Remediation Work Plan

State N Battery
NRM2003036134
F-11-17S-34E ON OE

Cross Timbers Energy, LLC discovered the spill on December 04,2019. The leak resulted from corrosion on a 3" steel pipeline. The steel line was replaced with 1800' of 2" poly pipe. A vacuum truck was called to location and recovered 8 of the 10 bbls released. The initial C-141 report was submitted to your office on December 18, 2019, see attached.

Cross Timbers personnel conducted initial site assessment no groundwater, surface water or any other significant watercourse was affected. Ground water depth is reported to be 130 feet by the State Engineering Office. The most current information available is attached.

The entire contaminated surface area is approximately 55' x 55'. The vertical depth of the hydrocarbon contamination is approximately 6" with the exception of the soil adjacent to the leaking pipeline. That area was excavated down to clean soil, approximately 30" deep x 6' long x 36" wide. The hydrocarbon saturated soil, approximately 24 yards was removed from location using a backhoe and trucked to Gandy Marley disposal site.

Field Samples were collected on six sample points. Each sample was tested for Chlorides, TPH, and BTEX. Based on the analysis, we are recommending bioremediation, more specifically, Biostimulation. Biostimulation involves the addition of rate-limiting nutrients to accelerate biodegradation by indigenous microorganisms. When an oil spill occurs, it results in a huge influx of carbon into the impacted environment. Carbon is the basic structural component of living matter, and in order for the indigenous microorganisms to be able to convert this carbon into more biomass, they need significantly more nitrogen and phosphorus than is normally present in the environment. Both of these elements are essential ingredients of protein and nucleic acids of living organisms, see attached NRT FACT SHEET.
BIOREMEDIATION IN OIL SPILL RESPONSE
Albert D. Venosa
U.S. EPA, Cincinnati, OH 45268
Tel: 513-569-7668

The specific action plan will take place in situ, for the entire excavation. The plan will consist of incorporating nutrients, nitrogen and phosphorus into the affected soil. This will be done mechanically with a rotor tiller to a depth of 15 to 20 inches. This allows oxygen to interact with the nitrogen and phosphorus to convert the carbon into biomass. It is Cross Timbers intention to have the soil at acceptable limits within 90 days of receiving this plan.

The site will be monitored and retested as necessary. Your office will be notified at a minimum of 2 business days prior to closure sampling. In addition, Cross Timbers will substantially restore the impacted surface area to the condition that existed prior to the release. This will be done by seeding the area with native grasses/vegetation.

Please feel free to contact me with any questions you have on the proposed remediation plan request.

Regards,

Samanntha Avarello

Samanntha Avarello
Regulatory Technician
MorningStar Partners LLC/Cross Timbers Energy LLC/Southland Royalty Co LLC
400 W 7th St, Fort Worth, TX 76102
817-334-7747

RE: EXTERNAL:NRM2003036134 STATE N BATTERY @ F-10-17S-34E 0N 0E

EC Eads, Cristina, EMNRD <Cristina.Eads@state.nm.us>
To Samanntha Avarello
Cc Bratcher, Mike, EMNRD; Hamlet, Robert, EMNRD

Reply | Reply All | Forward | ...
Thu 10/29/2020 3:53 PM

This email contains a link!

This email contains a World Wide Web link. Use caution when following links as they could open malicious web sites.

- Helpdesk

Good afternoon Samanntha,

When I was asking about the estimated amount to be remediated, I was unable to find specifics about exactly where the bioremediation was to take place. Would it be in situ, for the entire excavation, or only parts of the excavation? Or would the affected soils be removed and then treated, and if so, from what parts of the excavation, and how much?

Below are the links to the historical wells I mentioned in my previous email.
https://waterdata.usgs.gov/nm/nwis/inventory/?site_no=325115103314701&agency_cd=USGS&
https://waterdata.usgs.gov/nm/nwis/inventory/?site_no=325051103311201&agency_cd=USGS&

You can do a search of the USGS water data using township/range to search for nearby wells in the area. See example below.
https://nwis.waterdata.usgs.gov/nwis/gwlevels?search_criteria=state_cd&search_criteria=search_station_nm&submitted_form=introduction

Site Name -- enter full or partial site name (double quotes denotes an exact match ie. "willow creek")
17S.34E ○ match from the start ◉ match any part

Please let me know if you have any additional questions.

Thanks,
Cristina Eads | 505-670-5601

From: Samanntha Avarello <savarello@mspartners.com>
Sent: Thursday, October 29, 2020 1:35 PM
To: Eads, Cristina, EMNRD <Cristina.Eads@state.nm.us>
Cc: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; rmann@slo.state.nm.us
Subject: [EXT] RE: EXTERNAL:NRM2003036134 STATE N BATTERY @ F-10-17S-34E 0N 0E

Hello Cristina,

I have the lab results and chain of custody, apologies, not sure how I left it off. I will be sure to include on the resubmission

For the estimated volume of material to be remediated, are you wanting an estimated amount of soil to be removed?

I tried searching the nearby well mentioned below. I'm not sure which of the many maps to search on the USGS site. Could either of those be the NVA 267 or the NVA 217?

NVA 217 – 30-025-23674
NVA 267 – 30-025-28833

~Samanntha

From: Eads, Cristina, EMNRD <Cristina.Eads@state.nm.us>
Sent: Wednesday, October 28, 2020 5:43 PM
To: Samanntha Avarello <savarello@mspartners.com>
Cc: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; rmann@slo.state.nm.us
Subject: EXTERNAL:NRM2003036134 STATE N BATTERY @ F-10-17S-34E 0N 0E

NRM2003036134 STATE N BATTERY @ F-10-17S-34E 0N 0E

Samantha,

The OCD has denied the submitted Site Characterization and Remediation Plan C-141 for incident # NRM2003036134 for the following reasons:

- The following items required to be submitted with the remediation plan were not included:
  - Data table of soil contaminant concentration
  - Laboratory data including chain of custody
  - Estimated volume of material to be remediated/where remediation will take place
- The depth to groundwater has not been adequately determined. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, and data should be no more than 25 years old, and well construction information should be provided. The responsible party may choose to remediate to the most stringent levels listed in Table 1 in lieu of drilling to determine the depth to groundwater. There are 2 USGS wells (325115103314701 and 325051103311201) ~ 0.5 miles away from the site that indicate groundwater may be at a depth between 51-100'.

The Denied C-141 can be found in the online image file. Please review and make the required correction prior to resubmitting though the fee portal. If you have any questions or believe this denial is in error, please contact me prior to submitting an additional C-141.

Cristina Eads
Environmental Bureau
EMNRD – Oil Conservation Division
5200 Oakland Avenue NE, Suite 100
Albuquerque, New Mexico 87113
505.670-5601

email: Cristina.Eads@state.nm.us

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to groundwater, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

May 18, 2020

MONICA CERVANTES

CROSS TIMBERS ENERGY, LLC

P. O. BOX 909

EUNICE, NM 88231

RE: STATE N BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 05/14/20 12:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CROSS TIMBERS ENERGY, LLC
MONICA CERVANTES
P. O. BOX 909
EUNICE NM, 88231
Fax To: (575) 396-6253

Received:	05/14/2020	Sampling Date:	05/14/2020
Reported:	05/18/2020	Sampling Type:	Soil
Project Name:	STATE N BATTERY	Sampling Condition:	Cool & Intact
Project Number:	STATE N BATTERY - REM	Sample Received By:	Tamara Oldaker
Project Location:	CROSSTIMBERS		

Sample ID: STATE N - 1 (H001332-01)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.500	0.500	05/15/2020	ND	1.89	94.7	2.00	3.58	
Toluene*	**8.57**	0.500	05/15/2020	ND	1.93	96.5	2.00	3.97	
Ethylbenzene*	**30.1**	0.500	05/15/2020	ND	1.99	99.7	2.00	3.54	
Total Xylenes*	**42.5**	1.50	05/15/2020	ND	5.83	97.1	6.00	3.51	
Total BTEX	**81.1**	3.00	05/15/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *124 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**256**	16.0	05/15/2020	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**992**	100	05/15/2020	ND	186	92.8	200	2.94	
DRO >C10-C28*	**61600**	100	05/15/2020	ND	178	89.1	200	7.88	
EXT DRO >C28-C36	**11300**	100	05/15/2020	ND					

Surrogate: 1-Chlorooctane *271 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *2070 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CROSS TIMBERS ENERGY, LLC
MONICA CERVANTES
P. O. BOX 909
EUNICE NM, 88231
Fax To: (575) 396-6253

Received:	05/14/2020	Sampling Date:	05/14/2020
Reported:	05/18/2020	Sampling Type:	Soil
Project Name:	STATE N BATTERY	Sampling Condition:	Cool & Intact
Project Number:	STATE N BATTERY - REM	Sample Received By:	Tamara Oldaker
Project Location:	CROSSTIMBERS		

Sample ID: STATE N - 2 (H001332-02)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**11.4**	1.00	05/15/2020	ND	1.89	94.7	2.00	3.58	
Toluene*	**79.6**	1.00	05/15/2020	ND	1.93	96.5	2.00	3.97	
Ethylbenzene*	**95.9**	1.00	05/15/2020	ND	1.99	99.7	2.00	3.54	
Total Xylenes*	**101**	3.00	05/15/2020	ND	5.83	97.1	6.00	3.51	
Total BTEX	**287**	6.00	05/15/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *125 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**96.0**	16.0	05/15/2020	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**1750**	50.0	05/15/2020	ND	186	92.8	200	2.94	
DRO >C10-C28*	**16700**	50.0	05/15/2020	ND	178	89.1	200	7.88	
EXT DRO >C28-C36	**2800**	50.0	05/15/2020	ND					

Surrogate: 1-Chlorooctane *244 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *650 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CROSS TIMBERS ENERGY, LLC
MONICA CERVANTES
P. O. BOX 909
EUNICE NM, 88231
Fax To: (575) 396-6253

Received:	05/14/2020	Sampling Date:	05/14/2020
Reported:	05/18/2020	Sampling Type:	Soil
Project Name:	STATE N BATTERY	Sampling Condition:	Cool & Intact
Project Number:	STATE N BATTERY - REM	Sample Received By:	Tamara Oldaker
Project Location:	CROSSTIMBERS		

Sample ID: STATE N - 3 (H001332-03)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**2.94**	1.00	05/15/2020	ND	1.89	94.7	2.00	3.58	
Toluene*	**28.0**	1.00	05/15/2020	ND	1.93	96.5	2.00	3.97	
Ethylbenzene*	**31.4**	1.00	05/15/2020	ND	1.99	99.7	2.00	3.54	
Total Xylenes*	**38.3**	3.00	05/15/2020	ND	5.83	97.1	6.00	3.51	
Total BTEX	**101**	6.00	05/15/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *116 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	05/15/2020	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**1010**	50.0	05/15/2020	ND	186	92.8	200	2.94	
DRO >C10-C28*	**12200**	50.0	05/15/2020	ND	178	89.1	200	7.88	
EXT DRO >C28-C36	**2390**	50.0	05/15/2020	ND					

Surrogate: 1-Chlorooctane *200 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *462 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CROSS TIMBERS ENERGY, LLC
MONICA CERVANTES
P. O. BOX 909
EUNICE NM, 88231
Fax To: (575) 396-6253

Received:	05/14/2020	Sampling Date:	05/14/2020
Reported:	05/18/2020	Sampling Type:	Soil
Project Name:	STATE N BATTERY	Sampling Condition:	Cool & Intact
Project Number:	STATE N BATTERY - REM	Sample Received By:	Tamara Oldaker
Project Location:	CROSSTIMBERS		

Sample ID: STATE N - 4 (H001332-04)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**38.3**	1.00	05/15/2020	ND	1.89	94.7	2.00	3.58	S-04
Toluene*	**196**	1.00	05/15/2020	ND	1.93	96.5	2.00	3.97	S-04
Ethylbenzene*	**185**	1.00	05/15/2020	ND	1.99	99.7	2.00	3.54	S-04
Total Xylenes*	**180**	3.00	05/15/2020	ND	5.83	97.1	6.00	3.51	S-04
Total BTEX	**600**	6.00	05/15/2020	ND					S-04

Surrogate: 4-Bromofluorobenzene (PID *133 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**240**	16.0	05/15/2020	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**5200**	50.0	05/15/2020	ND	186	92.8	200	2.94	
DRO >C10-C28*	**53800**	50.0	05/15/2020	ND	178	89.1	200	7.88	
EXT DRO >C28-C36	**9140**	50.0	05/15/2020	ND					

Surrogate: 1-Chlorooctane *613 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *1770 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CROSS TIMBERS ENERGY, LLC
MONICA CERVANTES
P. O. BOX 909
EUNICE NM, 88231
Fax To: (575) 396-6253

Received:	05/14/2020	Sampling Date:	05/14/2020
Reported:	05/18/2020	Sampling Type:	Soil
Project Name:	STATE N BATTERY	Sampling Condition:	Cool & Intact
Project Number:	STATE N BATTERY - REM	Sample Received By:	Tamara Oldaker
Project Location:	CROSSTIMBERS		

Sample ID: STATE N - 5 (H001332-05)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**21.1**	5.00	05/15/2020	ND	1.89	94.7	2.00	3.58	
Toluene*	**144**	5.00	05/15/2020	ND	1.93	96.5	2.00	3.97	
Ethylbenzene*	**175**	5.00	05/15/2020	ND	1.99	99.7	2.00	3.54	
Total Xylenes*	**179**	15.0	05/15/2020	ND	5.83	97.1	6.00	3.51	
Total BTEX	**519**	30.0	05/15/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *109 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	05/15/2020	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**4140**	100	05/16/2020	ND	185	92.6	200	2.69	
DRO >C10-C28*	**58100**	100	05/16/2020	ND	177	88.3	200	8.43	
EXT DRO >C28-C36	**10200**	100	05/16/2020	ND					

Surrogate: 1-Chlorooctane *587 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *2160 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

CROSS TIMBERS ENERGY, LLC
MONICA CERVANTES
P. O. BOX 909
EUNICE NM, 88231
Fax To: (575) 396-6253

Received:	05/14/2020	Sampling Date:	05/14/2020
Reported:	05/18/2020	Sampling Type:	Soil
Project Name:	STATE N BATTERY	Sampling Condition:	Cool & Intact
Project Number:	STATE N BATTERY - REM	Sample Received By:	Tamara Oldaker
Project Location:	CROSSTIMBERS		

Sample ID: STATE N - 6 (H001332-06)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**50.2**	1.00	05/15/2020	ND	1.89	94.7	2.00	3.58	
Toluene*	**206**	1.00	05/15/2020	ND	1.93	96.5	2.00	3.97	
Ethylbenzene*	**124**	1.00	05/15/2020	ND	1.99	99.7	2.00	3.54	
Total Xylenes*	**153**	3.00	05/15/2020	ND	5.83	97.1	6.00	3.51	
Total BTEX	**534**	6.00	05/15/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *129 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**400**	16.0	05/15/2020	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**2860**	50.0	05/16/2020	ND	185	92.6	200	2.69	
DRO >C10-C28*	**11400**	50.0	05/16/2020	ND	177	88.3	200	8.43	
EXT DRO >C28-C36	**1790**	50.0	05/16/2020	ND					

Surrogate: 1-Chlorooctane *244 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *388 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

		BILL TO	
Company Name:	Crosstimbers	P.O. #:	
Project Manager:	Monica L. Cervantes	Company:	Crosstimbers
Address:	P.O Box 238	Attn:	JAKE
City:	Lovington	Address:	P.O. Box 238
State:	NM	City:	Lovington
Zip:	88260	State:	NM
Phone #:	575-441-8664	Zip:	88260
Fax #:		Phone #:	575-513-0134
Project #:	State N Battery-Rem	Fax #:	
Project Owner:	Crosstimbers		
Project Name:	State N Battery		
Project Location:	State N Battery		
Sampler Name:	Monica Cervantes		

ANALYSIS REQUEST: TPH, Chlorides, BTEX

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING DATE	TIME
H001332														
1	State N-1					✓							5-14-2020	11:24
2	State N-2					✓								11:27
3	State N-3					✓								11:28
4	State N-4					✓								11:31
5	State N-5					✓								11:32
6	State N-6					✓								11:33

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Monica L. Cervantes	Date: 5-14-2020 Time: 12:55	Received By: Tamara Oldaker
Relinquished By:		Date: 5-14-20 Time:	Received By:

Verbal Result: ☐ Yes ☐ No Add'l Phone #:
All Results are emailed. Please provide Email address:
REMARKS: evalulab@gmail.com Savarello@mspartners.com

Delivered By: (Circle One)	Observed Temp. °C 5.1	Sample Condition Cool: ☑ Yes ☐ No Intact: ☐ Yes ☐ No	CHECKED BY: (Initials) TO	Turnaround Time: Standard ☑ Rush ☐	Bacteria (only) Sample Condition Cool: ☐ Yes ☐ No Intact: ☐ Yes ☐ No
Sampler - UPS - Bus - Other:	Corrected Temp. °C			Thermometer ID #97 Correction Factor +0.4 °C	Observed Temp. °C Corrected Temp. °C

FORM-006 R 3.0

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

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 Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NRM2003036134
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party CROSS TIMBERS ENERGY, LLC	OGRID 298299
Contact Name SAMANNTHA AVARELLO	Contact Telephone 817-334-7747
Contact email SAVARELLO@MSPARTNERS.COM	Incident # *(assigned by OCD)*
Contact mailing address 400 W 7TH STREET, FORT WORTH, TX 76102	

Location of Release Source

Latitude 32.850021 Longitude -103.533482
(NAD 83 in decimal degrees to 5 decimal places)

Site Name STATE N BATTERY	Site Type OIL BATTERY
Date Release Discovered 12/04/2019	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
F	11	17S	34E	LEA

Surface Owner: [X] State [ ] Federal [ ] Tribal [ ] Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

[X] Crude Oil	Volume Released (bbls) 10 BBLS	Volume Recovered (bbls) 8 BBLS
[ ] Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	[ ] Yes [ ] No
[ ] Condensate	Volume Released (bbls)	Volume Recovered (bbls)
[ ] Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
[ ] Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
Cause of Release Old and fraile pipeline		

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State of New Mexico
Oil Conservation Division

Incident ID	NRM2003036134
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Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

- ☒ The source of the release has been stopped.
- ☒ The impacted area has been secured to protect human health and the environment.
- ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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

Printed Name: SAMANNTHA AVARELLO Title: REGULATORY TECHNICIAN

Signature: Samanntha Avarello Date: 12/12/2019

email: SAVARELLO@MSPARTNERS.COM Telephone: 817-334-7747

OCD Only

Received by: Ramona Marcus Date: 2/6/2020

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State of New Mexico
Oil Conservation Division

Incident ID	NRM2003036134
District RP	
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Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	139 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☒ Yes ☐ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☒ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☒ Boring or excavation logs
- ☒ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

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State of New Mexico
Oil Conservation Division

Incident ID	nRM2003036134
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Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

- [X] Detailed description of proposed remediation technique
- [X] Scaled sitemap with GPS coordinates showing delineation points
- [X] Estimated volume of material to be remediated
- [X] Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- [X] Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

- [ ] Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- [ ] Extents of contamination must be fully delineated.
- [ ] Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Samanntha Avarello Title: Regulatory Technician

Signature: Samanntha Avarello Date: 08/31/2020

email: savarello@mspartners.com Telephone: 817-334-7747

OCD Only

Received by: Cristina Eads Date: 01/21/2021

- [ ] Approved
- [ ] Approved with Attached Conditions of Approval
- [ ] Denied
- [ ] Deferral Approved

Signature: Date: 01/21/2021

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
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Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 11075

CONDITIONS OF APPROVAL

Operator:			OGRID:	Action Number:	Action Type:
CROSS TIMBERS ENERGY, LLC	400 West 7th Street	Fort Worth, TX76102	298299	11075	C-141

OCD Reviewer	Condition
ceads	None