



2057 Commerce Drive
Midland, TX 79703

432.520.7720 PHONE
432.520.7701 FAX

www.TRCSolutions.com

RECEIVED

By JKeyes at 2:59 pm, Oct 14, 2015

APPROVED

By JKeyes at 2:59 pm, Oct 14, 2015

Stipulation:

RP will remain open until site abandonment at which time contaminated soils will need to be addressed.

September 24, 2015

Kellie Jones
Environmental Specialist
New Mexico Oil Conservation Division – District 1
1625 N. French Drive
Hobbs, New Mexico 88240

Re: Soil Investigation Summary and Deferred Remediation Request
Three Rivers Operating Company, LLC
Eagle 2 State 3 Release Site
NMOCD Reference 1RP-3566
Unit Letter “F”, Section 2, Township 20 South, Range 34 East, NMPM
Lea County, New Mexico

Dear Ms. Jones,

TRC Solutions (TRC), on behalf of Three Rivers Operating Company, LLC (3ROC) is pleased to present the New Mexico Oil Conservation Division (NMOCD), with this Soil Investigation Summary and Deferred Remediation Request for the crude oil and produced water release which occurred at the Eagle 2 State 3 Tank Battery. The Eagle 2 State 3 Tank Battery is located approximately sixteen (16) miles west of Monument in Lea County, New Mexico. The release site is located in Unit Letter “F”, Section 2, Township 20 South, Range 34 East. The GPS coordinates for the site are N 32.603944° and W 103.532060°. The property landowner is The State of New Mexico Land Trust. A Site Location Map is provided as Figure 1.

On February 17, 2015, a crude oil and produced water release occurred at the Eagle 2 State 3 Tank Battery. According to a 3ROC representative, “An offset operator frac’d into our well and caused a small stuffing box leak which led to a release at the battery inside the containment with plastic liner. Location had 1 bbl of oil and 15 bbls of water at well and 20 bbls of oil and 220 bbls of water at the battery inside the containment.” Please note, according to 3ROC, the Eagle 2 State 3 Release (1RP-3566) and the Eagle 2 State 6H Release (1RP-3567) are attributed to a single incident. According to 3ROC, approximately twenty (20) bbls of crude oil were released and recovered at the Eagle 2 State 3 Tank Battery and placed in the crude oil storage tanks. In addition, approximately two hundred twenty (220) bbls of produced water were released and hauled to a Salt Water Disposal (SWD) facility. For reference, attached Figure 2 depicts the impacted area and the soil sample locations at the 3ROC Eagle 2 State 3 Release Site. The NMOCD Form C-141 (Release Notification and Corrective Action) is attached.

A database maintained by the New Mexico Office of the State Engineer did not identify any registered water wells in Section 2, Township 20 South, Range 34 East. A reference map utilized by the New

Mexico Oil Conservation Division (NMOCD) Hobbs District Office, indicates groundwater should be encountered at approximately one hundred ten (110) feet below ground surface (bgs). No water wells or surface water was observed within one thousand (1,000) feet of the release. Based on the NMOCD Site Classification criteria, the Release Site remediation levels are 10 mg/Kg for benzene, 50 mg/Kg for benzene, toluene, ethylbenzene, and toluene (BTEX) and 5,000 mg/Kg for total petroleum hydrocarbons (TPH). Generally, the NMOCD approves leaving chloride concentrations less than 1,000 mg/Kg in place if the depth to groundwater in the release area exceeds one hundred (100) bgs, provided vertical delineation to 250 mg/Kg is achieved.

According to 3ROC, "field staff cleaned inside the tank battery" and the affected soil was hauled off. On March 30, 2015, TRC collected three (3) soil samples (S1 @ 3", S2 @ 3", and S3 @ 3") and submitted the soil samples to Permian Basin Environmental Lab, LP in Midland, Texas. Soil samples were analyzed for concentrations of BTEX using Method SW846-8021B, TPH using Method SW846-8015M, and chloride using Method E300.0.

The analytical results indicated, benzene concentrations ranged from less than the laboratory method detection limit (MDL) of 0.00108 mg/Kg for soil sample S3 @ 3" to 1.13 mg/Kg for soil sample S2 @ 3". BTEX concentrations ranged from 0.02124 mg/Kg for soil sample S3 @ 3" to 24.988 mg/Kg for soil sample S1 @ 3". TPH concentrations ranged from 5,167 mg/Kg for soil sample S3 @ 3" to 14,270 mg/Kg for soil sample S1 @ 3". Chloride concentrations ranged from 398 mg/Kg for soil sample S1 @ 3" to 2,620 for soil sample S3 @ 3". Please reference Figure 2 for soil sample locations. A table summarizing Benzene, BTEX, TPH, and Chloride Concentration in Soil is provided as Table 1. Laboratory analytical data is provided.

Based on the analytical results, additional remediation and vertical delineation was warranted at the release site. According to 3ROC, a roustabout crew scraped approximately three (3) inches of soil from the impacted area.

On May 18, 2015, TRC collected three (3) soil samples (S1a @ 6", S2a @ 6", and S3a @ 6") and the soil samples were submitted to the laboratory for analysis. The analytical results indicated benzene concentrations ranged from less than the appropriate laboratory MDL for soil samples S1a @ 6" and S3a @ 6" to 0.00205 mg/Kg for soil sample S2a @ 6". BTEX concentrations ranged from less than the laboratory MDL of 0.00217 mg/Kg for soil sample S3a @ 6" to 0.09995 mg/Kg for soil sample S2a @ 6". TPH concentrations ranged from less than the laboratory MDL of 27.2 mg/Kg for soil sample S3a @ 6" to 2,533.5 mg/Kg for soil sample S2 @ 6". Chloride concentrations ranged from less than the laboratory MDL of 1.11 mg/Kg for soil sample S1a @ 6" to 1,120 mg/Kg for soil sample S2a @ 6". Please reference Figure 2 for soil sample locations.

Based on the analytical results, additional remediation and vertical delineation of chloride impact was warranted in the area represented by soil sample S2a @ 6".

On June 12, 2015, a hand auger was utilized to vertically delineate the area represented by soil sample S2a @ 6". Soil samples were collected at nine (9) inches (S2b @ 9"), twenty-four (24) inches (S2c @ 24"), sixty-three (63) inches (S2d @ 63"), and sixty-six (66) inches bgs (S2e @ 66") and submitted to the laboratory for chloride analysis. The analytical results indicated, chloride concentrations ranged from 38.5 mg/Kg for soil sample S2a @ 63" to 8,200 mg/Kg for soil sample S2a @ 9".

Based on the analytical results, the Release Site has been vertical delineated and surficial remediation activities have been completed.

The Three Rivers Operating Company Eagle 2 State 3 Tank Battery is an active production facility and 3ROC requests NMOCD approval for Deferred Remediation. At Time of Abandonment (ATOA) the Eagle 2 State 3 Tank Battery facility will be remediated to NMOCD regulatory guidelines.

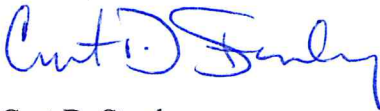
TRC has prepared this Soil Investigation Summary and Deferred Remediation Request to the best of its ability. No other warranty, expressed or implied, is made or intended.

TRC has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. TRC has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and the information provided in documents or statements is true and accurate. TRC has prepared this report, in a professional manner, using the degree of skill and care exercised by similar environmental consultants. TRC also notes the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of Three Rivers Operating Company, LLC. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of TRC and/or Three Rivers Operating Company, LLC.

If you have any questions, or if additional information is needed, please feel free to call me at 432-520-7720 (office) or 432-559-3296 (cell).

Thank you,



Curt D. Stanley
Senior Project Manager
TRC Solutions, Inc.



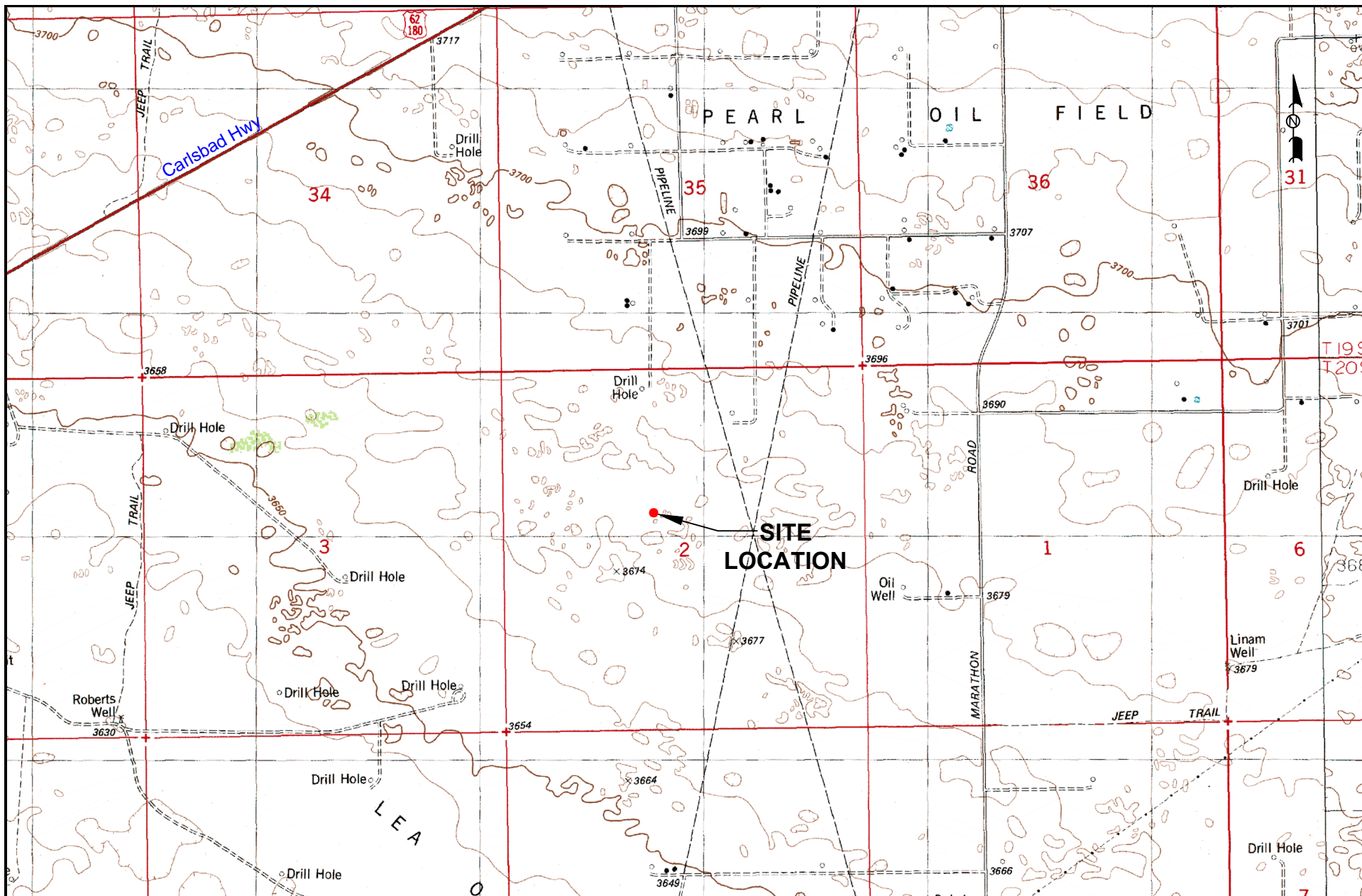
Brittan K. Byerly
Managing Principal
TRC Solutions, Inc

Attachments:

Figure 1 - Site Location Map
Figure 2 - Site Details Schematic and Soil Sample Locations Map
Table 1 – Benzene, BTEX, TPH, and Chloride Concentrations in Soil
Laboratory Analytical Reports
NMOCD Form C-141

cc: Three Rivers Operating Company, LLC.
file





LEGEND:

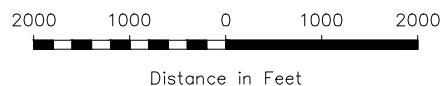


Figure 1

Site Location Map
Three Rivers Operating Company LLC
Eagle 2 State 3
Lea County, NM

Scale: 1" = 2000'

CAD By: TA

Checked By: CS

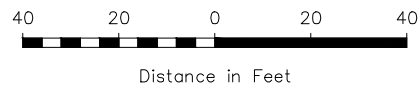
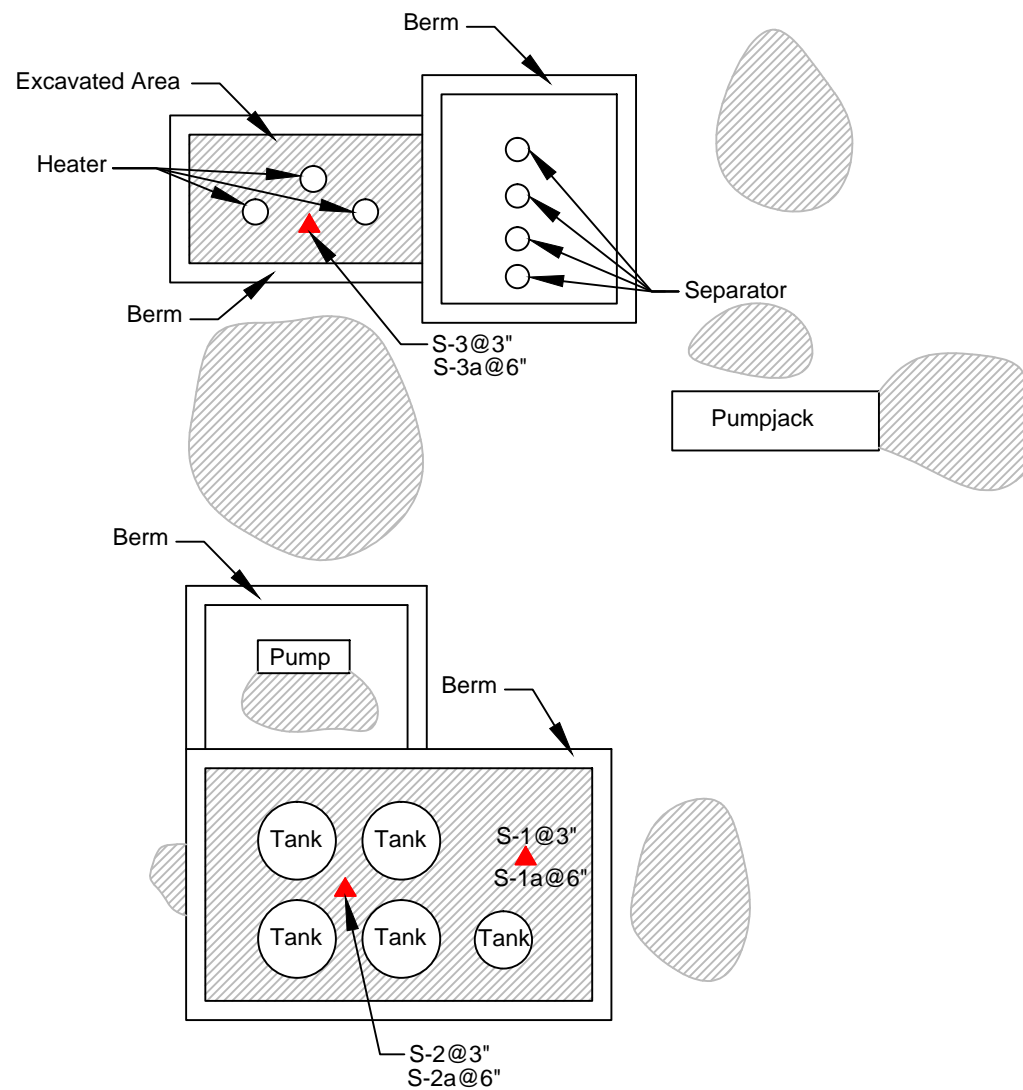
Draft: April 7, 2015

Lat. N 32.603944° Long. W 103.532060°

SW1/4 NE1/4 Sec 2 T20S R34E



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Midland, Texas 79703
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LEGEND:

▲ Soil Sample Location

Figure 2
Site Details & Soil
Sample Location Map
Three Rivers Operating Company LLC
Eagle 2 State 3
Lea County, NM

Scale: 1" = 40'

CAD By: TA

Checked By: CS

Draft: April 7, 2015

Lat. N 32.603944° Long. W 103.532060°

SW 1/4 NE 1/4 Sec 2 T20S R34E

TRC
2057 Commerce Drive
Midland, Texas 79703
432.520.7720

TABLE 1
BENZENE, BTEX, TPH AND CHLORIDE CONCENTRATIONS IN SOIL
THREE RIVERS OPERATING
EAGLE 2 STATE 3
LEA COUNTY, NEW MEXICO

All Concentrations are reported in mg/Kg

SAMPLE DATE	SAMPLE LOCATION	SAMPLE DEPTH	EPA SW 846-8015M				EPA SW 846-8021B, 5030						E 300.1
			GRO C6-C12 mg/Kg	DRO C12-C28 mg/Kg	ORO C28-C35 mg/Kg	TPH C ₆ -C ₃₅	BENZENE	TOLUENE	ETHYL- BENZENE	m, p - XYLENES	o - XYLENES	BTEX	CHLORIDE
NMOC D REGULATORY GUIDELINE		-	-	-	-	5,000	10	-	-	-	-	50	1,000
03/30/15	S1 @ 3"	3"	2,380	10,600	1,290	14,270	0.598	8.22	4.17	12	4.51	24.988	398
05/18/15	S1a @ 6"	6"	29.6	240	42.5	312.1	<0.00111	<0.00222	<0.00111	0.0178	0.00467	0.02247	<1.11
03/30/15	S2 @ 3"	3"	1,550	5,710	819	8,079	1.13	4.87	2.9	11.4	3.72	20.30	1,850
05/18/15	S2a @ 6"	6"	90.5	2,130	313	2,533.5	0.00205	0.0229	0.0327	0.0341	0.00820	0.09995	1,120
03/30/15	S3 @ 3"	3"	<134	4,370	797	5,167	<0.00108	0.00425	0.00259	0.0144	0.00278	0.02124	2,620
05/18/15	S3a @ 6"	6"	<27.2	<27.2	<27.2	<27.2	<0.00109	<0.00217	<0.00109	<0.00217	<0.00109	<0.00217	33.6

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



Analytical Report

Prepared for:

Curt Stanley
TRC Solutions- Midland, Texas
2057 Commerce Street
Midland, TX 79703

Project: Three Rivers Eagle 2 State 3

Project Number: 234317

Location: Lea County, NM

Lab Order Number: 5C31005



NELAP/TCEQ # T104704156-13-3

Report Date: 04/06/15

TRC Solutions- Midland, Texas
2057 Commerce Street
Midland TX, 79703

Project: Three Rivers Eagle 2 State 3
Project Number: 234317
Project Manager: Curt Stanley

Fax: (432) 520-7701

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S1 @ 3"	5C31005-01	Soil	03/30/15 10:15	03-31-2015 12:03
S2 @ 3"	5C31005-02	Soil	03/30/15 10:20	03-31-2015 12:03
S3 @ 3"	5C31005-03	Soil	03/30/15 10:30	03-31-2015 12:03

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2057 Commerce Street
Midland TX, 79703

Project: Three Rivers Eagle 2 State 3
Project Number: 234317
Project Manager: Curt Stanley

Fax: (432) 520-7701

S1 @ 3"
5C31005-01 (Soil)

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

Organics by GC

Benzene	0.598	0.0217	mg/kg dry	20	P5D0203	04/01/15	04/01/15	EPA 8021B
Toluene	8.22	0.0435	mg/kg dry	20	P5D0203	04/01/15	04/01/15	EPA 8021B
Ethylbenzene	4.17	0.0217	mg/kg dry	20	P5D0203	04/01/15	04/01/15	EPA 8021B
Xylene (p/m)	12.0	0.0435	mg/kg dry	20	P5D0203	04/01/15	04/01/15	EPA 8021B
Xylene (o)	4.51	0.0217	mg/kg dry	20	P5D0203	04/01/15	04/01/15	EPA 8021B
<i>Surrogate: 4-Bromofluorobenzene</i>		85.4 %	75-125		P5D0203	04/01/15	04/01/15	EPA 8021B
<i>Surrogate: 1,4-Difluorobenzene</i>		93.6 %	75-125		P5D0203	04/01/15	04/01/15	EPA 8021B

General Chemistry Parameters by EPA / Standard Methods

Chloride	398	1.09	mg/kg dry	1	P5D0301	03/31/15	03/31/15	EPA 300.0
% Moisture	8.0	0.1	%	1	P5D0105	04/01/15	04/01/15	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	2380	136	mg/kg dry	5	P5D0107	03/31/15	03/31/15	TPH 8015M
>C12-C28	10600	136	mg/kg dry	5	P5D0107	03/31/15	03/31/15	TPH 8015M
>C28-C35	1290	136	mg/kg dry	5	P5D0107	03/31/15	03/31/15	TPH 8015M
<i>Surrogate: 1-Chlorooctane</i>		107 %	70-130		P5D0107	03/31/15	03/31/15	TPH 8015M
<i>Surrogate: o-Terphenyl</i>		104 %	70-130		P5D0107	03/31/15	03/31/15	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	14300	136	mg/kg dry	5	[CALC]	03/31/15	03/31/15	calc

TRC Solutions- Midland, Texas
2057 Commerce Street
Midland TX, 79703

Project: Three Rivers Eagle 2 State 3
Project Number: 234317
Project Manager: Curt Stanley

Fax: (432) 520-7701

S2 @ 3"
5C31005-02 (Soil)

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

Organics by GC

Benzene	1.13	0.0217	mg/kg dry	20	P5D0203	04/01/15	04/01/15	EPA 8021B
Toluene	4.87	0.0435	mg/kg dry	20	P5D0203	04/01/15	04/01/15	EPA 8021B
Ethylbenzene	2.90	0.0217	mg/kg dry	20	P5D0203	04/01/15	04/01/15	EPA 8021B
Xylene (p/m)	11.4	0.0435	mg/kg dry	20	P5D0203	04/01/15	04/01/15	EPA 8021B
Xylene (o)	3.72	0.0217	mg/kg dry	20	P5D0203	04/01/15	04/01/15	EPA 8021B
<i>Surrogate: 1,4-Difluorobenzene</i>		97.4 %	75-125		P5D0203	04/01/15	04/01/15	EPA 8021B
<i>Surrogate: 4-Bromofluorobenzene</i>		95.6 %	75-125		P5D0203	04/01/15	04/01/15	EPA 8021B

General Chemistry Parameters by EPA / Standard Methods

Chloride	1850	10.9	mg/kg dry	10	P5D0301	03/31/15	03/31/15	EPA 300.0
% Moisture	8.0	0.1	%	1	P5D0105	04/01/15	04/01/15	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	1550	136	mg/kg dry	5	P5D0107	03/31/15	03/31/15	TPH 8015M
>C12-C28	5710	136	mg/kg dry	5	P5D0107	03/31/15	03/31/15	TPH 8015M
>C28-C35	819	136	mg/kg dry	5	P5D0107	03/31/15	03/31/15	TPH 8015M
<i>Surrogate: 1-Chlorooctane</i>		107 %	70-130		P5D0107	03/31/15	03/31/15	TPH 8015M
<i>Surrogate: o-Terphenyl</i>		113 %	70-130		P5D0107	03/31/15	03/31/15	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	8080	136	mg/kg dry	5	[CALC]	03/31/15	03/31/15	calc

TRC Solutions- Midland, Texas
2057 Commerce Street
Midland TX, 79703

Project: Three Rivers Eagle 2 State 3
Project Number: 234317
Project Manager: Curt Stanley

Fax: (432) 520-7701

S3 @ 3"
5C31005-03 (Soil)

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

Organics by GC

Benzene	ND	0.00108	mg/kg dry	1	P5D0203	04/01/15	04/01/15	EPA 8021B	
Toluene	0.00425	0.00215	mg/kg dry	1	P5D0203	04/01/15	04/01/15	EPA 8021B	
Ethylbenzene	0.00259	0.00108	mg/kg dry	1	P5D0203	04/01/15	04/01/15	EPA 8021B	
Xylene (p/m)	0.0144	0.00215	mg/kg dry	1	P5D0203	04/01/15	04/01/15	EPA 8021B	
Xylene (o)	0.00278	0.00108	mg/kg dry	1	P5D0203	04/01/15	04/01/15	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		112 %	75-125		P5D0203	04/01/15	04/01/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		84.3 %	75-125		P5D0203	04/01/15	04/01/15	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	2620	10.8	mg/kg dry	10	P5D0301	03/31/15	03/31/15	EPA 300.0	
% Moisture	7.0	0.1	%	1	P5D0105	04/01/15	04/01/15	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	134	mg/kg dry	5	P5D0107	03/31/15	03/31/15	TPH 8015M	
>C12-C28	4370	134	mg/kg dry	5	P5D0107	03/31/15	03/31/15	TPH 8015M	
>C28-C35	797	134	mg/kg dry	5	P5D0107	03/31/15	03/31/15	TPH 8015M	
Surrogate: 1-Chlorooctane		94.8 %	70-130		P5D0107	03/31/15	03/31/15	TPH 8015M	
Surrogate: o-Terphenyl		113 %	70-130		P5D0107	03/31/15	03/31/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	5170	134	mg/kg dry	5	[CALC]	03/31/15	03/31/15	calc	

TRC Solutions- Midland, Texas
2057 Commerce Street
Midland TX, 79703

Project: Three Rivers Eagle 2 State 3
Project Number: 234317
Project Manager: Curt Stanley

Fax: (432) 520-7701

Organics by GC - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P5D0203 - General Preparation (GC)

Blank (P5D0203-BLK1)

Prepared & Analyzed: 04/01/15

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	52.4		ug/kg	60.0		87.3	75-125			
Surrogate: 4-Bromofluorobenzene	66.7		"	60.0		111	75-125			

LCS (P5D0203-BS1)

Prepared & Analyzed: 04/01/15

Benzene	0.105	0.00100	mg/kg wet	0.100		105	70-130			
Toluene	0.113	0.00200	"	0.100		113	70-130			
Ethylbenzene	0.111	0.00100	"	0.100		111	70-130			
Xylene (p/m)	0.233	0.00200	"	0.200		116	70-130			
Xylene (o)	0.117	0.00100	"	0.100		117	70-130			
Surrogate: 1,4-Difluorobenzene	60.1		ug/kg	60.0		100	75-125			
Surrogate: 4-Bromofluorobenzene	67.9		"	60.0		113	75-125			

LCS Dup (P5D0203-BSD1)

Prepared & Analyzed: 04/01/15

Benzene	0.104	0.00100	mg/kg wet	0.100		104	70-130	1.01	20	
Toluene	0.116	0.00200	"	0.100		116	70-130	2.64	20	
Ethylbenzene	0.110	0.00100	"	0.100		110	70-130	0.190	20	
Xylene (p/m)	0.228	0.00200	"	0.200		114	70-130	2.18	20	
Xylene (o)	0.117	0.00100	"	0.100		117	70-130	0.428	20	
Surrogate: 1,4-Difluorobenzene	62.4		ug/kg	60.0		104	75-125			
Surrogate: 4-Bromofluorobenzene	66.5		"	60.0		111	75-125			

TRC Solutions- Midland, Texas
2057 Commerce Street
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Project: Three Rivers Eagle 2 State 3
Project Number: 234317
Project Manager: Curt Stanley

Fax: (432) 520-7701

General Chemistry Parameters by EPA / Standard Methods - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P5D0105 - * DEFAULT PREP *****

Blank (P5D0105-BLK1)

Prepared & Analyzed: 04/01/15

% Moisture ND 0.1 %

Duplicate (P5D0105-DUP1)

Source: 5C31003-01

Prepared & Analyzed: 04/01/15

% Moisture ND 0.1 % 0.0 20

Duplicate (P5D0105-DUP2)

Source: 5C31003-05

Prepared & Analyzed: 04/01/15

% Moisture ND 0.1 % 0.0 20

Duplicate (P5D0105-DUP3)

Source: 5C31004-03

Prepared & Analyzed: 04/01/15

% Moisture ND 0.1 % 0.0 20

Batch P5D0301 - * DEFAULT PREP *****

Blank (P5D0301-BLK1)

Prepared & Analyzed: 03/31/15

Chloride ND 1.00 mg/kg wet

LCS (P5D0301-BS1)

Prepared & Analyzed: 03/31/15

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

LCS Dup (P5D0301-BSD1)

Prepared & Analyzed: 03/31/15

Chloride 104 1.00 mg/kg wet 100 104 80-120 0.00 20

Duplicate (P5D0301-DUP1)

Source: 5C31005-01

Prepared & Analyzed: 03/31/15

Chloride 402 1.09 mg/kg dry 398 0.973 20

Matrix Spike (P5D0301-MS1)

Source: 5C31005-01

Prepared & Analyzed: 03/31/15

Chloride 470 1.09 mg/kg dry 109 398 66.2 80-120 QR-01

TRC Solutions- Midland, Texas
2057 Commerce Street
Midland TX, 79703

Project: Three Rivers Eagle 2 State 3
Project Number: 234317
Project Manager: Curt Stanley

Fax: (432) 520-7701

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P5D0107 - TX 1005

Blank (P5D0107-BLK1)

Prepared & Analyzed: 03/31/15

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	90.9		"	100		90.9	70-130			
Surrogate: o-Terphenyl	53.4		"	50.0		107	70-130			

LCS (P5D0107-BS1)

Prepared & Analyzed: 03/31/15

C6-C12	843	25.0	mg/kg wet	1000		84.3	75-125			
>C12-C28	871	25.0	"	1000		87.1	75-125			
Surrogate: 1-Chlorooctane	109		"	100		109	70-130			
Surrogate: o-Terphenyl	50.1		"	50.0		100	70-130			

LCS Dup (P5D0107-BSD1)

Prepared & Analyzed: 03/31/15

C6-C12	847	25.0	mg/kg wet	1000		84.7	75-125	0.488	20	
>C12-C28	849	25.0	"	1000		84.9	75-125	2.58	20	
Surrogate: 1-Chlorooctane	108		"	100		108	70-130			
Surrogate: o-Terphenyl	48.7		"	50.0		97.5	70-130			

Matrix Spike (P5D0107-MS1)

Source: 5C31007-02

Prepared: 03/31/15 Analyzed: 04/01/15

C6-C12	955	30.5	mg/kg dry	1220		78.3	75-125			
>C12-C28	1080	30.5	"	1220		88.8	75-125			
Surrogate: 1-Chlorooctane	127		"	122		104	70-130			
Surrogate: o-Terphenyl	63.6		"	61.0		104	70-130			

Matrix Spike Dup (P5D0107-MSD1)

Source: 5C31007-02

Prepared: 03/31/15 Analyzed: 04/01/15

C6-C12	1030	30.5	mg/kg dry	1220		84.3	75-125	7.35	20	
>C12-C28	1150	30.5	"	1220		94.6	75-125	6.29	20	
Surrogate: 1-Chlorooctane	151		"	122		123	70-130			
Surrogate: o-Terphenyl	68.1		"	61.0		112	70-130			

TRC Solutions- Midland, Texas
2057 Commerce Street
Midland TX, 79703

Project: Three Rivers Eagle 2 State 3
Project Number: 234317
Project Manager: Curt Stanley

Fax: (432) 520-7701

Notes and Definitions

QR-01 Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



Date:

4/6/2015

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.

Permian Basin Environmental Lab, LP
10014 S. County Road 1213
Midland, Texas 79706

Phone: 432-661-4184

Project Manager: Curt Stanley

Project Name: Three Rivers Eagle 2 State 3

Company Name: NOVA Safety and Environmental / TRCSolutions

Project #: 234317

Company Address: 2057 Commerce

Project Loc: Lea County, NM

City/State/Zip: Midland, Texas 79703

PO #:

Telephone No: 432-520-7720

Fax No:

Report Format:

☒ Standard ☐ TRRP ☐ NPDES

Sampler Signature:

e-mail: cdstanley@trcsolutions.com

(lab use only)

ORDER #:

5C31065

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO ₃	HCl	H ₂ SO ₄	NaOH	Na ₂ S ₂ O ₃	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO ₄ , Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	TCLP Benzene	Chloride E 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	S-1	3"	3"	3/30/2015	1015		1	X								Soil	X								X					X
2	S-2	3"	3"	3/30/2015	1020		1	X								Soil	X								X					X
3	S-3	3"	3"	3/30/2015	1030		1	X								Soil	X								X					X

Special Instructions:

Relinquished by:

Relinquished by:

Relinquished by:

Laboratory Comments:

Sample Containers Intact?

VOCs Free of Headspace?

Labels on container(s)?

Custody seals on container(s)?

Sample Hand Delivered by Sampler/Client Rep.?

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: °C

Adjusted: 20 °C Factor NCF

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



Analytical Report

Prepared for:

Geoff Leking
TRC Solutions- Midland, Texas
2057 Commerce Street
Midland, TX 79703

Project: Three Rivers Eagle 2 State 3

Project Number: 234317

Location: Lea County, New Mexico

Lab Order Number: 5E19009



NELAP/TCEQ # T104704156-13-3

Report Date: 05/28/15

TRC Solutions- Midland, Texas
2057 Commerce Street
Midland TX, 79703

Project: Three Rivers Eagle 2 State 3
Project Number: 234317
Project Manager: Geoff Leking

Fax: (432) 520-7701

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S-1a @ 6"	5E19009-01	Soil	05/18/15 12:40	05-19-2015 10:36
S-2a @ 6"	5E19009-02	Soil	05/18/15 12:45	05-19-2015 10:36
S-3a @ 6"	5E19009-03	Soil	05/18/15 12:55	05-19-2015 10:36

TRC Solutions- Midland, Texas
2057 Commerce Street
Midland TX, 79703

Project: Three Rivers Eagle 2 State 3
Project Number: 234317
Project Manager: Geoff Leking

Fax: (432) 520-7701

S-1a @ 6"
5E19009-01 (Soil)

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

Organics by GC

Benzene	ND	0.00111	mg/kg dry	1	P5E2802	05/22/15	05/23/15	EPA 8021B	
Toluene	ND	0.00222	mg/kg dry	1	P5E2802	05/22/15	05/23/15	EPA 8021B	
Ethylbenzene	ND	0.00111	mg/kg dry	1	P5E2802	05/22/15	05/23/15	EPA 8021B	
Xylene (p/m)	0.0178	0.00222	mg/kg dry	1	P5E2802	05/22/15	05/23/15	EPA 8021B	
Xylene (o)	0.00467	0.00111	mg/kg dry	1	P5E2802	05/22/15	05/23/15	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		89.6 %	75-125		P5E2802	05/22/15	05/23/15	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		117 %	75-125		P5E2802	05/22/15	05/23/15	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	ND	1.11	mg/kg dry	1	P5E2107	05/19/15	05/21/15	EPA 300.0	
% Moisture	10.0	0.1	%	1	P5E2001	05/20/15	05/20/15	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	29.6	27.8	mg/kg dry	1	P5E2102	05/19/15	05/20/15	TPH 8015M	
>C12-C28	240	27.8	mg/kg dry	1	P5E2102	05/19/15	05/20/15	TPH 8015M	
>C28-C35	42.5	27.8	mg/kg dry	1	P5E2102	05/19/15	05/20/15	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		67.2 %	70-130		P5E2102	05/19/15	05/20/15	TPH 8015M	S-GC
<i>Surrogate: o-Terphenyl</i>		79.9 %	70-130		P5E2102	05/19/15	05/20/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	312	27.8	mg/kg dry	1	[CALC]	05/19/15	05/20/15	calc	

TRC Solutions- Midland, Texas
2057 Commerce Street
Midland TX, 79703

Project: Three Rivers Eagle 2 State 3
Project Number: 234317
Project Manager: Geoff Leking

Fax: (432) 520-7701

S-2a @ 6"
5E19009-02 (Soil)

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

Organics by GC

Benzene	0.00205	0.00114	mg/kg dry	1	P5E2802	05/22/15	05/23/15	EPA 8021B	
Toluene	0.0229	0.00227	mg/kg dry	1	P5E2802	05/22/15	05/23/15	EPA 8021B	
Ethylbenzene	0.0327	0.00114	mg/kg dry	1	P5E2802	05/22/15	05/23/15	EPA 8021B	
Xylene (p/m)	0.0341	0.00227	mg/kg dry	1	P5E2802	05/22/15	05/23/15	EPA 8021B	
Xylene (o)	0.00820	0.00114	mg/kg dry	1	P5E2802	05/22/15	05/23/15	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		136 %	75-125		P5E2802	05/22/15	05/23/15	EPA 8021B	S-09
<i>Surrogate: 4-Bromofluorobenzene</i>		139 %	75-125		P5E2802	05/22/15	05/23/15	EPA 8021B	S-09

General Chemistry Parameters by EPA / Standard Methods

Chloride	1120	5.68	mg/kg dry	5	P5E2107	05/19/15	05/21/15	EPA 300.0	
% Moisture	12.0	0.1	%	1	P5E2001	05/20/15	05/20/15	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	90.5	28.4	mg/kg dry	1	P5E2102	05/19/15	05/20/15	TPH 8015M	
>C12-C28	2130	28.4	mg/kg dry	1	P5E2102	05/19/15	05/20/15	TPH 8015M	
>C28-C35	313	28.4	mg/kg dry	1	P5E2102	05/19/15	05/20/15	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		63.7 %	70-130		P5E2102	05/19/15	05/20/15	TPH 8015M	S-GC
<i>Surrogate: o-Terphenyl</i>		99.1 %	70-130		P5E2102	05/19/15	05/20/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	2530	28.4	mg/kg dry	1	[CALC]	05/19/15	05/20/15	calc	

TRC Solutions- Midland, Texas
2057 Commerce Street
Midland TX, 79703

Project: Three Rivers Eagle 2 State 3
Project Number: 234317
Project Manager: Geoff Leking

Fax: (432) 520-7701

S-3a @ 6"
5E19009-03 (Soil)

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

Organics by GC

Benzene	ND	0.00109	mg/kg dry	1	P5E2704	05/26/15	05/26/15	EPA 8021B	
Toluene	ND	0.00217	mg/kg dry	1	P5E2704	05/26/15	05/26/15	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P5E2704	05/26/15	05/26/15	EPA 8021B	
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P5E2704	05/26/15	05/26/15	EPA 8021B	
Xylene (o)	ND	0.00109	mg/kg dry	1	P5E2704	05/26/15	05/26/15	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		133 %	75-125		P5E2704	05/26/15	05/26/15	EPA 8021B	S-GC
Surrogate: 1,4-Difluorobenzene		93.6 %	75-125		P5E2704	05/26/15	05/26/15	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	33.6	1.09	mg/kg dry	1	P5E2107	05/19/15	05/21/15	EPA 300.0	
% Moisture	8.0	0.1	%	1	P5E2001	05/20/15	05/20/15	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P5E2208	05/20/15	05/20/15	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P5E2208	05/20/15	05/20/15	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P5E2208	05/20/15	05/20/15	TPH 8015M	
Surrogate: 1-Chlorooctane		78.2 %	70-130		P5E2208	05/20/15	05/20/15	TPH 8015M	
Surrogate: o-Terphenyl		94.5 %	70-130		P5E2208	05/20/15	05/20/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	05/20/15	05/20/15	calc	

TRC Solutions- Midland, Texas
2057 Commerce Street
Midland TX, 79703

Project: Three Rivers Eagle 2 State 3
Project Number: 234317
Project Manager: Geoff Leking

Fax: (432) 520-7701

Organics by GC - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 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 P5E2802 - TX 1005

Blank (P5E2802-BLK1)

Prepared & Analyzed: 05/22/15

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 4-Bromofluorobenzene	0.0621		"	0.0500		124	75-125			
Surrogate: 1,4-Difluorobenzene	0.0524		"	0.0500		105	75-125			

TRC Solutions- Midland, Texas
2057 Commerce Street
Midland TX, 79703

Project: Three Rivers Eagle 2 State 3
Project Number: 234317
Project Manager: Geoff Leking

Fax: (432) 520-7701

Organics by GC - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P5E2802 - TX 1005

LCS (P5E2802-BS1)

Prepared & Analyzed: 05/22/15

Benzene	0.0947	0.00100	mg/kg wet	0.100		94.7	70-130			
Toluene	0.108	0.00200	"	0.100		108	70-130			
Ethylbenzene	0.109	0.00100	"	0.100		109	70-130			
Xylene (p/m)	0.213	0.00200	"	0.200		106	70-130			
Xylene (o)	0.104	0.00100	"	0.100		104	70-130			
Surrogate: 4-Bromofluorobenzene	0.0580		"	0.0500		116	75-125			
Surrogate: 1,4-Difluorobenzene	0.0663		"	0.0500		133	75-125			S-GC

LCS Dup (P5E2802-BSD1)

Prepared & Analyzed: 05/22/15

Benzene	0.0911	0.00100	mg/kg wet	0.100		91.1	70-130	3.89	20	
Toluene	0.103	0.00200	"	0.100		103	70-130	4.68	20	
Ethylbenzene	0.109	0.00100	"	0.100		109	70-130	0.302	20	
Xylene (p/m)	0.213	0.00200	"	0.200		107	70-130	0.413	20	
Xylene (o)	0.104	0.00100	"	0.100		104	70-130	0.615	20	
Surrogate: 4-Bromofluorobenzene	0.0600		"	0.0500		120	75-125			
Surrogate: 1,4-Difluorobenzene	0.0616		"	0.0500		123	75-125			

TRC Solutions- Midland, Texas
2057 Commerce Street
Midland TX, 79703

Project: Three Rivers Eagle 2 State 3
Project Number: 234317
Project Manager: Geoff Leking

Fax: (432) 520-7701

General Chemistry Parameters by EPA / Standard Methods - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P5E2001 - * DEFAULT PREP *****

Blank (P5E2001-BLK1)

Prepared & Analyzed: 05/20/15

% Moisture ND 0.1 %

Duplicate (P5E2001-DUP1)

Source: 5E19006-03

Prepared & Analyzed: 05/20/15

% Moisture 4.0 0.1 % 4.0 0.00 20

Duplicate (P5E2001-DUP2)

Source: 5E19013-01

Prepared & Analyzed: 05/20/15

% Moisture 29.0 0.1 % 30.0 3.39 20

Batch P5E2107 - * DEFAULT PREP *****

Blank (P5E2107-BLK1)

Prepared: 05/19/15 Analyzed: 05/21/15

Chloride ND 1.00 mg/kg wet

LCS (P5E2107-BS1)

Prepared: 05/19/15 Analyzed: 05/21/15

Chloride 105 1.00 mg/kg wet 100 105 80-120

LCS Dup (P5E2107-BSD1)

Prepared: 05/19/15 Analyzed: 05/21/15

Chloride 101 1.00 mg/kg wet 100 101 80-120 3.09 20

Duplicate (P5E2107-DUP1)

Source: 5E05003-09

Prepared: 05/19/15 Analyzed: 05/21/15

Chloride 187 1.06 mg/kg dry 188 0.550 20

Matrix Spike (P5E2107-MS1)

Source: 5E05003-09

Prepared: 05/19/15 Analyzed: 05/21/15

Chloride 286 1.06 mg/kg dry 106 188 91.8 80-120

TRC Solutions- Midland, Texas
2057 Commerce Street
Midland TX, 79703

Project: Three Rivers Eagle 2 State 3
Project Number: 234317
Project Manager: Geoff Leking

Fax: (432) 520-7701

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P5E2102 - TX 1005

Blank (P5E2102-BLK1)

Prepared & Analyzed: 05/19/15

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	64.9		"	100		64.9	70-130			S-GC
Surrogate: o-Terphenyl	39.4		"	50.0		78.9	70-130			

LCS (P5E2102-BS1)

Prepared & Analyzed: 05/19/15

C6-C12	941	25.0	mg/kg wet	1000		94.1	75-125			
>C12-C28	1140	25.0	"	1000		114	75-125			
Surrogate: 1-Chlorooctane	90.4		"	100		90.4	70-130			
Surrogate: o-Terphenyl	46.8		"	50.0		93.6	70-130			

LCS Dup (P5E2102-BSD1)

Prepared & Analyzed: 05/19/15

C6-C12	899	25.0	mg/kg wet	1000		89.9	75-125	4.62	20	
>C12-C28	1120	25.0	"	1000		112	75-125	1.48	20	
Surrogate: 1-Chlorooctane	88.3		"	100		88.3	70-130			
Surrogate: o-Terphenyl	41.4		"	50.0		82.8	70-130			

Duplicate (P5E2102-DUP1)

Source: 5E19009-02

Prepared: 05/19/15 Analyzed: 05/20/15

C6-C12	100	28.4	mg/kg dry		90.5			10.1	20	
>C12-C28	2360	28.4	"		2130			10.5	20	
Surrogate: 1-Chlorooctane	74.5		"	114		65.5	70-130			S-GC
Surrogate: o-Terphenyl	46.5		"	56.8		81.9	70-130			

Batch P5E2208 - TX 1005

Blank (P5E2208-BLK1)

Prepared & Analyzed: 05/20/15

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	90.2		"	100		90.2	70-130			
Surrogate: o-Terphenyl	54.5		"	50.0		109	70-130			

TRC Solutions- Midland, Texas
2057 Commerce Street
Midland TX, 79703

Project: Three Rivers Eagle 2 State 3
Project Number: 234317
Project Manager: Geoff Leking

Fax: (432) 520-7701

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P5E2208 - TX 1005

LCS (P5E2208-BS1)

Prepared & Analyzed: 05/20/15

C6-C12	803	25.0	mg/kg wet	1000		80.3	75-125			
>C12-C28	881	25.0	"	1000		88.1	75-125			
Surrogate: 1-Chlorooctane	104		"	100		104	70-130			
Surrogate: o-Terphenyl	49.5		"	50.0		98.9	70-130			

LCS Dup (P5E2208-BS1)

Prepared & Analyzed: 05/20/15

C6-C12	752	25.0	mg/kg wet	1000		75.2	75-125	6.58	20	
>C12-C28	856	25.0	"	1000		85.6	75-125	2.88	20	
Surrogate: 1-Chlorooctane	103		"	100		103	70-130			
Surrogate: o-Terphenyl	47.7		"	50.0		95.4	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.
S-09	Surrogate recovery limits have been exceeded.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By:



Date:

5/28/2015

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.

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



Analytical Report

Prepared for:

Geoff Leking
TRC Solutions- Midland, Texas
2057 Commerce Street
Midland, TX 79703

Project: Three Rivers Eagle 2 State 3

Project Number: 234317

Location: Lea County, New Mexico

Lab Order Number: 5F15006



NELAP/TCEQ # T104704156-13-3

Report Date: 06/22/15

TRC Solutions- Midland, Texas
2057 Commerce Street
Midland TX, 79703

Project: Three Rivers Eagle 2 State 3
Project Number: 234317
Project Manager: Geoff Leking

Fax: (432) 520-7701

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S2b @ 9"	5F15006-01	Soil	06/12/15 10:00	06-15-2015 11:55
S2c @ 24"	5F15006-02	Soil	06/12/15 11:20	06-15-2015 11:55
S2d @ 63"	5F15006-03	Soil	06/12/15 13:40	06-15-2015 11:55
S2e @ 66"	5F15006-04	Soil	06/12/15 13:45	06-15-2015 11:55

TRC Solutions- Midland, Texas
2057 Commerce Street
Midland TX, 79703

Project: Three Rivers Eagle 2 State 3
Project Number: 234317
Project Manager: Geoff Leking

Fax: (432) 520-7701

S2b @ 9"
5F15006-01 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

Chloride	8200	28.4	mg/kg dry	25	P5F1804	06/17/15	06/18/15	EPA 300.0
% Moisture	12.0	0.1	%	1	P5F1607	06/16/15	06/16/15	% calculation

TRC Solutions- Midland, Texas
2057 Commerce Street
Midland TX, 79703

Project: Three Rivers Eagle 2 State 3
Project Number: 234317
Project Manager: Geoff Leking

Fax: (432) 520-7701

S2c @ 24"
5F15006-02 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

Chloride	1400	5.10	mg/kg dry	5	P5F1805	06/17/15	06/18/15	EPA 300.0
% Moisture	2.0	0.1	%	1	P5F1607	06/16/15	06/16/15	% calculation

TRC Solutions- Midland, Texas
2057 Commerce Street
Midland TX, 79703

Project: Three Rivers Eagle 2 State 3
Project Number: 234317
Project Manager: Geoff Leking

Fax: (432) 520-7701

S2d @ 63"
5F15006-03 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

Chloride	38.5	1.19	mg/kg dry	1	P5F1805	06/17/15	06/18/15	EPA 300.0
% Moisture	16.0	0.1	%	1	P5F1607	06/16/15	06/16/15	% calculation

TRC Solutions- Midland, Texas
2057 Commerce Street
Midland TX, 79703

Project: Three Rivers Eagle 2 State 3
Project Number: 234317
Project Manager: Geoff Leking

Fax: (432) 520-7701

S2e @ 66"
5F15006-04 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

Chloride	77.1	1.10	mg/kg dry	1	P5F1805	06/17/15	06/18/15	EPA 300.0
% Moisture	9.0	0.1	%	1	P5F1607	06/16/15	06/16/15	% calculation

TRC Solutions- Midland, Texas
2057 Commerce Street
Midland TX, 79703

Project: Three Rivers Eagle 2 State 3
Project Number: 234317
Project Manager: Geoff Leking

Fax: (432) 520-7701

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 P5F1607 - *** DEFAULT PREP ***										
Blank (P5F1607-BLK1)				Prepared & Analyzed: 06/16/15						
% Moisture	ND	0.1	%							
Duplicate (P5F1607-DUP1)				Source: 5F11016-02 Prepared & Analyzed: 06/16/15						
% Moisture	6.0	0.1	%		6.0			0.00	20	
Duplicate (P5F1607-DUP2)				Source: 5F12001-01 Prepared & Analyzed: 06/16/15						
% Moisture	2.0	0.1	%		1.0			66.7	20	
Duplicate (P5F1607-DUP3)				Source: 5F15005-01 Prepared & Analyzed: 06/16/15						
% Moisture	3.0	0.1	%		3.0			0.00	20	
Batch P5F1804 - *** DEFAULT PREP ***										
Blank (P5F1804-BLK1)				Prepared: 06/17/15 Analyzed: 06/18/15						
Chloride	ND	1.00	mg/kg wet							
LCS (P5F1804-BS1)				Prepared: 06/17/15 Analyzed: 06/18/15						
Chloride	104	1.00	mg/kg wet	100		104	80-120			
Duplicate (P5F1804-DUP1)				Source: 5F16002-01 Prepared: 06/17/15 Analyzed: 06/18/15						
Chloride	3920	27.8	mg/kg dry		3940			0.601	20	
Duplicate (P5F1804-DUP2)				Source: 5F10011-11 Prepared: 06/17/15 Analyzed: 06/18/15						
Chloride	4160	28.4	mg/kg dry		4190			0.776	20	
Matrix Spike (P5F1804-MS1)				Source: 5F16002-01 Prepared: 06/17/15 Analyzed: 06/18/15						
Chloride	5580	27.8	mg/kg dry	1670	3940	98.3	80-120			

TRC Solutions- Midland, Texas
2057 Commerce Street
Midland TX, 79703

Project: Three Rivers Eagle 2 State 3
Project Number: 234317
Project Manager: Geoff Leking

Fax: (432) 520-7701

General Chemistry Parameters by EPA / Standard Methods - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P5F1805 - * DEFAULT PREP *****

Blank (P5F1805-BLK1)

Prepared: 06/17/15 Analyzed: 06/18/15

Chloride	ND	1.00	mg/kg wet							
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LCS (P5F1805-BS1)

Prepared: 06/17/15 Analyzed: 06/18/15

Chloride	109	1.00	mg/kg wet	100		109	80-120			
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LCS Dup (P5F1805-BSD1)

Prepared: 06/17/15 Analyzed: 06/18/15

Chloride	111	1.00	mg/kg wet	100		111	80-120	1.85	20	
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Duplicate (P5F1805-DUP1)

Source: 5F15006-02

Prepared: 06/17/15 Analyzed: 06/18/15

Chloride	1400	5.10	mg/kg dry		1400			0.255	20	
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Duplicate (P5F1805-DUP2)

Source: 5F17001-02

Prepared & Analyzed: 06/18/15

Chloride	3450	32.9	mg/kg dry		3370			2.44	20	
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Matrix Spike (P5F1805-MS1)

Source: 5F15006-02

Prepared: 06/17/15 Analyzed: 06/18/15

Chloride	1740	5.10	mg/kg dry	306	1400	110	80-120			
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TRC Solutions- Midland, Texas
2057 Commerce Street
Midland TX, 79703

Project: Three Rivers Eagle 2 State 3
Project Number: 234317
Project Manager: Geoff Leking

Fax: (432) 520-7701

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:

6/22/2015

Brent Barron, Laboratory Director/Technical Director

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

Permian Basin Environmental Lab, LP
10014 S. County Road 1213
Midland, Texas 79706

Phone: 432-661-4184

Project Manager: Geoff LeKing

Company Name: TRC Solutions, Inc.

Company Address: 2057 Commerce Dr.

City/State/Zip: Midland/TX/79703

Telephone No: (432)5207720

Fax No:

Sampler Signature: *Geoffrey LeKing*

e-mail: gkleking@trcsolutions.com

Project Name: Three Rivers Operating Co. Eagle 2 State

Project #: 2 3 4 3 1 7

Project Loc: Lea County, New Mexico

PO #:

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: SF-5000

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO ₃	HCl	H ₂ SO ₄	NaOH	Na ₂ S ₂ O ₃	None	Other (Specify)	DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO ₄ , Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chlorides E 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
	S2b @ 9"			6/12/2015	1000		1	X								S														
	S2c @ 24"				1120																									
	S2d @ 63"				1340																									
	S2e @ 66"				1345																									

Special Instructions:

Relinquished by: *Geoffrey LeKing* Date: 6/15/15 Time: 1155 Received by: *Lea County* Date: 6/15/15 Time: 1155

Relinquished by: *Geoffrey LeKing* Date: 6/15/15 Time: 1155 Received by: *Lea County* Date: 6/15/15 Time: 1155

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☒ Final Report

Name of Company Three Rivers Operating Co LLC	Contact Anne Maness
Address 5301 Southwest Pkwy #400, Austin, TX 78735	Telephone No. 512-600-3195
Facility Name Eagle 2 State 3	Facility Type Well

Surface Owner State of New Mexico	Mineral Owner State of New Mexico	API No. 30-025-38042
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	2	20-S	34E	1980	NORTH	2130	WEST	LEA

Latitude 32.603944N Longitude 103.532060W

NATURE OF RELEASE

Type of Release Oil and Water	Volume of Release 21 bbls oil	Volume Recovered 21 bbls
Source of Release Offset operator frac	Date and Hour of Occurrence 2/17/15 6am	Date and Hour of Discovery 2/17/15 same morning
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? N/A	
By Whom?	Date and Hour	
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

By OCD; Dr. Oberding at 12:48 pm, Mar 18, 2015

Describe Cause of Problem and Remedial Action Taken.*

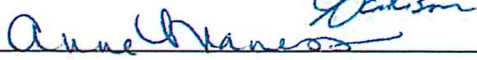

An offset operator frac'd into our well & caused a small stuffing box leak which led to a release at the battery inside the containment with plastic liner. Location had 1 bbl of oil & 15 bbls of water at well and 20 bbls of oil & 220 bbls of water at the battery inside the containment. Vacuum truck was called in to pick up oil and water. Oil was placed back into the tanks & water was hauled off to a SWD facility. Affected dirt was hauled off.

Describe Area Affected and Cleanup Action Taken.*

The caliche pad around the wellhead and plastic lined containment were the two areas affected. The pool of oil in the containment was picked up with a vacuum truck and put back in the tanks. Water was taken to a SWD facility. Field staff cleaned inside the tank battery. At the wellhead they dug down about one foot and removed the affected soil and hauled it off. Fresh dirt was laid down in its place.

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.

OIL CONSERVATION DIVISION

Signature: 	Hydrologist
Printed Name: Anne Maness	Approved by Environmental Specialist: 
Title: Regulatory Analyst	Approval Date: 03/18/2015 Expiration Date: ///
E-mail Address: amaness@3roc.com	Conditions of Approval: Attached <input type="checkbox"/>
Date: 3/17/15 Phone: 512-600-3195	/// 1RP-3566 272295

* Attach Additional Sheets If Necessary

nTO1507746867

pTO1507747151