

State of New Mexico
Oil Conservation Division

Incident ID	NRM1925327699
District RP	1RP-5648
Facility ID	fRM1925327165
Application ID	pRM1925255479

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 ODC 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: [Signature] Date: 3/5/2020
 email: algroves@pnaup.com Telephone: 575-200-5517

OCD Only

Received by: Cristina Eads Date: 03/09/2020

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: [Signature] Date: 04/07/2020
 Printed Name: Cristina Eads Title: Environmental Specialist

Amber L Groves

From: Eads, Cristina, EMNRD <Cristina.Eads@state.nm.us>
Sent: Tuesday, March 3, 2020 1:45 PM
To: Amber L Groves
Cc: Bratcher, Mike, EMNRD; Billings, Bradford, EMNRD; Venegas, Victoria, EMNRD; Hamlet, Robert, EMNRD; Camille J Bryant
Subject: RE: [EXT] RE: Closure Denied - Red Hill Station 1RP-5648 [External]

Amber,

The OCD will accept these boring logs as evidence of depth to groundwater, or lack thereof for this incident. Please resubmit these documents through the fee portal with a C-141 closure page for this incident.

Let me know if you have any questions.

Thanks,

Cristina Eads | 505-476-3084

From: Amber L Groves <ALGroves@paalp.com>
Sent: Wednesday, January 22, 2020 2:09 PM
To: Eads, Cristina, EMNRD <Cristina.Eads@state.nm.us>
Cc: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Venegas, Victoria, EMNRD <Victoria.Venegas@state.nm.us>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Camille J Bryant <CJBryant@paalp.com>
Subject: [EXT] RE: Closure Denied - Red Hill Station 1RP-5648

Good Afternoon, Ms. Eads,

Please find attached pertinent information regarding groundwater and two boring logs pulled from a geotechnical survey that Plains had done for our nearby Cotton Draw facility. Soil borings from the geotechnical survey were conducted at GPS Coordinates of 32.0759, -103.6668 and 32.0758, -103.6662 respectively. These are 0.68 miles north of Plains' Red Hills facility, and location of the release characterized by 1RP-5648. Both borings were taken to and terminated at 60 ft bgs and groundwater was not encountered. Plains respectfully requests for the attached logs to be accepted as evidence that groundwater is deeper than 50 feet bgs. Please feel free to give me a call at (575)200-5517 to discuss any questions.

Thank you,

Amber L. Groves
Remediation Coordinator
Plains All American
3112 W. US Hwy 82
Lovington, NM 88260
575-200-5517

From: Eads, Cristina, EMNRD <Cristina.Eads@state.nm.us>
Sent: Monday, January 13, 2020 11:25 AM
To: Amber L Groves <ALGroves@paalp.com>

<Bradford.Billings@state.nm.us>; Venegas, Victoria, EMNRD <Victoria.Venegas@state.nm.us>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>

Subject: Closure Denied - Red Hill Station 1RP-5648 [External]

Amber,

The OCD has received the closure report and C-141 for Red Hill Station 1RP-5648. This closure is denied for the following reason:

- Depth to ground water has not been adequately identified. The information authored by a third party, titled "Lea Co. Depth to Ground Water", takes into account ground water on a large scale, but it does not account for smaller ground water sources that may be present.

As the analytical data meets Closure Criteria for Soils Impacted by a Release for ground water at 51-100 feet bgs, Plains will need to drill a borehole on site to 55' bgs and leave it open for at least 24 hours. If there is no evidence of ground water after 24 hours, the OCD will accept the evidence in the closure report with a copy of the driller's log. If Plains chooses not to drill a borehole to confirm depth to groundwater, the impacted area will need to be remediated to meet closure criteria for water at a depth of 50 feet or less.

For further clarifications regarding the implementation of the spill rule, visit the OCD website:
<http://www.emnrd.state.nm.us/OCD/documents/OCDInternalPolicy-SpillRuleClarifications.pdf>

Feel free to call or email if you wish to discuss.

Thanks,

Cristina Eads
Environmental Bureau
EMNRD – Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505.476.3084
email: Cristina.Eads@state.nm.us

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

Attention:

The information contained in this message and/or attachments is intended only for the person or entity to which it is addressed and may contain confidential and/or privileged material. If you received this in error, please contact the Plains Service Desk at 713-646-4444 and delete the material from any system and destroy any copies.

This footnote also confirms that this email message has been scanned for Viruses and Content and cleared.

Geotechnical Engineering Report

**Cotton Draw Tank Expansion
Orla Road and Pipeline Road
Jal, New Mexico**

July 6, 2018

Terracon Project No. 90185174

Prepared for:
Plains All American Pipeline, LP
Houston, Texas

Prepared by:
Terracon Consultants, Inc.
San Antonio, Texas

6311 Blanco Road (210) 641-2112
San Antonio, TX 78216 terracon.com

Terracon

Environmental



Facilities



Geotechnical



Materials

July 6, 2018



Plains All American Pipeline, LP
333 Clay Street, Suite 1600
Houston, Texas 77002

Attn: Mr. Pablo Fernandez, P.E.
M: (713) 646-4129
E: PAFernandez@paalp.com

Re: Geotechnical Engineering Report
Cotton Draw Tank Expansion
Orla Road and Pipeline Road
Jal, New Mexico
Terracon Project No. 90185174

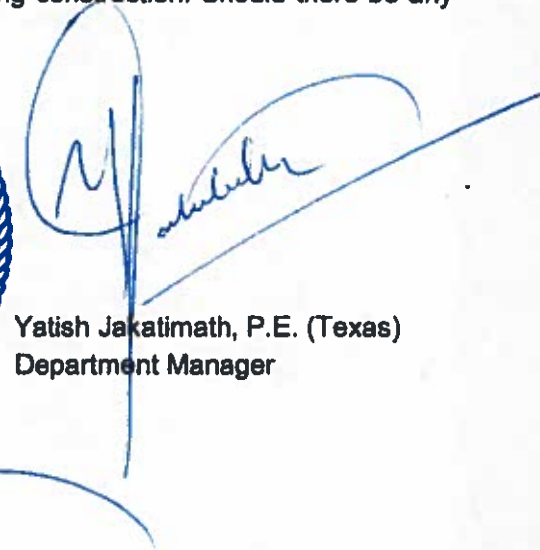
Dear Mr. Fernandez:

Terracon Consultants, Inc. (Terracon) has completed the geotechnical engineering services for the above referenced project. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork and the design and construction of foundations, concrete slabs and pavements for the proposed project. We appreciate the opportunity to work with you on this project and look forward to contributing to the ongoing success of this project by providing Materials Testing services during construction. Should there be any questions, please do not hesitate to contact our office.

Sincerely,
Terracon Consultants, Inc.

 2018.7.6
Jerry Sayson, P.E.
Department Manager




Yatish Jakatimath, P.E. (Texas)
Department Manager


Ali Waly, P.E. (Texas)
Project Engineer

APR Review: Gregory P. Stieben, P.E. (Texas)

JDC/AW/YAJ/GPS/mhb - 90185174

Enclosures

Copies To: Addressee: (1) Electronic

Terracon Consultants, Inc. 6911 Blanco Road, San Antonio, Texas 78216
P (210) 641-2112 F (210) 641-2124 terracon.com

Environmental

Facilities

Geotechnical

Materials

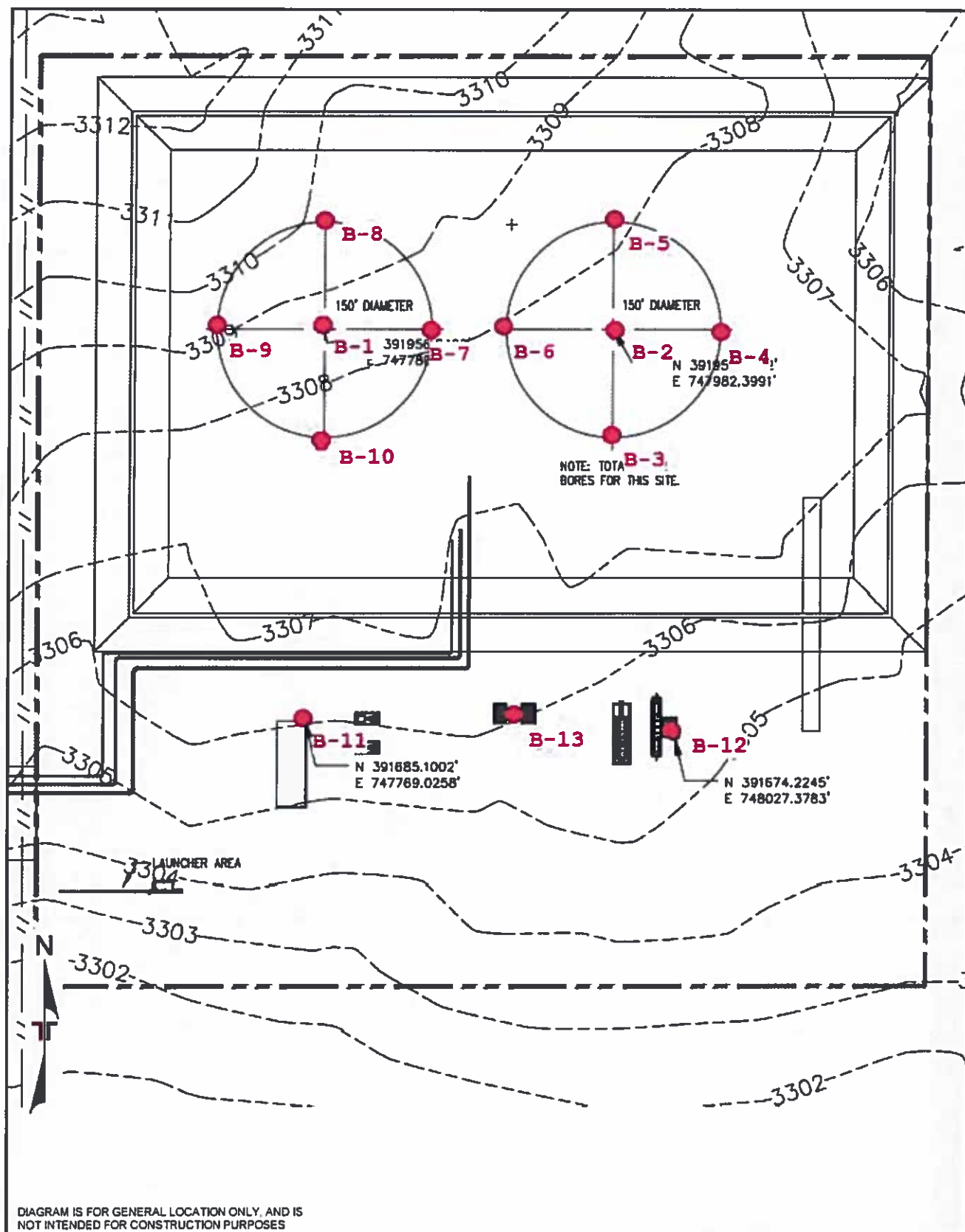
EXECUTIVE SUMMARY

This summary should be used in conjunction with the entire report for design purposes. It should be recognized that details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein. The section titled **GENERAL COMMENTS** should be read for an understanding of the report limitations.

This geotechnical exploration has been performed for the proposed Cotton Draw Tank Expansion located near Orla Road and Pipeline Road in Jal, New Mexico. The subsurface conditions at the site were explored by drilling thirteen soil borings to depths of about 30 to 60 feet below existing grade.

Based on the information obtained from our subsurface exploration, the site can be developed for the proposed project. Pertinent geotechnical issues and considerations include the following:

- The subsurface soils at this site generally consist of Silty Sand (SM) underlain by Poorly Graded Sand (SP). The upper soil appears to be relatively loose and dry.
- Groundwater was not encountered during field activities.
- The proposed tanks will be supported on ring foundation systems. All other miscellaneous structures may be supported on either shallow foundation or drilled pier foundation systems as described in this report.
- For any grade supported systems, subgrade soil will require subgrade modification to reduce potential vertical movements.
- The 2015 International Building Code seismic site classification for this site is C.



Project Manager: AW	Project No. 90185174	 6911 Blanco Rd San Antonio, TX 78216-6164	BORING LOCATION PLAN	Exhibit
Drawn by: AW	Scale: N.T.S.		Cotton Draw Tank Expansion Orla Road and Pipeline Road Jal, NM	A-2
Checked by: YAJ	File Name: EXHIBITS			
Approved by: YAJ	Date: 7/2/2018			

Field Exploration Description

A truck-mounted, rotary drill rig equipped with continuous flight augers was used to advance the boreholes. Soil samples were obtained by split-barrel sampling procedures. In the split-barrel sampling procedure, a standard 2-inch O.D. split-barrel sampling spoon is driven into the ground with a 140-pound hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration is recorded as the standard penetration resistance value. These values are indicated on the borings logs at the depths of occurrence. If the sampler was driven less than the final 12 inches, the number of blows and amount of penetration is report.

The samples were tagged for identification, sealed to reduce moisture loss, and taken to our laboratory for further examination, testing, and classification. Information provided on the boring logs attached to this report includes soil descriptions, consistency evaluations, boring depths, sampling intervals, and groundwater conditions. The borings were backfilled with soil cuttings after completion of drilling.

Our field representative prepared the field logs as part of the drilling operations. The field logs included visual classifications of the materials encountered during drilling and our field representative interpretation of the subsurface conditions between samples. Final boring logs included with this report represent the engineer's/geologist's interpretation of the field logs and include modifications based on visual observations, laboratory observations and testing of the samples in the laboratory.

The scope of services for our geotechnical engineering services does not include addressing any environmental issues pertinent to the site.

BORING LOG NO. B-1

Page 1 of 2

PROJECT: Cotton Draw Tank Expansion

CLIENT: Plains All American Pipeline
Houston, TX

SITE: Orla Road and Pipeline Road
Jal, New Mexico

LOCATION See Exhibit A-2		DEPTH (FL)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS		PERCENT FINES	
Latitude: 32.0759° Longitude: -103.6668°							LL-PL-PI			
DEPTH										
	SILTY SAND (SM) , reddish brown, medium dense to very dense - with gravel and calcareous deposit between 2 and 15 feet			X	9-34-41 N=75	6				
				X	15-38-36 N=74	6				
		5		X	32-26-18 N=44	11				
				X	10-9-6 N=15	7				
		10		X	6-6-5 N=11	8				
		15		X	18-31-46 N=77	6			14	
		20		X	15-36-36 N=72	5				
				X	14-33-50/3"	6				
	POORLY GRADED SAND (SP) , reddish brown, very dense	25								
				X	50/4"	4				
		30								
		35		X	20-31-48 N=79	1				
		40		X	33-50/4"	2			9	

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Air Rotary 0 to 40
Auger using quick gel 40 to 60

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

No free water observed

52 ft Cave in at completion of drilling

Terracon
8911 Blanco Rd
San Antonio, TX

Notes:

Boring Started: 06-21-2018

Drill Rig: CME 75

Project No.: 90185174

Boring Completed: 06-21-2018

Driller: Ramco

Exhibit: A-4

Page 2 of 2

SITE: Orla Road and Pipeline Road
Jal, New Mexico

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 32.0759° Longitude: -103.6668°	DEPTH (FL)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS	PERCENT FINES
							LL-PL-P	
DEPTH								
POORLY GRADED SAND (SP) , reddish brown, very dense (continued)								
		45		X	29-50/4"	1		
		50		X	19-28-42 N=70	2		
		55		X	50/6"	3		
		60		X	25-50/4"	1		
Boring Terminated at 60 Feet								
Stratification lines are approximate. In-situ, the transition may be gradual.								
Hammer Type: Automatic								
Advancement Method: Air Rotary 0 to 40 Auger using quick gel 40 to 60				Notes:				
Abandonment Method: Boring backfilled with auger cuttings upon completion.								
WATER LEVEL OBSERVATIONS				Boring Started: 06-21-2018		Boring Completed: 06-21-2018		
No free water observed				Drill Rig: CME 75		Driller: Ramco		
				Project No.: 90185174		Exhibit: A-4		

BORING LOG NO. B-2

Page 1 of 2

PROJECT: Cotton Draw Tank Expansion

CLIENT: Plains All American Pipeline
Houston, TX

SITE: Orla Road and Pipeline Road
Jal, New Mexico

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 32.0758° Longitude: -103.6662°	DEPTH (FL)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS		PERCENT FINES
							LL-PL-PI		
	SILTY SAND (SM) , reddish brown, loose to very dense - with gravel and calcareous deposit between 2 and 15 feet								
				X	2-3-4 N=7	6			
				X	47-39-40 N=79	9			
		5		X	18-31-30 N=61	10			28
				X	47-50/5"	6			
					50/2"	5			
		10							
				X	33-40-42 N=82	5			
		15							
				X	29-42-50/5"	4			
	20								
			X	35-33-44 N=77	3				
	25								
			X	19-36-44 N=80	31	NP		8	
	30								
			X	13-19-26 N=45	1				
	35								
			X	6-8-13 N=21	1				
	40								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Air Rotary 0 to 40
Auger using quick gel 40 to 60

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

No free water observed

56 ft Cave in at completion of drilling

Notes:

Terracon

6911 Blanco Rd
San Antonio, TX

Boring Started: 06-20-2018

Drill Rig: CME 75

Project No.: 90185174

Boring Completed: 06-20-2018

Driller: Ramco

Exhibit: A-5

BORING LOG NO. B-2

Page 2 of 2

PROJECT: Cotton Draw Tank Expansion

CLIENT: Plains All American Pipeline
Houston, TX

SITE: Orla Road and Pipeline Road
Jal, New Mexico

GRAPHIC LOG	LOCATION	See Exhibit A-2	DEPTH (FL)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS	PERCENT FINES
	Latitude: 32.0758° Longitude: -103.6662°	LL-PL-PI							
DEPTH									
	POORLY GRADED SAND (SP) , reddish brown, medium dense to very dense (continued)		<						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Air Rotary D to 40
Auger using quick gel 40 to 60

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

No free water observed

56 ft Cave in at completion of drilling

Notes:

Terracon

6911 Blanco Rd
San Antonio, TX

Boring Started: 06-20-2018

Boring Completed: 06-20-2018

Drill Rig: CME 75

Driller: Ramco

Project No.: 90185174

Exhibit: A-5

State of New Mexico
Oil Conservation Division

Incident ID	NRM1925327699
District RP	1RP-5648
Facility ID	fRM1925327165
Application ID	pRM1925255479

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 ODC 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: Amber Groves Date: 10/31/2019
email: agroves@paalp.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: _____



November 11, 2019

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

Re: Remediation Summary and Site Closure Report
Red Hills Station
API No. N/A
GPS: Latitude 32.06577 Longitude -103.66597
UL "N", Sec. 3, T26S, R32E
Lea County, NM
NMOCD Ref. No. 1RP-5648

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 Red Hills Station. Details of the release are summarized below:

RELEASE DETAILS			
Type of Release: Crude Oil		Volume of Release: 32 bbls	
		Volume Recovered: 15 bbls	
Source of Release: Crude Oil		Date of Release: 7/26/19	Date of Discovery: 7/26/19
Was Immediate Notice Given?	Yes	If, YES, to Whom?	NMOCD District I
Was a Watercourse Reached?	No	If YES, Volume Impacting the Watercourse: N/A	
Surface Owner: Federal		Mineral Owner: Federal	
Describe Cause of Problem and Remedial Action Taken:			
Crude oil release resulting from a broken nipple on the incoming meter skid.			

Site Characteristics and Sample Location Map are provided as Figure 1 and 2A/2B. 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. Due to none being identified by either resource, the approximate depth to groundwater was extrapolated from a depth to groundwater map titled "Lea Co. Depth to Ground Water" authored by a third party in 2005. Using the previous mentioned resource depth to ground water was estimated to be encountered at ~225 feet (ft.) below ground surface (bgs.). An exert of the third party map can be found as Appendix A.

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/SM4500	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 07/31/2019 Tasman personnel were on site to begin soil delineation of the accidental discharge. Four (4) verticals were installed at the site to determine the depth of impact within the Red Hills Facility. 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 ranged from 10.7 mg/kg in soil sample V-1 @ 1' to 9.17 mg/kg in soil sample V-2 @ 6", all exhibiting concentrations below NMOCD Closure Criteria. TPH concentrations ranged from ranging from 2,026 mg/kg in soil sample V-1 @ 6" to 13.3 mg/kg in soil sample V-2 @ 1'. BTEX Concentrations were below the NMOCD Closure Criteria in all of the submitted soil samples.

Areas outside of the Red Hills Station facility were impacted by overspray. During the initial response a third party scraped the top zero (0) to six (6) inches (in.) with mechanical equipment to prevent overspray from impacting soil further. On July 30, 2019, areas predominately vegetated were treated with Micro-Blaze. During additional delineation activities taking place on August 8, 2019, six (6) verticals were collected from the overspray area and field screened for chlorides and hydrocarbons. Representative samples from each vertical were submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. A Sample Location Map overlying the overspray area is included as Figure 2B. TPH, BTEX, and chloride concentrations in each of the submitted soil samples collected from the overspray area were below NMOCD Closure Criteria. Based on analytical results the overspray area was determined to need no further action.

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)
V-1 @ 6"	7/31/2019	6"	Excavated	<0.008	0.078	10.0	1,740	1,750	276.0	2,026	-
V-1 @ 1'	7/31/2019	1'	In-Situ	<0.008	0.005	<9.93	21.9	21.9	<9.93	21.9	10.7
V-2 @ 6"	7/31/2019	6"	Excavated	<0.008	0.005	<10.0	13.7	13.7	<10.0	13.7	9.17
V-2 @ 1'	7/31/2019	1'	Excavated	<0.008	<0.004	<9.96	13.3	13.3	<9.96	13.3	-
V-3 @ 6"	7/31/2019	6"	Excavated	<0.008	0.012	<9.98	1,170	1,170	296	1,466	-
V-3 @ 1'	7/31/2019	1'	In-Situ	<0.008	<0.004	<10.0	61.8	61.8	29.6	91.4	10.1
V-4 @ 6"	7/31/2019	6"	Excavated	<0.008	0.005	12.0	<9.99	12.0	12.0	24.0	13.4
OS-01	8/2/2019	6"	In-Situ	<0.0003	<0.0003	<7.97	107	107	8.60	116	-
OS-02	8/2/2019	6"	In-Situ	<0.0003	<0.0003	<7.99	96.5	96.5	9.39	106	-
OS-03	8/2/2019	6"	In-Situ	<0.0003	<0.0003	<8.00	35.1	35.1	<8.13	35.1	-
OS-04	8/2/2019	6"	In-Situ	<0.0003	<0.0003	<7.97	34.9	34.9	<8.10	34.9	-
OS-05	8/2/2019	6"	In-Situ	<0.0003	<0.0003	<7.98	19.9	19.9	<8.10	19.9	-
OS-06	8/2/2019	6"	In-Situ	<0.0003	<0.0003	<7.99	33.9	33.9	<8.12	33.9	-
NMOCD Closure Criteria				10	50	-	-	1,000	-	2,500	20,000

Laboratory analytical reports are provided as Appendix B.

SUMMARY OF FIELD ACTIVITIES

Impacted soil within the release margins were 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 to a depth of approximately zero (0) to six (6) inches (in.) bgs. (see Figure 2A), thirty-nine (39) 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-3, FL-4, FL-6, FL-10, FL-15, FL-25, FL-27, FL-31, FL-34, and FL-36 exhibited TPH concentrations in exceedance of NMOCD closure criteria. The areas represented by these samples were excavated an additional six (6) in. bgs., and additional composite soil samples representing no more than 200 SqFt. were collected and submitted for analysis of TPH, BTEX, and chloride concentrations. These samples are denoted by the letter "b" following the name of the original soil sample representing that area (i.e. FL-3b) and subsequently the letter "c" in the case of soil sample FL-4. A Soil Sample Location Map is provided as Figures 2A. 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	8/16/2019	Surf. - 6"	In-Situ	<0.0003	<0.0003	<15.0	175	175	43.1	218	41.5
FL-2	8/16/2019	Surf. - 6"	In-Situ	<0.0003	<0.0003	<15.0	438	438	558	996	366
FL-3	8/16/2019	Surf. - 6"	Excavated	<0.0003	<0.0003	<15.0	1,970	1,970	421	2,391	296
FL-3b	9/19/2019	6"	In-Situ	<0.0003	<0.0003	<15.0	214	214	57.6	272	58.1
FL-4	8/16/2019	Surf. - 6"	Excavated	<0.0003	<0.0003	<15.0	2,230	2,230	507	2,737	87.3
FL-4b	9/19/2019	6"	Excavated	<0.0003	<0.0003	<15.0	1,040	1,040	178	1,218	74.5
FL-4c	10/10/2019	1'	In-Situ	<0.0003	<0.0003	10.9	50.1	61.0	<9.92	61.0	14.8
FL-5	8/16/2019	Surf. - 6"	In-Situ	<0.0003	<0.0003	<15.0	101	101	25.5	127	38.8
FL-6	8/16/2019	Surf. - 6"	Excavated	<0.0003	<0.0003	<15.0	2,810	2,810	592	3,402	125
FL-6b	9/19/2019	6"	In-Situ	<0.0003	<0.0003	<15.0	189	189	30.2	219	3.31
FL-7	8/16/2019	Surf. - 6"	In-Situ	<0.0003	<0.0003	<15.0	443	443	103	546	113
FL-8	8/16/2019	Surf. - 6"	In-Situ	<0.0003	<0.0003	<15.0	417	417	94.4	511	45.9
FL-9	8/16/2019	Surf. - 6"	In-Situ	<0.0003	<0.0003	16.8	550	567	131	698	95.4
FL-10	8/16/2019	Surf. - 6"	Excavated	<0.0003	<0.0003	15.3	2,010	2,025	564	2,589	156
FL-10b	9/19/2019	6"	In-Situ	<0.0003	<0.0003	<15.0	175	175	27.9	203	17.8
FL-11	8/16/2019	Surf. - 6"	In-Situ	<0.0003	<0.0003	16.9	233	250	51.3	301	47.2
FL-12	8/16/2019	Surf. - 6"	In-Situ	<0.0003	<0.0003	<15.0	74.7	74.7	<25.0	74.7	5.70
FL-13	8/16/2019	Surf. - 6"	In-Situ	<0.0003	<0.0003	<15.0	453	453	99.6	553	51.6
FL-14	8/16/2019	Surf. - 6"	In-Situ	<0.0003	<0.0003	<15.0	758	758	169	927	137
FL-15	8/16/2019	Surf. - 6"	Excavated	<0.0003	<0.0003	16.3	2,710	2,726	550	3,276	44.6
FL-15b	9/19/2019	6"	In-Situ	<0.0003	<0.0003	<15.0	812	812	116	928	8.5
FL-16	8/16/2019	Surf. - 6"	In-Situ	<0.0003	<0.0003	<15.0	77.4	77.4	<25.0	77.4	3.39
FL-17	8/16/2019	Surf. - 6"	In-Situ	<0.0003	<0.0003	17.3	906	923	202	1,125	76.2
FL-18	8/16/2019	Surf. - 6"	In-Situ	<0.0003	<0.0003	<15.0	147	147	32.5	180	71.9
FL-19	8/16/2019	Surf. - 6"	In-Situ	<0.0003	<0.0003	<15.0	389	389	91.5	481	32.7
FL-20	8/16/2019	Surf. - 6"	In-Situ	<0.0003	<0.0003	<15.0	359	359	87.4	446	90.5
FL-21	8/16/2019	1'	In-Situ	<0.0003	<0.0003	<15.0	141	141	33	174	5.98
FL-22	8/16/2019	2'	In-Situ	<0.0003	<0.0003	<15.0	127	127	27.6	155	5.73
FL-23	8/16/2019	Surf. - 6"	In-Situ	<0.0003	<0.0003	<15.0	772	772	149	921	43.1
FL-24	8/16/2019	Surf. - 6"	In-Situ	<0.0003	0.0005	<15.0	630	630	118	748	13.3
FL-25	8/16/2019	Surf. - 6"	Excavated	<0.0003	<0.0003	<15.0	1,990	1,990	326	2,316	16.2
FL-25b	9/19/2019	6"	In-Situ	<0.0003	<0.0003	<15.0	239	239	29.5	269	6.10
FL-26	8/16/2019	Surf. - 6"	In-Situ	<0.0003	<0.0003	16.9	49.9	66.8	<25.0	66.8	7.41
FL-27	8/16/2019	Surf. - 6"	Excavated	<0.0003	<0.0003	<15.0	1,120	1,120	194	1,314	23.0
FL-27b	9/19/2019	6"	In-Situ	<0.0003	<0.0003	<15.0	64.8	64.8	<15.0	64.8	6.22
FL-28	8/16/2019	Surf. - 6"	In-Situ	<0.0003	<0.0003	<15.0	798	798	130	928	9.23
FL-29	8/16/2019	6"	Excavated	<0.0003	0.0007	<15.0	1,070	1,070	177	1,247	24.5
FL-29b	9/19/2019	1'	In-Situ	<0.0003	0.0007	<15.0	748	748	142	890	10.7
FL-30	8/16/2019	6"	In-Situ	<0.0003	0.0006	16.7	872	889	168	1,057	30.6
FL-31	8/16/2019	6"	Excavated	0.0008	0.002	16.9	1,550	1,567	266	1,833	40.4
FL-31b	9/19/2019	1'	In-Situ	<0.0003	<0.0003	<15.0	188	188	27.8	216	19.9
FL-32	8/16/2019	6"	In-Situ	<0.0003	<0.0003	<15.0	95.7	95.7	<25.0	95.7	8.13
FL-33	8/16/2019	Surf. - 6"	In-Situ	0.0004	0.0009	15.0	769	784	153	937	28.5
FL-34	8/16/2019	Surf. - 6"	Excavated	<0.0003	0.0004	<15.0	1,130	1,130	156	1,286	41.0
FL-34b	9/19/2019	6"	In-Situ	<0.0003	0.0004	<15.0	54.0	54.0	<15.0	54.0	9.58
FL-35	8/16/2019	Surf. - 6"	In-Situ	0.001	0.002	19.9	536	556	102	658	52.9
FL-36	8/16/2019	Surf. - 6"	Excavated	<0.0003	0.0008	<15.0	1,610	1,610	238	1,848	344
FL-36b	9/19/2019	6"	In-Situ	<0.0003	0.0008	<15.0	49.4	49.4	<15.0	49.4	13.3
FL-37	8/16/2019	Surf. - 6"	In-Situ	<0.0003	<0.0003	<15.0	228	228	38.5	267	116
FL-38	8/16/2019	3'	In-Situ	<0.0003	<0.0003	<15.0	183	183	30.4	213	61.0
ESW @ 1.5'	8/16/2019	1.5'	In-Situ	<0.0003	<0.0003	<15.0	<25.0	<25.0	<25.0	<25.0	7.97
Closure Criteria				10	50	-	-	1,000	-	2,500	20,000

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 the Release. Tasman on behalf of Plains, respectfully requests the NMOCD grant closure approval for the Red Hills Station which was discovered on June 26, 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,

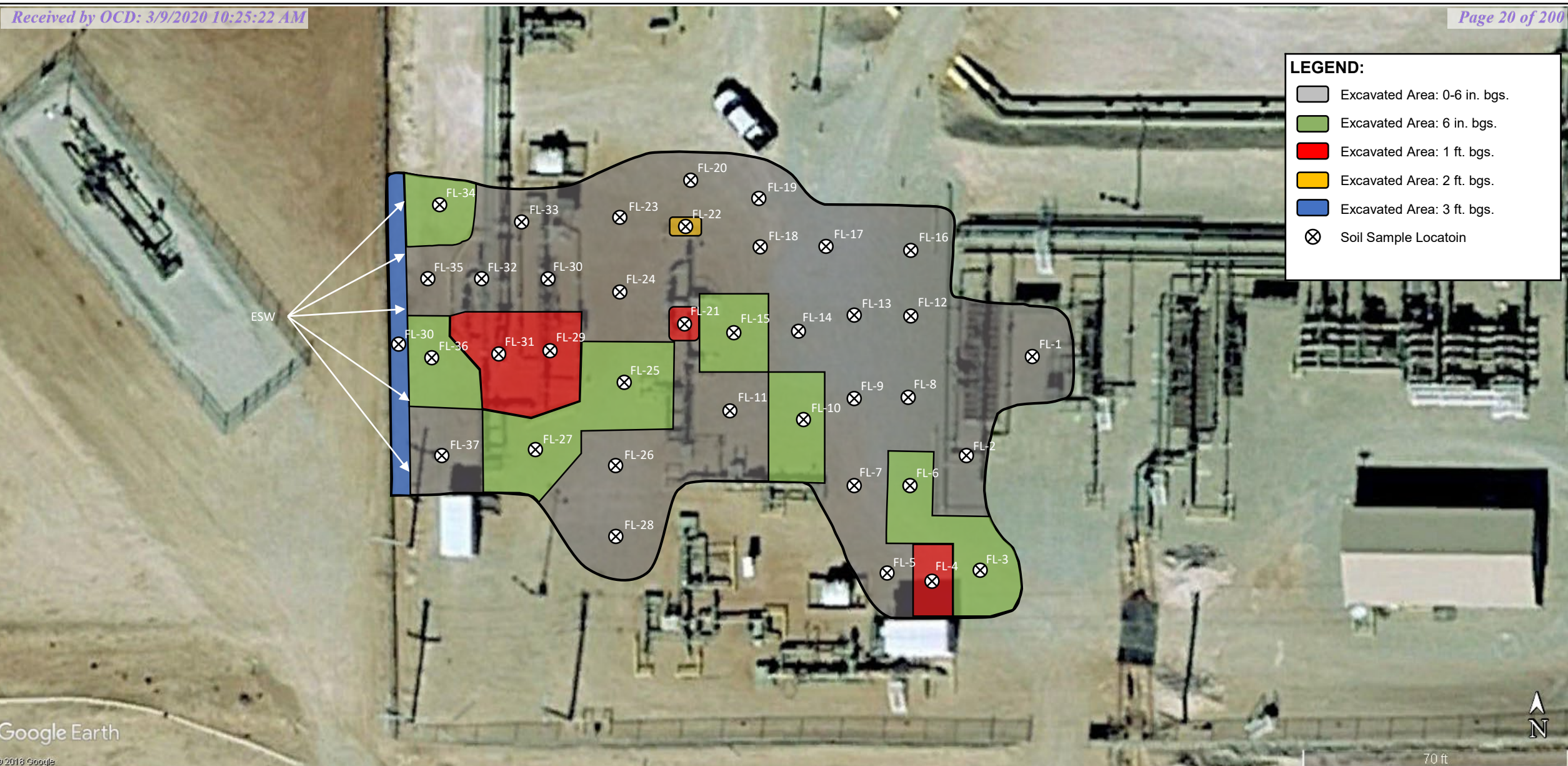


Zach Conder
Program Manager
zconder@tasman-geo.com
(806) 724-5943

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

Attachments:	Figure 1:	Site Characteristics Map
	Figure 2A:	Soil Sample Location Map (Facility)
	Figure 2B:	Soil Sample Location Map (Overspray)
	Appendix A:	Depth to Ground Water Information
	Appendix B:	Laboratory Analytical Results
	Appendix C:	Photo Documentation
	Appendix D:	Initial C-141

Figures



DATE: Oct 2019	 Tasman Geosciences, Inc. 2620 W. Marland Blvd. Hobbs, NM 88240	Plains Pipeline, LP Red Hills Station GPS: 32.065588, -103.666546 UL "N" & "M", Section 3, Township 26 South, Range 32 East Lea County, New Mexico		Soil Sample Location Map (Facility)	Figure 2A
DESIGNED BY: BD					
DRAWN BY: BD					



LEGEND:

- Overspray Area
- MicroBlaze Treatment Area
- Sample Location

Google Earth

© 2018 Google

DATE: Oct 2019	 TASMAN GEOSCIENCES <i>Tasman Geosciences, Inc.</i> 2620 W. Marland Blvd. Hobbs, NM 88240	Plains Pipeline, LP Red Hills Station GPS: 32.065588, -103.666546 UL "N" & "M", Section 3, Township 26 South, Range 32 East Lea County, New Mexico	Soil Sample Location Map (Overspray)	Figure 2B
DESIGNED BY: BD				
DRAWN BY: BD				

Appendix A:
Depth to Ground Water Information



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

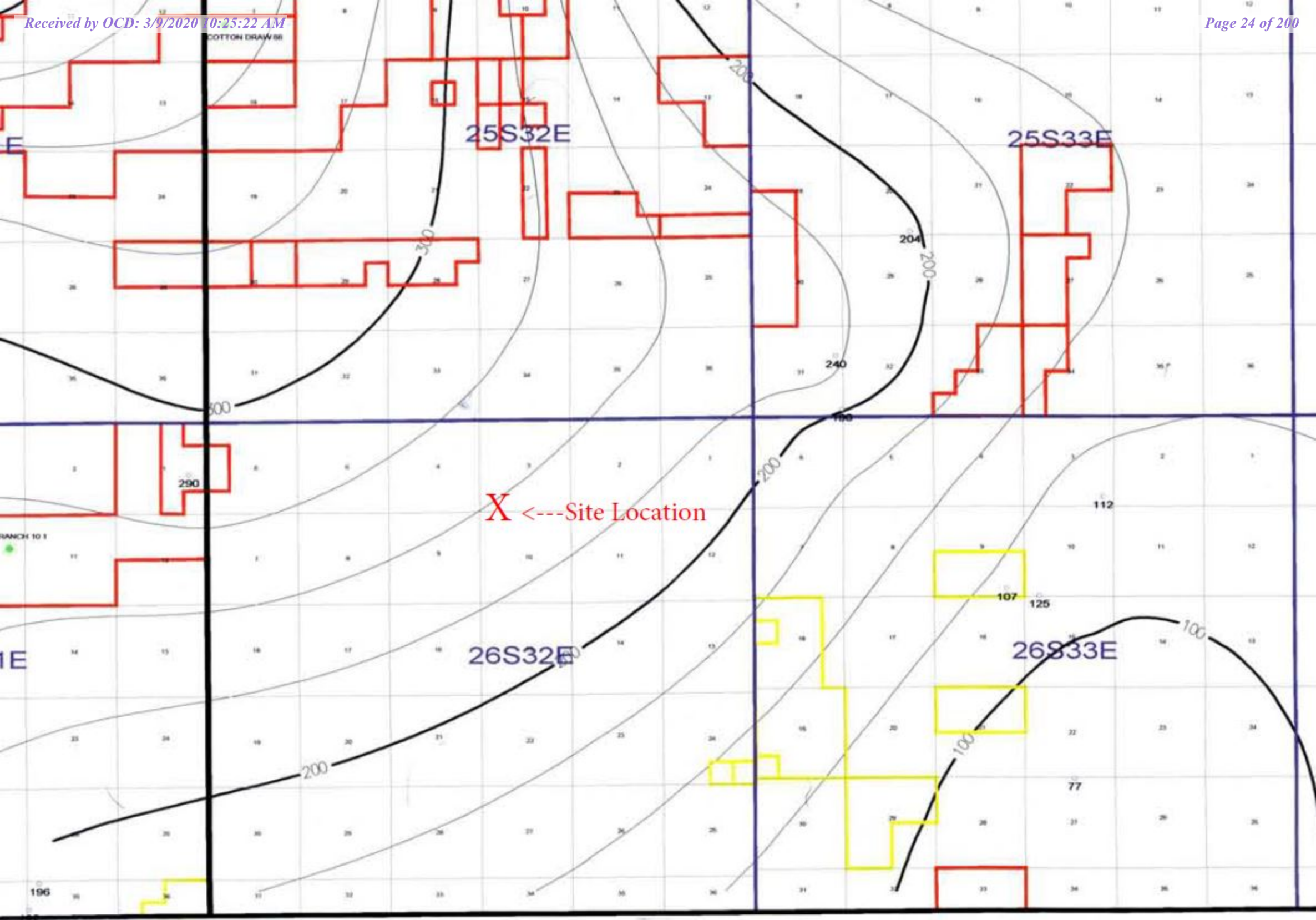
No records found.

UTMNAD83 Radius Search (in meters):

Easting (X): 625855.76

Northing (Y): 3548476.56

Radius: 1700



Appendix B: Laboratory Analytical Information



Analytical Report 632958

for

Tasman Geosciences, LLC

Project Manager: Zach Conder

Red Hills Station

Red Hills Station

08.14.2019

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

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)



08.14.2019

Project Manager: **Zach Conder**

Tasman Geosciences, LLC

2620 W. Marland Blvd.

Hobbs, NM 88240

Reference: XENCO Report No(s): **632958**

Red Hills Station

Project Address: Lea Co. NM

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) 632958. 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. 632958 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

A handwritten signature in black ink, appearing to read 'JB', is written over a light blue rectangular background.

John Builes
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

**Sample Cross Reference 632958****Tasman Geosciences, LLC, Hobbs, NM**

Red Hills Station

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
V-1 @ 6"	S	07.31.2019 00:00	6 In	632958-001
V-1 @ 1'	S	07.31.2019 00:00	1 ft	632958-002
V-2 @ 6"	S	07.31.2019 00:00	6 In	632958-003
V-2 @ 1'	S	07.31.2019 00:00	1 ft	632958-004
V-3 @ 6"	S	07.31.2019 00:00	6 In	632958-005
V-3 @ 1'	S	07.31.2019 00:00	1 ft	632958-006
V-4 @ 6"	S	07.31.2019 00:00	6 In	632958-007

**CASE NARRATIVE****Client Name: Tasman Geosciences, LLC****Project Name: Red Hills Station**Project ID: Red Hills Station
Work Order Number(s): 632958Report Date: 08.14.2019
Date Received: 08.02.2019

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:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3097836 BTEX by EPA 8021B

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



Certificate of Analytical Results

632958

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: V-1 @ 6"

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 632958-001

Date Collected: 07.31.2019 00:00

Date Received: 08.02.2019 16:25

Analytical Method: TPH by SW8015 Mod

Prep Method: 1005

Analyst: ISU

% Moist:

Tech: ISU

Seq Number: 3098313

Date Prep: 08.09.2019 17:24

Subcontractor: SUB: T104704215-19-29

Prep seq: 7683943

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	10.0	50.0	9.99	mg/kg	08.09.2019 21:16	J	1
Diesel Range Organics (DRO)	C10C28DRO	1740	50.0	9.99	mg/kg	08.09.2019 21:16		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	276	50.0	9.99	mg/kg	08.09.2019 21:16		1
Total TPH	PHC635	2030		9.99	mg/kg	08.09.2019 21:16		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	93	70 - 135	%		
o-Terphenyl	96	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: MIT

% Moist:

Tech: MIT

Seq Number: 3097836

Date Prep: 08.07.2019 14:00

Prep seq: 7683757

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00819	0.0181	0.00819	mg/kg	08.08.2019 04:34	U	18
Toluene	108-88-3	0.00906	0.0181	0.00424	mg/kg	08.08.2019 04:34	J	18
Ethylbenzene	100-41-4	0.0435	0.0181	0.00558	mg/kg	08.08.2019 04:34		18
m_p-Xylenes	179601-23-1	0.0254	0.0362	0.00618	mg/kg	08.08.2019 04:34	J	18
o-Xylene	95-47-6	<0.00618	0.0181	0.00618	mg/kg	08.08.2019 04:34	U	18
Xylenes, Total	1330-20-7	0.0254		0.00618	mg/kg	08.08.2019 04:34		
Total BTEX		0.0780		0.00424	mg/kg	08.08.2019 04:34		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	101	68 - 120	%		
a,a,a-Trifluorotoluene	107	71 - 121	%		



Certificate of Analytical Results

632958

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: V-1 @ 1'

Matrix: Soil

Sample Depth: 1 ft

Lab Sample Id: 632958-002

Date Collected: 07.31.2019 00:00

Date Received: 08.02.2019 16:25

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: JYM

% Moist:

Tech: JYM

Seq Number: 3097636

Date Prep: 08.06.2019 12:16

Subcontractor: SUB: T104704215-19-29

Prep seq: 7683600

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	10.7	10.0	0.354	mg/kg	08.06.2019 13:03		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 1005

Analyst: ISU

% Moist:

Tech: ISU

Seq Number: 3098313

Date Prep: 08.09.2019 17:27

Subcontractor: SUB: T104704215-19-29

Prep seq: 7683943

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.93	49.7	9.93	mg/kg	08.09.2019 21:35	U	1
Diesel Range Organics (DRO)	C10C28DRO	21.9	49.7	9.93	mg/kg	08.09.2019 21:35	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.93	49.7	9.93	mg/kg	08.09.2019 21:35	U	1
Total TPH	PHC635	21.9		9.93	mg/kg	08.09.2019 21:35	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	93	70 - 135	%		
o-Terphenyl	100	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: MIT

% Moist:

Tech: MIT

Seq Number: 3097836

Date Prep: 08.07.2019 14:00

Prep seq: 7683757

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00803	0.0178	0.00803	mg/kg	08.08.2019 04:58	U	18
Toluene	108-88-3	0.00533	0.0178	0.00416	mg/kg	08.08.2019 04:58	J	18
Ethylbenzene	100-41-4	<0.00547	0.0178	0.00547	mg/kg	08.08.2019 04:58	U	18
m_p-Xylenes	179601-23-1	<0.00606	0.0355	0.00606	mg/kg	08.08.2019 04:58	U	18
o-Xylene	95-47-6	<0.00606	0.0178	0.00606	mg/kg	08.08.2019 04:58	U	18
Xylenes, Total	1330-20-7	<0.00606		0.00606	mg/kg	08.08.2019 04:58	U	
Total BTEX		0.00533		0.00416	mg/kg	08.08.2019 04:58	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	95	68 - 120	%		
a,a,a-Trifluorotoluene	96	71 - 121	%		



Certificate of Analytical Results

632958

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: V-2 @ 6"

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 632958-003

Date Collected: 07.31.2019 00:00

Date Received: 08.02.2019 16:25

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: JYM

% Moist:

Tech: JYM

Seq Number: 3097636

Date Prep: 08.06.2019 12:16

Subcontractor: SUB: T104704215-19-29

Prep seq: 7683600

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	9.17	9.96	0.353	mg/kg	08.06.2019 13:15	J	1

Analytical Method: TPH by SW8015 Mod

Prep Method: 1005

Analyst: ISU

% Moist:

Tech: ISU

Seq Number: 3098313

Date Prep: 08.09.2019 17:30

Subcontractor: SUB: T104704215-19-29

Prep seq: 7683943

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<10.0	50.1	10.0	mg/kg	08.09.2019 18:41	U	1
Diesel Range Organics (DRO)	C10C28DRO	13.7	50.1	10.0	mg/kg	08.09.2019 18:41	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<10.0	50.1	10.0	mg/kg	08.09.2019 18:41	U	1
Total TPH	PHC635	13.7		10.0	mg/kg	08.09.2019 18:41	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	93	70 - 135	%		
o-Terphenyl	103	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: MIT

% Moist:

Tech: MIT

Seq Number: 3097836

Date Prep: 08.07.2019 14:00

Prep seq: 7683757

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00848	0.0188	0.00848	mg/kg	08.08.2019 05:22	U	19
Toluene	108-88-3	0.00563	0.0188	0.00439	mg/kg	08.08.2019 05:22	J	19
Ethylbenzene	100-41-4	<0.00578	0.0188	0.00578	mg/kg	08.08.2019 05:22	U	19
m_p-Xylenes	179601-23-1	<0.00640	0.0375	0.00640	mg/kg	08.08.2019 05:22	U	19
o-Xylene	95-47-6	<0.00640	0.0188	0.00640	mg/kg	08.08.2019 05:22	U	19
Xylenes, Total	1330-20-7	<0.00640		0.00640	mg/kg	08.08.2019 05:22	U	
Total BTEX		0.00563		0.00439	mg/kg	08.08.2019 05:22	J	

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



Certificate of Analytical Results

632958

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: V-2 @ 1'

Matrix: Soil

Sample Depth: 1 ft

Lab Sample Id: 632958-004

Date Collected: 07.31.2019 00:00

Date Received: 08.02.2019 16:25

Analytical Method: TPH by SW8015 Mod

Prep Method: 1005

Analyst: ISU

% Moist:

Tech: ISU

Seq Number: 3098313

Date Prep: 08.09.2019 17:33

Subcontractor: SUB: T104704215-19-29

Prep seq: 7683943

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.96	49.8	9.96	mg/kg	08.09.2019 19:01	U	1
Diesel Range Organics (DRO)	C10C28DRO	13.3	49.8	9.96	mg/kg	08.09.2019 19:01	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.96	49.8	9.96	mg/kg	08.09.2019 19:01	U	1
Total TPH	PHC635	13.3		9.96	mg/kg	08.09.2019 19:01	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	94	70 - 135	%		
o-Terphenyl	106	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: MIT

% Moist:

Tech: MIT

Seq Number: 3097836

Date Prep: 08.07.2019 14:00

Prep seq: 7683757

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00890	0.0197	0.00890	mg/kg	08.08.2019 05:46	U	20
Toluene	108-88-3	<0.00461	0.0197	0.00461	mg/kg	08.08.2019 05:46	U	20
Ethylbenzene	100-41-4	<0.00606	0.0197	0.00606	mg/kg	08.08.2019 05:46	U	20
m_p-Xylenes	179601-23-1	<0.00671	0.0394	0.00671	mg/kg	08.08.2019 05:46	U	20
o-Xylene	95-47-6	<0.00671	0.0197	0.00671	mg/kg	08.08.2019 05:46	U	20
Xylenes, Total	1330-20-7	<0.00671		0.00671	mg/kg	08.08.2019 05:46	U	
Total BTEX		<0.00461		0.00461	mg/kg	08.08.2019 05:46	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	103	68 - 120	%		
a,a,a-Trifluorotoluene	106	71 - 121	%		



Certificate of Analytical Results

632958

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: V-3 @ 6"

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 632958-005

Date Collected: 07.31.2019 00:00

Date Received: 08.02.2019 16:25

Analytical Method: TPH by SW8015 Mod

Prep Method: 1005

Analyst: ISU

% Moist:

Tech: ISU

Seq Number: 3098313

Date Prep: 08.09.2019 17:36

Subcontractor: SUB: T104704215-19-29

Prep seq: 7683943

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.98	49.9	9.98	mg/kg	08.09.2019 19:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	1170	49.9	9.98	mg/kg	08.09.2019 19:20		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	296	49.9	9.98	mg/kg	08.09.2019 19:20		1
Total TPH	PHC635	1470		9.98	mg/kg	08.09.2019 19:20		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	94	70 - 135	%		
o-Terphenyl	84	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: MIT

% Moist:

Tech: MIT

Seq Number: 3097836

Date Prep: 08.07.2019 14:00

Prep seq: 7683757

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00816	0.0181	0.00816	mg/kg	08.08.2019 06:09	U	18
Toluene	108-88-3	0.0126	0.0181	0.00422	mg/kg	08.08.2019 06:09	J	18
Ethylbenzene	100-41-4	<0.00556	0.0181	0.00556	mg/kg	08.08.2019 06:09	U	18
m_p-Xylenes	179601-23-1	<0.00616	0.0361	0.00616	mg/kg	08.08.2019 06:09	U	18
o-Xylene	95-47-6	<0.00616	0.0181	0.00616	mg/kg	08.08.2019 06:09	U	18
Xylenes, Total	1330-20-7	<0.00616		0.00616	mg/kg	08.08.2019 06:09	U	
Total BTEX		0.0126		0.00422	mg/kg	08.08.2019 06:09	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	92	68 - 120	%		
a,a,a-Trifluorotoluene	93	71 - 121	%		



Certificate of Analytical Results

632958

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: V-3 @ 1' Matrix: Soil Sample Depth: 1 ft
Lab Sample Id: 632958-006 Date Collected: 07.31.2019 00:00 Date Received: 08.02.2019 16:25
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: JYM % Moist: Tech: JYM
Seq Number: 3097636 Date Prep: 08.06.2019 12:16
Subcontractor: SUB: T104704215-19-29 Prep seq: 7683600

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	10.1	10.0	0.355	mg/kg	08.06.2019 13:27		1

Analytical Method: TPH by SW8015 Mod Prep Method: 1005
Analyst: ISU % Moist: Tech: ISU
Seq Number: 3098313 Date Prep: 08.09.2019 17:39
Subcontractor: SUB: T104704215-19-29 Prep seq: 7683943

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<10.0	50.0	10.0	mg/kg	08.09.2019 19:40	U	1
Diesel Range Organics (DRO)	C10C28DRO	61.8	50.0	10.0	mg/kg	08.09.2019 19:40		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	29.6	50.0	10.0	mg/kg	08.09.2019 19:40	J	1
Total TPH	PHC635	91.4		10.0	mg/kg	08.09.2019 19:40		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	97	70 - 135	%		
o-Terphenyl	111	70 - 135	%		

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3097836 Date Prep: 08.07.2019 14:00
Prep seq: 7683757

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00890	0.0197	0.00890	mg/kg	08.08.2019 06:34	U	20
Toluene	108-88-3	<0.00461	0.0197	0.00461	mg/kg	08.08.2019 06:34	U	20
Ethylbenzene	100-41-4	<0.00606	0.0197	0.00606	mg/kg	08.08.2019 06:34	U	20
m_p-Xylenes	179601-23-1	<0.00671	0.0394	0.00671	mg/kg	08.08.2019 06:34	U	20
o-Xylene	95-47-6	<0.00671	0.0197	0.00671	mg/kg	08.08.2019 06:34	U	20
Xylenes, Total	1330-20-7	<0.00671		0.00671	mg/kg	08.08.2019 06:34	U	
Total BTEX		<0.00461		0.00461	mg/kg	08.08.2019 06:34	U	

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



Certificate of Analytical Results

632958

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: V-4 @ 6"

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 632958-007

Date Collected: 07.31.2019 00:00

Date Received: 08.02.2019 16:25

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: JYM

% Moist:

Tech: JYM

Seq Number: 3097636

Date Prep: 08.06.2019 12:16

Subcontractor: SUB: T104704215-19-29

Prep seq: 7683600

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	13.4	10.0	0.355	mg/kg	08.06.2019 14:03		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 1005

Analyst: ISU

% Moist:

Tech: ISU

Seq Number: 3098313

Date Prep: 08.09.2019 17:42

Subcontractor: SUB: T104704215-19-29

Prep seq: 7683943

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<9.99	50.0	9.99	mg/kg	08.09.2019 19:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	12.0	50.0	9.99	mg/kg	08.09.2019 19:59	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.99	50.0	9.99	mg/kg	08.09.2019 19:59	U	1
Total TPH	PHC635	12.0		9.99	mg/kg	08.09.2019 19:59	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	95	70 - 135	%		
o-Terphenyl	107	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: MIT

% Moist:

Tech: MIT

Seq Number: 3097836

Date Prep: 08.07.2019 14:00

Prep seq: 7683757

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00789	0.0175	0.00789	mg/kg	08.08.2019 06:57	U	17
Toluene	108-88-3	0.00524	0.0175	0.00408	mg/kg	08.08.2019 06:57	J	17
Ethylbenzene	100-41-4	<0.00538	0.0175	0.00538	mg/kg	08.08.2019 06:57	U	17
m_p-Xylenes	179601-23-1	<0.00595	0.0349	0.00595	mg/kg	08.08.2019 06:57	U	17
o-Xylene	95-47-6	<0.00595	0.0175	0.00595	mg/kg	08.08.2019 06:57	U	17
Xylenes, Total	1330-20-7	<0.00595		0.00595	mg/kg	08.08.2019 06:57	U	
Total BTEX		0.00524		0.00408	mg/kg	08.08.2019 06:57	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	97	68 - 120	%		
a,a,a-Trifluorotoluene	111	71 - 121	%		



Certificate of Analytical Results

632958

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **7683600-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7683600-1-BLK Date Collected: Date Received:
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: JYM % Moist: Tech: JYM
Seq Number: 3097636 Date Prep: 08.06.2019 12:16
Subcontractor: SUB: T104704215-19-29 Prep seq: 7683600

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<0.354	10.0	0.354	mg/kg	08.06.2019 12:26	U	1

Sample Id: **7683757-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7683757-1-BLK Date Collected: Date Received:
Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3097836 Date Prep: 08.07.2019 14:00
Prep seq: 7683757

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00904	0.0200	0.00904	mg/kg	08.07.2019 21:42	U	20
Toluene	108-88-3	<0.00468	0.0200	0.00468	mg/kg	08.07.2019 21:42	U	20
Ethylbenzene	100-41-4	<0.00616	0.0200	0.00616	mg/kg	08.07.2019 21:42	U	20
m_p-Xylenes	179601-23-1	<0.00682	0.0400	0.00682	mg/kg	08.07.2019 21:42	U	20
o-Xylene	95-47-6	<0.00682	0.0200	0.00682	mg/kg	08.07.2019 21:42	U	20
Xylenes, Total	1330-20-7	<0.00682		0.00682	mg/kg	08.07.2019 21:42	U	
Total BTEX		<0.00468		0.00468	mg/kg	08.07.2019 21:42	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	96	68 - 120	%		
a,a,a-Trifluorotoluene	98	71 - 121	%		



Certificate of Analytical Results

632958

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: 7683943-1-BLK	Matrix: Solid	Sample Depth:
Lab Sample Id: 7683943-1-BLK	Date Collected:	Date Received:
Analytical Method: TPH by SW8015 Mod		Prep Method: 1005
Analyst: ISU	% Moist:	Tech: ISU
Seq Number: 3098313	Date Prep: 08.09.2019 17:00	
Subcontractor: SUB: T104704215-19-29	Prep seq: 7683943	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<10.0	50.0	10.0	mg/kg	08.09.2019 18:41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<10.0	50.0	10.0	mg/kg	08.09.2019 18:41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<10.0	50.0	10.0	mg/kg	08.09.2019 18:41	U	1
Total TPH	PHC635	<10.0		10.0	mg/kg	08.09.2019 18:41	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	84	70 - 135	%		
o-Terphenyl	92	70 - 135	%		



Flagging Criteria

- 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: Red Hills Station

Work Orders : 632958

Project ID: Red Hills Station

Lab Batch #: 3097836

Sample: 7683757-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08.07.2019 20:05

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.109	0.100	109	68-120	
a,a,a-Trifluorotoluene	1.99	2.00	100	71-121	

Lab Batch #: 3097836

Sample: 7683757-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08.07.2019 20:29

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.116	0.100	116	68-120	
a,a,a-Trifluorotoluene	2.17	2.00	109	71-121	

Lab Batch #: 3097836

Sample: 7683757-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08.07.2019 21:42

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0958	0.100	96	68-120	
a,a,a-Trifluorotoluene	1.95	2.00	98	71-121	

Lab Batch #: 3097836

Sample: 632851-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08.07.2019 22:31

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0946	0.100	95	68-120	
a,a,a-Trifluorotoluene	1.83	1.77	103	71-121	

Lab Batch #: 3097836

Sample: 632851-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08.07.2019 22:55

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0923	0.100	92	68-120	
a,a,a-Trifluorotoluene	2.14	1.98	108	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: Red Hills Station

Work Orders : 632958

Project ID: Red Hills Station

Lab Batch #: 3098313

Sample: 7683943-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08.09.2019 18:41

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	83.7	100	84	70-135	
o-Terphenyl	46.0	50.0	92	70-135	

Lab Batch #: 3098313

Sample: 7683943-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08.09.2019 19:01

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.1	100	96	70-135	
o-Terphenyl	48.5	50.0	97	70-135	

Lab Batch #: 3098313

Sample: 7683943-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08.09.2019 19:20

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.9	100	96	70-135	
o-Terphenyl	48.6	50.0	97	70-135	

Lab Batch #: 3098313

Sample: 632906-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08.09.2019 19:59

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.4	99.2	96	70-135	
o-Terphenyl	58.9	49.6	119	70-135	

Lab Batch #: 3098313

Sample: 632906-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08.09.2019 20:18

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.6	98.9	101	70-135	
o-Terphenyl	64.0	49.5	129	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: Red Hills Station

Work Order #: 632958

Project ID: Red Hills Station

Analyst: MIT

Date Prepared: 08.07.2019

Date Analyzed: 08.07.2019

Lab Batch ID: 3097836

Sample: 7683757-1-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	2.00	100	2.00	2.09	105	4	55-120	20	
Toluene	<0.00468	2.00	2.19	110	2.00	2.18	109	0	77-120	20	
Ethylbenzene	<0.00616	2.00	2.36	118	2.00	2.34	117	1	77-120	20	
m_p-Xylenes	<0.00682	4.00	4.54	114	4.00	4.49	112	1	78-120	20	
o-Xylene	<0.00682	2.00	2.21	111	2.00	2.20	110	0	78-120	20	

Analyst: JYM

Date Prepared: 08.06.2019

Date Analyzed: 08.06.2019

Lab Batch ID: 3097636

Sample: 7683600-1-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	105	105	100	105	105	0	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: Red Hills Station

Work Order #: 632958

Project ID: Red Hills Station

Analyst: ISU

Date Prepared: 08.09.2019

Date Analyzed: 08.09.2019

Lab Batch ID: 3098313

Sample: 7683943-1-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)	<10.0	1000	987	99	1000	994	99	1	70-135	35	
Diesel Range Organics (DRO)	<10.0	1000	972	97	1000	963	96	1	70-135	35	

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: Red Hills Station

Work Order #: 632958

Project ID: Red Hills Station

Lab Batch ID: 3097836

QC- Sample ID: 632851-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08.07.2019

Date Prepared: 08.07.2019

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	<0.00800	1.77	1.62	92	1.98	1.83	92	12	54-120	25	
Toluene	0.00712	1.77	1.54	87	1.98	1.74	88	12	57-120	25	
Ethylbenzene	<0.00545	1.77	1.61	91	1.98	1.82	92	12	58-131	25	
m_p-Xylenes	<0.00604	3.54	3.11	88	3.97	3.49	88	12	62-124	25	
o-Xylene	<0.00604	1.77	1.57	89	1.98	1.78	90	13	62-124	25	

Lab Batch ID: 3097636

QC- Sample ID: 632958-006 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08.06.2019

Date Prepared: 08.06.2019

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	10.1	99.6	104	94	100	105	95	1	80-120	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: Red Hills Station

Work Order # : 632958

Lab Batch ID: 3098313

Date Analyzed: 08.09.2019

Reporting Units: mg/kg

Project ID: Red Hills Station

QC- Sample ID: 632906-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 08.09.2019

Analyst: ISU

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)	58.9	992	975	92	989	1020	97	5	70-135	35	
Diesel Range Organics (DRO)	4810	992	3860	0	989	4830	2	22	70-135	35	X

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.

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 Crasbad, NM (432) 704-5440
Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

Work Order No: 632958

www.xenco.com Page of

Project Manager: Zach Conder	Bill to: (if different)	Amber Graves
Company Name: Tagman Geosciences	Company Name:	Plains Pipeline
Address: 2620 W. Maryland Blvd.	Address:	
City, State ZIP: Hobbs, NM 88240	City, State ZIP:	
Phone:	Email: algraves@psalp.com	

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

ANALYSIS REQUEST										Preservative Codes	
Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Pres. Code				
V-1 @ 6"	S	7-31-19	6 in							MeOH: Me	
V-1 @ 1'			1 ft							None: NO	
V-2 @ 6"			6 in							HNO3: HN	
V-2 @ 1'			1 ft							H2SO4: H2	
V-3 @ 6"			6 in							HCL: HL	
V-3 @ 1'			1 ft							NaOH: Na	
V-4 @ 6"			6 in							Zn Acetate+ NaOH: Zn	
										TAT starts the day received by the lab, if received by 4:00pm	
										Sample Comments	
										Email Results to:	
										Zconder@tismangear.com	
										blemmis@tismangear.com	
										algraves@psalp.com	

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	Brenda Ward	8/2/19 14:25			
3					
5					

Revised Date 02/26/19 Rev. 2019.1

Inter-Office Shipment

IOS Number : **45551**

Date/Time: 08.05.2019 10:08 Created by: Brenda Ward

Lab# From: **Lubbock** Delivery Priority:

Lab# To: **Houston** Air Bill No.: 788932486883

Please send report to: John Builes

Address: 6701 Aberdeen, Suite 9 Lubbock, TX 79424

E-Mail: john.builes@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
632958-001	S	V-1 @ 6"	07.31.2019 00:00	SW8015MOD_NM	TPH by SW8015 Mod	08.08.2019	08.14.2019	JHB	PHCC10C28 PHCC28C35	
632958-002	S	V-1 @ 1'	07.31.2019 00:00	E300	Inorganic Anions by EPA 300/300.1	08.08.2019	08.28.2019	JHB	CL	
632958-002	S	V-1 @ 1'	07.31.2019 00:00	SW8015MOD_NM	TPH by SW8015 Mod	08.08.2019	08.14.2019	JHB	PHCC10C28 PHCC28C35	
632958-003	S	V-2 @ 6"	07.31.2019 00:00	E300	Inorganic Anions by EPA 300/300.1	08.08.2019	08.28.2019	JHB	CL	
632958-003	S	V-2 @ 6"	07.31.2019 00:00	SW8015MOD_NM	TPH by SW8015 Mod	08.08.2019	08.14.2019	JHB	PHCC10C28 PHCC28C35	
632958-004	S	V-2 @ 1'	07.31.2019 00:00	SW8015MOD_NM	TPH by SW8015 Mod	08.08.2019	08.14.2019	JHB	PHCC10C28 PHCC28C35	
632958-005	S	V-3 @ 6"	07.31.2019 00:00	SW8015MOD_NM	TPH by SW8015 Mod	08.08.2019	08.14.2019	JHB	PHCC10C28 PHCC28C35	
632958-006	S	V-3 @ 1'	07.31.2019 00:00	SW8015MOD_NM	TPH by SW8015 Mod	08.08.2019	08.14.2019	JHB	PHCC10C28 PHCC28C35	
632958-006	S	V-3 @ 1'	07.31.2019 00:00	E300	Inorganic Anions by EPA 300/300.1	08.08.2019	08.28.2019	JHB	CL	
632958-007	S	V-4 @ 6"	07.31.2019 00:00	E300	Inorganic Anions by EPA 300/300.1	08.08.2019	08.28.2019	JHB	CL	
632958-007	S	V-4 @ 6"	07.31.2019 00:00	SW8015MOD_NM	TPH by SW8015 Mod	08.08.2019	08.14.2019	JHB	PHCC10C28 PHCC28C35	

Inter Office Shipment or Sample Comments:

Relinquished By:



Brenda Ward

Date Relinquished: 08.05.2019

Received By:



Ashly Kowalski

Date Received: 08.06.2019 09:15

Cooler Temperature: 3.5



XENCO Laboratories



Inter Office Report- Sample Receipt Checklist

Sent To: Houston

IOS #: 45551

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : HOU-068

Sent By: Brenda Ward

Date Sent: 08.05.2019 10.08 AM

Received By: Ashly Kowalski

Date Received: 08.06.2019 09.15 AM

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	3.5
#2 *Shipping container in good condition?	Yes
#3 *Samples received with appropriate temperature?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 *Custody Seals Signed and dated for Containers/coolers	N/A
#6 *IOS present?	Yes
#7 Any missing/extra samples?	No
#8 IOS agrees with sample label(s)/matrix?	Yes
#9 Sample matrix/ properties agree with IOS?	Yes
#10 Samples in proper container/ bottle?	Yes
#11 Samples properly preserved?	Yes
#12 Sample container(s) intact?	Yes
#13 Sufficient sample amount for indicated test(s)?	Yes
#14 All samples received within hold time?	Yes

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Ashly Kowalski

Date: 08.06.2019

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Tasman Geosciences, LLC**Date/ Time Received:** 08.02.2019 04.25.00 PM**Work Order #:** 632958**Acceptable Temperature Range:** 0 - 6 degC**Air and Metal samples Acceptable Range:** Ambient**Temperature Measuring device used :** IR-4

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.3
#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 and TPH 8015 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

Date: 08.05.2019

Checklist reviewed by:


John Builes

Date: 08.06.2019



Analytical Report 633309

for

Tasman Geosciences, LLC

Project Manager: Zach Conder

Red Hills Station

08.14.2019

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), North Carolina (681)

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)



08.14.2019

Project Manager: **Zach Conder**

Tasman Geosciences, LLC

2620 W. Marland Blvd.

Hobbs, NM 88240

Reference: XENCO Report No(s): **633309**

Red Hills Station

Project Address: Lea Co. NM

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) 633309. 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. 633309 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

A handwritten signature in black ink, appearing to read 'JB', is written over a light blue rectangular background.

John Builes
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

**Sample Cross Reference 633309****Tasman Geosciences, LLC, Hobbs, NM**

Red Hills Station

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
OS-01	S	08.02.2019 09:30	0.5	633309-001
OS-02	S	08.02.2019 09:35	0.5	633309-002
OS-03	S	08.02.2019 09:40	0.5	633309-003
OS-04	S	08.02.2019 09:45	0.5	633309-004
OS-05	S	08.02.2019 09:50	0.5	633309-005
OS-06	S	08.02.2019 09:55	0.5	633309-006

**CASE NARRATIVE****Client Name: Tasman Geosciences, LLC****Project Name: Red Hills Station**Project ID:
Work Order Number(s): 633309Report Date: 08.14.2019
Date Received: 08.07.2019

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:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3098417 BTEX by EPA 8021

Surrogate 1,4-Difluorobenzene recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 633701-001 S.

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 633701-001 S, 633309-002.

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



Certificate of Analytical Results

633309

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **OS-01**

Matrix: Soil

Sample Depth: 0.5

Lab Sample Id: 633309-001

Date Collected: 08.02.2019 09:30

Date Received: 08.07.2019 12:45

Analytical Method: TPH by SW8015 Mod

Prep Method: 1005

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3098093

Date Prep: 08.07.2019 15:00

Prep seq: 7683726

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	08.08.2019 01:57	U	1
Diesel Range Organics (DRO)	C10C28DRO	107	14.9	8.10	mg/kg	08.08.2019 01:57		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	8.60	14.9	8.10	mg/kg	08.08.2019 01:57	J	1
Total TPH	PHC635	116		7.97	mg/kg	08.08.2019 01:57		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	88	70 - 135	%		
o-Terphenyl	90	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: ALG

% Moist:

Tech: ALG

Seq Number: 3098417

Date Prep: 08.12.2019 10:00

Prep seq: 7684065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000386	0.00200	0.000386	mg/kg	08.13.2019 10:22	U	1
Toluene	108-88-3	<0.000457	0.00200	0.000457	mg/kg	08.13.2019 10:22	U	1
Ethylbenzene	100-41-4	<0.000566	0.00200	0.000566	mg/kg	08.13.2019 10:22	U	1
m_p-Xylenes	179601-23-1	<0.00102	0.00401	0.00102	mg/kg	08.13.2019 10:22	U	1
o-Xylene	95-47-6	<0.000345	0.00200	0.000345	mg/kg	08.13.2019 10:22	U	1
Xylenes, Total	1330-20-7	<0.000345		0.000345	mg/kg	08.13.2019 10:22	U	
Total BTEX		<0.000345		0.000345	mg/kg	08.13.2019 10:22	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	105	70 - 130	%		
4-Bromofluorobenzene	101	70 - 130	%		



Certificate of Analytical Results

633309

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **OS-02**

Matrix: Soil

Sample Depth: 0.5

Lab Sample Id: 633309-002

Date Collected: 08.02.2019 09:35

Date Received: 08.07.2019 12:45

Analytical Method: TPH by SW8015 Mod

Prep Method: 1005

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3098093

Date Prep: 08.07.2019 15:00

Prep seq: 7683726

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	08.08.2019 02:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	96.5	15.0	8.12	mg/kg	08.08.2019 02:18		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	9.39	15.0	8.12	mg/kg	08.08.2019 02:18	J	1
Total TPH	PHC635	106		7.99	mg/kg	08.08.2019 02:18		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	84	70 - 135	%		
o-Terphenyl	73	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: ALG

% Moist:

Tech: ALG

Seq Number: 3098417

Date Prep: 08.12.2019 10:00

Prep seq: 7684065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	08.13.2019 03:01	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	08.13.2019 03:01	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	08.13.2019 03:01	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	08.13.2019 03:01	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	08.13.2019 03:01	U	1
Xylenes, Total	1330-20-7	<0.000344		0.000344	mg/kg	08.13.2019 03:01	U	
Total BTEX		<0.000344		0.000344	mg/kg	08.13.2019 03:01	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	97	70 - 130	%		
4-Bromofluorobenzene	134	70 - 130	%		**



Certificate of Analytical Results

633309

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **OS-03**

Matrix: Soil

Sample Depth: 0.5

Lab Sample Id: 633309-003

Date Collected: 08.02.2019 09:40

Date Received: 08.07.2019 12:45

Analytical Method: TPH by SW8015 Mod

Prep Method: 1005

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3098093

Date Prep: 08.07.2019 15:00

Prep seq: 7683726

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	08.08.2019 02:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	35.1	15.0	8.13	mg/kg	08.08.2019 02:39		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.13	15.0	8.13	mg/kg	08.08.2019 02:39	U	1
Total TPH	PHC635	35.1		8.00	mg/kg	08.08.2019 02:39		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	88	70 - 135	%		
o-Terphenyl	83	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: ALG

% Moist:

Tech: ALG

Seq Number: 3098417

Date Prep: 08.12.2019 10:00

Prep seq: 7684065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000382	0.00198	0.000382	mg/kg	08.13.2019 03:21	U	1
Toluene	108-88-3	<0.000452	0.00198	0.000452	mg/kg	08.13.2019 03:21	U	1
Ethylbenzene	100-41-4	<0.000560	0.00198	0.000560	mg/kg	08.13.2019 03:21	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00397	0.00101	mg/kg	08.13.2019 03:21	U	1
o-Xylene	95-47-6	<0.000342	0.00198	0.000342	mg/kg	08.13.2019 03:21	U	1
Xylenes, Total	1330-20-7	<0.000342		0.000342	mg/kg	08.13.2019 03:21	U	
Total BTEX		<0.000342		0.000342	mg/kg	08.13.2019 03:21	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	88	70 - 130	%		
4-Bromofluorobenzene	92	70 - 130	%		



Certificate of Analytical Results

633309

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **OS-04**

Matrix: Soil

Sample Depth: 0.5

Lab Sample Id: 633309-004

Date Collected: 08.02.2019 09:45

Date Received: 08.07.2019 12:45

Analytical Method: TPH by SW8015 Mod

Prep Method: 1005

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3098119

Date Prep: 08.08.2019 13:00

Prep seq: 7683829

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	08.10.2019 04:34	U	1
Diesel Range Organics (DRO)	C10C28DRO	34.9	14.9	8.10	mg/kg	08.10.2019 04:34		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.10	14.9	8.10	mg/kg	08.10.2019 04:34	U	1
Total TPH	PHC635	34.9		7.97	mg/kg	08.10.2019 04:34		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	94	70 - 135	%		
o-Terphenyl	96	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: ALG

% Moist:

Tech: ALG

Seq Number: 3098417

Date Prep: 08.12.2019 10:00

Prep seq: 7684065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000384	0.00200	0.000384	mg/kg	08.13.2019 03:41	U	1
Toluene	108-88-3	<0.000455	0.00200	0.000455	mg/kg	08.13.2019 03:41	U	1
Ethylbenzene	100-41-4	<0.000564	0.00200	0.000564	mg/kg	08.13.2019 03:41	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00399	0.00101	mg/kg	08.13.2019 03:41	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	08.13.2019 03:41	U	1
Xylenes, Total	1330-20-7	<0.000344		0.000344	mg/kg	08.13.2019 03:41	U	
Total BTEX		<0.000344		0.000344	mg/kg	08.13.2019 03:41	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	90	70 - 130	%		
4-Bromofluorobenzene	117	70 - 130	%		



Certificate of Analytical Results

633309

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **OS-05**

Matrix: Soil

Sample Depth: 0.5

Lab Sample Id: 633309-005

Date Collected: 08.02.2019 09:50

Date Received: 08.07.2019 12:45

Analytical Method: TPH by SW8015 Mod

Prep Method: 1005

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3098119

Date Prep: 08.08.2019 13:00

Prep seq: 7683829

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<7.98	15.0	7.98	mg/kg	08.10.2019 04:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	19.9	15.0	8.10	mg/kg	08.10.2019 04:53		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.10	15.0	8.10	mg/kg	08.10.2019 04:53	U	1
Total TPH	PHC635	19.9		7.98	mg/kg	08.10.2019 04:53		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	94	70 - 135	%		
o-Terphenyl	96	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: ALG

% Moist:

Tech: ALG

Seq Number: 3098417

Date Prep: 08.12.2019 10:00

Prep seq: 7684065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000384	0.00200	0.000384	mg/kg	08.13.2019 04:01	U	1
Toluene	108-88-3	<0.000455	0.00200	0.000455	mg/kg	08.13.2019 04:01	U	1
Ethylbenzene	100-41-4	<0.000564	0.00200	0.000564	mg/kg	08.13.2019 04:01	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00399	0.00101	mg/kg	08.13.2019 04:01	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	08.13.2019 04:01	U	1
Xylenes, Total	1330-20-7	<0.000344		0.000344	mg/kg	08.13.2019 04:01	U	
Total BTEX		<0.000344		0.000344	mg/kg	08.13.2019 04:01	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	95	70 - 130	%		
4-Bromofluorobenzene	130	70 - 130	%		



Certificate of Analytical Results

633309

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **OS-06**

Matrix: Soil

Sample Depth: 0.5

Lab Sample Id: 633309-006

Date Collected: 08.02.2019 09:55

Date Received: 08.07.2019 12:45

Analytical Method: TPH by SW8015 Mod

Prep Method: 1005

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3098119

Date Prep: 08.08.2019 13:00

Prep seq: 7683829

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	08.10.2019 05:12	U	1
Diesel Range Organics (DRO)	C10C28DRO	33.9	15.0	8.12	mg/kg	08.10.2019 05:12		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.12	15.0	8.12	mg/kg	08.10.2019 05:12	U	1
Total TPH	PHC635	33.9		7.99	mg/kg	08.10.2019 05:12		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	90	70 - 135	%		
o-Terphenyl	93	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: ALG

% Moist:

Tech: ALG

Seq Number: 3098417

Date Prep: 08.12.2019 10:00

Prep seq: 7684065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	08.13.2019 04:22	U	1
Toluene	108-88-3	<0.000454	0.00199	0.000454	mg/kg	08.13.2019 04:22	U	1
Ethylbenzene	100-41-4	<0.000563	0.00199	0.000563	mg/kg	08.13.2019 04:22	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	08.13.2019 04:22	U	1
o-Xylene	95-47-6	<0.000343	0.00199	0.000343	mg/kg	08.13.2019 04:22	U	1
Xylenes, Total	1330-20-7	<0.000343		0.000343	mg/kg	08.13.2019 04:22	U	
Total BTEX		<0.000343		0.000343	mg/kg	08.13.2019 04:22	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	95	70 - 130	%		
4-Bromofluorobenzene	124	70 - 130	%		



Certificate of Analytical Results

633309

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: 7683726-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7683726-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH by SW8015 Mod

Prep Method: 1005

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3098093

Date Prep: 08.07.2019 15:00

Prep seq: 7683726

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	08.07.2019 17:57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<8.13	15.0	8.13	mg/kg	08.07.2019 17:57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.13	15.0	8.13	mg/kg	08.07.2019 17:57	U	1
Total TPH	PHC635	<8.00		8.00	mg/kg	08.07.2019 17:57	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	96	70 - 135	%		
o-Terphenyl	81	70 - 135	%		

Sample Id: 7683829-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7683829-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH by SW8015 Mod

Prep Method: 1005

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3098119

Date Prep: 08.08.2019 13:00

Prep seq: 7683829

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	08.09.2019 21:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<8.13	15.0	8.13	mg/kg	08.09.2019 21:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<8.13	15.0	8.13	mg/kg	08.09.2019 21:42	U	1
Total TPH	PHC635	<8.00		8.00	mg/kg	08.09.2019 21:42	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	90	70 - 135	%		
o-Terphenyl	92	70 - 135	%		



Certificate of Analytical Results

633309

Tasman Geosciences, LLC, Hobbs, NM

Red Hills Station

Sample Id: 7684065-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7684065-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: ALG

% Moist:

Tech: ALG

Seq Number: 3098417

Date Prep: 08.12.2019 10:00

Prep seq: 7684065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	08.13.2019 01:20	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	08.13.2019 01:20	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	08.13.2019 01:20	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	08.13.2019 01:20	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	08.13.2019 01:20	U	1
Xylenes, Total	1330-20-7	<0.000344		0.000344	mg/kg	08.13.2019 01:20	U	
Total BTEX		<0.000344		0.000344	mg/kg	08.13.2019 01:20	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	91	70 - 130	%		
4-Bromofluorobenzene	120	70 - 130	%		



Flagging Criteria

- 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: Red Hills Station

Work Orders : 633309

Project ID:

Lab Batch #: 3098417

Sample: 7684065-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08.12.2019 11:39

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0273	0.0300	91	70-130	
4-Bromofluorobenzene	0.0364	0.0300	121	70-130	

Lab Batch #: 3098417

Sample: 7684065-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08.12.2019 11:59

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0283	0.0300	94	70-130	
4-Bromofluorobenzene	0.0374	0.0300	125	70-130	

Lab Batch #: 3098417

Sample: 7684065-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08.13.2019 01:20

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0274	0.0300	91	70-130	
4-Bromofluorobenzene	0.0360	0.0300	120	70-130	

Lab Batch #: 3098417

Sample: 633701-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08.13.2019 12:19

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0203	0.0300	68	70-130	**
4-Bromofluorobenzene	0.109	0.0300	363	70-130	**

Lab Batch #: 3098093

Sample: 7683726-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08.07.2019 17:57

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	96.0	100	96	70-135	
o-Terphenyl	40.4	50.0	81	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.



Form 2 - Surrogate Recoveries

Project Name: Red Hills Station

Work Orders : 633309

Project ID:

Lab Batch #: 3098093

Sample: 7683726-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08.07.2019 18:18

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.8	100	97	70-135	
o-Terphenyl	43.3	50.0	87	70-135	

Lab Batch #: 3098093

Sample: 7683726-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08.07.2019 18:38

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	100	109	70-135	
o-Terphenyl	44.6	50.0	89	70-135	

Lab Batch #: 3098093

Sample: 633003-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08.07.2019 19:20

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.9	99.9	92	70-135	
o-Terphenyl	46.1	50.0	92	70-135	

Lab Batch #: 3098093

Sample: 633003-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08.07.2019 19:40

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.8	99.8	91	70-135	
o-Terphenyl	41.7	49.9	84	70-135	

Lab Batch #: 3098119

Sample: 7683829-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08.09.2019 21:42

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.2	100	90	70-135	
o-Terphenyl	45.9	50.0	92	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.



Form 2 - Surrogate Recoveries

Project Name: Red Hills Station

Work Orders : 633309

Project ID:

Lab Batch #: 3098119

Sample: 7683829-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08.09.2019 22:01

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	100	117	70-135	
o-Terphenyl	49.9	50.0	100	70-135	

Lab Batch #: 3098119

Sample: 7683829-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08.09.2019 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	115	100	115	70-135	
o-Terphenyl	48.5	50.0	97	70-135	

Lab Batch #: 3098119

Sample: 633407-021 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08.09.2019 22:57

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	99.7	116	70-135	
o-Terphenyl	50.5	49.9	101	70-135	

Lab Batch #: 3098119

Sample: 633407-021 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08.09.2019 23:16

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	99.6	115	70-135	
o-Terphenyl	51.5	49.8	103	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: Red Hills Station

Work Order #: 633309

Project ID:

Analyst: ALG

Date Prepared: 08.12.2019

Date Analyzed: 08.12.2019

Lab Batch ID: 3098417

Sample: 7684065-1-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	<0.000385	0.100	0.0962	96	0.100	0.0986	99	2	70-130	35	
Toluene	<0.000456	0.100	0.0952	95	0.100	0.0999	100	5	70-130	35	
Ethylbenzene	<0.000565	0.100	0.108	108	0.100	0.111	111	3	70-130	35	
m_p-Xylenes	<0.00101	0.200	0.221	111	0.200	0.227	114	3	70-130	35	
o-Xylene	<0.000344	0.100	0.107	107	0.100	0.111	111	4	70-130	35	

Analyst: ARM

Date Prepared: 08.07.2019

Date Analyzed: 08.07.2019

Lab Batch ID: 3098093

Sample: 7683726-1-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	1080	108	1000	1190	119	10	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	943	94	1000	1030	103	9	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



BS / BSD Recoveries

Project Name: Red Hills Station

Work Order #: 633309

Project ID:

Analyst: ARM

Date Prepared: 08.08.2019

Date Analyzed: 08.09.2019

Lab Batch ID: 3098119

Sample: 7683829-1-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	1140	114	1000	1130	113	1	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	1030	103	1000	1010	101	2	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 Recoveries

Project Name: Red Hills Station

Work Order #: 633309

Lab Batch #: 3098417

Date Analyzed: 08.13.2019

QC- Sample ID: 633701-001 S

Reporting Units: mg/kg

Date Prepared: 08.12.2019

Batch #: 1

Project ID:

Analyst: ALG

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY

BTEX by EPA 8021B	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Benzene	0.0513	0.0994	0.0580	7	70-130	X
Toluene	1.46	0.0994	1.72	262	70-130	X
Ethylbenzene	0.0514	0.0994	0.0672	16	70-130	X
m_p-Xylenes	0.293	0.199	0.352	30	70-130	X
o-Xylene	0.211	0.0994	0.304	94	70-130	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$
 Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$
 All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS / MSD Recoveries

Project Name: Red Hills Station

Work Order #: 633309

Lab Batch ID: 3098093

Date Analyzed: 08.07.2019

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 633003-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 08.07.2019

Analyst: ARM

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)	<7.99	999	1030	103	998	1010	101	2	70-135	20	
Diesel Range Organics (DRO)	9.09	999	989	98	998	920	91	7	70-135	20	

Lab Batch ID: 3098119

QC- Sample ID: 633407-021 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08.09.2019

Date Prepared: 08.08.2019

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)	<7.98	997	1170	117	996	1170	117	0	70-135	20	
Diesel Range Organics (DRO)	<8.10	997	1060	106	996	1080	108	2	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)

CHAIN OF CUSTODY

Page 1 Of 1

[illegible]



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Plains All American EH&S

Date/ Time Received: 08.07.2019 12.45.58 PM

Work Order #: 633309

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)?	.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)?	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: 08.07.2019

Checklist reviewed by:



John Builes

Date: 08.09.2019



Analytical Report 634691

for

Tasman Geosciences, LLC

Project Manager: Z Conder

Red Hills Station

08.28.2019

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), North Carolina (681)

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)



08.28.2019

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

Reference: XENCO Report No(s): **634691**
Red Hills Station
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) 634691. 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. 634691 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

A handwritten signature in black ink, appearing to read 'JB', is written over a light blue rectangular background.

John Builes
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Sample Cross Reference 634691

Tasman Geosciences, LLC, Hobbs, NM

Red Hills Station

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FL-1 @ 6"	S	08.16.2019 00:00	6 In	634691-001
FL-2 @ 6"	S	08.16.2019 00:00	6 In	634691-002
FL-3 @ 6"	S	08.16.2019 00:00	6 In	634691-003
FL-4 @ 6"	S	08.16.2019 00:00	6 In	634691-004
FL-5 @ 6"	S	08.16.2019 00:00	6 In	634691-005
FL-6 @ 6"	S	08.16.2019 00:00	6 In	634691-006
FL-7 @ 6"	S	08.16.2019 00:00	6 In	634691-007
FL-8 @ 6"	S	08.16.2019 00:00	6 In	634691-008
FL-9 @ 6"	S	08.16.2019 00:00	6 In	634691-009
FL-10 @ 6"	S	08.16.2019 00:00	6 In	634691-010
FL-11 @ 6"	S	08.16.2019 00:00	6 In	634691-011
FL-12 @ 6"	S	08.16.2019 00:00	6 In	634691-012
FL-13 @ 6"	S	08.16.2019 00:00	6 In	634691-013
FL-14 @ 6"	S	08.16.2019 00:00	6 In	634691-014
FL-15 @ 6"	S	08.16.2019 00:00	6 In	634691-015
FL-16 @ 6"	S	08.16.2019 00:00	6 In	634691-016
FL-17 @ 6"	S	08.16.2019 00:00	6 In	634691-017
FL-18 @ 6"	S	08.16.2019 00:00	6 In	634691-018
FL-19 @ 6"	S	08.16.2019 00:00	6 In	634691-019
FL-20 @ 6"	S	08.16.2019 00:00	6 In	634691-020
FL-21 @ 1'	S	08.16.2019 00:00	1 ft	634691-021
FL-22 @ 2'	S	08.16.2019 00:00	2 ft	634691-022
FL-23 @ 6"	S	08.16.2019 00:00	6 In	634691-023
FL-24 @ 6"	S	08.16.2019 00:00	6 In	634691-024
FL-25 @ 6"	S	08.16.2019 00:00	6 In	634691-025
FL-26 @ 6"	S	08.16.2019 00:00	6 In	634691-026
FL-27 @ 6"	S	08.16.2019 00:00	6 In	634691-027
FL-28 @ 6"	S	08.16.2019 00:00	6 In	634691-028
FL-29 @ 6"	S	08.16.2019 00:00	6 In	634691-029
FL-30 @ 6"	S	08.16.2019 00:00	6 In	634691-030
FL-31 @ 6"	S	08.16.2019 00:00	6 In	634691-031
FL-32 @ 6"	S	08.16.2019 00:00	6 In	634691-032
FL-33 @ 6"	S	08.16.2019 00:00	6 In	634691-033
FL-34 @ 6"	S	08.16.2019 00:00	6 In	634691-034
FL-35 @ 6"	S	08.16.2019 00:00	6 In	634691-035
FL-36 @ 6"	S	08.16.2019 00:00	6 In	634691-036
FL-37 @ 6"	S	08.16.2019 00:00	6 In	634691-037
FL-38 @ 3'	S	08.16.2019 00:00	3 ft	634691-038
ESW @ 1.5'	S	08.16.2019 00:00	1.5 ft	634691-039

**CASE NARRATIVE****Client Name: Tasman Geosciences, LLC****Project Name: Red Hills Station**Project ID:
Work Order Number(s): 634691Report Date: 08.28.2019
Date Received: 08.21.2019

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:**Sample receipt non conformances and comments per sample:**

None

Analytical non conformances and comments:

Batch: LBA-3099368 Inorganic Anions by EPA 300/300.1

Lab Sample ID 634691-032 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride 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: 634691-022, -023, -024, -025, -026, -027, -028, -029, -030, -031, -032, -033, -034, -035, -036, -037, -038, -039.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3099591 BTEX by EPA 8021

o-Xylene Relative Percent Difference (RPD) between matrix spike and duplicate was above quality control limits.

Samples in the analytical batch are: 634691-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020

Lab Sample ID 634691-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m_p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 634691-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020.

The Laboratory Control Sample for Toluene, Benzene, Ethylbenzene, m_p-Xylenes, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

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

**CASE NARRATIVE****Client Name: Tasman Geosciences, LLC****Project Name: Red Hills Station**

Project ID:
Work Order Number(s): 634691

Report Date: 08.28.2019
Date Received: 08.21.2019

Batch: LBA-3099903 BTEX by EPA 8021

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

Benzene, Ethylbenzene, Toluene, m_p-Xylenes, o-Xylene Relative Percent Difference (RPD) between matrix spike and duplicate were above quality control limits.

Samples in the analytical batch are: 634691-021, -022, -023, -024, -025, -026, -027, -028, -029, -030, -031, -032, -033, -034, -035, -036, -037, -038, -039

Lab Sample ID 634691-023 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).

Benzene, Ethylbenzene, Toluene, m_p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 634691-021, -022, -023, -024, -025, -026, -027, -028, -029, -030, -031, -032, -033, -034, -035, -036, -037, -038, -039.

The Laboratory Control Sample for Toluene, Benzene, Ethylbenzene, m_p-Xylenes, o-Xylene is within laboratory Control Limits, therefore the data was accepted.



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-1 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-001

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099237

Date Prep: 08.21.2019 12:45

Prep seq: 7684668

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	41.5	4.97	0.853	mg/kg	08.21.2019 17:25		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099456

Date Prep: 08.21.2019 13:00

Prep seq: 7684697

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	08.22.2019 09:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	175	50.0	25.0	mg/kg	08.22.2019 09:00		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	43.1	50.0	25.0	mg/kg	08.22.2019 09:00	J	1
Total TPH	PHC635	218		15.0	mg/kg	08.22.2019 09:00		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	100	70 - 135	%		
o-Terphenyl	102	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099591

Date Prep: 08.22.2019 12:30

Prep seq: 7684802

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000384	0.00200	0.000384	mg/kg	08.24.2019 02:48	UX	1
Toluene	108-88-3	<0.000455	0.00200	0.000455	mg/kg	08.24.2019 02:48	UX	1
Ethylbenzene	100-41-4	<0.000564	0.00200	0.000564	mg/kg	08.24.2019 02:48	UX	1
m_p-Xylenes	179601-23-1	<0.00101	0.00399	0.00101	mg/kg	08.24.2019 02:48	UX	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	08.24.2019 02:48	UXF	1
Xylenes, Total	1330-20-7	<0.000344		0.000344	mg/kg	08.24.2019 02:48	U	
Total BTEX		<0.000344		0.000344	mg/kg	08.24.2019 02:48	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	95	70 - 130	%		
4-Bromofluorobenzene	121	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-2 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-002

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099367

Date Prep: 08.21.2019 14:10

Prep seq: 7684682

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	366	4.97	0.853	mg/kg	08.22.2019 09:19		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099456

Date Prep: 08.21.2019 13:00

Prep seq: 7684697

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	49.9	15.0	mg/kg	08.22.2019 09:58	U	1
Diesel Range Organics (DRO)	C10C28DRO	438	49.9	25.0	mg/kg	08.22.2019 09:58		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	120	49.9	25.0	mg/kg	08.22.2019 09:58		1
Total TPH	PHC635	558		15.0	mg/kg	08.22.2019 09:58		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	101	70 - 135	%		
o-Terphenyl	115	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099591

Date Prep: 08.22.2019 12:30

Prep seq: 7684802

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000388	0.00202	0.000388	mg/kg	08.24.2019 03:09	U	1
Toluene	108-88-3	<0.000459	0.00202	0.000459	mg/kg	08.24.2019 03:09	U	1
Ethylbenzene	100-41-4	<0.000569	0.00202	0.000569	mg/kg	08.24.2019 03:09	U	1
m_p-Xylenes	179601-23-1	<0.00102	0.00403	0.00102	mg/kg	08.24.2019 03:09	U	1
o-Xylene	95-47-6	<0.000347	0.00202	0.000347	mg/kg	08.24.2019 03:09	U	1
Xylenes, Total	1330-20-7	<0.000347		0.000347	mg/kg	08.24.2019 03:09	U	
Total BTEX		<0.000347		0.000347	mg/kg	08.24.2019 03:09	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	95	70 - 130	%		
4-Bromofluorobenzene	114	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-3 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-003

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099367

Date Prep: 08.21.2019 14:10

Prep seq: 7684682

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	296	5.03	0.864	mg/kg	08.22.2019 09:38		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099456

Date Prep: 08.21.2019 13:00

Prep seq: 7684697

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	08.22.2019 10:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	1970	50.0	25.0	mg/kg	08.22.2019 10:18		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	421	50.0	25.0	mg/kg	08.22.2019 10:18		1
Total TPH	PHC635	2390		15.0	mg/kg	08.22.2019 10:18		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	116	70 - 135	%		
o-Terphenyl	100	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099591

Date Prep: 08.22.2019 12:30

Prep seq: 7684802

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000382	0.00198	0.000382	mg/kg	08.24.2019 03:31	U	1
Toluene	108-88-3	<0.000452	0.00198	0.000452	mg/kg	08.24.2019 03:31	U	1
Ethylbenzene	100-41-4	<0.000560	0.00198	0.000560	mg/kg	08.24.2019 03:31	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00397	0.00101	mg/kg	08.24.2019 03:31	U	1
o-Xylene	95-47-6	<0.000342	0.00198	0.000342	mg/kg	08.24.2019 03:31	U	1
Xylenes, Total	1330-20-7	<0.000342		0.000342	mg/kg	08.24.2019 03:31	U	
Total BTEX		<0.000342		0.000342	mg/kg	08.24.2019 03:31	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	103	70 - 130	%		
4-Bromofluorobenzene	129	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-4 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-004

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099367

Date Prep: 08.21.2019 14:10

Prep seq: 7684682

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	87.3	4.99	0.857	mg/kg	08.22.2019 09:45		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099456

Date Prep: 08.21.2019 13:00

Prep seq: 7684697

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	08.22.2019 10:37	U	1
Diesel Range Organics (DRO)	C10C28DRO	2230	50.0	25.0	mg/kg	08.22.2019 10:37		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	507	50.0	25.0	mg/kg	08.22.2019 10:37		1
Total TPH	PHC635	2740		15.0	mg/kg	08.22.2019 10:37		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	98	70 - 135	%		
o-Terphenyl	86	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099591

Date Prep: 08.22.2019 12:30

Prep seq: 7684802

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000384	0.00200	0.000384	mg/kg	08.24.2019 03:53	U	1
Toluene	108-88-3	<0.000455	0.00200	0.000455	mg/kg	08.24.2019 03:53	U	1
Ethylbenzene	100-41-4	<0.000564	0.00200	0.000564	mg/kg	08.24.2019 03:53	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00399	0.00101	mg/kg	08.24.2019 03:53	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	08.24.2019 03:53	U	1
Xylenes, Total	1330-20-7	<0.000344		0.000344	mg/kg	08.24.2019 03:53	U	
Total BTEX		<0.000344		0.000344	mg/kg	08.24.2019 03:53	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	102	70 - 130	%		
4-Bromofluorobenzene	127	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-5 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-005

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099367

Date Prep: 08.21.2019 14:10

Prep seq: 7684682

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	38.8	4.97	0.853	mg/kg	08.22.2019 09:51		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099456

Date Prep: 08.21.2019 13:00

Prep seq: 7684697

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	49.9	15.0	mg/kg	08.22.2019 10:57	U	1
Diesel Range Organics (DRO)	C10C28DRO	101	49.9	24.9	mg/kg	08.22.2019 10:57		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	25.5	49.9	24.9	mg/kg	08.22.2019 10:57	J	1
Total TPH	PHC635	127		15.0	mg/kg	08.22.2019 10:57		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	106	70 - 135	%		
o-Terphenyl	107	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099591

Date Prep: 08.22.2019 12:30

Prep seq: 7684802

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	08.24.2019 04:13	U	1
Toluene	108-88-3	<0.000454	0.00199	0.000454	mg/kg	08.24.2019 04:13	U	1
Ethylbenzene	100-41-4	<0.000563	0.00199	0.000563	mg/kg	08.24.2019 04:13	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	08.24.2019 04:13	U	1
o-Xylene	95-47-6	<0.000343	0.00199	0.000343	mg/kg	08.24.2019 04:13	U	1
Xylenes, Total	1330-20-7	<0.000343		0.000343	mg/kg	08.24.2019 04:13	U	
Total BTEX		<0.000343		0.000343	mg/kg	08.24.2019 04:13	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	94	70 - 130	%		
4-Bromofluorobenzene	123	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-6 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-006

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099367

Date Prep: 08.21.2019 14:10

Prep seq: 7684682

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	125	5.04	0.865	mg/kg	08.22.2019 09:57		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099456

Date Prep: 08.21.2019 13:00

Prep seq: 7684697

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	49.8	14.9	mg/kg	08.22.2019 11:16	U	1
Diesel Range Organics (DRO)	C10C28DRO	2810	49.8	24.9	mg/kg	08.22.2019 11:16		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	592	49.8	24.9	mg/kg	08.22.2019 11:16		1
Total TPH	PHC635	3400		14.9	mg/kg	08.22.2019 11:16		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	95	70 - 135	%		
o-Terphenyl	89	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099591

Date Prep: 08.22.2019 12:30

Prep seq: 7684802

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	08.24.2019 04:34	U	1
Toluene	108-88-3	<0.000454	0.00199	0.000454	mg/kg	08.24.2019 04:34	U	1
Ethylbenzene	100-41-4	<0.000563	0.00199	0.000563	mg/kg	08.24.2019 04:34	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	08.24.2019 04:34	U	1
o-Xylene	95-47-6	<0.000343	0.00199	0.000343	mg/kg	08.24.2019 04:34	U	1
Xylenes, Total	1330-20-7	<0.000343		0.000343	mg/kg	08.24.2019 04:34	U	
Total BTEX		<0.000343		0.000343	mg/kg	08.24.2019 04:34	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	101	70 - 130	%		
4-Bromofluorobenzene	120	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-7 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-007

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099367

Date Prep: 08.21.2019 14:10

Prep seq: 7684682

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	113	4.99	0.857	mg/kg	08.22.2019 10:16		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099456

Date Prep: 08.21.2019 13:00

Prep seq: 7684697

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	08.22.2019 15:43	U	1
Diesel Range Organics (DRO)	C10C28DRO	443	50.0	25.0	mg/kg	08.22.2019 15:43		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	103	50.0	25.0	mg/kg	08.22.2019 15:43		1
Total TPH	PHC635	546		15.0	mg/kg	08.22.2019 15:43		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	101	70 - 135	%		
o-Terphenyl	112	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099591

Date Prep: 08.22.2019 12:30

Prep seq: 7684802

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000384	0.00200	0.000384	mg/kg	08.24.2019 04:55	U	1
Toluene	108-88-3	<0.000455	0.00200	0.000455	mg/kg	08.24.2019 04:55	U	1
Ethylbenzene	100-41-4	<0.000564	0.00200	0.000564	mg/kg	08.24.2019 04:55	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00399	0.00101	mg/kg	08.24.2019 04:55	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	08.24.2019 04:55	U	1
Xylenes, Total	1330-20-7	<0.000344		0.000344	mg/kg	08.24.2019 04:55	U	
Total BTEX		<0.000344		0.000344	mg/kg	08.24.2019 04:55	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	94	70 - 130	%		
4-Bromofluorobenzene	103	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-8 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-008

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099367

Date Prep: 08.21.2019 14:10

Prep seq: 7684682

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	45.9	4.97	0.853	mg/kg	08.22.2019 10:23		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099456

Date Prep: 08.21.2019 13:00

Prep seq: 7684697

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	08.22.2019 16:02	U	1
Diesel Range Organics (DRO)	C10C28DRO	417	50.0	25.0	mg/kg	08.22.2019 16:02		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	94.4	50.0	25.0	mg/kg	08.22.2019 16:02		1
Total TPH	PHC635	511		15.0	mg/kg	08.22.2019 16:02		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	109	70 - 135	%		
o-Terphenyl	124	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099591

Date Prep: 08.22.2019 12:30

Prep seq: 7684802

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000386	0.00200	0.000386	mg/kg	08.24.2019 05:16	U	1
Toluene	108-88-3	<0.000457	0.00200	0.000457	mg/kg	08.24.2019 05:16	U	1
Ethylbenzene	100-41-4	<0.000566	0.00200	0.000566	mg/kg	08.24.2019 05:16	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00401	0.00102	mg/kg	08.24.2019 05:16	U	1
o-Xylene	95-47-6	<0.000345	0.00200	0.000345	mg/kg	08.24.2019 05:16	U	1
Xylenes, Total	1330-20-7	<0.000345		0.000345	mg/kg	08.24.2019 05:16	U	
Total BTEX		<0.000345		0.000345	mg/kg	08.24.2019 05:16	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	98	70 - 130	%		
4-Bromofluorobenzene	120	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-9 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-009

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099367

Date Prep: 08.21.2019 14:10

Prep seq: 7684682

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	95.4	5.05	0.867	mg/kg	08.22.2019 10:29		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099456

Date Prep: 08.21.2019 13:00

Prep seq: 7684697

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	16.8	49.9	15.0	mg/kg	08.22.2019 16:21	J	1
Diesel Range Organics (DRO)	C10C28DRO	550	49.9	25.0	mg/kg	08.22.2019 16:21		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	131	49.9	25.0	mg/kg	08.22.2019 16:21		1
Total TPH	PHC635	698		15.0	mg/kg	08.22.2019 16:21		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	108	70 - 135	%		
o-Terphenyl	122	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099591

Date Prep: 08.22.2019 12:30

Prep seq: 7684802

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000382	0.00198	0.000382	mg/kg	08.24.2019 05:37	U	1
Toluene	108-88-3	<0.000452	0.00198	0.000452	mg/kg	08.24.2019 05:37	U	1
Ethylbenzene	100-41-4	<0.000560	0.00198	0.000560	mg/kg	08.24.2019 05:37	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00397	0.00101	mg/kg	08.24.2019 05:37	U	1
o-Xylene	95-47-6	<0.000342	0.00198	0.000342	mg/kg	08.24.2019 05:37	U	1
Xylenes, Total	1330-20-7	<0.000342		0.000342	mg/kg	08.24.2019 05:37	U	
Total BTEX		<0.000342		0.000342	mg/kg	08.24.2019 05:37	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	101	70 - 130	%		
4-Bromofluorobenzene	127	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-10 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-010

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099367

Date Prep: 08.21.2019 14:10

Prep seq: 7684682

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	156	4.95	0.850	mg/kg	08.22.2019 10:35		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099456

Date Prep: 08.21.2019 13:00

Prep seq: 7684697

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	15.3	50.0	15.0	mg/kg	08.22.2019 16:40	J	1
Diesel Range Organics (DRO)	C10C28DRO	2010	50.0	25.0	mg/kg	08.22.2019 16:40		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	564	50.0	25.0	mg/kg	08.22.2019 16:40		1
Total TPH	PHC635	2590		15.0	mg/kg	08.22.2019 16:40		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	106	70 - 135	%		
o-Terphenyl	115	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099591

Date Prep: 08.22.2019 12:30

Prep seq: 7684802

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	08.24.2019 05:58	U	1
Toluene	108-88-3	<0.000453	0.00199	0.000453	mg/kg	08.24.2019 05:58	U	1
Ethylbenzene	100-41-4	<0.000561	0.00199	0.000561	mg/kg	08.24.2019 05:58	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	08.24.2019 05:58	U	1
o-Xylene	95-47-6	<0.000342	0.00199	0.000342	mg/kg	08.24.2019 05:58	U	1
Xylenes, Total	1330-20-7	<0.000342		0.000342	mg/kg	08.24.2019 05:58	U	
Total BTEX		<0.000342		0.000342	mg/kg	08.24.2019 05:58	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	101	70 - 130	%		
4-Bromofluorobenzene	122	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-11 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-011

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099367

Date Prep: 08.21.2019 14:10

Prep seq: 7684682

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	47.2	4.95	0.850	mg/kg	08.22.2019 10:41		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099456

Date Prep: 08.21.2019 13:00

Prep seq: 7684697

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	16.9	49.9	15.0	mg/kg	08.22.2019 17:18	J	1
Diesel Range Organics (DRO)	C10C28DRO	233	49.9	24.9	mg/kg	08.22.2019 17:18		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	51.3	49.9	24.9	mg/kg	08.22.2019 17:18		1
Total TPH	PHC635	301		15.0	mg/kg	08.22.2019 17:18		

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

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099591

Date Prep: 08.22.2019 12:30

Prep seq: 7684802

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	08.24.2019 07:23	U	1
Toluene	108-88-3	<0.000454	0.00199	0.000454	mg/kg	08.24.2019 07:23	U	1
Ethylbenzene	100-41-4	<0.000563	0.00199	0.000563	mg/kg	08.24.2019 07:23	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	08.24.2019 07:23	U	1
o-Xylene	95-47-6	<0.000343	0.00199	0.000343	mg/kg	08.24.2019 07:23	U	1
Xylenes, Total	1330-20-7	<0.000343		0.000343	mg/kg	08.24.2019 07:23	U	
Total BTEX		<0.000343		0.000343	mg/kg	08.24.2019 07:23	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	95	70 - 130	%		
4-Bromofluorobenzene	114	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-12 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-012

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099367

Date Prep: 08.21.2019 14:10

Prep seq: 7684682

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	5.70	4.95	0.850	mg/kg	08.22.2019 10:48		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099456

Date Prep: 08.21.2019 13:00

Prep seq: 7684697

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	08.22.2019 17:38	U	1
Diesel Range Organics (DRO)	C10C28DRO	74.7	50.0	25.0	mg/kg	08.22.2019 17:38		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	50.0	25.0	mg/kg	08.22.2019 17:38	U	1
Total TPH	PHC635	74.7		15.0	mg/kg	08.22.2019 17:38		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	111	70 - 135	%		
o-Terphenyl	116	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099591

Date Prep: 08.22.2019 12:30

Prep seq: 7684802

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	08.24.2019 07:43	U	1
Toluene	108-88-3	<0.000454	0.00199	0.000454	mg/kg	08.24.2019 07:43	U	1
Ethylbenzene	100-41-4	<0.000563	0.00199	0.000563	mg/kg	08.24.2019 07:43	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	08.24.2019 07:43	U	1
o-Xylene	95-47-6	<0.000343	0.00199	0.000343	mg/kg	08.24.2019 07:43	U	1
Xylenes, Total	1330-20-7	<0.000343		0.000343	mg/kg	08.24.2019 07:43	U	
Total BTEX		<0.000343		0.000343	mg/kg	08.24.2019 07:43	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	107	70 - 130	%		
4-Bromofluorobenzene	97	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-13 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-013

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099367

Date Prep: 08.21.2019 14:10

Prep seq: 7684682

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	51.6	5.00	0.858	mg/kg	08.22.2019 11:07		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099456

Date Prep: 08.21.2019 13:00

Prep seq: 7684697

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	49.8	14.9	mg/kg	08.22.2019 17:57	U	1
Diesel Range Organics (DRO)	C10C28DRO	453	49.8	24.9	mg/kg	08.22.2019 17:57		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	99.6	49.8	24.9	mg/kg	08.22.2019 17:57		1
Total TPH	PHC635	553		14.9	mg/kg	08.22.2019 17:57		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	122	70 - 135	%		
o-Terphenyl	129	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099591

Date Prep: 08.22.2019 12:30

Prep seq: 7684802

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000387	0.00201	0.000387	mg/kg	08.24.2019 08:03	U	1
Toluene	108-88-3	<0.000458	0.00201	0.000458	mg/kg	08.24.2019 08:03	U	1
Ethylbenzene	100-41-4	<0.000568	0.00201	0.000568	mg/kg	08.24.2019 08:03	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	08.24.2019 08:03	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	08.24.2019 08:03	U	1
Xylenes, Total	1330-20-7	<0.000346		0.000346	mg/kg	08.24.2019 08:03	U	
Total BTEX		<0.000346		0.000346	mg/kg	08.24.2019 08:03	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	99	70 - 130	%		
4-Bromofluorobenzene	118	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-14 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-014

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099367

Date Prep: 08.21.2019 14:10

Prep seq: 7684682

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	137	5.02	0.862	mg/kg	08.22.2019 11:13		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099456

Date Prep: 08.21.2019 13:00

Prep seq: 7684697

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	08.22.2019 18:16	U	1
Diesel Range Organics (DRO)	C10C28DRO	758	50.0	25.0	mg/kg	08.22.2019 18:16		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	169	50.0	25.0	mg/kg	08.22.2019 18:16		1
Total TPH	PHC635	927		15.0	mg/kg	08.22.2019 18:16		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	106	70 - 135	%		
o-Terphenyl	127	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099591

Date Prep: 08.22.2019 12:30

Prep seq: 7684802

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000386	0.00200	0.000386	mg/kg	08.24.2019 08:23	U	1
Toluene	108-88-3	<0.000457	0.00200	0.000457	mg/kg	08.24.2019 08:23	U	1
Ethylbenzene	100-41-4	<0.000566	0.00200	0.000566	mg/kg	08.24.2019 08:23	U	1
m_p-Xylenes	179601-23-1	<0.00102	0.00401	0.00102	mg/kg	08.24.2019 08:23	U	1
o-Xylene	95-47-6	<0.000345	0.00200	0.000345	mg/kg	08.24.2019 08:23	U	1
Xylenes, Total	1330-20-7	<0.000345		0.000345	mg/kg	08.24.2019 08:23	U	
Total BTEX		<0.000345		0.000345	mg/kg	08.24.2019 08:23	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	101	70 - 130	%		
4-Bromofluorobenzene	117	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-15 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-015

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099367

Date Prep: 08.21.2019 14:10

Prep seq: 7684682

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	44.6	4.99	0.857	mg/kg	08.22.2019 11:32		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099456

Date Prep: 08.21.2019 13:00

Prep seq: 7684697

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	16.3	49.9	15.0	mg/kg	08.22.2019 18:35	J	1
Diesel Range Organics (DRO)	C10C28DRO	2710	49.9	24.9	mg/kg	08.22.2019 18:35		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	550	49.9	24.9	mg/kg	08.22.2019 18:35		1
Total TPH	PHC635	3280		15.0	mg/kg	08.22.2019 18:35		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	117	70 - 135	%		
o-Terphenyl	110	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099591

Date Prep: 08.22.2019 12:30

Prep seq: 7684802

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	08.24.2019 08:44	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	08.24.2019 08:44	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	08.24.2019 08:44	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	08.24.2019 08:44	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	08.24.2019 08:44	U	1
Xylenes, Total	1330-20-7	<0.000344		0.000344	mg/kg	08.24.2019 08:44	U	
Total BTEX		<0.000344		0.000344	mg/kg	08.24.2019 08:44	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	101	70 - 130	%		
4-Bromofluorobenzene	122	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-16 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-016

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099367

Date Prep: 08.21.2019 14:10

Prep seq: 7684682

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	3.39	4.96	0.852	mg/kg	08.22.2019 11:38	J	1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099456

Date Prep: 08.21.2019 13:00

Prep seq: 7684697

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	08.22.2019 18:55	U	1
Diesel Range Organics (DRO)	C10C28DRO	77.4	50.0	25.0	mg/kg	08.22.2019 18:55		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	50.0	25.0	mg/kg	08.22.2019 18:55	U	1
Total TPH	PHC635	77.4		15.0	mg/kg	08.22.2019 18:55		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	122	70 - 135	%		
o-Terphenyl	124	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099591

Date Prep: 08.22.2019 12:30

Prep seq: 7684802

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	08.24.2019 09:04	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	08.24.2019 09:04	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	08.24.2019 09:04	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	08.24.2019 09:04	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	08.24.2019 09:04	U	1
Xylenes, Total	1330-20-7	<0.000344		0.000344	mg/kg	08.24.2019 09:04	U	
Total BTEX		<0.000344		0.000344	mg/kg	08.24.2019 09:04	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	102	70 - 130	%		
4-Bromofluorobenzene	127	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-17 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-017

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099367

Date Prep: 08.21.2019 14:10

Prep seq: 7684682

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	76.2	5.02	0.862	mg/kg	08.22.2019 11:45		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099456

Date Prep: 08.21.2019 13:00

Prep seq: 7684697

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	17.3	50.0	15.0	mg/kg	08.22.2019 19:14	J	1
Diesel Range Organics (DRO)	C10C28DRO	906	50.0	25.0	mg/kg	08.22.2019 19:14		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	202	50.0	25.0	mg/kg	08.22.2019 19:14		1
Total TPH	PHC635	1130		15.0	mg/kg	08.22.2019 19:14		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	112	70 - 135	%		
o-Terphenyl	130	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099591

Date Prep: 08.22.2019 12:30

Prep seq: 7684802

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000386	0.00201	0.000386	mg/kg	08.24.2019 09:24	U	1
Toluene	108-88-3	<0.000457	0.00201	0.000457	mg/kg	08.24.2019 09:24	U	1
Ethylbenzene	100-41-4	<0.000567	0.00201	0.000567	mg/kg	08.24.2019 09:24	U	1
m_p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	08.24.2019 09:24	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	08.24.2019 09:24	U	1
Xylenes, Total	1330-20-7	<0.000346		0.000346	mg/kg	08.24.2019 09:24	U	
Total BTEX		<0.000346		0.000346	mg/kg	08.24.2019 09:24	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	101	70 - 130	%		
4-Bromofluorobenzene	128	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-18 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-018

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099367

Date Prep: 08.21.2019 14:10

Prep seq: 7684682

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	71.9	5.00	0.858	mg/kg	08.22.2019 11:51		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099456

Date Prep: 08.21.2019 13:00

Prep seq: 7684697

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	08.22.2019 19:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	147	50.0	25.0	mg/kg	08.22.2019 19:33		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	32.5	50.0	25.0	mg/kg	08.22.2019 19:33	J	1
Total TPH	PHC635	180		15.0	mg/kg	08.22.2019 19:33		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	119	70 - 135	%		
o-Terphenyl	125	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099591

Date Prep: 08.22.2019 12:30

Prep seq: 7684802

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000382	0.00198	0.000382	mg/kg	08.24.2019 09:44	U	1
Toluene	108-88-3	<0.000452	0.00198	0.000452	mg/kg	08.24.2019 09:44	U	1
Ethylbenzene	100-41-4	<0.000560	0.00198	0.000560	mg/kg	08.24.2019 09:44	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00397	0.00101	mg/kg	08.24.2019 09:44	U	1
o-Xylene	95-47-6	<0.000342	0.00198	0.000342	mg/kg	08.24.2019 09:44	U	1
Xylenes, Total	1330-20-7	<0.000342		0.000342	mg/kg	08.24.2019 09:44	U	
Total BTEX		<0.000342		0.000342	mg/kg	08.24.2019 09:44	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	103	70 - 130	%		
4-Bromofluorobenzene	120	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-19 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-019

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099367

Date Prep: 08.21.2019 14:10

Prep seq: 7684682

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	32.7	5.00	0.858	mg/kg	08.22.2019 11:57		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099456

Date Prep: 08.21.2019 13:00

Prep seq: 7684697

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	49.9	15.0	mg/kg	08.22.2019 19:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	389	49.9	24.9	mg/kg	08.22.2019 19:53		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	91.5	49.9	24.9	mg/kg	08.22.2019 19:53		1
Total TPH	PHC635	481		15.0	mg/kg	08.22.2019 19:53		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	118	70 - 135	%		
o-Terphenyl	127	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099591

Date Prep: 08.22.2019 12:30

Prep seq: 7684802

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000384	0.00200	0.000384	mg/kg	08.24.2019 10:04	U	1
Toluene	108-88-3	<0.000455	0.00200	0.000455	mg/kg	08.24.2019 10:04	U	1
Ethylbenzene	100-41-4	<0.000564	0.00200	0.000564	mg/kg	08.24.2019 10:04	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00399	0.00101	mg/kg	08.24.2019 10:04	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	08.24.2019 10:04	U	1
Xylenes, Total	1330-20-7	<0.000344		0.000344	mg/kg	08.24.2019 10:04	U	
Total BTEX		<0.000344		0.000344	mg/kg	08.24.2019 10:04	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	102	70 - 130	%		
4-Bromofluorobenzene	118	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-20 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-020

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099367

Date Prep: 08.21.2019 14:10

Prep seq: 7684682

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	90.5	5.00	0.858	mg/kg	08.22.2019 12:04		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099456

Date Prep: 08.21.2019 13:00

Prep seq: 7684697

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	08.22.2019 20:12	U	1
Diesel Range Organics (DRO)	C10C28DRO	359	50.0	25.0	mg/kg	08.22.2019 20:12		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	87.4	50.0	25.0	mg/kg	08.22.2019 20:12		1
Total TPH	PHC635	446		15.0	mg/kg	08.22.2019 20:12		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	106	70 - 135	%		
o-Terphenyl	121	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099591

Date Prep: 08.22.2019 12:30

Prep seq: 7684802

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000381	0.00198	0.000381	mg/kg	08.24.2019 10:24	U	1
Toluene	108-88-3	<0.000451	0.00198	0.000451	mg/kg	08.24.2019 10:24	U	1
Ethylbenzene	100-41-4	<0.000559	0.00198	0.000559	mg/kg	08.24.2019 10:24	U	1
m_p-Xylenes	179601-23-1	<0.00100	0.00396	0.00100	mg/kg	08.24.2019 10:24	U	1
o-Xylene	95-47-6	<0.000341	0.00198	0.000341	mg/kg	08.24.2019 10:24	U	1
Xylenes, Total	1330-20-7	<0.000341		0.000341	mg/kg	08.24.2019 10:24	U	
Total BTEX		<0.000341		0.000341	mg/kg	08.24.2019 10:24	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	103	70 - 130	%		
4-Bromofluorobenzene	122	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-21 @ 1'**

Matrix: Soil

Sample Depth: 1 ft

Lab Sample Id: 634691-021

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099367

Date Prep: 08.21.2019 14:10

Prep seq: 7684682

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	5.98	4.99	0.857	mg/kg	08.22.2019 12:10		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099458

Date Prep: 08.21.2019 15:00

Prep seq: 7684703

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	08.22.2019 21:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	141	50.0	25.0	mg/kg	08.22.2019 21:48		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	33.3	50.0	25.0	mg/kg	08.22.2019 21:48	J	1
Total TPH	PHC635	174		15.0	mg/kg	08.22.2019 21:48		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	101	70 - 135	%		
o-Terphenyl	106	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099903

Date Prep: 08.22.2019 16:00

Prep seq: 7684803

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000389	0.00202	0.000389	mg/kg	08.23.2019 15:52	U	1
Toluene	108-88-3	<0.000460	0.00202	0.000460	mg/kg	08.23.2019 15:52	U	1
Ethylbenzene	100-41-4	<0.000570	0.00202	0.000570	mg/kg	08.23.2019 15:52	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00404	0.00102	mg/kg	08.23.2019 15:52	U	1
o-Xylene	95-47-6	<0.000348	0.00202	0.000348	mg/kg	08.23.2019 15:52	U	1
Xylenes, Total	1330-20-7	<0.000348		0.000348	mg/kg	08.23.2019 15:52	U	
Total BTEX		<0.000348		0.000348	mg/kg	08.23.2019 15:52	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	105	70 - 130	%		
4-Bromofluorobenzene	100	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-22 @ 2'**

Matrix: Soil

Sample Depth: 2 ft

Lab Sample Id: 634691-022

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099368

Date Prep: 08.21.2019 14:20

Prep seq: 7684683

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	5.73	4.95	0.850	mg/kg	08.22.2019 12:48		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099458

Date Prep: 08.21.2019 15:00

Prep seq: 7684703

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	08.22.2019 22:46	U	1
Diesel Range Organics (DRO)	C10C28DRO	127	50.0	25.0	mg/kg	08.22.2019 22:46		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	27.6	50.0	25.0	mg/kg	08.22.2019 22:46	J	1
Total TPH	PHC635	155		15.0	mg/kg	08.22.2019 22:46		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	104	70 - 135	%		
o-Terphenyl	110	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099903

Date Prep: 08.22.2019 16:00

Prep seq: 7684803

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	08.23.2019 16:12	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	08.23.2019 16:12	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	08.23.2019 16:12	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	08.23.2019 16:12	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	08.23.2019 16:12	U	1
Xylenes, Total	1330-20-7	<0.000344		0.000344	mg/kg	08.23.2019 16:12	U	
Total BTEX		<0.000344		0.000344	mg/kg	08.23.2019 16:12	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	103	70 - 130	%		
4-Bromofluorobenzene	104	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-23 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-023

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099368

Date Prep: 08.21.2019 14:20

Prep seq: 7684683

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	43.1	4.99	0.857	mg/kg	08.22.2019 13:07		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099458

Date Prep: 08.21.2019 15:00

Prep seq: 7684703

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	49.9	15.0	mg/kg	08.22.2019 23:06	U	1
Diesel Range Organics (DRO)	C10C28DRO	772	49.9	25.0	mg/kg	08.22.2019 23:06		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	149	49.9	25.0	mg/kg	08.22.2019 23:06		1
Total TPH	PHC635	921		15.0	mg/kg	08.22.2019 23:06		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	109	70 - 135	%		
o-Terphenyl	129	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099903

Date Prep: 08.22.2019 16:00

Prep seq: 7684803

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	08.23.2019 16:32	UXF	1
Toluene	108-88-3	<0.000454	0.00199	0.000454	mg/kg	08.23.2019 16:32	UXF	1
Ethylbenzene	100-41-4	<0.000563	0.00199	0.000563	mg/kg	08.23.2019 16:32	UXXF	1
m_p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	08.23.2019 16:32	UXXF	1
o-Xylene	95-47-6	<0.000343	0.00199	0.000343	mg/kg	08.23.2019 16:32	UXF	1
Xylenes, Total	1330-20-7	<0.000343		0.000343	mg/kg	08.23.2019 16:32	U	
Total BTEX		<0.000343		0.000343	mg/kg	08.23.2019 16:32	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	104	70 - 130	%		
4-Bromofluorobenzene	106	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-24 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-024

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099368

Date Prep: 08.21.2019 14:20

Prep seq: 7684683

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	13.3	4.98	0.855	mg/kg	08.22.2019 13:13		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099458

Date Prep: 08.21.2019 15:00

Prep seq: 7684703

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	08.22.2019 23:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	630	50.0	25.0	mg/kg	08.22.2019 23:25		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	118	50.0	25.0	mg/kg	08.22.2019 23:25		1
Total TPH	PHC635	748		15.0	mg/kg	08.22.2019 23:25		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	103	70 - 135	%		
o-Terphenyl	118	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099903

Date Prep: 08.22.2019 16:00

Prep seq: 7684803

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000386	0.00201	0.000386	mg/kg	08.23.2019 16:52	U	1
Toluene	108-88-3	0.000572	0.00201	0.000457	mg/kg	08.23.2019 16:52	J	1
Ethylbenzene	100-41-4	<0.000567	0.00201	0.000567	mg/kg	08.23.2019 16:52	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	08.23.2019 16:52	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	08.23.2019 16:52	U	1
Xylenes, Total	1330-20-7	<0.000346		0.000346	mg/kg	08.23.2019 16:52	U	
Total BTEX		0.000572		0.000346	mg/kg	08.23.2019 16:52	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	106	70 - 130	%		
4-Bromofluorobenzene	111	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-25 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-025

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099368

Date Prep: 08.21.2019 14:20

Prep seq: 7684683

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	16.2	5.00	0.858	mg/kg	08.22.2019 13:23		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099458

Date Prep: 08.21.2019 15:00

Prep seq: 7684703

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	08.22.2019 23:44	U	1
Diesel Range Organics (DRO)	C10C28DRO	1990	50.0	25.0	mg/kg	08.22.2019 23:44		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	326	50.0	25.0	mg/kg	08.22.2019 23:44		1
Total TPH	PHC635	2320		15.0	mg/kg	08.22.2019 23:44		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	118	70 - 135	%		
o-Terphenyl	129	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099903

Date Prep: 08.22.2019 16:00

Prep seq: 7684803

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000382	0.00198	0.000382	mg/kg	08.23.2019 17:13	U	1
Toluene	108-88-3	<0.000452	0.00198	0.000452	mg/kg	08.23.2019 17:13	U	1
Ethylbenzene	100-41-4	<0.000560	0.00198	0.000560	mg/kg	08.23.2019 17:13	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00397	0.00101	mg/kg	08.23.2019 17:13	U	1
o-Xylene	95-47-6	<0.000342	0.00198	0.000342	mg/kg	08.23.2019 17:13	U	1
Xylenes, Total	1330-20-7	<0.000342		0.000342	mg/kg	08.23.2019 17:13	U	
Total BTEX		<0.000342		0.000342	mg/kg	08.23.2019 17:13	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	102	70 - 130	%		
4-Bromofluorobenzene	109	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-26 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-026

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099368

Date Prep: 08.21.2019 14:20

Prep seq: 7684683

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	7.41	4.96	0.852	mg/kg	08.22.2019 13:29		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099458

Date Prep: 08.21.2019 15:00

Prep seq: 7684703

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	16.9	49.8	14.9	mg/kg	08.23.2019 00:03	J	1
Diesel Range Organics (DRO)	C10C28DRO	49.9	49.8	24.9	mg/kg	08.23.2019 00:03		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	49.8	24.9	mg/kg	08.23.2019 00:03	U	1
Total TPH	PHC635	66.8		14.9	mg/kg	08.23.2019 00:03		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	98	70 - 135	%		
o-Terphenyl	95	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099903

Date Prep: 08.22.2019 16:00

Prep seq: 7684803

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	0.00120	0.00198	0.000382	mg/kg	08.23.2019 17:33	J	1
Toluene	108-88-3	0.00141	0.00198	0.000452	mg/kg	08.23.2019 17:33	J	1
Ethylbenzene	100-41-4	<0.000560	0.00198	0.000560	mg/kg	08.23.2019 17:33	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00397	0.00101	mg/kg	08.23.2019 17:33	U	1
o-Xylene	95-47-6	<0.000342	0.00198	0.000342	mg/kg	08.23.2019 17:33	U	1
Xylenes, Total	1330-20-7	<0.000342		0.000342	mg/kg	08.23.2019 17:33	U	
Total BTEX		0.00261		0.000342	mg/kg	08.23.2019 17:33		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	101	70 - 130	%		
4-Bromofluorobenzene	108	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-27 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-027

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099368

Date Prep: 08.21.2019 14:20

Prep seq: 7684683

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	23.0	5.03	0.864	mg/kg	08.22.2019 15:49		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099458

Date Prep: 08.21.2019 15:00

Prep seq: 7684703

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	08.23.2019 00:23	U	1
Diesel Range Organics (DRO)	C10C28DRO	1120	50.0	25.0	mg/kg	08.23.2019 00:23		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	194	50.0	25.0	mg/kg	08.23.2019 00:23		1
Total TPH	PHC635	1310		15.0	mg/kg	08.23.2019 00:23		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	104	70 - 135	%		
o-Terphenyl	128	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099903

Date Prep: 08.22.2019 16:00

Prep seq: 7684803

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	08.23.2019 17:53	U	1
Toluene	108-88-3	<0.000454	0.00199	0.000454	mg/kg	08.23.2019 17:53	U	1
Ethylbenzene	100-41-4	<0.000563	0.00199	0.000563	mg/kg	08.23.2019 17:53	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	08.23.2019 17:53	U	1
o-Xylene	95-47-6	<0.000343	0.00199	0.000343	mg/kg	08.23.2019 17:53	U	1
Xylenes, Total	1330-20-7	<0.000343		0.000343	mg/kg	08.23.2019 17:53	U	
Total BTEX		<0.000343		0.000343	mg/kg	08.23.2019 17:53	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	104	70 - 130	%		
4-Bromofluorobenzene	111	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-28 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-028

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099368

Date Prep: 08.21.2019 14:20

Prep seq: 7684683

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	9.23	4.99	0.857	mg/kg	08.22.2019 15:55		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099458

Date Prep: 08.21.2019 15:00

Prep seq: 7684703

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	08.23.2019 00:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	798	50.0	25.0	mg/kg	08.23.2019 00:42		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	130	50.0	25.0	mg/kg	08.23.2019 00:42		1
Total TPH	PHC635	928		15.0	mg/kg	08.23.2019 00:42		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	105	70 - 135	%		
o-Terphenyl	123	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099903

Date Prep: 08.22.2019 16:00

Prep seq: 7684803

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000381	0.00198	0.000381	mg/kg	08.23.2019 18:13	U	1
Toluene	108-88-3	<0.000451	0.00198	0.000451	mg/kg	08.23.2019 18:13	U	1
Ethylbenzene	100-41-4	<0.000559	0.00198	0.000559	mg/kg	08.23.2019 18:13	U	1
m_p-Xylenes	179601-23-1	<0.00100	0.00396	0.00100	mg/kg	08.23.2019 18:13	U	1
o-Xylene	95-47-6	<0.000341	0.00198	0.000341	mg/kg	08.23.2019 18:13	U	1
Xylenes, Total	1330-20-7	<0.000341		0.000341	mg/kg	08.23.2019 18:13	U	
Total BTEX		<0.000341		0.000341	mg/kg	08.23.2019 18:13	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	104	70 - 130	%		
4-Bromofluorobenzene	113	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-29 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-029

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099368

Date Prep: 08.21.2019 14:20

Prep seq: 7684683

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	24.5	4.96	0.852	mg/kg	08.22.2019 16:01		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099458

Date Prep: 08.21.2019 15:00

Prep seq: 7684703

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	49.9	15.0	mg/kg	08.23.2019 01:02	U	1
Diesel Range Organics (DRO)	C10C28DRO	1070	49.9	24.9	mg/kg	08.23.2019 01:02		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	177	49.9	24.9	mg/kg	08.23.2019 01:02		1
Total TPH	PHC635	1250		15.0	mg/kg	08.23.2019 01:02		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	101	70 - 135	%		
o-Terphenyl	125	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099903

Date Prep: 08.22.2019 16:00

Prep seq: 7684803

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000386	0.00200	0.000386	mg/kg	08.23.2019 18:33	U	1
Toluene	108-88-3	0.000752	0.00200	0.000457	mg/kg	08.23.2019 18:33	J	1
Ethylbenzene	100-41-4	<0.000566	0.00200	0.000566	mg/kg	08.23.2019 18:33	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00401	0.00102	mg/kg	08.23.2019 18:33	U	1
o-Xylene	95-47-6	<0.000345	0.00200	0.000345	mg/kg	08.23.2019 18:33	U	1
Xylenes, Total	1330-20-7	<0.000345		0.000345	mg/kg	08.23.2019 18:33	U	
Total BTEX		0.000752		0.000345	mg/kg	08.23.2019 18:33	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	102	70 - 130	%		
4-Bromofluorobenzene	112	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-30 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-030

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099368

Date Prep: 08.21.2019 14:20

Prep seq: 7684683

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	30.6	4.95	0.850	mg/kg	08.22.2019 16:08		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099458

Date Prep: 08.21.2019 15:00

Prep seq: 7684703

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	16.7	49.8	14.9	mg/kg	08.23.2019 01:21	J	1
Diesel Range Organics (DRO)	C10C28DRO	872	49.8	24.9	mg/kg	08.23.2019 01:21		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	168	49.8	24.9	mg/kg	08.23.2019 01:21		1
Total TPH	PHC635	1060		14.9	mg/kg	08.23.2019 01:21		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	112	70 - 135	%		
o-Terphenyl	129	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099903

Date Prep: 08.22.2019 16:00

Prep seq: 7684803

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000386	0.00201	0.000386	mg/kg	08.23.2019 18:53	U	1
Toluene	108-88-3	0.000622	0.00201	0.000457	mg/kg	08.23.2019 18:53	J	1
Ethylbenzene	100-41-4	<0.000567	0.00201	0.000567	mg/kg	08.23.2019 18:53	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	08.23.2019 18:53	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	08.23.2019 18:53	U	1
Xylenes, Total	1330-20-7	<0.000346		0.000346	mg/kg	08.23.2019 18:53	U	
Total BTEX		0.000622		0.000346	mg/kg	08.23.2019 18:53	J	

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



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-31 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-031

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099368

Date Prep: 08.21.2019 14:20

Prep seq: 7684683

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	40.4	5.02	0.862	mg/kg	08.22.2019 16:14		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099458

Date Prep: 08.21.2019 15:00

Prep seq: 7684703

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	16.9	50.0	15.0	mg/kg	08.23.2019 02:00	J	1
Diesel Range Organics (DRO)	C10C28DRO	1550	50.0	25.0	mg/kg	08.23.2019 02:00		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	266	50.0	25.0	mg/kg	08.23.2019 02:00		1
Total TPH	PHC635	1830		15.0	mg/kg	08.23.2019 02:00		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	95	70 - 135	%		
o-Terphenyl	130	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099903

Date Prep: 08.22.2019 16:00

Prep seq: 7684803

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	0.000878	0.00200	0.000384	mg/kg	08.23.2019 20:12	J	1
Toluene	108-88-3	0.00129	0.00200	0.000455	mg/kg	08.23.2019 20:12	J	1
Ethylbenzene	100-41-4	<0.000564	0.00200	0.000564	mg/kg	08.23.2019 20:12	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00399	0.00101	mg/kg	08.23.2019 20:12	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	08.23.2019 20:12	U	1
Xylenes, Total	1330-20-7	<0.000344		0.000344	mg/kg	08.23.2019 20:12	U	
Total BTEX		0.00217		0.000344	mg/kg	08.23.2019 20:12		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	100	70 - 130	%		
4-Bromofluorobenzene	97	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-32 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-032

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099368

Date Prep: 08.21.2019 14:20

Prep seq: 7684683

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	8.13	5.05	0.867	mg/kg	08.22.2019 16:20		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099458

Date Prep: 08.21.2019 15:00

Prep seq: 7684703

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	49.9	15.0	mg/kg	08.23.2019 02:19	U	1
Diesel Range Organics (DRO)	C10C28DRO	95.7	49.9	25.0	mg/kg	08.23.2019 02:19		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	49.9	25.0	mg/kg	08.23.2019 02:19	U	1
Total TPH	PHC635	95.7		15.0	mg/kg	08.23.2019 02:19		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	103	70 - 135	%		
o-Terphenyl	108	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099903

Date Prep: 08.22.2019 16:00

Prep seq: 7684803

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000382	0.00198	0.000382	mg/kg	08.23.2019 20:32	U	1
Toluene	108-88-3	<0.000452	0.00198	0.000452	mg/kg	08.23.2019 20:32	U	1
Ethylbenzene	100-41-4	<0.000560	0.00198	0.000560	mg/kg	08.23.2019 20:32	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00397	0.00101	mg/kg	08.23.2019 20:32	U	1
o-Xylene	95-47-6	<0.000342	0.00198	0.000342	mg/kg	08.23.2019 20:32	U	1
Xylenes, Total	1330-20-7	<0.000342		0.000342	mg/kg	08.23.2019 20:32	U	
Total BTEX		<0.000342		0.000342	mg/kg	08.23.2019 20:32	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	94	70 - 130	%		
4-Bromofluorobenzene	105	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-33 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-033

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099368

Date Prep: 08.21.2019 14:20

Prep seq: 7684683

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	28.5	4.95	0.850	mg/kg	08.22.2019 16:39		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099458

Date Prep: 08.21.2019 15:00

Prep seq: 7684703

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	15.0	49.9	15.0	mg/kg	08.23.2019 02:39	J	1
Diesel Range Organics (DRO)	C10C28DRO	769	49.9	24.9	mg/kg	08.23.2019 02:39		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	153	49.9	24.9	mg/kg	08.23.2019 02:39		1
Total TPH	PHC635	937		15.0	mg/kg	08.23.2019 02:39		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	105	70 - 135	%		
o-Terphenyl	128	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099903

Date Prep: 08.22.2019 16:00

Prep seq: 7684803

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	0.000428	0.00199	0.000383	mg/kg	08.23.2019 20:52	J	1
Toluene	108-88-3	0.000568	0.00199	0.000454	mg/kg	08.23.2019 20:52	J	1
Ethylbenzene	100-41-4	<0.000563	0.00199	0.000563	mg/kg	08.23.2019 20:52	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	08.23.2019 20:52	U	1
o-Xylene	95-47-6	<0.000343	0.00199	0.000343	mg/kg	08.23.2019 20:52	U	1
Xylenes, Total	1330-20-7	<0.000343		0.000343	mg/kg	08.23.2019 20:52	U	
Total BTEX		0.000996		0.000343	mg/kg	08.23.2019 20:52	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	100	70 - 130	%		
4-Bromofluorobenzene	109	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-34 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-034

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099368

Date Prep: 08.21.2019 14:20

Prep seq: 7684683

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	41.0	5.05	0.867	mg/kg	08.22.2019 16:45		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099458

Date Prep: 08.21.2019 15:00

Prep seq: 7684703

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	49.8	14.9	mg/kg	08.23.2019 02:58	U	1
Diesel Range Organics (DRO)	C10C28DRO	1130	49.8	24.9	mg/kg	08.23.2019 02:58		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	156	49.8	24.9	mg/kg	08.23.2019 02:58		1
Total TPH	PHC635	1290		14.9	mg/kg	08.23.2019 02:58		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	102	70 - 135	%		
o-Terphenyl	127	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099903

Date Prep: 08.22.2019 16:00

Prep seq: 7684803

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	08.23.2019 21:12	U	1
Toluene	108-88-3	0.000497	0.00199	0.000453	mg/kg	08.23.2019 21:12	J	1
Ethylbenzene	100-41-4	<0.000561	0.00199	0.000561	mg/kg	08.23.2019 21:12	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	08.23.2019 21:12	U	1
o-Xylene	95-47-6	<0.000342	0.00199	0.000342	mg/kg	08.23.2019 21:12	U	1
Xylenes, Total	1330-20-7	<0.000342		0.000342	mg/kg	08.23.2019 21:12	U	
Total BTEX		0.000497		0.000342	mg/kg	08.23.2019 21:12	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	102	70 - 130	%		
4-Bromofluorobenzene	109	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-35 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-035

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099368

Date Prep: 08.21.2019 14:20

Prep seq: 7684683

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	52.9	4.98	0.855	mg/kg	08.22.2019 17:04		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099458

Date Prep: 08.21.2019 15:00

Prep seq: 7684703

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	19.9	50.0	15.0	mg/kg	08.23.2019 03:18	J	1
Diesel Range Organics (DRO)	C10C28DRO	536	50.0	25.0	mg/kg	08.23.2019 03:18		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	102	50.0	25.0	mg/kg	08.23.2019 03:18		1
Total TPH	PHC635	658		15.0	mg/kg	08.23.2019 03:18		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	107	70 - 135	%		
o-Terphenyl	114	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099903

Date Prep: 08.22.2019 16:00

Prep seq: 7684803

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	0.00119	0.00200	0.000385	mg/kg	08.23.2019 21:32	J	1
Toluene	108-88-3	0.00143	0.00200	0.000456	mg/kg	08.23.2019 21:32	J	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	08.23.2019 21:32	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	08.23.2019 21:32	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	08.23.2019 21:32	U	1
Xylenes, Total	1330-20-7	<0.000344		0.000344	mg/kg	08.23.2019 21:32	U	
Total BTEX		0.00262		0.000344	mg/kg	08.23.2019 21:32		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	102	70 - 130	%		
4-Bromofluorobenzene	109	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-36 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-036

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099368

Date Prep: 08.21.2019 14:20

Prep seq: 7684683

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	344	24.9	4.27	mg/kg	08.22.2019 17:15		5

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099458

Date Prep: 08.21.2019 15:00

Prep seq: 7684703

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	49.9	15.0	mg/kg	08.23.2019 03:37	U	1
Diesel Range Organics (DRO)	C10C28DRO	1610	49.9	24.9	mg/kg	08.23.2019 03:37		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	238	49.9	24.9	mg/kg	08.23.2019 03:37		1
Total TPH	PHC635	1850		15.0	mg/kg	08.23.2019 03:37		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	103	70 - 135	%		
o-Terphenyl	128	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099903

Date Prep: 08.22.2019 16:00

Prep seq: 7684803

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	08.23.2019 21:52	U	1
Toluene	108-88-3	0.000805	0.00199	0.000453	mg/kg	08.23.2019 21:52	J	1
Ethylbenzene	100-41-4	<0.000561	0.00199	0.000561	mg/kg	08.23.2019 21:52	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	08.23.2019 21:52	U	1
o-Xylene	95-47-6	<0.000342	0.00199	0.000342	mg/kg	08.23.2019 21:52	U	1
Xylenes, Total	1330-20-7	<0.000342		0.000342	mg/kg	08.23.2019 21:52	U	
Total BTEX		0.000805		0.000342	mg/kg	08.23.2019 21:52	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	99	70 - 130	%		
4-Bromofluorobenzene	112	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-37 @ 6"**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 634691-037

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099368

Date Prep: 08.21.2019 14:20

Prep seq: 7684683

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	116	5.05	0.867	mg/kg	08.22.2019 17:21		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099458

Date Prep: 08.21.2019 15:00

Prep seq: 7684703

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	49.9	15.0	mg/kg	08.23.2019 03:57	U	1
Diesel Range Organics (DRO)	C10C28DRO	228	49.9	25.0	mg/kg	08.23.2019 03:57		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	38.5	49.9	25.0	mg/kg	08.23.2019 03:57	J	1
Total TPH	PHC635	267		15.0	mg/kg	08.23.2019 03:57		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	120	70 - 135	%		
o-Terphenyl	127	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099903

Date Prep: 08.22.2019 16:00

Prep seq: 7684803

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	08.23.2019 22:13	U	1
Toluene	108-88-3	<0.000454	0.00199	0.000454	mg/kg	08.23.2019 22:13	U	1
Ethylbenzene	100-41-4	<0.000563	0.00199	0.000563	mg/kg	08.23.2019 22:13	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	08.23.2019 22:13	U	1
o-Xylene	95-47-6	<0.000343	0.00199	0.000343	mg/kg	08.23.2019 22:13	U	1
Xylenes, Total	1330-20-7	<0.000343		0.000343	mg/kg	08.23.2019 22:13	U	
Total BTEX		<0.000343		0.000343	mg/kg	08.23.2019 22:13	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	100	70 - 130	%		
4-Bromofluorobenzene	111	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-38 @ 3'**

Matrix: Soil

Sample Depth: 3 ft

Lab Sample Id: 634691-038

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099368

Date Prep: 08.21.2019 14:20

Prep seq: 7684683

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	61.0	5.05	0.867	mg/kg	08.22.2019 17:28		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099458

Date Prep: 08.21.2019 15:00

Prep seq: 7684703

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	49.8	14.9	mg/kg	08.23.2019 04:16	U	1
Diesel Range Organics (DRO)	C10C28DRO	183	49.8	24.9	mg/kg	08.23.2019 04:16		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	30.4	49.8	24.9	mg/kg	08.23.2019 04:16	J	1
Total TPH	PHC635	213		14.9	mg/kg	08.23.2019 04:16		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	118	70 - 135	%		
o-Terphenyl	122	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099903

Date Prep: 08.22.2019 16:00

Prep seq: 7684803

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000388	0.00202	0.000388	mg/kg	08.23.2019 22:33	U	1
Toluene	108-88-3	<0.000459	0.00202	0.000459	mg/kg	08.23.2019 22:33	U	1
Ethylbenzene	100-41-4	<0.000569	0.00202	0.000569	mg/kg	08.23.2019 22:33	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00403	0.00102	mg/kg	08.23.2019 22:33	U	1
o-Xylene	95-47-6	<0.000347	0.00202	0.000347	mg/kg	08.23.2019 22:33	U	1
Xylenes, Total	1330-20-7	<0.000347		0.000347	mg/kg	08.23.2019 22:33	U	
Total BTEX		<0.000347		0.000347	mg/kg	08.23.2019 22:33	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	101	70 - 130	%		
4-Bromofluorobenzene	108	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: ESW @ 1.5'

Matrix: Soil

Sample Depth: 1.5 ft

Lab Sample Id: 634691-039

Date Collected: 08.16.2019 00:00

Date Received: 08.21.2019 10:56

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3099368

Date Prep: 08.21.2019 14:20

Prep seq: 7684683

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	7.97	5.05	0.867	mg/kg	08.22.2019 17:34		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099458

Date Prep: 08.21.2019 15:00

Prep seq: 7684703

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	08.23.2019 04:36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	50.0	25.0	mg/kg	08.23.2019 04:36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	50.0	25.0	mg/kg	08.23.2019 04:36	U	1
Total TPH	PHC635	<15.0		15.0	mg/kg	08.23.2019 04:36	U	

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

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099903

Date Prep: 08.22.2019 16:00

Prep seq: 7684803

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000384	0.00200	0.000384	mg/kg	08.23.2019 22:53	U	1
Toluene	108-88-3	<0.000455	0.00200	0.000455	mg/kg	08.23.2019 22:53	U	1
Ethylbenzene	100-41-4	<0.000564	0.00200	0.000564	mg/kg	08.23.2019 22:53	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00399	0.00101	mg/kg	08.23.2019 22:53	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	08.23.2019 22:53	U	1
Xylenes, Total	1330-20-7	<0.000344		0.000344	mg/kg	08.23.2019 22:53	U	
Total BTEX		<0.000344		0.000344	mg/kg	08.23.2019 22:53	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	100	70 - 130	%		
4-Bromofluorobenzene	105	70 - 130	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **7684668-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7684668-1-BLK Date Collected: Date Received:
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3099237 Date Prep: 08.21.2019 12:45
Prep seq: 7684668

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<0.858	5.00	0.858	mg/kg	08.21.2019 14:40	U	1

Sample Id: **7684682-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7684682-1-BLK Date Collected: Date Received:
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3099367 Date Prep: 08.21.2019 14:10
Prep seq: 7684682

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<0.858	5.00	0.858	mg/kg	08.22.2019 09:00	U	1

Sample Id: **7684683-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7684683-1-BLK Date Collected: Date Received:
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3099368 Date Prep: 08.21.2019 14:20
Prep seq: 7684683

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<0.858	5.00	0.858	mg/kg	08.22.2019 12:29	U	1



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM

Red Hills Station

Sample Id: 7684697-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7684697-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099456

Date Prep: 08.21.2019 13:00

Prep seq: 7684697

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	08.22.2019 08:01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	50.0	25.0	mg/kg	08.22.2019 08:01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	50.0	25.0	mg/kg	08.22.2019 08:01	U	1
Total TPH	PHC635	<15.0		15.0	mg/kg	08.22.2019 08:01	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	105	70 - 135	%		
o-Terphenyl	107	70 - 135	%		

Sample Id: 7684703-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7684703-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3099458

Date Prep: 08.21.2019 15:00

Prep seq: 7684703

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	08.22.2019 20:50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<25.0	50.0	25.0	mg/kg	08.22.2019 20:50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	50.0	25.0	mg/kg	08.22.2019 20:50	U	1
Total TPH	PHC635	<15.0		15.0	mg/kg	08.22.2019 20:50	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	94	70 - 135	%		
o-Terphenyl	96	70 - 135	%		



Certificate of Analytical Results

634691

Tasman Geosciences, LLC, Hobbs, NM

Red Hills Station

Sample Id: 7684802-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7684802-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099591

Date Prep: 08.22.2019 12:30

Prep seq: 7684802

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	08.24.2019 02:28	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	08.24.2019 02:28	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	08.24.2019 02:28	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	08.24.2019 02:28	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	08.24.2019 02:28	U	1
Xylenes, Total	1330-20-7	<0.000344		0.000344	mg/kg	08.24.2019 02:28	U	
Total BTEX		<0.000344		0.000344	mg/kg	08.24.2019 02:28	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	95	70 - 130	%		
4-Bromofluorobenzene	109	70 - 130	%		

Sample Id: 7684803-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7684803-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3099903

Date Prep: 08.22.2019 16:00

Prep seq: 7684803

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	08.23.2019 15:32	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	08.23.2019 15:32	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	08.23.2019 15:32	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	08.23.2019 15:32	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	08.23.2019 15:32	U	1
Xylenes, Total	1330-20-7	<0.000344		0.000344	mg/kg	08.23.2019 15:32	U	
Total BTEX		<0.000344		0.000344	mg/kg	08.23.2019 15:32	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	101	70 - 130	%		
4-Bromofluorobenzene	94	70 - 130	%		



Flagging Criteria

- 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: Red Hills Station

Work Orders : 634691

Project ID:

Lab Batch #: 3099591

Sample: 7684802-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08.24.2019 01:05

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0280	0.0300	93	70-130	
4-Bromofluorobenzene	0.0349	0.0300	116	70-130	

Lab Batch #: 3099591

Sample: 634691-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08.24.2019 01:26

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0251	0.0300	84	70-130	
4-Bromofluorobenzene	0.0306	0.0300	102	70-130	

Lab Batch #: 3099591

Sample: 634691-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08.24.2019 01:46

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0301	0.0300	100	70-130	
4-Bromofluorobenzene	0.0389	0.0300	130	70-130	

Lab Batch #: 3099591

Sample: 7684802-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08.24.2019 02:28

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0285	0.0300	95	70-130	
4-Bromofluorobenzene	0.0328	0.0300	109	70-130	

Lab Batch #: 3099591

Sample: 7684802-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08.24.2019 12:45

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0273	0.0300	91	70-130	
4-Bromofluorobenzene	0.0329	0.0300	110	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: Red Hills Station

Work Orders : 634691

Project ID:

Lab Batch #: 3099903

Sample: 7684803-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08.23.2019 07:54

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0300	0.0300	100	70-130	
4-Bromofluorobenzene	0.0341	0.0300	114	70-130	

Lab Batch #: 3099903

Sample: 7684803-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08.23.2019 14:13

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0303	0.0300	101	70-130	
4-Bromofluorobenzene	0.0333	0.0300	111	70-130	

Lab Batch #: 3099903

Sample: 634691-023 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08.23.2019 14:33

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0316	0.0300	105	70-130	
4-Bromofluorobenzene	0.0330	0.0300	110	70-130	

Lab Batch #: 3099903

Sample: 634691-023 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08.23.2019 14:53

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0315	0.0300	105	70-130	
4-Bromofluorobenzene	0.0344	0.0300	115	70-130	

Lab Batch #: 3099903

Sample: 7684803-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08.23.2019 15:32

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0302	0.0300	101	70-130	
4-Bromofluorobenzene	0.0283	0.0300	94	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: Red Hills Station

Work Orders : 634691

Project ID:

Lab Batch #: 3099456

Sample: 7684697-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08.22.2019 08:01

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	105	100	105	70-135	
o-Terphenyl	53.7	50.0	107	70-135	

Lab Batch #: 3099456

Sample: 7684697-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08.22.2019 08:21

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	124	100	124	70-135	
o-Terphenyl	62.2	50.0	124	70-135	

Lab Batch #: 3099456

Sample: 7684697-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08.22.2019 08:40

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	100	120	70-135	
o-Terphenyl	59.6	50.0	119	70-135	

Lab Batch #: 3099456

Sample: 634691-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08.22.2019 09:19

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	121	99.7	121	70-135	
o-Terphenyl	56.8	49.9	114	70-135	

Lab Batch #: 3099456

Sample: 634691-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08.22.2019 09:39

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	128	99.6	129	70-135	
o-Terphenyl	59.6	49.8	120	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.



Form 2 - Surrogate Recoveries

Project Name: Red Hills Station

Work Orders : 634691

Project ID:

Lab Batch #: 3099458

Sample: 7684703-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08.22.2019 20:50

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.5	100	94	70-135	
o-Terphenyl	47.8	50.0	96	70-135	

Lab Batch #: 3099458

Sample: 7684703-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08.22.2019 21:10

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	126	100	126	70-135	
o-Terphenyl	62.7	50.0	125	70-135	

Lab Batch #: 3099458

Sample: 7684703-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08.22.2019 21:29

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	59.5	50.0	119	70-135	

Lab Batch #: 3099458

Sample: 634691-021 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08.22.2019 22:08

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	99.6	118	70-135	
o-Terphenyl	62.2	49.8	125	70-135	

Lab Batch #: 3099458

Sample: 634691-021 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08.22.2019 22:27

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	99.7	113	70-135	
o-Terphenyl	55.8	49.9	112	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: Red Hills Station

Work Order #: 634691

Project ID:

Analyst: KTL

Date Prepared: 08.22.2019

Date Analyzed: 08.24.2019

Lab Batch ID: 3099591

Sample: 7684802-1-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	<0.000385	0.100	0.0989	99	0.100	0.104	104	5	70-130	35	
Toluene	<0.000456	0.100	0.0974	97	0.100	0.102	102	5	70-130	35	
Ethylbenzene	<0.000565	0.100	0.112	112	0.100	0.116	116	4	70-130	35	
m_p-Xylenes	<0.00101	0.200	0.222	111	0.200	0.235	118	6	70-130	35	
o-Xylene	<0.000344	0.100	0.107	107	0.100	0.113	113	5	70-130	35	

Analyst: KTL

Date Prepared: 08.22.2019

Date Analyzed: 08.23.2019

Lab Batch ID: 3099903

Sample: 7684803-1-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	<0.000385	0.100	0.105	105	0.100	0.0969	97	8	70-130	35	
Toluene	<0.000456	0.100	0.104	104	0.100	0.0967	97	7	70-130	35	
Ethylbenzene	<0.000565	0.100	0.112	112	0.100	0.105	105	6	70-130	35	
m_p-Xylenes	<0.00101	0.200	0.219	110	0.200	0.206	103	6	70-130	35	
o-Xylene	<0.000344	0.100	0.114	114	0.100	0.107	107	6	70-130	35	

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: Red Hills Station

Work Order #: 634691

Project ID:

Analyst: CHE

Date Prepared: 08.21.2019

Date Analyzed: 08.21.2019

Lab Batch ID: 3099237

Sample: 7684668-1-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	266	106	250	260	104	2	90-110	20	

Analyst: CHE

Date Prepared: 08.21.2019

Date Analyzed: 08.22.2019

Lab Batch ID: 3099367

Sample: 7684682-1-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	245	98	250	245	98	0	90-110	20	

Analyst: CHE

Date Prepared: 08.21.2019

Date Analyzed: 08.22.2019

Lab Batch ID: 3099368

Sample: 7684683-1-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	248	99	250	248	99	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: Red Hills Station

Work Order #: 634691

Project ID:

Analyst: ARM

Date Prepared: 08.21.2019

Date Analyzed: 08.22.2019

Lab Batch ID: 3099456

Sample: 7684697-1-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)	<15.0	1000	1090	109	1000	932	93	16	70-135	20	
Diesel Range Organics (DRO)	<25.0	1000	1080	108	1000	968	97	11	70-135	20	

Analyst: ARM

Date Prepared: 08.21.2019

Date Analyzed: 08.22.2019

Lab Batch ID: 3099458

Sample: 7684703-1-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)	<15.0	1000	958	96	1000	937	94	2	70-135	20	
Diesel Range Organics (DRO)	<25.0	1000	999	100	1000	968	97	3	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: Red Hills Station

Work Order #: 634691

Lab Batch ID: 3099591

Date Analyzed: 08.24.2019

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 634691-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 08.22.2019

Analyst: KTL

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	<0.000384	0.0998	0.0373	37	0.0994	0.0489	49	27	70-130	35	X
Toluene	<0.000455	0.0998	0.0300	30	0.0994	0.0411	41	31	70-130	35	X
Ethylbenzene	<0.000564	0.0998	0.0266	27	0.0994	0.0375	38	34	70-130	35	X
m_p-Xylenes	<0.00101	0.200	0.0606	30	0.199	0.0722	36	17	70-130	35	X
o-Xylene	<0.000344	0.0998	0.0293	29	0.0994	0.0420	42	36	70-130	35	XF

Lab Batch ID: 3099903

QC- Sample ID: 634691-023 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08.23.2019

Date Prepared: 08.22.2019

Analyst: KTL

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	<0.000383	0.0996	0.0614	62	0.100	0.0305	31	67	70-130	35	XF
Toluene	<0.000454	0.0996	0.0464	47	0.100	0.0206	21	77	70-130	35	XF
Ethylbenzene	<0.000563	0.0996	0.0330	33	0.100	0.0133	13	85	70-130	35	XF
m_p-Xylenes	<0.00101	0.199	0.0605	30	0.200	0.0239	12	87	70-130	35	XF
o-Xylene	<0.000343	0.0996	0.0325	33	0.100	0.0128	13	87	70-130	35	XF

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: Red Hills Station

Work Order #: 634691

Lab Batch ID: 3099237

Date Analyzed: 08.21.2019

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 634554-009 S

Batch #: 1 Matrix: Soil

Date Prepared: 08.21.2019

Analyst: CHE

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	1.01	250	252	100	250	251	100	0	90-110	20	

Lab Batch ID: 3099237

QC- Sample ID: 634653-024 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08.21.2019

Date Prepared: 08.21.2019

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	<0.858	250	280	112	250	264	106	6	90-110	20	X

Lab Batch ID: 3099367

QC- Sample ID: 634691-002 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08.22.2019

Date Prepared: 08.21.2019

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	366	249	592	91	249	590	90	0	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: Red Hills Station

Work Order #: 634691

Lab Batch ID: 3099367

Date Analyzed: 08.22.2019

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 634691-012 S

Batch #: 1 Matrix: Soil

Date Prepared: 08.21.2019

Analyst: CHE

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	5.70	248	246	97	248	247	97	0	90-110	20	

Lab Batch ID: 3099368

QC- Sample ID: 634691-022 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08.22.2019

Date Prepared: 08.21.2019

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	5.73	248	254	100	248	254	100	0	90-110	20	

Lab Batch ID: 3099368

QC- Sample ID: 634691-032 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08.22.2019

Date Prepared: 08.21.2019

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	8.13	253	298	115	253	297	114	0	90-110	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: Red Hills Station

Work Order #: 634691

Lab Batch ID: 3099456

Date Analyzed: 08.22.2019

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 634691-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 08.21.2019

Analyst: ARM

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)	<15.0	997	941	94	996	990	99	5	70-135	20	
Diesel Range Organics (DRO)	175	997	1080	91	996	1140	97	5	70-135	20	

Lab Batch ID: 3099458

QC- Sample ID: 634691-021 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08.22.2019

Date Prepared: 08.21.2019

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)	<14.9	996	1220	122	997	1050	105	15	70-135	20	
Diesel Range Organics (DRO)	141	996	1330	119	997	1220	108	9	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.

CHAIN OF CUSTODY

Page 1 of 4

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

Phoenix, Arizona (480-355-0900)

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Client / Reporting Information				Project Information				Analytical Information				Matrix Codes											
Company Name / Branch: Tasman Geosciences, LLC				Project Name/Number: Red Hills Station																			
Company Address: 2620 W Marland Blvd. Hobbs, NM 88201				Project Location: Lea County, NM																			
Email: zconder@tasman-geo.com				Phone No: 806-724-5943				Invoice To: PAALP C/O Amber Groves															
Project Contact: Zach Conder				Invoice:																			
Sampler's Name: <u>130</u>																							
No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MeOH	NONE	TPH 8015 M Ext	Chloride SM 4500	BTEX 8021B	RCI	TCLP RCRA8	NORM	Paint Filter	TCLP Benzene	Field Comments
1	FL-1 @ 6"	6"	8/16/19		S										X	X	X						
2	FL-2 @ 6"																						
3	FL-3 @ 6"																						
4	FL-4 @ 6"																						
5	FL-5 @ 6"																						
6	FL-6 @ 6"																						
7	FL-7 @ 6"																						
8	FL-8 @ 6"																						
9	FL-9 @ 6"																						
10	FL-10 @ 6"																						
11	FL-11 @ 6"																						
12	FL-12 @ 6"																						
Turnaround Time (Business days)																							
Same Day TAT		☐		5 Day TAT		☐		Level II Std QC		☐		Level IV (Full Data Pkg raw data)		☐									
Next Day EMERGENCY		☐		7 Day TAT		☐		Level III Std QC+ Forms		☐		TRRP Level IV		☐									
2 Day EMERGENCY		☐		Contract TAT		☒		Level 3 (CLP Forms)		☐		UST / RG 411		☐									
3 Day EMERGENCY		☐						TRRP Checklist		☐													
TAT Starts Day received by Lab, if received by 5:00 pm																							
Relinquished by Sampler:		Date Time: 8/20/19 14:04		Received By: [Signature]		Date Time: 8/20/19 14:04		Relinquished By: [Signature]		Date Time: 8/20/19 14:04		Received By: [Signature]		Date Time: 8/20/19 14:04									
Relinquished by:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:		Date Time:									
Custody Seal #		5		Preserved where applicable		☐		On Ice		Cooler Temp		Thermo. Corr. Factor		1054									
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY																							
Please email results to:		zconder@tasman-geo.com		bgriffin@tasman-geo.com		a@groves@paalp.com		bdennis@tasman-geo.com															
FED-EX / UPS Tracking #																							

CHAIN OF CUSTODY

Page 2 of 4

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

Phoenix, Arizona (480-355-0900)

www.xenco.com

Received by QCD: 3/9/2020 10:25:22 AM

Client / Reporting Information Company Name / Branch: Tasmanian Geosciences, LLC Company Address: 2620 W. Midland Blvd. Hobbs, NM 88201 Email: zconder@tasmanian-geo.com Phone No: 806-724-5943 Project Contact: Zach Conder Sample's Name: SD				Project Information Project Name/Number: Red Hills Station Project Location: Lea County, NM Invoice To: PAALP C/O Amber Groves Invoice:				Analytical Information Xenco Job # 103410291									
Matrix Codes W = Water S = Soil/Sed/Solid GW = Ground Water DW = Drinking Water P = Product SW = Surface water SL = Sludge OW = Ocean/Sea Water WI = Wipe O = Oil WW = Waste Water A = Air				Field Comments				Matrix TPH 8015 M Ext Chloride SM 4500 BTEX 8021B RCI TCLP RCRA8 NORM Paint Filter TCLP Benzene									
No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE				
1	FL-13 @ 6"	6"	8/16/19		S									X	X	X	
2	FL-14 @ 6"																
3	FL-15 @ 6"																
4	FL-16 @ 6"																
5	FL-17 @ 6"																
6	FL-18 @ 6"																
7	FL-19 @ 6"																
8	FL-20 @ 6"																
9	FL-21 @ 1'	1'															
10	FL-22 @ 2'	2'															
11	FL-23 @ 6"	6"															
12	FL-24 @ 6"	6"															
Turnaround Time (Business days)																	
Data Deliverable Information ☐ Same Day TAT ☐ 5 Day TAT ☐ Next Day EMERGENCY ☐ 7 Day TAT ☐ 2 Day EMERGENCY ☒ Contract TAT ☐ 3 Day EMERGENCY ☐ TRRP Checklist																	
Notes:																	
Level II Std QC ☐ Level II Std QC ☐ Level III Std QC+ Forms ☐ Level 3 (CLP Forms) ☐ TRRP Level IV ☐ UST / RG -411																	
Level IV (Full Data Pkg raw data) ☐ Level IV (Full Data Pkg raw data)																	
TRRP Checklist																	
DATE TIME: 8/20/19 14:04 Received By: 1. J. Stanton Cox Relinquished By: 2. J. Stanton Cox Date Time: 8/20/19 2:00 Received By: 3. J. Stanton Cox Relinquished By: 4. J. Stanton Cox Custody Seal # Preserved where applicable FED-EX / UPS: Tracking # COOLER TEMP: 0.5°C Thermo. Corr. Factor 1054																	

4008 N GRIMES
HOBBS, NM 88240
UNITED STATES US

MS: 20x15x
BILL RECIPIENT

TO XENCO LABORATORIES HOLD FOR PICK UP
FEDEX EXPRESS SHIP CENTER
FEDEX SHIP CENTER
3600 COUNTY RD 1276 S
MIDLAND TX 79711

(432) 563-1800
INV:
PO:

REF:
DEPT:



FedEx
Express

J181118060501uv

TRK# 4705 2521 5460
0201

WED - 21 AUG HOLD
STANDARD OVERNIGHT
HLD
MAFA
TX-US LBB

41 MAFA



Post # 1084-05-04 RT2 EXP 0123



Analytical Report 637816

for

Tasman Geosciences, LLC

Project Manager: Zach Conder

Red Hills Station

10.03.2019

Collected By: Client



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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



10.03.2019

Project Manager: **Zach Conder**

Tasman Geosciences, LLC

2620 W. Marland Blvd.

Hobbs, NM 88240

Reference: XENCO Report No(s): **637816**

Red Hills Station

Project Address: Lea County, NM

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) 637816. 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. 637816 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

A handwritten signature in black ink, appearing to read 'JB', is written over a light blue rectangular background.

John Builes
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

**Sample Cross Reference 637816****Tasman Geosciences, LLC, Hobbs, NM**

Red Hills Station

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FL-3b	S	09.19.2019 00:00	6 In	637816-001
FL-4b	S	09.19.2019 00:00	6 In	637816-002
FL-6b	S	09.19.2019 00:00	6 In	637816-003
FL-10b	S	09.19.2019 00:00	6 In	637816-004
FL-15b	S	09.19.2019 00:00	6 In	637816-005
FL-25b	S	09.19.2019 00:00	6 In	637816-006
FL-27b	S	09.19.2019 00:00	6 In	637816-007
FL-29b	S	09.19.2019 00:00	1 ft	637816-008
FL-31b	S	09.19.2019 00:00	1 ft	637816-009
FL-34b	S	09.19.2019 00:00	6 In	637816-010
FL-36b	S	09.19.2019 00:00	6 In	637816-011

**CASE NARRATIVE****Client Name: Tasman Geosciences, LLC****Project Name: Red Hills Station**Project ID:
Work Order Number(s): 637816Report Date: 10.03.2019
Date Received: 09.24.2019

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:**Sample receipt non conformances and comments per sample:**

None

Analytical non conformances and comments:

Batch: LBA-3102642 BTEX by EPA 8021

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

Surrogate 4-Bromofluorobenzene recovered above QC limits. Samples affected are: 7686825-1-BKS,637816-001 S,637816-001 SD,637816-005,637816-006,637816-007,637816-008,637816-009,637816-011,637816-002,637816-001,637816-004.

Benzene, Ethylbenzene, Toluene, m_p-Xylenes , o-Xylene Relative Percent Difference (RPD) between matrix spike and duplicate were above quality control limits.

Samples in the analytical batch are: 637816-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011

Lab Sample ID 637816-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).

Benzene, Toluene, m_p-Xylenes , o-Xylene recovered below QC limits in the Matrix Spike.

Ethylbenzene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 637816-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011.

The Laboratory Control Sample for Toluene, Benzene, Ethylbenzene, m_p-Xylenes , o-Xylene is within laboratory Control Limits, therefore the data was accepted.

**CASE NARRATIVE****Client Name: Tasman Geosciences, LLC****Project Name: Red Hills Station**

Project ID:
Work Order Number(s): 637816

Report Date: 10.03.2019
Date Received: 09.24.2019

Batch: LBA-3103171 TPH by SW8015 Mod

Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 637816-001 S, 637816-001 SD, 637816-007.

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

Samples affected are: 637816-006, 637816-005, 637816-007, 637816-002.

Outlier/s are due to possible matrix interference.

Lab Sample ID 637816-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Diesel Range Organics (DRO) Relative Percent Difference (RPD) between matrix spike and duplicate was above quality control limits.

Samples in the analytical batch are: 637816-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011



Certificate of Analytical Results

637816

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-3b** Matrix: Soil Sample Depth: 6 In
Lab Sample Id: 637816-001 Date Collected: 09.19.2019 00:00 Date Received: 09.24.2019 12:15
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3102369 Date Prep: 09.24.2019 16:10
Prep seq: 7686784

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	58.1	4.95	0.850	mg/kg	09.24.2019 22:44		1

Analytical Method: TPH by SW8015 Mod Prep Method: 8015
Analyst: DVM % Moist: Tech: DVM
Seq Number: 3103171 Date Prep: 09.27.2019 13:00
Prep seq: 7687145

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	10.02.2019 20:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	214	50.0	15.0	mg/kg	10.02.2019 20:15	F	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	57.6	50.0	15.0	mg/kg	10.02.2019 20:15		1
Total TPH	PHC635	272		15.0	mg/kg	10.02.2019 20:15		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	101	70 - 135	%		
o-Terphenyl	110	70 - 135	%		

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: KTL % Moist: Tech: KTL
Seq Number: 3102642 Date Prep: 09.25.2019 10:15
Prep seq: 7686825

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	09.26.2019 07:16	UXF	1
Toluene	108-88-3	<0.000453	0.00199	0.000453	mg/kg	09.26.2019 07:16	UXF	1
Ethylbenzene	100-41-4	<0.000561	0.00199	0.000561	mg/kg	09.26.2019 07:16	UXXF	1
m_p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	09.26.2019 07:16	UFX	1
o-Xylene	95-47-6	<0.000342	0.00199	0.000342	mg/kg	09.26.2019 07:16	UXF	1
Xylenes, Total	1330-20-7	<0.000342		0.000342	mg/kg	09.26.2019 07:16	U	
Total BTEX		<0.000342		0.000342	mg/kg	09.26.2019 07:16	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	94	70 - 130	%		
4-Bromofluorobenzene	131	70 - 130	%		**



Certificate of Analytical Results

637816

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-4b** Matrix: Soil Sample Depth: 6 In
Lab Sample Id: 637816-002 Date Collected: 09.19.2019 00:00 Date Received: 09.24.2019 12:15
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3102369 Date Prep: 09.24.2019 16:10
Prep seq: 7686784

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	74.5	4.97	0.853	mg/kg	09.25.2019 00:59		1

Analytical Method: TPH by SW8015 Mod Prep Method: 8015
Analyst: DVM % Moist: Tech: DVM
Seq Number: 3103171 Date Prep: 09.27.2019 13:00
Prep seq: 7687145

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	10.02.2019 21:13	U	1
Diesel Range Organics (DRO)	C10C28DRO	1040	50.0	15.0	mg/kg	10.02.2019 21:13		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	178	50.0	15.0	mg/kg	10.02.2019 21:13		1
Total TPH	PHC635	1220		15.0	mg/kg	10.02.2019 21:13		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	119	70 - 135	%		
o-Terphenyl	140	70 - 135	%		**

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: KTL % Moist: Tech: KTL
Seq Number: 3102642 Date Prep: 09.25.2019 10:15
Prep seq: 7686825

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	09.26.2019 07:37	U	1
Toluene	108-88-3	<0.000454	0.00199	0.000454	mg/kg	09.26.2019 07:37	U	1
Ethylbenzene	100-41-4	<0.000563	0.00199	0.000563	mg/kg	09.26.2019 07:37	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	09.26.2019 07:37	U	1
o-Xylene	95-47-6	<0.000343	0.00199	0.000343	mg/kg	09.26.2019 07:37	U	1
Xylenes, Total	1330-20-7	<0.000343		0.000343	mg/kg	09.26.2019 07:37	U	
Total BTEX		<0.000343		0.000343	mg/kg	09.26.2019 07:37	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	99	70 - 130	%		
4-Bromofluorobenzene	138	70 - 130	%		**



Certificate of Analytical Results

637816

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-6b** Matrix: Soil Sample Depth: 6 In
Lab Sample Id: 637816-003 Date Collected: 09.19.2019 00:00 Date Received: 09.24.2019 12:15
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3102369 Date Prep: 09.24.2019 16:10
Prep seq: 7686784

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	3.31	5.02	0.862	mg/kg	09.25.2019 01:21	J	1

Analytical Method: TPH by SW8015 Mod Prep Method: 8015
Analyst: DVM % Moist: Tech: DVM
Seq Number: 3103171 Date Prep: 09.27.2019 13:00
Prep seq: 7687145

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	10.02.2019 21:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	189	50.0	15.0	mg/kg	10.02.2019 21:33		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	30.2	50.0	15.0	mg/kg	10.02.2019 21:33	J	1
Total TPH	PHC635	219		15.0	mg/kg	10.02.2019 21:33		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	120	70 - 135	%		
o-Terphenyl	123	70 - 135	%		

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: KTL % Moist: Tech: KTL
Seq Number: 3102642 Date Prep: 09.25.2019 10:15
Prep seq: 7686825

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000384	0.00200	0.000384	mg/kg	09.26.2019 07:57	U	1
Toluene	108-88-3	<0.000455	0.00200	0.000455	mg/kg	09.26.2019 07:57	U	1
Ethylbenzene	100-41-4	<0.000564	0.00200	0.000564	mg/kg	09.26.2019 07:57	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00399	0.00101	mg/kg	09.26.2019 07:57	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	09.26.2019 07:57	U	1
Xylenes, Total	1330-20-7	<0.000344		0.000344	mg/kg	09.26.2019 07:57	U	
Total BTEX		<0.000344		0.000344	mg/kg	09.26.2019 07:57	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	104	70 - 130	%		
4-Bromofluorobenzene	101	70 - 130	%		



Certificate of Analytical Results

637816

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-10b**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 637816-004

Date Collected: 09.19.2019 00:00

Date Received: 09.24.2019 12:15

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3102369

Date Prep: 09.24.2019 16:10

Prep seq: 7686784

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	17.8	5.00	0.858	mg/kg	09.25.2019 01:29		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3103171

Date Prep: 09.27.2019 13:00

Prep seq: 7687145

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	10.02.2019 21:52	U	1
Diesel Range Organics (DRO)	C10C28DRO	175	50.0	15.0	mg/kg	10.02.2019 21:52		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	27.9	50.0	15.0	mg/kg	10.02.2019 21:52	J	1
Total TPH	PHC635	203		15.0	mg/kg	10.02.2019 21:52		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	120	70 - 135	%		
o-Terphenyl	126	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3102642

Date Prep: 09.25.2019 10:15

Prep seq: 7686825

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000382	0.00198	0.000382	mg/kg	09.26.2019 08:17	U	1
Toluene	108-88-3	<0.000452	0.00198	0.000452	mg/kg	09.26.2019 08:17	U	1
Ethylbenzene	100-41-4	<0.000560	0.00198	0.000560	mg/kg	09.26.2019 08:17	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00397	0.00101	mg/kg	09.26.2019 08:17	U	1
o-Xylene	95-47-6	<0.000342	0.00198	0.000342	mg/kg	09.26.2019 08:17	U	1
Xylenes, Total	1330-20-7	<0.000342		0.000342	mg/kg	09.26.2019 08:17	U	
Total BTEX		<0.000342		0.000342	mg/kg	09.26.2019 08:17	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	100	70 - 130	%		
4-Bromofluorobenzene	145	70 - 130	%		**



Certificate of Analytical Results

637816

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-15b**

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 637816-005

Date Collected: 09.19.2019 00:00

Date Received: 09.24.2019 12:15

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3102369

Date Prep: 09.24.2019 16:10

Prep seq: 7686784

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	8.50	5.04	0.865	mg/kg	09.25.2019 01:36		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3103171

Date Prep: 09.27.2019 13:00

Prep seq: 7687145

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	10.02.2019 22:11	U	1
Diesel Range Organics (DRO)	C10C28DRO	812	50.0	15.0	mg/kg	10.02.2019 22:11		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	116	50.0	15.0	mg/kg	10.02.2019 22:11		1
Total TPH	PHC635	928		15.0	mg/kg	10.02.2019 22:11		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	114	70 - 135	%		
o-Terphenyl	138	70 - 135	%		**

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3102642

Date Prep: 09.25.2019 10:15

Prep seq: 7686825

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000382	0.00198	0.000382	mg/kg	09.26.2019 08:37	U	1
Toluene	108-88-3	<0.000452	0.00198	0.000452	mg/kg	09.26.2019 08:37	U	1
Ethylbenzene	100-41-4	<0.000560	0.00198	0.000560	mg/kg	09.26.2019 08:37	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00397	0.00101	mg/kg	09.26.2019 08:37	U	1
o-Xylene	95-47-6	<0.000342	0.00198	0.000342	mg/kg	09.26.2019 08:37	U	1
Xylenes, Total	1330-20-7	<0.000342		0.000342	mg/kg	09.26.2019 08:37	U	
Total BTEX		<0.000342		0.000342	mg/kg	09.26.2019 08:37	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	94	70 - 130	%		
4-Bromofluorobenzene	145	70 - 130	%		**



Certificate of Analytical Results

637816

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-25b** Matrix: Soil Sample Depth: 6 In
Lab Sample Id: 637816-006 Date Collected: 09.19.2019 00:00 Date Received: 09.24.2019 12:15
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3102369 Date Prep: 09.24.2019 16:10
Prep seq: 7686784

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	6.10	4.99	0.857	mg/kg	09.25.2019 01:44		1

Analytical Method: TPH by SW8015 Mod Prep Method: 8015
Analyst: DVM % Moist: Tech: DVM
Seq Number: 3103171 Date Prep: 09.27.2019 13:00
Prep seq: 7687145

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	10.02.2019 22:30	U	1
Diesel Range Organics (DRO)	C10C28DRO	239	50.0	15.0	mg/kg	10.02.2019 22:30		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	29.5	50.0	15.0	mg/kg	10.02.2019 22:30	J	1
Total TPH	PHC635	269		15.0	mg/kg	10.02.2019 22:30		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	131	70 - 135	%		
o-Terphenyl	137	70 - 135	%		**

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: KTL % Moist: Tech: KTL
Seq Number: 3102642 Date Prep: 09.25.2019 10:15
Prep seq: 7686825

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	09.26.2019 08:57	U	1
Toluene	108-88-3	<0.000453	0.00199	0.000453	mg/kg	09.26.2019 08:57	U	1
Ethylbenzene	100-41-4	<0.000561	0.00199	0.000561	mg/kg	09.26.2019 08:57	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	09.26.2019 08:57	U	1
o-Xylene	95-47-6	<0.000342	0.00199	0.000342	mg/kg	09.26.2019 08:57	U	1
Xylenes, Total	1330-20-7	<0.000342		0.000342	mg/kg	09.26.2019 08:57	U	
Total BTEX		<0.000342		0.000342	mg/kg	09.26.2019 08:57	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	92	70 - 130	%		
4-Bromofluorobenzene	144	70 - 130	%		**



Certificate of Analytical Results

637816

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-27b** Matrix: Soil Sample Depth: 6 In
Lab Sample Id: 637816-007 Date Collected: 09.19.2019 00:00 Date Received: 09.24.2019 12:15
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3102369 Date Prep: 09.24.2019 16:10
Prep seq: 7686784

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	6.22	5.05	0.867	mg/kg	09.25.2019 01:51		1

Analytical Method: TPH by SW8015 Mod Prep Method: 8015
Analyst: DVM % Moist: Tech: DVM
Seq Number: 3103171 Date Prep: 09.27.2019 13:00
Prep seq: 7687145

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	10.02.2019 22:50	U	1
Diesel Range Organics (DRO)	C10C28DRO	64.8	50.0	15.0	mg/kg	10.02.2019 22:50		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	10.02.2019 22:50	U	1
Total TPH	PHC635	64.8		15.0	mg/kg	10.02.2019 22:50		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	138	70 - 135	%		**
o-Terphenyl	138	70 - 135	%		**

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: KTL % Moist: Tech: KTL
Seq Number: 3102642 Date Prep: 09.25.2019 10:15
Prep seq: 7686825

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000382	0.00198	0.000382	mg/kg	09.26.2019 09:17	U	1
Toluene	108-88-3	<0.000452	0.00198	0.000452	mg/kg	09.26.2019 09:17	U	1
Ethylbenzene	100-41-4	<0.000560	0.00198	0.000560	mg/kg	09.26.2019 09:17	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00397	0.00101	mg/kg	09.26.2019 09:17	U	1
o-Xylene	95-47-6	<0.000342	0.00198	0.000342	mg/kg	09.26.2019 09:17	U	1
Xylenes, Total	1330-20-7	<0.000342		0.000342	mg/kg	09.26.2019 09:17	U	
Total BTEX		<0.000342		0.000342	mg/kg	09.26.2019 09:17	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	94	70 - 130	%		
4-Bromofluorobenzene	138	70 - 130	%		**



Certificate of Analytical Results

637816

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-29b** Matrix: Soil Sample Depth: 1 ft
Lab Sample Id: 637816-008 Date Collected: 09.19.2019 00:00 Date Received: 09.24.2019 12:15
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3102369 Date Prep: 09.24.2019 16:10
Prep seq: 7686784

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	10.7	5.05	0.867	mg/kg	09.25.2019 01:59		1

Analytical Method: TPH by SW8015 Mod Prep Method: 8015
Analyst: DVM % Moist: Tech: DVM
Seq Number: 3103171 Date Prep: 09.27.2019 13:00
Prep seq: 7687145

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	10.02.2019 23:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	748	50.0	15.0	mg/kg	10.02.2019 23:09		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	142	50.0	15.0	mg/kg	10.02.2019 23:09		1
Total TPH	PHC635	890		15.0	mg/kg	10.02.2019 23:09		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	115	70 - 135	%		
o-Terphenyl	126	70 - 135	%		

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: KTL % Moist: Tech: KTL
Seq Number: 3102642 Date Prep: 09.25.2019 10:15
Prep seq: 7686825

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000384	0.00200	0.000384	mg/kg	09.26.2019 09:37	U	1
Toluene	108-88-3	<0.000455	0.00200	0.000455	mg/kg	09.26.2019 09:37	U	1
Ethylbenzene	100-41-4	<0.000564	0.00200	0.000564	mg/kg	09.26.2019 09:37	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00399	0.00101	mg/kg	09.26.2019 09:37	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	09.26.2019 09:37	U	1
Xylenes, Total	1330-20-7	<0.000344		0.000344	mg/kg	09.26.2019 09:37	U	
Total BTEX		<0.000344		0.000344	mg/kg	09.26.2019 09:37	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	99	70 - 130	%		
4-Bromofluorobenzene	133	70 - 130	%		**



Certificate of Analytical Results

637816

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-31b**

Matrix: Soil

Sample Depth: 1 ft

Lab Sample Id: 637816-009

Date Collected: 09.19.2019 00:00

Date Received: 09.24.2019 12:15

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: CHE

% Moist:

Tech: CHE

Seq Number: 3102369

Date Prep: 09.24.2019 16:10

Prep seq: 7686784

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	19.9	4.97	0.853	mg/kg	09.25.2019 02:06		1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3103171

Date Prep: 09.27.2019 13:00

Prep seq: 7687145

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	10.02.2019 23:28	U	1
Diesel Range Organics (DRO)	C10C28DRO	188	50.0	15.0	mg/kg	10.02.2019 23:28		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	27.8	50.0	15.0	mg/kg	10.02.2019 23:28	J	1
Total TPH	PHC635	216		15.0	mg/kg	10.02.2019 23:28		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	118	70 - 135	%		
o-Terphenyl	119	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: KTL

% Moist:

Tech: KTL

Seq Number: 3102642

Date Prep: 09.25.2019 10:15

Prep seq: 7686825

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	09.26.2019 09:58	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	09.26.2019 09:58	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	09.26.2019 09:58	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	09.26.2019 09:58	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	09.26.2019 09:58	U	1
Xylenes, Total	1330-20-7	<0.000344		0.000344	mg/kg	09.26.2019 09:58	U	
Total BTEX		<0.000344		0.000344	mg/kg	09.26.2019 09:58	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	97	70 - 130	%		
4-Bromofluorobenzene	139	70 - 130	%		**



Certificate of Analytical Results

637816

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-34b** Matrix: Soil Sample Depth: 6 In
Lab Sample Id: 637816-010 Date Collected: 09.19.2019 00:00 Date Received: 09.24.2019 12:15
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3102565 Date Prep: 09.25.2019 11:00
Prep seq: 7686832

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	9.58	5.00	0.858	mg/kg	09.25.2019 11:24		1

Analytical Method: TPH by SW8015 Mod Prep Method: 8015
Analyst: DVM % Moist: Tech: DVM
Seq Number: 3103171 Date Prep: 09.27.2019 13:00
Prep seq: 7687145

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	10.02.2019 23:47	U	1
Diesel Range Organics (DRO)	C10C28DRO	54.0	50.0	15.0	mg/kg	10.02.2019 23:47		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	10.02.2019 23:47	U	1
Total TPH	PHC635	54.0		15.0	mg/kg	10.02.2019 23:47		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	127	70 - 135	%		
o-Terphenyl	125	70 - 135	%		

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: KTL % Moist: Tech: KTL
Seq Number: 3102642 Date Prep: 09.25.2019 10:15
Prep seq: 7686825

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000381	0.00198	0.000381	mg/kg	09.26.2019 11:16	U	1
Toluene	108-88-3	<0.000451	0.00198	0.000451	mg/kg	09.26.2019 11:16	U	1
Ethylbenzene	100-41-4	<0.000559	0.00198	0.000559	mg/kg	09.26.2019 11:16	U	1
m_p-Xylenes	179601-23-1	<0.00100	0.00396	0.00100	mg/kg	09.26.2019 11:16	U	1
o-Xylene	95-47-6	<0.000341	0.00198	0.000341	mg/kg	09.26.2019 11:16	U	1
Xylenes, Total	1330-20-7	<0.000341		0.000341	mg/kg	09.26.2019 11:16	U	
Total BTEX		<0.000341		0.000341	mg/kg	09.26.2019 11:16	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	91	70 - 130	%		
4-Bromofluorobenzene	127	70 - 130	%		



Certificate of Analytical Results

637816

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-36b** Matrix: Soil Sample Depth: 6 In
Lab Sample Id: 637816-011 Date Collected: 09.19.2019 00:00 Date Received: 09.24.2019 12:15
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3102565 Date Prep: 09.25.2019 11:00
Prep seq: 7686832

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	13.3	5.02	0.862	mg/kg	09.25.2019 11:43		1

Analytical Method: TPH by SW8015 Mod Prep Method: 8015
Analyst: DVM % Moist: Tech: DVM
Seq Number: 3103171 Date Prep: 09.27.2019 13:00
Prep seq: 7687145

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	10.03.2019 00:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	49.4	50.0	15.0	mg/kg	10.03.2019 00:25	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	10.03.2019 00:25	U	1
Total TPH	PHC635	49.4		15.0	mg/kg	10.03.2019 00:25	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	120	70 - 135	%		
o-Terphenyl	119	70 - 135	%		

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: KTL % Moist: Tech: KTL
Seq Number: 3102642 Date Prep: 09.25.2019 10:15
Prep seq: 7686825

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000382	0.00198	0.000382	mg/kg	09.26.2019 11:36	U	1
Toluene	108-88-3	<0.000452	0.00198	0.000452	mg/kg	09.26.2019 11:36	U	1
Ethylbenzene	100-41-4	<0.000560	0.00198	0.000560	mg/kg	09.26.2019 11:36	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00397	0.00101	mg/kg	09.26.2019 11:36	U	1
o-Xylene	95-47-6	<0.000342	0.00198	0.000342	mg/kg	09.26.2019 11:36	U	1
Xylenes, Total	1330-20-7	<0.000342		0.000342	mg/kg	09.26.2019 11:36	U	
Total BTEX		<0.000342		0.000342	mg/kg	09.26.2019 11:36	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	94	70 - 130	%		
4-Bromofluorobenzene	131	70 - 130	%		**



Certificate of Analytical Results

637816

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **7686784-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7686784-1-BLK Date Collected: Date Received:
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3102369 Date Prep: 09.24.2019 16:10
Prep seq: 7686784

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<0.858	5.00	0.858	mg/kg	09.24.2019 22:22	U	1

Sample Id: **7686825-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7686825-1-BLK Date Collected: Date Received:
Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: KTL % Moist: Tech: KTL
Seq Number: 3102642 Date Prep: 09.25.2019 10:15
Prep seq: 7686825

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	09.26.2019 06:36	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	09.26.2019 06:36	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	09.26.2019 06:36	U	1
m_p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	09.26.2019 06:36	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	09.26.2019 06:36	U	1
Xylenes, Total	1330-20-7	<0.000344		0.000344	mg/kg	09.26.2019 06:36	U	
Total BTEX		<0.000344		0.000344	mg/kg	09.26.2019 06:36	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	89	70 - 130	%		
4-Bromofluorobenzene	124	70 - 130	%		

Sample Id: **7686832-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7686832-1-BLK Date Collected: Date Received:
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3102565 Date Prep: 09.25.2019 11:00
Prep seq: 7686832

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<0.858	5.00	0.858	mg/kg	09.25.2019 11:04	U	1



Certificate of Analytical Results

637816

Tasman Geosciences, LLC, Hobbs, NM

Red Hills Station

Sample Id: 7687145-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7687145-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: DVM

% Moist:

Tech: DVM

Seq Number: 3103171

Date Prep: 09.27.2019 13:00

Prep seq: 7687145

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	10.02.2019 19:16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	10.02.2019 19:16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	10.02.2019 19:16	U	1
Total TPH	PHC635	<15.0		15.0	mg/kg	10.02.2019 19:16	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	88	70 - 135	%		
o-Terphenyl	91	70 - 135	%		



Flagging Criteria

- 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: Red Hills Station

Work Orders : 637816

Project ID:

Lab Batch #: 3102642

Sample: 7686825-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 09.26.2019 03:32

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0278	0.0300	93	70-130	
4-Bromofluorobenzene	0.0400	0.0300	133	70-130	**

Lab Batch #: 3102642

Sample: 7686825-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 09.26.2019 04:55

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0268	0.0300	89	70-130	
4-Bromofluorobenzene	0.0367	0.0300	122	70-130	

Lab Batch #: 3102642

Sample: 637816-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09.26.2019 05:36

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0289	0.0300	96	70-130	
4-Bromofluorobenzene	0.0406	0.0300	135	70-130	**

Lab Batch #: 3102642

Sample: 637816-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09.26.2019 05:56

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0307	0.0300	102	70-130	
4-Bromofluorobenzene	0.0437	0.0300	146	70-130	**

Lab Batch #: 3102642

Sample: 7686825-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 09.26.2019 06:36

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0266	0.0300	89	70-130	
4-Bromofluorobenzene	0.0372	0.0300	124	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: Red Hills Station

Work Orders : 637816

Project ID:

Lab Batch #: 3103171

Sample: 7687145-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10.02.2019 19:16

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.3	100	88	70-135	
o-Terphenyl	45.4	50.0	91	70-135	

Lab Batch #: 3103171

Sample: 7687145-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10.02.2019 19:36

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	50.4	50.0	101	70-135	

Lab Batch #: 3103171

Sample: 7687145-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10.02.2019 19:55

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	125	100	125	70-135	
o-Terphenyl	51.6	50.0	103	70-135	

Lab Batch #: 3103171

Sample: 637816-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10.02.2019 20:34

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	156	100	156	70-135	**
o-Terphenyl	50.4	50.0	101	70-135	

Lab Batch #: 3103171

Sample: 637816-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10.02.2019 20:54

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	149	100	149	70-135	**
o-Terphenyl	58.8	50.0	118	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: Red Hills Station

Work Order #: 637816

Project ID:

Analyst: KTL

Date Prepared: 09.25.2019

Date Analyzed: 09.26.2019

Lab Batch ID: 3102642

Sample: 7686825-1-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	<0.000385	0.100	0.107	107	0.100	0.104	104	3	70-130	35	
Toluene	<0.000456	0.100	0.105	105	0.100	0.104	104	1	70-130	35	
Ethylbenzene	<0.000565	0.100	0.122	122	0.100	0.124	124	2	70-130	35	
m_p-Xylenes	<0.00101	0.200	0.254	127	0.200	0.257	129	1	70-130	35	
o-Xylene	<0.000344	0.100	0.127	127	0.100	0.122	122	4	70-130	35	

Analyst: CHE

Date Prepared: 09.24.2019

Date Analyzed: 09.24.2019

Lab Batch ID: 3102369

Sample: 7686784-1-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	248	99	250	247	99	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: Red Hills Station

Work Order #: 637816

Project ID:

Analyst: CHE

Date Prepared: 09.25.2019

Date Analyzed: 09.25.2019

Lab Batch ID: 3102565

Sample: 7686832-1-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	263	105	250	263	105	0	90-110	20	

Analyst: DVM

Date Prepared: 09.27.2019

Date Analyzed: 10.02.2019

Lab Batch ID: 3103171

Sample: 7687145-1-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)	<15.0	1000	1020	102	1000	1050	105	3	70-135	20	
Diesel Range Organics (DRO)	<15.0	1000	914	91	1000	950	95	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: Red Hills Station

Work Order #: 637816

Lab Batch ID: 3102642

Date Analyzed: 09.26.2019

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 637816-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 09.25.2019

Analyst: KTL

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	<0.000388	0.101	0.0495	49	0.100	0.110	110	76	70-130	35	XF
Toluene	<0.000459	0.101	0.0247	24	0.100	0.0988	99	120	70-130	35	XF
Ethylbenzene	<0.000569	0.101	0.00500	5	0.100	0.0606	61	170	70-130	35	XF
m_p-Xylenes	<0.00102	0.202	0.0538	27	0.201	0.241	120	127	70-130	35	XF
o-Xylene	<0.000347	0.101	0.0295	29	0.100	0.121	121	122	70-130	35	XF

Lab Batch ID: 3102369

QC- Sample ID: 637497-002 S

Batch #: 1 Matrix: Soil

Date Analyzed: 09.25.2019

Date Prepared: 09.24.2019

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	380	252	617	94	252	616	94	0	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: Red Hills Station

Work Order #: 637816

Lab Batch ID: 3102369

Date Analyzed: 09.24.2019

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 637816-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 09.24.2019

Analyst: CHE

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	58.1	248	292	94	248	292	94	0	90-110	20	

Lab Batch ID: 3102565

QC- Sample ID: 637816-010 S

Batch #: 1 Matrix: Soil

Date Analyzed: 09.25.2019

Date Prepared: 09.25.2019

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	9.58	250	276	107	250	275	106	0	90-110	20	

Lab Batch ID: 3102565

QC- Sample ID: 637843-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 09.25.2019

Date Prepared: 09.25.2019

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	1160	253	1360	79	253	1350	75	1	90-110	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: Red Hills Station

Work Order # : 637816

Lab Batch ID: 3103171

Date Analyzed: 10.02.2019

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 637816-001 S

Batch #: 1 **Matrix:** Soil

Date Prepared: 09.27.2019

Analyst: DVM

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)	<15.0	1000	1010	101	1000	1200	120	17	70-135	20	
Diesel Range Organics (DRO)	214	1000	968	75	1000	1190	98	21	70-135	20	F

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

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

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



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

CHAIN OF CUSTODY

Page 1 of 1

San Antonio, Texas (210-509-3334)

Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

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Client / Reporting Information				Project Information				Analytical Information				Matrix Codes					
Company Name / Branch: Tasman Geosciences, LLC				Project Name/Number: Red Hills Station													
Company Address: 2620 W Marland Blvd. Hobbs, NM 88201				Project Location: Lea County, NM													
Email: zconder@tasman-geo.com				Phone No: 806-724-5943				Invoice To: PAALP C/O Amber Groves									
Project Contact: Zach Conder				Invoice:													
Sample's Name: B. Dennis																	
No.	Field ID / Point of Collection	Sample Depth	Collection Date	Time	Matrix	# of bottles	Number of preserved bottles	TPH 8015 M Ext	Chloride SM 4500	BTEX 8021B	RCI	TCLP RCRA8	NORM	Paint Filter	TCLP Benzene	Field Comments	
1	FL-3b	6"	9/19/2019		S	1		X	X	X							
2	FL-4b	6"	9/19/2019		S	1		X	X	X							
3	FL-6b	6"	9/19/2019		S	1		X	X	X							
4	FL-10b	6"	9/19/2019		S	1		X	X	X							
5	FL-15b	6"	9/19/2019		S	1		X	X	X							
6	FL-25b	6"	9/19/2019		S	1		X	X	X							
7	FL-27b	6"	9/19/2019		S	1		X	X	X							
8	FL-29b	1'	9/19/2019		S	1		X	X	X							
9	FL-31b	1'	9/19/2019		S	1		X	X	X							
10	FL-34b	6"	9/19/2019		S	1		X	X	X							
11	FL-36b	6"	9/19/2019		S	1		X	X	X							
12																	
Turnaround Time (Business days)				Data Deliverable Information				Notes:									
☐ Same Day TAT				☐ 5 Day TAT				☐ Level II Std QC				☐ Level IV (Full Data Pkg / raw data)					
☐ Next Day EMERGENCY				☐ 7 Day TAT				☐ Level III Std QC+ Forms				☐ TRRP Level IV					
☐ 2 Day EMERGENCY				☒ Contract TAT				☐ Level 3 (CLP Forms)				☐ UST / RG 411					
☐ 3 Day EMERGENCY								☐ TRRP Checklist									
TAT Starts Day received by Lab, if received by 5:00 pm																	
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41 MAFB

TX-US LBB

MAFB

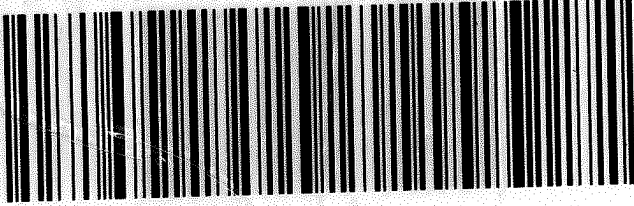
HLD

PRIORITY OVERNIGHT

TUE - 24 SEP HOLD

4705 2521 7933

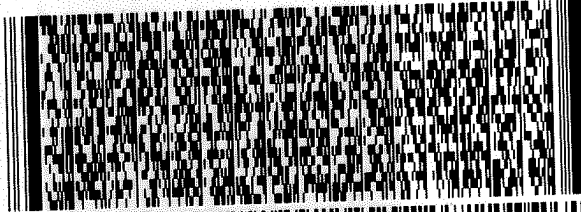
TRK# 0201



FedEx Express



J1811806501uv



ACTWGT: 22.00

CAD: 0909328/CAFE32

DIMS: 20x15x12 IN

BILL RECIPIENT

ORIGIN ID: HOB8 (8/9) 392-7830

MAIL SERVICES ETC, LLC

4008 N GRIMES

HOBBS, NM 88240

UNITED STATES US

TO XENCO LABORATORIES HOLD FOR PICK UP

FEDEX EXPRESS SHIP CENTER

FEDEX EXPRESS SHIP CENTER

3600 COUNTY ROAD 1276 SOUTH

MIDLAND TX 79711

REF: (432) 563-1800

DEPT:

551C1/9D04/1B4C

J1811806501uv

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Tasman Geosciences, LLC

Date/ Time Received: 09.24.2019 12.15.00 PM

Work Order #: 637816

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)?	-.5
#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: 09.24.2019

Checklist reviewed by:



John Builes

Date: 09.26.2019



Analytical Report 639679

for

Tasman Geosciences, LLC

Project Manager: Zach Conder

Red Hills Station

10.17.2019

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



10.17.2019

Project Manager: **Zach Conder**

Tasman Geosciences, LLC

2620 W. Marland Blvd.

Hobbs, NM 88240

Reference: XENCO Report No(s): **639679**

Red Hills Station

Project Address: Lea County, NM

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) 639679. 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. 639679 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

A handwritten signature in black ink, appearing to read 'JB', is written over a light blue rectangular background.

John Builes
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Sample Cross Reference 639679

Tasman Geosciences, LLC, Hobbs, NM

Red Hills Station

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FL-4c @1'	S	10.10.2019 15:00		639679-001

**CASE NARRATIVE****Client Name: Tasman Geosciences, LLC****Project Name: Red Hills Station**Project ID:
Work Order Number(s): 639679Report Date: 10.17.2019
Date Received: 10.10.2019

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:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3104132 BTEX by EPA 8021B

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



Certificate of Analytical Results

639679

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **FL-4c @1'**

Matrix: Soil

Sample Depth:

Lab Sample Id: 639679-001

Date Collected: 10.10.2019 15:00

Date Received: 10.10.2019 16:30

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: RNL

% Moist:

Tech: RNL

Seq Number: 3104159

Date Prep: 10.11.2019 10:15

Prep seq: 7688023

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	14.8	25.0	0.572	mg/kg	10.14.2019 10:51	J	1

Analytical Method: TPH by SW8015 Mod

Prep Method: 8015

Analyst: ISU

% Moist:

Tech: ISU

Seq Number: 3104485

Date Prep: 10.15.2019 11:33

Subcontractor: SUB: T104704215-19-30

Prep seq: 7688086

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	10.9	49.6	9.92	mg/kg	10.15.2019 20:38	J	1
Diesel Range Organics (DRO)	C10C28DRO	50.1	49.6	9.92	mg/kg	10.15.2019 20:38		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<9.92	49.6	9.92	mg/kg	10.15.2019 20:38	U	1
Total TPH	PHC635	61.0		9.92	mg/kg	10.15.2019 20:38		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	96	70 - 135	%		
o-Terphenyl	109	70 - 135	%		

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: MIT

% Moist:

Tech: MIT

Seq Number: 3104132

Date Prep: 10.11.2019 10:40

Prep seq: 7687946

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00904	0.0200	0.00904	mg/kg	10.12.2019 03:17	U	20
Toluene	108-88-3	<0.00468	0.0200	0.00468	mg/kg	10.12.2019 03:17	U	20
Ethylbenzene	100-41-4	<0.00616	0.0200	0.00616	mg/kg	10.12.2019 03:17	U	20
m_p-Xylenes	179601-23-1	0.0100	0.0400	0.00682	mg/kg	10.12.2019 03:17	J	20
o-Xylene	95-47-6	<0.00682	0.0200	0.00682	mg/kg	10.12.2019 03:17	U	20
Xylenes, Total	1330-20-7	0.0100		0.00682	mg/kg	10.12.2019 03:17	J	
Total BTEX		0.0100		0.00468	mg/kg	10.12.2019 03:17	J	

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



Certificate of Analytical Results

639679

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **7687946-1-BLK**

Matrix: Solid

Sample Depth:

Lab Sample Id: 7687946-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: MIT

% Moist:

Tech: MIT

Seq Number: 3104132

Date Prep: 10.11.2019 10:40

Prep seq: 7687946

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00904	0.0200	0.00904	mg/kg	10.12.2019 01:17	U	20
Toluene	108-88-3	<0.00468	0.0200	0.00468	mg/kg	10.12.2019 01:17	U	20
Ethylbenzene	100-41-4	<0.00616	0.0200	0.00616	mg/kg	10.12.2019 01:17	U	20
m_p-Xylenes	179601-23-1	<0.00682	0.0400	0.00682	mg/kg	10.12.2019 01:17	U	20
o-Xylene	95-47-6	<0.00682	0.0200	0.00682	mg/kg	10.12.2019 01:17	U	20

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	83	68 - 120	%		
a,a,a-Trifluorotoluene	91	71 - 121	%		

Sample Id: **7688023-1-BLK**

Matrix: Solid

Sample Depth:

Lab Sample Id: 7688023-1-BLK

Date Collected:

Date Received:

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: RNL

% Moist:

Tech: RNL

Seq Number: 3104159

Date Prep: 10.11.2019 10:15

Prep seq: 7688023

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<0.572	25.0	0.572	mg/kg	10.14.2019 10:13	U	1



Certificate of Analytical Results

639679

Tasman Geosciences, LLC, Hobbs, NM
Red Hills Station

Sample Id: **7688086-1-BLK** Matrix: Solid Sample Depth:
 Lab Sample Id: 7688086-1-BLK Date Collected: Date Received:
 Analytical Method: TPH by SW8015 Mod Prep Method: 8015
 Analyst: ISU % Moist: Tech: ISU
 Seq Number: 3104485 Date Prep: 10.14.2019 15:05
 Subcontractor: SUB: T104704215-19-30 Prep seq: 7688086

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<10.0	50.0	10.0	mg/kg	10.15.2019 10:55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<10.0	50.0	10.0	mg/kg	10.15.2019 10:55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<10.0	50.0	10.0	mg/kg	10.15.2019 10:55	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	98	70 - 135	%		
o-Terphenyl	100	70 - 135	%		



Flagging Criteria

- 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: Red Hills Station

Work Orders : 639679

Project ID:

Lab Batch #: 3104132

Sample: 7687946-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10.11.2019 23:40

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0776	0.100	78	68-120	
a,a,a-Trifluorotoluene	1.68	2.00	84	71-121	

Lab Batch #: 3104132

Sample: 7687946-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10.12.2019 00:04

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0793	0.100	79	68-120	
a,a,a-Trifluorotoluene	1.68	2.00	84	71-121	

Lab Batch #: 3104132

Sample: 7687946-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10.12.2019 01:17

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0827	0.100	83	68-120	
a,a,a-Trifluorotoluene	1.81	2.00	91	71-121	

Lab Batch #: 3104132

Sample: 639685-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10.12.2019 02:04

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0788	0.100	79	68-120	
a,a,a-Trifluorotoluene	1.83	2.00	92	71-121	

Lab Batch #: 3104132

Sample: 639685-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10.12.2019 02:29

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0950	0.100	95	68-120	
a,a,a-Trifluorotoluene	2.06	2.00	103	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: Red Hills Station

Work Orders : 639679

Project ID:

Lab Batch #: 3104485

Sample: 7688086-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10.15.2019 10:55

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.7	100	98	70-135	
o-Terphenyl	50.2	50.0	100	70-135	

Lab Batch #: 3104485

Sample: 7688086-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10.15.2019 17:49

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.4	100	99	70-135	
o-Terphenyl	47.1	50.0	94	70-135	

Lab Batch #: 3104485

Sample: 639761-021 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10.15.2019 18:46

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	101	101	70-135	
o-Terphenyl	48.6	50.3	97	70-135	

Lab Batch #: 3104485

Sample: 639761-021 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10.15.2019 19:05

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.7	100	99	70-135	
o-Terphenyl	46.8	50.1	93	70-135	

Lab Batch #: 3104485

Sample: 7688086-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10.16.2019 12:34

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	100	115	70-135	
o-Terphenyl	54.9	50.0	110	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: Red Hills Station

Work Order #: 639679

Project ID:

Analyst: MIT

Date Prepared: 10.11.2019

Date Analyzed: 10.11.2019

Lab Batch ID: 3104132

Sample: 7687946-1-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	1.76	88	2.00	1.74	87	1	55-120	20	
Toluene	<0.00468	2.00	1.78	89	2.00	1.71	86	4	77-120	20	
Ethylbenzene	<0.00616	2.00	1.89	95	2.00	1.83	92	3	77-120	20	
m_p-Xylenes	<0.00682	4.00	3.68	92	4.00	3.57	89	3	78-120	20	
o-Xylene	<0.00682	2.00	1.86	93	2.00	1.81	91	3	78-120	20	

Analyst: RNL

Date Prepared: 10.11.2019

Date Analyzed: 10.14.2019

Lab Batch ID: 3104159

Sample: 7688023-1-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	<0.572	250	256	102	250	249	100	3	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: Red Hills Station

Work Order #: 639679

Project ID:

Analyst: ISU

Date Prepared: 10.14.2019

Date Analyzed: 10.15.2019

Lab Batch ID: 3104485

Sample: 7688086-1-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)	<10.0	1000	1110	111	1000	1240	124	11	70-135	35	
Diesel Range Organics (DRO)	<10.0	1000	1150	115	1000	1250	125	8	70-135	35	

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: Red Hills Station

Work Order #: 639679

Lab Batch ID: 3104132

Date Analyzed: 10.12.2019

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 639685-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 10.11.2019

Analyst: MIT

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	<0.00904	2.00	1.79	90	2.00	1.76	88	2	54-120	25	
Toluene	0.00600	2.00	1.78	89	2.00	1.79	89	1	57-120	25	
Ethylbenzene	<0.00616	2.00	1.78	89	2.00	1.91	96	7	58-131	25	
m_p-Xylenes	<0.00682	4.00	3.49	87	4.00	3.72	93	6	62-124	25	
o-Xylene	<0.00682	2.00	1.70	85	2.00	1.80	90	6	62-124	25	

Lab Batch ID: 3104159

QC- Sample ID: 639679-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 10.14.2019

Date Prepared: 10.11.2019

Analyst: RNL

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	14.8	250	268	101	250	273	103	2	80-120	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: Red Hills Station

Work Order # : 639679

Lab Batch ID: 3104485

Date Analyzed: 10.15.2019

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 639761-021 S

Batch #: 1 Matrix: Soil

Date Prepared: 10.14.2019

Analyst: ISU

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)	<10.1	1010	1130	112	1000	1090	109	4	70-135	35	
Diesel Range Organics (DRO)	<10.1	1010	1180	117	1000	1140	114	3	70-135	35	

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.

Final 1.000



Inter Office Report- Sample Receipt Checklist

Sent To: Houston

IOS #: 49929

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : HOU-068

Sent By: Brenda Ward

Date Sent: 10.11.2019 11.34 AM

Received By: Travis Simmons

Date Received: 10.12.2019 09.45 AM

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	2.8
#2 *Shipping container in good condition?	Yes
#3 *Samples received with appropriate temperature?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 *Custody Seals Signed and dated for Containers/coolers	N/A
#6 *IOS present?	Yes
#7 Any missing/extra samples?	No
#8 IOS agrees with sample label(s)/matrix?	Yes
#9 Sample matrix/ properties agree with IOS?	Yes
#10 Samples in proper container/ bottle?	Yes
#11 Samples properly preserved?	Yes
#12 Sample container(s) intact?	Yes
#13 Sufficient sample amount for indicated test(s)?	Yes
#14 All samples received within hold time?	Yes

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Travis Simmons

Date: 10.12.2019

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Tasman Geosciences, LLC

Date/ Time Received: 10.10.2019 04.30.00 PM

Work Order #: 639679

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R4

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.4
#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:


Brenda Ward

Date: 10.11.2019

Checklist reviewed by:


John Builes

Date: 10.11.2019

Appendix C: Photo Documentation

Plains Pipeline, LP
Red Hills Station
1RP-5648



Overspray Area scrapped to 0-6 in. bgs.



Overspray Area scrapped to 0-6 in. bgs.

Plains Pipeline, LP
Red Hills Station
1RP-5648



After Micro-Blaze Application

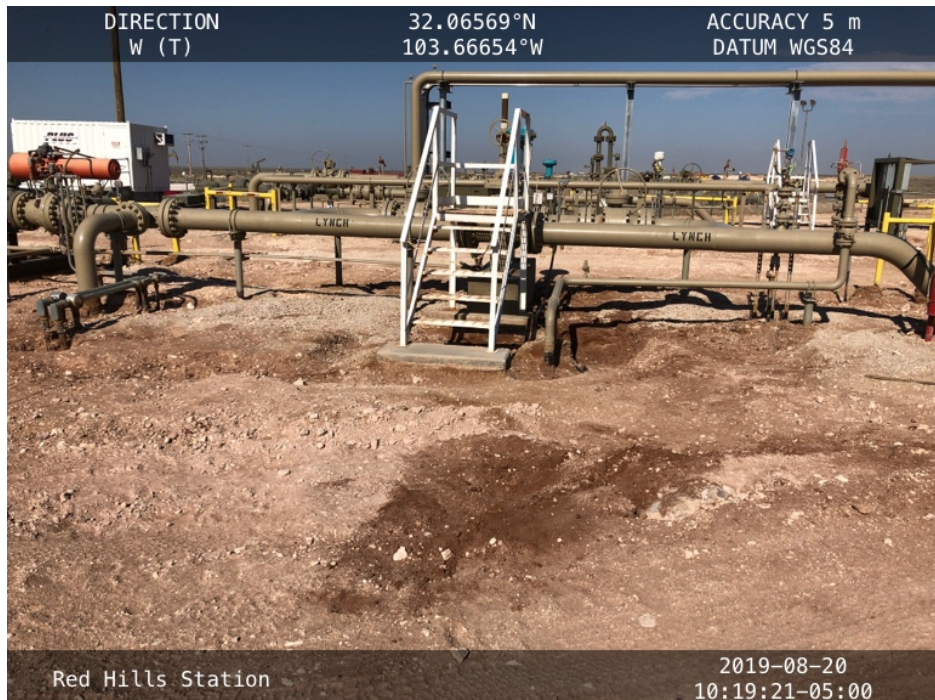


After Micro-Blaze Application

Plains Pipeline, LP
Red Hills Station
1RP-5648



Plains Pipeline, LP
Red Hills Station
1RP-5648



Plains Pipeline, LP
Red Hills Station
1RP-5648



Plains Pipeline, LP
Red Hills Station
1RP-5648



Plains Pipeline, LP
Red Hills Station
1RP-5648



Plains Pipeline, LP
Red Hills Station
1RP-5648



FL-27 Extended



FL-36 Extended

Plains Pipeline, LP
Red Hills Station
1RP-5648



FL-34 Extended



FL-25 Extended

Plains Pipeline, LP
Red Hills Station
1RP-5648



FL-10 Extended



FL-3 and FL-6 Extended

Plains Pipeline, LP
Red Hills Station
1RP-5648



FL-4 Extended



Backfilled Excavation – Facing West

**Plains Pipeline, LP
Red Hills Station
1RP-5648**



Backfilled Excavation – Facing North



Backfilled Excavation – Facing East

**Plains Pipeline, LP
Red Hills Station
1RP-5648**



Backfilled Excavation – Facing North



Backfilled Excavation – Facing West

**Plains Pipeline, LP
Red Hills Station
1RP-5648**



Backfilled Excavation – Facing South



Backfilled Excavation – Facing South

**Plains Pipeline, LP
Red Hills Station
1RP-5648**



Backfilled Excavation – Facing Southeast

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	NRM1925327699
District RP	1RP-5648
Facility ID	fRM1925327165
Application ID	pRM1925255479

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 # (assigned by OCD)
Contact mailing address 1911 Connie Road, Carlsbad NM 88220	

Location of Release Source

Latitude 32.06577502Longitude -103.66597233

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Red Hills Station	Site Type Facility
Date Release Discovered 7/26/2019	API# (if applicable)

Unit Letter	Section	Township	Range	County
N	3	26S	32E	Lea

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

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls) 32 bbls	Volume Recovered (bbls) 15 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

Crude oil release as a result of a broken nipple on the incoming meter skid.

Incident ID	NRM1925327699
District RP	1RP-5648
Facility ID	fRM1925327165
Application ID	pRM1925255479

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)? Voicemail to Dylan Rose-Coss on 7/26/2019 @ 11:51 AM by Amber Groves	

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 <u>not</u> 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: <u>Amber Groves</u> Signature: <u>[Signature]</u> email: <u>algroves@paalp.com</u>	Title: <u>Remediation Coordinator</u> Date: <u>7/30/2019</u> Telephone: <u>575-200-5517</u>
<u>OCD Only</u> Received by: <u>Ramona Marcus</u> Date: <u>9/10/2019</u>	

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