVATION	
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	n/a		
If a Watercourse was Impacted, Describe Fully.*	n/a				
RECEIVED					

Describe Cause of Problem and Remedial Action Taken.*
The main valve on the NSLU #100 injection well developed a leak, could not SI well due to broken valve, re-routed water to Frac tank and replaced valve.

Describe Area Affected and Cleanup Action Taken.*
Off location (pasture)
30ft. x 1ft with a 40' circle spray - unrecoverable

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: Heather Dolphin	Approved by Environmental Specialist: 	
Title: Sr. Regulatory Specialist	Approval Date: <u>11/18/15</u>	Expiration Date: <u>N/A</u>
E-mail Address: heather.dolphin@memorialrd.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 9/14/15 Phone: 832-797-1334	Remediation per O.C.D. Rules & Guidelines	

* Attach Additional Sheets If Necessary

SUBMIT REMEDIATION PROPOSAL NO
LATER THAN: 10/22/15

2RP-3264

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

NAB1526631778

303900

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 #100	Facility Type	Well
Surface Owner	Mineral Owner	BLM	API No. 30-015-10752

LOCATION OF RELEASE

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

Latitude 32°53'6.83"N Longitude 103°54'32.98"W

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 20bbls	Volume Recovered 0bbls
Source of Release Well	Date and Hour of Occurrence 9/17/15	Date and Hour of Discovery 11:45pm
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Heather Patterson, OCD / Art Arias, BLM	
By Whom? Heather Dolphin	Date and Hour 09/17/2015 4pm	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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.*

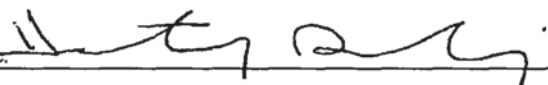

The injection line on the NSLU #100 well developed a leak, SI well until pipe can be replaced.
replaced valve.

Describe Area Affected and Cleanup Action Taken.*

Off location (pasture)

40ft. x 4ft with with 10' puddle - unrecoverable

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.

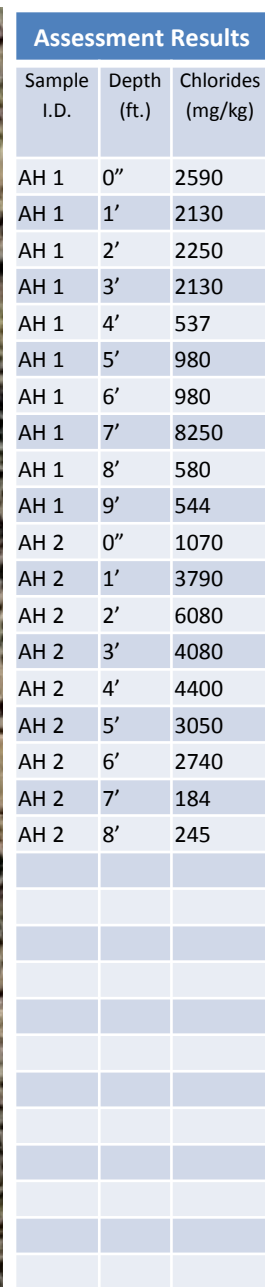
Signature: 	OIL CONSERVATION DIVISION	
Printed Name: Heather Dolphin	Approved by Environmental Specialist: 	
Title: Sr. Regulatory Specialist	Approval Date: 9/23/15	Expiration Date: N/A
E-mail Address: heather.dolphin@memorialrd.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 9/17/15	Phone: 832-797-1334	

* Attach Additional Sheets If Necessary

Remediation per O.C.D. Rules & Guidelines
SUBMIT REMEDIATION PROPOSAL NO
LATER THAN: 10/25/15

2RP-3281

Attachment B
Annotated Aerial Imagery



Attachment C
Photograph Log





Photo No: 5.	
Direction Taken: West	
Description: View of the impacted area..	

Attachment D
Analytical Results

**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: NSLU #100
Project Number: 416-6564
Location: Memorial
Lab Order Number: 5129005



NELAP/TCEQ # T104704156-13-3

Report Date: 10/06/15

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

Project: NSLU #100
Project Number: 416-6564
Project Manager: Brandon Wilson

Fax: (432) 563-2213

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AH 1 0"	5I29005-01	Soil	09/25/15 10:00	09-29-2015 10:00
AH 1 2'	5I29005-02	Soil	09/25/15 10:10	09-29-2015 10:00
AH 1 4'	5I29005-03	Soil	09/25/15 10:20	09-29-2015 10:00
AH 2 0"	5I29005-04	Soil	09/25/15 10:30	09-29-2015 10:00
AH 2 2'	5I29005-05	Soil	09/25/15 10:40	09-29-2015 10:00
AH 2 4'	5I29005-06	Soil	09/25/15 10:50	09-29-2015 10:00
AH 2 6'	5I29005-07	Soil	09/25/15 11:00	09-29-2015 10:00

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

Project: NSLU #100
Project Number: 416-6564
Project Manager: Brandon Wilson

Fax: (432) 563-2213

AH 1 0"
5I29005-01 (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	2590	26.6	mg/kg dry	25	P5J0507	10/01/15	10/05/15	EPA 300.0
% Moisture	6.0	0.1	%	1	P5J0101	10/01/15	10/01/15	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.6	mg/kg dry	1	P5J0102	09/30/15	09/30/15	TPH 8015M
>C12-C28	591	26.6	mg/kg dry	1	P5J0102	09/30/15	09/30/15	TPH 8015M
>C28-C35	237	26.6	mg/kg dry	1	P5J0102	09/30/15	09/30/15	TPH 8015M
Surrogate: 1-Chlorooctane		99.9 %	70-130		P5J0102	09/30/15	09/30/15	TPH 8015M
Surrogate: o-Terphenyl		118 %	70-130		P5J0102	09/30/15	09/30/15	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	828	26.6	mg/kg dry	1	[CALC]	09/30/15	09/30/15	calc

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

Project: NSLU #100
Project Number: 416-6564
Project Manager: Brandon Wilson

Fax: (432) 563-2213

AH 1 2'
5129005-02 (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	2250	10.6	mg/kg dry	10	P5J0507	10/01/15	10/05/15	EPA 300.0
% Moisture	6.0	0.1	%	1	P5J0101	10/01/15	10/01/15	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.6	mg/kg dry	1	P5J0102	09/30/15	09/30/15	TPH 8015M
>C12-C28	ND	26.6	mg/kg dry	1	P5J0102	09/30/15	09/30/15	TPH 8015M
>C28-C35	ND	26.6	mg/kg dry	1	P5J0102	09/30/15	09/30/15	TPH 8015M
Surrogate: 1-Chlorooctane		98.3 %	70-130		P5J0102	09/30/15	09/30/15	TPH 8015M
Surrogate: o-Terphenyl		112 %	70-130		P5J0102	09/30/15	09/30/15	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	09/30/15	09/30/15	calc

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

Project: NSLU #100
Project Number: 416-6564
Project Manager: Brandon Wilson

Fax: (432) 563-2213

AH 1 4'
5129005-03 (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	537	1.06	mg/kg dry	1	P5J0507	10/01/15	10/05/15	EPA 300.0
% Moisture	6.0	0.1	%	1	P5J0101	10/01/15	10/01/15	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.6	mg/kg dry	1	P5J0102	09/30/15	09/30/15	TPH 8015M
>C12-C28	ND	26.6	mg/kg dry	1	P5J0102	09/30/15	09/30/15	TPH 8015M
>C28-C35	ND	26.6	mg/kg dry	1	P5J0102	09/30/15	09/30/15	TPH 8015M
Surrogate: 1-Chlorooctane		95.5 %	70-130		P5J0102	09/30/15	09/30/15	TPH 8015M
Surrogate: o-Terphenyl		105 %	70-130		P5J0102	09/30/15	09/30/15	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	09/30/15	09/30/15	calc

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

Project: NSLU #100
Project Number: 416-6564
Project Manager: Brandon Wilson

Fax: (432) 563-2213

AH 2 0"
5129005-04 (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	1070	5.26	mg/kg dry	5	P5J0507	10/01/15	10/05/15	EPA 300.0
% Moisture	5.0	0.1	%	1	P5J0101	10/01/15	10/01/15	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.3	mg/kg dry	1	P5J0102	09/30/15	09/30/15	TPH 8015M
>C12-C28	198	26.3	mg/kg dry	1	P5J0102	09/30/15	09/30/15	TPH 8015M
>C28-C35	34.5	26.3	mg/kg dry	1	P5J0102	09/30/15	09/30/15	TPH 8015M
Surrogate: 1-Chlorooctane		96.7 %	70-130		P5J0102	09/30/15	09/30/15	TPH 8015M
Surrogate: o-Terphenyl		113 %	70-130		P5J0102	09/30/15	09/30/15	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	232	26.3	mg/kg dry	1	[CALC]	09/30/15	09/30/15	calc

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

Project: NSLU #100
Project Number: 416-6564
Project Manager: Brandon Wilson

Fax: (432) 563-2213

AH 2 2'
5129005-05 (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	6080	26.6	mg/kg dry	25	P5J0507	10/01/15	10/05/15	EPA 300.0
% Moisture	6.0	0.1	%	1	P5J0101	10/01/15	10/01/15	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.6	mg/kg dry	1	P5J0102	09/30/15	09/30/15	TPH 8015M
>C12-C28	ND	26.6	mg/kg dry	1	P5J0102	09/30/15	09/30/15	TPH 8015M
>C28-C35	ND	26.6	mg/kg dry	1	P5J0102	09/30/15	09/30/15	TPH 8015M
Surrogate: 1-Chlorooctane		96.8 %	70-130		P5J0102	09/30/15	09/30/15	TPH 8015M
Surrogate: o-Terphenyl		112 %	70-130		P5J0102	09/30/15	09/30/15	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	09/30/15	09/30/15	calc

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

Project: NSLU #100
Project Number: 416-6564
Project Manager: Brandon Wilson

Fax: (432) 563-2213

AH 2 4'
5129005-06 (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	4400	26.3	mg/kg dry	25	P5J0507	10/01/15	10/05/15	EPA 300.0
% Moisture	5.0	0.1	%	1	P5J0101	10/01/15	10/01/15	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.3	mg/kg dry	1	P5J0102	09/30/15	09/30/15	TPH 8015M
>C12-C28	ND	26.3	mg/kg dry	1	P5J0102	09/30/15	09/30/15	TPH 8015M
>C28-C35	ND	26.3	mg/kg dry	1	P5J0102	09/30/15	09/30/15	TPH 8015M
Surrogate: 1-Chlorooctane		101 %	70-130		P5J0102	09/30/15	09/30/15	TPH 8015M
Surrogate: o-Terphenyl		117 %	70-130		P5J0102	09/30/15	09/30/15	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	26.3	mg/kg dry	1	[CALC]	09/30/15	09/30/15	calc

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

Project: NSLU #100
Project Number: 416-6564
Project Manager: Brandon Wilson

Fax: (432) 563-2213

AH 2 6'
5129005-07 (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	2740	26.3	mg/kg dry	25	P5J0507	10/01/15	10/05/15	EPA 300.0
% Moisture	5.0	0.1	%	1	P5J0101	10/01/15	10/01/15	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.3	mg/kg dry	1	P5J0102	09/30/15	09/30/15	TPH 8015M
>C12-C28	ND	26.3	mg/kg dry	1	P5J0102	09/30/15	09/30/15	TPH 8015M
>C28-C35	ND	26.3	mg/kg dry	1	P5J0102	09/30/15	09/30/15	TPH 8015M
Surrogate: 1-Chlorooctane		102 %	70-130		P5J0102	09/30/15	09/30/15	TPH 8015M
Surrogate: o-Terphenyl		116 %	70-130		P5J0102	09/30/15	09/30/15	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	26.3	mg/kg dry	1	[CALC]	09/30/15	09/30/15	calc

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

Project: NSLU #100
Project Number: 416-6564
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 P5J0101 - % Solids										
Blank (P5J0101-BLK1)					Prepared & Analyzed: 10/01/15					
% Moisture	ND	0.1	%							
Duplicate (P5J0101-DUP1)					Source: 5I29003-03 Prepared & Analyzed: 10/01/15					
% Moisture	8.0	0.1	%		7.0			13.3	20	
Duplicate (P5J0101-DUP2)					Source: 5I29004-08 Prepared & Analyzed: 10/01/15					
% Moisture	5.0	0.1	%		5.0			0.00	20	
Duplicate (P5J0101-DUP3)					Source: 5I30005-01 Prepared & Analyzed: 10/01/15					
% Moisture	8.0	0.1	%		8.0			0.00	20	
Duplicate (P5J0101-DUP4)					Source: 5I30011-04 Prepared & Analyzed: 10/01/15					
% Moisture	3.0	0.1	%		4.0			28.6	20	
Batch P5J0507 - *** DEFAULT PREP ***										
Blank (P5J0507-BLK1)					Prepared: 10/01/15 Analyzed: 10/05/15					
Chloride	ND	1.00	mg/kg wet							
LCS (P5J0507-BS1)					Prepared: 10/01/15 Analyzed: 10/05/15					
Chloride	104	1.00	mg/kg wet	100		104	80-120			
LCS Dup (P5J0507-BSD1)					Prepared: 10/01/15 Analyzed: 10/05/15					
Chloride	99.3	1.00	mg/kg wet	100		99.3	80-120	4.77	20	
Duplicate (P5J0507-DUP1)					Source: 5I29004-03 Prepared: 10/01/15 Analyzed: 10/05/15					
Chloride	6060	26.6	mg/kg dry		6040			0.176	20	

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

Project: NSLU #100
Project Number: 416-6564
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 P5J0507 - * DEFAULT PREP *****

Duplicate (P5J0507-DUP2)	Source: 5129005-04		Prepared: 10/01/15 Analyzed: 10/05/15							
Chloride	1060	5.26	mg/kg dry		1070			1.14	20	

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

Project: NSLU #100
Project Number: 416-6564
Project Manager: Brandon Wilson

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 P5J0102 - TX 1005

Blank (P5J0102-BLK1)

Prepared & Analyzed: 09/30/15

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	110		"	100		110	70-130			
Surrogate: o-Terphenyl	63.7		"	50.0		127	70-130			

LCS (P5J0102-BS1)

Prepared & Analyzed: 09/30/15

C6-C12	893	25.0	mg/kg wet	1000		89.3	75-125			
>C12-C28	920	25.0	"	1000		92.0	75-125			
Surrogate: 1-Chlorooctane	94.4		"	100		94.4	70-130			
Surrogate: o-Terphenyl	57.5		"	50.0		115	70-130			

LCS Dup (P5J0102-BSD1)

Prepared & Analyzed: 09/30/15

C6-C12	918	25.0	mg/kg wet	1000		91.8	75-125	2.78	20	
>C12-C28	940	25.0	"	1000		94.0	75-125	2.12	20	
Surrogate: 1-Chlorooctane	97.4		"	100		97.4	70-130			
Surrogate: o-Terphenyl	58.7		"	50.0		117	70-130			

Matrix Spike (P5J0102-MS1)

Source: 5129004-07

Prepared & Analyzed: 09/30/15

C6-C12	913	26.0	mg/kg dry	1040	ND	87.6	75-125			
>C12-C28	970	26.0	"	1040	ND	93.1	75-125			
Surrogate: 1-Chlorooctane	93.7		"	104		89.9	70-130			
Surrogate: o-Terphenyl	60.0		"	52.1		115	70-130			

Matrix Spike Dup (P5J0102-MSD1)

Source: 5129004-07

Prepared & Analyzed: 09/30/15

C6-C12	927	26.0	mg/kg dry	1040	ND	89.0	75-125	1.58	20	
>C12-C28	982	26.0	"	1040	ND	94.2	75-125	1.20	20	
Surrogate: 1-Chlorooctane	99.1		"	104		95.1	70-130			
Surrogate: o-Terphenyl	60.9		"	52.1		117	70-130			

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

Project: NSLU #100
Project Number: 416-6564
Project Manager: Brandon Wilson

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:

10/6/2015

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@etechnv.com

Project Name: ASLU # 100

Project #: 4110-105004

Project Loc: Elmwood Memorial

PO #:

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #: 5129005

LAB # (lab use only)	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservation & # of Containers							Matrix		Analyze For:				RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT													
					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) 005 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.				
01	PA11	0"	10:00	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>								<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
02	PA11	2'	10:10	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>								<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
03	PA11	2'	10:20	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>								<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
04	PA11	0"	10:30	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>								<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
05	PA12	2'	10:40	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>								<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
06	PA12	4'	10:50	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>								<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
07	PA12	6'	11:00	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>								<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Special Instructions:

Relinquished by: _____ Date: 9-28-15 Time: 4:00 Received by: _____

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

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

Laboratory Comments:

Sample Containers Intact? ☒
VOOCs Free of Headspace? ☒
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: 41.0 °C

Quantab Chloride Test Strip Analysis Sheet

Site: NSLU #100 **Project Number:** 416-6564

Technician: BB Strip Lot Number(s):

[illegible]

Soil Sample Volume: 10 Grams
Distilled Water Volume = 100 ml

Extended Diesel Range Organic Hydrocarbons Analysis Report

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

Client: MEMORIAL

Address:

Phone: 713-588-8300

Contact: Chris Gafford

Operator: Britney Beaty

Signature:

Date: 9/28/15 Time: 1600

Project Name: NSLU #100

Job #: 416-6564-000

File #: 1

Matrix: SOIL

Date Collected: 9/25/2015

Date Received: 9/25/2015

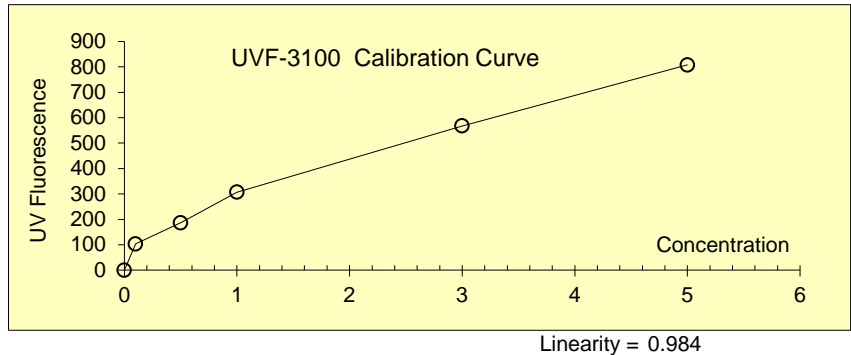
Date Extracted: 9/28/2015

Date Analyzed: 9/28/2015

Date Reported: 9/28/2015

Standard Concentration	UVF-3100 Calibration Raw Fluorescence
0	0
0.1	103.5
0.5	186.5
1.0	306.8
3.0	567.7
5.0	807.8

siteLAB
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:
7	AH 1 0"	172.20	0.431	1,000	431.0 ppm
8	AH 1 1'	-3.68	-0.004	1,000	Concentration... Too Low (ND)
9	AH 1 2'	-5.75	-0.006	1,000	Concentration... Too Low (ND)
10	AH 1 3'	-5.45	-0.005	1,000	Concentration... Too Low (ND)
11	AH 1 4'	-4.19	-0.004	1,000	Concentration... Too Low (ND)
12	AH 1 5'	21.31	0.021	1,000	Concentration... Too Low (ND)
13	AH 1 6'	-5.21	-0.005	1,000	Concentration... Too Low (ND)
14	AH 2 0"	99.36	0.096	1,000	Concentration... Too Low (ND)
15	AH 2 1'	-4.41	-0.004	1,000	Concentration... Too Low (ND)
16	AH 2 2'	-5.66	-0.005	1,000	Concentration... Too Low (ND)
18	AH 2 3'	-5.03	-0.005	1,000	Concentration... Too Low (ND)
19	AH 2 4'	-5.59	-0.005	1,000	Concentration... Too Low (ND)
20	AH 2 5'	-5.77	-0.006	1,000	Concentration... Too Low (ND)
21	AH 2 6'	-4.52	-0.004	1,000	Concentration... Too Low (ND)
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:

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

Project: NSLU #100
Project Number: 416-6564
Location: Loco Hill, NM
Lab Order Number: 5J16006



NELAP/TCEQ # T104704156-13-3

Report Date: 10/26/15

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

Project: NSLU #100
Project Number: 416-6564
Project Manager: Tim McMinn

Fax: (432) 563-2213

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AH1 7'	5J16006-01	Soil	10/07/15 11:30	10-15-2015 16:40
AH1 8'	5J16006-02	Soil	10/07/15 11:40	10-15-2015 16:40
AH1 9'	5J16006-03	Soil	10/07/15 11:50	10-15-2015 16:40
AH2 7'	5J16006-05	Soil	10/07/15 11:35	10-15-2015 16:40
AH2 8'	5J16006-06	Soil	10/07/15 11:45	10-15-2015 16:40

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

Project: NSLU #100
Project Number: 416-6564
Project Manager: Tim McMinn

Fax: (432) 563-2213

AH1 7'
5J16006-01 (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	8250	28.4	mg/kg dry	25	P5J2005	10/20/15	10/20/15	EPA 300.0
% Moisture	12.0	0.1	%	1	P5J1610	10/16/15	10/16/15	% calculation

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

Project: NSLU #100
Project Number: 416-6564
Project Manager: Tim McMinn

Fax: (432) 563-2213

AH1 8'
5J16006-02 (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	580	1.16	mg/kg dry	1	P5J2005	10/20/15	10/20/15	EPA 300.0	
% Moisture	14.0	0.1	%	1	P5J1610	10/16/15	10/16/15	% calculation	

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

Project: NSLU #100
Project Number: 416-6564
Project Manager: Tim McMinn

Fax: (432) 563-2213

AH1 9'
5J16006-03 (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	544	1.11	mg/kg dry	1	P5J2005	10/20/15	10/20/15	EPA 300.0	
% Moisture	10.0	0.1	%	1	P5J1610	10/16/15	10/16/15	% calculation	

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

Project: NSLU #100
Project Number: 416-6564
Project Manager: Tim McMinn

Fax: (432) 563-2213

AH2 7'
5J16006-05 (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	184	1.14	mg/kg dry	1	P5J2005	10/20/15	10/20/15	EPA 300.0	
% Moisture	12.0	0.1	%	1	P5J1610	10/16/15	10/16/15	% calculation	

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

Project: NSLU #100
Project Number: 416-6564
Project Manager: Tim McMinn

Fax: (432) 563-2213

AH2 8'
5J16006-06 (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	245	1.10	mg/kg dry	1	P5J2103	10/20/15	10/21/15	EPA 300.0	
% Moisture	9.0	0.1	%	1	P5J1610	10/16/15	10/16/15	% calculation	

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

Project: NSLU #100
Project Number: 416-6564
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
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Batch P5J1610 - % Solids

Blank (P5J1610-BLK1)

Prepared & Analyzed: 10/16/15

% Moisture ND 0.1 %

Duplicate (P5J1610-DUP1)

Source: 5J16001-01

Prepared & Analyzed: 10/16/15

% Moisture 2.0 0.1 % 2.0 0.00 20

Duplicate (P5J1610-DUP2)

Source: 5J16005-07

Prepared & Analyzed: 10/16/15

% Moisture 6.0 0.1 % 6.0 0.00 20

Duplicate (P5J1610-DUP3)

Source: 5J16010-01

Prepared & Analyzed: 10/16/15

% Moisture 4.0 0.1 % 4.0 0.00 20

Batch P5J2005 - * DEFAULT PREP *****

Blank (P5J2005-BLK1)

Prepared & Analyzed: 10/20/15

Chloride ND 1.00 mg/kg wet

LCS (P5J2005-BS1)

Prepared & Analyzed: 10/20/15

Chloride 106 1.00 mg/kg wet 100 106 80-120

LCS Dup (P5J2005-BSD1)

Prepared & Analyzed: 10/20/15

Chloride 107 1.00 mg/kg wet 100 107 80-120 0.610 20

Duplicate (P5J2005-DUP1)

Source: 5J16011-01

Prepared & Analyzed: 10/20/15

Chloride 414 5.38 mg/kg dry 413 0.143 20

Duplicate (P5J2005-DUP2)

Source: 5J16010-03

Prepared & Analyzed: 10/20/15

Chloride 10400 28.4 mg/kg dry 10400 0.737 20

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

Project: NSLU #100
Project Number: 416-6564
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
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Batch P5J2005 - * DEFAULT PREP *****

Matrix Spike (P5J2005-MS1)

Source: 5J16011-01

Prepared & Analyzed: 10/20/15

Chloride	663	5.38	mg/kg dry	269	413	93.0	80-120			
----------	-----	------	-----------	-----	-----	------	--------	--	--	--

Batch P5J2103 - * DEFAULT PREP *****

Blank (P5J2103-BLK1)

Prepared: 10/20/15 Analyzed: 10/21/15

Chloride	ND	1.00	mg/kg wet							
----------	----	------	-----------	--	--	--	--	--	--	--

LCS (P5J2103-BS1)

Prepared: 10/20/15 Analyzed: 10/21/15

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

LCS Dup (P5J2103-BSD1)

Prepared: 10/20/15 Analyzed: 10/21/15

Chloride	101	1.00	mg/kg wet	100		101	80-120	1.19	20	
----------	-----	------	-----------	-----	--	-----	--------	------	----	--

Duplicate (P5J2103-DUP1)

Source: 5J16011-02

Prepared: 10/20/15 Analyzed: 10/21/15

Chloride	440	1.09	mg/kg dry		436			1.12	20	
----------	-----	------	-----------	--	-----	--	--	------	----	--

Duplicate (P5J2103-DUP2)

Source: 5J20002-04

Prepared: 10/20/15 Analyzed: 10/21/15

Chloride	2390	6.10	mg/kg dry		2370			0.833	20	
----------	------	------	-----------	--	------	--	--	-------	----	--

Matrix Spike (P5J2103-MS1)

Source: 5J16011-02

Prepared: 10/20/15 Analyzed: 10/21/15

Chloride	515	1.09	mg/kg dry	67.9	436	117	80-120			
----------	-----	------	-----------	------	-----	-----	--------	--	--	--

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

Project: NSLU #100
Project Number: 416-6564
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:

10/26/2015

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: Jim 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: Cody N. Nelson

Fax No: 432-563-2213

e-mail: tim@etechenv.com

Project Name: NSLU #100

Project #: 4110-6564

Project Loc: Loop Hills, NM

PO #:

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

LAB: SPL - Lafayette, LA

ORDER #: 5316006

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	No. of Containers	Preservation & # of Containers							Matrix	Analyze For:										RUSH TAT (Pre-Schedule) 24HOUR	Standard TAT
01	AH1	7'	10/7/15	1130	1	4	Ice	<input checked="" type="checkbox"/>	HNO ₃	<input type="checkbox"/>	HCl	<input type="checkbox"/>	H ₂ SO ₄	<input type="checkbox"/>	NaOH	<input type="checkbox"/>	Na ₂ S ₂ O ₃	<input type="checkbox"/>	None	<input type="checkbox"/>	Other (Specify)	<input type="checkbox"/>	DW=Drinking Water SL=Sludge	TPH: 418.1 8015M 1005 1006	<input type="checkbox"/>	<input type="checkbox"/>
02	AH1	8'	10/7/15	1140	1	5	GW = Groundwater S=Soil/Solid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
03	AH1	9'	10/7/15	1150	1	5	NP=Non-Potable Specify Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
04	AH1	10'	10/7/15	1200	1	5	TPH: 418.1 8015M 1005 1006	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
05	AH2	7'	10/7/15	1135	1	5	Cations (Ca, Mg, Na, K)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
06	AH2	8'	10/7/15	1145	1	5	Anions (Cl, SO ₄ , CO ₃ , HCO ₃)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
07	AH2	9'	10/7/15	1155	1	5	SAR / ESP / CEC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
08	AH2	10'	10/7/15	1205	1	5	Metals: As Ag Ba Cd Cr Pb Hg Se	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							Volatiles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							Semivolatiles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							BTEX 8021B/5030 or BTEX 8260	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							RCI	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							N.O.R.M.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							TOC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Special Instructions: Please analyze progressively after 2 consecutive samples < 1000 ppm

Stop analysis

Reinforced by: 10/15/15 1355 Date Time Received by: 10/15/15 1640 Date Time

Reinforced by: 10/15/15 1355 Date Time Received by: 10/15/15 1640 Date Time

Reinforced by: 10/15/15 1355 Date Time Received by: 10/15/15 1640 Date Time

Laboratory Comments:

Sample Containers intact? ☒ VOCs Free of Headspace? ☒ Labels on container(s)? ☒ 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: 4.0 °C