

Soil Assessment and Remediation Work Plan

Boundary Raider 6 7 Fed Com 212H (Todd Apache–Tomb Raider Lease Road) API # 30-025-44146 * **1RP-5037**

Prepared For:

Devon Energy Corporation 6488 Seven Rivers Hwy Artesia, New Mexico

Prepared By:

TALON/LPE 408 W. Texas Avenue Artesia, New Mexico 88210

May 2, 2018

APPROVED

By CHernandez at 9:38 am, Jul 03, 2018

Bottom and sidewall confirmation samples are required with at least one sidewall sample taken at boundary between each of the differing depths of excavation areas.

Ms. Olivia Yu NMOCD District 1 1625 N. French Dr. Hobbs, NM 88240

Subject:

Soil Assessment and Remediation Work Plan

Boundary Raider 6 7 Fed Com 212H (Todd Apache – Tomb Raider Lease Road)

API # 30-025-44146 * 1RP-5037

Dear Ms. Yu,

Devon Energy Corporation (Devon) had contracted Talon/LPE (Talon) to perform site assessment and soil sampling activities on the lease road between the Todd Apache and Tomb Raider lease just west of the above referenced location. The results of our soil assessment and proposed remediation activities consist of the following.

Site Information

The Boundary Raider 6 7 Federal Com 212H is located approximately forty-eight (48) miles east of Carlsbad, New Mexico. The legal description for the location is Unit Letter C, Section 6, Township 23 South and Range 32 East in Lea County, New Mexico. The latitude and longitude for the location are 32.339223 North and -103.7150733 West. More specifically the coordinates for the initial point of release are latitude 32.337631 North and longitude -103.717353 West. A site plan is presented in Appendix I.

According to the soil survey provided by the United States Department of Agriculture Natural Resources Conservation Service, the soil in this area is made up of Maljamar and Palomas fine sands with 0 to 3 percent slopes. Per the New Mexico Bureau of Geology and Mineral Resources, the local surface and shallow geology is Holocene to middle Pleistocene in age and is comprised of eolian sands and piedmont deposits. Drainage courses in this area are normally dry.

Ground Water and Site Ranking

The New Mexico Office of the State Engineer (NMOSE) web site indicates that there is no known groundwater in the project work area. However, the Chevron/Texaco Water Trend Map has the ground water in this area at approximately 275-feet below ground surface or greater. The referenced ground water data is presented in Appendix II.

Therefore the ranking for this site is a **0** based on the following:

Depth to ground water >100'
Wellhead Protection Area >1000'
Distance to surface water body >1000'

Based upon the site ranking of 0, NMOCD Recommended Remedial Action Levels (RRAL's) are 50 mg/kg for BTEX, 10 mg/kg for Benzene and 5,000 mg/kg for TPH. The NMOCD recommended guideline for Total Chlorides is 600 mg/kg.

Incident Description

On April 17, 2018, Devon had a release occur on the Todd Apache-Tomb Raider Lease Road. The closest well is the Boundary Raider 6 7 Federal Com 212H(API# is 30-025-44146). At approximately 09:30 am, Devon was preparing to blade and repair the lease road in this area and requested a load of fresh water to be delivered. The Devon representative on site noticed that the water was discolored. Upon contacting the trucking company regarding the color it was determined that they were hauling a load of gray water rather than fresh water. Approximately 130 barrels of gray water were used on the road and no fluids were able to be recovered. The driver started unloading the gray water at GPS coordinates 32.337631 North and -103.717353 West, with the ending coordinates 32.340441 North and -103.716795 West. From the ending coordinates the gray water flowed northwest along a Devon pipeline corridor for approximately 180-feet where it pooled on Regeneration Energy location E Livingston 31 Federal #7. The gray water then flowed west across the south end of the location for another 250-feet. This release measures approximately 4/10 of a mile following the Todd Apache – Tomb Raider Lease Road, north along a Devon pipeline corridor and then west across the location before terminating. A site map illustrating the areas impacted by this spill is presented in Appendix I.

Initial Remedial Actions

On April 18, 2018, Talon mobilized personnel to begin site assessment and soil sampling activities for the construction of a work plan. Grab soil samples were collected utilizing a hand auger to varying depths ranging from surface to 4-feet deep. Refusal was encountered at 9 of 13 sample locations from 1-2.5 feet (BGS). Talon subsequently mobilized a backhoe and additional personnel to obtain samples at greater depths. The analytical results from our site assessment are presented in the Data Table attached in Appendix III.

Laboratory Results

Talon personnel wearing clean nitrile gloves collected all soil samples. The soil samples were placed in laboratory provided sample containers, iced and transported to Cardinal Laboratories in Hobbs, New Mexico for analysis. The samples were tested for TPH Extended Range (Total Petroleum Hydrocarbons) using EPA Method 8015M and volatile organics (BTEX) using EPA Method 8021B. The chloride samples were analyzed using Method SM4500Cl-B. The complete laboratory reports are in Appendix IV.

Proposed Remedial Actions

- The impacted area in the vicinity of sample location S-3 will be excavated to a depth of 3.5 feet BGS and the areas surrounding locations S-1 and S-10 will be excavated to a depth of 2.5-feet deep.
- The impacted area near S-9 will be excavated to 2-feet deep.
- The impacted soil in the vicinity of S-7 and S-12 will be excavated to 1.5' deep.
- The flow path will be excavated 1-foot deep near S-2, S-6 and S-13 sample locations.
- The excavation will extend to 0.5-feet deep in the vicinity of sample locations S-4, S-5 and S-11.
- Sample location S-8 does not need to be addressed due to being outside of the impacted area.
- Confirmation samples will be obtained for the sidewalls and bottoms of the excavations to verify that all contaminants have been removed. Sample location S-2 does not require confirmation samples due to the chlorides levels being under the NMOCD Recommended Remedial Action Levels (RRAL's).
- All of the excavated material will be hauled to a NMOCD approved disposal facility.
- The excavated areas will be backfilled to grade using new caliche. Once the backfilling activities are complete the work area will be watered, machine compacted and contoured to match the surrounding area.
- A final closure report documenting all remedial actions will be provided to the NMOCD Artesia Office along with a Final C-141 Form.

Should you have any questions or if further information is required, please do not hesitate to contact our office at (575)-746-8768

Respectfully submitted,

TALON/LPE

Kimberly M. Wilson
Kimberly M. Wilson

Project Manager

David J. Adkins District Manager

Attachments

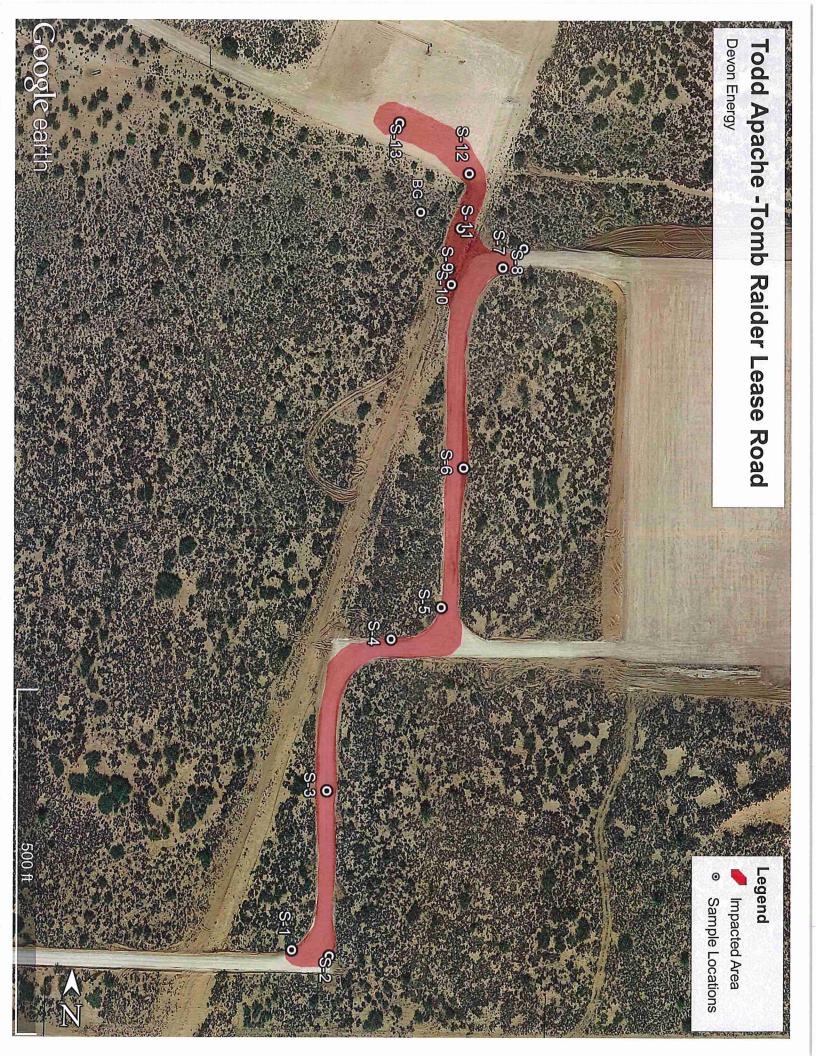
Appendix I Site Plan

Appendix II Groundwater Data & Initial C-141

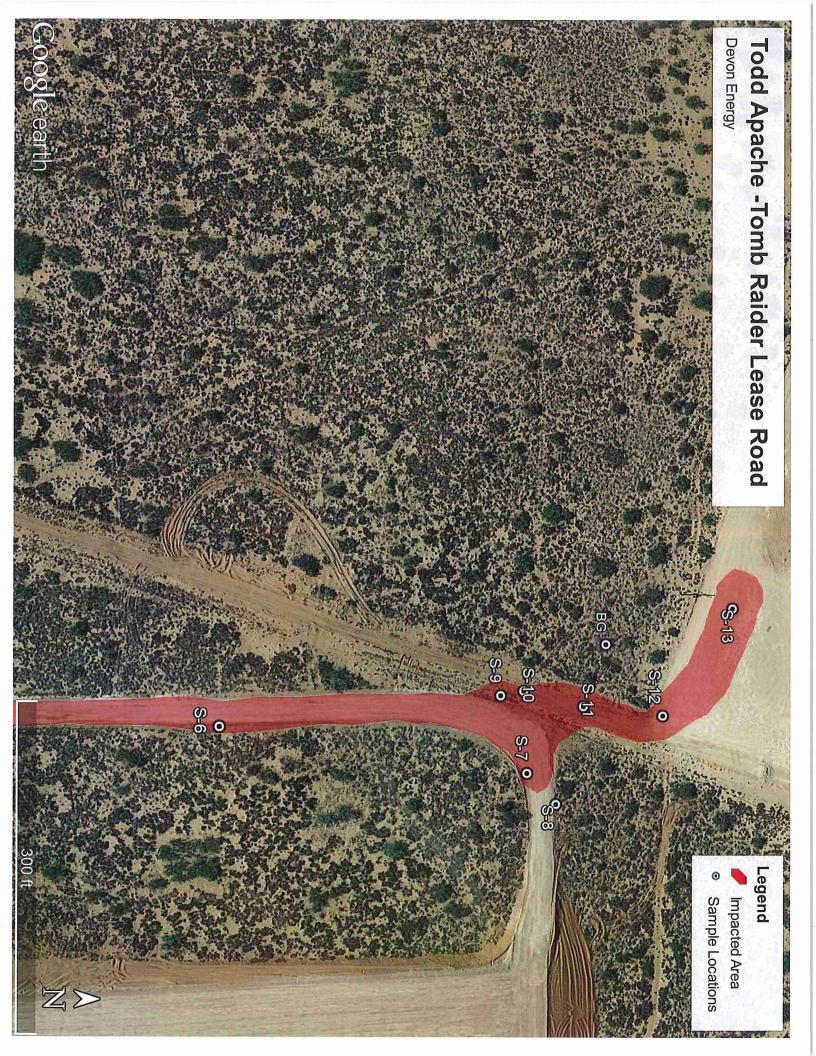
Appendix III Data Table

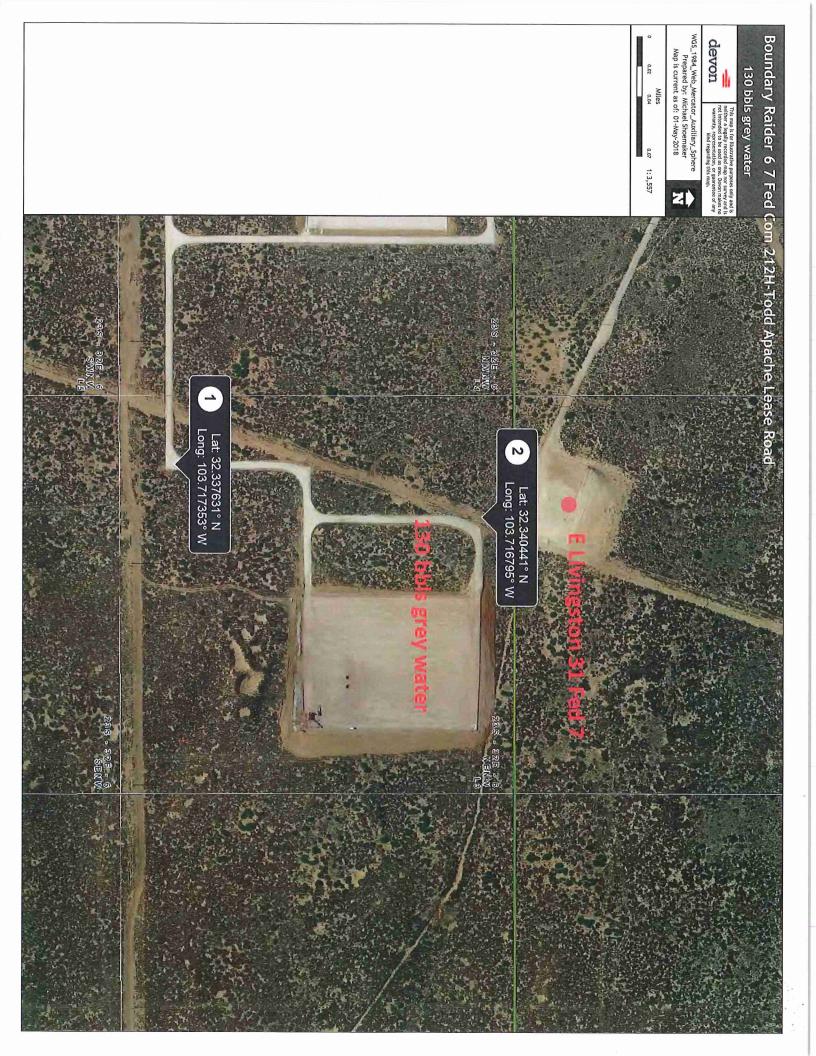
Appendix IV Laboratory Results

APPENDIX I SITE MAP

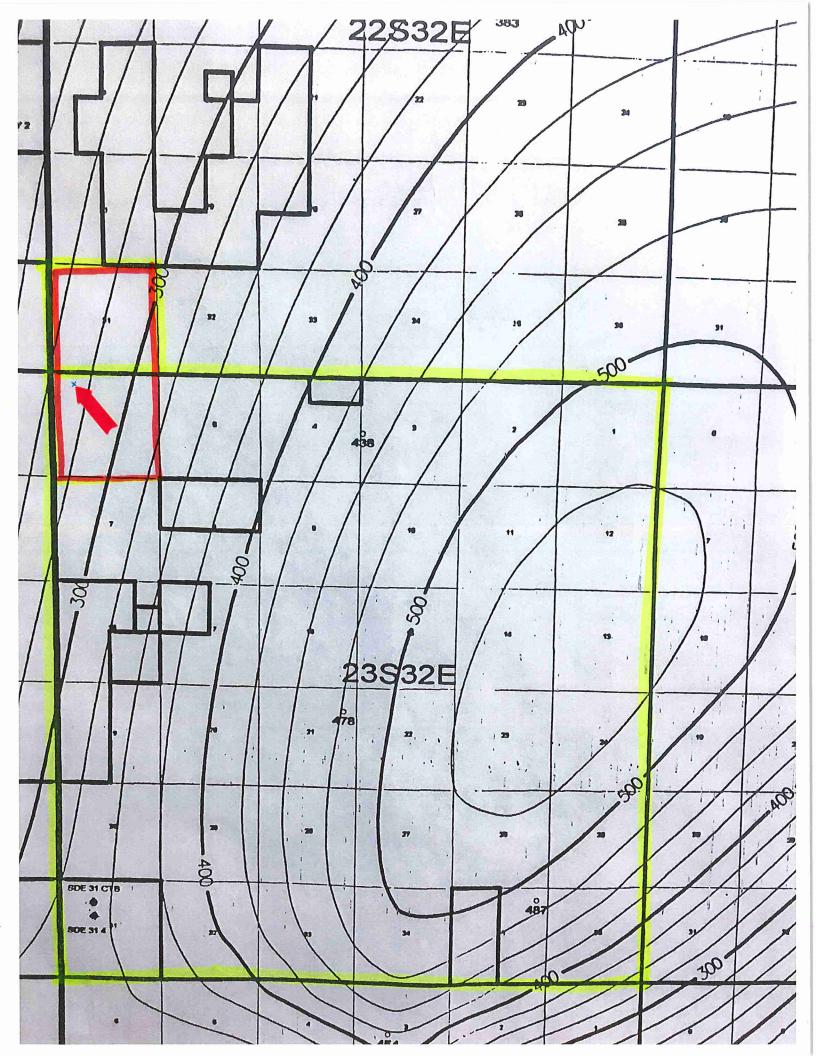








APPENDIX II GROUNDWATER DATA INITIAL C-141





New Mexico Office of the State Engineer Water Column/Average Depth to Water

(A CLW#### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned,

C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to

largest)

(NAD83 UTM in meters)

(In feet)

POD

Sub-

QQQ

X

Water DistanceDepthWellDepthWaterColumn

POD Number C '02756

Code basin County 64 16 4 Sec Tws Rng 3 4 4 26 22S 31E

618250 3580606*

2844 1998

C 03152

ED

CUB

3 4 4 26 22S 31E

2844

938

CUB ED 618250 3580606*

Average Depth to Water:

Minimum Depth:

Maximum Depth:

Record Count:2

UTMNAD83 Radius Search (in meters):

Easting (X): 620285

Northing (Y): 3578619

Radius: 3000

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

5/2/18 8:29 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER



New Mexico Office of the State Engineer Water Column/Average Depth to Water

(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) (NAD83 UTM in meters)

No records found.

UTMNAD83 Radius Search (in meters):

Easting (X): 621740

Northing (Y): 3579041

Radius: 3000

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

5/2/18 8:30 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

<u>District I</u> 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

Form C-141 Revised April 3, 2017

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

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

OPERATOR				Rele	ease Notific	eatioi	n and Co	orrective A	ction				
Name of Company Devone Energy Production Company Address 6488 Seven Rivers Highy Artesia, NM 88210 Facility Name Boundary Raider 6 7 Fed Com 212H (Todd Apache-Tomb Raider 1 Lasse Road) Surface Owner Federal Mineral Owner Federal API No. 30-025-44146 LOCATION OF RELEASE Unit Letter LOCATION OF RELEASE Unit Letter Location of Release Grey Water Latitude 32.337631 Longitude 103.717353 NAD83 NATURE OF RELEASE Type of Release Grey Water NATURE OF RELEASE Type of Release Grey Water Volume Recovered 0 bids NATURE OF RELEASE Type of Release Water Truck Was Immediate Notice Given? Was a Watercourse Reached? Yes No Tify Is, Yolune Impeding the Watercourse Reached? Was a Watercourse Reached? Yes No RECEIVED By Olivia Yu at 7:26 am, May 02, 2018 Describe Cause of Problem and Remedial Action Taken.* Describe Area Affected and Cleany Action Taken.* Approval Date: Describe A							OPERA'	ΓOR	D	✓ Initia	al Report		Final Repor
Facility Name Boundary Raider 6 7 Fed Com 212H (Todd Apsche-Tomb Raider Lease Road) Facility Type Oil	Name of Cor	mpany D	evon Energy	on Company									
Facility Name Boundary Raider 6 7 Fed Corn 212H (Todd Apache-Tomb Raider Lease Road) Facility Type Oil	Address 648	88 Seven	Rivers Hwy	VM 88210									
Mineral Owner Federal					m 212H (Todd								
Location County	Apache-Tomb Raider Lease Road)												
Location County	Surface Own	ner Federa	1		Mineral C)wner F	Federal			API No	30-025-4	4146	
Latitude	2002000000000		••							711 1110	, 50-025-4	1110	
Latitude 32.337631 Longitude 103.717353 NAD83 NATURE OF RELEASE Volume of Release 130 bbls Volume Recovered 0 bbls NATURE OF RELEASE Volume of Release 130 bbls Volume Recovered 0 bbls Date and Hour of Cocurrence April 17, 2018 9:30 AM MST April 18, 2018 9:02 AM MST April 19, 2018 April 19, 2018 April 19, 2018 April 19, 2018 April 20													
Type of Release Grey Water Source of Release Water Truck Source of Release Water Truck Was Immediate Notice Given? Yes					Feet from the	North					Lea		
Volume of Release 130 bbls Volume Recovered 0 bbls			I	_atitude_	32.337631		Longitude_	103.717353	NAD	83			
Date and Hour of Occurrence April 17, 2018 9:30 AM MST April 17, 2018 9:30 AM MST April 17, 2018 9:30 AM MST FYES, To Whom? NMCCD-divia Ya BLM-Shelly Tucker Date and Hour of Discovery April 18, 2018 9:30 AM MST FYES, To Whom? NMCCD-divia Ya BLM-Shelly Tucker Date and Hour of Discovery April 18, 2018 9:02 AM MST Date and Hour of Discovery April 18, 2018 9:02 AM MST FYES, Yo Whom? NMCD Date and Hour of Discovery April 18, 2018 9:02 AM MST FYES, Yo Whom Part of Date and Hour of Discovery April 18, 2018 9:02 AM MST FYES, Yo Whom Part of Date and Hour of Discovery April 18, 2018 9:02 AM MST FYES, Yo Whom Part of Date and Hour of Discovery April 18, 2018 9:02 AM MST FYES, Yo Whom Part of Date and Hour of Discovery April 18, 2018 9:02 AM MST FYES, Yo Whom Part of Date and Hour					NAT	URE	OF REL	EASE					
Was Immediate Notice Given? Yes No Not Required If YES, To Whom? NMCCD-Olivia Yis BLM-Shelly Tucker Shelly Tucker By Whom? Mike Shoemaker EHS Professional Date and Hour April 18, 2018 9:02 AM MST													
Was Immediate Notice Given? Yes No Not Required Not Ce-Opinion Yuke Shoemaker EHS Professional Date and Hour Date	Source of Rele	ease Water	Truck										т
By Whon? Mike Shoemaker EHS Professional Was a Watercourse Reached? If a Watercourse was Impacted, Describe Fully.* N/A Describe Cause of Problem and Remedial Action Taken.* Devon was preparing to blade and repair the lease road in this area and requested a load of fresh water to be delivered to the area. The contract company showed up and unloaded their water when the Devon representative reviewed the water that was applied there was discoloration and when the trucking company was approached it was determined that they were hauling a load of grey water rather than fresh water and had applied the load of grey water. The following coordinates are the beginning point (Lat 32,337631, Long 103.717353) and the end point (Lat 32,340441, Long 103.716795) where unloading stopped. From the endpoint the released water did spread down the Devon pipeline corridor, across a portion of the E Livingston 31 Fed 7 Location and down the lease road near it. The E Livingston 31 Fed 7 is owned operated by Regeneration Energy Cop., and the incident was discussed with their field personnel yesterday and follow up calls will be made to keep them apprised of ongoing cleanup efforts. Describe Area Affected and Cleanup Action Taken.* Approximately 130 bbls of grey water was applied to the lease road and 0 bbls were recovered. An environmental contractor will be contacted to assist with delineation and remediation efforts beginning the following day. 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 responsibility for compliance with any other federal, state, or local laws and/or regulations. Signature: Michael Shoemaker Printed Name: Michael Shoem	Was Immedia	te Notice C	Given?						01 /	npiii 17,	2010 9.30 A	101 1010	1
Was a Watercourse Reached? Yes No RECEIVED By Olivia Yu at 7:26 am, May 02, 2018 Describe Cause of Problem and Remedial Action Taken.* Devon was preparing to blade and repair the lease road in this area and requested a load of fresh water to be delivered to the area. The contract company showed up and unloaded their water when the Devon representative reviewed the water that was applied there was discoloration and when the trucking company was approached it was determined that they were hauling a load of grey water rather than fresh water and had applied the load of grey water. The following coordinates are the beginning point (Lat 23,33763,1 Long 103,716795) and the end point (Lat 23,340441, Long 103,716795) where unloading stopped. From the endpoint the released water did spread down the Devon pipeline corridor, across a portion of the E Livingston 31 Fed 7 Location and down the lease road near it. The E Livingston 31 Fed 7 is owned/operated by Regeneration Energy Corp. and the incident was discussed with their field personnel yesterday and follow up calls will be made to keep them apprised of ongoing cleanup efforts. Describe Area Affected and Cleanup Action Taken.* Approximately 130 bbls of grey water was applied to the lease road and 0 bbls were recovered. An environmental contractor will be contacted to assist with delineation and remediation efforts beginning the following day. 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. In addition, NMOCD acceptance of a C-141 report by he 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 environ						equired	NMOCD-Olivia Yu						
Was a Watercourse Reached? Yes No N/A RECEIVED By Olivia Yu at 7:26 am, May 02, 2018 Describe Cause of Problem and Remedial Action Taken.* Devon was preparing to blade and repair the lease road in this area and requested a load of fresh water to be delivered to the area. The contract company showed up and unloaded their water when the Devon representative reviewed the water that was applied there was discoloration and when the trucking company was approached it was determined that they were hauling a load of grey water rather than fresh water and had applied the load of grey water. The following coordinates are the beginning point (Lat 32.33631, Long 103.717353) and the end point (Lat 32.340441, Long 103.716795) where unloading stopped. From the endpoint the released water did spread down the Devon pipeline corridor, across a prior of the E Livingston 31 Fed 7 is owned/operated by Regeneration Energy Corp. and the incident was discussed with their field personnel yesterday and follow up calls will be made to keep them apprised of ongoing cleanup efforts. Describe Area Affected and Cleanup Action Taken.* Describe Area Affected and Cleanup Action Taken.* Describe Area Affected and Cleanup Action Taken.* Approximately 130 bbls of grey water was applied to the lease road and 0 bbls were recovered. An environmental contractor will be contacted to assist with delineation and remediation efforts beginning the following day. 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, human health or the	By Whom? Mike Shoemaker EHS Professional						Date and Hour						
Factor Problem Probl							If YES, Volume Impacting the Watercourse.						
Describe Cause of Problem and Remedial Action Taken.* Devon was preparing to blade and repair the lease road in this area and requested a load of fresh water to be delivered to the area. The contract company showed up and unloaded their water when the Devon representative reviewed the water that was applied there was discoloration and when the trucking company was approached it was determined that they were hauling a load of grey water rather than fresh water and had applied the load of grey water. The following coordinates are the beginning point (Lat 32.337631, Long 103.717353) and the end point (Lat 32.340441, Long 103.716795) where unloading stopped. From the endpoint the released water did spread down the Devon pipeline corridor, across a portion of the E Livingston 31 Fed 7 Location and down the lease road near it. The E Livingston 31 Fed 7 is owned/ operated by Regeneration Energy Corp. and the incident was discussed with their field personnel yesterday and follow up calls will be made to keep them apprised of ongoing cleanup efforts. Describe Area Affected and Cleanup Action Taken.* Approximately 130 bbls of grey water was applied to the lease road and 0 bbls were recovered. An environmental contractor will be contacted to assist with delineation and remediation efforts beginning the following day. 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 power and 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 compl							IN/A	DECEN	/ED				
Devon was preparing to blade and repair the lease road in this area and requested a load of fresh water to be delivered to the area. The contract company showed up and unloaded their water when the Devon representative reviewed the water that was applied there was discoloration and when the trucking company was approached it was determined that they were hauling a load of grey water and had applied the load of grey water. The following coordinates are the beginning point (Lat 32,337631, Long 103.717353) and the end point (Lat 32.340441, Long 103.716795) where unloading stopped. From the endpoint the released water did spread down the Devon pipeline orion, across a portion of the E Livingston 31 Fed 7 Location and down the lease road near it. The E Livingston 31 Fed 7 is owned/ operated by Regeneration Energy Corp. and the incident was discussed with their field personnel yesterday and follow up calls will be made to keep them apprised of ongoing cleanup efforts. Describe Area Affected and Cleanup Action Taken.* Approximately 130 bbls of grey water was applied to the lease road and 0 bbls were recovered. An environmental contractor will be contacted to assist with delineation and remediation efforts beginning the following day. 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 operators 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 regulation		rse was Im	pacted, Descr	be Fully.*						t 7:26	am, M	ay 0	2, 2018
Approximately 130 bbls of grey water was applied to the lease road and 0 bbls were recovered. An environmental contractor will be contacted to assist with delineation and remediation efforts beginning the following day. 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: **Mtchael Shoemaker** Printed Name: Michael Shoemaker* Approved by Environmental Specialist: Title: Environmental Professional Approval Date: **5/2/2018** Expiration Date: Conditions of Approval: See attached directive	Devon was proshowed up and company was following coorstopped. Fron down the least personnel yest	eparing to dunloaded approached approached approached arthe endport e road near terday and	blade and repa their water w d it was detern e the beginnin bint the release it. The E Liv follow up call	hir the leas hen the Do nined that g point (L ed water d ringston 31 s will be n	e road in this area evon representation they were haulin at 32.337631, Louid spread down the Fed 7 is owned/ ande to keep then	ve revier g a load ng 103.7 ne Devo	wed the water of grey water 717353) and to the pipeline cond and by Regener	that was applied rrather than fresh he end point (Lat ridor, across a po ation Energy Cor	there was water and 32.34044 rtion of th	discolora d had app 1, Long 1 te E Livin	ation and what lied the load 03.716795) gston 31 Fe	nen the plant of grey where did 7 Loc	trucking y water. The unloading cation 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: Michael Shoemaker Printed Name: Michael Shoemaker Approved by Environmental Specialist: Title: Environmental Professional Approval Date: 5/2/2018 Expiration Date: Conditions of Approval: See attached directive	Approximately with delineation	y 130 bbls on and rem	of grey water ediation effor	was appliets beginning	ed to the lease roang the following o	lay.							
Printed Name: Michael Shoemaker Approved by Environmental Specialist: Title: Environmental Professional E-mail Address: mike.shoemaker@dvn.com Date: 05/01/18 Phone: 575.748.3371 Approved by Environmental Specialist: Environmental Specialist: Expiration Date: See attached directive	regulations all public health of should their op or the environ	l operators or the environ perations homent. In a	are required to conment. The ave failed to a ddition, NMC	o report an acceptance dequately CD accep	d/or file certain r e of a C-141 repo investigate and r	elease n ort by the emediate	otifications ar e NMOCD m e contaminati	nd perform correct arked as "Final Roon that pose a thre	tive action eport" doe eat to grou	ns for rele es not reli and water	eases which eve the oper surface wa	may en ator of ter, hun	danger liability nan health
Title: Environmental Professional E-mail Address: mike.shoemaker@dvn.com Conditions of Approval: See attached directive See attached directive	Signature: Míchael Shoemaker					OIL CONSERVATION DIVISION							
E-mail Address: mike.shoemaker@dvn.com Conditions of Approval: See attached directive Expiration Date: Attached Attached	Printed Name: Michael Shoemaker					Approved by Environmental Specialist:							
Date: 05/01/18 Phone: 575.748.3371 see attached directive	Title: Environmental Professional						Approval Date: 5/2/2018 Expiration Date:						
Date: 05/01/18 Phone: 575.748.3371 see attached directive	E-mail Address: mike.shoemaker@dvn.com					Conditions of Approval:							
	Date: 05/01/18 Phone: 5/5./48.33/1						see attached directive						

APPENDIX III DATA TABLE

Subject: Boundary Raider 6 7 Fed Com 212H 1RP-5037

Todd Apache – Tomb Raider Lease Road Gray Water Release

Sample	Depth	BTEX	Chlorides	TPH	TPH	TPH	Total
ID	(feet)	(mg/kg)	(mg/kg)	(mg/kg) GRO	(mg/kg) DRO	(mg/kg) EXT	TPH
BG	0.0	< 0.300	80	<10	<10	<10	<10
	1.0	< 0.300	16	<10	<10	<10	<10
	2.0		64				
Refusal	2.5		48	;			
-1700-1							
S-1	0.0	< 0.300	12300	<10	47.5	<10	47.5
	1.0	< 0.300	144	<10	<10	<10	<10
	2.0		816				
	3.0		304				
	4.0		736				
	5.0		32				
	7.0		64				
S-2	0.0	< 0.300	12200	<10	34.8	<10	34.8
	0.5	< 0.300	2640	<10	<10	<10	<10
	1.0		368				
Refusal	2.0		48				
S-3	0.0	< 0.300	43200	<10	<10	<10	<10
	1.0	< 0.300	752	<10	<10	<10	<10
Refusal	2.0		368				
	3.0		2120				
	5.0		64				
	7.0		80				
S-4	0.0	<0.300	16000	<10	<10	<10	<10
	1.0	< 0.300	96	<10	<10	<10	<10
Refusal	2.0	< 0.300	80	<10	<10	<10	<10
77.4							
S-5	0.0	2.33	22000	<10	12.7	<10	12.7
	0.5	< 0.300	4480	<10	<10	<10	<10
Refusal	1.0	< 0.300	2400	<10	<10	<10	<10
	2.0		<16				
S-6	0.0	3.75	60800	<10	12.5	<10	12.5
	0.5	< 0.300	12000	<10	<10	<10	<10
	1.0		208				-
	2.0		432				
	3.0		400				
	4.0		800				
S-7	0.0	<0.300	11600	<10	<10	<10	<10
	1.0	< 0.300	4960	<10	<10	<10	<10
	2.0		192				
	3.0		80				
	4.0		720				
	5.0		<16				
S-8	0.0	<0.300	176	<10	<10	<10	<10
Refusal	1.0	< 0.300	48	<10	<10	<10	<10

Devon Energy Corporation Boundary Raider 6 7 Fed Com 212H 1RP-5037 * API: #30-025-44146 (Todd Apache – Tomb Raider Lease Road)

Sample ID	Depth (feet)	BTEX (mg/kg)	Chlorides (mg/kg)	TPH (mg/kg) GRO	TPH (mg/kg) DRO	TPH (mg/kg) EXT	Total TPH
S-9	0.0	< 0.300	19600	<10	<10	<10	<10
	1.0	< 0.300	8160	<10	<10	<10	<10
	2.0		640				
Refusal	3.0		352				
S-10	0.0	<0.300	18200	<10	<10	<10	<10
3-10	1.0	<0.300	10800	<10	<10	<10	<10
Refusal	1.5	~0.300	8200				
Refusai	2.0		4000				
	3.0		64				
	5.0		64				
	3.0		04				
S-11	0.0	< 0.300	9800	<10	<10	<10	<10
	1.0	< 0.300	144	<10	<10	<10	<10
	2.0		80				
	3.0		64				
	4.0		80				
0.40	0.0	*0.000	44000	-10	110	***	-4.0
S-12	0.0	<0.300	11800	<10	<10	<10	<10
	1.0	< 0.300	8400	<10	<10	<10	<10
	2.0		416				
	3.0		304				
	4.0		128		2-		
S-13	0.0	< 0.300	20000	<10	16.9	<10	16.9
Refusal	0.5	< 0.300	11400	<10	<10	<10	<10
	1.0		64				
	3.0		48				
	5.0		32				

⁻⁻Analyte Not Tested

APPENDIX IV LABORATORY RESULTS

From: David J. Adkins

To: <u>Hernandez, Christina, EMNRD</u>

Cc: stucker@blm.gov; Shoemaker, Mike; Yu, Olivia, EMNRD; jack@thestandardenergy.com; MLuehrs@cl-na.com;

Kimberly M. Wilson

Subject: Re: 1RP-5037 * Boundary Raider (Todd Apache-Tomb Raider Lease Rd Grey Water Release)

Date: Monday, July 2, 2018 5:01:59 PM

Attachments: <u>image001.png</u>

Understood.

Thank you Christine.

Sent from my iPhone

On Jul 2, 2018, at 6:44 PM, Hernandez, Christina, EMNRD

< <u>Christina.Hernandez@state.nm.us</u>> wrote:

Dear Mr. Adkins:

Thank you for your submittal of original laboratory results and chains of command. NMOCD approves the proposed remediation for **1RP-5037**, however, please be advised that completion of vertical delineation, while remediating, is considered conducted atrisk. It is also NMOCD's recommendation to visually inspect freshwater loads before surface applications take place.

Thanks,

Christina Hernandez
EMNRD-OCD
Environmental Specialist
1625 N. French Drive
Hobbs, NM 88240
575-393-6161 x111

Christina. Hernandez@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 ground water, 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, local laws and/or regulations.

From: David J. Adkins < dadkins@talonlpe.com>

Sent: Thursday, June 28, 2018 1:32 PM

To: Hernandez, Christina, EMNRD < Christina.Hernandez@state.nm.us; stucker@blm.gov; Shoemaker, Mike < Mike.Shoemaker@dvn.com>

Cc: Yu, Olivia, EMNRD < Olivia. Yu@state.nm.us >; jack@thestandardenergy.com;

MLuehrs@cl-na.com; Kimberly M. Wilson < kwilson@talonlpe.com>

Subject: RE: 1RP-5037 * Boundary Raider (Todd Apache-Tomb Raider Lease Rd Grey Water Release)

Hello Ms. Hernandez,

In response to your June 21 correspondence.

- Attached please find the analytical reports you requested. I sincerely apologize for the oversight.
- Confirmation samples will be provided at sample location S-2 as requested.
- At least one additional vertical delineation sample should have been analyzed at S-6. We would respectfully request permission to further delineate S-6 as our first task during remediation activities. The samples would be analyzed on a separate chain of custody and the laboratory report immediately forwarded to NMOCD for approval.
- Regarding the source of the gray water. It is my understanding that this truck was hauling frac water on its prior project. It was rinsed out but apparently not very well.
- We agree to comply with all referenced stipulations set forth by the NMOCD.

I've also copied Kim Wilson. She continue to work with us during the transition on a couple of her projects. Her cell phone and Talon email remain functional. Thank you.

Respectfully,

David J. Adkins
District Manager Artesia

Office: 575.746.8768
Direct: 575.616.4022
Cell: 575.441.4835
Fax: 575.746.8905
Emergency: 866.742.0742
Web: www.talonlpe.com

<image001.png>

From: Hernandez, Christina, EMNRD < christina.Hernandez@state.nm.us>

Sent: Thursday, June 21, 2018 2:31 PM

To: stucker@blm.gov; David J. Adkins dadkins@talonlpe.com; Shoemaker, Mike Mike.Shoemaker@dvn.com

Cc: Yu, Olivia, EMNRD < <u>Olivia.Yu@state.nm.us</u>>; <u>jack@thestandardenergy.com</u>; <u>MLuehrs@cl-na.com</u>

Subject: RE: 1RP-5037 * Boundary Raider (Todd Apache-Tomb Raider Lease Rd Grey Water Release)

Dear Mr. Adkins:

Notes:

- Please provide original laboratory results and chain of custody documentation.
- S-2 confirmation samples are required due chloride levels being over NMOCD RRAL's; no confirmation samples are required for S-8 due to chloride level concentrations below NMOCD RRAL's.
- Vertical delineation was not completed for S-6, please provide logic or rationale.
- Where was the source of grey water? The chloride levels on the surface are extremely high.

NMOCD will approve the proposed remediation for 1RP-5037 with these stipulations after the concern about completion of vertical delineation at S-6:

- Bottom and sidewall confirmation samples are required with at least one sidewall sample taken at boundary between each of the differing depths of excavation areas, for example between .
- Provide a scaled map showing location of confirmation samples. Please demarcate or outline on map the differing depths of excavation areas.
- Provide GPS coordinates of all confirmation bottom and sidewall samples.
- Sample locations no greater than 75 ft apart.

Thanks,

Christina Hernandez
EMNRD-OCD
Environmental Specialist
1625 N. French Drive
Hobbs, NM 88240
575-393-6161 x111
Christina.Hernandez@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 ground water, 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, local laws and/or regulations.

From: Yu, Olivia, EMNRD

Sent: Monday, June 18, 2018 11:28 AM

To: Hernandez, Christina, EMNRD < christina.Hernandez@state.nm.us>

Subject: FW: 1RP-5037 * Boundary Raider (Todd Apache-Tomb Raider Lease Rd Grey

Water Release)

From: Kimberly M. Wilson < kwilson@talonlpe.com>

Sent: Tuesday, June 5, 2018 9:43 AM

To: Yu, Olivia, EMNRD < Olivia. Yu@state.nm.us>; Shelly Tucker (stucker@blm.gov)

<stucker@blm.gov>

Cc: jack@thestandardenergy.com; Luehrs, Mark < <u>MLuehrs@cl-na.com</u>>; David J. Adkins < <u>dadkins@talonlpe.com</u>>; Shoemaker, Mike < <u>Mike.Shoemaker@dvn.com</u>>

Subject: 1RP-5037 * Boundary Raider (Todd Apache-Tomb Raider Lease Rd Grey Water

Release)

```
RE: Boundary Raider 6 7 Fed Com #212H (Todd Apache–Tomb Raider Lease Road)

API # 30-025-44146 * 1RP-5037
```

Hello Olivia,

Attached please find the Remediation Work Plan for the above referenced release. If you have any questions or concerns please feel free to contact our office. Thank you.

Respectfully submitted,

Kimberly

Kimberly M. Wilson Project Manager

Office: 575.746.8768
Direct: 575.616.4023
Cell: 575.602.3826
Fax: 575.746.8905
Emergency: 866.742.0742
Web: www.talonlpe.com
<image002.jpg>