

Incident ID	NCH1903552558
District RP	1RP-5330
Facility ID	fCH1903552041
Application ID	pCH1903552747

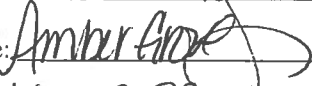
Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate OCD District office must be notified 2 days prior to final sampling)
- ☒ Description of 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 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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Amber Groves Title: Remediation Coordinator
 Signature:  Date: 9/9/2019
 email: algroves@pacup.com Telephone: 575-200-5517

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____



September 6, 2019

Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Site Delineation Summary and Proposed Remediation Plan
Mewbourne Toro 36 State Com 1H
API No. N/A
GPS: Latitude 32.267319 Longitude -103.422008
UL "B", Sec. 36, T23S, R34E
Lea County, NM
NMOCD Ref. No. 1RP-5330

Tasman Geosciences (Tasman), on behalf of Plains Pipeline, LP (Plains), has prepared this Remediation Summary and Site Closure Report for the Release Site known as the Mewbourne Toro 36 State Com 1H. Details of the release are summarized below:

RELEASE DETAILS			
Type of Release: Crude Oil		Volume of Release:	5 bbls
		Volume Recovered:	3 bbls
Source of Release: Charge Pump		Date of Release: 1/5/19	Date of Discovery: 1/5/19
Was Immediate Notice Given?	No	If, YES, to Whom?	N/A
Was a Watercourse Reached?	No	If YES, Volume Impacting the Watercourse:	N/A
Surface Owner: BP Ranches		Mineral Owner:	State
Describe Cause of Problem and Remedial Action Taken:			
The release was attributed to the failure of a seal on the charge pump, resulting in the release of five barrels of crude oil. The release affected an area inside the LACT Unit's containment and adjacent production pad measuring approximately 1,700 sq. ft. A vacuum truck was dispatched to recover all freestanding fluids.			

Site Characteristics and Sample Location Map are provided as Figure 1 and 2. General Site Photographs are provided as Appendix C. A Copy of the Initial Form C-141 is provided as Appendix D.

REGULATORY FRAMEWORK

Surface impacts from unauthorized releases of crude oil, gases, produced water, condensate or other oil field waste which occur during normal oilfield operations are generally regulated by the New Mexico Oil Conservation Division (NMOCD) in accordance with 19.15.29 of the New Mexico Administrative Code (NMAC). 19.15.29 NMAC establishes reporting, site assessment/characterization, remediation, closure, variance and enforcement procedures. Table I of 19.15.29.12 NMAC determines the closure criteria for soils impacted by a release based on the depth to groundwater and the following site characteristics:

Site Characteristics		
Approximate Depth to Groundwater		~225 ft.
Within 300 ft. of any continuously flowing or significant watercourse?	☐ Yes ☒ No	
Within 200 ft. of any lakebed, sinkhole, or playa lake?	☐ Yes ☒ No	
Within 300 ft. of an occupied permanent residence, school, hospital, or institution?	☐ Yes ☒ No	
Within 500 ft. of a spring or private, domestic fresh water well?	☐ Yes ☒ No	
Within 1,000 ft. of any fresh water well?	☐ Yes ☒ No	
Within the incorporated municipal boundaries or within a municipal well field?	☐ Yes ☒ No	
Within 300 ft. of a wetland?	☐ Yes ☒ No	
Within the area overlying a subsurface mine?	☐ Yes ☒ No	
Within an unstable area?	☐ Yes ☒ No	
Within a 100-year floodplain?	☐ Yes ☒ No	

A search of a groundwater database maintained by The New Mexico Office of the State Engineer (NMOSE) and United States Geological Service (USGS) was conducted to determine the average depth to groundwater within a one (1) Mile radius of the Release Site and identify any registered water wells within a 1/2 Mile 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. Depth to groundwater information is provided as Appendix B.

Based on the approximate depth to groundwater and site characteristics, the NMOCD Closure Criteria are as follows:

Table I Closure Criteria for Soils Impacted by a Release			
Minimum depth below any point within the horizontal boundary of the release to ground water less than 10,000 mg/l TDS	Constituent	Method*	Limit**
>100 feet	Chloride***	EPA 300.0	20,000 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015M	2,500 mg/kg
	TPH (GRO+DRO)	EPA SW-846 Method 8015M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg

SITE DELINEATION

On January 11, 2019, Tasman personnel were on site to begin soil delineation of the accidental discharge. Two (2) verticals were installed at the site to determine the depth of impact. Soil samples collected were field tested for chlorides and hydrocarbons. Representative samples from each vertical were submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX concentrations. Chloride concentrations were below the NMOCD Closure Criteria in all of the analyzed soil samples. TPH concentrations ranged from ranging from 12,700 mg/kg in soil sample SB-01 @ 1' to below the laboratory reporting limit (RL) in soil sample SB-01 @ 4'. BTEX Concentrations were below the NMOCD Closure Criteria in all of the submitted soil samples. In addition, five (5) horizontals were collected outside the inferred release margins to establish horizons. A table summarizing laboratory analytical results from soil samples collected during the site delineation is provided below:

Concentrations of BTEX, TPH and/or Chloride in Soil											
Sample ID	Date	Depth	Soil Status	SW 846 8021B		SW 846 8015M Ext.					E 300
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C ₆ -C ₁₀ (mg/kg)	DRO C ₁₀ -C ₂₈ (mg/kg)	GRO + DRO C ₆ -C ₂₈ (mg/kg)	ORO C ₂₈ -C ₃₅ (mg/kg)	TPH C ₆ -C ₃₅ (mg/kg)	Chloride (mg/kg)
SB-01 @ 1'	1/11/19	1'	Excavated	5.43	17.9	4,810	6,920	11,730	938	12,668	4.06
SB-01 @ 4'	1/11/19	4'	In-Situ	<0.0003	0.128	37.7	403	441	50.7	491	8.06
SB-01 @ 7'	1/11/19	7'	In-Situ	<0.0003	0.002	18.9	152	171	21	192	1.35
SB-02 @ 2'	1/11/19	2'	Excavated	0.594	21.4	998	3,400	4,398	407	4,805	11.0
SB-02 @ 7'	1/11/19	7'	In-Situ	0.0005	0.301	72.8	390	463	50.9	514	17.0
N-01 @ 2'	1/11/19	2'	In-Situ	<0.0003	<0.0003	9.32	<8.12	9.32	<8.12	9.32	-
S-01 @ 2'	1/11/19	2'	In-Situ	<0.0003	<0.0003	<7.97	17.0	17.0	<8.10	17.0	-
W-01 @ 3'	1/11/19	3'	In-Situ	<0.0003	<0.0003	11.7	<8.10	11.7	<8.10	11.7	-
W-02 @ 1'	1/11/19	1'	Excavated	<0.0003	<0.0003	8.03	<8.13	8.03	<8.13	8.03	-
E-01 @ 1'	1/11/19	1'	In-Situ	<0.0003	<0.0003	12.2	<8.10	12.2	8.34	20.5	-
NMOCD Closure Criteria				10	50	-	-	1,000	-	2,500	20,000

Laboratory analytical reports are provided as Appendix A.

SUMMARY OF FIELD ACTIVITIES

Impacted soil within the release margins was excavated and temporarily stockpiled on-site, atop an impermeable liner, pending final disposition. The floor and sidewalls of the excavated area were advanced until laboratory analytical results from confirmation soil samples indicated TPH concentrations were below the NMOCD closure criteria. Upon excavating impacted soil from within the release margins, Eleven (11) confirmation composite soil samples were collected from the floor and sidewalls of the excavated area representing no more than 200 SqFt. The collected soil samples were submitted to the laboratory for analysis of TPH, BTEX, and chloride concentrations. Analytical results indicated that soil samples FL-7 @ 1', SW1, and SW3 @ 2.5' exhibited TPH concentrations in exceedance of NMOCD closure criteria. Areas represented by these samples were excavated, and three (3) additional composite soil samples (FL-7 @ 2', SW1b @ 1.5', SW3b @ 2') representing no more than 200 SqFt. were collected and submitted for analysis of TPH, BTEX, and chloride concentrations. Soil Sample Location Maps are provided as Figures 2A and 2B. Upon receiving laboratory analytical data showing samples were below NMOCD closure criteria, impacted soil was transported under manifest to a NMOCD-approved disposal facility and the excavated area was backfilled with locally sourced, non-impacted "like" material. A table summarizing laboratory analytical results from confirmation soil samples is provided below:

Concentrations of Benzene, BTEX, and/or TPH in Soil											
Sample ID	Date	Depth	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500 C-B
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C ₆ -C ₁₀ (mg/kg)	DRO C ₁₀ -C ₂₈ (mg/kg)	GRO + DRO C ₆ -C ₂₈ (mg/kg)	ORO C ₂₈ -C ₃₅ (mg/kg)	TPH C ₆ -C ₃₅ (mg/kg)	Chloride (mg/kg)
FL-1	4/10/2019	3'	In-Situ	<0.00771	<0.00399	<0.271	773	773	42.9	816	178
FL-2	4/10/2019	4'	In-Situ	<0.00885	<0.00458	0.39	663	663	33.5	697	56.9
FL-3	4/10/2019	5.5'	In-Situ	<0.00799	<0.00413	<0.271	23	23	<7.48	23	14.1
FL-4	4/10/2019	5.5'	In-Situ	<0.00906	<0.00469	0.316	18.7	19	<7.44	19	36.7
FL-5	4/10/2019	4'	In-Situ	<0.00762	<0.00395	0.332	453	453	17.4	471	14.6
FL-6	4/10/2019	4'	In-Situ	<0.00840	<0.00435	0.328	389	389	19.4	408.7	105
FL-7 @ 1'	4/10/2019	1'	Excavated	<0.00850	0.199	3.65	3,610	3,614	194	3,808	12
FL-7 @ 2'	4/24/2019	2'	In-Situ	0.0004	0.0004	<7.97	<8.10	<8.10	<8.10	<7.97	2.33
SW1	4/10/2019	1.5'	Excavated	<0.008	0.027	1.37	3,130	3,131	175	3,306	40.5
SW1b @ 1.5'	4/24/2019	1.5'	In-Situ	0.0006	0.001	<7.99	<8.11	<7.99	<8.11	<7.99	11.8
SW2 @ 2.5'	4/10/2019	2.5'	In-Situ	<0.008	<0.004	1.41	60.1	61.5	19.9	81.4	72.8
SW3 @ 2'	4/10/2019	2'	Excavated	<0.008	0.541	12.9	1,580	1,593	61.0	1,654	47.5
SW3b @ 2'	4/24/2019	2'	In-Situ	<0.0003	<0.0003	<8.00	<8.13	<8.13	<8.13	<8.00	5.33
SW4 @ 6"	4/10/2019	6"	In-Situ	<0.008	0.026	1.50	83.5	85.0	10.7	95.7	10.7
Closure Criteria				10	50	-	-	1,000	-	2,500	20,000

Upon receiving laboratory analytical results from confirmation soil samples, the excavated area was backfilled with locally sourced, non-impacted "like" material.

SITE CLOSURE REQUEST

Based on laboratory analytical results from soil samples collected during the final site assessment, impacted soil within the release margins has been determined to be remediated below the Table I of 19.15.29.12 NMAC Closure Criteria for Soils Impacted by a Release. Tasman on behalf of Plains, respectfully requests the NMOCD grant closure approval for the Mewbourne Toro 36 State Com 1H which occurred on January 5, 2019.

RESTORATION, RECLAMATION AND RE-VEGETATION

Areas affected by the Release and associated remediation activities were substantially restored to the condition which existed prior to the Release to the maximum extent practicable. Excavated areas were backfilled with locally sourced, non-impacted "like" material. The affected area was contoured and/or compacted to achieve erosion control, stability and preservation of surface water flow to the extent practicable.

If you have any questions, or if additional information is required, please feel free to contact Amber Groves or the undersigned by phone or email.

Respectfully,



Zach Conder
Program Manager
zconder@tasman-geo.com
(806) 724-5943

Amber Groves
Environmental Coordinator
algroves@paalp.com
(575) 200-5517

Attachments:	Figure 1:	Site Characteristics Map
	Figure 2A:	Soil Sample Location Map (Floors)
	Figure 2B:	Soil Sample Location Map (Walls)
	Appendix A:	Laboratory Analytical Reports
	Appendix B:	Depth to Groundwater Results
	Appendix C:	Photo Documentation
	Appendix D:	Initial C-141

Figures



LEGEND:

Site Location

Fresh Water Well

100-Year Floodplain

High/Critical Karst

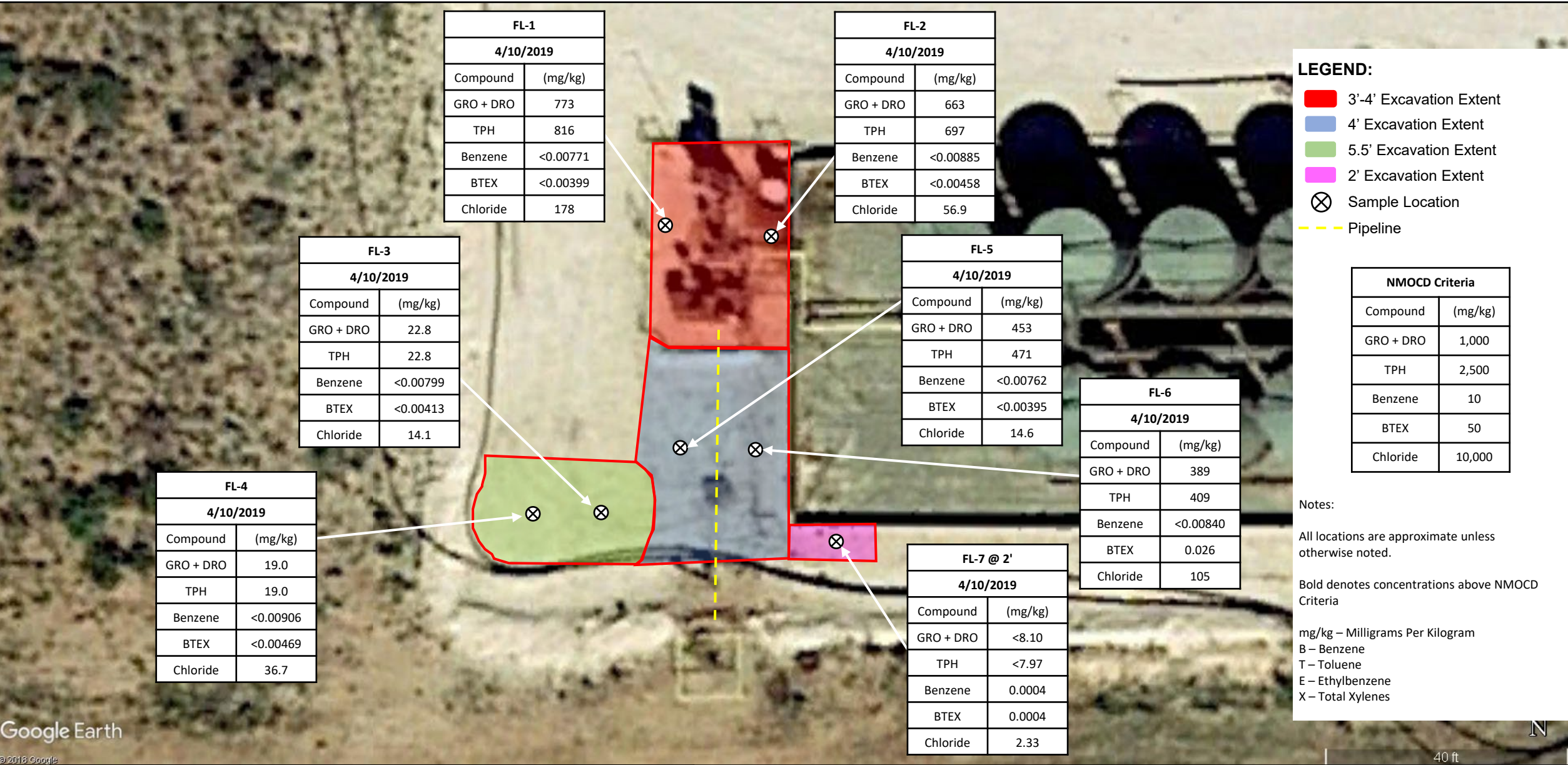
Non-Industrial Building

Municipal Well Field

Subsurface Mine

1/2 Mile Radius

DATE: April 2019	TASMAN GEOSCIENCES Tasman Geosciences, Inc. 2620 W. Marland Blvd. Hobbs, NM 88240	Plains Pipeline, LP Mewbourne Toro 36 B3BO State Com 1H GPS: 32.267319, -103.422008 UL "B", Section 36, Township 23 South, Range 34 East Lea County, New Mexico	Site Characteristics Map	Figure 1
DESIGNED BY: ZC				
DRAWN BY: BD				



Google Earth
© 2013 Google

LEGEND:

- 3'-4' Excavation Extent
- 4' Excavation Extent
- 5.5' Excavation Extent
- 2' Excavation Extent
- X Sample Location
- Pipeline

NMOCD Criteria	
Compound	(mg/kg)
GRO + DRO	1,000
TPH	2,500
Benzene	10
BTEX	50
Chloride	10,000

Notes:

All locations are approximate unless otherwise noted.

Bold denotes concentrations above NMOCD Criteria

mg/kg – Milligrams Per Kilogram

B – Benzene

T – Toluene

E – Ethylbenzene

X – Total Xylenes

SW1b @ 1.5'	
4/24/2019	
Compound	(mg/kg)
GRO + DRO	<7.99
TPH	<7.99
Benzene	0.0006
BTEX	0.001
Chloride	11.8

SW3b @ 2'	
4/24/2019	
Compound	(mg/kg)
GRO + DRO	<8.13
TPH	<8.00
Benzene	<0.0003
BTEX	<0.0003
Chloride	5.33

SW2 @ 2.5'	
4/10/2019	
Compound	(mg/kg)
GRO + DRO	61.5
TPH	81.4
Benzene	<0.008
BTEX	<0.004
Chloride	72.8

SW4 @ 6"	
4/10/2019	
Compound	(mg/kg)
GRO + DRO	85.0
TPH	95.7
Benzene	<0.008
BTEX	0.026
Chloride	10.7

40 ft

N

Google Earth

© 2013 Google

DATE: July 2019

DESIGNED BY: BD

DRAWN BY: BD



Tasman Geosciences, Inc.
2620 W. Marland Blvd.
Hobbs, NM 88240

Plains Pipeline, LP
Mewbourne Toro 36 State Com 1H

GPS: 32.267319, -103.422008

UL "B", Section 36, Township 23 South, Range 34 East
Lea County, New Mexico

Sample Location
Map (Walls)

**Figure
2B**

Appendix A: Laboratory Analytical Reports

Analytical Report 611842

for
Tasman Geosciences, LLC

Project Manager: Z Conder
Mewbourne Toro 36 B3BO State Com #1H (Initial)

25-JAN-19

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
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)

Table of Contents

Report Cover	1
Cover Letter	3
Sample ID Cross Reference	4
Case Narrative	5
Certificate of Analysis (Detailed Report)	6
Explanation of Qualifiers (Flags)	18
Surrogate Recoveries_QC	19
Blank Spike - Blank Spike Duplicate Recoveries	21
Matrix Spike - Matrix Spike Duplicate Recoveries	23
Chain of Custody	25
Sample Receipt Conformance Report	27



25-JAN-19

Project Manager: **Z Conder**
Tasman Geosciences, LLC
2620 W. Marland Blvd.
Hobbs, NM 88240

Reference: XENCO Report No(s): **611842**
Mewbourne Toro 36 B3BO State Com #1H (Initial)
Project Address: Lea County, NM

Z Conder:

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) 611842. 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. 611842 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,

Brandi Ritcherson

Project Manager

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

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America



Sample Cross Reference 611842



Tasman Geosciences, LLC, Hobbs, NM

Mewbourne Toro 36 B3BO State Com #1H (Initial)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-01 @1'	S	01-11-19 10:30	1 ft	611842-001
SB-01 @4'	S	01-11-19 10:50	4 ft	611842-002
SB-01 @7'	S	01-11-19 11:00	7 ft	611842-003
SB-02 @2'	S	01-11-19 14:20	2 ft	611842-004
SB-02 @7'	S	01-11-19 14:50	7 ft	611842-005
N-01 @2'	S	01-11-19 12:10	2 ft	611842-006
S-01 @2'	S	01-11-19 11:45	2 ft	611842-007
W-01 @3'	S	01-11-19 13:00	2 ft	611842-008
E-01 @1'	S	01-14-19 09:30	1 ft	611842-009
W-02 @ 1'	S	01-14-19 09:20	1 ft	611842-010



CASE NARRATIVE

Client Name: *Tasman Geosciences, LLC*

Project Name: *Mewbourne Toro 36 B3BO State Com #1H (Initial)*

Project ID:
Work Order Number(s): 611842

Report Date: 25-JAN-19
Date Received: 01/18/2019

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

1.001 Corrected sample description on sample -010 to W-02 @ 1' per client request.

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3076841 TPH by SW8015 Mod

Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 611842-001,611842-004.

Batch: LBA-3076957 BTEX by EPA 8021

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.

Samples affected are: 611842-001,611842-004.

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analytical Results

611842



Tasman Geosciences, LLC, Hobbs, NM
Mewbourne Toro 36 B3BO State Com #1H (Initial)

Sample Id: **SB-01 @1'** Matrix: Soil Sample Depth: 1 ft
Lab Sample Id: 611842-001 Date Collected: 01.11.19 10.30 Date Received: 01.18.19 11.15
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3076676 Date Prep: 01.22.19 08.00
Prep seq: 7670160

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	4.06	4.95	0.850	mg/kg	01.22.19 10:46	J	1

Analytical Method: TPH by SW8015 Mod Prep Method: 1005
Analyst: ARM % Moist: Tech: ARM
Seq Number: 3076841 Date Prep: 01.23.19 14.00
Prep seq: 7670370

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	4810	74.7	39.9	mg/kg	01.24.19 08:36		5
Diesel Range Organics (DRO)	C10C28DRO	6920	74.7	40.5	mg/kg	01.24.19 08:36		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	938	74.7	40.5	mg/kg	01.24.19 08:36		5
Total TPH	PHC635	12700		39.9	mg/kg	01.24.19 08:36		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	126	70 - 135	%		
o-Terphenyl	215	70 - 135	%		**

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: SCM % Moist: Tech: SCM
Seq Number: 3076957 Date Prep: 01.23.19 16.00
Prep seq: 7670332

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	5.43	0.100	0.0193	mg/kg	01.24.19 09:09		50
Toluene	108-88-3	0.0650	0.00200	0.000457	mg/kg	01.24.19 16:22	D	1
Ethylbenzene	100-41-4	0.0968	0.00200	0.000566	mg/kg	01.24.19 16:22	D	1
m_p-Xylenes	179601-23-1	0.188	0.00401	0.00102	mg/kg	01.24.19 16:22	D	1
o-Xylene	95-47-6	12.1	0.100	0.0173	mg/kg	01.24.19 09:09		50
Xylenes, Total	1330-20-7	12.3		0.00102	mg/kg	01.24.19 16:22		
Total BTEX		17.9		0.000457	mg/kg	01.24.19 16:22		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	86	70 - 130	%		
4-Bromofluorobenzene	653	70 - 130	%		**



Certificate of Analytical Results

611842



Tasman Geosciences, LLC, Hobbs, NM
Mewbourne Toro 36 B3BO State Com #1H (Initial)

Sample Id: **SB-01 @4'** Matrix: Soil Sample Depth: 4 ft
Lab Sample Id: 611842-002 Date Collected: 01.11.19 10.50 Date Received: 01.18.19 11.15
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3076676 Date Prep: 01.22.19 08.00
Prep seq: 7670160

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	8.06	5.00	0.858	mg/kg	01.22.19 11:07		1

Analytical Method: TPH by SW8015 Mod Prep Method: 1005
Analyst: ARM % Moist: Tech: ARM
Seq Number: 3076841 Date Prep: 01.23.19 14.00
Prep seq: 7670370

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	37.7	15.0	8.00	mg/kg	01.24.19 03:03		1
Diesel Range Organics (DRO)	C10C28DRO	403	15.0	8.13	mg/kg	01.24.19 03:03		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	50.7	15.0	8.13	mg/kg	01.24.19 03:03		1
Total TPH	PHC635	491		8.00	mg/kg	01.24.19 03:03		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	101	70 - 135	%		
o-Terphenyl	108	70 - 135	%		

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: SCM % Moist: Tech: SCM
Seq Number: 3076957 Date Prep: 01.23.19 16.00
Prep seq: 7670332

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	01.24.19 08:31	U	1
Toluene	108-88-3	0.00785	0.00199	0.000453	mg/kg	01.24.19 08:31		1
Ethylbenzene	100-41-4	0.0300	0.00199	0.000561	mg/kg	01.24.19 08:31		1
m_p-Xylenes	179601-23-1	0.0683	0.00398	0.00101	mg/kg	01.24.19 08:31		1
o-Xylene	95-47-6	0.0217	0.00199	0.000342	mg/kg	01.24.19 08:31		1
Xylenes, Total	1330-20-7	0.0900		0.000342	mg/kg	01.24.19 08:31		
Total BTEX		0.128		0.000342	mg/kg	01.24.19 08:31		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	98	70 - 130	%		
4-Bromofluorobenzene	129	70 - 130	%		



Certificate of Analytical Results

611842



Tasman Geosciences, LLC, Hobbs, NM
Mewbourne Toro 36 B3BO State Com #1H (Initial)

Sample Id: **SB-01 @7'** Matrix: Soil Sample Depth: 7 ft
Lab Sample Id: 611842-003 Date Collected: 01.11.19 11.00 Date Received: 01.18.19 11.15
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3076676 Date Prep: 01.22.19 08.00
Prep seq: 7670160

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1.35	4.98	0.855	mg/kg	01.22.19 11:13	J	1

Analytical Method: TPH by SW8015 Mod Prep Method: 1005
Analyst: ARM % Moist: Tech: ARM
Seq Number: 3076841 Date Prep: 01.23.19 14.00
Prep seq: 7670370

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	18.9	15.0	7.99	mg/kg	01.24.19 03:23		1
Diesel Range Organics (DRO)	C10C28DRO	152	15.0	8.11	mg/kg	01.24.19 03:23		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	20.7	15.0	8.11	mg/kg	01.24.19 03:23		1
Total TPH	PHC635	192		7.99	mg/kg	01.24.19 03:23		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	115	70 - 135	%		
o-Terphenyl	120	70 - 135	%		

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: SCM % Moist: Tech: SCM
Seq Number: 3076957 Date Prep: 01.23.19 16.00
Prep seq: 7670332

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	01.24.19 06:18	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	01.24.19 06:18	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	01.24.19 06:18	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	01.24.19 06:18	U	1
o-Xylene	95-47-6	0.00223	0.00200	0.000344	mg/kg	01.24.19 06:18		1
Xylenes, Total	1330-20-7	0.00223		0.000344	mg/kg	01.24.19 06:18		
Total BTEX		0.00223		0.000344	mg/kg	01.24.19 06:18		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	104	70 - 130	%		
4-Bromofluorobenzene	119	70 - 130	%		



Certificate of Analytical Results

611842



Tasman Geosciences, LLC, Hobbs, NM
Mewbourne Toro 36 B3BO State Com #1H (Initial)

Sample Id: **SB-02 @2'** Matrix: Soil Sample Depth: 2 ft
Lab Sample Id: 611842-004 Date Collected: 01.11.19 14.20 Date Received: 01.18.19 11.15
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3076676 Date Prep: 01.22.19 08.00
Prep seq: 7670160

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	11.0	4.99	0.857	mg/kg	01.22.19 11:19		1

Analytical Method: TPH by SW8015 Mod Prep Method: 1005
Analyst: ARM % Moist: Tech: ARM
Seq Number: 3076841 Date Prep: 01.23.19 14.00
Prep seq: 7670370

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	998	15.0	7.98	mg/kg	01.24.19 03:43		1
Diesel Range Organics (DRO)	C10C28DRO	3400	15.0	8.10	mg/kg	01.24.19 03:43		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	407	15.0	8.10	mg/kg	01.24.19 03:43		1
Total TPH	PHC635	4810		7.98	mg/kg	01.24.19 03:43		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	127	70 - 135	%		
o-Terphenyl	153	70 - 135	%		**

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: SCM % Moist: Tech: SCM
Seq Number: 3076957 Date Prep: 01.23.19 16.00
Prep seq: 7670332

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	0.594	0.0403	0.00776	mg/kg	01.24.19 08:50		20
Toluene	108-88-3	3.52	0.0403	0.00919	mg/kg	01.24.19 08:50		20
Ethylbenzene	100-41-4	4.58	0.0403	0.0114	mg/kg	01.24.19 08:50		20
m_p-Xylenes	179601-23-1	10.2	0.0806	0.0204	mg/kg	01.24.19 08:50		20
o-Xylene	95-47-6	2.50	0.0403	0.00694	mg/kg	01.24.19 08:50		20
Xylenes, Total	1330-20-7	12.7		0.00694	mg/kg	01.24.19 08:50		
Total BTEX		21.4		0.00694	mg/kg	01.24.19 08:50		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	127	70 - 130	%		
4-Bromofluorobenzene	198	70 - 130	%		**



Certificate of Analytical Results

611842



Tasman Geosciences, LLC, Hobbs, NM
Mewbourne Toro 36 B3BO State Com #1H (Initial)

Sample Id: **SB-02 @7'** Matrix: Soil Sample Depth: 7 ft
Lab Sample Id: 611842-005 Date Collected: 01.11.19 14.50 Date Received: 01.18.19 11.15
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3076676 Date Prep: 01.22.19 08.00
Prep seq: 7670160

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	17.0	5.00	0.858	mg/kg	01.22.19 11:26		1

Analytical Method: TPH by SW8015 Mod Prep Method: 1005
Analyst: ARM % Moist: Tech: ARM
Seq Number: 3076841 Date Prep: 01.23.19 14.00
Prep seq: 7670370

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	72.8	15.0	7.99	mg/kg	01.24.19 04:03		1
Diesel Range Organics (DRO)	C10C28DRO	390	15.0	8.12	mg/kg	01.24.19 04:03		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	50.9	15.0	8.12	mg/kg	01.24.19 04:03		1
Total TPH	PHC635	514		7.99	mg/kg	01.24.19 04:03		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	100	70 - 135	%		
o-Terphenyl	106	70 - 135	%		

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: SCM % Moist: Tech: SCM
Seq Number: 3076957 Date Prep: 01.23.19 16.00
Prep seq: 7670332

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	0.000559	0.00200	0.000384	mg/kg	01.24.19 08:12	J	1
Toluene	108-88-3	0.0247	0.00200	0.000455	mg/kg	01.24.19 08:12		1
Ethylbenzene	100-41-4	0.0745	0.00200	0.000564	mg/kg	01.24.19 08:12		1
m_p-Xylenes	179601-23-1	0.166	0.00399	0.00101	mg/kg	01.24.19 08:12		1
o-Xylene	95-47-6	0.0355	0.00200	0.000344	mg/kg	01.24.19 08:12		1
Xylenes, Total	1330-20-7	0.202		0.000344	mg/kg	01.24.19 08:12		
Total BTEX		0.301		0.000344	mg/kg	01.24.19 08:12		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	102	70 - 130	%		
4-Bromofluorobenzene	128	70 - 130	%		



Certificate of Analytical Results

611842



Tasman Geosciences, LLC, Hobbs, NM
Mewbourne Toro 36 B3BO State Com #1H (Initial)

Sample Id: N-01 @2' Matrix: Soil Sample Depth: 2 ft
Lab Sample Id: 611842-006 Date Collected: 01.11.19 12.10 Date Received: 01.18.19 11.15
Analytical Method: TPH by SW8015 Mod Prep Method: 1005
Analyst: ARM % Moist: Tech: ARM
Seq Number: 3076841 Date Prep: 01.23.19 14.00
Prep seq: 7670370

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	9.32	15.0	7.99	mg/kg	01.24.19 04:23	J	1
Diesel Range Organics (DRO)	C10C28DRO	<8.12	15.0	8.12	mg/kg	01.24.19 04:23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.12	15.0	8.12	mg/kg	01.24.19 04:23	U	1
Total TPH	PHC635	9.32		7.99	mg/kg	01.24.19 04:23	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	94	70 - 135	%		
o-Terphenyl	93	70 - 135	%		

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: SCM % Moist: Tech: SCM
Seq Number: 3076957 Date Prep: 01.23.19 16.00
Prep seq: 7670332

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000386	0.00201	0.000386	mg/kg	01.24.19 06:37	U	1
Toluene	108-88-3	<0.000457	0.00201	0.000457	mg/kg	01.24.19 06:37	U	1
Ethylbenzene	100-41-4	<0.000567	0.00201	0.000567	mg/kg	01.24.19 06:37	U	1
m_p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	01.24.19 06:37	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	01.24.19 06:37	U	1
Xylenes, Total	1330-20-7	<0.000346		0.000346	mg/kg	01.24.19 06:37	U	
Total BTEX		<0.000346		0.000346	mg/kg	01.24.19 06:37	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	110	70 - 130	%		
4-Bromofluorobenzene	113	70 - 130	%		



Certificate of Analytical Results

611842



Tasman Geosciences, LLC, Hobbs, NM
Mewbourne Toro 36 B3BO State Com #1H (Initial)

Sample Id: **S-01 @2'** Matrix: Soil Sample Depth: 2 ft
Lab Sample Id: 611842-007 Date Collected: 01.11.19 11.45 Date Received: 01.18.19 11.15
Analytical Method: TPH by SW8015 Mod Prep Method: 1005
Analyst: ARM % Moist: Tech: ARM
Seq Number: 3076841 Date Prep: 01.23.19 14.00
Prep seq: 7670370

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<7.97	14.9	7.97	mg/kg	01.24.19 04:43	U	1
Diesel Range Organics (DRO)	C10C28DRO	17.0	14.9	8.10	mg/kg	01.24.19 04:43		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.10	14.9	8.10	mg/kg	01.24.19 04:43	U	1
Total TPH	PHC635	17.0		7.97	mg/kg	01.24.19 04:43		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	94	70 - 135	%		
o-Terphenyl	93	70 - 135	%		

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: SCM % Moist: Tech: SCM
Seq Number: 3076957 Date Prep: 01.23.19 16.00
Prep seq: 7670332

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	01.24.19 06:56	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	01.24.19 06:56	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	01.24.19 06:56	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	01.24.19 06:56	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	01.24.19 06:56	U	1
Xylenes, Total	1330-20-7	<0.000344		0.000344	mg/kg	01.24.19 06:56	U	
Total BTEX		<0.000344		0.000344	mg/kg	01.24.19 06:56	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	108	70 - 130	%		
4-Bromofluorobenzene	112	70 - 130	%		



Certificate of Analytical Results

611842



Tasman Geosciences, LLC, Hobbs, NM
Mewbourne Toro 36 B3BO State Com #1H (Initial)

Sample Id: **W-01 @3'** Matrix: Soil Sample Depth: 2 ft
Lab Sample Id: 611842-008 Date Collected: 01.11.19 13.00 Date Received: 01.18.19 11.15
Analytical Method: TPH by SW8015 Mod Prep Method: 1005
Analyst: ARM % Moist: Tech: ARM
Seq Number: 3076841 Date Prep: 01.23.19 14.00
Prep seq: 7670370

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	11.7	15.0	7.98	mg/kg	01.24.19 05:03	J	1
Diesel Range Organics (DRO)	C10C28DRO	<8.10	15.0	8.10	mg/kg	01.24.19 05:03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.10	15.0	8.10	mg/kg	01.24.19 05:03	U	1
Total TPH	PHC635	11.7		7.98	mg/kg	01.24.19 05:03	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	106	70 - 135	%		
o-Terphenyl	105	70 - 135	%		

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: SCM % Moist: Tech: SCM
Seq Number: 3076957 Date Prep: 01.23.19 16.00
Prep seq: 7670332

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000384	0.00200	0.000384	mg/kg	01.24.19 07:15	U	1
Toluene	108-88-3	<0.000455	0.00200	0.000455	mg/kg	01.24.19 07:15	U	1
Ethylbenzene	100-41-4	<0.000564	0.00200	0.000564	mg/kg	01.24.19 07:15	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00399	0.00101	mg/kg	01.24.19 07:15	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	01.24.19 07:15	U	1
Xylenes, Total	1330-20-7	<0.000344		0.000344	mg/kg	01.24.19 07:15	U	
Total BTEX		<0.000344		0.000344	mg/kg	01.24.19 07:15	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	109	70 - 130	%		
4-Bromofluorobenzene	113	70 - 130	%		



Certificate of Analytical Results

611842



Tasman Geosciences, LLC, Hobbs, NM
Mewbourne Toro 36 B3BO State Com #1H (Initial)

Sample Id: **E-01 @1'** Matrix: Soil Sample Depth: 1 ft
Lab Sample Id: 611842-009 Date Collected: 01.14.19 09.30 Date Received: 01.18.19 11.15
Analytical Method: TPH by SW8015 Mod Prep Method: 1005
Analyst: ARM % Moist: Tech: ARM
Seq Number: 3076841 Date Prep: 01.23.19 14.00
Prep seq: 7670370

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	12.2	15.0	7.98	mg/kg	01.24.19 06:54	J	1
Diesel Range Organics (DRO)	C10C28DRO	<8.10	15.0	8.10	mg/kg	01.24.19 06:54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	8.34	15.0	8.10	mg/kg	01.24.19 06:54	J	1
Total TPH	PHC635	20.5		7.98	mg/kg	01.24.19 06:54		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	95	70 - 135	%		
o-Terphenyl	94	70 - 135	%		

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: SCM % Moist: Tech: SCM
Seq Number: 3076957 Date Prep: 01.23.19 16.00
Prep seq: 7670332

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000386	0.00200	0.000386	mg/kg	01.24.19 07:34	U	1
Toluene	108-88-3	<0.000457	0.00200	0.000457	mg/kg	01.24.19 07:34	U	1
Ethylbenzene	100-41-4	<0.000566	0.00200	0.000566	mg/kg	01.24.19 07:34	U	1
m_p-Xylenes	179601-23-1	<0.00102	0.00401	0.00102	mg/kg	01.24.19 07:34	U	1
o-Xylene	95-47-6	<0.000345	0.00200	0.000345	mg/kg	01.24.19 07:34	U	1
Xylenes, Total	1330-20-7	<0.000345		0.000345	mg/kg	01.24.19 07:34	U	
Total BTEX		<0.000345		0.000345	mg/kg	01.24.19 07:34	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	109	70 - 130	%		
4-Bromofluorobenzene	113	70 - 130	%		



Certificate of Analytical Results

611842



Tasman Geosciences, LLC, Hobbs, NM
Mewbourne Toro 36 B3BO State Com #1H (Initial)

Sample Id: **W-02 @ 1'** Matrix: Soil Sample Depth: 1 ft
Lab Sample Id: 611842-010 Date Collected: 01.14.19 09.20 Date Received: 01.18.19 11.15
Analytical Method: TPH by SW8015 Mod Prep Method: 1005
Analyst: ARM % Moist: Tech: ARM
Seq Number: 3076841 Date Prep: 01.23.19 14.00
Prep seq: 7670370

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	8.03	15.0	8.00	mg/kg	01.24.19 07:13	J	1
Diesel Range Organics (DRO)	C10C28DRO	<8.13	15.0	8.13	mg/kg	01.24.19 07:13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.13	15.0	8.13	mg/kg	01.24.19 07:13	U	1
Total TPH	PHC635	8.03		8.00	mg/kg	01.24.19 07:13	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	89	70 - 135	%		
o-Terphenyl	87	70 - 135	%		

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: SCM % Moist: Tech: SCM
Seq Number: 3076957 Date Prep: 01.23.19 16.00
Prep seq: 7670332

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000387	0.00201	0.000387	mg/kg	01.24.19 07:53	U	1
Toluene	108-88-3	<0.000458	0.00201	0.000458	mg/kg	01.24.19 07:53	U	1
Ethylbenzene	100-41-4	<0.000568	0.00201	0.000568	mg/kg	01.24.19 07:53	U	1
m_p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	01.24.19 07:53	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	01.24.19 07:53	U	1
Xylenes, Total	1330-20-7	<0.000346		0.000346	mg/kg	01.24.19 07:53	U	
Total BTEX		<0.000346		0.000346	mg/kg	01.24.19 07:53	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	110	70 - 130	%		
4-Bromofluorobenzene	115	70 - 130	%		



Certificate of Analytical Results

611842



Tasman Geosciences, LLC, Hobbs, NM
Mewbourne Toro 36 B3BO State Com #1H (Initial)

Sample Id: **7670160-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7670160-1-BLK Date Collected: Date Received:
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3076676 Date Prep: 01.22.19 08.00
Prep seq: 7670160

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<0.858	5.00	0.858	mg/kg	01.22.19 08:33	U	1

Sample Id: **7670332-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7670332-1-BLK Date Collected: Date Received:
Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: SCM % Moist: Tech: SCM
Seq Number: 3076957 Date Prep: 01.23.19 16.00
Prep seq: 7670332

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000386	0.00200	0.000386	mg/kg	01.24.19 05:59	U	1
Toluene	108-88-3	<0.000457	0.00200	0.000457	mg/kg	01.24.19 05:59	U	1
Ethylbenzene	100-41-4	<0.000566	0.00200	0.000566	mg/kg	01.24.19 05:59	U	1
m_p-Xylenes	179601-23-1	<0.00102	0.00401	0.00102	mg/kg	01.24.19 05:59	U	1
o-Xylene	95-47-6	<0.000345	0.00200	0.000345	mg/kg	01.24.19 05:59	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	100	70 - 130	%		
4-Bromofluorobenzene	93	70 - 130	%		



Certificate of Analytical Results

611842



Tasman Geosciences, LLC, Hobbs, NM
Mewbourne Toro 36 B3BO State Com #1H (Initial)

Sample Id: **7670370-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7670370-1-BLK Date Collected: Date Received:
Analytical Method: TPH by SW8015 Mod Prep Method: 1005
Analyst: ARM % Moist: Tech: ARM
Seq Number: 3076841 Date Prep: 01.23.19 14.00
Prep seq: 7670370

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<8.00	15.0	8.00	mg/kg	01.23.19 20:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<8.13	15.0	8.13	mg/kg	01.23.19 20:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.13	15.0	8.13	mg/kg	01.23.19 20:59	U	1
Total TPH	PHC635	<8.00		8.00	mg/kg	01.23.19 20:59	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	112	70 - 135	%		
o-Terphenyl	116	70 - 135	%		

- 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

MQL 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: Mewbourne Toro 36 B3BO State Com #1H (Initial)

Work Orders : 611842,

Project ID:

Lab Batch #: 3076957

Sample: 7670332-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/24/19 04:26

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0315	0.0300	105	70-130	
4-Bromofluorobenzene	0.0313	0.0300	104	70-130	

Lab Batch #: 3076957

Sample: 7670332-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/24/19 04:45

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0312	0.0300	104	70-130	
4-Bromofluorobenzene	0.0305	0.0300	102	70-130	

Lab Batch #: 3076957

Sample: 611842-010 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/24/19 05:04

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0314	0.0300	105	70-130	
4-Bromofluorobenzene	0.0321	0.0300	107	70-130	

Lab Batch #: 3076957

Sample: 611842-010 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/24/19 05:23

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0316	0.0300	105	70-130	
4-Bromofluorobenzene	0.0326	0.0300	109	70-130	

Lab Batch #: 3076957

Sample: 7670332-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/24/19 05:59

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0301	0.0300	100	70-130	
4-Bromofluorobenzene	0.0279	0.0300	93	70-130	

* 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: Mewbourne Toro 36 B3BO State Com #1H (Initial)

Work Orders : 611842,

Project ID:

Lab Batch #: 3076841

Sample: 7670370-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/23/19 20:59

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	100	112	70-135	
o-Terphenyl	58.0	50.0	116	70-135	

Lab Batch #: 3076841

Sample: 7670370-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/23/19 21:20

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	100	116	70-135	
o-Terphenyl	44.5	50.0	89	70-135	

Lab Batch #: 3076841

Sample: 7670370-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/23/19 21:40

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	123	100	123	70-135	
o-Terphenyl	51.8	50.0	104	70-135	

Lab Batch #: 3076841

Sample: 612057-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/23/19 22:20

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	122	99.7	122	70-135	
o-Terphenyl	61.7	49.9	124	70-135	

Lab Batch #: 3076841

Sample: 612057-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/23/19 22:40

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	130	99.9	130	70-135	
o-Terphenyl	57.9	50.0	116	70-135	

* 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: Mewbourne Toro 36 B3BO State Com #1H (Initial)

Work Order #: 611842

Project ID:

Analyst: SCM

Date Prepared: 01/23/2019

Date Analyzed: 01/24/2019

Lab Batch ID: 3076957

Sample: 7670332-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021	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											
Benzene	<0.000384	0.0998	0.113	113	0.100	0.111	111	2	70-130	35	
Toluene	<0.000455	0.0998	0.101	101	0.100	0.0991	99	2	70-130	35	
Ethylbenzene	<0.000564	0.0998	0.0964	97	0.100	0.0944	94	2	70-130	35	
m_p-Xylenes	<0.00101	0.200	0.189	95	0.200	0.185	93	2	70-130	35	
o-Xylene	<0.000344	0.0998	0.0959	96	0.100	0.0934	93	3	70-130	35	

Analyst: CHE

Date Prepared: 01/22/2019

Date Analyzed: 01/22/2019

Lab Batch ID: 3076676

Sample: 7670160-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	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											
Chloride	<0.858	250	241	96	250	241	96	0	90-110	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



BS / BSD Recoveries



Project Name: Mewbourne Toro 36 B3BO State Com #1H (Initial)

Work Order #: 611842

Project ID:

Analyst: ARM

Date Prepared: 01/23/2019

Date Analyzed: 01/23/2019

Lab Batch ID: 3076841

Sample: 7670370-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	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
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	920	92	1000	1060	106	14	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	1030	103	1000	1140	114	10	70-135	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: Mewbourne Toro 36 B3BO State Com #1H (Initial)

Work Order # : 611842

Project ID:

Lab Batch ID: 3076957

QC- Sample ID: 611842-010 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/24/2019

Date Prepared: 01/23/2019

Analyst: SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 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
Benzene	<0.000385	0.100	0.0936	94	0.0996	0.0971	97	4	70-130	35	
Toluene	<0.000456	0.100	0.0839	84	0.0996	0.0857	86	2	70-130	35	
Ethylbenzene	<0.000565	0.100	0.0783	78	0.0996	0.0793	80	1	70-130	35	
m_p-Xylenes	<0.00101	0.200	0.157	79	0.199	0.158	79	1	70-130	35	
o-Xylene	<0.000344	0.100	0.0809	81	0.0996	0.0812	82	0	70-130	35	

Lab Batch ID: 3076676

QC- Sample ID: 611803-003 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/22/2019

Date Prepared: 01/22/2019

Analyst: CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 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
Chloride	213	248	442	92	248	434	89	2	90-110	20	X

Lab Batch ID: 3076676

QC- Sample ID: 611804-004 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/22/2019

Date Prepared: 01/22/2019

Analyst: CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 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
Chloride	975	250	1220	98	250	1240	106	2	90-110	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.



Form 3 - MS / MSD Recoveries



Project Name: Mewbourne Toro 36 B3BO State Com #1H (Initial)

Work Order # : 611842

Project ID:

Lab Batch ID: 3076841

QC- Sample ID: 612057-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/23/2019

Date Prepared: 01/23/2019

Analyst: ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 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
Gasoline Range Hydrocarbons (GRO)	9.51	997	883	88	999	994	99	12	70-135	20	
Diesel Range Organics (DRO)	16.8	997	974	96	999	1100	108	12	70-135	20	

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

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

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)

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

Phoenix, Arizona (480-355-0900)

www.xenico.com

[illegible]

ORIGIN ID: H0BA (575) 392-7550
**
MAIL SERVICES ETC, LLC
400B N GRIMES

HOBBS, NM 88240
UNITED STATES US

SHIP DATE: 17JAN19
ACTWGT: 27.00 LB MAN
CAD: 0909328/CAFE3211
DIMS: 27x15x15 IN

BILL RECIPIENT

TO XENCO LABORATORIES
FEDEX EXPRESS SHIP CENTER
FEDEX EXPRESS SHIP CENTER
3600 COUNTY ROAD 1276 SOUTH

MIDLAND TX 79711

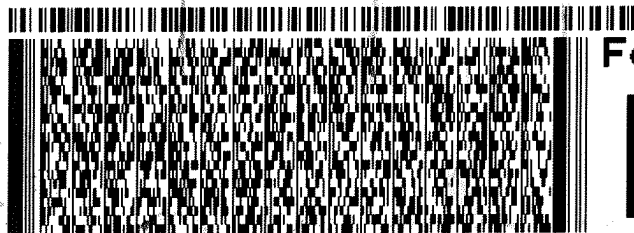
(432) 563-1800

REF:

INV:

PO:

DEPT:



FedEx
Express



J181118060501UV

TRK# 4705 2519 9573
0201

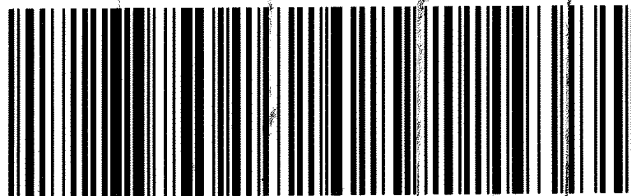
FRI - 18 JAN HOLD
STANDARD OVERNIGHT

HLD

41 MAFA

MAFA

TX-US LBB



Post # 158140-234 HLT EXP 0018

551C2/D74C/104C



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Tasman Geosciences, LLC

Date/ Time Received: 01/18/2019 11:15:00 AM

Work Order #: 611842

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	1.4
#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:

Katie Lowe

Date: 01/18/2019

Checklist reviewed by:

Brandi Ritcherson

Date: 01/21/2019

Analytical Report 620915

for
Tasman Geosciences, LLC

Project Manager: Zach Conder

Mewbourne Toro State Com #1H

SRS #2019-005

19-APR-19

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)

Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)

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), North Carolina (483)

Xenco-Lakeland: Florida (E84098)

Table of Contents

Cover Page	1
Cover Letter	3
Sample ID Cross Reference	4
Case Narrative	5
Certificate of Analysis (Detailed Report)	8
Explanation of Qualifiers (Flags)	33
SURR_QC_V62	34
LCS / LCSD Recoveries	39
MS / MSD Recoveries	42
Chain of Custody	45
IOS_COC_126581	47
IOS_Check_List_126581	48
Sample Receipt Conformance Report	49



19-APR-19

Project Manager: **Zach Conder**

Tasman Geosciences, LLC

2620 W. Marland Blvd.

Hobbs, NM 88240

Reference: XENCO Report No(s): **620915**

Mewbourne Toro State Com #1H

Project Address:

Zach Conder:

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) 620915. 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. 620915 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,

John Builes

Project Manager

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

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America



Sample Cross Reference 620915



Tasman Geosciences, LLC, Hobbs, NM

Mewbourne Toro State Com #1H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FL1	S	04-10-19 00:00		620915-001
FL2	S	04-10-19 00:00		620915-002
FL3-5.5'	S	04-10-19 00:00	5 - .5 ft	620915-003
FL4-5.5'	S	04-10-19 00:00	5 - .5 ft	620915-004
FL5-4'	S	04-10-19 00:00	4 ft	620915-005
FL6-4'	S	04-10-19 00:00	4 ft	620915-006
FL7-1'	S	04-10-19 00:00	1 ft	620915-007
SW1	S	04-10-19 00:00		620915-008
SW2-2.5'	S	04-10-19 00:00	2 - .5	620915-009
SW3-2'	S	04-10-19 00:00	2 ft	620915-010
SW4-6"	S	04-10-19 00:00	6 In	620915-011



CASE NARRATIVE

Client Name: *Tasman Geosciences, LLC*

Project Name: *Mewbourne Toro State Com #1H*

Project ID: SRS #2019-005
Work Order Number(s): 620915

Report Date: 19-APR-19
Date Received: 04/11/2019

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3085586 Total Petroleum Hydrocarbons by Texas 1005

Surrogate Tricosane recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 620915-001 S, 620915-001 SD, 620915-010.

Surrogate n-Triacontane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 620915-001 S, 620915-001 SD, 620915-009, 620915-006, 620915-001, 620915-002, 620915-011, 620915-010, 620915-005.

Surrogate Tricosane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 620915-009, 620915-006, 620915-005, 620915-002, 620915-001, 620915-011.

Lab Sample ID 620915-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). C12-C28 Diesel Range Hydrocarbons recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 620915-001, -002, -003, -004, -005, -006, -009, -010, -011.

The Laboratory Control Sample for C12-C28 Diesel Range Hydrocarbons is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3085646 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



CASE NARRATIVE

Client Name: Tasman Geosciences, LLC

Project Name: Mewbourne Toro State Com #1H

Project ID: SRS #2019-005
Work Order Number(s): 620915

Report Date: 19-APR-19
Date Received: 04/11/2019

Batch: LBA-3085775 Total Petroleum Hydrocarbons by Texas 1005

Surrogate n-Triacontane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 620915-008 S, 620915-008 SD, 620915-007, 620915-008.

Surrogate Tricosane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 620915-008 S, 620915-008 SD, 620915-008, 620915-007.

Lab Sample ID 620915-008 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). C12-C28 Diesel Range Hydrocarbons recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 620915-007, -008.

The Laboratory Control Sample for C12-C28 Diesel Range Hydrocarbons is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3086089 DRO-ORO By SW8015B

Lab Sample ID 620915-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Diesel Range Organics (DRO) recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 620915-001, -002, -003, -004, -005, -006, -009, -010, -011.

The Laboratory Control Sample for Diesel Range Organics (DRO) is within laboratory Control Limits, therefore the data was accepted.

Surrogate Tricosane recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 620915-001 S, 620915-001 SD, 620915-010.

Surrogate n-Triacontane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 620915-001 S, 620915-001 SD, 620915-011, 620915-006, 620915-009, 620915-010, 620915-002, 620915-001, 620915-005.

Surrogate Tricosane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 620915-005, 620915-006, 620915-009, 620915-002, 620915-001, 620915-011.



CASE NARRATIVE

Client Name: *Tasman Geosciences, LLC*

Project Name: *Mewbourne Toro State Com #1H*

Project ID: SRS #2019-005
Work Order Number(s): 620915

Report Date: 19-APR-19
Date Received: 04/11/2019

Batch: LBA-3086094 DRO-ORO By SW8015B

Surrogate Tricosane, Surrogate n-Triacontane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 620915-008 S, 620915-008 SD, 620915-008, 620915-007.

Lab Sample ID 620915-008 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Diesel Range Organics (DRO) recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 620915-007, -008.

The Laboratory Control Sample for Diesel Range Organics (DRO) is within laboratory Control Limits, therefore the data was accepted.



Certificate of Analytical Results

620915



Tasman Geosciences, LLC, Hobbs, NM

Mewbourne Toro State Com #1H

Sample Id: **FL1** Matrix: Soil Sample Depth:
Lab Sample Id: 620915-001 Date Collected: 04.10.19 00.00 Date Received: 04.11.19 15.41
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: JYM % Moist: Tech: JYM
Seq Number: 3085906 Date Prep: 04.16.19 15.07
Subcontractor: SUB: T104704215-19-29 Prep seq: 7675856

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	178	10.0	0.354	mg/kg	04.16.19 15:04		1

Analytical Method: DRO-ORO By SW8015B Prep Method: 8015
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3086089 Date Prep: 04.12.19 11.30
Prep seq: 7675961

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Diesel Range Organics (DRO)	C10C28DRO	773	25.1	7.49	mg/kg	04.13.19 06:15	X	1
Oil Range Hydrocarbons (ORO)	PHCG2835	42.9	25.1	7.49	mg/kg	04.13.19 06:15		1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Tricosane	858	65 - 144	%		**
n-Triacontane	337	46 - 152	%		**

Analytical Method: TPH GRO by EPA 8015 Mod. Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3085939 Date Prep: 04.16.19 13.00
Prep seq: 7675924

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
TPH-GRO	8006-61-9	<0.271	4.00	0.271	mg/kg	04.16.19 20:41	U	20

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	87	76 - 123	%		
a,a,a-Trifluorotoluene	100	69 - 120	%		



Certificate of Analytical Results

620915



Tasman Geosciences, LLC, Hobbs, NM
Mewbourne Toro State Com #1H

Sample Id: **FL1** Matrix: Soil Sample Depth:
Lab Sample Id: 620915-001 Date Collected: 04.10.19 00.00 Date Received: 04.11.19 15.41
Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3085646 Date Prep: 04.12.19 11.30
Prep seq: 7675755

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00771	0.0171	0.00771	mg/kg	04.14.19 19:52	U	17
Toluene	108-88-3	<0.00399	0.0171	0.00399	mg/kg	04.14.19 19:52	U	17
Ethylbenzene	100-41-4	<0.00526	0.0171	0.00526	mg/kg	04.14.19 19:52	U	17
m_p-Xylenes	179601-23-1	<0.00582	0.0341	0.00582	mg/kg	04.14.19 19:52	U	17
o-Xylene	95-47-6	<0.00582	0.0171	0.00582	mg/kg	04.14.19 19:52	U	17
Xylenes, Total	1330-20-7	<0.00582		0.00582	mg/kg	04.14.19 19:52	U	
Total BTEX		<0.00399		0.00399	mg/kg	04.14.19 19:52	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	101	68 - 120	%		
a,a,a-Trifluorotoluene	106	71 - 121	%		



Certificate of Analytical Results

620915



Tasman Geosciences, LLC, Hobbs, NM

Mewbourne Toro State Com #1H

Sample Id: **FL2** Matrix: Soil Sample Depth:
Lab Sample Id: 620915-002 Date Collected: 04.10.19 00.00 Date Received: 04.11.19 15.41
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: JYM % Moist: Tech: JYM
Seq Number: 3085906 Date Prep: 04.16.19 15.07
Subcontractor: SUB: T104704215-19-29 Prep seq: 7675856

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	56.9	9.98	0.353	mg/kg	04.16.19 15:31		1

Analytical Method: DRO-ORO By SW8015B Prep Method: 8015
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3086089 Date Prep: 04.12.19 11.30
Prep seq: 7675961

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Diesel Range Organics (DRO)	C10C28DRO	663	25.0	7.47	mg/kg	04.13.19 08:31		1
Oil Range Hydrocarbons (ORO)	PHCG2835	33.5	25.0	7.47	mg/kg	04.13.19 08:31		1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Tricosane	617	65 - 144	%		**
n-Triacontane	286	46 - 152	%		**

Analytical Method: TPH GRO by EPA 8015 Mod. Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3085939 Date Prep: 04.16.19 13.00
Prep seq: 7675924

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
TPH-GRO	8006-61-9	0.392	4.00	0.271	mg/kg	04.16.19 22:17	J	20

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	87	76 - 123	%		
a,a,a-Trifluorotoluene	102	69 - 120	%		



Certificate of Analytical Results

620915



Tasman Geosciences, LLC, Hobbs, NM
Mewbourne Toro State Com #1H

Sample Id: **FL2** Matrix: Soil Sample Depth:
Lab Sample Id: 620915-002 Date Collected: 04.10.19 00.00 Date Received: 04.11.19 15.41
Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3085646 Date Prep: 04.12.19 11.30
Prep seq: 7675755

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00885	0.0196	0.00885	mg/kg	04.14.19 21:28	U	20
Toluene	108-88-3	<0.00458	0.0196	0.00458	mg/kg	04.14.19 21:28	U	20
Ethylbenzene	100-41-4	<0.00603	0.0196	0.00603	mg/kg	04.14.19 21:28	U	20
m_p-Xylenes	179601-23-1	<0.00667	0.0391	0.00667	mg/kg	04.14.19 21:28	U	20
o-Xylene	95-47-6	<0.00667	0.0196	0.00667	mg/kg	04.14.19 21:28	U	20
Xylenes, Total	1330-20-7	<0.00667		0.00667	mg/kg	04.14.19 21:28	U	
Total BTEX		<0.00458		0.00458	mg/kg	04.14.19 21:28	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	84	68 - 120	%		
a,a,a-Trifluorotoluene	89	71 - 121	%		



Certificate of Analytical Results

620915



Tasman Geosciences, LLC, Hobbs, NM

Mewbourne Toro State Com #1H

Sample Id: **FL3-5.5'** Matrix: Soil Sample Depth: 5 - .5 ft
Lab Sample Id: 620915-003 Date Collected: 04.10.19 00.00 Date Received: 04.11.19 15.41
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: JYM % Moist: Tech: JYM
Seq Number: 3085906 Date Prep: 04.16.19 15.07
Subcontractor: SUB: T104704215-19-29 Prep seq: 7675856

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	14.1	10.0	0.355	mg/kg	04.16.19 15:39		1

Analytical Method: DRO-ORO By SW8015B Prep Method: 8015
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3086089 Date Prep: 04.12.19 11.30
Prep seq: 7675961

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Diesel Range Organics (DRO)	C10C28DRO	22.8	25.0	7.48	mg/kg	04.13.19 09:05	J	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.48	25.0	7.48	mg/kg	04.13.19 09:05	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Tricosane	125	65 - 144	%		
n-Triacontane	146	46 - 152	%		

Analytical Method: TPH GRO by EPA 8015 Mod. Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3085939 Date Prep: 04.16.19 13.00
Prep seq: 7675924

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
TPH-GRO	8006-61-9	<0.271	4.00	0.271	mg/kg	04.16.19 22:41	U	20

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	89	76 - 123	%		
a,a,a-Trifluorotoluene	103	69 - 120	%		



Certificate of Analytical Results

620915



Tasman Geosciences, LLC, Hobbs, NM
Mewbourne Toro State Com #1H

Sample Id: **FL3-5.5'** Matrix: Soil Sample Depth: 5 - .5 ft
Lab Sample Id: 620915-003 Date Collected: 04.10.19 00.00 Date Received: 04.11.19 15.41
Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3085646 Date Prep: 04.12.19 11.30
Prep seq: 7675755

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00799	0.0177	0.00799	mg/kg	04.14.19 21:52	U	18
Toluene	108-88-3	<0.00413	0.0177	0.00413	mg/kg	04.14.19 21:52	U	18
Ethylbenzene	100-41-4	<0.00544	0.0177	0.00544	mg/kg	04.14.19 21:52	U	18
m_p-Xylenes	179601-23-1	<0.00602	0.0353	0.00602	mg/kg	04.14.19 21:52	U	18
o-Xylene	95-47-6	<0.00602	0.0177	0.00602	mg/kg	04.14.19 21:52	U	18
Xylenes, Total	1330-20-7	<0.00602		0.00602	mg/kg	04.14.19 21:52	U	
Total BTEX		<0.00413		0.00413	mg/kg	04.14.19 21:52	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	100	68 - 120	%		
a,a,a-Trifluorotoluene	107	71 - 121	%		



Certificate of Analytical Results

620915



Tasman Geosciences, LLC, Hobbs, NM

Mewbourne Toro State Com #1H

Sample Id: **FL4-5.5'** Matrix: Soil Sample Depth: 5 - .5 ft
Lab Sample Id: 620915-004 Date Collected: 04.10.19 00.00 Date Received: 04.11.19 15.41
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: JYM % Moist: Tech: JYM
Seq Number: 3085906 Date Prep: 04.16.19 15.07
Subcontractor: SUB: T104704215-19-29 Prep seq: 7675856

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	36.7	10.0	0.354	mg/kg	04.16.19 15:48		1

Analytical Method: DRO-ORO By SW8015B Prep Method: 8015
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3086089 Date Prep: 04.12.19 11.30
Prep seq: 7675961

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Diesel Range Organics (DRO)	C10C28DRO	18.7	24.9	7.44	mg/kg	04.13.19 09:39	J	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.44	24.9	7.44	mg/kg	04.13.19 09:39	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Tricosane	120	65 - 144	%		
n-Triacontane	147	46 - 152	%		

Analytical Method: TPH GRO by EPA 8015 Mod. Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3085939 Date Prep: 04.16.19 13.00
Prep seq: 7675924

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
TPH-GRO	8006-61-9	0.316	4.00	0.271	mg/kg	04.16.19 23:06	J	20

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	85	76 - 123	%		
a,a,a-Trifluorotoluene	99	69 - 120	%		



Certificate of Analytical Results

620915



Tasman Geosciences, LLC, Hobbs, NM
Mewbourne Toro State Com #1H

Sample Id: **FL4-5.5'** Matrix: Soil Sample Depth: 5 - .5 ft
Lab Sample Id: 620915-004 Date Collected: 04.10.19 00.00 Date Received: 04.11.19 15.41
Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3085646 Date Prep: 04.12.19 11.30
Prep seq: 7675755

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00906	0.0200	0.00906	mg/kg	04.14.19 22:17	U	20
Toluene	108-88-3	<0.00469	0.0200	0.00469	mg/kg	04.14.19 22:17	U	20
Ethylbenzene	100-41-4	<0.00617	0.0200	0.00617	mg/kg	04.14.19 22:17	U	20
m_p-Xylenes	179601-23-1	<0.00683	0.0401	0.00683	mg/kg	04.14.19 22:17	U	20
o-Xylene	95-47-6	<0.00683	0.0200	0.00683	mg/kg	04.14.19 22:17	U	20
Xylenes, Total	1330-20-7	<0.00683		0.00683	mg/kg	04.14.19 22:17	U	
Total BTEX		<0.00469		0.00469	mg/kg	04.14.19 22:17	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	105	68 - 120	%		
a,a,a-Trifluorotoluene	110	71 - 121	%		



Certificate of Analytical Results

620915



Tasman Geosciences, LLC, Hobbs, NM

Mewbourne Toro State Com #1H

Sample Id: **FL5-4'** Matrix: Soil Sample Depth: 4 ft
Lab Sample Id: 620915-005 Date Collected: 04.10.19 00.00 Date Received: 04.11.19 15.41
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: JYM % Moist: Tech: JYM
Seq Number: 3085906 Date Prep: 04.16.19 15.07
Subcontractor: SUB: T104704215-19-29 Prep seq: 7675856

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	14.6	9.98	0.353	mg/kg	04.16.19 16:14		1

Analytical Method: DRO-ORO By SW8015B Prep Method: 8015
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3086089 Date Prep: 04.12.19 11.30
Prep seq: 7675961

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Diesel Range Organics (DRO)	C10C28DRO	453	25.1	7.49	mg/kg	04.13.19 10:12		1
Oil Range Hydrocarbons (ORO)	PHCG2835	17.4	25.1	7.49	mg/kg	04.13.19 10:12	J	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Tricosane	383	65 - 144	%		**
n-Triacontane	233	46 - 152	%		**

Analytical Method: TPH GRO by EPA 8015 Mod. Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3085939 Date Prep: 04.16.19 13.00
Prep seq: 7675924

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
TPH-GRO	8006-61-9	0.332	4.00	0.271	mg/kg	04.16.19 23:30	J	20

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	88	76 - 123	%		
a,a,a-Trifluorotoluene	101	69 - 120	%		



Certificate of Analytical Results

620915



Tasman Geosciences, LLC, Hobbs, NM
Mewbourne Toro State Com #1H

Sample Id: **FL5-4'** Matrix: Soil Sample Depth: 4 ft
Lab Sample Id: 620915-005 Date Collected: 04.10.19 00.00 Date Received: 04.11.19 15.41
Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3085646 Date Prep: 04.12.19 11.30
Prep seq: 7675755

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00762	0.0169	0.00762	mg/kg	04.14.19 22:41	U	17
Toluene	108-88-3	<0.00395	0.0169	0.00395	mg/kg	04.14.19 22:41	U	17
Ethylbenzene	100-41-4	<0.00519	0.0169	0.00519	mg/kg	04.14.19 22:41	U	17
m_p-Xylenes	179601-23-1	<0.00575	0.0337	0.00575	mg/kg	04.14.19 22:41	U	17
o-Xylene	95-47-6	<0.00575	0.0169	0.00575	mg/kg	04.14.19 22:41	U	17
Xylenes, Total	1330-20-7	<0.00575		0.00575	mg/kg	04.14.19 22:41	U	
Total BTEX		<0.00395		0.00395	mg/kg	04.14.19 22:41	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	79	68 - 120	%		
a,a,a-Trifluorotoluene	83	71 - 121	%		



Certificate of Analytical Results

620915



Tasman Geosciences, LLC, Hobbs, NM

Mewbourne Toro State Com #1H

Sample Id: **FL6-4'** Matrix: Soil Sample Depth: 4 ft
Lab Sample Id: 620915-006 Date Collected: 04.10.19 00.00 Date Received: 04.11.19 15.41
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: JYM % Moist: Tech: JYM
Seq Number: 3085906 Date Prep: 04.16.19 15.07
Subcontractor: SUB: T104704215-19-29 Prep seq: 7675856

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	105	10.0	0.355	mg/kg	04.16.19 16:23		1

Analytical Method: DRO-ORO By SW8015B Prep Method: 8015
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3086089 Date Prep: 04.12.19 11.30
Prep seq: 7675961

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Diesel Range Organics (DRO)	C10C28DRO	389	25.2	7.53	mg/kg	04.13.19 10:47		1
Oil Range Hydrocarbons (ORO)	PHCG2835	19.4	25.2	7.53	mg/kg	04.13.19 10:47	J	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Tricosane	350	65 - 144	%		**
n-Triacontane	233	46 - 152	%		**

Analytical Method: TPH GRO by EPA 8015 Mod. Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3085939 Date Prep: 04.16.19 13.00
Prep seq: 7675924

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
TPH-GRO	8006-61-9	0.328	4.00	0.271	mg/kg	04.16.19 23:54	J	20

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	80	76 - 123	%		
a,a,a-Trifluorotoluene	95	69 - 120	%		



Certificate of Analytical Results

620915



Tasman Geosciences, LLC, Hobbs, NM

Mewbourne Toro State Com #1H

Sample Id: **FL6-4'** Matrix: Soil Sample Depth: 4 ft
Lab Sample Id: 620915-006 Date Collected: 04.10.19 00.00 Date Received: 04.11.19 15.41
Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3085646 Date Prep: 04.12.19 11.30
Prep seq: 7675755

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00840	0.0186	0.00840	mg/kg	04.14.19 23:06	U	19
Toluene	108-88-3	<0.00435	0.0186	0.00435	mg/kg	04.14.19 23:06	U	19
Ethylbenzene	100-41-4	<0.00572	0.0186	0.00572	mg/kg	04.14.19 23:06	U	19
m_p-Xylenes	179601-23-1	<0.00634	0.0372	0.00634	mg/kg	04.14.19 23:06	U	19
o-Xylene	95-47-6	<0.00634	0.0186	0.00634	mg/kg	04.14.19 23:06	U	19
Xylenes, Total	1330-20-7	<0.00634		0.00634	mg/kg	04.14.19 23:06	U	
Total BTEX		<0.00435		0.00435	mg/kg	04.14.19 23:06	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	96	68 - 120	%		
a,a,a-Trifluorotoluene	105	71 - 121	%		



Certificate of Analytical Results

620915



Tasman Geosciences, LLC, Hobbs, NM

Mewbourne Toro State Com #1H

Sample Id: **FL7-1'** Matrix: Soil Sample Depth: 1 ft
Lab Sample Id: 620915-007 Date Collected: 04.10.19 00.00 Date Received: 04.11.19 15.41
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: JYM % Moist: Tech: JYM
Seq Number: 3085906 Date Prep: 04.16.19 15.07
Subcontractor: SUB: T104704215-19-29 Prep seq: 7675856

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	11.7	9.94	0.352	mg/kg	04.16.19 16:32		1

Analytical Method: DRO-ORO By SW8015B Prep Method: 8015
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3086094 Date Prep: 04.15.19 11.00
Prep seq: 7676023

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Diesel Range Organics (DRO)	C10C28DRO	3610	251	75.0	mg/kg	04.15.19 19:13		10
Oil Range Hydrocarbons (ORO)	PHCG2835	194	251	75.0	mg/kg	04.15.19 19:13	J	10

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Tricosane	1890	65 - 144	%		**
n-Triacontane	1010	46 - 152	%		**

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3085775 Date Prep: 04.15.19 11.00
Prep seq: 7675804

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<98.3	249	98.3	mg/kg	04.15.19 19:13	U	10
C12-C28 Diesel Range Hydrocarbons	PHCG1228	3580	249	98.3	mg/kg	04.15.19 19:13		10
C28-C35 Oil Range Hydrocarbons	PHCG2835	192	249	98.3	mg/kg	04.15.19 19:13	J	10
Total TPH 1005	PHC635	3770		98.3	mg/kg	04.15.19 19:13		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
n-Triacontane	1005	46 - 152	%		**
Tricosane	1889	65 - 144	%		**



Certificate of Analytical Results

620915



Tasman Geosciences, LLC, Hobbs, NM

Mewbourne Toro State Com #1H

Sample Id: **FL7-1'** Matrix: Soil Sample Depth: 1 ft
Lab Sample Id: 620915-007 Date Collected: 04.10.19 00.00 Date Received: 04.11.19 15.41
Analytical Method: TPH GRO by EPA 8015 Mod. Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3085939 Date Prep: 04.16.19 13.00
Prep seq: 7675924

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
TPH-GRO	8006-61-9	3.65	4.00	0.271	mg/kg	04.17.19 00:19	J	20

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	95	76 - 123	%		
a,a,a-Trifluorotoluene	101	69 - 120	%		

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3085646 Date Prep: 04.12.19 11.30
Prep seq: 7675755

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00850	0.0188	0.00850	mg/kg	04.14.19 23:30	U	19
Toluene	108-88-3	0.0432	0.0188	0.00440	mg/kg	04.14.19 23:30		19
Ethylbenzene	100-41-4	0.0320	0.0188	0.00579	mg/kg	04.14.19 23:30		19
m_p-Xylenes	179601-23-1	0.0695	0.0376	0.00641	mg/kg	04.14.19 23:30		19
o-Xylene	95-47-6	0.0545	0.0188	0.00641	mg/kg	04.14.19 23:30		19
Xylenes, Total	1330-20-7	0.124		0.00641	mg/kg	04.14.19 23:30		
Total BTEX		0.199		0.00440	mg/kg	04.14.19 23:30		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	87	68 - 120	%		
a,a,a-Trifluorotoluene	89	71 - 121	%		



Certificate of Analytical Results

620915



Tasman Geosciences, LLC, Hobbs, NM

Mewbourne Toro State Com #1H

Sample Id: **SW1** Matrix: Soil Sample Depth:
Lab Sample Id: 620915-008 Date Collected: 04.10.19 00.00 Date Received: 04.11.19 15.41
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: JYM % Moist: Tech: JYM
Seq Number: 3085906 Date Prep: 04.16.19 15.07
Subcontractor: SUB: T104704215-19-29 Prep seq: 7675856

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	40.5	9.92	0.351	mg/kg	04.16.19 16:41		1

Analytical Method: DRO-ORO By SW8015B Prep Method: 8015
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3086094 Date Prep: 04.15.19 11.00
Prep seq: 7676023

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Diesel Range Organics (DRO)	C10C28DRO	3130	125	37.3	mg/kg	04.15.19 16:47	X	5
Oil Range Hydrocarbons (ORO)	PHCG2835	175	125	37.3	mg/kg	04.15.19 16:47		5

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Tricosane	2016	65 - 144	%		**
n-Triacontane	668	46 - 152	%		**

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3085775 Date Prep: 04.15.19 11.00
Prep seq: 7675804

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<49.5	125	49.5	mg/kg	04.15.19 16:47	U	5
C12-C28 Diesel Range Hydrocarbons	PHCG1228	3150	125	49.5	mg/kg	04.15.19 16:47	X	5
C28-C35 Oil Range Hydrocarbons	PHCG2835	176	125	49.5	mg/kg	04.15.19 16:47		5
Total TPH 1005	PHC635	3330		49.5	mg/kg	04.15.19 16:47		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
n-Triacontane	670	46 - 152	%		**
Tricosane	2020	65 - 144	%		**



Certificate of Analytical Results

620915



Tasman Geosciences, LLC, Hobbs, NM

Mewbourne Toro State Com #1H

Sample Id: **SW1** Matrix: Soil Sample Depth:
Lab Sample Id: 620915-008 Date Collected: 04.10.19 00.00 Date Received: 04.11.19 15.41
Analytical Method: TPH GRO by EPA 8015 Mod. Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3085939 Date Prep: 04.16.19 13.00
Prep seq: 7675924

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
TPH-GRO	8006-61-9	1.37	4.00	0.271	mg/kg	04.17.19 00:43	J	20

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	88	76 - 123	%		
a,a,a-Trifluorotoluene	102	69 - 120	%		

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3085646 Date Prep: 04.12.19 11.30
Prep seq: 7675755

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00881	0.0195	0.00881	mg/kg	04.14.19 23:54	U	19
Toluene	108-88-3	<0.00456	0.0195	0.00456	mg/kg	04.14.19 23:54	U	19
Ethylbenzene	100-41-4	<0.00600	0.0195	0.00600	mg/kg	04.14.19 23:54	U	19
m_p-Xylenes	179601-23-1	0.0156	0.0390	0.00665	mg/kg	04.14.19 23:54	J	19
o-Xylene	95-47-6	0.0117	0.0195	0.00665	mg/kg	04.14.19 23:54	J	19
Xylenes, Total	1330-20-7	0.0273		0.00665	mg/kg	04.14.19 23:54		
Total BTEX		0.0273		0.00456	mg/kg	04.14.19 23:54		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	85	68 - 120	%		
a,a,a-Trifluorotoluene	90	71 - 121	%		



Certificate of Analytical Results

620915



Tasman Geosciences, LLC, Hobbs, NM

Mewbourne Toro State Com #1H

Sample Id: SW2-2.5' Matrix: Soil Sample Depth: 2 - .5
Lab Sample Id: 620915-009 Date Collected: 04.10.19 00.00 Date Received: 04.11.19 15.41
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: JYM % Moist: Tech: JYM
Seq Number: 3085906 Date Prep: 04.16.19 15.07
Subcontractor: SUB: T104704215-19-29 Prep seq: 7675856

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	72.8	10.0	0.355	mg/kg	04.16.19 16:49		1

Analytical Method: DRO-ORO By SW8015B Prep Method: 8015
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3086089 Date Prep: 04.12.19 11.30
Prep seq: 7675961

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Diesel Range Organics (DRO)	C10C28DRO	60.1	25.2	7.54	mg/kg	04.13.19 12:28		1
Oil Range Hydrocarbons (ORO)	PHCG2835	19.9	25.2	7.54	mg/kg	04.13.19 12:28	J	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Tricosane	187	65 - 144	%		**
n-Triacontane	191	46 - 152	%		**

Analytical Method: TPH GRO by EPA 8015 Mod. Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3085939 Date Prep: 04.16.19 13.00
Prep seq: 7675924

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
TPH-GRO	8006-61-9	1.41	4.00	0.271	mg/kg	04.17.19 01:08	J	20

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	87	76 - 123	%		
a,a,a-Trifluorotoluene	101	69 - 120	%		



Certificate of Analytical Results

620915



Tasman Geosciences, LLC, Hobbs, NM
Mewbourne Toro State Com #1H

Sample Id: **SW2-2.5'** Matrix: Soil Sample Depth: 2 - .5
Lab Sample Id: 620915-009 Date Collected: 04.10.19 00.00 Date Received: 04.11.19 15.41
Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3085646 Date Prep: 04.12.19 11.30
Prep seq: 7675755

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00864	0.0191	0.00864	mg/kg	04.15.19 00:18	U	19
Toluene	108-88-3	<0.00447	0.0191	0.00447	mg/kg	04.15.19 00:18	U	19
Ethylbenzene	100-41-4	<0.00589	0.0191	0.00589	mg/kg	04.15.19 00:18	U	19
m_p-Xylenes	179601-23-1	<0.00652	0.0382	0.00652	mg/kg	04.15.19 00:18	U	19
o-Xylene	95-47-6	<0.00652	0.0191	0.00652	mg/kg	04.15.19 00:18	U	19
Xylenes, Total	1330-20-7	<0.00652		0.00652	mg/kg	04.15.19 00:18	U	
Total BTEX		<0.00447		0.00447	mg/kg	04.15.19 00:18	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	77	68 - 120	%		
a,a,a-Trifluorotoluene	80	71 - 121	%		



Certificate of Analytical Results

620915



Tasman Geosciences, LLC, Hobbs, NM

Mewbourne Toro State Com #1H

Sample Id: **SW3-2'** Matrix: Soil Sample Depth: 2 ft
Lab Sample Id: 620915-010 Date Collected: 04.10.19 00.00 Date Received: 04.11.19 15.41
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: JYM % Moist: Tech: JYM
Seq Number: 3085906 Date Prep: 04.16.19 15.07
Subcontractor: SUB: T104704215-19-29 Prep seq: 7675856

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	47.5	10.0	0.354	mg/kg	04.16.19 16:58		1

Analytical Method: DRO-ORO By SW8015B Prep Method: 8015
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3086089 Date Prep: 04.12.19 11.30
Prep seq: 7675961

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Diesel Range Organics (DRO)	C10C28DRO	1580	25.2	7.53	mg/kg	04.13.19 13:02	E	1
Oil Range Hydrocarbons (ORO)	PHCG2835	61.0	25.2	7.53	mg/kg	04.13.19 13:02		1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Tricosane	0	65 - 144	%		**
n-Triacontane	252	46 - 152	%		**

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3085586 Date Prep: 04.12.19 11.30
Prep seq: 7675706

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	69.8	25.2	9.94	mg/kg	04.13.19 13:02		1
C12-C28 Diesel Range Hydrocarbons	PHCG1228	1580	25.2	9.94	mg/kg	04.13.19 13:02		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	61.0	25.2	9.94	mg/kg	04.13.19 13:02		1
Total TPH 1005	PHC635	1710		9.94	mg/kg	04.13.19 13:02		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
n-Triacontane	252	46 - 152	%		**
Tricosane	0	65 - 144	%		**



Certificate of Analytical Results

620915



Tasman Geosciences, LLC, Hobbs, NM

Mewbourne Toro State Com #1H

Sample Id: **SW3-2'** Matrix: Soil Sample Depth: 2 ft
Lab Sample Id: 620915-010 Date Collected: 04.10.19 00.00 Date Received: 04.11.19 15.41
Analytical Method: TPH GRO by EPA 8015 Mod. Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3085939 Date Prep: 04.16.19 13.00
Prep seq: 7675924

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
TPH-GRO	8006-61-9	12.9	4.00	0.271	mg/kg	04.17.19 01:32		20

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	103	76 - 123	%		
a,a,a-Trifluorotoluene	103	69 - 120	%		

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3085646 Date Prep: 04.12.19 11.30
Prep seq: 7675755

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00840	0.0186	0.00840	mg/kg	04.15.19 00:42	U	19
Toluene	108-88-3	0.0353	0.0186	0.00435	mg/kg	04.15.19 00:42		19
Ethylbenzene	100-41-4	0.0836	0.0186	0.00572	mg/kg	04.15.19 00:42		19
m_p-Xylenes	179601-23-1	0.258	0.0372	0.00634	mg/kg	04.15.19 00:42		19
o-Xylene	95-47-6	0.164	0.0186	0.00634	mg/kg	04.15.19 00:42		19
Xylenes, Total	1330-20-7	0.422		0.00634	mg/kg	04.15.19 00:42		
Total BTEX		0.541		0.00435	mg/kg	04.15.19 00:42		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	101	68 - 120	%		
a,a,a-Trifluorotoluene	99	71 - 121	%		



Certificate of Analytical Results

620915



Tasman Geosciences, LLC, Hobbs, NM

Mewbourne Toro State Com #1H

Sample Id: **SW4-6"** Matrix: Soil Sample Depth: 6 In
Lab Sample Id: 620915-011 Date Collected: 04.10.19 00.00 Date Received: 04.11.19 15.41
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: JYM % Moist: Tech: JYM
Seq Number: 3085900 Date Prep: 04.16.19 14.26
Subcontractor: SUB: T104704215-19-29 Prep seq: 7675851

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	10.7	10.0	0.354	mg/kg	04.16.19 16:01		1

Analytical Method: DRO-ORO By SW8015B Prep Method: 8015
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3086089 Date Prep: 04.12.19 11.30
Prep seq: 7675961

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Diesel Range Organics (DRO)	C10C28DRO	83.5	25.2	7.55	mg/kg	04.13.19 13:36		1
Oil Range Hydrocarbons (ORO)	PHCG2835	10.7	25.2	7.55	mg/kg	04.13.19 13:36	J	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Tricosane	172	65 - 144	%		**
n-Triacontane	185	46 - 152	%		**

Analytical Method: TPH GRO by EPA 8015 Mod. Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3085939 Date Prep: 04.16.19 13.00
Prep seq: 7675924

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
TPH-GRO	8006-61-9	1.50	4.00	0.271	mg/kg	04.17.19 03:33	J	20

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	81	76 - 123	%		
a,a,a-Trifluorotoluene	90	69 - 120	%		



Certificate of Analytical Results

620915



Tasman Geosciences, LLC, Hobbs, NM
Mewbourne Toro State Com #1H

Sample Id: **SW4-6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 620915-011

Date Collected: 04.10.19 00.00

Date Received: 04.11.19 15.41

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: MIT

% Moist:

Tech: MIT

Seq Number: 3085646

Date Prep: 04.12.19 11.30

Prep seq: 7675755

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00781	0.0173	0.00781	mg/kg	04.15.19 02:19	U	17
Toluene	108-88-3	<0.00404	0.0173	0.00404	mg/kg	04.15.19 02:19	U	17
Ethylbenzene	100-41-4	<0.00532	0.0173	0.00532	mg/kg	04.15.19 02:19	U	17
m_p-Xylenes	179601-23-1	0.0173	0.0345	0.00589	mg/kg	04.15.19 02:19	J	17
o-Xylene	95-47-6	0.00864	0.0173	0.00589	mg/kg	04.15.19 02:19	J	17
Xylenes, Total	1330-20-7	0.0259		0.00589	mg/kg	04.15.19 02:19		
Total BTEX		0.0259		0.00404	mg/kg	04.15.19 02:19		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	79	68 - 120	%		
a,a,a-Trifluorotoluene	84	71 - 121	%		



Certificate of Analytical Results

620915



Tasman Geosciences, LLC, Hobbs, NM

Mewbourne Toro State Com #1H

Sample Id: 7675755-1-BLK Matrix: Solid Sample Depth:
Lab Sample Id: 7675755-1-BLK Date Collected: Date Received:
Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3085646 Date Prep: 04.12.19 11.30
Prep seq: 7675755

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00904	0.0200	0.00904	mg/kg	04.14.19 19:28	U	20
Toluene	108-88-3	<0.00468	0.0200	0.00468	mg/kg	04.14.19 19:28	U	20
Ethylbenzene	100-41-4	<0.00616	0.0200	0.00616	mg/kg	04.14.19 19:28	U	20
m_p-Xylenes	179601-23-1	<0.00682	0.0400	0.00682	mg/kg	04.14.19 19:28	U	20
o-Xylene	95-47-6	<0.00682	0.0200	0.00682	mg/kg	04.14.19 19:28	U	20

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	98	68 - 120	%		
a,a,a-Trifluorotoluene	105	71 - 121	%		

Sample Id: 7675804-1-BLK Matrix: Solid Sample Depth:
Lab Sample Id: 7675804-1-BLK Date Collected: Date Received:
Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3085775 Date Prep: 04.15.19 11.00
Prep seq: 7675804

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<9.88	25.0	9.88	mg/kg	04.15.19 16:11	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1228	<9.88	25.0	9.88	mg/kg	04.15.19 16:11	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<9.88	25.0	9.88	mg/kg	04.15.19 16:11	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
n-Triacontane	106	46 - 152	%		
Tricosane	111	65 - 144	%		



Certificate of Analytical Results

620915



Tasman Geosciences, LLC, Hobbs, NM

Mewbourne Toro State Com #1H

Sample Id: **7675851-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7675851-1-BLK Date Collected: Date Received:
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: JYM % Moist: Tech: JYM
Seq Number: 3085900 Date Prep: 04.16.19 14.26
Subcontractor: SUB: T104704215-19-29 Prep seq: 7675851

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<0.354	10.0	0.354	mg/kg	04.16.19 14:54	U	1

Sample Id: **7675856-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7675856-1-BLK Date Collected: Date Received:
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: JYM % Moist: Tech: JYM
Seq Number: 3085906 Date Prep: 04.16.19 15.07
Subcontractor: SUB: T104704215-19-29 Prep seq: 7675856

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	0.404	10.0	0.354	mg/kg	04.16.19 14:29	J	1

Sample Id: **7675924-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7675924-1-BLK Date Collected: Date Received:
Analytical Method: TPH GRO by EPA 8015 Mod. Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3085939 Date Prep: 04.16.19 13.00
Prep seq: 7675924

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
TPH-GRO	8006-61-9	<0.271	4.00	0.271	mg/kg	04.16.19 20:16	U	20

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	91	76 - 123	%		
a,a,a-Trifluorotoluene	102	69 - 120	%		



Certificate of Analytical Results

620915



Tasman Geosciences, LLC, Hobbs, NM

Mewbourne Toro State Com #1H

Sample Id: **7675961-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7675961-1-BLK Date Collected: Date Received:
Analytical Method: DRO-ORO By SW8015B Prep Method: 8015
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3086089 Date Prep: 04.12.19 11.30
Prep seq: 7675961

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Diesel Range Organics (DRO)	C10C28DRO	<7.48	25.0	7.48	mg/kg	04.13.19 05:41	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.48	25.0	7.48	mg/kg	04.13.19 05:41	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Tricosane	113	65 - 144	%		
n-Triacontane	110	46 - 152	%		

Sample Id: **7676023-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7676023-1-BLK Date Collected: Date Received:
Analytical Method: DRO-ORO By SW8015B Prep Method: 8015
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3086094 Date Prep: 04.15.19 11.00
Prep seq: 7676023

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Diesel Range Organics (DRO)	C10C28DRO	<7.48	25.0	7.48	mg/kg	04.15.19 16:11	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.48	25.0	7.48	mg/kg	04.15.19 16:11	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Tricosane	111	65 - 144	%		
n-Triacontane	106	46 - 152	%		

- 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

MQL 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: Mewbourne Toro State Com #1H

Work Orders : 620915,

Project ID: SRS #2019-005

Lab Batch #: 3085646

Sample: 7675755-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg	Date Analyzed: 04/14/19 17:51	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
4-Bromofluorobenzene		0.0766	0.100	77	68-120
a,a,a-Trifluorotoluene		1.50	2.00	75	71-121

Lab Batch #: 3085646

Sample: 7675755-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg	Date Analyzed: 04/14/19 18:15	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
4-Bromofluorobenzene		0.0874	0.100	87	68-120
a,a,a-Trifluorotoluene		1.74	2.00	87	71-121

Lab Batch #: 3085646

Sample: 7675755-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg	Date Analyzed: 04/14/19 19:28	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
4-Bromofluorobenzene		0.0981	0.100	98	68-120
a,a,a-Trifluorotoluene		2.09	2.00	105	71-121

Lab Batch #: 3085646

Sample: 620915-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg	Date Analyzed: 04/14/19 20:16	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
4-Bromofluorobenzene		0.0990	0.100	99	68-120
a,a,a-Trifluorotoluene		1.88	1.77	106	71-121

Lab Batch #: 3085646

Sample: 620915-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg	Date Analyzed: 04/14/19 20:40	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
4-Bromofluorobenzene		0.0858	0.100	86	68-120
a,a,a-Trifluorotoluene		1.66	1.83	91	71-121

* 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: Mewbourne Toro State Com #1H

Work Orders : 620915,

Project ID: SRS #2019-005

Lab Batch #: 3086089

Sample: 7675961-1-BKS / BKS

Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 04/13/19 03:24

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	12.1	10.0	121	65-144	
n-Triacontane	10.6	10.0	106	46-152	

Lab Batch #: 3086089

Sample: 7675961-1-BSD / BSD

Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 04/13/19 03:59

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	11.9	10.0	119	65-144	
n-Triacontane	10.4	10.0	104	46-152	

Lab Batch #: 3086089

Sample: 7675961-1-BLK / BLK

Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 04/13/19 05:41

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	11.3	10.0	113	65-144	
n-Triacontane	11.0	10.0	110	46-152	

Lab Batch #: 3086089

Sample: 620915-001 S / MS

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 04/13/19 06:49

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	<	10.0	0	65-144	**
n-Triacontane	37.7	10.0	377	46-152	**

Lab Batch #: 3086089

Sample: 620915-001 SD / MSD

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 04/13/19 07:23

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	<	9.99	0	65-144	**
n-Triacontane	38.2	9.99	382	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: Mewbourne Toro State Com #1H

Work Orders : 620915,

Project ID: SRS #2019-005

Lab Batch #: 3086094

Sample: 7676023-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/15/19 13:50

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	11.8	10.0	118	65-144	
n-Triacontane	10.1	10.0	101	46-152	

Lab Batch #: 3086094

Sample: 7676023-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/15/19 14:25

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	11.9	10.0	119	65-144	
n-Triacontane	11.1	10.0	111	46-152	

Lab Batch #: 3086094

Sample: 7676023-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/15/19 16:11

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	11.1	10.0	111	65-144	
n-Triacontane	10.6	10.0	106	46-152	

Lab Batch #: 3086094

Sample: 620915-008 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/15/19 17:24

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	253	10.0	2530	65-144	**
n-Triacontane	87.3	10.0	873	46-152	**

Lab Batch #: 3086094

Sample: 620915-008 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/15/19 18:00

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	215	9.95	2161	65-144	**
n-Triacontane	85.2	9.95	856	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: Mewbourne Toro State Com #1H

Work Orders : 620915,

Project ID: SRS #2019-005

Lab Batch #: 3085939

Sample: 7675924-1-BKS / BKS

Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 04/16/19 18:40

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	0.0939	0.100	94	76-123	
a,a,a-Trifluorotoluene	2.05	2.00	103	69-120	

Lab Batch #: 3085939

Sample: 7675924-1-BSD / BSD

Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 04/16/19 19:04

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	0.0876	0.100	88	76-123	
a,a,a-Trifluorotoluene	1.92	2.00	96	69-120	

Lab Batch #: 3085939

Sample: 7675924-1-BLK / BLK

Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 04/16/19 20:16

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	0.0910	0.100	91	76-123	
a,a,a-Trifluorotoluene	2.04	2.00	102	69-120	

Lab Batch #: 3085939

Sample: 620915-001 S / MS

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 04/16/19 21:05

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	0.0915	0.100	92	76-123	
a,a,a-Trifluorotoluene	1.89	2.00	95	69-120	

Lab Batch #: 3085939

Sample: 620915-001 SD / MSD

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 04/16/19 21:29

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	0.0954	0.100	95	76-123	
a,a,a-Trifluorotoluene	2.07	2.00	104	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: Mewbourne Toro State Com #1H

Work Orders : 620915,

Project ID: SRS #2019-005

Lab Batch #: 3085775

Sample: 7675804-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 04/15/19 13:50		SURROGATE RECOVERY STUDY			
Total Petroleum Hydrocarbons by Texas 1005		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
n-Triacontane		10.1	10.0	101	46-152
Tricosane		11.8	10.0	118	65-144

Lab Batch #: 3085775

Sample: 7675804-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 04/15/19 14:25		SURROGATE RECOVERY STUDY			
Total Petroleum Hydrocarbons by Texas 1005		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
n-Triacontane		11.1	10.0	111	46-152
Tricosane		11.9	10.0	119	65-144

Lab Batch #: 3085775

Sample: 7675804-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 04/15/19 16:11		SURROGATE RECOVERY STUDY			
Total Petroleum Hydrocarbons by Texas 1005		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
n-Triacontane		10.6	10.0	106	46-152
Tricosane		11.1	10.0	111	65-144

Lab Batch #: 3085775

Sample: 620915-008 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 04/15/19 17:24		SURROGATE RECOVERY STUDY			
Total Petroleum Hydrocarbons by Texas 1005		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
n-Triacontane		87.0	9.97	873	46-152 **
Tricosane		252	9.97	2528	65-144 **

Lab Batch #: 3085775

Sample: 620915-008 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 04/15/19 18:00		SURROGATE RECOVERY STUDY			
Total Petroleum Hydrocarbons by Texas 1005		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
n-Triacontane		85.7	10.0	857	46-152 **
Tricosane		216	10.0	2160	65-144 **

* 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: Mewbourne Toro State Com #1H

Work Order #: 620915

Project ID: SRS #2019-005

Analyst: MIT

Date Prepared: 04/12/2019

Date Analyzed: 04/14/2019

Lab Batch ID: 3085646

Sample: 7675755-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021	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											
Benzene	<0.00904	2.00	1.95	98	2.00	1.95	98	0	55-120	20	
Toluene	<0.00468	2.00	1.90	95	2.00	1.88	94	1	77-120	20	
Ethylbenzene	<0.00616	2.00	1.94	97	2.00	1.93	97	1	77-120	20	
m_p-Xylenes	<0.00682	4.00	3.95	99	4.00	3.93	98	1	78-120	20	
o-Xylene	<0.00682	2.00	2.01	101	2.00	2.01	101	0	78-120	20	

Analyst: MIT

Date Prepared: 04/12/2019

Date Analyzed: 04/13/2019

Lab Batch ID: 3086089

Sample: 7675961-1-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)	<7.48	100	120	120	100	110	110	9	63-139	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



BS / BSD Recoveries



Project Name: Mewbourne Toro State Com #1H

Work Order #: 620915

Project ID: SRS #2019-005

Analyst: MIT

Date Prepared: 04/15/2019

Date Analyzed: 04/15/2019

Lab Batch ID: 3086094

Sample: 7676023-1-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)	<7.48	100	124	124	100	113	113	9	63-139	20	

Analyst: JYM

Date Prepared: 04/16/2019

Date Analyzed: 04/16/2019

Lab Batch ID: 3085900

Sample: 7675851-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	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											
Chloride	<0.354	100	102	102	100	109	109	7	80-120	20	

Analyst: JYM

Date Prepared: 04/16/2019

Date Analyzed: 04/16/2019

Lab Batch ID: 3085900

Sample: 7675856-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	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											
Chloride	0.404	100	108	108	100	103	103	5	80-120	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



BS / BSD Recoveries



Project Name: Mewbourne Toro State Com #1H

Work Order #: 620915

Project ID: SRS #2019-005

Analyst: MIT

Date Prepared: 04/16/2019

Date Analyzed: 04/16/2019

Lab Batch ID: 3085939

Sample: 7675924-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	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
TPH-GRO	<0.271	20.0	19.2	96	20.0	19.3	97	1	35-129	20	

Analyst: MIT

Date Prepared: 04/15/2019

Date Analyzed: 04/15/2019

Lab Batch ID: 3085775

Sample: 7675804-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Total Petroleum Hydrocarbons by Texas 1005 Analytes	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
C6-C12 Gasoline Range Hydrocarbons	<9.88	100	95.4	95	100	94.0	94	1	70-130	20	
C12-C28 Diesel Range Hydrocarbons	<9.88	100	124	124	100	113	113	9	70-130	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: Mewbourne Toro State Com #1H

Work Order # : 620915

Project ID: SRS #2019-005

Lab Batch ID: 3085646

QC- Sample ID: 620915-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 04/14/2019

Date Prepared: 04/12/2019

Analyst: MIT

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 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
Benzene	<0.00801	1.77	1.67	94	1.83	1.79	98	7	54-120	25	
Toluene	<0.00415	1.77	1.66	94	1.83	1.77	97	6	57-120	25	
Ethylbenzene	<0.00546	1.77	1.68	95	1.83	1.77	97	5	58-131	25	
m_p-Xylenes	<0.00605	3.55	3.30	93	3.66	3.50	96	6	62-124	25	
o-Xylene	<0.00605	1.77	1.66	94	1.83	1.78	97	7	62-124	25	

Lab Batch ID: 3086089

QC- Sample ID: 620915-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 04/13/2019

Date Prepared: 04/12/2019

Analyst: MIT

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)	773	100	994	221	99.9	1010	237	2	63-139	20	X

Lab Batch ID: 3086094

QC- Sample ID: 620915-008 S

Batch #: 1 Matrix: Soil

Date Analyzed: 04/15/2019

Date Prepared: 04/15/2019

Analyst: MIT

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)	3130	100	3670	NC	99.5	3540	412	4	63-139	20	X

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

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

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.



Form 3 - MS / MSD Recoveries



Project Name: Mewbourne Toro State Com #1H

Work Order # : 620915

Project ID: SRS #2019-005

Lab Batch ID: 3085900

QC- Sample ID: 620915-011 S

Batch #: 1 Matrix: Soil

Date Analyzed: 04/16/2019

Date Prepared: 04/16/2019

Analyst: JYM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 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
Chloride	10.7	100	108	97	100	108	97	0	80-120	20	

Lab Batch ID: 3085906

QC- Sample ID: 620915-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 04/16/2019

Date Prepared: 04/16/2019

Analyst: JYM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 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
Chloride	178	100	288	110	100	284	106	1	80-120	20	

Lab Batch ID: 3085906

QC- Sample ID: 621057-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 04/16/2019

Date Prepared: 04/16/2019

Analyst: JYM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 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
Chloride	25.5	100	127	102	100	131	106	3	80-120	20	

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

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

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.



Form 3 - MS / MSD Recoveries



Project Name: Mewbourne Toro State Com #1H

Work Order # : 620915

Project ID: SRS #2019-005

Lab Batch ID: 3085939

QC- Sample ID: 620915-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 04/16/2019

Date Prepared: 04/16/2019

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	<0.271	20.0	20.0	100	20.0	21.1	106	5	35-129	20	

Lab Batch ID: 3085775

QC- Sample ID: 620915-008 S

Batch #: 1 Matrix: Soil

Date Analyzed: 04/15/2019

Date Prepared: 04/15/2019

Analyst: MIT

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Total Petroleum Hydrocarbons by Texas 1005 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
C6-C12 Gasoline Range Hydrocarbons	<49.3	99.7	89.2	89	100	86.0	86	4	70-130	20	
C12-C28 Diesel Range Hydrocarbons	3150	99.7	3660	NC	100	3560	410	3	70-130	20	X

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

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

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.



Chain of Custody

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
Midland, TX (432-704-5440) EL Paso, TX (915)585-3443 Lubbock, TX (806)794-1296
Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

Work Order No: 620915

www.xenco.com Page 1 of 2

Project Manager:	Zach Conder	Bill to: (if different)	Plains Pipeline
Company Name:	Tusman	Company Name:	SR5 #1 2019-005
Address:	2620 W Markland Ave	Address:	
City, State ZIP:	Hobbs, NM	City, State ZIP:	
Phone:		Email:	

Project Name:	Marbrienne Torro State Coin #24	Turn Around	
Project Number:		Routine	☒
P.O. Number:		Rush:	
Sampler's Name:	Brett Dennis	Due Date:	

SAMPLE RECEIPT	Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	54.5					
Received Intact:	Yes	No		Thermometer ID	16320.1	
Cooler Custody Seals:	Yes	No	N/A	Correction Factor:		
Sample Custody Seals:	Yes	No	N/A	Total Containers:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth
FL2	S	4-10-19		
FL2				
FL3-5.5'				
FL4-5.5'				
FL5-4'				
FL6-4'				
FL7-1'				
SW1				
SW2-2.5'				
SW3-2'				

Total	200.7 / 6010	200.8 / 6020:	8RCRA 13PPM Texas 11	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed	TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U			1631 / 245.1 / 7470 / 7471 : Hg

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 \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>[Signature]</i>	<i>[Signature]</i>	4-11-19 / 15:41			
3					
5					



Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
Midland, TX (432-704-5440) EL Paso, TX (915)585-3443 Lubbock, TX (806)794-1296

Work Order No.:

10555, NMI (573-392-7350) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

www.xenco.com Page

2 of 7

Project Manager:		Bill to: (if different)	Plains Pipeline
Company Name:	Tasmanian	Company Name:	SRS #: 2019-005
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:		Email:	

Work Order Comments
Program: ☐ PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐ State of Project: Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐ Deliverables: EDD ☐ ADaPT ☐ Other:

[illegible]

Total	200.7 / 6010	200.8 / 6020:	8RCRA	13PPM	Texas 11	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	SiO ₂	Na	Sr	Ti	Sn	U	V	Zn			
Circle Method(s) and Metal(s) to be analyzed			TCLP / SPLP 6010:		8RCRA	Sb	As	Ba	Be	Cd	Cr	Co <td>Cu <td>Pb <td>Mn <td>Mo <td>Ni <td>Se <td>Ag <td>Ti <td>U <td colspan="15"></td> </td></td></td></td></td></td></td></td></td>	Cu <td>Pb <td>Mn <td>Mo <td>Ni <td>Se <td>Ag <td>Ti <td>U <td colspan="15"></td> </td></td></td></td></td></td></td></td>	Pb <td>Mn <td>Mo <td>Ni <td>Se <td>Ag <td>Ti <td>U <td colspan="15"></td> </td></td></td></td></td></td></td>	Mn <td>Mo <td>Ni <td>Se <td>Ag <td>Ti <td>U <td colspan="15"></td> </td></td></td></td></td></td>	Mo <td>Ni <td>Se <td>Ag <td>Ti <td>U <td colspan="15"></td> </td></td></td></td></td>	Ni <td>Se <td>Ag <td>Ti <td>U <td colspan="15"></td> </td></td></td></td>	Se <td>Ag <td>Ti <td>U <td colspan="15"></td> </td></td></td>	Ag <td>Ti <td>U <td colspan="15"></td> </td></td>	Ti <td>U <td colspan="15"></td> </td>	U <td colspan="15"></td>															
									</																											

Notice: Signature of this document constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns circumstances beyond the control 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 \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 		4-11-19 / 15:51			
3					
5					



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Tasman Geosciences, LLC

Date/ Time Received: 04/11/2019 03:41:00 PM

Work Order #: 620915

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)?	5.3
#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)?	Yes Chlorides sent to Stafford
#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
Brenda Ward

Date: 04/12/2019

Checklist reviewed by:

Brandi Ritcherson
Brandi Ritcherson

Date: 04/16/2019

Analytical Report 622517

**for
Tasman Geosciences, LLC**

Project Manager: Z Conder

MEWBOURNE TORO

07-MAY-19

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)

Table of Contents

Cover Page	1
Cover Letter	3
Sample ID Cross Reference	4
Case Narrative	5
Certificate of Analysis (Detailed Report)	6
Explanation of Qualifiers (Flags)	11
SURR_QC_V62	12
LCS / LCSD Recoveries	14
MS / MSD Recoveries	16
Chain of Custody	18
Sample Receipt Conformance Report	20



07-MAY-19

Project Manager: **Z Conder**
Tasman Geosciences, LLC
2620 W. Marland Blvd.
Hobbs, NM 88240

Reference: XENCO Report No(s): **622517**
MEWBOURNE TORO
Project Address:

Z Conder:

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) 622517. 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. 622517 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,

John Builes
Project Manager

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

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America



Sample Cross Reference 622517



Tasman Geosciences, LLC, Hobbs, NM

MEWBOURNE TORO

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FL-7 @2'	S	04-24-19 13:00	2 ft	622517-001
SW1b @1.5'	S	04-24-19 13:30	1.5 ft	622517-002
SW 3b @2'	S	04-24-19 14:00	2 ft	622517-003



CASE NARRATIVE

Client Name: *Tasman Geosciences, LLC*

Project Name: *MEWBOURNE TORO*

Project ID:
Work Order Number(s): 622517

Report Date: 07-MAY-19
Date Received: 04/29/2019

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3087483 BTEX by EPA 8021

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analytical Results

622517



Tasman Geosciences, LLC, Hobbs, NM

MEWBOURNE TORO

Sample Id: **FL-7 @2'** Matrix: Soil Sample Depth: 2 ft
Lab Sample Id: 622517-001 Date Collected: 04.24.19 13.00 Date Received: 04.29.19 07.41
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: CHE % Moist: Tech: SPC
Seq Number: 3087344 Date Prep: 04.29.19 16.55
Prep seq: 7676783

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	2.33	4.96	0.852	mg/kg	04.29.19 19:56	J	1

Analytical Method: TPH by SW8015 Mod Prep Method: 1005
Analyst: ARM % Moist: Tech: ARM
Seq Number: 3087311 Date Prep: 04.29.19 12.00
Prep seq: 7676781

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<7.97	14.9	7.97	mg/kg	04.30.19 01:10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<8.10	14.9	8.10	mg/kg	04.30.19 01:10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.10	14.9	8.10	mg/kg	04.30.19 01:10	U	1
Total TPH	PHC635	<7.97		7.97	mg/kg	04.30.19 01:10	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	109	70 - 135	%		
o-Terphenyl	110	70 - 135	%		

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: SCM % Moist: Tech: SCM
Seq Number: 3087483 Date Prep: 04.30.19 16.30
Prep seq: 7676889

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	0.000444	0.00202	0.000388	mg/kg	05.01.19 03:31	J	1
Toluene	108-88-3	<0.000459	0.00202	0.000459	mg/kg	05.01.19 03:31	U	1
Ethylbenzene	100-41-4	<0.000569	0.00202	0.000569	mg/kg	05.01.19 03:31	U	1
m_p-Xylenes	179601-23-1	<0.00102	0.00403	0.00102	mg/kg	05.01.19 03:31	U	1
o-Xylene	95-47-6	<0.000347	0.00202	0.000347	mg/kg	05.01.19 03:31	U	1
Xylenes, Total	1330-20-7	<0.000347		0.000347	mg/kg	05.01.19 03:31	U	
Total BTEX		0.000444		0.000347	mg/kg	05.01.19 03:31	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	102	70 - 130	%		
4-Bromofluorobenzene	106	70 - 130	%		



Certificate of Analytical Results

622517



Tasman Geosciences, LLC, Hobbs, NM

MEWBOURNE TORO

Sample Id: **SW1b @1.5'** Matrix: Soil Sample Depth: 1.5 ft
Lab Sample Id: 622517-002 Date Collected: 04.24.19 13.30 Date Received: 04.29.19 07.41
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3087331 Date Prep: 04.29.19 14.40
Prep seq: 7676757

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	11.8	4.98	0.855	mg/kg	04.29.19 16:59		1

Analytical Method: TPH by SW8015 Mod Prep Method: 1005
Analyst: ARM % Moist: Tech: ARM
Seq Number: 3087311 Date Prep: 04.29.19 12.00
Prep seq: 7676781

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<7.99	15.0	7.99	mg/kg	04.30.19 01:31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<8.11	15.0	8.11	mg/kg	04.30.19 01:31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.11	15.0	8.11	mg/kg	04.30.19 01:31	U	1
Total TPH	PHC635	<7.99		7.99	mg/kg	04.30.19 01:31	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	112	70 - 135	%		
o-Terphenyl	113	70 - 135	%		

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: SCM % Moist: Tech: SCM
Seq Number: 3087483 Date Prep: 04.30.19 16.30
Prep seq: 7676889

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	0.000625	0.00198	0.000382	mg/kg	05.01.19 03:50	J	1
Toluene	108-88-3	0.000714	0.00198	0.000452	mg/kg	05.01.19 03:50	J	1
Ethylbenzene	100-41-4	<0.000560	0.00198	0.000560	mg/kg	05.01.19 03:50	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00397	0.00101	mg/kg	05.01.19 03:50	U	1
o-Xylene	95-47-6	<0.000342	0.00198	0.000342	mg/kg	05.01.19 03:50	U	1
Xylenes, Total	1330-20-7	<0.000342		0.000342	mg/kg	05.01.19 03:50	U	
Total BTEX		0.00134		0.000342	mg/kg	05.01.19 03:50	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	102	70 - 130	%		
4-Bromofluorobenzene	103	70 - 130	%		



Certificate of Analytical Results

622517



Tasman Geosciences, LLC, Hobbs, NM

MEWBOURNE TORO

Sample Id: SW 3b @2'

Matrix: Soil

Sample Depth: 2 ft

Lab Sample Id: 622517-003

Date Collected: 04.24.19 14.00

Date Received: 04.29.19 07.41

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3087331

Date Prep: 04.29.19 14.40

Prep seq: 7676757

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	5.33	5.00	0.858	mg/kg	04.29.19 17:14		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 1005

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3087311

Date Prep: 04.29.19 12.00

Prep seq: 7676781

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<8.00	15.0	8.00	mg/kg	04.30.19 01:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<8.13	15.0	8.13	mg/kg	04.30.19 01:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.13	15.0	8.13	mg/kg	04.30.19 01:53	U	1
Total TPH	PHC635	<8.00		8.00	mg/kg	04.30.19 01:53	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	100	70 - 135	%		
o-Terphenyl	101	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: SCM

% Moist:

Tech: SCM

Seq Number: 3087483

Date Prep: 04.30.19 16.30

Prep seq: 7676889

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000386	0.00200	0.000386	mg/kg	05.01.19 04:09	U	1
Toluene	108-88-3	<0.000457	0.00200	0.000457	mg/kg	05.01.19 04:09	U	1
Ethylbenzene	100-41-4	<0.000566	0.00200	0.000566	mg/kg	05.01.19 04:09	U	1
m_p-Xylenes	179601-23-1	<0.00102	0.00401	0.00102	mg/kg	05.01.19 04:09	U	1
o-Xylene	95-47-6	<0.000345	0.00200	0.000345	mg/kg	05.01.19 04:09	U	1
Xylenes, Total	1330-20-7	<0.000345		0.000345	mg/kg	05.01.19 04:09	U	
Total BTEX		<0.000345		0.000345	mg/kg	05.01.19 04:09	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	101	70 - 130	%		
4-Bromofluorobenzene	103	70 - 130	%		



Certificate of Analytical Results

622517



Tasman Geosciences, LLC, Hobbs, NM

MEWBOURNE TORO

Sample Id: 7676757-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7676757-1-BLK

Date Collected:

Date Received:

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3087331

Date Prep: 04.29.19 14.40

Prep seq: 7676757

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<0.858	5.00	0.858	mg/kg	04.29.19 14:57	U	1

Sample Id: 7676781-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7676781-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH by SW8015 Mod

Prep Method: 1005

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3087311

Date Prep: 04.29.19 12.00

Prep seq: 7676781

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<8.00	15.0	8.00	mg/kg	04.29.19 21:58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<8.13	15.0	8.13	mg/kg	04.29.19 21:58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.13	15.0	8.13	mg/kg	04.29.19 21:58	U	1
Total TPH	PHC635	<8.00		8.00	mg/kg	04.29.19 21:58	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	97	70 - 135	%		
o-Terphenyl	100	70 - 135	%		

Sample Id: 7676783-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7676783-1-BLK

Date Collected:

Date Received:

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: SPC

Seq Number: 3087344

Date Prep: 04.29.19 16.55

Prep seq: 7676783

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<0.858	5.00	0.858	mg/kg	04.29.19 18:27	U	1



Certificate of Analytical Results

622517



Tasman Geosciences, LLC, Hobbs, NM

MEWBOURNE TORO

Sample Id: 7676889-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7676889-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: SCM

% Moist:

Tech: SCM

Seq Number: 3087483

Date Prep: 04.30.19 16.30

Prep seq: 7676889

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000387	0.00201	0.000387	mg/kg	04.30.19 22:09	U	1
Toluene	108-88-3	<0.000458	0.00201	0.000458	mg/kg	04.30.19 22:09	U	1
Ethylbenzene	100-41-4	<0.000568	0.00201	0.000568	mg/kg	04.30.19 22:09	U	1
m_p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	04.30.19 22:09	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	04.30.19 22:09	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	90	70 - 130	%		
4-Bromofluorobenzene	81	70 - 130	%		

- 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

MQL 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: MEWBOURNE TORO

Work Orders : 622517,

Project ID:

Lab Batch #: 3087483

Sample: 7676889-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/30/19 20:35

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0294	0.0300	98	70-130	
4-Bromofluorobenzene	0.0279	0.0300	93	70-130	

Lab Batch #: 3087483

Sample: 7676889-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/30/19 20:54

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0301	0.0300	100	70-130	
4-Bromofluorobenzene	0.0297	0.0300	99	70-130	

Lab Batch #: 3087483

Sample: 622392-024 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/30/19 21:14

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0302	0.0300	101	70-130	
4-Bromofluorobenzene	0.0310	0.0300	103	70-130	

Lab Batch #: 3087483

Sample: 622392-024 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/30/19 21:33

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0304	0.0300	101	70-130	
4-Bromofluorobenzene	0.0300	0.0300	100	70-130	

Lab Batch #: 3087483

Sample: 7676889-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/30/19 22:09

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0271	0.0300	90	70-130	
4-Bromofluorobenzene	0.0242	0.0300	81	70-130	

* 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: MEWBOURNE TORO

Work Orders : 622517,

Project ID:

Lab Batch #: 3087311

Sample: 7676781-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/29/19 21:58

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.1	100	97	70-135	
o-Terphenyl	49.9	50.0	100	70-135	

Lab Batch #: 3087311

Sample: 7676781-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/29/19 22:20

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	122	100	122	70-135	
o-Terphenyl	55.3	50.0	111	70-135	

Lab Batch #: 3087311

Sample: 7676781-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/29/19 22:41

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	119	100	119	70-135	
o-Terphenyl	61.8	50.0	124	70-135	

Lab Batch #: 3087311

Sample: 622486-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/29/19 23:24

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.3	99.9	98	70-135	
o-Terphenyl	46.8	50.0	94	70-135	

Lab Batch #: 3087311

Sample: 622486-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/29/19 23:45

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.6	99.8	98	70-135	
o-Terphenyl	45.6	49.9	91	70-135	

* 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: MEWBOURNE TORO

Work Order #: 622517

Analyst: SCM

Date Prepared: 04/30/2019

Project ID:

Date Analyzed: 04/30/2019

Lab Batch ID: 3087483

Sample: 7676889-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021	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											
Benzene	<0.000383	0.0996	0.107	107	0.100	0.110	110	3	70-130	35	
Toluene	<0.000454	0.0996	0.103	103	0.100	0.105	105	2	70-130	35	
Ethylbenzene	<0.000563	0.0996	0.110	110	0.100	0.111	111	1	70-130	35	
m_p-Xylenes	<0.00101	0.199	0.230	116	0.201	0.232	115	1	70-130	35	
o-Xylene	<0.000343	0.0996	0.113	113	0.100	0.115	115	2	70-130	35	

Analyst: CHE

Date Prepared: 04/29/2019

Date Analyzed: 04/29/2019

Lab Batch ID: 3087331

Sample: 7676757-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	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											
Chloride	<0.858	250	259	104	250	260	104	0	90-110	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



BS / BSD Recoveries



Project Name: MEWBOURNE TORO

Work Order #: 622517

Analyst: CHE

Date Prepared: 04/29/2019

Project ID:

Date Analyzed: 04/29/2019

Lab Batch ID: 3087344

Sample: 7676783-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	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											
Chloride	<0.858	250	246	98	250	249	100	1	90-110	20	

Analyst: ARM

Date Prepared: 04/29/2019

Date Analyzed: 04/29/2019

Lab Batch ID: 3087311

Sample: 7676781-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 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											
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1070	107	1000	1170	117	9	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	1090	109	1000	1140	114	4	70-135	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: MEWBOURNE TORO

Work Order # : 622517

Project ID:

Lab Batch ID: 3087483

QC- Sample ID: 622392-024 S

Batch #: 1 Matrix: Soil

Date Analyzed: 04/30/2019

Date Prepared: 04/30/2019

Analyst: SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 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
Benzene	<0.000382	0.0992	0.0913	92	0.0994	0.0941	95	3	70-130	35	
Toluene	<0.000452	0.0992	0.0840	85	0.0994	0.0839	84	0	70-130	35	
Ethylbenzene	<0.000560	0.0992	0.0837	84	0.0994	0.0806	81	4	70-130	35	
m_p-Xylenes	<0.00101	0.198	0.173	87	0.199	0.166	83	4	70-130	35	
o-Xylene	<0.000342	0.0992	0.0857	86	0.0994	0.0826	83	4	70-130	35	

Lab Batch ID: 3087331

QC- Sample ID: 622489-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 04/29/2019

Date Prepared: 04/29/2019

Analyst: CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 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
Chloride	8.09	248	266	104	248	270	106	1	90-110	20	

Lab Batch ID: 3087331

QC- Sample ID: 622517-003 S

Batch #: 1 Matrix: Soil

Date Analyzed: 04/29/2019

Date Prepared: 04/29/2019

Analyst: CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 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
Chloride	5.33	250	267	105	250	264	103	1	90-110	20	

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

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

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.



Form 3 - MS / MSD Recoveries



Project Name: MEWBOURNE TORO

Work Order # : 622517

Project ID:

Lab Batch ID: 3087344

QC- Sample ID: 622517-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 04/29/2019

Date Prepared: 04/29/2019

Analyst: CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 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
Chloride	2.33	248	261	104	248	257	103	2	90-110	20	

Lab Batch ID: 3087344

QC- Sample ID: 622518-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 04/29/2019

Date Prepared: 04/29/2019

Analyst: CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 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
Chloride	3.66	250	257	101	250	253	100	2	90-110	20	

Lab Batch ID: 3087311

QC- Sample ID: 622486-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 04/29/2019

Date Prepared: 04/29/2019

Analyst: ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 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
Gasoline Range Hydrocarbons (GRO)	8.01	999	882	87	998	886	88	0	70-135	20	
Diesel Range Organics (DRO)	214	999	1080	87	998	1080	87	0	70-135	20	

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

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

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.



Page of

Project Name:			Turn Around		
Project Number:			Routine ☐		
P.O. Number:			Rush:		
Sampler's Name:			Due Date:		
SAMPLE RECEIPT					
Temp Blank:			Yes ☒ No ☐	Wet Ice: Yes ☒ No ☐	
Temperature (°C):			Thermometer ID		
Received intact:					
Cooler Custody Seals:			Correction Factor:		
Sample Custody Seals:			Total Containers:		

ANALYSIS REQUEST							
Name of Containers							
LORIDE 450D							
LP BENZENE							
LA RC RA 8							
RM							
INST FILTER							
H							
EX							
Work Order Notes							
Memo to file - [unclear]							
MURDOUSE PA BARISSE TRSM Geo.com							
DeVries@TSM							
Geo.com							
CORINNE TAMM							
Geo.com							
Lab starts the day received by the lab, if received by 4:30pm							

[illegible]

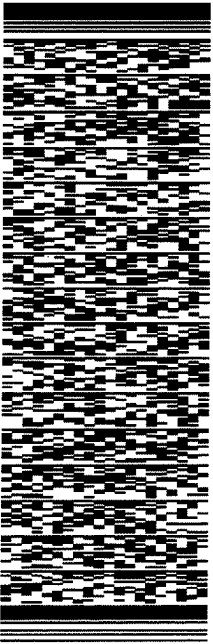
Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility 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 \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

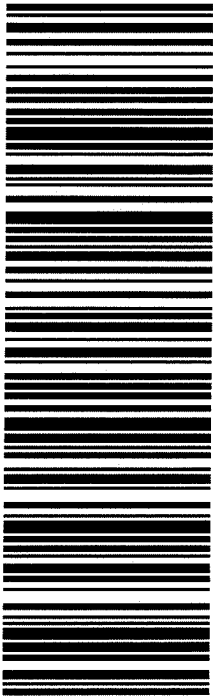
Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
	Stephanie Topps	04/26/19			4/29/19
					07/1

4705 2520 7391

Revised Date 051418 Rev. 2018.

ORIGIN ID:CAOA (281) 240-4200 SAMPLE CUSTODY SAMPLE CUSTODY 1089 N CANAL ST CARLSBAD, NM 88220 UNITED STATES US		SHIP DATE: 26APR19 ACTWGT: 35.00 LB CAD: 114488676/INET4100 DIMS: 14x24x14 IN BILL SENDER	
TO SAMPLE RECEIVING MIDLAND FEDEx OFFICE PRINT & SHIP CENTER FEDEx OFFICE PRINT & SHIP CENTER 200 W INTERSTATE 20			
MIDLAND TX 79701 (432) 704-5440 INV: REF: PO: DEPT:		565J11D7E523AD	

  J191019010701uv	TRK# 7750 7491 1674 0201 SATURDAY HOLD PRIORITY OVERNIGHT HLD MAFKI TX-US LBB
---	---

 41 MAFKA
--

After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Tasman Geosciences, LLC

Date/ Time Received: 04/29/2019 07:41:00 AM

Work Order #: 622517

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	.7
#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)?	N/A
#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:

Brianna Teel

Date: 04/29/2019

Checklist reviewed by:

John Builes

Date: 04/30/2019

Appendix B: Depth to Groundwater Results



National Water Information System: Mapper

Sites

Map

Search

Surface-Water Sites

Groundwater Sites

Active Sites

Any data

Instantaneous data

Daily data

Water-quality data

Measurements

Annual Report

Inactive Sites

Any data

Instantaneous data

Daily data

Water-quality data

Measurements

Annual Report

Springs

Atmospheric Sites

Other Sites

Site Information

Site Number: 321654103261101
Site Name: 23S.34E.23.42332
Site Type: Well
Agency: USGS
[Access Data](#)

Bureau of Land Management

Site Information



USGS Home
Contact USGS
Search USGS

National Water Information System: Web Interface

USGS Water Resources

Data Category:

Groundwater

Geographic Area:

United States

GO

Click to hideNews Bulletins

- [Please see news on new formats](#)
- [Full News](#) 

Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =

- 321654103261101

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

USGS 321654103261101 23S.34E.23.42332

Available data for this site

Groundwater: Field measurements

GO

Lea County, New Mexico

Hydrologic Unit Code 13070007

Latitude 32°16'54", Longitude 103°26'11" NAD27

Land-surface elevation 3,389 feet above NAVD88

The depth of the well is 500 feet below land surface.

This well is completed in the Santa Rosa Sandstone (231SNRS) local aquifer.

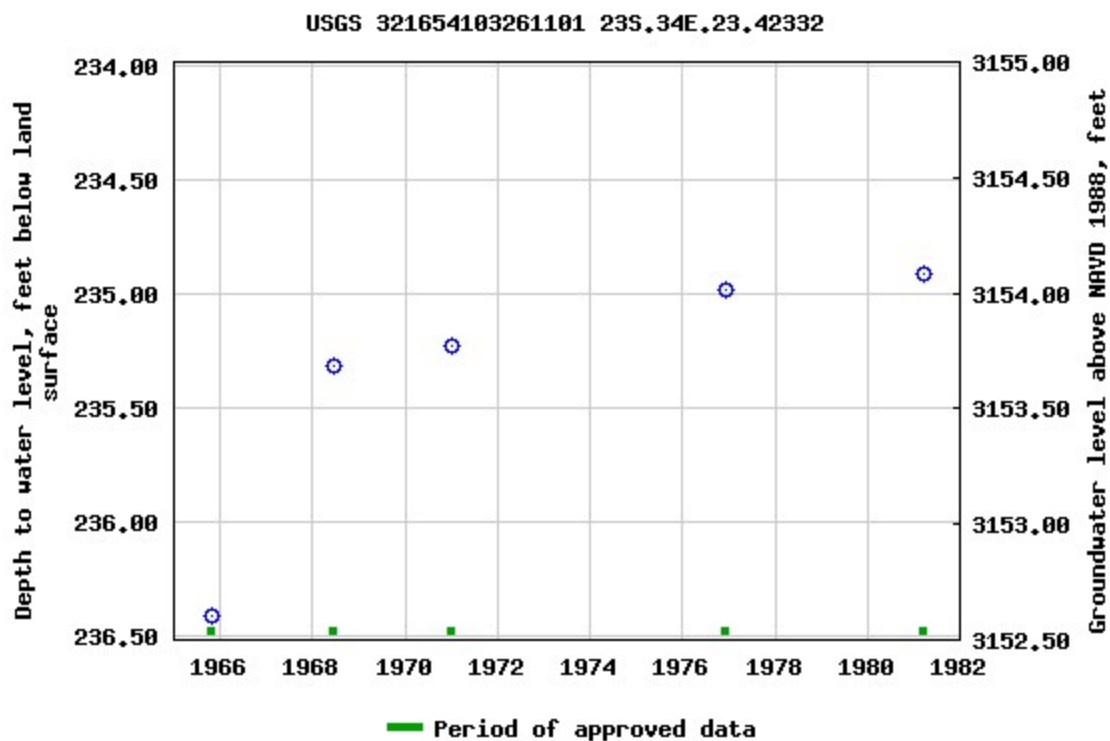
Output formats

[Table of data](#)

[Tab-separated data](#)

[Graph of data](#)

[Reselect period](#)



Breaks in the plot represent a gap of at least one year between field measurements.

[Download a presentation-quality graph](#)

[Questions about sites/data?](#)

[Feedback on this web site](#)

[Automated retrievals](#)

[Help](#)

[Data Tips](#)

[Explanation of terms](#)

[Subscribe for system changes](#)

[News](#)

[Accessibility](#)

[Plug-Ins](#)

[FOIA](#)

[Privacy](#)

[Policies and Notices](#)

[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)

Title: Groundwater for USA: Water Levels

URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>



Page Contact Information: [USGS Water Data Support Team](#)

Page Last Modified: 2019-02-06 14:51:24 EST

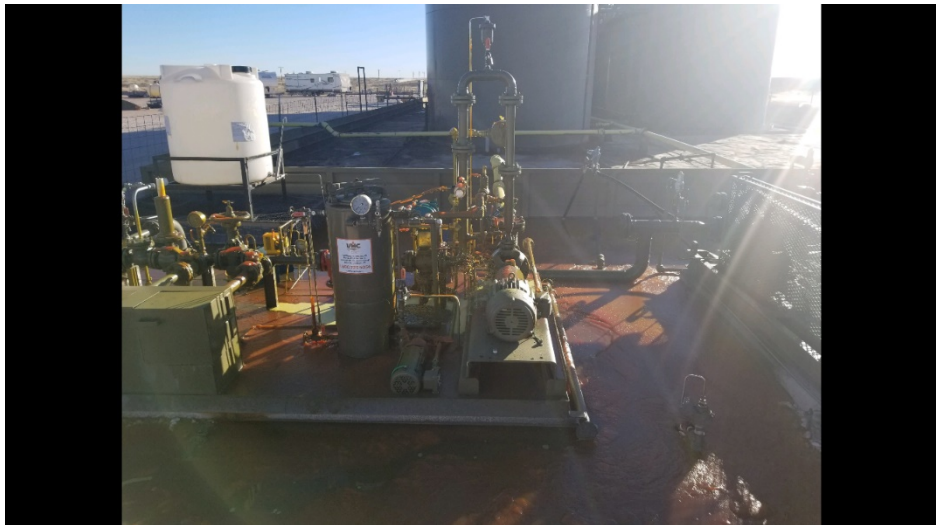
14.37 1.23 nadww01

Appendix C: Photo Documentation

Plains Pipeline, LP
Mewbourne Toro 36 State Com #1H
01/05/19



View of affected area facing northeast



View of affected area facing east

Plains Pipeline, LP
Mewbourne Toro 36 State Com #1H



View of affected area after initial response activities facing south



View of affected area after initial response activities facing east

Plains Pipeline, LP
Mewbourne Toro 36 State Com 1H



Plains Pipeline, LP
Mewbourne Toro 36 State Com 1H



Plains Pipeline, LP
Mewbourne Toro 36 State Com 1H



Plains Pipeline, LP
Mewbourne Toro 36 State Com 1H



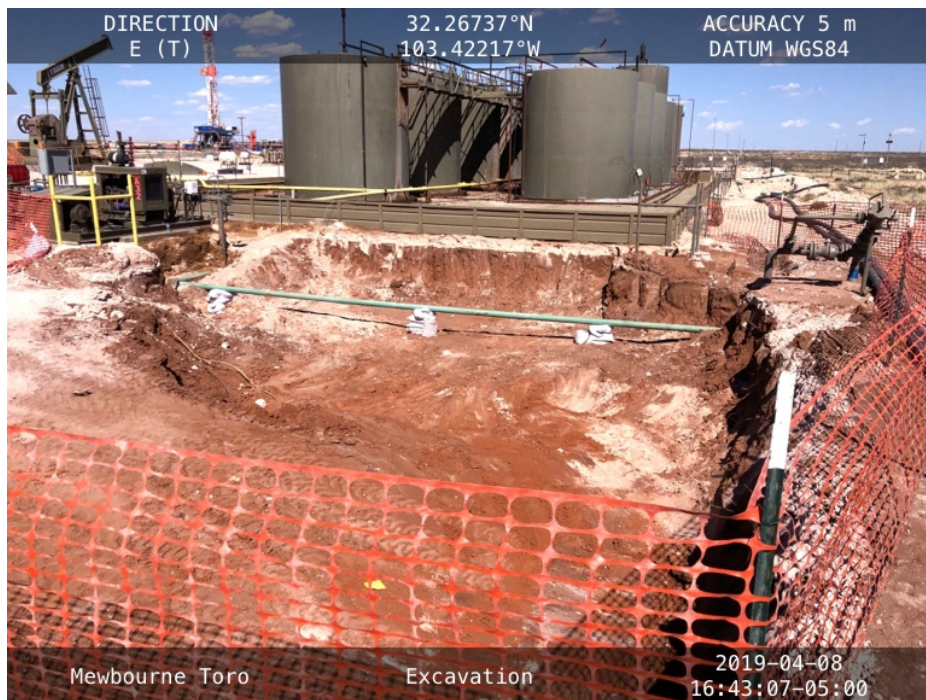
Plains Pipeline, LP
Mewbourne Toro 36 State Com 1H



Plains Pipeline, LP
Mewbourne Toro 36 State Com 1H



Plains Pipeline, LP
Mewbourne Toro 36 State Com 1H



SW-1 Extended

Plains Pipeline, LP
Mewbourne Toro 36 State Com 1H

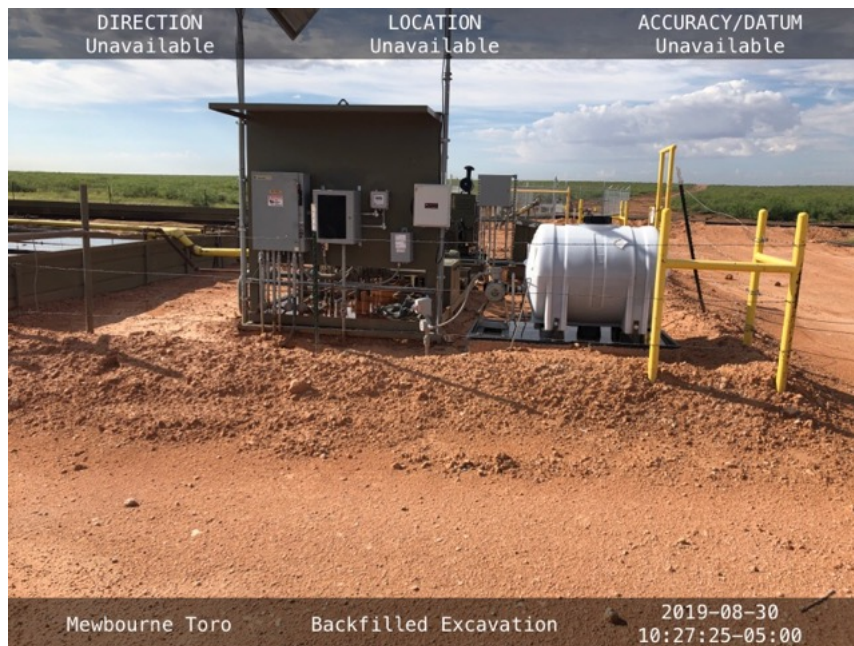


SW-3 Being Extended



FL-2 Excavated from 1 ft. to 2 ft. bgs

Plains Pipeline, LP
Mewbourne Toro 36 State Com 1H



Facing North



Plains Pipeline, LP
Mewbourne Toro 36 State Com 1H



Appendix D: Initial C-141

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

State of New Mexico
Energy Minerals and Natural
Resources 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	NCH1903552558
District RP	1RP-5330
Facility ID	fCH1903552041
Application ID	pCH1903552747

Release Notification

Responsible Party

Responsible Party Plains Pipeline, L.P.	OGRID 713291
Contact Name Amber Groves	Contact Telephone 575-200-5517
Contact email algroves@paalp.com	Incident # NCH1903552558 MEWBOURNE TORO
Contact mailing address 1911 Connie Road, Carlsbad NM 88220	36 B3BO STATE COM #1H @ FCH1903552041

Location of Release Source

Latitude 32.26731992

Longitude -103.4220084

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Mewbourne Toro 36 B3BO State Com #1H	Site Type LACT Unit
Date Release Discovered 1/5/2019	API# (if applicable)

Unit Letter	Section	Township	Range	County
B	36	23S	34E	Lea

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (Name: BP Ranches)

State Minerals

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls) 5 bbls	Volume Recovered (bbls) 3 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

Seal Failure on the charge pump.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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)?
Notification was given to Olivia Yu at NMOCD by phone on 9/26/2018 at 8:01 am.

?

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: Amber Groves Title: Remediation Coordinator
Signature: [Signature] Date: 1/10/2019
email: algroves@pulp.com Telephone: 575-200-5517

OCD Only

Received by: _____

RECEIVED

By **CHernandez at 2:43 pm, Feb 04, 2019**

Date: _____