Armando Martinez
Operations Lead, Portfolio Operations Central

INFORMATION ONLY

March 8, 2021

New Mexico Oil Conservation Division – District I
1625 N. French Drive
Hobbs, New Mexico 88240

Re: 2020 Soil Assessment Report – VGSAU 135
Case No. 1RP-2438
Lea County, New Mexico

Dear Bradford Billings:

Chevron Environmental Management Company (CEMC) submits herein the *2020 Soil Assessment Report* for 1RP-2438, VGSAU 135. The Site is located approximately 1.75 miles southwest of Buckeye, in Unit G, Section 1, Township 18 South, Range 34 East, Lea County, New Mexico. The Report was prepared by Arcadis U.S., Inc. (Arcadis), on behalf of CEMC. The Report was prepared by Arcadis U.S., Inc. (Arcadis), on behalf of CEMC. Based on the 2020 soil investigation data, additional assessment activities will be evaluated, and a proposed scope will be included in a Work Plan for review and approval to further delineate chloride impact in soil.

If you have any questions regarding this submittal, please contact Scott Foord of Arcadis at (713) 953-4853 or me at (505) 690 5408.

Respectfully,

Armando Martinez

Encl. 2020 Soil Assessment Report – VGSAU 135

Armando Martinez
Operations Lead Central
Portfolio Operations - Central
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ARCADIS

Chevron Environmental Management Company

2020 Soil Assessment Report

VGSAU 135
Case No. 1RP-2438

March 2021

2020 Soil Assessment Report

VGSAU 135
Case No. 1RP-2438

March 2021

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Prepared For:
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Operations Lead Central
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Morgan Jordan
Task Manager I

Scott Foord, PG
Certified Project Manager

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1 Introduction

Arcadis U.S., Inc. (Arcadis) prepared this Site Assessment Report (Report), on behalf of Chevron Environmental Management Company (CEMC), summarizing the soil assessment activities conducted for the Vacuum Grayburg San Andres Unit VGSAU 135 (Site).

2 Project Summary

The Site is located approximately 1.75 miles southwest of Buckeye, in Unit G, Section 1, Township 18 South, Range 34 East, Lea County, New Mexico. A site location map is included as **Figure 1**.

On November 9, 2008, a contractor identified a produced water release from a high-pressure fiberglass water injection line servicing VGSAU 135, releasing 180 barrels (bbls) of produced water. The Initial C-141 Form stated a vacuum truck recovered 130 bbls of produced water. According to the New Mexico Office of the State Engineers (NMOSE) database, there is a water well approximately 0.35 miles north of the Site with a depth to groundwater of 115 feet below ground surface (bgs). The Initial C-141 Form for this release was submitted to the New Mexico Oil Conservation Division (NMOCD) on November 11, 2008 and approved by NMOCD on February 24, 2010. The release was assigned remediation permit number 1RP-2438. The Initial C-141 Form for this release is included in **Appendix A**.

3 2020 Soil Assessment

On December 15-16, 2020, Arcadis personnel collected soil samples from twenty-two locations (SB-1 through SB-22) within the release area. The sample locations were determined based on information obtained by Arcadis from the Initial C-141 Forms and from Chevron personnel familiar with the release location associated with remediation permit number 1RP-2438. The soil samples were collected with a hand auger at depths ranging from the surface to approximately 1-foot bgs. Shallow refusal was encountered in all locations. Boring logs were not generated due to the shallow depth of the borings. Each boring location was backfilled with the remaining soil. Soil sample locations are presented on **Figure 2**. The samples were collected and placed on ice for delivery to Eurofins Xenco Laboratories in Midland, Texas for analysis.

The soil samples were analyzed for:

- Benzene, toluene, ethylbenzene, and xylene (BTEX) by United States Protection Agency (USEPA) Method 8021B;
- Total Petroleum Hydrocarbons (TPH) as gasoline (TPH-GRO) by USEPA Method 8015;
- TPH as diesel (TPH-DRO) by USEPA Method 8015;
- TPH as oil (TPH-ORO) by USEPA Method 8015; and
- Chloride by USEPA Method 300.

4 Soil Analytical Results

The soil analytical results were compared to the revised New Mexico Administration Code (NMAC) screening levels for BTEX, TPH, and chloride for depth to groundwater greater than 100 feet bgs (revised Rule 19.15.29). A summary of the soil sample analytical results is presented in **Table 1**. Copies of the certified analytical reports and

chain-of-custody documentation from Eurofins Xenco Laboratories are presented in **Appendix B**. The soil analytical map is presented in **Figure 3**.

4.1 BTEX

- Benzene concentrations were reported below the NMAC standard of 10 milligrams per kilogram (mg/kg) at all sample locations.
- Total BTEX concentrations were reported below the NMAC standard of 50 mg/kg at all sample locations.

4.2 TPH

- TPH-GRO and DRO concentrations were reported below the NMAC standard of 1,000 mg/kg at all sample locations.
- Total TPH concentrations were reported below the NMAC standard of 2,500 mg/kg at all sample locations.

4.3 Chloride

- Chloride concentrations were reported below the revised Rule 19.15.29 screening limit of 20,000 mg/kg at all sample locations. However, concentrations did exceed the revised Rule (19.15.29.13) restoration screening criteria of 600 mg/kg at one sample location (SB-8).
    - SB-8 (0 – 0.25 ft) at 1,300 mg/kg

5 Conclusion

Analytical results associated with the recent assessment activities indicate that concentrations of chloride above the restoration screening criteria of 600 mg/kg within the top 4 feet bgs of the soil column are present in surface and shallow soil in the vicinity of SB-8. Based upon the findings presented in this report, additional soil assessment activities are recommended to further delineate the chloride impact in soil at the Site. The revised C-141 Form is presented in **Appendix D**.

Tables

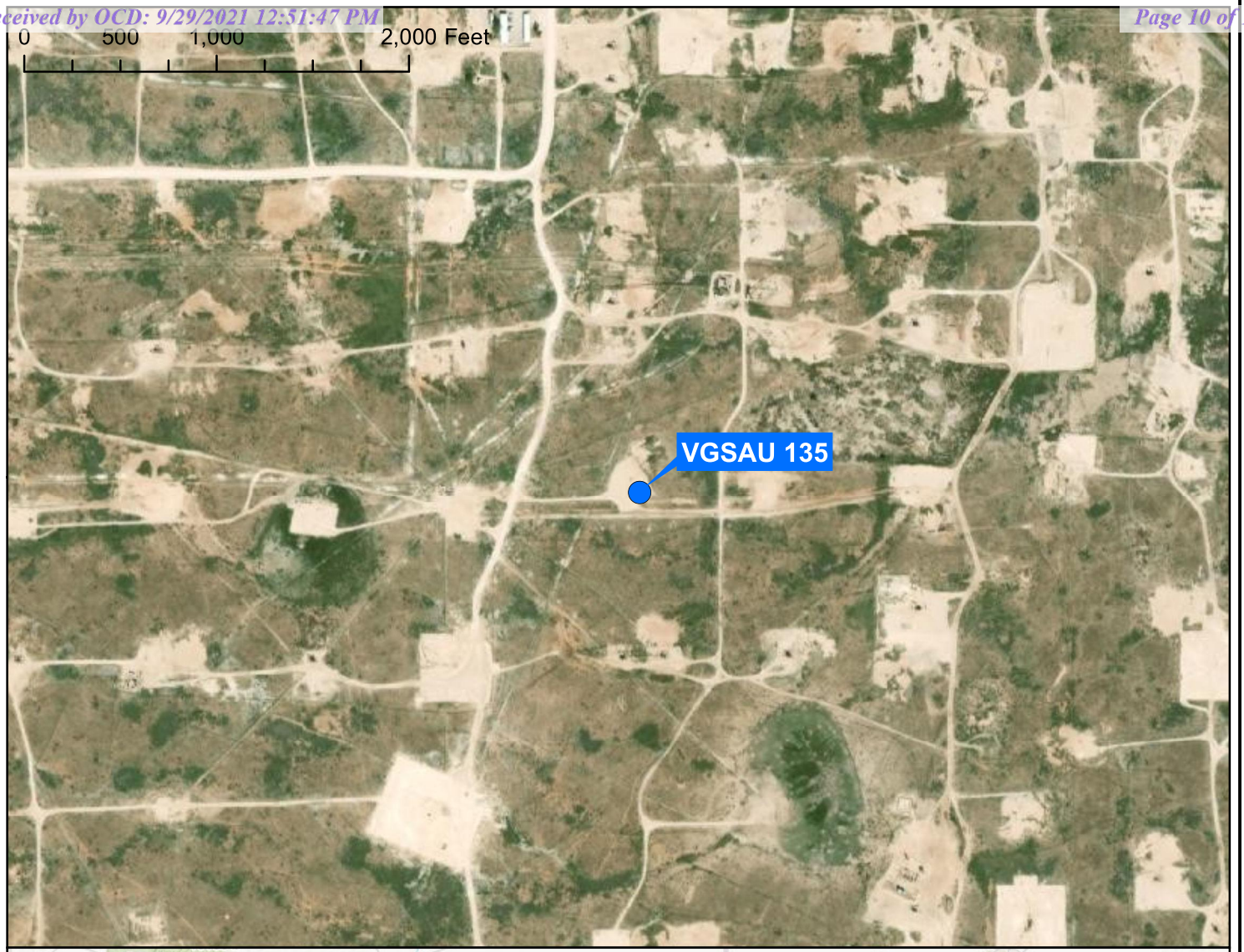
Table 1
2020 Soil Analytical Results
Chevron Environmental Management Company
VGSAU 135
Lea County, New Mexico

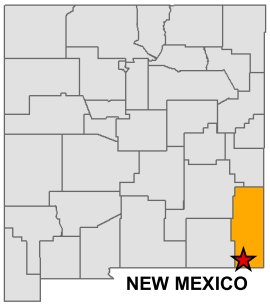
ARCADIS Design & Consultancy for natural and built assets

Sample I.D. No.	Sample Depth (feet bgs)	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	Gasoline Range Organics	Diesel Range Organics	Total GRO + DRO	Oil Range Organics	Total TPH	Chloride
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
NMAC Standards			**10**	**--**	**--**	**--**	**50**	**--**	**--**	**1,000**	**--**	**2,500**	**20,000**
Restoration Requirements													**600***
SB-1	0-0.5	12/15/20	<0.000385	<0.000456	<0.000565	<0.000344	<0.000344	<15.0	<15.0	<15.0	<15.0	<15.0	217
SB-2	0-0.25	12/15/20	<0.000386	<0.000457	<0.000567	<0.000346	<0.000346	19.5 J	<15.0	19.5 J	<15.0	19.5 J	82.5
SB-3	0-0.5	12/15/20	<0.000383	<0.000453	<0.000561	<0.000342	<0.000342	19.5 J	<14.9	19.5 J	<14.9	19.5 J	106
SB-4	0-0.5	12/15/20	<0.000383 X	<0.000453	<0.000561	<0.000342	<0.000342	20.4 J	<15.0	20.4 J	<15.0	20.4 J	203
SB-4	0-0.5	12/15/20	<0.000384	<0.000455	<0.000564	<0.000344	<0.000344	21.7 J	<15.0	21.7 J	<15.0	21.7 J	29.8
SB-6	0-0.5	12/15/20	<0.000388	<0.000459	<0.000569	<0.000347	<0.000347	22.9 J	<14.9	22.9 J	<14.9	22.9 J	404
SB-7	0-0.55	12/15/20	<0.000386	<0.000457	<0.000566	<0.000345	<0.000345	18.6 J	<15.0	18.6 J	<15.0	18.6 J	21.8
SB-8	0-0.25	12/15/20	<0.000383	<0.000454	<0.000563	<0.000343	<0.000343	17.8 J	<15.0	17.8 J	<15.0	17.8 J	***1,300***
SB-9	0-0.25	12/15/20	<0.000381	<0.000451	<0.000559	<0.000341	<0.000341	19.9 J	<15.0	19.9 J	<15.0	19.9 J	433
SB-10	0-0.25	12/15/20	<0.000384	<0.000455	<0.000564	<0.000344	<0.000344	15.5 J	20.0 J	35.5 J	21.6 J	57.1 J	349
SB-11	0-0.25	12/16/20	<0.000381	<0.000451	<0.000559	<0.000341	<0.000341	15.0 J	<15.0	15.0 J	<15.0	15.0 J	78.9
SB-12	0-0.25	12/16/20	<0.000387	<0.000458	<0.000568	<0.000346	<0.000346	<15.0	<15.0	<15.0	<15.0	<15.0	565
SB-13	0-0.25	12/16/20	<0.000385	<0.000456	<0.000565	<0.000344	<0.000344	<15.0	<15.0	<15.0	<15.0	<15.0	68.9
SB-14	0-0.25	12/16/20	<0.000386	<0.000457	<0.000567	<0.000346	<0.000346	<15.0	<15.0	<15.0	<15.0	<15.0	9.94
SB-15	0-0.5	12/16/20	<0.000383	<0.000453	<0.000561	<0.000342	<0.000342	<14.9	<14.9	<14.9	<14.9	<14.9	7.13
SB-15 (DUP)	0-0.5	12/16/20	<0.000383	<0.000453	<0.000561	<0.000342	<0.000342	<15.0	<15.0	<15.0	<15.0	<15.0	5.91
SB-16	0-0.25	12/16/20	<0.000386	<0.000457	<0.000567	<0.000346	<0.000346	<15.0	<15.0	<15.0	<15.0	<15.0	18.4
SB-17	0-0.5	12/16/20	<0.000389	<0.000460	<0.000570	<0.000348	<0.000348	<15.0	<15.0	<15.0	<15.0	<15.0	6.28
SB-18	0-0.25	12/16/20	<0.000381	<0.000451	<0.000559	<0.000341	<0.000341	<15.0	<15.0	<15.0	<15.0	<15.0	5.34
SB-19	0-0.5	12/16/20	<0.000384	<0.000455	<0.000564	<0.000344	<0.000344	<15.0	<15.0	<15.0	<15.0	<15.0	21.2
SB-20	0-0.5	12/16/20	<0.000383	<0.000453	<0.000561	<0.000342	<0.000342	<15.0	<15.0	<15.0	<15.0	<15.0	6.95
SB-20	0.5-1	12/16/20	<0.000385	<0.000456	<0.000565	<0.000344	<0.000344	<15.0	<15.0	<15.0	<15.0	<15.0	13.5
SB-21	0-0.5	12/16/20	<0.000386	<0.000457	<0.000567	<0.000346	<0.000346	<15.0	<15.0	<15.0	<15.0	<15.0	5.64
SB-22	0-0.5	12/16/20	<0.000381	<0.000451	<0.000559	<0.000341	<0.000341	<15.0	<15.0	<15.0	<15.0	<15.0	5.94

Notes:
BOLD = Analytes exceeding restoration requirements
J: Result is less than the Reporting Limit but greater than or equal to the MDL and the concentration is an approximate value
'<' indicates the analyte was not detected at or above the Method Detection Limit (MDL)
X' indicates 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.
mg/kg: Milligram per Kilogram
BTEX : Benzene, Toluene, Ethylbenzene, and Total Xylenes
NMAC : New Mexico Administration Code
TPH GRO: Total Petroleum Hydrocarbons Gasoline Range Organics
TPH ORO: Total Petroluem Hydrocarbons Oil Range Organics
TPH DRO: Total Petroleum Hydrocarbon Diesel Range Organics
" ' " : Indicates one foot
*Revised screening limit and restoration criteria within the first 4 feet below ground surface per Rule 19.15.29 effective August 14, 2018
DUP : Duplicate sample

Figures





N

NOTES:
1. Datum: D_WGS_1984
2. Site Location: 32.777084, -103.511481

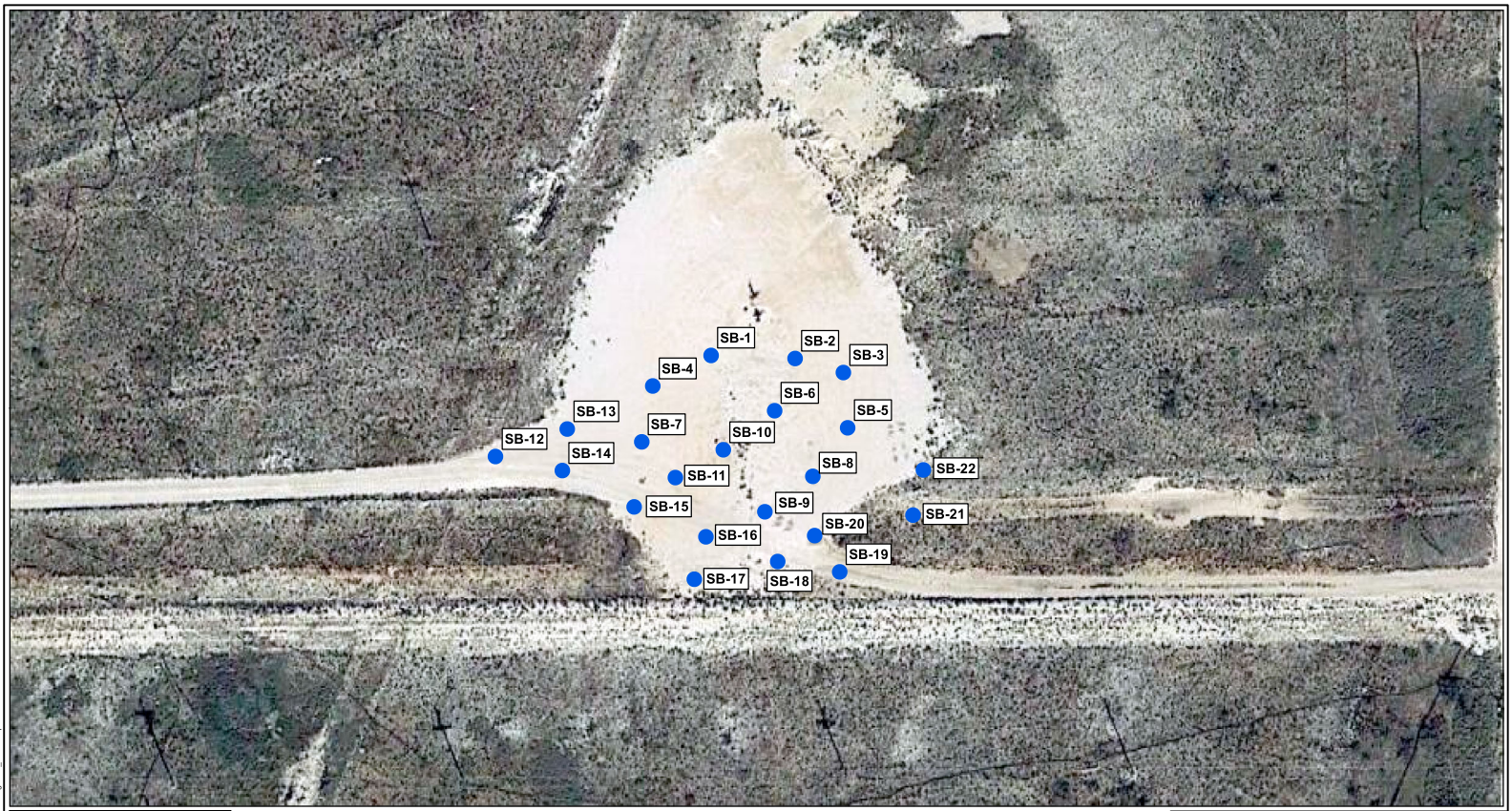
Chevron Environmental Management Company
VGSAU 135
Lea County, New Mexico

SITE LOCATION MAP

ARCADIS

FIGURE
1

P:\T:_ENV\Chevron\Chevron_VGSAU135\MXD\Figure 1_Site Location Map.mxd: 2/11/2021: 12:31:10 PM



LEGEND:

- Soil Sample Locations

NOTES:
1. Datum: GCS_WGS_1984
2. Site Location: 32.777084, -103.511481

N

0 25 50 100 Feet

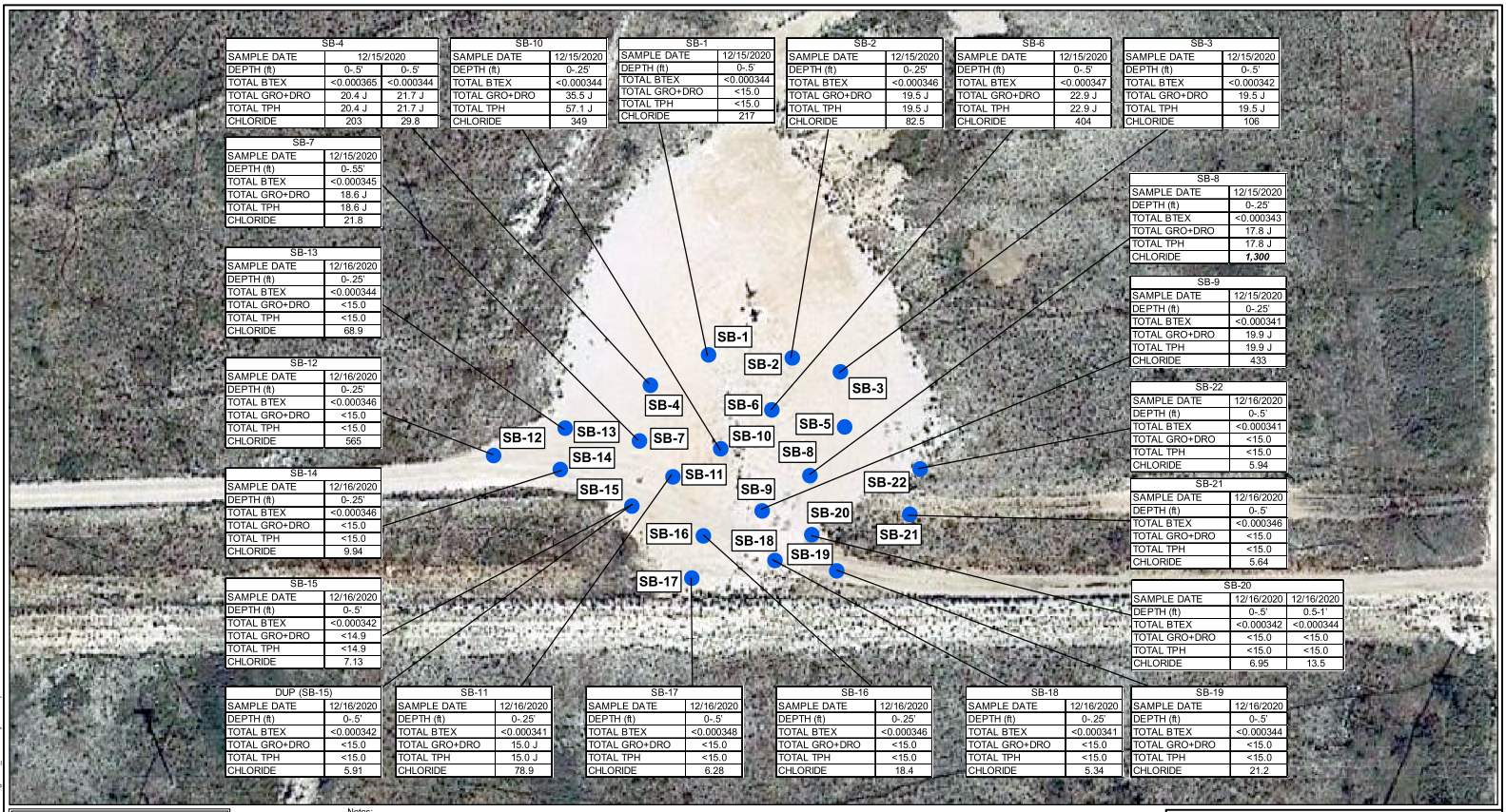
Chevron Environmental Management Company
VGSAU 135
Lea County, New Mexico

SOIL SAMPLE LOCATIONS MAP

ARCADIS

FIGURE 2

Path: T:_ENV\Chevron\Chevron_VGSAU135\MXD\Figure 2_Soil Sample Locations.mxd: 2/17/2021, 11:29:37 AM



SB-4		
SAMPLE DATE	12/15/2020	
DEPTH (ft)	0-.5'	0-.5'
TOTAL BTEX	<0.000365	<0.000344
TOTAL GRO+DRO	20.4 J	21.7 J
TOTAL TPH	20.4 J	21.7 J
CHLORIDE	203	29.8

SB-10	
SAMPLE DATE	12/15/2020
DEPTH (ft)	0-.25'
TOTAL BTEX	<0.000344
TOTAL GRO+DRO	35.5 J
TOTAL TPH	57.1 J
CHLORIDE	349

SB-1	
SAMPLE DATE	12/15/2020
DEPTH (ft)	0-.5'
TOTAL BTEX	<0.000344
TOTAL GRO+DRO	<15.0
TOTAL TPH	<15.0
CHLORIDE	217

SB-2	
SAMPLE DATE	12/15/2020
DEPTH (ft)	0-.25'
TOTAL BTEX	<0.000346
TOTAL GRO+DRO	19.5 J
TOTAL TPH	19.5 J
CHLORIDE	82.5

SB-6	
SAMPLE DATE	12/15/2020
DEPTH (ft)	0-.5'
TOTAL BTEX	<0.000347
TOTAL GRO+DRO	22.9 J
TOTAL TPH	22.9 J
CHLORIDE	404

SB-3	
SAMPLE DATE	12/15/2020
DEPTH (ft)	0-.5'
TOTAL BTEX	<0.000342
TOTAL GRO+DRO	19.5 J
TOTAL TPH	19.5 J
CHLORIDE	106

SB-7	
SAMPLE DATE	12/15/2020
DEPTH (ft)	0-.55'
TOTAL BTEX	<0.000345
TOTAL GRO+DRO	18.6 J
TOTAL TPH	18.6 J
CHLORIDE	21.8

SB-13	
SAMPLE DATE	12/16/2020
DEPTH (ft)	0-.25'
TOTAL BTEX	<0.000344
TOTAL GRO+DRO	<15.0
TOTAL TPH	<15.0
CHLORIDE	68.9

SB-12	
SAMPLE DATE	12/16/2020
DEPTH (ft)	0-.25'
TOTAL BTEX	<0.000346
TOTAL GRO+DRO	<15.0
TOTAL TPH	<15.0
CHLORIDE	565

SB-14	
SAMPLE DATE	12/16/2020
DEPTH (ft)	0-.25'
TOTAL BTEX	<0.000346
TOTAL GRO+DRO	<15.0
TOTAL TPH	<15.0
CHLORIDE	9.94

SB-15	
SAMPLE DATE	12/16/2020
DEPTH (ft)	0-.5'
TOTAL BTEX	<0.000342
TOTAL GRO+DRO	<14.9
TOTAL TPH	<14.9
CHLORIDE	7.13

DUP (SB-15)	
SAMPLE DATE	12/16/2020
DEPTH (ft)	0-.5'
TOTAL BTEX	<0.000342
TOTAL GRO+DRO	<15.0
TOTAL TPH	<15.0
CHLORIDE	5.91

SB-11	
SAMPLE DATE	12/16/2020
DEPTH (ft)	0-.25'
TOTAL BTEX	<0.000341
TOTAL GRO+DRO	15.0 J
TOTAL TPH	15.0 J
CHLORIDE	78.9

SB-17	
SAMPLE DATE	12/16/2020
DEPTH (ft)	0-.5'
TOTAL BTEX	<0.000348
TOTAL GRO+DRO	<15.0
TOTAL TPH	<15.0
CHLORIDE	6.28

SB-16	
SAMPLE DATE	12/16/2020
DEPTH (ft)	0-.25'
TOTAL BTEX	<0.000346
TOTAL GRO+DRO	<15.0
TOTAL TPH	<15.0
CHLORIDE	18.4

SB-18	
SAMPLE DATE	12/16/2020
DEPTH (ft)	0-.25'
TOTAL BTEX	<0.000341
TOTAL GRO+DRO	<15.0
TOTAL TPH	<15.0
CHLORIDE	5.34

SB-19	
SAMPLE DATE	12/16/2020
DEPTH (ft)	0-.5'
TOTAL BTEX	<0.000344
TOTAL GRO+DRO	<15.0
TOTAL TPH	<15.0
CHLORIDE	21.2

SB-8	
SAMPLE DATE	12/15/2020
DEPTH (ft)	0-.25'
TOTAL BTEX	<0.000343
TOTAL GRO+DRO	17.8 J
TOTAL TPH	17.8 J
CHLORIDE	***1,300***

SB-9	
SAMPLE DATE	12/15/2020
DEPTH (ft)	0-.25'
TOTAL BTEX	<0.000341
TOTAL GRO+DRO	19.9 J
TOTAL TPH	19.9 J
CHLORIDE	433

SB-22	
SAMPLE DATE	12/16/2020
DEPTH (ft)	0-.5'
TOTAL BTEX	<0.000341
TOTAL GRO+DRO	<15.0
TOTAL TPH	<15.0
CHLORIDE	5.94

SB-21	
SAMPLE DATE	12/16/2020
DEPTH (ft)	0-.5'
TOTAL BTEX	<0.000346
TOTAL GRO+DRO	<15.0
TOTAL TPH	<15.0
CHLORIDE	5.64

SB-20		
SAMPLE DATE	12/16/2020	12/16/2020
DEPTH (ft)	0-.5'	0.5-1'
TOTAL BTEX	<0.000342	<0.000344
TOTAL GRO+DRO	<15.0	<15.0
TOTAL TPH	<15.0	<15.0
CHLORIDE	6.95	13.5

LEGEND:

- Soil Sample Locations

NOTES:
1. Datum: GCS_WGS_1984
2. Site Location: 32.777084, -103.511481

Notes:
1. ***BOLD*** *= Analytes exceeding NMAC standards and restoration requirements for Chloride*
2. '<' Indicates the analyte was not detected at or above the Method Detection Limit (MDL).
3. J Indicates Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
4. NMAC Indicates New Mexico Administration Code.
5. All values are in mg/kg (Milligram per Kilogram).
6. "-" Indicates one foot.
7. BTEX Indicates Benzene, Toluene, Ethylbenzene, and Total Xylenes.
8. TPH GRO Indicates Total Petroleum Hydrocarbons Gasoline Range Organics.
9. TPH ORO Indicates Total Petroleum Hydrocarbons Oil Range Organics.
10. TPH DRO Indicates Total Petroleum Hydrocarbon Diesel Range Organics.
11. *Revised screening limit and restoration criteria within the first 4 feet below ground surface per Rule 19.15.29 effective August
12. Chloride analyzed by USEPA Method 300.0.
13. TPH analyzed by DRO/ORO Method SW8015.
14. BTEX analyzed by USEPA Method 8021B.
15. Closure Criteria New Mexico Administrative Code 19.15.29.12.E(2).

N

0 25 50 100 Feet

Chevron Environmental Management Company
VGSAU 135
Lea County, New Mexico

SOIL ANALYTICAL RESULTS MAP

ARCADIS

FIGURE 3

Path: T:_ENV\Chevron\Chevron_VGSAU135MXD\Figure 3_Soil Analytical Map.mxd 2/17/2021 11:15:47 AM

Appendix A

Initial C-141 Forms 1RP-2438

AE Order Number Banner

Report Description

This report shows an AE Order Number in Barcode format for purposes of scanning. The Barcode format is Code 39.

App Number: pJXK1606151154

1RP - 2438

CHEVRON U S A INC

3/1/2016

MAR 07 2016

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

X Initial Report Final Report

Name of Company Chevron USA	Contact TEJAY SIMPSON
Address HCR 60 Box 423 Lovington, N.M. 88260	Telephone No. 505-396-4414 X 101
Facility Name Vacuum Grayburg San Andres Unit WIW No. 135. API No. 30-025-35561	Facility Type Water Injection Line

Surface Owner STATE OF NEW MEXICO	Mineral Owner State of NM	Lease No.

LOCATION OF RELEASE

30 025 3 5561

Unit Letter	Section	Township	Range	Feet from the	South Line	Feet from the	West Line	County
G	1	18.0S	34E	2535 FNL		1930 FEL		Lea

LEAK SITE IS ADJACENT TO VGSAU INJECTION SATELLITE NO. 3: Latitude 32.77728 **Longitude** -103.51179

NATURE OF RELEASE

WTR 120

Type of Release Produced Water	Volume of Release 180 BBLS PRODUCED WATER	Volume Recovered 130 BBLS PW fluids.
Source of Release HIGH PRESSURE FG WATER INJECTION LINE	Date and Hour of Occurrence 10/08/08 2:00 AM (EST)	Date and Hour of Discovery 10/08/08 03:00 AM (EST)
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? August Venagas made initial notification for Tejay Simpson at 11:43 AM and initiated fluid recovery. Mark Whitaker was notified at 10:00 AM Sunday, November 9, 2008	
By Whom? TEJAY SIMPSON	Date and Hour 11/09/08 10:00 AM	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

During the early morning of Saturday, November 8, 2008 the high pressure fiberglass water injection line servicing Vacuum Grayburg San Andres Unit Well No. 135 developed a leak. During his routine round the Night Rider (Contract Pumper that performs surveillance from 7:00 PM to 4:00 AM) smelled produced water and investigated. The leak was found and isolation valves were closed at the injection header and well location to stop the release. Excavation of leak site has not been conducted at time of report but it is suspected that the FG line failure occurred at the point of transition from steel to FG.

Based upon total area of impact, estimated depth of free standing fluid and early estimate of average soil penetration, an estimate of 180 barrels of produced water was released. Vacuum truck was dispatched and recovered 130 barrels of produced water. Notification of final fluid recovery was provided to Tejay Simpson at approximately 8:00 PM Saturday, November 8, 2008.

Average depth of penetration was initially estimated at 12" over the pooled area for purpose of completing the release estimate volumes. Actual depth of impact and delineation to occur during impact delineation investigation.

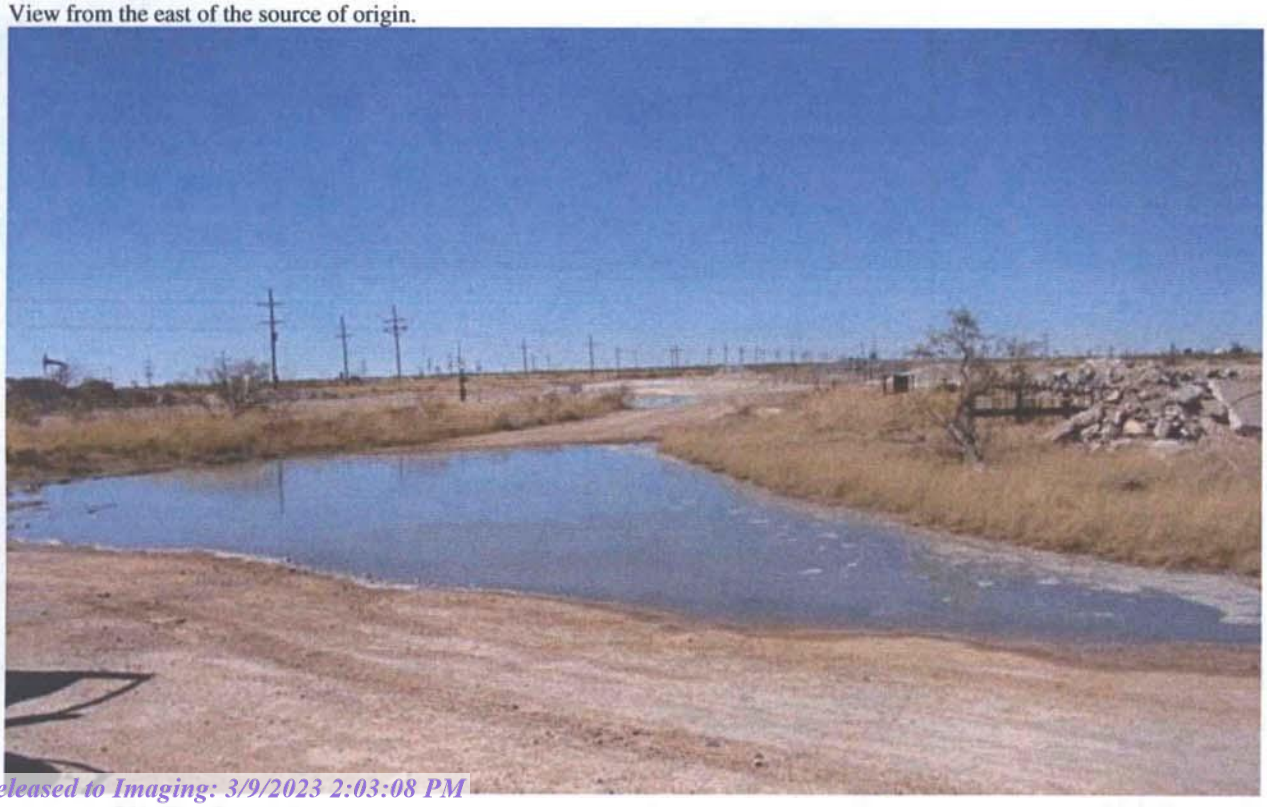
Describe Area Affected and Cleanup Action Taken.*

The Majority of the fluid pooled up on the adjacent caliche packed injection header access pad and roadway. Some impact to adjacent pasture land.

See Pictures of impact area:

Area due south of leak origin.

View from the east of the source of origin.



I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	OIL CONSERVATION DIVISION		
Printed Name: TEJAY SIMPSON	Approved by District Supervisor: ENVIRONMENTAL ENGINEER		
Title: OPERATIONS SUPERVISOR	Approval Date: 2.24.10	Expiration Date:	
E-mail Address tsimpson@chevron.com	Conditions of Approval:	Attached ☐	
Date: 11/11/08 Phone: 396-4414 X 101		IRP# 10.2.2438	

* Attach Additional Sheets If Necessary

Appendix B

Laboratory Reports

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Analytical Report 681217

for

ARCADIS

Project Manager: Morgan Jordan

VGSAU-135 30064836

60012136

12.21.2020

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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12.21.2020

Project Manager: **Morgan Jordan**
ARCADIS
1004 N. Big Spring St.
Midland, TX 79701

Reference: Eurofins Xenco, LLC Report No(s): **681217**
VGSAU-135 30064836
Project Address:

Morgan Jordan:

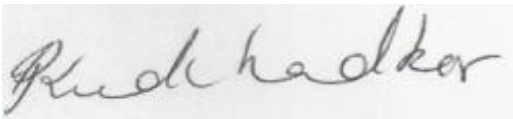
We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 681217. All results being reported under this Report Number apply to the samples analyzed and properly identified 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 Eurofins Xenco, LLC. 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. 681217 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,



Sachin Kudchadkar
Project Manager

A Small Business and Minority Company

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

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Sample Cross Reference 681217

ARCADIS, Midland, TX

VGSAU-135 30064836

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-1-S-0-.5-201215	S	12.15.2020 10:04		681217-001
SB-2-S-0-.25-201215	S	12.15.2020 10:15		681217-002
SB-3-S-0-.5-201215	S	12.15.2020 10:23		681217-003
SB-4-S-0-.5-201215	S	12.15.2020 10:35		681217-004
SB-4-S-0-.5-201215	S	12.15.2020 11:50		681217-005
SB-6-S-0-.5-201215	S	12.15.2020 11:57		681217-006
SB-7-S-0-.55-201215	S	12.15.2020 12:02		681217-007
SB-8-S-0-.25-201215	S	12.15.2020 12:13		681217-008
SB-9-S-0-.25-201215	S	12.15.2020 12:17		681217-009
SB-10-S-0-.25-201215	S	12.15.2020 12:23		681217-010

CASE NARRATIVE

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Client Name: ARCADIS

Project Name: VGSAU-135 30064836

Project ID: *60012136*
Work Order Number(s): *681217*

Report Date: *12.21.2020*
Date Received: *12.15.2020*

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-3145183 BTEX by EPA 8021B

Lab Sample ID 681217-004 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, m,p-Xylenes 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: 681217-004, -005, -006, -007, -008, -009, -010.

The Laboratory Control Sample for Benzene, m,p-Xylenes is within laboratory Control Limits, therefore the data was accepted.

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Certificate of Analytical Results 681217

ARCADIS, Midland, TX

VGSAU-135 30064836

Sample Id: **SB-1-S-0-.5-201215** Matrix: Solid Date Received:12.15.2020 17:28

Lab Sample Id: 681217-001 Date Collected: 12.15.2020 10:04

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 12.17.2020 16:10 % Moisture:

Seq Number: 3145295 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**217**	4.97	0.853	mg/kg	12.17.2020 18:29		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 12.17.2020 11:00 % Moisture:

Seq Number: 3145318 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	12.17.2020 12:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	12.17.2020 12:45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	12.17.2020 12:45	U	1
Total TPH	PHC635	<15.0	50.0	15.0	mg/kg	12.17.2020 12:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-130	12.17.2020 12:45	
o-Terphenyl	84-15-1	104	%	70-130	12.17.2020 12:45	

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Certificate of Analytical Results 681217

ARCADIS, Midland, TX

VGSAU-135 30064836

Sample Id:	**SB-1-S-0-.5-201215**	Matrix:	Solid	Date Received:	12.15.2020 17:28
Lab Sample Id:	681217-001	Date Collected:	12.15.2020 10:04		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	12.16.2020 14:00	% Moisture:	
Seq Number:	3145180			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	12.16.2020 19:43	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	12.16.2020 19:43	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	12.16.2020 19:43	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	12.16.2020 19:43	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	12.16.2020 19:43	U	1
Total Xylenes	1330-20-7	<0.000344	0.00200	0.000344	mg/kg	12.16.2020 19:43	U	1
Total BTEX		<0.000344	0.00200	0.000344	mg/kg	12.16.2020 19:43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	82	%	70-130	12.16.2020 19:43	
4-Bromofluorobenzene	460-00-4	97	%	70-130	12.16.2020 19:43	

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Certificate of Analytical Results 681217

ARCADIS, Midland, TX

VGSAU-135 30064836

Sample Id: **SB-2-S-0-.25-201215** Matrix: Solid Date Received:12.15.2020 17:28

Lab Sample Id: 681217-002 Date Collected: 12.15.2020 10:15

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 12.17.2020 16:10 % Moisture:

Seq Number: 3145295 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**82.5**	4.99	0.857	mg/kg	12.17.2020 18:34		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 12.17.2020 11:00 % Moisture:

Seq Number: 3145318 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**19.5**	49.9	15.0	mg/kg	12.17.2020 13:40	J	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	49.9	15.0	mg/kg	12.17.2020 13:40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	49.9	15.0	mg/kg	12.17.2020 13:40	U	1
Total TPH	PHC635	**19.5**	49.9	15.0	mg/kg	12.17.2020 13:40	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-130	12.17.2020 13:40	
o-Terphenyl	84-15-1	104	%	70-130	12.17.2020 13:40	

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Certificate of Analytical Results 681217

ARCADIS, Midland, TX

VGSAU-135 30064836

Sample Id:	**SB-2-S-0-.25-201215**	Matrix:	Solid	Date Received:	12.15.2020 17:28
Lab Sample Id:	681217-002	Date Collected:	12.15.2020 10:15		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	12.16.2020 14:00	% Moisture:	
Seq Number:	3145180			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000386	0.00201	0.000386	mg/kg	12.16.2020 20:03	U	1
Toluene	108-88-3	<0.000457	0.00201	0.000457	mg/kg	12.16.2020 20:03	U	1
Ethylbenzene	100-41-4	<0.000567	0.00201	0.000567	mg/kg	12.16.2020 20:03	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	12.16.2020 20:03	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	12.16.2020 20:03	U	1
Total Xylenes	1330-20-7	<0.000346	0.00201	0.000346	mg/kg	12.16.2020 20:03	U	1
Total BTEX		<0.000346	0.00201	0.000346	mg/kg	12.16.2020 20:03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	80	%	70-130	12.16.2020 20:03	
4-Bromofluorobenzene	460-00-4	98	%	70-130	12.16.2020 20:03	

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Certificate of Analytical Results 681217

ARCADIS, Midland, TX

VGSAU-135 30064836

Sample Id: **SB-3-S-0-.5-201215** Matrix: Solid Date Received:12.15.2020 17:28

Lab Sample Id: 681217-003 Date Collected: 12.15.2020 10:23

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 12.17.2020 16:10 % Moisture:

Seq Number: 3145295 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**106**	5.05	0.867	mg/kg	12.17.2020 18:39		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 12.17.2020 11:00 % Moisture:

Seq Number: 3145318 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**19.5**	49.8	14.9	mg/kg	12.17.2020 13:59	J	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	49.8	14.9	mg/kg	12.17.2020 13:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	49.8	14.9	mg/kg	12.17.2020 13:59	U	1
Total TPH	PHC635	**19.5**	49.8	14.9	mg/kg	12.17.2020 13:59	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-130	12.17.2020 13:59	
o-Terphenyl	84-15-1	110	%	70-130	12.17.2020 13:59	

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Certificate of Analytical Results 681217

ARCADIS, Midland, TX

VGSAU-135 30064836

Sample Id:	**SB-3-S-0-.5-201215**	Matrix:	Solid	Date Received:	12.15.2020 17:28
Lab Sample Id:	681217-003	Date Collected:	12.15.2020 10:23		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	12.16.2020 14:00	% Moisture:	
Seq Number:	3145180			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	12.16.2020 20:24	U	1
Toluene	108-88-3	<0.000453	0.00199	0.000453	mg/kg	12.16.2020 20:24	U	1
Ethylbenzene	100-41-4	<0.000561	0.00199	0.000561	mg/kg	12.16.2020 20:24	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	12.16.2020 20:24	U	1
o-Xylene	95-47-6	<0.000342	0.00199	0.000342	mg/kg	12.16.2020 20:24	U	1
Total Xylenes	1330-20-7	<0.000342	0.00199	0.000342	mg/kg	12.16.2020 20:24	U	1
Total BTEX		<0.000342	0.00199	0.000342	mg/kg	12.16.2020 20:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	12.16.2020 20:24	
1,4-Difluorobenzene	540-36-3	82	%	70-130	12.16.2020 20:24	

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Certificate of Analytical Results 681217

ARCADIS, Midland, TX

VGSAU-135 30064836

Sample Id: **SB-4-S-0-.5-201215** Matrix: Solid Date Received:12.15.2020 17:28

Lab Sample Id: 681217-004 Date Collected: 12.15.2020 10:35

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 12.17.2020 16:10 % Moisture:

Seq Number: 3145295 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**203**	4.96	0.852	mg/kg	12.17.2020 18:44		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 12.17.2020 11:00 % Moisture:

Seq Number: 3145318 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**20.4**	50.0	15.0	mg/kg	12.17.2020 14:18	J	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	12.17.2020 14:18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	12.17.2020 14:18	U	1
Total TPH	PHC635	**20.4**	50.0	15.0	mg/kg	12.17.2020 14:18	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-130	12.17.2020 14:18	
o-Terphenyl	84-15-1	104	%	70-130	12.17.2020 14:18	

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Certificate of Analytical Results 681217

ARCADIS, Midland, TX

VGSAU-135 30064836

Sample Id:	**SB-4-S-0-.5-201215**	Matrix:	Solid	Date Received:	12.15.2020 17:28
Lab Sample Id:	681217-004	Date Collected:	12.15.2020 10:35		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	12.16.2020 17:00	% Moisture:	
Seq Number:	3145183			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	12.17.2020 04:37	UX	1
Toluene	108-88-3	<0.000453	0.00199	0.000453	mg/kg	12.17.2020 04:37	U	1
Ethylbenzene	100-41-4	<0.000561	0.00199	0.000561	mg/kg	12.17.2020 04:37	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	12.17.2020 04:37	UX	1
o-Xylene	95-47-6	<0.000342	0.00199	0.000342	mg/kg	12.17.2020 04:37	U	1
Total Xylenes	1330-20-7	<0.000342	0.00199	0.000342	mg/kg	12.17.2020 04:37	U	1
Total BTEX		<0.000342	0.00199	0.000342	mg/kg	12.17.2020 04:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	88	%	70-130	12.17.2020 04:37	
1,4-Difluorobenzene	540-36-3	81	%	70-130	12.17.2020 04:37	

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Certificate of Analytical Results 681217

ARCADIS, Midland, TX

VGSAU-135 30064836

Sample Id:	**SB-4-S-0-.5-201215**	Matrix:	Solid	Date Received:	12.15.2020 17:28
Lab Sample Id:	681217-005	Date Collected:	12.15.2020 11:50		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE				
Analyst:	CHE	Date Prep:	12.17.2020 16:10	% Moisture:	
Seq Number:	3145295			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**29.8**	4.98	0.855	mg/kg	12.17.2020 18:50		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM				
Analyst:	ARM	Date Prep:	12.17.2020 11:00	% Moisture:	
Seq Number:	3145318			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**21.7**	50.0	15.0	mg/kg	12.17.2020 14:36	J	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	12.17.2020 14:36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	12.17.2020 14:36	U	1
Total TPH	PHC635	**21.7**	50.0	15.0	mg/kg	12.17.2020 14:36	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-130	12.17.2020 14:36	
o-Terphenyl	84-15-1	101	%	70-130	12.17.2020 14:36	

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Certificate of Analytical Results 681217

ARCADIS, Midland, TX

VGSAU-135 30064836

Sample Id:	**SB-4-S-0-.5-201215**	Matrix:	Solid	Date Received:	12.15.2020 17:28
Lab Sample Id:	681217-005	Date Collected:	12.15.2020 11:50		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	12.16.2020 17:00	% Moisture:	
Seq Number:	3145183			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000384	0.00200	0.000384	mg/kg	12.17.2020 04:57	U	1
Toluene	108-88-3	<0.000455	0.00200	0.000455	mg/kg	12.17.2020 04:57	U	1
Ethylbenzene	100-41-4	<0.000564	0.00200	0.000564	mg/kg	12.17.2020 04:57	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00399	0.00101	mg/kg	12.17.2020 04:57	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	12.17.2020 04:57	U	1
Total Xylenes	1330-20-7	<0.000344	0.00200	0.000344	mg/kg	12.17.2020 04:57	U	1
Total BTEX		<0.000344	0.00200	0.000344	mg/kg	12.17.2020 04:57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	70-130	12.17.2020 04:57	
1,4-Difluorobenzene	540-36-3	78	%	70-130	12.17.2020 04:57	

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Certificate of Analytical Results 681217

ARCADIS, Midland, TX

VGSAU-135 30064836

Sample Id: **SB-6-S-0-.5-201215** Matrix: Solid Date Received:12.15.2020 17:28

Lab Sample Id: 681217-006 Date Collected: 12.15.2020 11:57

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 12.17.2020 16:10 % Moisture:

Seq Number: 3145295 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**404**	4.96	0.852	mg/kg	12.17.2020 18:55		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 12.17.2020 11:00 % Moisture:

Seq Number: 3145318 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**22.9**	49.8	14.9	mg/kg	12.17.2020 14:55	J	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	49.8	14.9	mg/kg	12.17.2020 14:55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	49.8	14.9	mg/kg	12.17.2020 14:55	U	1
Total TPH	PHC635	**22.9**	49.8	14.9	mg/kg	12.17.2020 14:55	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-130	12.17.2020 14:55	
o-Terphenyl	84-15-1	103	%	70-130	12.17.2020 14:55	

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Certificate of Analytical Results 681217

ARCADIS, Midland, TX

VGSAU-135 30064836

Sample Id:	**SB-6-S-0-.5-201215**	Matrix:	Solid	Date Received:	12.15.2020 17:28
Lab Sample Id:	681217-006	Date Collected:	12.15.2020 11:57		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	12.16.2020 17:00	% Moisture:	
Seq Number:	3145183			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000388	0.00202	0.000388	mg/kg	12.17.2020 05:18	U	1
Toluene	108-88-3	<0.000459	0.00202	0.000459	mg/kg	12.17.2020 05:18	U	1
Ethylbenzene	100-41-4	<0.000569	0.00202	0.000569	mg/kg	12.17.2020 05:18	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00403	0.00102	mg/kg	12.17.2020 05:18	U	1
o-Xylene	95-47-6	<0.000347	0.00202	0.000347	mg/kg	12.17.2020 05:18	U	1
Total Xylenes	1330-20-7	<0.000347	0.00202	0.000347	mg/kg	12.17.2020 05:18	U	1
Total BTEX		<0.000347	0.00202	0.000347	mg/kg	12.17.2020 05:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	83	%	70-130	12.17.2020 05:18	
4-Bromofluorobenzene	460-00-4	100	%	70-130	12.17.2020 05:18	

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Certificate of Analytical Results 681217

ARCADIS, Midland, TX

VGSAU-135 30064836

Sample Id: **SB-7-S-0-.55-201215** Matrix: Solid Date Received:12.15.2020 17:28
Lab Sample Id: 681217-007 Date Collected: 12.15.2020 12:02

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE
Analyst: CHE Date Prep: 12.17.2020 16:10 % Moisture:
Seq Number: 3145295 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**21.8**	4.98	0.855	mg/kg	12.17.2020 19:00		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
Tech: DVM
Analyst: ARM Date Prep: 12.17.2020 11:00 % Moisture:
Seq Number: 3145318 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**18.6**	50.0	15.0	mg/kg	12.17.2020 15:13	J	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	12.17.2020 15:13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	12.17.2020 15:13	U	1
Total TPH	PHC635	**18.6**	50.0	15.0	mg/kg	12.17.2020 15:13	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-130	12.17.2020 15:13	
o-Terphenyl	84-15-1	106	%	70-130	12.17.2020 15:13	

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Certificate of Analytical Results 681217

ARCADIS, Midland, TX

VGSAU-135 30064836

Sample Id:	**SB-7-S-0-.55-201215**	Matrix:	Solid	Date Received:	12.15.2020 17:28
Lab Sample Id:	681217-007	Date Collected:	12.15.2020 12:02		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	12.16.2020 17:00	% Moisture:	
Seq Number:	3145183			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000386	0.00200	0.000386	mg/kg	12.17.2020 05:38	U	1
Toluene	108-88-3	<0.000457	0.00200	0.000457	mg/kg	12.17.2020 05:38	U	1
Ethylbenzene	100-41-4	<0.000566	0.00200	0.000566	mg/kg	12.17.2020 05:38	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00401	0.00102	mg/kg	12.17.2020 05:38	U	1
o-Xylene	95-47-6	<0.000345	0.00200	0.000345	mg/kg	12.17.2020 05:38	U	1
Total Xylenes	1330-20-7	<0.000345	0.00200	0.000345	mg/kg	12.17.2020 05:38	U	1
Total BTEX		<0.000345	0.00200	0.000345	mg/kg	12.17.2020 05:38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	12.17.2020 05:38	
1,4-Difluorobenzene	540-36-3	79	%	70-130	12.17.2020 05:38	

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Certificate of Analytical Results 681217

ARCADIS, Midland, TX

VGSAU-135 30064836

Sample Id: **SB-8-S-0-.25-201215** Matrix: Solid Date Received:12.15.2020 17:28

Lab Sample Id: 681217-008 Date Collected: 12.15.2020 12:13

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 12.17.2020 16:20 % Moisture:

Seq Number: 3145300 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1300**	5.00	0.858	mg/kg	12.17.2020 19:47		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 12.17.2020 11:00 % Moisture:

Seq Number: 3145318 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**17.8**	49.9	15.0	mg/kg	12.17.2020 15:32	J	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	49.9	15.0	mg/kg	12.17.2020 15:32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	49.9	15.0	mg/kg	12.17.2020 15:32	U	1
Total TPH	PHC635	**17.8**	49.9	15.0	mg/kg	12.17.2020 15:32	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-130	12.17.2020 15:32	
o-Terphenyl	84-15-1	106	%	70-130	12.17.2020 15:32	

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Certificate of Analytical Results 681217

ARCADIS, Midland, TX

VGSAU-135 30064836

Sample Id:	**SB-8-S-0-.25-201215**	Matrix:	Solid	Date Received:	12.15.2020 17:28
Lab Sample Id:	681217-008	Date Collected:	12.15.2020 12:13		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	12.16.2020 17:00	% Moisture:	
Seq Number:	3145183			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	12.17.2020 08:30	U	1
Toluene	108-88-3	<0.000454	0.00199	0.000454	mg/kg	12.17.2020 08:30	U	1
Ethylbenzene	100-41-4	<0.000563	0.00199	0.000563	mg/kg	12.17.2020 08:30	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	12.17.2020 08:30	U	1
o-Xylene	95-47-6	<0.000343	0.00199	0.000343	mg/kg	12.17.2020 08:30	U	1
Total Xylenes	1330-20-7	<0.000343	0.00199	0.000343	mg/kg	12.17.2020 08:30	U	1
Total BTEX		<0.000343	0.00199	0.000343	mg/kg	12.17.2020 08:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	12.17.2020 08:30	
1,4-Difluorobenzene	540-36-3	76	%	70-130	12.17.2020 08:30	

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Certificate of Analytical Results 681217

ARCADIS, Midland, TX

VGSAU-135 30064836

Sample Id: **SB-9-S-0-.25-201215** Matrix: Solid Date Received:12.15.2020 17:28

Lab Sample Id: 681217-009 Date Collected: 12.15.2020 12:17

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 12.17.2020 16:20 % Moisture:

Seq Number: 3145300 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**433**	4.96	0.852	mg/kg	12.17.2020 19:31		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 12.17.2020 11:00 % Moisture:

Seq Number: 3145318 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**19.9**	50.0	15.0	mg/kg	12.17.2020 15:50	J	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	12.17.2020 15:50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	12.17.2020 15:50	U	1
Total TPH	PHC635	**19.9**	50.0	15.0	mg/kg	12.17.2020 15:50	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-130	12.17.2020 15:50	
o-Terphenyl	84-15-1	106	%	70-130	12.17.2020 15:50	

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Certificate of Analytical Results 681217

ARCADIS, Midland, TX

VGSAU-135 30064836

Sample Id:	**SB-9-S-0-.25-201215**	Matrix:	Solid	Date Received:	12.15.2020 17:28
Lab Sample Id:	681217-009	Date Collected:	12.15.2020 12:17		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	12.16.2020 17:00	% Moisture:	
Seq Number:	3145183			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000381	0.00198	0.000381	mg/kg	12.17.2020 08:50	U	1
Toluene	108-88-3	<0.000451	0.00198	0.000451	mg/kg	12.17.2020 08:50	U	1
Ethylbenzene	100-41-4	<0.000559	0.00198	0.000559	mg/kg	12.17.2020 08:50	U	1
m,p-Xylenes	179601-23-1	<0.00100	0.00396	0.00100	mg/kg	12.17.2020 08:50	U	1
o-Xylene	95-47-6	<0.000341	0.00198	0.000341	mg/kg	12.17.2020 08:50	U	1
Total Xylenes	1330-20-7	<0.000341	0.00198	0.000341	mg/kg	12.17.2020 08:50	U	1
Total BTEX		<0.000341	0.00198	0.000341	mg/kg	12.17.2020 08:50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	75	%	70-130	12.17.2020 08:50	
4-Bromofluorobenzene	460-00-4	97	%	70-130	12.17.2020 08:50	

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Certificate of Analytical Results 681217

ARCADIS, Midland, TX

VGSAU-135 30064836

Sample Id:	**SB-10-S-0-.25-201215**	Matrix:	Solid	Date Received:	12.15.2020 17:28
Lab Sample Id:	681217-010	Date Collected:	12.15.2020 12:23		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE				
Analyst:	CHE	Date Prep:	12.17.2020 16:20	% Moisture:	
Seq Number:	3145300			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**349**	5.03	0.864	mg/kg	12.17.2020 19:52		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM				
Analyst:	ARM	Date Prep:	12.17.2020 11:00	% Moisture:	
Seq Number:	3145318			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**15.5**	50.0	15.0	mg/kg	12.17.2020 16:09	J	1
Diesel Range Organics (DRO)	C10C28DRO	**20.0**	50.0	15.0	mg/kg	12.17.2020 16:09	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**21.6**	50.0	15.0	mg/kg	12.17.2020 16:09	J	1
Total TPH	PHC635	**57.1**	50.0	15.0	mg/kg	12.17.2020 16:09		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-130	12.17.2020 16:09	
o-Terphenyl	84-15-1	104	%	70-130	12.17.2020 16:09	

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Certificate of Analytical Results 681217

ARCADIS, Midland, TX

VGSAU-135 30064836

Sample Id:	**SB-10-S-0-.25-201215**	Matrix:	Solid	Date Received:	12.15.2020 17:28
Lab Sample Id:	681217-010	Date Collected:	12.15.2020 12:23		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	12.16.2020 17:00	% Moisture:	
Seq Number:	3145183			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000384	0.00200	0.000384	mg/kg	12.17.2020 09:11	U	1
Toluene	108-88-3	<0.000455	0.00200	0.000455	mg/kg	12.17.2020 09:11	U	1
Ethylbenzene	100-41-4	<0.000564	0.00200	0.000564	mg/kg	12.17.2020 09:11	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00399	0.00101	mg/kg	12.17.2020 09:11	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	12.17.2020 09:11	U	1
Total Xylenes	1330-20-7	<0.000344	0.00200	0.000344	mg/kg	12.17.2020 09:11	U	1
Total BTEX		<0.000344	0.00200	0.000344	mg/kg	12.17.2020 09:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	70-130	12.17.2020 09:11	
1,4-Difluorobenzene	540-36-3	79	%	70-130	12.17.2020 09:11	

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Blank Summary 681217

ARCADIS, Midland, TX

VGSAU-135 30064836

Sample Id: **7717309-1-BLK** Matrix: SOLID

Lab Sample Id: **7717309-1-BLK**

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A

Tech: KTL

Analyst: KTL Date Prep: 12.16.2020 14:00

Seq Number: 3145180

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	12.16.2020 17:17	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	12.16.2020 17:17	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	12.16.2020 17:17	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	12.16.2020 17:17	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	12.16.2020 17:17	U	1

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Blank Summary 681217

ARCADIS, Midland, TX

VGSAU-135 30064836

Sample Id: **7717315-1-BLK** Matrix: SOLID

Lab Sample Id: **7717315-1-BLK**

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A

Tech: KTL

Analyst: KTL Date Prep: 12.16.2020 17:00

Seq Number: 3145183

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	12.17.2020 04:15	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	12.17.2020 04:15	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	12.17.2020 04:15	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	12.17.2020 04:15	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	12.17.2020 04:15	U	1

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Blank Summary 681217

ARCADIS, Midland, TX

VGSAU-135 30064836

Sample Id: **7717385-1-BLK** Matrix: SOLID

Lab Sample Id: **7717385-1-BLK**

Analytical Method: **Chloride by EPA 300** Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 12.17.2020 16:10

Seq Number: 3145295

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<0.858	5.00	0.858	mg/kg	12.17.2020 16:12	U	1

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Blank Summary 681217

ARCADIS, Midland, TX

VGSAU-135 30064836

Sample Id: **7717386-1-BLK** Matrix: SOLID

Lab Sample Id: **7717386-1-BLK**

Analytical Method: **Chloride by EPA 300** Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 12.17.2020 16:20

Seq Number: 3145300

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	0.858	mg/kg	12.17.2020 19:16	U	1

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Blank Summary 681217

ARCADIS, Midland, TX

VGSAU-135 30064836

Sample Id: **7717393-1-BLK** Matrix: SOLID

Lab Sample Id: **7717393-1-BLK**

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 12.17.2020 11:00

Seq Number: 3145318

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	12.17.2020 11:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	12.17.2020 11:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	12.17.2020 11:48	U	1

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Form 2 - Surrogate Recoveries

Project Name: VGSAU-135 30064836

Report Date: 12212020

Work Orders : 681217 **Project ID:** 60012136

Lab Batch #: 3145180 **Sample:** 7717309-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12.16.2020 15:16 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0260	0.0300	87	70-130	
4-Bromofluorobenzene	0.0280	0.0300	93	70-130	

Lab Batch #: 3145180 **Sample:** 7717309-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12.16.2020 15:36 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0262	0.0300	87	70-130	
4-Bromofluorobenzene	0.0287	0.0300	96	70-130	

Lab Batch #: 3145180 **Sample:** 681035-003 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12.16.2020 15:57 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0247	0.0300	82	70-130	
4-Bromofluorobenzene	0.0286	0.0300	95	70-130	

Lab Batch #: 3145180 **Sample:** 681035-003 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12.16.2020 16:18 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0229	0.0300	76	70-130	
4-Bromofluorobenzene	0.0282	0.0300	94	70-130	

Lab Batch #: 3145180 **Sample:** 7717309-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12.16.2020 17:17 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0236	0.0300	79	70-130	
4-Bromofluorobenzene	0.0296	0.0300	99	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.

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Form 2 - Surrogate Recoveries

Project Name: VGSAU-135 30064836

Report Date: 12212020

Work Orders : 681217 **Project ID:** 60012136

Lab Batch #: 3145183 **Sample:** 7717315-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12.17.2020 02:15 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0243	0.0300	81	70-130	
4-Bromofluorobenzene	0.0279	0.0300	93	70-130	

Lab Batch #: 3145183 **Sample:** 7717315-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12.17.2020 02:35 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0252	0.0300	84	70-130	
4-Bromofluorobenzene	0.0298	0.0300	99	70-130	

Lab Batch #: 3145183 **Sample:** 681217-004 S / MS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12.17.2020 02:56 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0252	0.0300	84	70-130	
4-Bromofluorobenzene	0.0299	0.0300	100	70-130	

Lab Batch #: 3145183 **Sample:** 681217-004 SD / MSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12.17.2020 03:17 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0261	0.0300	87	70-130	
4-Bromofluorobenzene	0.0289	0.0300	96	70-130	

Lab Batch #: 3145183 **Sample:** 7717315-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12.17.2020 04:15 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0232	0.0300	77	70-130	
4-Bromofluorobenzene	0.0292	0.0300	97	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.

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Form 2 - Surrogate Recoveries

Project Name: VGSAU-135 30064836

Report Date: 12212020

Work Orders : 681217 **Project ID:** 60012136

Lab Batch #: 3145318 **Sample:** 7717393-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12.17.2020 11:48 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-130	
o-Terphenyl	59.7	50.0	119	70-130	

Lab Batch #: 3145318 **Sample:** 7717393-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12.17.2020 12:07 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	119	100	119	70-130	
o-Terphenyl	54.6	50.0	109	70-130	

Lab Batch #: 3145318 **Sample:** 7717393-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12.17.2020 12:26 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.9	100	99	70-130	
o-Terphenyl	60.1	50.0	120	70-130	

Lab Batch #: 3145318 **Sample:** 681217-001 S / MS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12.17.2020 13:03 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	99.8	118	70-130	
o-Terphenyl	45.0	49.9	90	70-130	

Lab Batch #: 3145318 **Sample:** 681217-001 SD / MSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12.17.2020 13:22 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	124	99.7	124	70-130	
o-Terphenyl	46.0	49.9	92	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.

QC Summary 681217

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ARCADIS

VGSAU-135 30064836

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3145295 — Matrix: Solid — Date Prep: 12.17.2020
MB Sample Id: 7717385-1-BLK — LCS Sample Id: 7717385-1-BKS — LCSD Sample Id: 7717385-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	256	102	256	102	90-110	0	20	mg/kg	12.17.2020 16:19	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3145300 — Matrix: Solid — Date Prep: 12.17.2020
MB Sample Id: 7717386-1-BLK — LCS Sample Id: 7717386-1-BKS — LCSD Sample Id: 7717386-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	261	104	261	104	90-110	0	20	mg/kg	12.17.2020 19:21	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3145295 — Matrix: Soil — Date Prep: 12.17.2020
Parent Sample Id: 681150-015 — MS Sample Id: 681150-015 S — MSD Sample Id: 681150-015 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	9.92	250	274	106	275	106	90-110	0	20	mg/kg	12.17.2020 17:57	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3145295 — Matrix: Soil — Date Prep: 12.17.2020
Parent Sample Id: 681604-002 — MS Sample Id: 681604-002 S — MSD Sample Id: 681604-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	21.3	253	274	100	275	100	90-110	0	20	mg/kg	12.17.2020 16:37	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3145300 — Matrix: Solid — Date Prep: 12.17.2020
Parent Sample Id: 681217-009 — MS Sample Id: 681217-009 S — MSD Sample Id: 681217-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	433	248	677	98	680	100	90-110	0	20	mg/kg	12.17.2020 19:37	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3145300 — Matrix: Soil — Date Prep: 12.17.2020
Parent Sample Id: 681479-010 — MS Sample Id: 681479-010 S — MSD Sample Id: 681479-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.95	250	273	106	274	107	90-110	0	20	mg/kg	12.17.2020 20:50	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

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QC Summary 681217

ARCADIS

VGSAU-135 30064836

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3145318 — Matrix: Solid — Date Prep: 12.17.2020
MB Sample Id: 7717393-1-BLK — LCS Sample Id: 7717393-1-BKS — LCSD Sample Id: 7717393-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1020	102	1140	114	70-130	11	20	mg/kg	12.17.2020 12:07	
Diesel Range Organics (DRO)	<15.0	1000	1030	103	1140	114	70-130	10	20	mg/kg	12.17.2020 12:07	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	111		119		99		70-130	%	12.17.2020 12:07
o-Terphenyl	119		109		120		70-130	%	12.17.2020 12:07

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3145318 — Matrix: Solid — Date Prep: 12.17.2020
MB Sample Id: 7717393-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<15.0	mg/kg	12.17.2020 11:48	

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3145318 — Matrix: Solid — Date Prep: 12.17.2020
Parent Sample Id: 681217-001 — MS Sample Id: 681217-001 S — MSD Sample Id: 681217-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	998	982	98	997	100	70-130	2	20	mg/kg	12.17.2020 13:03	
Diesel Range Organics (DRO)	<15.0	998	1040	104	1070	107	70-130	3	20	mg/kg	12.17.2020 13:03	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	118		124		70-130	%	12.17.2020 13:03
o-Terphenyl	90		92		70-130	%	12.17.2020 13:03

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3145180 — Matrix: Solid — Date Prep: 12.16.2020
MB Sample Id: 7717309-1-BLK — LCS Sample Id: 7717309-1-BKS — LCSD Sample Id: 7717309-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.0851	85	0.0832	83	70-130	2	35	mg/kg	12.16.2020 15:16	
Toluene	<0.000456	0.100	0.0942	94	0.0950	95	70-130	1	35	mg/kg	12.16.2020 15:16	
Ethylbenzene	<0.000565	0.100	0.0976	98	0.101	101	70-130	3	35	mg/kg	12.16.2020 15:16	
m,p-Xylenes	<0.00101	0.200	0.176	88	0.177	89	70-130	1	35	mg/kg	12.16.2020 15:16	
o-Xylene	<0.000344	0.100	0.0867	87	0.0875	88	70-130	1	35	mg/kg	12.16.2020 15:16	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	79		87		87		70-130	%	12.16.2020 15:16
4-Bromofluorobenzene	99		93		96		70-130	%	12.16.2020 15:16

MS/MSD Percent Recovery [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

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QC Summary 681217

ARCADIS

VGSAU-135 30064836

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3145183 Matrix: Solid Date Prep: 12.16.2020
MB Sample Id: 7717315-1-BLK LCS Sample Id: 7717315-1-BKS LCSD Sample Id: 7717315-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.0719	72	0.0789	79	70-130	9	35	mg/kg	12.17.2020 02:15	
Toluene	<0.000456	0.100	0.0824	82	0.0915	92	70-130	10	35	mg/kg	12.17.2020 02:15	
Ethylbenzene	<0.000565	0.100	0.0936	94	0.101	101	70-130	8	35	mg/kg	12.17.2020 02:15	
m,p-Xylenes	<0.00101	0.200	0.154	77	0.170	85	70-130	10	35	mg/kg	12.17.2020 02:15	
o-Xylene	<0.000344	0.100	0.0783	78	0.0861	86	70-130	9	35	mg/kg	12.17.2020 02:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	77		81		84		70-130	%	12.17.2020 02:15
4-Bromofluorobenzene	97		93		99		70-130	%	12.17.2020 02:15

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3145180 Matrix: Soil Date Prep: 12.16.2020
Parent Sample Id: 681035-003 MS Sample Id: 681035-003 S MSD Sample Id: 681035-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000387	0.101	0.0664	66	0.0562	57	70-130	17	35	mg/kg	12.16.2020 15:57	X
Toluene	<0.000458	0.101	0.0830	82	0.0785	79	70-130	6	35	mg/kg	12.16.2020 15:57	
Ethylbenzene	<0.000568	0.101	0.0897	89	0.0886	89	70-130	1	35	mg/kg	12.16.2020 15:57	
m,p-Xylenes	<0.00102	0.201	0.153	76	0.153	77	70-130	0	35	mg/kg	12.16.2020 15:57	
o-Xylene	<0.000346	0.101	0.0827	82	0.0763	77	70-130	8	35	mg/kg	12.16.2020 15:57	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	82		76		70-130	%	12.16.2020 15:57
4-Bromofluorobenzene	95		94		70-130	%	12.16.2020 15:57

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3145183 Matrix: Solid Date Prep: 12.16.2020
Parent Sample Id: 681217-004 MS Sample Id: 681217-004 S MSD Sample Id: 681217-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000383	0.0994	0.0616	62	0.0669	67	70-130	8	35	mg/kg	12.17.2020 02:56	X
Toluene	<0.000453	0.0994	0.0714	72	0.0753	75	70-130	5	35	mg/kg	12.17.2020 02:56	
Ethylbenzene	<0.000561	0.0994	0.0794	80	0.0799	80	70-130	1	35	mg/kg	12.17.2020 02:56	
m,p-Xylenes	<0.00101	0.199	0.131	66	0.138	69	70-130	5	35	mg/kg	12.17.2020 02:56	X
o-Xylene	<0.000342	0.0994	0.0751	76	0.0706	71	70-130	6	35	mg/kg	12.17.2020 02:56	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	84		87		70-130	%	12.17.2020 02:56
4-Bromofluorobenzene	100		96		70-130	%	12.17.2020 02:56

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

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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. **ND** Not Detected.

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

Eurofins Xenco
4147 Green Briar Dr
Stafford TX 77477
Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record

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Client Information	Sampler: J. Steinmann	Lab PM: Kudchadkar, Sachin G	Carrier Tracking No(s):	COC No: 600-75751-20436.8
Client Contact: Morgan Jordan	Phone: 619 851 8792	E-Mail: Sachin.Kudchadkar@Eurofinset.com	State of Origin: NM	Page: Page 1 of 1
Company: ARCADIS U.S., Inc.	PWSID:	Analysis Requested		Job #: 690217
Address: ~~1004 North Big Spring Suite 421~~ 1717 W 6th St. Suite 210	Due Date Requested:			Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
City: ~~Midland~~ Austin	TAT Requested (days): std			
State, Zip: ~~TX, 79~~701 TX 78703	Compliance Project: Δ Yes Δ No			
Phone: ~~432-227-0266(Tel)~~ 281 644 9437	PO #:			
Email: douglas.jordan@arcadis.com	WO #:			
Project Name: VGSAU-135	Project #: 60012136			
Site: VGSAU-135 30064836	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_Chloride	8015B_GRO/DRO/ORO	8021- BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N		
SB-1-S-0-.5-201215	12/15/20	1004	G	Solid						1	
SB-2-S-0-.25-201215		1015		Solid							
SB-3-S-0-.5-201215		1023		Solid							
SB-4-S-0-.5-201215		1035		Solid							
SB-5-S-0-.5-20121S		1150		Solid							
SB-6-S-0-.5-201215		1157		Solid							
SB-7-S-0-.5-201215		1202		Solid							
SB-8-S-0-.25-201215		1213		Solid							
SB-9-S-0-.25-201215		1217		Solid							
SB-10-S-0-.25-201215		1223		Solid							
				Solid							

GS 12/15/20

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 12/15/20 1560	Company: Arcadis	Received by:	Date/Time: 12/15/20 1500	Company: Arcadis
Relinquished by:	Date/Time: 12/15/20 1728	Company: Arcadis	Received by:	Date/Time: 12/15/20 17:28	Company: Eurofins
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 2.6°C

Ver: 01/16/2019

Final 1.000

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Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: ARCADIS

Date/ Time Received: 12.15.2020 05.28.00 PM

Work Order #: 681217

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR8

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	2.6	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 Custody Seals intact on sample bottles?	**N/A**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	BTEX was in bulk container
#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: 12.16.2020
Brianna Teel

Checklist reviewed by: Sachin Kudchadkar Date: 12.18.2020
Sachin Kudchadkar

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Analytical Report 681479

for

ARCADIS

Project Manager: Morgan Jordan

VGSAU-135

12.21.2020

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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12.21.2020

Project Manager: **Morgan Jordan**
ARCADIS
1004 N. Big Spring St.
Midland, TX 79701

Reference: Eurofins Xenco, LLC Report No(s): **681479**
VGSAU-135
Project Address:

Morgan Jordan:

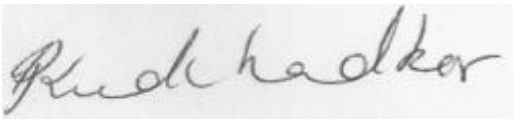
We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 681479. All results being reported under this Report Number apply to the samples analyzed and properly identified 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 Eurofins Xenco, LLC. 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. 681479 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,



Sachin Kudchadkar
Project Manager

A Small Business and Minority Company

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

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Sample Cross Reference 681479

ARCADIS, Midland, TX

VGSAU-135

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-11-S-0-.25-201216	S	12.16.2020 09:49		681479-001
SB-12-S-0-.25-201216	S	12.16.2020 10:02		681479-002
SB-13-S-0-.25-201216	S	12.16.2020 10:10		681479-003
SB-14-S-0-.25-201216	S	12.16.2020 10:20		681479-004
SB-15-S-0-.5-201216	S	12.16.2020 11:08		681479-005
SB-16-S-0-.25-201216	S	12.16.2020 11:22		681479-006
SB-17-S-0-.5-201216	S	12.16.2020 11:30		681479-007
SB-18-S-0-.25-201216	S	12.16.2020 11:48		681479-008
SB-19-S-0-.5-201216	S	12.16.2020 11:53		681479-009
SB-20-S-0-.5-201216	S	12.16.2020 12:10		681479-010
SB-20-S-.5-.1-201216	S	12.16.2020 12:26		681479-011
SB-15-SD-0-.5-201216	S	12.16.2020 00:00		681479-012
SB-21-S-0-.5-201216	S	12.16.2020 13:34		681479-013
SB-22-S-0-.5-201216	S	12.16.2020 13:52		681479-014

CASE NARRATIVE

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Client Name: ARCADIS

Project Name: VGSAU-135

Project ID:
Work Order Number(s): *681479*

Report Date: *12.21.2020*
Date Received: *12.16.2020*

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-3145449 BTEX by EPA 8021B

Surrogate 4-Bromofluorobenzene recovered below QC limits. Matrix interferences is suspected.
Samples affected are: 681479-013.

Lab Sample ID 681479-008 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Ethylbenzene, o-Xylene recovered below QC limits in the Matrix Spike. m,p-Xylenes 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: 681479-005, -006, -007, -008, -009, -010, -011, -012, -013, -014.
The Laboratory Control Sample for m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3145533 TPH By SW8015 Mod

Surrogate 1-Chlorooctane recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 681479-014.
Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 681479-005,681479-009,681479-003.

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Certificate of Analytical Results 681479

ARCADIS, Midland, TX

VGSAU-135

Sample Id: **SB-11-S-0-.25-201216** Matrix: Soil Date Received:12.16.2020 17:24

Lab Sample Id: 681479-001 Date Collected: 12.16.2020 09:49

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 12.17.2020 16:10 % Moisture:

Seq Number: 3145295 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**78.9**	5.03	0.864	mg/kg	12.17.2020 17:08		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 12.19.2020 10:00 % Moisture:

Seq Number: 3145533 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**15.0**	50.0	15.0	mg/kg	12.19.2020 13:57	J	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	12.19.2020 13:57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	12.19.2020 13:57	U	1
Total TPH	PHC635	**15.0**	50.0	15.0	mg/kg	12.19.2020 13:57	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-130	12.19.2020 13:57	
o-Terphenyl	84-15-1	121	%	70-130	12.19.2020 13:57	

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Certificate of Analytical Results 681479

ARCADIS, Midland, TX

VGSAU-135

Sample Id:	**SB-11-S-0-.25-201216**	Matrix:	Soil	Date Received:	12.16.2020 17:24
Lab Sample Id:	681479-001	Date Collected:	12.16.2020 09:49		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	12.18.2020 15:00	% Moisture:	
Seq Number:	3145448			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000381	0.00198	0.000381	mg/kg	12.19.2020 02:00	U	1
Toluene	108-88-3	<0.000451	0.00198	0.000451	mg/kg	12.19.2020 02:00	U	1
Ethylbenzene	100-41-4	<0.000559	0.00198	0.000559	mg/kg	12.19.2020 02:00	U	1
m,p-Xylenes	179601-23-1	<0.00100	0.00396	0.00100	mg/kg	12.19.2020 02:00	U	1
o-Xylene	95-47-6	<0.000341	0.00198	0.000341	mg/kg	12.19.2020 02:00	U	1
Total Xylenes	1330-20-7	<0.000341	0.00198	0.000341	mg/kg	12.19.2020 02:00	U	1
Total BTEX		<0.000341	0.00198	0.000341	mg/kg	12.19.2020 02:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112	%	70-130	12.19.2020 02:00	
1,4-Difluorobenzene	540-36-3	97	%	70-130	12.19.2020 02:00	

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Certificate of Analytical Results 681479

ARCADIS, Midland, TX

VGSAU-135

Sample Id: **SB-12-S-0-.25-201216** Matrix: Soil Date Received:12.16.2020 17:24

Lab Sample Id: 681479-002 Date Collected: 12.16.2020 10:02

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 12.17.2020 16:10 % Moisture:

Seq Number: 3145295 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**565**	24.8	4.25	mg/kg	12.17.2020 17:26		5

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 12.19.2020 10:00 % Moisture:

Seq Number: 3145533 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	12.19.2020 15:02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	12.19.2020 15:02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	12.19.2020 15:02	U	1
Total TPH	PHC635	<15.0	50.0	15.0	mg/kg	12.19.2020 15:02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-130	12.19.2020 15:02	
o-Terphenyl	84-15-1	104	%	70-130	12.19.2020 15:02	

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Certificate of Analytical Results 681479

ARCADIS, Midland, TX

VGSAU-135

Sample Id:	**SB-12-S-0-.25-201216**	Matrix:	Soil	Date Received:	12.16.2020 17:24
Lab Sample Id:	681479-002	Date Collected:	12.16.2020 10:02		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	12.18.2020 15:00	% Moisture:	
Seq Number:	3145448			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000387	0.00201	0.000387	mg/kg	12.19.2020 02:20	U	1
Toluene	108-88-3	<0.000458	0.00201	0.000458	mg/kg	12.19.2020 02:20	U	1
Ethylbenzene	100-41-4	<0.000568	0.00201	0.000568	mg/kg	12.19.2020 02:20	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	12.19.2020 02:20	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	12.19.2020 02:20	U	1
Total Xylenes	1330-20-7	<0.000346	0.00201	0.000346	mg/kg	12.19.2020 02:20	U	1
Total BTEX		<0.000346	0.00201	0.000346	mg/kg	12.19.2020 02:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	12.19.2020 02:20	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.19.2020 02:20	

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Certificate of Analytical Results 681479

ARCADIS, Midland, TX

VGSAU-135

Sample Id: **SB-13-S-0-.25-201216** Matrix: Soil Date Received:12.16.2020 17:24

Lab Sample Id: 681479-003 Date Collected: 12.16.2020 10:10

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 12.17.2020 16:20 % Moisture:

Seq Number: 3145300 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**68.9**	4.97	0.853	mg/kg	12.17.2020 19:58		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 12.19.2020 10:00 % Moisture:

Seq Number: 3145533 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	12.19.2020 15:24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	12.19.2020 15:24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	12.19.2020 15:24	U	1
Total TPH	PHC635	<15.0	50.0	15.0	mg/kg	12.19.2020 15:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-130	12.19.2020 15:24	
o-Terphenyl	84-15-1	131	%	70-130	12.19.2020 15:24	**

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ARCADIS, Midland, TX

VGSAU-135

Sample Id:	**SB-13-S-0-.25-201216**	Matrix:	Soil	Date Received:	12.16.2020 17:24
Lab Sample Id:	681479-003	Date Collected:	12.16.2020 10:10		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	12.18.2020 15:00	% Moisture:	
Seq Number:	3145448			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	12.19.2020 02:41	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	12.19.2020 02:41	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	12.19.2020 02:41	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	12.19.2020 02:41	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	12.19.2020 02:41	U	1
Total Xylenes	1330-20-7	<0.000344	0.00200	0.000344	mg/kg	12.19.2020 02:41	U	1
Total BTEX		<0.000344	0.00200	0.000344	mg/kg	12.19.2020 02:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112	%	70-130	12.19.2020 02:41	
1,4-Difluorobenzene	540-36-3	96	%	70-130	12.19.2020 02:41	

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Certificate of Analytical Results 681479

ARCADIS, Midland, TX

VGSAU-135

Sample Id: **SB-14-S-0-.25-201216** Matrix: Soil Date Received:12.16.2020 17:24

Lab Sample Id: 681479-004 Date Collected: 12.16.2020 10:20

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 12.17.2020 16:20 % Moisture:

Seq Number: 3145300 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9.94**	4.95	0.850	mg/kg	12.17.2020 20:03		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 12.19.2020 10:00 % Moisture:

Seq Number: 3145533 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	12.19.2020 15:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	12.19.2020 15:45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	12.19.2020 15:45	U	1
Total TPH	PHC635	<15.0	50.0	15.0	mg/kg	12.19.2020 15:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-130	12.19.2020 15:45	
o-Terphenyl	84-15-1	112	%	70-130	12.19.2020 15:45	

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Certificate of Analytical Results 681479

ARCADIS, Midland, TX

VGSAU-135

Sample Id:	**SB-14-S-0-.25-201216**	Matrix:	Soil	Date Received:	12.16.2020 17:24
Lab Sample Id:	681479-004	Date Collected:	12.16.2020 10:20		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	12.18.2020 15:00	% Moisture:	
Seq Number:	3145448			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000386	0.00201	0.000386	mg/kg	12.19.2020 03:02	U	1
Toluene	108-88-3	<0.000457	0.00201	0.000457	mg/kg	12.19.2020 03:02	U	1
Ethylbenzene	100-41-4	<0.000567	0.00201	0.000567	mg/kg	12.19.2020 03:02	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	12.19.2020 03:02	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	12.19.2020 03:02	U	1
Total Xylenes	1330-20-7	<0.000346	0.00201	0.000346	mg/kg	12.19.2020 03:02	U	1
Total BTEX		<0.000346	0.00201	0.000346	mg/kg	12.19.2020 03:02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.19.2020 03:02	
4-Bromofluorobenzene	460-00-4	112	%	70-130	12.19.2020 03:02	

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Certificate of Analytical Results 681479

ARCADIS, Midland, TX

VGSAU-135

Sample Id:	**SB-15-S-0-.5-201216**	Matrix:	Soil	Date Received:	12.16.2020 17:24
Lab Sample Id:	681479-005	Date Collected:	12.16.2020 11:08		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE				
Analyst:	CHE	Date Prep:	12.17.2020 16:20	% Moisture:	
Seq Number:	3145300			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7.13**	5.02	0.862	mg/kg	12.17.2020 20:18		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM				
Analyst:	ARM	Date Prep:	12.19.2020 10:00	% Moisture:	
Seq Number:	3145533			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	49.8	14.9	mg/kg	12.19.2020 16:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	49.8	14.9	mg/kg	12.19.2020 16:07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	49.8	14.9	mg/kg	12.19.2020 16:07	U	1
Total TPH	PHC635	<14.9	49.8	14.9	mg/kg	12.19.2020 16:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-130	12.19.2020 16:07	
o-Terphenyl	84-15-1	132	%	70-130	12.19.2020 16:07	**

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Certificate of Analytical Results 681479

ARCADIS, Midland, TX

VGSAU-135

Sample Id:	**SB-15-S-0-.5-201216**	Matrix:	Soil	Date Received:	12.16.2020 17:24
Lab Sample Id:	681479-005	Date Collected:	12.16.2020 11:08		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	12.18.2020 16:30	% Moisture:	
Seq Number:	3145449			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	12.19.2020 06:29	U	1
Toluene	108-88-3	<0.000453	0.00199	0.000453	mg/kg	12.19.2020 06:29	U	1
Ethylbenzene	100-41-4	<0.000561	0.00199	0.000561	mg/kg	12.19.2020 06:29	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	12.19.2020 06:29	U	1
o-Xylene	95-47-6	<0.000342	0.00199	0.000342	mg/kg	12.19.2020 06:29	U	1
Total Xylenes	1330-20-7	<0.000342	0.00199	0.000342	mg/kg	12.19.2020 06:29	U	1
Total BTEX		<0.000342	0.00199	0.000342	mg/kg	12.19.2020 06:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	70-130	12.19.2020 06:29	
1,4-Difluorobenzene	540-36-3	92	%	70-130	12.19.2020 06:29	

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ARCADIS, Midland, TX

VGSAU-135

Sample Id: **SB-16-S-0-.25-201216** Matrix: Soil Date Received:12.16.2020 17:24

Lab Sample Id: 681479-006 Date Collected: 12.16.2020 11:22

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 12.17.2020 16:20 % Moisture:

Seq Number: 3145300 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**18.4**	4.97	0.853	mg/kg	12.17.2020 20:24		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 12.19.2020 10:00 % Moisture:

Seq Number: 3145533 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	49.9	15.0	mg/kg	12.19.2020 16:29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	49.9	15.0	mg/kg	12.19.2020 16:29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	49.9	15.0	mg/kg	12.19.2020 16:29	U	1
Total TPH	PHC635	<15.0	49.9	15.0	mg/kg	12.19.2020 16:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-130	12.19.2020 16:29	
o-Terphenyl	84-15-1	110	%	70-130	12.19.2020 16:29	

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ARCADIS, Midland, TX

VGSAU-135

Sample Id:	**SB-16-S-0-.25-201216**	Matrix:	Soil	Date Received:	12.16.2020 17:24
Lab Sample Id:	681479-006	Date Collected:	12.16.2020 11:22		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	12.18.2020 16:30	% Moisture:	
Seq Number:	3145449			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000386	0.00201	0.000386	mg/kg	12.19.2020 06:49	U	1
Toluene	108-88-3	<0.000457	0.00201	0.000457	mg/kg	12.19.2020 06:49	U	1
Ethylbenzene	100-41-4	<0.000567	0.00201	0.000567	mg/kg	12.19.2020 06:49	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	12.19.2020 06:49	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	12.19.2020 06:49	U	1
Total Xylenes	1330-20-7	<0.000346	0.00201	0.000346	mg/kg	12.19.2020 06:49	U	1
Total BTEX		<0.000346	0.00201	0.000346	mg/kg	12.19.2020 06:49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	70-130	12.19.2020 06:49	
1,4-Difluorobenzene	540-36-3	90	%	70-130	12.19.2020 06:49	

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VGSAU-135

Sample Id: **SB-17-S-0-.5-201216** Matrix: Soil Date Received:12.16.2020 17:24

Lab Sample Id: 681479-007 Date Collected: 12.16.2020 11:30

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 12.17.2020 16:20 % Moisture:

Seq Number: 3145300 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6.28**	5.04	0.865	mg/kg	12.17.2020 20:29		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 12.19.2020 10:00 % Moisture:

Seq Number: 3145533 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	49.9	15.0	mg/kg	12.19.2020 16:50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	49.9	15.0	mg/kg	12.19.2020 16:50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	49.9	15.0	mg/kg	12.19.2020 16:50	U	1
Total TPH	PHC635	<15.0	49.9	15.0	mg/kg	12.19.2020 16:50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-130	12.19.2020 16:50	
o-Terphenyl	84-15-1	116	%	70-130	12.19.2020 16:50	

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ARCADIS, Midland, TX

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Sample Id:	**SB-17-S-0-.5-201216**	Matrix:	Soil	Date Received:	12.16.2020 17:24
Lab Sample Id:	681479-007	Date Collected:	12.16.2020 11:30		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	12.18.2020 16:30	% Moisture:	
Seq Number:	3145449			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000389	0.00202	0.000389	mg/kg	12.19.2020 07:10	U	1
Toluene	108-88-3	<0.000460	0.00202	0.000460	mg/kg	12.19.2020 07:10	U	1
Ethylbenzene	100-41-4	<0.000570	0.00202	0.000570	mg/kg	12.19.2020 07:10	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00404	0.00102	mg/kg	12.19.2020 07:10	U	1
o-Xylene	95-47-6	<0.000348	0.00202	0.000348	mg/kg	12.19.2020 07:10	U	1
Total Xylenes	1330-20-7	<0.000348	0.00202	0.000348	mg/kg	12.19.2020 07:10	U	1
Total BTEX		<0.000348	0.00202	0.000348	mg/kg	12.19.2020 07:10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	138	%	70-130	12.19.2020 07:10	**
1,4-Difluorobenzene	540-36-3	88	%	70-130	12.19.2020 07:10	

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VGSAU-135

Sample Id: **SB-18-S-0-.25-201216** Matrix: Soil Date Received:12.16.2020 17:24

Lab Sample Id: 681479-008 Date Collected: 12.16.2020 11:48

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 12.17.2020 16:20 % Moisture:

Seq Number: 3145300 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5.34**	4.96	0.852	mg/kg	12.17.2020 20:34		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 12.19.2020 10:00 % Moisture:

Seq Number: 3145533 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	12.19.2020 17:12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	12.19.2020 17:12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	12.19.2020 17:12	U	1
Total TPH	PHC635	<15.0	50.0	15.0	mg/kg	12.19.2020 17:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-130	12.19.2020 17:12	
o-Terphenyl	84-15-1	116	%	70-130	12.19.2020 17:12	

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ARCADIS, Midland, TX

VGSAU-135

Sample Id:	**SB-18-S-0-.25-201216**	Matrix:	Soil	Date Received:	12.16.2020 17:24
Lab Sample Id:	681479-008	Date Collected:	12.16.2020 11:48		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	12.18.2020 16:30	% Moisture:	
Seq Number:	3145449			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000381	0.00198	0.000381	mg/kg	12.19.2020 07:31	U	1
Toluene	108-88-3	<0.000451	0.00198	0.000451	mg/kg	12.19.2020 07:31	U	1
Ethylbenzene	100-41-4	<0.000559	0.00198	0.000559	mg/kg	12.19.2020 07:31	UX	1
m,p-Xylenes	179601-23-1	<0.00100	0.00396	0.00100	mg/kg	12.19.2020 07:31	UX	1
o-Xylene	95-47-6	<0.000341	0.00198	0.000341	mg/kg	12.19.2020 07:31	UX	1
Total Xylenes	1330-20-7	<0.000341	0.00198	0.000341	mg/kg	12.19.2020 07:31	U	1
Total BTEX		<0.000341	0.00198	0.000341	mg/kg	12.19.2020 07:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	12.19.2020 07:31	
1,4-Difluorobenzene	540-36-3	88	%	70-130	12.19.2020 07:31	

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VGSAU-135

Sample Id: **SB-19-S-0-.5-201216** Matrix: Soil Date Received:12.16.2020 17:24

Lab Sample Id: 681479-009 Date Collected: 12.16.2020 11:53

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 12.17.2020 16:20 % Moisture:

Seq Number: 3145300 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**21.2**	4.95	0.850	mg/kg	12.17.2020 20:39		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 12.19.2020 10:00 % Moisture:

Seq Number: 3145533 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	12.19.2020 17:34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	12.19.2020 17:34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	12.19.2020 17:34	U	1
Total TPH	PHC635	<15.0	50.0	15.0	mg/kg	12.19.2020 17:34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-130	12.19.2020 17:34	
o-Terphenyl	84-15-1	131	%	70-130	12.19.2020 17:34	**

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ARCADIS, Midland, TX

VGSAU-135

Sample Id:	**SB-19-S-0-.5-201216**	Matrix:	Soil	Date Received:	12.16.2020 17:24
Lab Sample Id:	681479-009	Date Collected:	12.16.2020 11:53		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	12.18.2020 16:30	% Moisture:	
Seq Number:	3145449			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000384	0.00200	0.000384	mg/kg	12.19.2020 07:51	U	1
Toluene	108-88-3	<0.000455	0.00200	0.000455	mg/kg	12.19.2020 07:51	U	1
Ethylbenzene	100-41-4	<0.000564	0.00200	0.000564	mg/kg	12.19.2020 07:51	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00399	0.00101	mg/kg	12.19.2020 07:51	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	12.19.2020 07:51	U	1
Total Xylenes	1330-20-7	<0.000344	0.00200	0.000344	mg/kg	12.19.2020 07:51	U	1
Total BTEX		<0.000344	0.00200	0.000344	mg/kg	12.19.2020 07:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	89	%	70-130	12.19.2020 07:51	
4-Bromofluorobenzene	460-00-4	105	%	70-130	12.19.2020 07:51	

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Sample Id: **SB-20-S-0-.5-201216** Matrix: Soil Date Received:12.16.2020 17:24

Lab Sample Id: 681479-010 Date Collected: 12.16.2020 12:10

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 12.17.2020 16:20 % Moisture:

Seq Number: 3145300 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6.95**	4.99	0.857	mg/kg	12.17.2020 20:45		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 12.19.2020 10:00 % Moisture:

Seq Number: 3145533 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	49.9	15.0	mg/kg	12.19.2020 17:56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	49.9	15.0	mg/kg	12.19.2020 17:56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	49.9	15.0	mg/kg	12.19.2020 17:56	U	1
Total TPH	PHC635	<15.0	49.9	15.0	mg/kg	12.19.2020 17:56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-130	12.19.2020 17:56	
o-Terphenyl	84-15-1	129	%	70-130	12.19.2020 17:56	

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ARCADIS, Midland, TX

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Sample Id:	**SB-20-S-0-.5-201216**	Matrix:	Soil	Date Received:	12.16.2020 17:24
Lab Sample Id:	681479-010	Date Collected:	12.16.2020 12:10		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	12.18.2020 16:30	% Moisture:	
Seq Number:	3145449			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	12.19.2020 08:12	U	1
Toluene	108-88-3	<0.000453	0.00199	0.000453	mg/kg	12.19.2020 08:12	U	1
Ethylbenzene	100-41-4	<0.000561	0.00199	0.000561	mg/kg	12.19.2020 08:12	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	12.19.2020 08:12	U	1
o-Xylene	95-47-6	<0.000342	0.00199	0.000342	mg/kg	12.19.2020 08:12	U	1
Total Xylenes	1330-20-7	<0.000342	0.00199	0.000342	mg/kg	12.19.2020 08:12	U	1
Total BTEX		<0.000342	0.00199	0.000342	mg/kg	12.19.2020 08:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	137	%	70-130	12.19.2020 08:12	**
1,4-Difluorobenzene	540-36-3	95	%	70-130	12.19.2020 08:12	

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Sample Id: **SB-20-S-.5-.1-201216** Matrix: Soil Date Received:12.16.2020 17:24

Lab Sample Id: 681479-011 Date Collected: 12.16.2020 12:26

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 12.17.2020 16:20 % Moisture:

Seq Number: 3145300 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**13.5**	4.96	0.852	mg/kg	12.17.2020 21:00		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 12.19.2020 10:00 % Moisture:

Seq Number: 3145533 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	12.19.2020 18:40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	12.19.2020 18:40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	12.19.2020 18:40	U	1
Total TPH	PHC635	<15.0	50.0	15.0	mg/kg	12.19.2020 18:40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-130	12.19.2020 18:40	
o-Terphenyl	84-15-1	128	%	70-130	12.19.2020 18:40	

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ARCADIS, Midland, TX

VGSAU-135

Sample Id:	**SB-20-S-.5-.1-201216**	Matrix:	Soil	Date Received:	12.16.2020 17:24
Lab Sample Id:	681479-011	Date Collected:	12.16.2020 12:26		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	12.18.2020 16:30	% Moisture:	
Seq Number:	3145449			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	12.19.2020 08:33	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	12.19.2020 08:33	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	12.19.2020 08:33	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	12.19.2020 08:33	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	12.19.2020 08:33	U	1
Total Xylenes	1330-20-7	<0.000344	0.00200	0.000344	mg/kg	12.19.2020 08:33	U	1
Total BTEX		<0.000344	0.00200	0.000344	mg/kg	12.19.2020 08:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	12.19.2020 08:33	
4-Bromofluorobenzene	460-00-4	115	%	70-130	12.19.2020 08:33	

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Sample Id: **SB-15-SD-0-.5-201216** Matrix: Soil Date Received:12.16.2020 17:24

Lab Sample Id: 681479-012 Date Collected: 12.16.2020 00:00

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 12.17.2020 16:20 % Moisture:

Seq Number: 3145300 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5.91**	4.95	0.850	mg/kg	12.17.2020 21:05		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 12.19.2020 10:00 % Moisture:

Seq Number: 3145533 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	49.9	15.0	mg/kg	12.19.2020 19:02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	49.9	15.0	mg/kg	12.19.2020 19:02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	49.9	15.0	mg/kg	12.19.2020 19:02	U	1
Total TPH	PHC635	<15.0	49.9	15.0	mg/kg	12.19.2020 19:02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-130	12.19.2020 19:02	
o-Terphenyl	84-15-1	120	%	70-130	12.19.2020 19:02	

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VGSAU-135

Sample Id:	**SB-15-SD-0-.5-201216**	Matrix:	Soil	Date Received:	12.16.2020 17:24
Lab Sample Id:	681479-012	Date Collected:	12.16.2020 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	12.18.2020 16:30	% Moisture:	
Seq Number:	3145449			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	12.19.2020 08:53	U	1
Toluene	108-88-3	<0.000453	0.00199	0.000453	mg/kg	12.19.2020 08:53	U	1
Ethylbenzene	100-41-4	<0.000561	0.00199	0.000561	mg/kg	12.19.2020 08:53	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	12.19.2020 08:53	U	1
o-Xylene	95-47-6	<0.000342	0.00199	0.000342	mg/kg	12.19.2020 08:53	U	1
Total Xylenes	1330-20-7	<0.000342	0.00199	0.000342	mg/kg	12.19.2020 08:53	U	1
Total BTEX		<0.000342	0.00199	0.000342	mg/kg	12.19.2020 08:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	12.19.2020 08:53	
1,4-Difluorobenzene	540-36-3	96	%	70-130	12.19.2020 08:53	

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Certificate of Analytical Results 681479

ARCADIS, Midland, TX

VGSAU-135

Sample Id: **SB-21-S-0-.5-201216** Matrix: Soil Date Received:12.16.2020 17:24

Lab Sample Id: 681479-013 Date Collected: 12.16.2020 13:34

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 12.17.2020 16:20 % Moisture:

Seq Number: 3145300 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5.64**	5.04	0.865	mg/kg	12.17.2020 21:21		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 12.19.2020 10:00 % Moisture:

Seq Number: 3145533 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	12.19.2020 19:24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	12.19.2020 19:24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	12.19.2020 19:24	U	1
Total TPH	PHC635	<15.0	50.0	15.0	mg/kg	12.19.2020 19:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-130	12.19.2020 19:24	
o-Terphenyl	84-15-1	122	%	70-130	12.19.2020 19:24	

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Certificate of Analytical Results 681479

ARCADIS, Midland, TX

VGSAU-135

Sample Id:	**SB-21-S-0-.5-201216**	Matrix:	Soil	Date Received:	12.16.2020 17:24
Lab Sample Id:	681479-013	Date Collected:	12.16.2020 13:34		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	12.18.2020 16:30	% Moisture:	
Seq Number:	3145449			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000386	0.00201	0.000386	mg/kg	12.19.2020 09:14	U	1
Toluene	108-88-3	<0.000457	0.00201	0.000457	mg/kg	12.19.2020 09:14	U	1
Ethylbenzene	100-41-4	<0.000567	0.00201	0.000567	mg/kg	12.19.2020 09:14	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	12.19.2020 09:14	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	12.19.2020 09:14	U	1
Total Xylenes	1330-20-7	<0.000346	0.00201	0.000346	mg/kg	12.19.2020 09:14	U	1
Total BTEX		<0.000346	0.00201	0.000346	mg/kg	12.19.2020 09:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	44	%	70-130	12.19.2020 09:14	**
1,4-Difluorobenzene	540-36-3	90	%	70-130	12.19.2020 09:14	

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Certificate of Analytical Results 681479

ARCADIS, Midland, TX

VGSAU-135

Sample Id: **SB-22-S-0-.5-201216** Matrix: Soil Date Received:12.16.2020 17:24

Lab Sample Id: 681479-014 Date Collected: 12.16.2020 13:52

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 12.17.2020 16:20 % Moisture:

Seq Number: 3145300 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5.94**	5.00	0.858	mg/kg	12.17.2020 21:26		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 12.19.2020 10:00 % Moisture:

Seq Number: 3145533 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	12.19.2020 19:46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	12.19.2020 19:46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	12.19.2020 19:46	U	1
Total TPH	PHC635	<15.0	50.0	15.0	mg/kg	12.19.2020 19:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	68	%	70-130	12.19.2020 19:46	**
o-Terphenyl	84-15-1	72	%	70-130	12.19.2020 19:46	

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Certificate of Analytical Results 681479

ARCADIS, Midland, TX

VGSAU-135

Sample Id:	**SB-22-S-0-.5-201216**	Matrix:	Soil	Date Received:	12.16.2020 17:24
Lab Sample Id:	681479-014	Date Collected:	12.16.2020 13:52		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	12.18.2020 16:30	% Moisture:	
Seq Number:	3145449			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000381	0.00198	0.000381	mg/kg	12.19.2020 09:34	U	1
Toluene	108-88-3	<0.000451	0.00198	0.000451	mg/kg	12.19.2020 09:34	U	1
Ethylbenzene	100-41-4	<0.000559	0.00198	0.000559	mg/kg	12.19.2020 09:34	U	1
m,p-Xylenes	179601-23-1	<0.00100	0.00396	0.00100	mg/kg	12.19.2020 09:34	U	1
o-Xylene	95-47-6	<0.000341	0.00198	0.000341	mg/kg	12.19.2020 09:34	U	1
Total Xylenes	1330-20-7	<0.000341	0.00198	0.000341	mg/kg	12.19.2020 09:34	U	1
Total BTEX		<0.000341	0.00198	0.000341	mg/kg	12.19.2020 09:34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	89	%	70-130	12.19.2020 09:34	
1,4-Difluorobenzene	540-36-3	88	%	70-130	12.19.2020 09:34	

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Blank Summary 681479

ARCADIS, Midland, TX

VGSAU-135

Sample Id: **7717385-1-BLK** Matrix: SOLID

Lab Sample Id: **7717385-1-BLK**

Analytical Method: **Chloride by EPA 300** Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 12.17.2020 16:10

Seq Number: 3145295

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<0.858	5.00	0.858	mg/kg	12.17.2020 16:12	U	1

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Blank Summary 681479

ARCADIS, Midland, TX

VGSAU-135

Sample Id: **7717386-1-BLK** Matrix: SOLID

Lab Sample Id: **7717386-1-BLK**

Analytical Method: **Chloride by EPA 300** Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 12.17.2020 16:20

Seq Number: 3145300

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<0.858	5.00	0.858	mg/kg	12.17.2020 19:16	U	1

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Blank Summary 681479

ARCADIS, Midland, TX

VGSAU-135

Sample Id: **7717500-1-BLK** Matrix: SOLID

Lab Sample Id: **7717500-1-BLK**

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A

Tech: KTL

Analyst: KTL Date Prep: 12.18.2020 15:00

Seq Number: 3145448

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	12.18.2020 19:01	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	12.18.2020 19:01	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	12.18.2020 19:01	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	12.18.2020 19:01	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	12.18.2020 19:01	U	1

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Blank Summary 681479

ARCADIS, Midland, TX

VGSAU-135

Sample Id: **7717501-1-BLK** Matrix: SOLID

Lab Sample Id: **7717501-1-BLK**

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A

Tech: KTL

Analyst: KTL Date Prep: 12.18.2020 16:30

Seq Number: 3145449

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	12.19.2020 06:07	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	12.19.2020 06:07	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	12.19.2020 06:07	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	12.19.2020 06:07	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	12.19.2020 06:07	U	1

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Blank Summary 681479

ARCADIS, Midland, TX

VGSAU-135

Sample Id: **7717575-1-BLK** Matrix: SOLID

Lab Sample Id: **7717575-1-BLK**

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 12.19.2020 10:00

Seq Number: 3145533

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	12.19.2020 12:52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	12.19.2020 12:52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	12.19.2020 12:52	U	1

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Form 2 - Surrogate Recoveries

Project Name: VGSAU-135

Report Date: 12212020

Work Orders : 681479 **Project ID:**

Lab Batch #: 3145448 **Sample:** 7717500-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12.18.2020 16:59 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0300	0.0300	100	70-130	
4-Bromofluorobenzene	0.0308	0.0300	103	70-130	

Lab Batch #: 3145448 **Sample:** 7717500-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12.18.2020 17:19 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0296	0.0300	99	70-130	
4-Bromofluorobenzene	0.0318	0.0300	106	70-130	

Lab Batch #: 3145448 **Sample:** 681515-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12.18.2020 17:40 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0305	0.0300	102	70-130	
4-Bromofluorobenzene	0.0324	0.0300	108	70-130	

Lab Batch #: 3145448 **Sample:** 681515-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12.18.2020 18:01 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0307	0.0300	102	70-130	
4-Bromofluorobenzene	0.0324	0.0300	108	70-130	

Lab Batch #: 3145448 **Sample:** 7717500-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12.18.2020 19:01 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0268	0.0300	89	70-130	
4-Bromofluorobenzene	0.0346	0.0300	115	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.

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Form 2 - Surrogate Recoveries

Project Name: VGSAU-135

Report Date: 12212020

Work Orders : 681479 **Project ID:**

Lab Batch #: 3145449 **Sample:** 7717501-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12.19.2020 04:05 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0295	0.0300	98	70-130	
4-Bromofluorobenzene	0.0307	0.0300	102	70-130	

Lab Batch #: 3145449 **Sample:** 7717501-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12.19.2020 04:26 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0296	0.0300	99	70-130	
4-Bromofluorobenzene	0.0324	0.0300	108	70-130	

Lab Batch #: 3145449 **Sample:** 681479-008 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12.19.2020 04:47 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	70-130	
4-Bromofluorobenzene	0.0324	0.0300	108	70-130	

Lab Batch #: 3145449 **Sample:** 681479-008 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12.19.2020 05:07 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	70-130	
4-Bromofluorobenzene	0.0333	0.0300	111	70-130	

Lab Batch #: 3145449 **Sample:** 7717501-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12.19.2020 06:07 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0264	0.0300	88	70-130	
4-Bromofluorobenzene	0.0354	0.0300	118	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.

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Form 2 - Surrogate Recoveries

Project Name: VGSAU-135

Report Date: 12212020

Work Orders : 681479 **Project ID:**

Lab Batch #: 3145533 **Sample:** 7717575-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12.19.2020 12:52 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	100	107	70-130	
o-Terphenyl	63.1	50.0	126	70-130	

Lab Batch #: 3145533 **Sample:** 7717575-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12.19.2020 13:14 **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	70-130	
o-Terphenyl	63.8	50.0	128	70-130	

Lab Batch #: 3145533 **Sample:** 7717575-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12.19.2020 13:36 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	123	100	123	70-130	
o-Terphenyl	64.9	50.0	130	70-130	

Lab Batch #: 3145533 **Sample:** 681479-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12.19.2020 14:19 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	99.7	115	70-130	
o-Terphenyl	61.9	49.9	124	70-130	

Lab Batch #: 3145533 **Sample:** 681479-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12.19.2020 14:41 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	99.8	118	70-130	
o-Terphenyl	60.2	49.9	121	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.

QC Summary 681479

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ARCADIS

VGSAU-135

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3145295 — Matrix: Solid — Date Prep: 12.17.2020
MB Sample Id: 7717385-1-BLK — LCS Sample Id: 7717385-1-BKS — LCSD Sample Id: 7717385-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	256	102	256	102	90-110	0	20	mg/kg	12.17.2020 16:19	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3145300 — Matrix: Solid — Date Prep: 12.17.2020
MB Sample Id: 7717386-1-BLK — LCS Sample Id: 7717386-1-BKS — LCSD Sample Id: 7717386-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	261	104	261	104	90-110	0	20	mg/kg	12.17.2020 19:21	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3145295 — Matrix: Soil — Date Prep: 12.17.2020
Parent Sample Id: 681150-015 — MS Sample Id: 681150-015 S — MSD Sample Id: 681150-015 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	9.92	250	274	106	275	106	90-110	0	20	mg/kg	12.17.2020 17:57	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3145295 — Matrix: Soil — Date Prep: 12.17.2020
Parent Sample Id: 681604-002 — MS Sample Id: 681604-002 S — MSD Sample Id: 681604-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	21.3	253	274	100	275	100	90-110	0	20	mg/kg	12.17.2020 16:37	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3145300 — Matrix: Solid — Date Prep: 12.17.2020
Parent Sample Id: 681217-009 — MS Sample Id: 681217-009 S — MSD Sample Id: 681217-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	433	248	677	98	680	100	90-110	0	20	mg/kg	12.17.2020 19:37	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3145300 — Matrix: Soil — Date Prep: 12.17.2020
Parent Sample Id: 681479-010 — MS Sample Id: 681479-010 S — MSD Sample Id: 681479-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.95	250	273	106	274	107	90-110	0	20	mg/kg	12.17.2020 20:50	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery — [D] = 100 * (C) / [B]
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

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QC Summary 681479

ARCADIS

VGSAU-135

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3145533 — Matrix: Solid — Date Prep: 12.19.2020
MB Sample Id: 7717575-1-BLK — LCS Sample Id: 7717575-1-BKS — LCSD Sample Id: 7717575-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1100	110	1140	114	70-130	4	20	mg/kg	12.19.2020 13:14	
Diesel Range Organics (DRO)	<15.0	1000	1190	119	1180	118	70-130	1	20	mg/kg	12.19.2020 13:14	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		125		123		70-130	%	12.19.2020 13:14
o-Terphenyl	126		128		130		70-130	%	12.19.2020 13:14

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3145533 — Matrix: Solid — Date Prep: 12.19.2020
MB Sample Id: 7717575-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<15.0	mg/kg	12.19.2020 12:52	

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3145533 — Matrix: Soil — Date Prep: 12.19.2020
Parent Sample Id: 681479-001 — MS Sample Id: 681479-001 S — MSD Sample Id: 681479-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	15.0	997	991	98	1000	99	70-130	1	20	mg/kg	12.19.2020 14:19	
Diesel Range Organics (DRO)	<15.0	997	1150	115	1160	116	70-130	1	20	mg/kg	12.19.2020 14:19	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		118		70-130	%	12.19.2020 14:19
o-Terphenyl	124		121		70-130	%	12.19.2020 14:19

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3145448 — Matrix: Solid — Date Prep: 12.18.2020
MB Sample Id: 7717500-1-BLK — LCS Sample Id: 7717500-1-BKS — LCSD Sample Id: 7717500-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.115	115	0.111	111	70-130	4	35	mg/kg	12.18.2020 16:59	
Toluene	<0.000456	0.100	0.108	108	0.104	104	70-130	4	35	mg/kg	12.18.2020 16:59	
Ethylbenzene	<0.000565	0.100	0.109	109	0.106	106	70-130	3	35	mg/kg	12.18.2020 16:59	
m,p-Xylenes	<0.00101	0.200	0.218	109	0.212	106	70-130	3	35	mg/kg	12.18.2020 16:59	
o-Xylene	<0.000344	0.100	0.105	105	0.102	102	70-130	3	35	mg/kg	12.18.2020 16:59	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		100		99		70-130	%	12.18.2020 16:59
4-Bromofluorobenzene	115		103		106		70-130	%	12.18.2020 16:59

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

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QC Summary 681479

ARCADIS

VGSAU-135

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3145449 — Matrix: Solid — Date Prep: 12.18.2020
MB Sample Id: 7717501-1-BLK — LCS Sample Id: 7717501-1-BKS — LCSD Sample Id: 7717501-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.0988	99	0.100	100	70-130	1	35	mg/kg	12.19.2020 04:05	
Toluene	<0.000456	0.100	0.0933	93	0.0964	96	70-130	3	35	mg/kg	12.19.2020 04:05	
Ethylbenzene	<0.000565	0.100	0.0937	94	0.0959	96	70-130	2	35	mg/kg	12.19.2020 04:05	
m,p-Xylenes	<0.00101	0.200	0.187	94	0.193	97	70-130	3	35	mg/kg	12.19.2020 04:05	
o-Xylene	<0.000344	0.100	0.0919	92	0.0954	95	70-130	4	35	mg/kg	12.19.2020 04:05	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	88		98		99		70-130	%	12.19.2020 04:05
4-Bromofluorobenzene	118		102		108		70-130	%	12.19.2020 04:05

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3145448 — Matrix: Soil — Date Prep: 12.18.2020
Parent Sample Id: 681515-001 — MS Sample Id: 681515-001 S — MSD Sample Id: 681515-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000383	0.0996	0.0929	93	0.0886	89	70-130	5	35	mg/kg	12.18.2020 17:40	
Toluene	<0.000454	0.0996	0.0917	92	0.0870	88	70-130	5	35	mg/kg	12.18.2020 17:40	
Ethylbenzene	<0.000563	0.0996	0.0821	82	0.0822	83	70-130	0	35	mg/kg	12.18.2020 17:40	
m,p-Xylenes	<0.00101	0.199	0.162	81	0.163	82	70-130	1	35	mg/kg	12.18.2020 17:40	
o-Xylene	<0.000343	0.0996	0.0789	79	0.0792	80	70-130	0	35	mg/kg	12.18.2020 17:40	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		102		70-130	%	12.18.2020 17:40
4-Bromofluorobenzene	108		108		70-130	%	12.18.2020 17:40

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3145449 — Matrix: Soil — Date Prep: 12.18.2020
Parent Sample Id: 681479-008 — MS Sample Id: 681479-008 S — MSD Sample Id: 681479-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000387	0.101	0.0722	71	0.0762	77	70-130	5	35	mg/kg	12.19.2020 04:47	
Toluene	<0.000458	0.101	0.0713	71	0.0798	80	70-130	11	35	mg/kg	12.19.2020 04:47	
Ethylbenzene	<0.000568	0.101	0.0690	68	0.0830	84	70-130	18	35	mg/kg	12.19.2020 04:47	X
m,p-Xylenes	<0.00102	0.201	0.121	60	0.134	67	70-130	10	35	mg/kg	12.19.2020 04:47	X
o-Xylene	<0.000346	0.101	0.0650	64	0.0695	70	70-130	7	35	mg/kg	12.19.2020 04:47	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		102		70-130	%	12.19.2020 04:47
4-Bromofluorobenzene	108		111		70-130	%	12.19.2020 04:47

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

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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. **ND** Not Detected.

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

Eurofins Xenco
4147 Green Briar Dr
Stafford TX 77477
Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: J. Steinmann
Client Contact: Morgan Jordan	Phone: 619 851 8792
Lab PM: Kudchadkar, Sachin G	E-Mail: Sachin.Kudchadkar@Eurofinset.com
Carrier Tracking No(s):	State of Origin: NM
COC No: 600-75751-20436.8	Page: Page 1 of 2
Job #: 680479	
Company: ARCADIS U.S., Inc.	PWSID:
Address: ~~1004 North Big Spring Suite 121~~ 1717 W. 6th St. Suite 210	Due Date Requested:
City: ~~Midland~~ Austin	TAT Requested (days): std
State, Zip: ~~TX, 79701~~ TX 78703	Compliance Project: Δ Yes Δ No
Phone: ~~432-227-0266(Tel)~~ 281 644 9437	PO #:
Email: douglas.jordan@arcadis.com	WO #:
Project Name: VGSAU-135	Project #: 60012136
Site: 30064836	SSOW#:

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_Chloride	8015B_GRO/DRO/ORO	8021-BTEX	Total Number of containers	Special Instructions/Note:
				Preservation Code:	X	X	N	N	N	X	
SB-11-S-0-.25-201216	12/16/20	0949	G	Solid							
SB-12-S-0-.25-201216		1002		Solid							
SB-13-S-0-.25-201216		1010		Solid							
SB-14-S-0-.25-201216		1020		Solid							
SB-15-S-0-.5-201216		1108		Solid							
SB-16-S-0-.25-201216		1122		Solid							
SB-17-S-0-.5-201216		1130		Solid							
SB-18-S-0-.25-201216		1148		Solid							
SB-19-S-0-.5-201216		1153		Solid							
SB-20-S-0-.5-201216		1210		Solid							
SB-20-S-.5-1-201216		1226		Solid							

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months

Deliverable Requested: I, II, III, IV, Other (specify)
Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	12/16/20 1500	Arcadis	Carlos Guajardo	12/16/20 1500	Arcadis
Carlos Guajardo	12/16/20 1721	Arcadis	Bell Kdima	12/16/20 1721	Eurofins

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

9/12/16

Final 1.000

Page 45 of 47

Eurofins Xenco
4147 Green Briar Dr
Stafford TX 77477
Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record

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Client Information	Sampler: J. Steinmann	Lab PM: Kudchadkar, Sachin G	Carrier Tracking No(s):	COC No: 600-75751-20436.8
Client Contact: Morgan Jordan	Phone: 6A851 8792	E-Mail: Sachin.Kudchadkar@Eurofinset.com	State of Origin: NM	Page: Page 202
Company: ARCADIS U.S., Inc.	PWSID:			Job #: 6801479
Address: ~~1004 North Big Spring Suite 121~~ 1717 W 6th St. Suite 210	Due Date Requested:	Analysis Requested		Preservation Codes:
City: ~~Midland~~ Austin	TAT Requested (days): std			A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify) Other:
State, Zip: ~~TX, 79701~~ TX 78703	Compliance Project: Δ Yes Δ No			
Phone: ~~432-227-0266(Tel)~~ 281 644 9437	PO #:			
Email: ~~doug.ks.Mark~~ jordan@arcadis.com	WO #:			
Project Name: VGSAU-135	Project #: 60012136			
Site: 30064836	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ Chloride	8015B_GRO/DRO/ORO	8021- BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N		
SB-1S-SD-0-.5-201216	12/16/20	—	G	Solid						1	
SB-21-S-0-.5-201216	12/16/20	1334	1	Solid						1	
SB-22-S-0-.5-201216	12/16/20	1352	1	Solid						1	
				Solid							
				Solid							
				Solid							
				Solid							
				Solid							
				Solid							
				Solid							
				Solid							
				Solid							

QC 12/16/20

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 12/16/20 1500	Company: Arcadis	Received by:	Date/Time: 12/16/20 1500	Company: Arcadis
Relinquished by:	Date/Time: 12/16/20 1721	Company: Arcadis	Received by:	Date/Time: 12/16/20 17:21	Company: Eurofins
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: ARCADIS

Date/ Time Received: 12.16.2020 05.24.00 PM

Work Order #: 681479

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	
#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**
#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: 12.17.2020

Brianna Teel

Checklist reviewed by: Sachin Kudchadkar Date: 12.17.2020

Sachin Kudchadkar

Appendix C

Photographic Log

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Case No.
VGSAU 135	Lea County, NM	1RP-2438

Photo No.	Date:
1	12/15/2020

Direction Photo Taken:

Facing north

Description:

Location Sign

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Case No.
VGSAU 135	Lea County, NM	1RP-2438

Photo No.	Date:
2	12/15/2020

Direction Photo Taken:

Northeast

Description:

West side of pad

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Case No.
VGSAU 135	Lea County, NM	1RP-2438

Photo No.	Date:
3	12/15/2020

Direction Photo Taken:

Facing southeast

Description:

Taken from west side of pad

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Case No.
VGSAU 135	Lea County, NM	1RP-2438

Photo No.	Date:
4	12/15/2020

Direction Photo Taken:

Facing east

Description:

North side of pad from the west

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Case No.
VGSAU 135	Lea County, NM	1RP-2438

Photo No.	Date:
5	12/15/2020

Direction Photo Taken:

Facing South

Description:

North side of pad from the north

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Case No.
VGSAU 135	Lea County, NM	1RP-2438

Photo No.	Date:
6	12/15/2020

Direction Photo Taken:

Facing south

Description:

East side of pad from the north

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Case No.
VGSAU 135	Lea County, NM	1RP-2438

Photo No.	Date:
7	12/15/2020

Direction Photo Taken:

Facing west

Description:

East side of pad from the east

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Case No.
VGSAU 135	Lea County, NM	1RP-2438

Photo No.	Date:
8	12/15/2020

Direction Photo Taken:

Facing nothwest

Description:

Pad from the southeast

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Case No.
VGSAU 135	Lea County, NM	1RP-2438

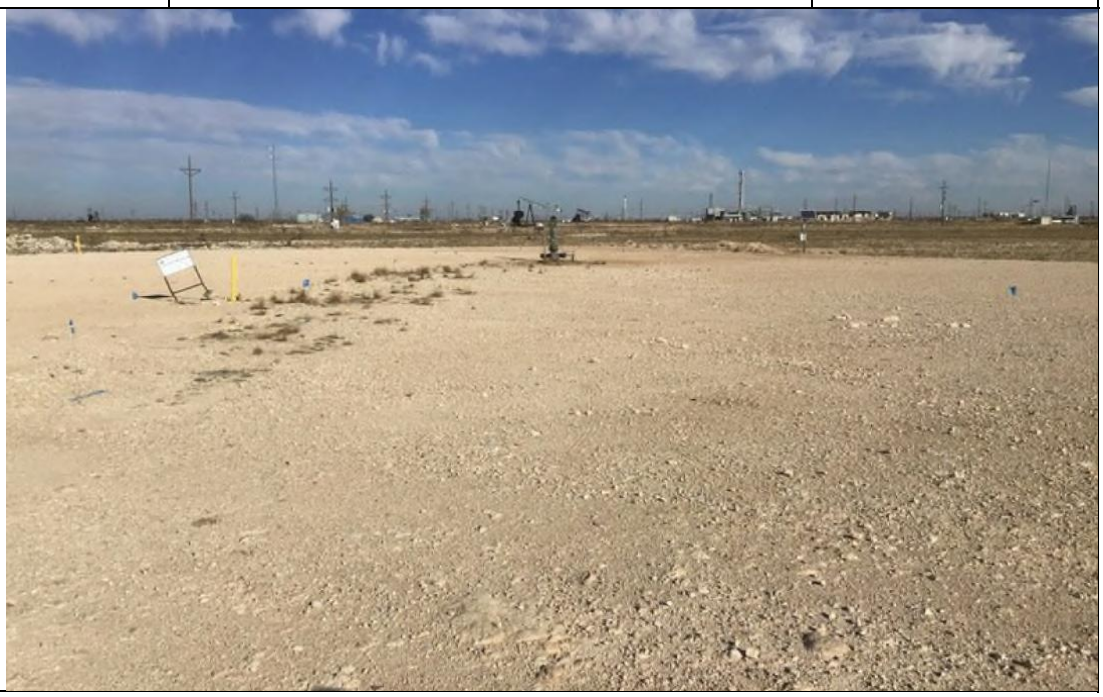
Photo No.	Date:
9	12/15/2020

Direction Photo Taken:

Facing North

Description:

South side of the pad from the south



Appendix D

Revised C-141 Form 1RP-2438

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

NPLM0831836796

Incident ID	~~NGRL0919536415~~
District RP	1RP-2438
Facility ID	NA
Application ID	NA

Release Notification

Responsible Party

	OGRID: 4323
	Contact Telephone: 505-690-5408
	Incident # *(assigned by OCD)* NGRL0919536415

Location of Release Source

Res ponsib
le P Con tact arty: Chevro n USA
e N
ame Con tact e : Armando Martin
com
mai Con tact ma l: amarti@che vron.
ili ng address:
ecimal degrees to 5 decimal places)

Longitude -103.511481

L atitu Site de Type: Water nject
io
n L 77 AP #N (if applicable): 30-0 7084
S ite ame
i 3
ne N ate Rele (a *NAD* cum Grayb 83 in *d* urg Sa
se NN ☒ County iscovered: N0/08/ ☐ ☐
n Andres Unit WN W N 3
Lea Uni t Lette
r 008 G Section Tow
N N8S

S urfa ce Ow
t nship R an ge
ner State Fed

d Volume of Release

☐		
☒		
	Materials(s) Crude Volume Re Relea olu	☒ ___ ☐
☐	Produced Water Volume Re olu	
☐	Condensate Yes No	
☐	Natural Gas (Mcf) Volume Re Volu	
	Other (describe) Volume/Weight	

Na tu re an

e calculations or specific justification for
ed (bbls) Tribal
ed (bbls): 3
chloride in the
sed (Select all that apply and attach
me Released (bbls)
Recovered (provide units)
me Released (bbls)
concentration of dissolved
Cause of R
e water > 10,000 mg/l?
ase: Leak found in
me Released (bbls)
ter injection line.
me Released (Mcf)
me/Weight Released (provid

high pressure fiberglass wa

State of New Mexico
Oil Conservation Division

Incident ID	[redacted]
District RP	1RP-2438
Facility ID	NA
Application ID	NA

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? **Release was greater than 25 barrels.**
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? **Initial C-141 Form was submitted on November 11, 2008.**	

State of New Mexico
Oil Conservation Division

Incident ID	~~NGRL0919536415~~
District RP	1RP-2438
Facility ID	NA
Application ID	NA

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	115 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells. **Attached.**
Field data: **Attached.**
Data table of soil contaminant concentration data: **Attached.**
Depth to water determination: **>101 feet bgs**
Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release: **None identified.**
Boring or excavation logs: **Shallow refusal was encountered.**
Photographs including date and GIS information: **Photographic log attached.**
Topographic/Aerial maps; **Topographic map attached.**
Laboratory data including chain of custody: **Attached.**

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

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Incident ID	[redacted]
District RP	1RP-2438
Facility ID	NA
Application ID	NA

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: Armando Martinez Title: Environmental Project Manager

Signature:_____ _____ Date: 3/8/21_____

email: ____ amarti@chevron.com _____ Telephone: 505-690-5408_____

OCD Only

Received by: _____ Date: _____

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Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 52924

CONDITIONS

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 52924
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	Submitted report accepted as information only. Proceed with additional delineation and workplan development. Submit a workplan via the OCD permitting portal by 6/16/2023.	3/9/2023