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August 9, 2018

Olivia Yu
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division, District 1
1625 French Drive
Hobbs, NM 88240

Ryan Mann
Hobbs Field Office
New Mexico State Land Office
2827 North Dal Paso Street, Suite 117
Hobbs, NM 88240

Re: Remediation Summary and Closure Report
NG Phillips St #037
API No. 30-015-24848
GPS: 32.80305, -104.15940
UL "P", Sec. 27, T17S, R32E
Eddy Co, NM
NMOCD Ref. No. 2RP-4195

TRC Environmental Corporation (TRC), on behalf of COG Operating, LLC (COG), has prepared this *Remediation Summary and Closure Report* for the release site known as the NG Phillips St. #037. Details of the release are summarized below:

RELEASE DETAILS					
Type of Release:	Crude Oil and Produced Water	Volume of Release: 3 bbls Produced Water, 5 bbls Oil			
		Volume Recovered: 2 bbls Produced Water, 4 bbls Oil			
Source of Release:	Flowline	Date of Release:	04/23/17	Date of Discovery:	04/23/17
Was Immediate Notice Given?	Not Required	If YES, to Whom?	Not Applicable		
Was a Watercourse Reached?	No	Volume Impacted the Watercourse:		Not Applicable	
Cause of Problem and Remedial Action Taken:					
The release was attributed to the failure of a steel flowline due to corrosion. During the intial response activities, the flowline was repaired and vacuum truck was utilized to recover all freestanding fluids.					

A Site Location Map is provided as Attachment #1. A copy of the initial Release Notification and Corrective Action (NMOCD Form C-141) is provided as Attachment #6.

REGULATORY FRAMEWORK

Crude oil facilities in New Mexico are generally regulated by the New Mexico Oil Conservation Division (NMOCD). Impact of soil due to a surface release is addressed in the NMOCD guidance document titled *Guidelines for Remediation of Leaks, Spills and Releases*, dated August 13, 1993.

The guidance document provides direction for initial response actions, site assessment, sampling procedures and provides a total ranking score based on the depth to groundwater, distance to private and domestic water sources, and the distance to the nearest surface water body as follows:

RANKING SCORE CRITERIA		
General Site Characteristics		Score
Depth to Groundwater	< 50 Feet	20
	50-99 Feet	10
	> 100 Feet	0
Well Head Protection Area, <1,000 Feet from water source, or <200 Feet from private domestic water source	Yes	20
	No	0
Distance to Surface Water Body	< 200 Feet	20
	200 - 1,000 Feet	10
	> 1,000 Feet	0

A search of a groundwater database maintained by The New Mexico Office of the State Engineer (NMOSE) was conducted to determine the average depth to groundwater within the Section and identify any registered water wells within 1,000 ft. of the release site. If none were identified, the approximate depth to groundwater was extrapolated from a Depth to Groundwater Map utilized by the NMOCD. The results of the groundwater database search are provided as Attachment #3.

TOTAL RANKING SCORE FOR SITE		
Ranking Score Criteria		Score
Depth to Groundwater	125 Feet	0
Well Head Protection Area, <1,000 Feet from water source, or <200 Feet from private domestic water source	No	0
Distance to Surface Water Body	> 1,000 Feet	0
TOTAL RANKING SCORE FOR SITE		0

The NMOCD guidelines indicated the Site has an initial ranking score of 0 points. The NMOCD Recommended Remediation Action Levels (RRAL) for a Site with a ranking score of 0 points are as follows:

RECOMMENDED REMEDIATION ACTION LEVELS	
Benzene	10 mg/kg
Benzene, Toluene, Ethylbenzene and Total Xylenes (BTEX)	50 mg/kg
Total Petroleum Hydrocarbons (TPH)	5,000 mg/kg
Chloride	600 mg/kg

INITIAL INVESTIGATION

On May 23, and October 17, 2017, initial investigations were conducted at the Site by COG representatives. During the initial investigation, forty-five (45) representative soil samples were collected from the affected area in an effort to determine the vertical and horizontal extent of soil impacts. The collected soil samples were submitted to an approved laboratory for analysis of benzene, BTEX, TPH and/or chloride concentrations. A table summarizing laboratory analytical results from soil samples collected during the initial soil investigation is provided on the following page:

Sample ID	Depth	Soil Status	SW 846-8021b		SW-846 8015M					E300
			Benzene	Total BTEX	TPH GRO C ₆ -C ₁₀	TPH DRO C ₁₀ -C ₂₈	TPH ORO C ₂₈ -C ₃₅	TOTAL TPH C ₆ -C ₂₈	TOTAL TPH C ₆ -C ₃₅	CHLORIDE
T1	Surf.	Excavated	<0.00341	<0.00341	<15.0	749	-	840	-	314
T1	1'	Excavated	0.00387	0.0119	<15.0	99.8	-	99.8	-	476
T1	2'	Excavated	0.00664	0.0165	169	3,550	-	4,090	-	618
T1	3'	Excavated	<0.00358	0.222	793	5,600	-	6,550	-	2,590
T1	4'	Excavated	0.00698	0.603	900	3,990	-	4,970	-	862
T1	6'	Risked	0.00505	1.64	1,350	4,210	-	5,690	-	616
T1	7'	Risked	<0.00360	1.37	1,290	4,710	-	6,190	-	596
Trench 1A @ T1	8'	Risked	<0.00197	<0.00197	<15.0	195	34.1	-	229.1	1,189.2
Trench 1A @ T1	9'	Risked	<0.00196	<0.00196	<15.0	27.6	<15.0	-	27.6	197.50
T2	Surf.	Excavated	0.0664	2.90	1,600	11,900	-	14,300	-	1,070
T2	1'	Excavated	0.0187	0.820	387	4,170	-	4,650	-	2,420
T2	2'	In-Situ	<0.00351	0.0863	390	2,420	-	2,890	-	222
T2	3'	In-Situ	<0.00345	0.0165	41.0	2,170	-	2,460	-	175
T2	4'	In-Situ	0.00461	0.0109	298	3,170	-	3,620	-	145
T2	6'	In-Situ	0.00850	0.0167	515	3,080	-	3,790	-	1,300
T2	8'	In-Situ	<0.00344	<0.00344	<15.0	<15.0	-	<15.0	-	1,610
T2	10'	In-Situ	<0.00364	<0.00364	<15.0	<15.0	-	<15.0	-	116
T2	12'	In-Situ	<0.00361	<0.00361	<15.0	<15.0	-	<15.0	-	27.2
T3	Surf.	Excavated	0.00382	0.453	795	5,280	-	6,650	-	2,160
T3	1'	Excavated	0.0151	1.95	706	4,430	-	5,460	-	2,260
T3	2'	Excavated	<0.00353	0.122	149	4,240	-	4,650	-	5,770
T3	3'	Excavated	0.00487	0.661	1,140	9,030	-	10,700	-	1,100
T3	4'	Excavated	<0.00377	0.0142	37.2	342	-	409	-	1,050
T3	6'	Risked	<0.00369	0.0964	20.2	222	-	242	-	716
T3	8'	Risked	0.00832	0.103	492	4,700	-	5,570	-	62.0
T3	10'	Risked	<0.00344	0.0349	290	2,560	-	2,950	-	94.1
T3	12'	Risked	0.0046	0.0552	554	3,750	-	4,480	-	431
T4	Surf.	Excavated	<0.00341	0.0441	232	2,640	-	3,140	-	6,170
T4	1'	Excavated	0.0132	1.07	168	671	-	839	-	2,830
T4	2'	In-Situ	<0.00364	0.00805	<14.9	<14.9	-	<14.9	-	97.4
T4	3'	In-Situ	<0.00375	0.0172	<15.0	<15.0	-	<15.0	-	48.8
T4	4'	In-Situ	<0.00366	<0.00366	<15.0	<15.0	-	<15.0	-	14.6
T4	6'	In-Situ	<0.00366	<0.00366	<15.0	<15.0	-	<15.0	-	11.6
T4	8'	In-Situ	-	-	-	-	-	-	-	7.70
T4	10'	In-Situ	-	-	-	-	-	-	-	11.5
T4	12'	In-Situ	-	-	-	-	-	-	-	4.83
T4	14'	In-Situ	<0.00375	<0.00375	<15.0	26.3	-	26.3	-	6.50
T5	Surf.	Excavated	0.00390	0.514	2,360	17,100	-	20,800	-	5,630
T5	1'	Excavated	0.0833	429	5,320	18,000	-	24,700	-	4,880
T5	2'	Excavated	<0.00500	0.0428	29.5	144	-	174	-	1,800
T5	3'	In-Situ	<0.00350	<0.00350	<14.9	<14.9	-	<14.9	-	60.1
T5	4'	In-Situ	<0.00356	<0.00356	<14.9	<14.9	-	<14.9	-	8.39
T5	6'	In-Situ	<0.00654	<0.00654	<15.0	<15.0	-	<15.0	-	7.74
T5	8'	In-Situ	<0.00370	<0.00370	<15.0	<15.0	-	<15.0	-	5.29
T5	14'	In-Situ	<0.00376	<0.00376	<15.0	<15.0	-	<15.0	-	5.10
NMOCD RRAL			10	50	-	-	-	-	5,000	600

Laboratory analytical reports are provided as Attachment #4. A "Site & Sample Location Map" is provided as Attachment #2.

PROPOSED REMEDIATION ACTIVITIES AND REMEDIATION WORKPLAN

Based on laboratory analytical results, site conditions and field observations made during the initial release assessment, COG proposed the following remediation activities designed to advance the Release Site toward an approved closure:

- Utilizing a backhoe, excavate the Release Site to a depth of approximately four (4) feet bgs in the area represented by test trenches T1 and T3 and install a 20-millimeter polyurethane liner at the bottom of the excavated excavations. Excavate to a depth of one (1) foot bgs the areas represented by test trenches T2 and T4, and to a depth of two (2) feet bgs in the area represented by test trench T5. The excavated soils will be stockpiled on a plastic liner adjacent to the excavation awaiting disposal at a NMOCD-approved facility.
- The excavated soil will be transported under manifest to a NMOCD approved disposal facility and the excavated area will be backfilled with locally purchased, non-impacted "like" soil.
- Prepare and submit a "Remediation Summary and Site Closure Request" to the NMOCD and NMSLO.

The *Workplan* was subsequently approved with the condition that additional delineation of hydrocarbon impacts be conducted in the area characterized by test trench T3.

SUMMARY OF FIELD ACTIVITIES

As per the approved *Workplan*, impacted soil in the areas represented by test trenches T1 and T3 were excavated to a depth of approximately four (4) feet bgs and 20-millimeter polyurethane liners were installed in the bottom of the excavations. This engineering control is designed to inhibit the vertical migration of contaminants left in-situ. Impacted soil in the areas represented by test trenches T2 and T4 were excavated to a depth of approximately one (1) foot bgs. Impacted soil in the area represented by test trench T5 was excavated to a depth of approximately two (2) feet bgs. In accordance with the stipulation of the approved *Workplan*, an additional sample (T-3b@14') was taken from the area represented by test trench T3 and was submitted to the laboratory for analysis of TPH. Excavated soil was transported to an NMOCD-approved disposal facility and the excavations were backfilled with locally sourced, non-impacted "like" material. A table summarizing laboratory analytical results from confirmation soil samples is provided below:

Sample ID	Depth	Soil Status	SW 846-8021b		SW-846 8015M				E300
			Benzene	Total BTEX	TPH GRO C ₆ -C ₁₀	TPH DRO C ₁₀ -C ₂₈	TPH ORO C ₂₈ -C ₃₅	TOTAL TPH C ₆ -C ₃₅	CHLORIDE
T-3b @ 14'	14'	In-Situ	-	-	<3.76	<25.0	<25.0	<25.0	-
NMOCD RRAL			10	50	-	-	-	5,000	600

A Photographic Log is provided as Attachment #5.

EXCAVATION/REMEDATION DETAIL SUMMARY			
Type of Remediation:		Partial Dig and Haul, Risk-Based Soil Closure	
Date Remediation Activities Began:		January 16, 2018	
Excavation Dimensions:		Length: 300 Ft.	Width: 5 to 70 Ft.
Soil Transportation Start Date:		March 16, 2018	Backfill Date: April 19, 2018
Total Yards Transported to Disposal:		390	Disposal Facility: R360 Halfway Facility (NM-1-6-0)

REVEGETATION PLAN

The site is currently scheduled to be mechanically seeded with NMSLO seed mixture "L" in accordance with the approved Revegetation Plan. The site will be periodically monitored for revegetation and the development of noxious weeds. In the event the site fails to re-vegetate or noxious weeds develop, COG will contact NMSLO for mitigation strategy.

LIMITATIONS

TRC has prepared this Remediation Summary and Soil Closure 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 that 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 that 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.

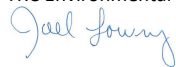
This report has been prepared for the benefit of COG Operating, LLC. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of TRC and/or COG Operating, LLC.

SITE CLOSURE REQUEST

Remediation activities were conducted in accordance with the NMOCD and NMSLO- approved *Workplan*. Excavated impacted material was transported to an NMOCD-approved disposal facility and the site was backfilled with locally sourced, non-impacted "like" material. TRC on behalf of COG Operating, LLC respectfully requests the NMOCD grant closure approval for the NG Phillips St. #037 release which occurred on April 23, 2017.

If you have any questions, or if additional is required, please feel free to contact Becky Haskell or either of the undersigned by phone or email.

Respectfully,
TRC Environmental Corp.



Joel Lowry
Senior Project Manager
jlowry@trcsolutions.com
(432) 466-4450



Curt Stanley
Senior Project Manager
cdstanley@trcsolutions.com
(432) 559-3296

Attachments:	Attachment #1-	Figure 1 - Site Location Map
	Attachment #2-	Figure 2 - Site & Sample Location Map
	Attachment #3-	Groundwater Database Search
	Attachment #4-	Laboratory Analytical Reports
	Attachment #5-	Photographic Log
	Attachment #6-	Release Notification and Corrective Action (FORM C-141)

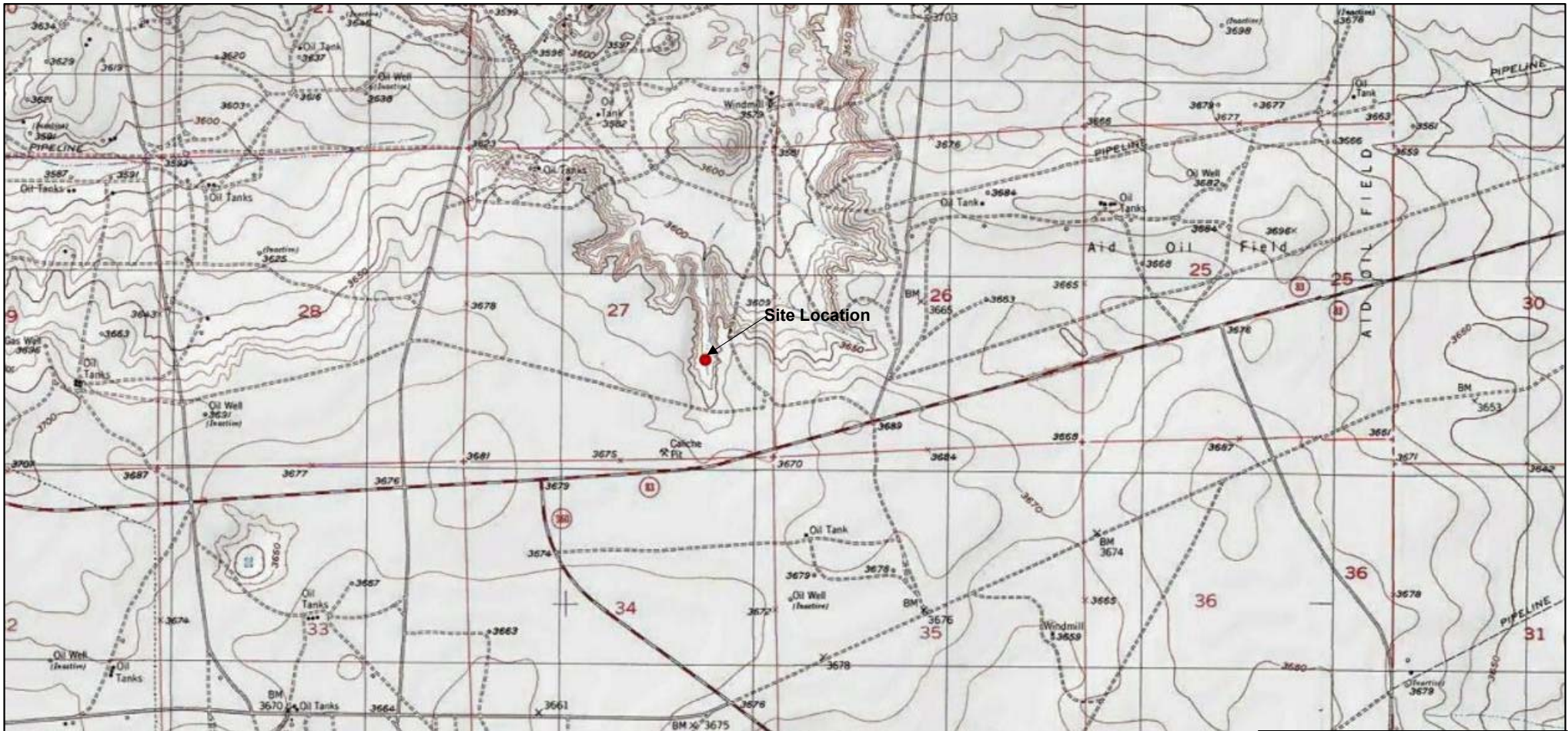


Figure 1

Site Location Map
 COG Operating, LLC
 NG Phillips State #037
 Eddy County, New Mexico

Scale 1" = ~3,000'

Drafted by: BC Checked by: JL

Draft: July 11, 2018

Lat. N 32.80305 Long. W -104.15940

UL "P", Sec. 27, T17S, R32E

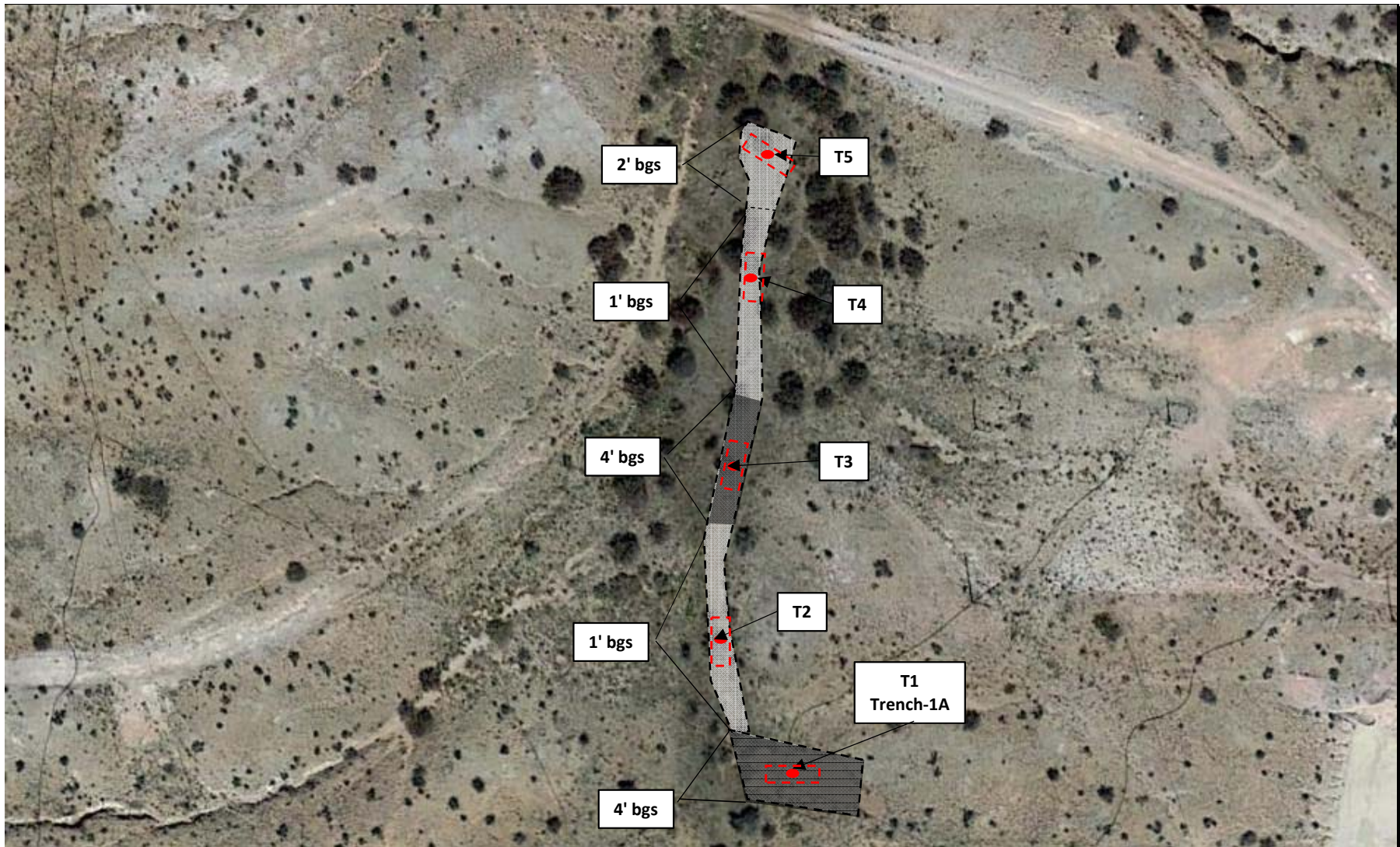
TRC Proj. No.: 302169








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LEGEND:  Soil Sample Location  Excavated Area  Lined Area  Test Trench	Figure 2 Site & Sample Location Map COG Operating, LLC NG Phillips St #037 Eddy Co, NM	Scale 1" = 50'	 <i>Results you can rely on</i>
		Drafted by: ZC Checked by: JL	
		Draft: April 26, 2018	
		GPS: 32.80305, -104.15940	
		UL "P", Sec. 27, T17S, R32E	
		TRC Proj. No: 302169	



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): 578704.8

Northing (Y): 3629762.1

Radius: 1610

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.

7/20/18 10:00 AM

WATER COLUMN/ AVERAGE
DEPTH TO WATER

Analytical Report 590927

for
TRC Solutions, Inc

Project Manager: Joel Lowry

NG Phillips #037

06-JUL-18

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-26), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab Code: TX00158): Texas (T104704400-18-15)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)



06-JUL-18

Project Manager: **Joel Lowry**
TRC Solutions, Inc
2057 Commerce
Midland, TX 79703

Reference: XENCO Report No(s): **590927**
NG Phillips #037
Project Address: Eddy Co. NM

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 590927. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 590927 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', is written over a horizontal line.

Kelsey Brooks

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

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Sample Cross Reference 590927

TRC Solutions, Inc, Midland, TX

NG Phillips #037

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T-3b @ 14'	S	06-26-18 13:00	14 ft	590927-001



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: NG Phillips #037

Project ID:

Work Order Number(s): 590927

Report Date: 06-JUL-18

Date Received: 06/29/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 590927

TRC Solutions, Inc, Midland, TX

Project Name: NG Phillips #037

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co. NM

Date Received in Lab: Fri Jun-29-18 01:35 pm

Report Date: 06-JUL-18

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	590927-001					
	Field Id:	T-3b @ 14'					
	Depth:	14- ft					
	Matrix:	SOIL					
	Sampled:	Jun-26-18 13:00					
DRO-ORO By SW8015B	Extracted:	Jul-02-18 12:30					
	Analyzed:	Jul-03-18 03:18					
	Units/RL:	mg/kg RL					
	Diesel Range Organics (DRO)	<25.0 25.0					
Oil Range Hydrocarbons (ORO)		<25.0 25.0					
TPH GRO by EPA 8015 Mod.	Extracted:	Jul-02-18 14:00					
	Analyzed:	Jul-02-18 20:46					
	Units/RL:	mg/kg RL					
	TPH-GRO	<3.76 3.76					

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
Project Manager

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

SDL Sample Detection Limit

LOD Limit of Detection

PQL Practical Quantitation Limit

SQL Method Quantitation Limit

LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample

BLK

Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample

BKSD/LCSD

Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate

MS

Matrix Spike

MSD: Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



Form 2 - Surrogate Recoveries

Project Name: NG Phillips #037

Work Orders : 590927,

Lab Batch #: 3055283

Sample: 590927-001 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 07/02/18 20:46

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0963	0.100	96	76-123	
a,a,a-Trifluorotoluene	1.61	1.88	86	69-120	

Lab Batch #: 3055294

Sample: 590927-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 07/03/18 03:18

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	7.23	9.99	72	65-144	
n-Triacontane	7.46	9.99	75	46-152	

Lab Batch #: 3055283

Sample: 7657671-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 07/02/18 20:19

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0953	0.100	95	76-123	
a,a,a-Trifluorotoluene	2.03	2.00	102	69-120	

Lab Batch #: 3055294

Sample: 7657668-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 07/02/18 22:35

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	10.5	10.0	105	65-144	
n-Triacontane	9.58	10.0	96	46-152	

Lab Batch #: 3055283

Sample: 7657671-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 07/02/18 18:29

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.106	0.100	106	76-123	
a,a,a-Trifluorotoluene	1.91	2.00	96	69-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: NG Phillips #037

Work Orders : 590927,

Lab Batch #: 3055294

Sample: 7657668-1-BKS / BKS

Project ID:

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 07/02/18 23:11

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	9.85	10.0	99	65-144	
n-Triacontane	6.71	10.0	67	46-152	

Lab Batch #: 3055283

Sample: 7657671-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 07/02/18 18:57

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.105	0.100	105	76-123	
a,a,a-Trifluorotoluene	1.87	2.00	94	69-120	

Lab Batch #: 3055294

Sample: 7657668-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 07/02/18 23:47

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	8.39	10.0	84	65-144	
n-Triacontane	6.45	10.0	65	46-152	

Lab Batch #: 3055283

Sample: 590927-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 07/02/18 21:15

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.115	0.100	115	76-123	
a,a,a-Trifluorotoluene	1.60	1.99	80	69-120	

Lab Batch #: 3055294

Sample: 590927-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 07/03/18 03:53

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	9.93	9.97	100	65-144	
n-Triacontane	7.90	9.97	79	46-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: NG Phillips #037

Work Orders : 590927,

Lab Batch #: 3055283

Sample: 590927-001 SD / MSD

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 07/02/18 21:42

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.114	0.100	114	76-123	
a,a,a-Trifluorotoluene	1.63	1.99	82	69-120	

Lab Batch #: 3055294

Sample: 590927-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 07/03/18 04:28

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	9.56	9.95	96	65-144	
n-Triacontane	7.08	9.95	71	46-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



BS / BSD Recoveries



Project Name: NG Phillips #037

Work Order #: 590927

Project ID:

Analyst: PGM

Date Prepared: 07/02/2018

Date Analyzed: 07/02/2018

Lab Batch ID: 3055294

Sample: 7657668-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

DRO-ORO By SW8015B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Diesel Range Organics (DRO)	<25.0	100	106	106	100	102	102	4	63-139	20	

Analyst: MIT

Date Prepared: 07/02/2018

Date Analyzed: 07/02/2018

Lab Batch ID: 3055283

Sample: 7657671-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
TPH-GRO	<4.00	20.0	21.4	107	20.0	22.1	111	3	35-129	20	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



Form 3 - MS / MSD Recoveries

Project Name: NG Phillips #037

Work Order # : 590927

Project ID:

Lab Batch ID: 3055294

QC- Sample ID: 590927-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 07/03/2018

Date Prepared: 07/02/2018

Analyst: PGM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Diesel Range Organics (DRO)	<24.9	99.7	99.5	100	99.5	93.6	94	6	63-139	20	

Lab Batch ID: 3055283

QC- Sample ID: 590927-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 07/02/2018

Date Prepared: 07/02/2018

Analyst: MIT

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
TPH-GRO	<3.98	19.9	19.1	96	19.9	19.3	97	1	35-129	20	

Matrix Spike Percent Recovery $[D] = 100 * (C - A) / B$
Relative Percent Difference $RPD = 200 * |(C - F) / (C + F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 * (F - A) / E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Setting the Standard since 1990
Stafford, Texas (281-240-4200)
Dallas Texas (214-902-0300)

590927

CHAIN OF CUSTODY

San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

www.xenco.com

Client / Reporting Information				Project Information				Analytical Information				Matrix Codes																	
Company Name / Branch: TRC Environmental Corporation				Project Name/Number: NG Phillips State #037																									
Company Address: 2057 Commerce Drive Midland, TX 79703				Project Location: Eddy Co, NM																									
Email: jlowry@trcsolutions.com				Phone No: 432-486-4450				Invoice To: COG Operating C/O Becky Haskell																					
Project Contact: Joel Lowry				Invoice:																									
Sampler's Name: Joel Lowry																													
No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles				Field Comments																		
1	T-3b @ 14'	14'	6/26/2018	1:00	S	1	HCl	NaOH/Zn	Acetate	HNO3	H2SO4	NaOH	MeOH	NONE	X TPH 8015 M Ext Chloride E 300 BTEX 8021B														
2																													
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
<div><input type="checkbox"/> Same Day TAT <input type="checkbox"/> 6 Day TAT <input type="checkbox"/> Level II Std QC <input type="checkbox"/> Level IV (Full Data Pkg /raw data)</div> <div><input type="checkbox"/> Next Day EMERGENCY <input type="checkbox"/> 7 Day TAT <input type="checkbox"/> Level III Std QC+ Forms <input type="checkbox"/> TRRP Level IV</div> <div><input type="checkbox"/> 2 Day EMERGENCY <input checked="" type="checkbox"/> Contract TAT <input type="checkbox"/> Level 3 (CLP Forms) <input type="checkbox"/> UST / RG -411</div> <div><input type="checkbox"/> 3 Day EMERGENCY <input type="checkbox"/> TRRP Checklist</div>															Notes: jlowry@trcsolutions.com rhaskell@concho.com zconder@trcsolutions.com dneel2@concho.com bcooper@trcsolutions.com														
TAT Starts Day received by Lab, if received by 5:00 pm																													
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY																													
Relinquished by Sampler:																													
1	Date Time: _____ Received By: _____																												
3	Date Time: _____ Received By: _____																												
5	Date Time: 6/26/18 1:35 PM Received By: <i>Becky Haskell</i>																												
Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco. Its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the Client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at \$5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.																													



XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In



Client: TRC Solutions, Inc

Date/ Time Received: 06/29/2018 01:35:00 PM

Work Order #: 590927

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR-3

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	4.6
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:

PH Device/Lot#:

Checklist completed by:


Brenda Ward

Date: 06/29/2018

Checklist reviewed by:


Kelsey Brooks

Date: 07/02/2018



Figure 1 - View of surface staining from the initial release.



Figure 2 - View of surface staining from the initial release.



Figure 3 - View of surface staining from the initial release.



Figure 4 - View of surface staining from the initial release.



Figure 5 - View of portion of the excavated area.



Figure 6 - View of portion of the excavated area.



Figure 7 - View of portion of the excavated area.



Figure 8 - View of portion of the excavated area and liner installation.



Figure 9 - View of portion of the excavated area and liner installation.



Figure 10 - View of affected area after remediation activities.



Figure 11 - View of affected area after remediation activities.



Figure 12 - View of affected area after remediation activities.



Figure 13 - View of affected area after remediation activities.

NM OIL CONSERVATION

ARTESIA DISTRICT

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

APR 28 2017

Form C-141
Revised August 8, 2011

RECEIVED to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

NAB1712940035

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: COG Operating LLC OGRID # 229137	Contact: Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No. 432-683-7443
Facility Name: N G Phillips St #031	Facility Type: Flowline

Surface Owner: State	Mineral Owner:	API No. 30-015-24848
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LOCATION OF RELEASE

Unit Letter P	Section 27	Township 17S	Range 28E	Feet from the 1165	North/South Line South	Feet from the 978	East/West Line East	County Eddy
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Latitude 32.8017197 Longitude -104.1586685

NATURE OF RELEASE

Type of Release: Oil & Produced Water	Volume of Release: 5 bbls Oil & 3 bbls PW	Volume Recovered: 4 bbls Oil & 2 bbls PW
Source of Release: Flowline	Date and Hour of Occurrence: April 23, 2017 12:00 pm	Date and Hour of Discovery: April 23, 2017 12:00 pm
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.*		
Describe Cause of Problem and Remedial Action Taken.*		
The release was due to corrosion on a steel flowline. The flowline was repaired.		
Describe Area Affected and Cleanup Action Taken.*		
The release was within a pasture. A vacuum truck was dispatched to remove all freestanding fluids. Concho will have the spill area sampled to delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.		
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.		
Signature: <i>Rebecca Haskell</i>	OIL CONSERVATION DIVISION	
Printed Name: Rebecca Haskell	Signed By: <i>[Signature]</i> Approved by Environmental Specialist:	
Title: Senior HSE Coordinator	Approval Date: 5/1/17	Expiration Date: N/A
E-mail Address: rhaskell@concho.com	Conditions of Approval: <i>See attached</i>	Attached <input checked="" type="checkbox"/>
Date: April 28, 2017 Phone: 432-683-7443		

* Attach Additional Sheets If Necessary

2RP-4195