Armando Martinez
Operations Lead, Portfolio Operations Central

January 6, 2022

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

Re: 2021 Soil Assessment Report – WLU 57
Case No. 1RP-1992
Lea County, New Mexico

Dear Bradford Billings:

Chevron Environmental Management Company (CEMC) submits herein the *2021 Soil Assessment Report* for 1RP-1992, WLU 57. The Site is located approximately 6.40 miles south of Lovington, in Unit H, Section 8, Township 17 South, Range 36 East, Lea County, New Mexico. The Report was prepared by Arcadis U.S., Inc. (Arcadis), on behalf of CEMC. Based upon the findings presented in this report and information documented on the Initial C-141 Form, additional assessment activities are recommended to investigate potential impacts at the Site. A proposed scope will be included in a Work Plan for review and approval.

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. 2021 Soil Assessment Report – WLU 57

Armando Martinez
Operations Lead Central
Portfolio Operations - Central
354 State Highway 38, Questa, NM 87556-0469
Tel 575 586 7639 Mobile 505 690 5408 Fax 575 586 0811
amarti@chevron.com

ARCADIS

Chevron Environmental Management Company

2021 Soil Assessment Report

WLU 57
NMOCD Case No. 1RP-1992

January 2022

2021 Soil Assessment Report

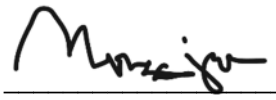
WLU 57
NMOCD Case No. 1RP-1992

January 2022

Prepared By:
Arcadis U.S., Inc.
10205 Westheimer Road, Suite 800
Houston
Texas 77042
Phone: 713 953 4800
Fax: 713 977 4620

Prepared For:
Armando Martinez
Operations Lead Central
Chevron Environmental Management Company
P.O. Box 469
Questa, New Mexico 87556

Our Ref:
30064883



Morgan Jordan
Task Manager I

Scott Foord, PG
Certified Project Manager

Contents

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Figures

Appendices

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 West Lovington Unit (WLU) 57 (Site).

2 Project Summary

The Site is located approximately 6.40 miles south of Lovington, in Unit H, Section 8, Township 17 South, Range 36 East, Lea County, New Mexico. A site location map is included as **Figure 1**.

The Initial C-141 states that in April 2007, a soil boring assessment was conducted at site No. 173608G located within the Unit Boundary of the West Lovington Unit. Evidence of groundwater impact was found indicating chloride and low-level hydrocarbon impacts sufficient to warrant further investigation. Verbal notification of potential groundwater impact was made to Chris Williams at the local New Mexico Oil Conservation Division (NMOCD) district office on February 1, 2008. The time and source of the impacting event (release) is unknown. According to the New Mexico Office of the State Engineers (NMOSE) database, there is a water well approximately 0.72 miles northwest of the Site with a depth to groundwater of 86 feet below ground surface (bgs). The Initial C-141 Form for this release was submitted to the NMOCD on March 17, 2008 and approved by NMOCD on October 29, 2008. The release was assigned remediation permit number 1RP-1992. The Initial C-141 Form for this release is included in **Appendix A**.

3 2021 Soil Assessment

On January 28–29, 2021, Arcadis personnel collected soil samples from ten locations (SB-1 through SB-10) within the investigation area. The sample locations were determined based on information obtained by Arcadis from the Initial C-141 Form associated with remediation permit number 1RP-1992. The soil samples were collected with a hand auger at depths ranging from the surface to approximately 2 feet 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 excavated soil after sample collection. Soil sample locations are presented on **Figure 2**. A photographic log is presented in **Appendix B**. Sample containers (4 oz. glass jars) were supplied by Eurofins Xenco Laboratories, and 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 range organic (TPH-GRO) by USEPA Method 8015;
- TPH as diesel range organic (TPH-DRO) by USEPA Method 8015;
- TPH as motor oil range organic (TPH-MRO) 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 the specific analytical constituents specified in **Table 1** within revised Rule 19.15.29. The specific analytical constituents for this site include Benzene, Total BTEX, TPH (GRO + DRO), Total TPH (GRO + DRO + MRO), and chloride for depth to groundwater between 51 and 100 feet bgs. Total TPH is recognized as the sum of the hydrocarbon chains from C6 to C36. 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 C**. 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 + DRO) concentrations were reported below the NMAC standard of 1,000 mg/kg at all sample locations.
- Total TPH (GRO + DRO + MRO) 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 10,000 mg/kg at all sample locations. However, chloride concentrations did exceed the revised Rule (19.15.29.13) restoration screening criteria of 600 mg/kg within the top 4 feet bgs of the soil column at one sample location (SB-4).
    - SB-4
        - (0 – 0.5 ft) at 616 mg/kg

5 Conclusion

Analytical results associated with the recent soil assessment activities indicate that concentrations of chloride slightly 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-4. Based upon the findings presented in this report and information documented on the Initial C-141 Form, additional assessment activities are recommended to investigate potential impacts at the Site. The revised C-141 Form is presented in **Appendix D**.

Tables

Table 1
2021 Soil Analytical Results
Chevron Environmental Management Company
WLU 57
Lea County, New Mexico

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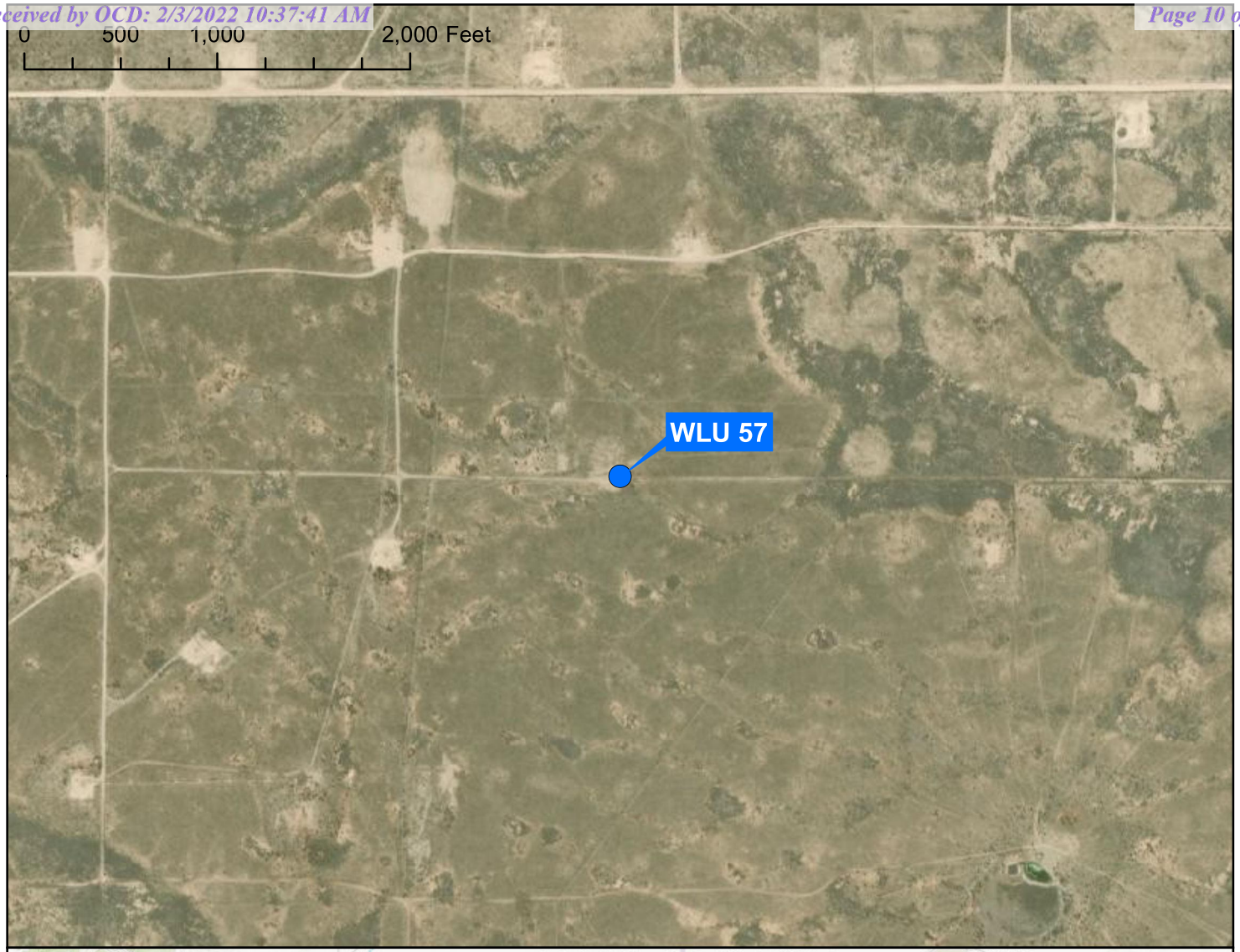
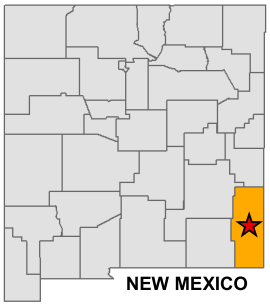
Sample I.D. No.	Sample Depth (feet bgs)	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	TPH - GRO	TPH - DRO	TPH (GRO + DRO)	TPH - MRO	Total TPH (GRO + DRO + MRO)	Chloride
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
NMAC Sreening Levels			**10**	--	--	--	**50**	--	--	**1,000**	--	**2,500**	**10,000**
NMAC Rule (19.15.29.13) Restoration Screening Criteria													**600***
SB-1	0-0.5'	01/28/21	<0.000382	<0.000452	<0.000560	<0.000342	<0.000342	23.1 J	33.9 J	57	18.1 J	75.1	580
SB-2	0-0.5'	01/28/21	<0.000383	<0.000454	<0.000563	<0.000343	<0.000343	15.4 J	15.9 J	31.3 J	<15.0	31.3 J	8.90
SB-3	0-0.5'	01/28/21	<0.000386	<0.000457	<0.000566	<0.000345	<0.000345	<15.0	947	947	294	1,240	43.7
SB-3 (DUP)	0-0.5'	01/28/21	<0.000384	<0.000455	<0.000564	<0.000344	<0.000344	<15.0	632	632	288	920	55.0
SB-3	1-2'	01/28/21	<0.000389	<0.000460	<0.000570	<0.000348	<0.000348	<15.0	78.6	78.6	78.7	157	93.2
SB-4	0-0.5'	01/28/21	<0.000386	<0.000457	<0.000567	<0.000346	<0.000346	<15.0	333	333	157	490	***616***
SB-5	0-0.5'	01/29/21	<0.000382	<0.000452	<0.000560	<0.000342	<0.000342	21.2 B J	198	219.2	137	356	95.5
SB-6	0-0.5'	01/29/21	<0.000388	<0.000459	<0.000569	<0.000347	<0.000347	20.4 B J	93.4	113.8	69.6	183	368
SB-7	0-0.5'	01/29/21	<0.000384	<0.000455	<0.000564	<0.000344	<0.000344	19.3 B J	112	131.3	82.3	214	217
SB-8	0-0.5'	01/29/21	<0.000383	<0.000453	<0.000561	<0.000342	<0.000342	22.6 B J	20.7 J	43.3 J	24.7 J	68.0	12.1
SB-9	0-0.5'	01/29/21	<0.000383	<0.000454	<0.000563	<0.000343	<0.000343	23.5 B J	16.1 J	39.6 J	19.3 J	58.9	15.4
SB-10	0-0.5'	01/29/21	<0.000385	<0.000456	<0.000565	<0.000344	<0.000344	21.7 B J	15.0 J	36.7 J	16.9 J	53.6	24.7
	1-1.75'	01/29/21	<0.000385	<0.000456	<0.000565	<0.000344	<0.000344	21.8 B J	<14.9	21.8 J	<14.9	21.8 J	246

Notes:
BOLD = Analytes exceeding NMAC standards
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)
mg/kg: Milligram per Kilogram
NMAC : New Mexico Administration Code
BTEX : Benzene, Toluene, Ethylbenzene, and Total Xylenes
TPH GRO: Total Petroleum Hydrocarbons Gasoline Range Organics
TPH MRO: Total Petroluem Hydrocarbons Motor Oil Range Organics
TPH DRO: Total Petroleum Hydrocarbon Diesel Range Organics
Total TPH: GRO + DRO + MRO
DUP : Duplicate sample

1. Chloride analyzed by United States Environmental Protection Agency Method 300
2. TPH analyzed by TPH by SW8015 Modified
3. BTEX analyzed by USEPA Method 8021B
4. Closure Criteria New Mexico Administrative Code 19.15.29.12.E(2)
5. *Revised screening limit and restoration criteria within the first 4 feet below ground surface per Rule 19.15.29 effective August 14, 2018

Figures





N

NOTES:
1. Datum: D_WGS_1984
2. Site Location: 32.852189, -103.371426

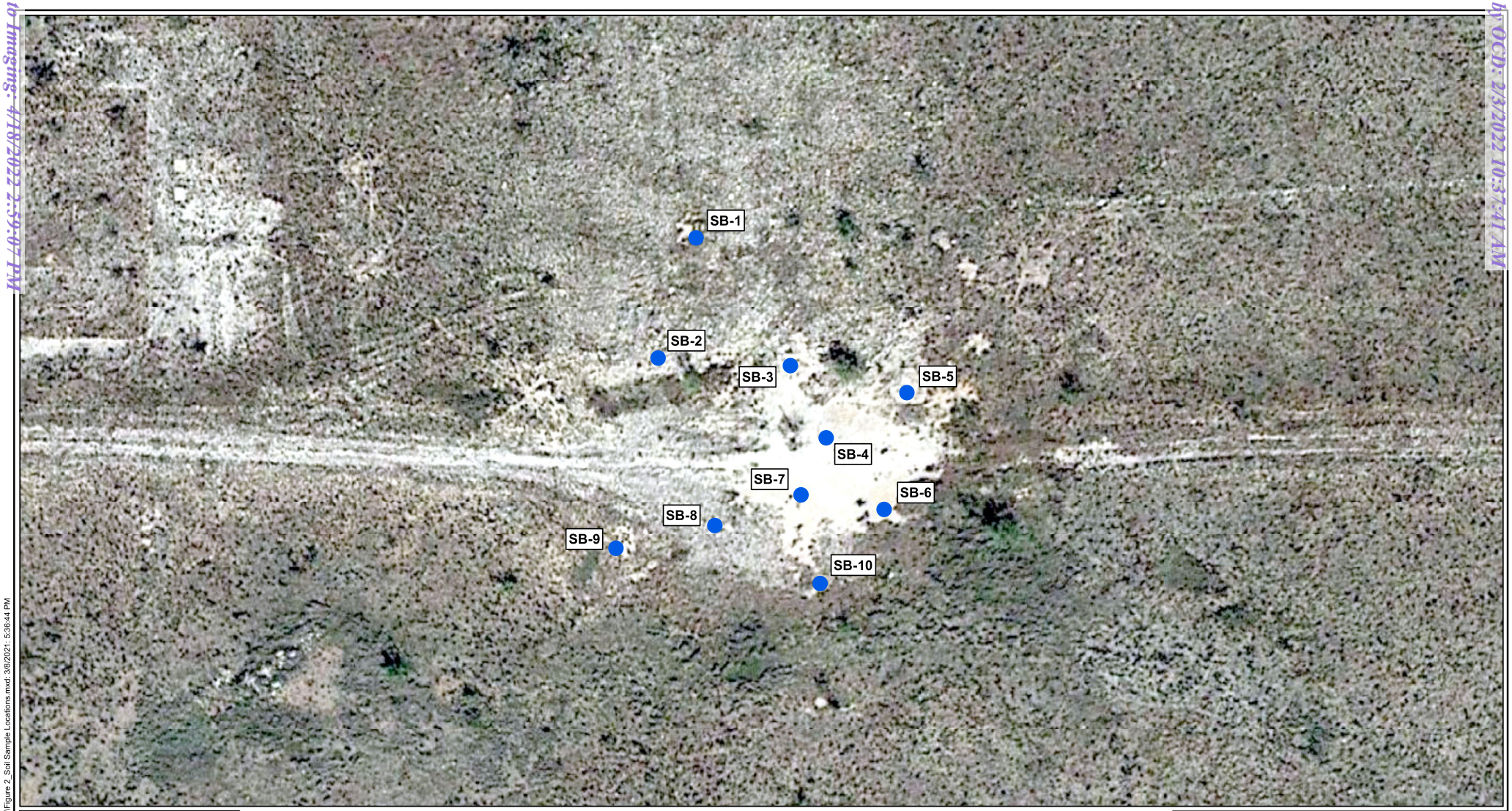
Chevron Environmental Management Company
WLU 57
Lea County, New Mexico

SITE LOCATION MAP

ARCADIS

FIGURE
1

P:\: T:_ENV\Chevron\Chevron_WLU 57\MXD\Figure 1_Site Location Map.mxd: 3/8/2021: 5:21:34 PM



LEGEND:

- Soil Sample Locations

NOTES:
1. Datum: GCS_WGS_1984
2. Site Location: 32.852189, -103.371426

N

0 25 50 100 Feet

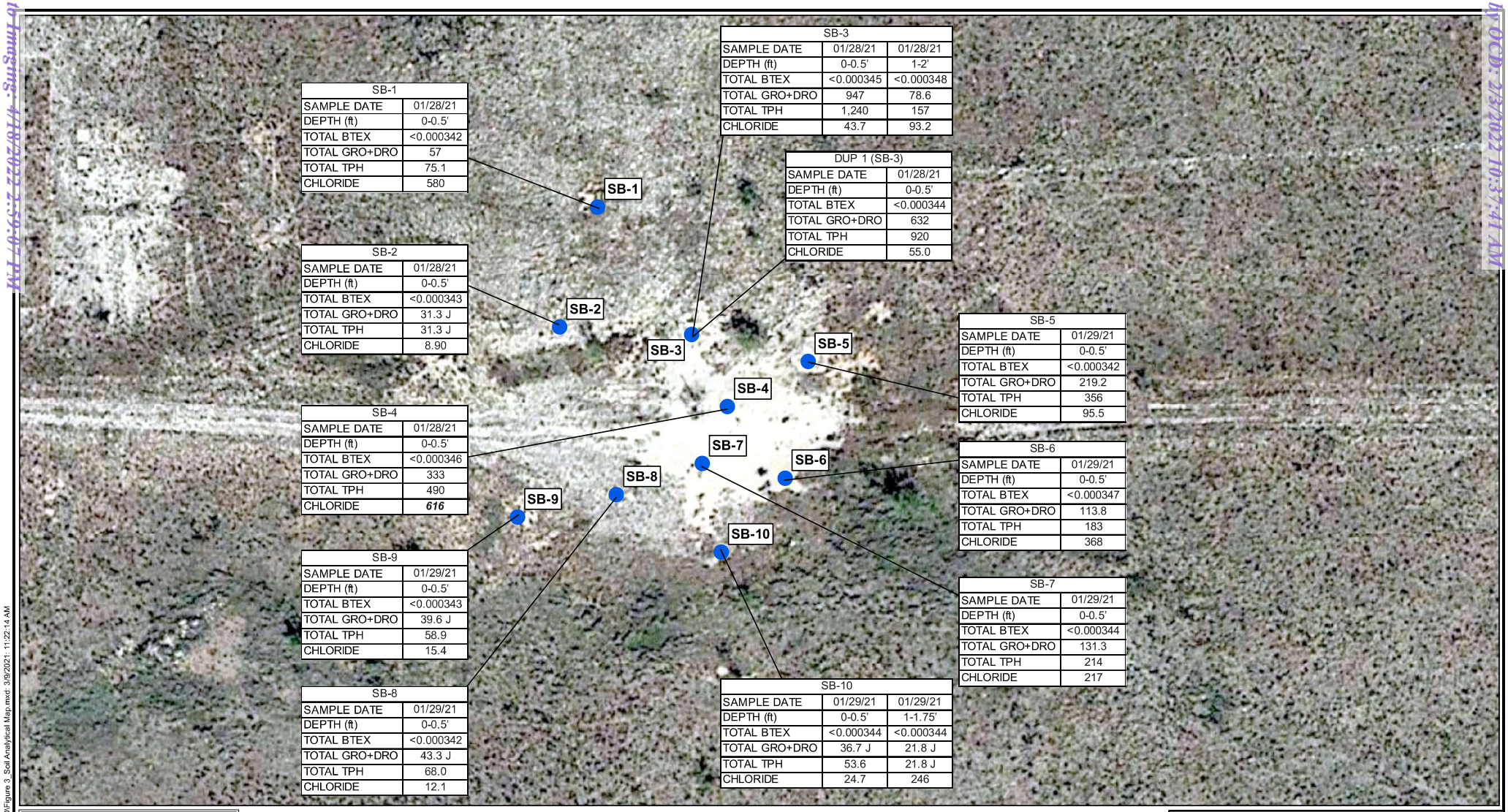
Chevron Environmental Management Company
WLU 57
Lea County, New Mexico

SOIL SAMPLE LOCATIONS MAP

ARCADIS

FIGURE 2

Path: T:_ENV\Chevron\Chevron_WLU 57\MXD\Figure 2_Soil Sample Locations.mxd: 3/8/2021: 5:36:44 PM



SB-1	
SAMPLE DATE	01/28/21
DEPTH (ft)	0-0.5'
TOTAL BTEX	<0.000342
TOTAL GRO+DRO	57
TOTAL TPH	75.1
CHLORIDE	580

SB-2	
SAMPLE DATE	01/28/21
DEPTH (ft)	0-0.5'
TOTAL BTEX	<0.000343
TOTAL GRO+DRO	31.3 J
TOTAL TPH	31.3 J
CHLORIDE	8.90

SB-3		
SAMPLE DATE	01/28/21	01/28/21
DEPTH (ft)	0-0.5'	1-2'
TOTAL BTEX	<0.000345	<0.000348
TOTAL GRO+DRO	947	78.6
TOTAL TPH	1,240	157
CHLORIDE	43.7	93.2

DUP 1 (SB-3)	
SAMPLE DATE	01/28/21
DEPTH (ft)	0-0.5'
TOTAL BTEX	<0.000344
TOTAL GRO+DRO	632
TOTAL TPH	920
CHLORIDE	55.0

SB-4	
SAMPLE DATE	01/28/21
DEPTH (ft)	0-0.5'
TOTAL BTEX	<0.000346
TOTAL GRO+DRO	333
TOTAL TPH	490
CHLORIDE	***616***

SB-5	
SAMPLE DATE	01/29/21
DEPTH (ft)	0-0.5'
TOTAL BTEX	<0.000342
TOTAL GRO+DRO	219.2
TOTAL TPH	356
CHLORIDE	95.5

SB-6	
SAMPLE DATE	01/29/21
DEPTH (ft)	0-0.5'
TOTAL BTEX	<0.000347
TOTAL GRO+DRO	113.8
TOTAL TPH	183
CHLORIDE	368

SB-7	
SAMPLE DATE	01/29/21
DEPTH (ft)	0-0.5'
TOTAL BTEX	<0.000344
TOTAL GRO+DRO	131.3
TOTAL TPH	214
CHLORIDE	217

SB-8	
SAMPLE DATE	01/29/21
DEPTH (ft)	0-0.5'
TOTAL BTEX	<0.000342
TOTAL GRO+DRO	43.3 J
TOTAL TPH	68.0
CHLORIDE	12.1

SB-9	
SAMPLE DATE	01/29/21
DEPTH (ft)	0-0.5'
TOTAL BTEX	<0.000343
TOTAL GRO+DRO	39.6 J
TOTAL TPH	58.9
CHLORIDE	15.4

SB-10		
SAMPLE DATE	01/29/21	01/29/21
DEPTH (ft)	0-0.5'	1-1.75'
TOTAL BTEX	<0.000344	<0.000344
TOTAL GRO+DRO	36.7 J	21.8 J
TOTAL TPH	53.6	21.8 J
CHLORIDE	24.7	246

LEGEND:

- Soil Sample Locations

NOTES:
1. Datum: GCS_WGS_1984
2. Site Location: 32.852189, -103.371426

Notes:
1. ***Bold*** = Analytes exceeding NMAC restoration requirements for Chloride
2. Results are in Milligrams per Kilograms
3. NMAC = New Mexico Administration Code
4. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes
5. TPH = Total Petroleum Hydrocarbons
6. GRO = Gasoline Range Organics
7. DRO = Diesel Range Organics
8. Total TPH = GRO + DRO + MRO
9. '" ' " Indicates one foot.
10. *Revised screening limit and restoration criteria within the first 4 feet below ground surface per Rule 19.15.29 effective August Chloride analyzed by United States Environmental Protection Agency (USEPA) Method 300.
11. TPH analyzed by GRO/DRO/ORO Method SW8015.
12. BTEX analyzed by USEPA Method 8021B.
13. Closure Criteria New Mexico Administrative Code 16.15.29.12.E(2).

Analyte	NMAC Standards	Restoration Requirements
TOTAL BTEX	50	--
TOTAL GRO+DRO	1,000	--
TOTAL TPH	2,500	--
CHLORIDE	20,000	600

N

0 25 50 100 Feet

Chevron Environmental Management Company
WLU 57
Lea County, New Mexico

SOIL ANALYTICAL RESULTS MAP

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FIGURE 3

Path: T:_ENV\Chevron\Chevron_WLU 57\MXD\Figure 3_Soil Analytical Map.mxd 3/9/2021 11:22:14 AM

Appendix A

Initial C-141 Form 1RP-1992

RECEIVED
OCT 29 2008
HOBBS OCD

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 WEST LOVINGTON UNIT #57	Facility Type GENERAL LEASE – IIS 173608G

Surface Owner CHEVRON	Mineral Owner STATE OF NEW MEXICO	Lease No. B-4704 OGRID NO. 241333 API# 30 025 21885

LOCATION OF RELEASE (Closest Chevron Operated Well)

Unit Letter	Section	Township	Range	Feet from the	South Line	Feet from the	West Line	County
H	8	17.0S	36E	1650 FNL		989 FEL		Lea

(Investigation Site) Latitude_32.8533056 __ Longitude_-103.3763333

NATURE OF RELEASE

Type of Release UNKNOWN	Volume of Release UNKNOWN	Volume Recovered UNKNOWN
Source of Release UNKNOWN	Date and Hour of Occurrence UNKNOWN	Date and Hour of Discovery APRIL 2007
Was Immediate Notice Given? * see below ☐ Yes ☒ No ☐ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☒ Yes ☐ No	If YES, Volume Impacting the Watercourse. UNKNOWN	

If a Watercourse was Impacted, Describe Fully.*Chloride, Hydrocarbon and total Xylenes impact to groundwater

Describe Cause of Problem and Remedial Action Taken.*1 Soil boring conducted in April 2007 at site No. 173608G located within the Unit Boundary of the West Lovington Unit found evidence of ground water impact. The initial investigation indicates chlorides contamination and low level hydrocarbon impact sufficient to warrant further investigation.

The origin, source, date of occurrence or responsible party for the impact is undetermined.

**Verbal notification of potential groundwater impact was made to Chris Williams at the local NMOCD District office February 1, 2008. Since the date, time and source of the impacting event is not known, it is assumed that the event was not reported at the time of occurrence.*

Describe Area Affected and Cleanup Action Taken.*

Ground water impact in remote low activity oil production and ranching location. The nearest known active livestock water supply well is located approximately one mile north of the investigation site. Water gradient flow is believed to be southeast.

A work plan is being developed to further investigate the potential source of the impact and delineate the area of groundwater impact above standards.

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: Tejay Simpson	OIL CONSERVATION DIVISION
Printed Name: TEJAY SIMPSON	Approved by District Supervisor: ENVIRONMENTAL ENGINEER
Title: OPERATIONS SUPERVISOR	Approval Date: 10.29.08 Expiration Date: 12.1.08
E-mail Address tsimpson@chevron.com	Conditions of Approval: SUBMIT DETAILED REPORT INITIAL ADDING REASONS FOR INVESTIGATION BY IRP#1992 Attached ☐
Date: March 17, 2008 Phone: 396-4414 X 101	

* Attach Additional Sheets If Necessary

Appendix B

Photographic Log

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Case No.
WLU 57	Lea County, NM	1RP-1992

Photo No.	Date:
1	01/28/2021

Direction Photo Taken:

Facing south

Description:

North center

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Case No.
WLU 57	Lea County, NM	1RP-1992

Photo No.	Date:
2	01/28/2021

Direction Photo Taken:

Southwest

Description:

North east corner

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Case No.
WLU 57	Lea County, NM	1RP-1992

Photo No.	Date:
3	01/28/2021

Direction Photo Taken:

Facing west

Description:

East center

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Case No.
WLU 57	Lea County, NM	1RP-1992

Photo No.	Date:
4	01/28/2021

Direction Photo Taken:

Facing northwest

Description:

Southeast corner

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Case No.
WLU 57	Lea County, NM	1RP-1992

Photo No.	Date:
5	01/28/2021

Direction Photo Taken:

Facing north

Description:

South center

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Case No.
WLU 57	Lea County, NM	1RP-1992

Photo No.	Date:
6	01/28/2021

Direction Photo Taken:

Facing east

Description:

West

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Case No.
WLU 57	Lea County, NM	1RP-1992

Photo No.	Date:
7	01/28/2021

Direction Photo Taken:

Facing northeast

Description:

Southwest

ARCADIS

PHOTOGRAPHIC LOG

Property Name:	Location:	Case No.
WLU 57	Lea County, NM	1RP-1992

Photo No.	Date:
8	01/28/2021

Direction Photo Taken:

East

Description:
Well marker

Appendix C

Laboratory Reports

eurofins | Environment Testing Xenco

Analytical Report 686645

for

Arcadis U.S., Inc

Project Manager: Morgan Jordan

WLU 57

30064883-0002B

02.09.2021

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 (T104704219-20-24)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-20-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

eurofins | Environment Testing Xenco

02.09.2021

Project Manager: **Morgan Jordan**
Arcadis U.S., Inc
1717 W 6th Street, Suite 210
Austin, TX 78703

Reference: Eurofins Xenco, LLC Report No(s): **686645**
WLU 57
Project Address:

Morgan Jordan:

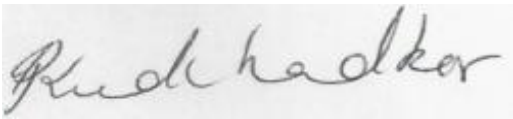
We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 686645. All results being reported under this Report Number apply to the samples analyzed and properly identified 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. 686645 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

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Sample Cross Reference 686645

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-5-S-0-.5-210129	S	01.29.2021 10:22		686645-001
SB-7-S-0-.5-210129	S	01.29.2021 11:02		686645-002
SB-6-S-0-.5-210129	S	01.29.2021 11:11		686645-003
SB-8-S-0-.5-210129	S	01.29.2021 11:40		686645-004
SB-9-S-0-.5-210129	S	01.29.2021 11:50		686645-005
SB-10-S-0-.5-210129	S	01.29.2021 12:01		686645-006
SB-10-S-1-1.75-210129	S	01.29.2021 12:06		686645-007

CASE NARRATIVE

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Client Name: Arcadis U.S., Inc

Project Name: WLU 57

Project ID: *30064883-0002B*
Work Order Number(s): *686645*

Report Date: *02.09.2021*
Date Received: *01.29.2021*

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-3149669 BTEX by EPA 8021B

Lab Sample ID 686645-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 686645-001, -002, -003, -004, -005, -006, -007.

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

Batch: LBA-3150009 TPH By SW8015 Mod

Detection in the method blank for the gasoline range, data was accepted due to detection being <.5 the reporting limit.

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Certificate of Analytical Results 686645

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id: **SB-5-S-0-.5-210129** Matrix: Soil Date Received:01.29.2021 17:00

Lab Sample Id: 686645-001 Date Collected: 01.29.2021 10:22

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.01.2021 16:45 % Moisture:

Seq Number: 3149707 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**95.5**	4.99	0.857	mg/kg	02.01.2021 21:55		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.03.2021 17:00 % Moisture:

Seq Number: 3150009 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**21.2**	49.9	15.0	mg/kg	02.04.2021 03:40	BJ	1
Diesel Range Organics (DRO)	C10C28DRO	**198**	49.9	15.0	mg/kg	02.04.2021 03:40		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**137**	49.9	15.0	mg/kg	02.04.2021 03:40		1
Total TPH	PHC635	**356**	49.9	15.0	mg/kg	02.04.2021 03:40		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-130	02.04.2021 03:40	
o-Terphenyl	84-15-1	120	%	70-130	02.04.2021 03:40	

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Certificate of Analytical Results 686645

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id:	**SB-5-S-0-.5-210129**	Matrix:	Soil	Date Received:	01.29.2021 17:00
Lab Sample Id:	686645-001	Date Collected:	01.29.2021 10:22		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	02.01.2021 17:15	% Moisture:	
Seq Number:	3149669			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000382	0.00198	0.000382	mg/kg	02.02.2021 07:26	UX	1
Toluene	108-88-3	<0.000452	0.00198	0.000452	mg/kg	02.02.2021 07:26	UX	1
Ethylbenzene	100-41-4	<0.000560	0.00198	0.000560	mg/kg	02.02.2021 07:26	UX	1
m,p-Xylenes	179601-23-1	<0.00101	0.00397	0.00101	mg/kg	02.02.2021 07:26	UX	1
o-Xylene	95-47-6	<0.000342	0.00198	0.000342	mg/kg	02.02.2021 07:26	UX	1
Total Xylenes	1330-20-7	<0.000342	0.00198	0.000342	mg/kg	02.02.2021 07:26	U	1
Total BTEX		<0.000342	0.00198	0.000342	mg/kg	02.02.2021 07:26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	109	%	70-130	02.02.2021 07:26	
4-Bromofluorobenzene	460-00-4	130	%	70-130	02.02.2021 07:26	

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Certificate of Analytical Results 686645

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id: **SB-7-S-0-.5-210129** Matrix: Soil Date Received:01.29.2021 17:00

Lab Sample Id: 686645-002 Date Collected: 01.29.2021 11:02

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.01.2021 16:45 % Moisture:

Seq Number: 3149707 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**217**	5.05	0.867	mg/kg	02.01.2021 22:00		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.03.2021 17:00 % Moisture:

Seq Number: 3150009 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**19.3**	50.0	15.0	mg/kg	02.04.2021 04:01	BJ	1
Diesel Range Organics (DRO)	C10C28DRO	**112**	50.0	15.0	mg/kg	02.04.2021 04:01		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**82.3**	50.0	15.0	mg/kg	02.04.2021 04:01		1
Total TPH	PHC635	**214**	50.0	15.0	mg/kg	02.04.2021 04:01		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-130	02.04.2021 04:01	
o-Terphenyl	84-15-1	118	%	70-130	02.04.2021 04:01	

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Certificate of Analytical Results 686645

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id:	**SB-7-S-0-.5-210129**	Matrix:	Soil	Date Received:	01.29.2021 17:00
Lab Sample Id:	686645-002	Date Collected:	01.29.2021 11:02		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	02.01.2021 17:15	% Moisture:	
Seq Number:	3149669			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	02.02.2021 07:47	U	1
Toluene	108-88-3	<0.000455	0.00200	0.000455	mg/kg	02.02.2021 07:47	U	1
Ethylbenzene	100-41-4	<0.000564	0.00200	0.000564	mg/kg	02.02.2021 07:47	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00399	0.00101	mg/kg	02.02.2021 07:47	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	02.02.2021 07:47	U	1
Total Xylenes	1330-20-7	<0.000344	0.00200	0.000344	mg/kg	02.02.2021 07:47	U	1
Total BTEX		<0.000344	0.00200	0.000344	mg/kg	02.02.2021 07:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	113	%	70-130	02.02.2021 07:47	
4-Bromofluorobenzene	460-00-4	122	%	70-130	02.02.2021 07:47	

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Certificate of Analytical Results 686645

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id: **SB-6-S-0-.5-210129** Matrix: Soil Date Received:01.29.2021 17:00

Lab Sample Id: 686645-003 Date Collected: 01.29.2021 11:11

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.01.2021 16:45 % Moisture:

Seq Number: 3149707 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**368**	5.00	0.858	mg/kg	02.01.2021 22:05		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.03.2021 17:00 % Moisture:

Seq Number: 3150009 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	02.04.2021 04:22	BJ	1
Diesel Range Organics (DRO)	C10C28DRO	**93.4**	50.0	15.0	mg/kg	02.04.2021 04:22		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**69.6**	50.0	15.0	mg/kg	02.04.2021 04:22		1
Total TPH	PHC635	**183**	50.0	15.0	mg/kg	02.04.2021 04:22		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-130	02.04.2021 04:22	
o-Terphenyl	84-15-1	111	%	70-130	02.04.2021 04:22	

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Certificate of Analytical Results 686645

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id:	**SB-6-S-0-.5-210129**	Matrix:	Soil	Date Received:	01.29.2021 17:00
Lab Sample Id:	686645-003	Date Collected:	01.29.2021 11:11		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	02.01.2021 17:15	% Moisture:	
Seq Number:	3149669			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	02.02.2021 08:08	U	1
Toluene	108-88-3	<0.000459	0.00202	0.000459	mg/kg	02.02.2021 08:08	U	1
Ethylbenzene	100-41-4	<0.000569	0.00202	0.000569	mg/kg	02.02.2021 08:08	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00403	0.00102	mg/kg	02.02.2021 08:08	U	1
o-Xylene	95-47-6	<0.000347	0.00202	0.000347	mg/kg	02.02.2021 08:08	U	1
Total Xylenes	1330-20-7	<0.000347	0.00202	0.000347	mg/kg	02.02.2021 08:08	U	1
Total BTEX		<0.000347	0.00202	0.000347	mg/kg	02.02.2021 08:08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	118	%	70-130	02.02.2021 08:08	
4-Bromofluorobenzene	460-00-4	120	%	70-130	02.02.2021 08:08	

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Certificate of Analytical Results 686645

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id: **SB-8-S-0-.5-210129** Matrix: Soil Date Received:01.29.2021 17:00

Lab Sample Id: 686645-004 Date Collected: 01.29.2021 11:40

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.01.2021 16:45 % Moisture:

Seq Number: 3149707 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**12.1**	5.02	0.862	mg/kg	02.01.2021 22:21		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.03.2021 17:00 % Moisture:

Seq Number: 3150009 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**22.6**	50.0	15.0	mg/kg	02.04.2021 04:43	BJ	1
Diesel Range Organics (DRO)	C10C28DRO	**20.7**	50.0	15.0	mg/kg	02.04.2021 04:43	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**24.7**	50.0	15.0	mg/kg	02.04.2021 04:43	J	1
Total TPH	PHC635	**68.0**	50.0	15.0	mg/kg	02.04.2021 04:43		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-130	02.04.2021 04:43	
o-Terphenyl	84-15-1	125	%	70-130	02.04.2021 04:43	

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Certificate of Analytical Results 686645

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id:	**SB-8-S-0-.5-210129**	Matrix:	Soil	Date Received:	01.29.2021 17:00
Lab Sample Id:	686645-004	Date Collected:	01.29.2021 11:40		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	02.01.2021 17:15	% Moisture:	
Seq Number:	3149669			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	02.02.2021 08:28	U	1
Toluene	108-88-3	<0.000453	0.00199	0.000453	mg/kg	02.02.2021 08:28	U	1
Ethylbenzene	100-41-4	<0.000561	0.00199	0.000561	mg/kg	02.02.2021 08:28	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	02.02.2021 08:28	U	1
o-Xylene	95-47-6	<0.000342	0.00199	0.000342	mg/kg	02.02.2021 08:28	U	1
Total Xylenes	1330-20-7	<0.000342	0.00199	0.000342	mg/kg	02.02.2021 08:28	U	1
Total BTEX		<0.000342	0.00199	0.000342	mg/kg	02.02.2021 08:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	114	%	70-130	02.02.2021 08:28	
4-Bromofluorobenzene	460-00-4	109	%	70-130	02.02.2021 08:28	

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Certificate of Analytical Results 686645

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id: **SB-9-S-0-.5-210129** Matrix: Soil Date Received:01.29.2021 17:00

Lab Sample Id: 686645-005 Date Collected: 01.29.2021 11:50

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.01.2021 16:45 % Moisture:

Seq Number: 3149707 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**15.4**	4.97	0.853	mg/kg	02.01.2021 22:27		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.03.2021 17:00 % Moisture:

Seq Number: 3150009 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**23.5**	49.9	15.0	mg/kg	02.04.2021 05:05	BJ	1
Diesel Range Organics (DRO)	C10C28DRO	**16.1**	49.9	15.0	mg/kg	02.04.2021 05:05	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**19.3**	49.9	15.0	mg/kg	02.04.2021 05:05	J	1
Total TPH	PHC635	**58.9**	49.9	15.0	mg/kg	02.04.2021 05:05		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-130	02.04.2021 05:05	
o-Terphenyl	84-15-1	112	%	70-130	02.04.2021 05:05	

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Certificate of Analytical Results 686645

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id:	**SB-9-S-0-.5-210129**	Matrix:	Soil	Date Received:	01.29.2021 17:00
Lab Sample Id:	686645-005	Date Collected:	01.29.2021 11:50		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	02.01.2021 17:15	% Moisture:	
Seq Number:	3149669			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	02.02.2021 08:49	U	1
Toluene	108-88-3	<0.000454	0.00199	0.000454	mg/kg	02.02.2021 08:49	U	1
Ethylbenzene	100-41-4	<0.000563	0.00199	0.000563	mg/kg	02.02.2021 08:49	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	02.02.2021 08:49	U	1
o-Xylene	95-47-6	<0.000343	0.00199	0.000343	mg/kg	02.02.2021 08:49	U	1
Total Xylenes	1330-20-7	<0.000343	0.00199	0.000343	mg/kg	02.02.2021 08:49	U	1
Total BTEX		<0.000343	0.00199	0.000343	mg/kg	02.02.2021 08:49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	116	%	70-130	02.02.2021 08:49	
4-Bromofluorobenzene	460-00-4	113	%	70-130	02.02.2021 08:49	

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Certificate of Analytical Results 686645

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id: **SB-10-S-0-.5-210129** Matrix: Soil Date Received:01.29.2021 17:00

Lab Sample Id: 686645-006 Date Collected: 01.29.2021 12:01

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.01.2021 16:45 % Moisture:

Seq Number: 3149707 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**24.7**	4.99	0.857	mg/kg	02.01.2021 22:43		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.03.2021 17:00 % Moisture:

Seq Number: 3150009 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**21.7**	49.9	15.0	mg/kg	02.04.2021 05:26	BJ	1
Diesel Range Organics (DRO)	C10C28DRO	**15.0**	49.9	15.0	mg/kg	02.04.2021 05:26	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**16.9**	49.9	15.0	mg/kg	02.04.2021 05:26	J	1
Total TPH	PHC635	**53.6**	49.9	15.0	mg/kg	02.04.2021 05:26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-130	02.04.2021 05:26	
o-Terphenyl	84-15-1	112	%	70-130	02.04.2021 05:26	

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Certificate of Analytical Results 686645

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id:	**SB-10-S-0-.5-210129**	Matrix:	Soil	Date Received:	01.29.2021 17:00
Lab Sample Id:	686645-006	Date Collected:	01.29.2021 12:01		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	02.01.2021 17:15	% Moisture:	
Seq Number:	3149669			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	02.02.2021 09:10	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	02.02.2021 09:10	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	02.02.2021 09:10	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	02.02.2021 09:10	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	02.02.2021 09:10	U	1
Total Xylenes	1330-20-7	<0.000344	0.00200	0.000344	mg/kg	02.02.2021 09:10	U	1
Total BTEX		<0.000344	0.00200	0.000344	mg/kg	02.02.2021 09:10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	116	%	70-130	02.02.2021 09:10	
1,4-Difluorobenzene	540-36-3	117	%	70-130	02.02.2021 09:10	

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Certificate of Analytical Results 686645

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id: **SB-10-S-1-1.75-210129** Matrix: Soil Date Received:01.29.2021 17:00

Lab Sample Id: 686645-007 Date Collected: 01.29.2021 12:06

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.01.2021 16:45 % Moisture:

Seq Number: 3149707 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**246**	5.02	0.862	mg/kg	02.01.2021 22:48		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.03.2021 17:00 % Moisture:

Seq Number: 3150009 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**21.8**	49.8	14.9	mg/kg	02.04.2021 05:48	BJ	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	49.8	14.9	mg/kg	02.04.2021 05:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	49.8	14.9	mg/kg	02.04.2021 05:48	U	1
Total TPH	PHC635	**21.8**	49.8	14.9	mg/kg	02.04.2021 05:48	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-130	02.04.2021 05:48	
o-Terphenyl	84-15-1	108	%	70-130	02.04.2021 05:48	

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Certificate of Analytical Results 686645

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id:	**SB-10-S-1-1.75-210129**	Matrix:	Soil	Date Received:	01.29.2021 17:00
Lab Sample Id:	686645-007	Date Collected:	01.29.2021 12:06		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	02.01.2021 17:15	% Moisture:	
Seq Number:	3149669			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	02.02.2021 09:31	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	02.02.2021 09:31	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	02.02.2021 09:31	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	02.02.2021 09:31	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	02.02.2021 09:31	U	1
Total Xylenes	1330-20-7	<0.000344	0.00200	0.000344	mg/kg	02.02.2021 09:31	U	1
Total BTEX		<0.000344	0.00200	0.000344	mg/kg	02.02.2021 09:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	115	%	70-130	02.02.2021 09:31	
1,4-Difluorobenzene	540-36-3	111	%	70-130	02.02.2021 09:31	

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Blank Summary 686645

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id: **7720557-1-BLK** Matrix: SOLID

Lab Sample Id: **7720557-1-BLK**

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

Tech: CHE

Analyst: CHE Date Prep: 02.01.2021 16:45

Seq Number: 3149707

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<0.858	5.00	0.858	mg/kg	02.01.2021 20:35	U	1

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Blank Summary 686645

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id: **7720565-1-BLK** Matrix: SOLID

Lab Sample Id: **7720565-1-BLK**

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

Tech: KTL

Analyst: KTL Date Prep: 02.01.2021 17:15

Seq Number: 3149669

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	02.02.2021 07:04	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	02.02.2021 07:04	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	02.02.2021 07:04	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	02.02.2021 07:04	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	02.02.2021 07:04	U	1

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Blank Summary 686645

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id: **7720763-1-BLK** Matrix: SOLID

Lab Sample Id: **7720763-1-BLK**

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

Tech: DVM

Analyst: ARM Date Prep: 02.03.2021 17:00

Seq Number: 3150009

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	21.1	50.0	15.0	mg/kg	02.03.2021 21:39	BJ	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	02.03.2021 21:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	02.03.2021 21:39	U	1

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Form 2 - Surrogate Recoveries

Project Name: WLU 57

Report Date: 02092021

Work Orders : 686645 **Project ID:** 30064883-0002B

Lab Batch #: 3149669 **Sample:** 7720565-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.02.2021 05:04 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0340	0.0300	113	70-130	
4-Bromofluorobenzene	0.0325	0.0300	108	70-130	

Lab Batch #: 3149669 **Sample:** 7720565-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.02.2021 05:24 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0321	0.0300	107	70-130	
4-Bromofluorobenzene	0.0331	0.0300	110	70-130	

Lab Batch #: 3149669 **Sample:** 686645-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02.02.2021 05:45 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0313	0.0300	104	70-130	
4-Bromofluorobenzene	0.0345	0.0300	115	70-130	

Lab Batch #: 3149669 **Sample:** 686645-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02.02.2021 06:06 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0327	0.0300	109	70-130	
4-Bromofluorobenzene	0.0336	0.0300	112	70-130	

Lab Batch #: 3149669 **Sample:** 7720565-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.02.2021 07:04 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0308	0.0300	103	70-130	
4-Bromofluorobenzene	0.0360	0.0300	120	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: WLU 57

Report Date: 02092021

Work Orders : 686645 **Project ID:** 30064883-0002B

Lab Batch #: 3150009 **Sample:** 7720763-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.03.2021 21:39 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	100	106	70-130	
o-Terphenyl	62.7	50.0	125	70-130	

Lab Batch #: 3150009 **Sample:** 7720763-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.03.2021 22:01 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	105	100	105	70-130	
o-Terphenyl	55.5	50.0	111	70-130	

Lab Batch #: 3150009 **Sample:** 7720763-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.03.2021 22:22 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	100	106	70-130	
o-Terphenyl	55.5	50.0	111	70-130	

Lab Batch #: 3150009 **Sample:** 686580-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02.03.2021 23:04 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	84.2	99.7	84	70-130	
o-Terphenyl	41.7	49.9	84	70-130	

Lab Batch #: 3150009 **Sample:** 686580-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02.03.2021 23:25 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.0	99.9	87	70-130	
o-Terphenyl	43.3	50.0	87	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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QC Summary 686645

Arcadis U.S., Inc

WLU 57

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3149707 — Matrix: Solid — Date Prep: 02.01.2021
MB Sample Id: 7720557-1-BLK — LCS Sample Id: 7720557-1-BKS — LCSD Sample Id: 7720557-1-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	239	96	244	98	90-110	2	20	mg/kg	02.01.2021 20:40	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3149707 — Matrix: Soil — Date Prep: 02.01.2021
Parent Sample Id: 686558-005 — MS Sample Id: 686558-005 S — MSD Sample Id: 686558-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	514	252	745	92	865	139	90-110	15	20	mg/kg	02.01.2021 20:56	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3149707 — Matrix: Soil — Date Prep: 02.01.2021
Parent Sample Id: 686645-003 — MS Sample Id: 686645-003 S — MSD Sample Id: 686645-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	368	250	599	92	615	99	90-110	3	20	mg/kg	02.01.2021 22:11	

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3150009 — Matrix: Solid — Date Prep: 02.03.2021
MB Sample Id: 7720763-1-BLK — LCS Sample Id: 7720763-1-BKS — LCSD Sample Id: 7720763-1-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	917	92	904	90	70-130	1	20	mg/kg	02.03.2021 22:01	
Diesel Range Organics (DRO)	<15.0	1000	1040	104	1030	103	70-130	1	20	mg/kg	02.03.2021 22:01	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		105		106		70-130	%	02.03.2021 22:01
o-Terphenyl	125		111		111		70-130	%	02.03.2021 22:01

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3150009 — Matrix: Solid — Date Prep: 02.03.2021
MB Sample Id: 7720763-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<15.0	mg/kg	02.03.2021 21:39	

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 686645

Arcadis U.S., Inc

WLU 57

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3150009 — Matrix: Soil — Date Prep: 02.03.2021
Parent Sample Id: 686580-001 — MS Sample Id: 686580-001 S — MSD Sample Id: 686580-001 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	833	84	846	85	70-130	2	20	mg/kg	02.03.2021 23:04	
Diesel Range Organics (DRO)	<15.0	997	899	90	933	93	70-130	4	20	mg/kg	02.03.2021 23:04	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	84		87		70-130	%	02.03.2021 23:04
o-Terphenyl	84		87		70-130	%	02.03.2021 23:04

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3149669 — Matrix: Solid — Date Prep: 02.01.2021
MB Sample Id: 7720565-1-BLK — LCS Sample Id: 7720565-1-BKS — LCSD Sample Id: 7720565-1-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	0.0947	95	0.0878	88	70-130	8	35	mg/kg	02.02.2021 05:04	
Toluene	<0.000456	0.100	0.101	101	0.0970	97	70-130	4	35	mg/kg	02.02.2021 05:04	
Ethylbenzene	<0.000565	0.100	0.0983	98	0.0947	95	70-130	4	35	mg/kg	02.02.2021 05:04	
m,p-Xylenes	<0.00101	0.200	0.199	100	0.186	93	70-130	7	35	mg/kg	02.02.2021 05:04	
o-Xylene	<0.000344	0.100	0.101	101	0.0947	95	70-130	6	35	mg/kg	02.02.2021 05:04	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		113		107		70-130	%	02.02.2021 05:04
4-Bromofluorobenzene	120		108		110		70-130	%	02.02.2021 05:04

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3149669 — Matrix: Soil — Date Prep: 02.01.2021
Parent Sample Id: 686645-001 — MS Sample Id: 686645-001 S — MSD Sample Id: 686645-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000381	0.0990	0.0334	34	0.0450	45	70-130	30	35	mg/kg	02.02.2021 05:45	X
Toluene	<0.000451	0.0990	0.0325	33	0.0387	39	70-130	17	35	mg/kg	02.02.2021 05:45	X
Ethylbenzene	<0.000559	0.0990	0.0260	26	0.0330	33	70-130	24	35	mg/kg	02.02.2021 05:45	X
m,p-Xylenes	<0.00100	0.198	0.0503	25	0.0646	32	70-130	25	35	mg/kg	02.02.2021 05:45	X
o-Xylene	<0.000341	0.0990	0.0290	29	0.0317	32	70-130	9	35	mg/kg	02.02.2021 05:45	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		109		70-130	%	02.02.2021 05:45
4-Bromofluorobenzene	115		112		70-130	%	02.02.2021 05:45

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
1211 W Florida Ave
Midland TX 79701
Phone 432-704-5440

Chain of Custody Record

Client Information	Sampler: J. Steinmann	Lab PM: Kudchadkar, Sachin G	Carrier Tracking No(s):	COC No: 600-23595-8666.1
Client Contact: Motgan Jordan	Phone: 619 851 8792	E-Mail: sachin.kudchadkar@testamericainc.com		Page: Page 1 of 1
Company: ARCADIS U.S., Inc.		**Analysis Requested**		Job #: 6866045
Address: 1717 W 6th Street. Suite 210	Due Date Requested:			**Preservation Codes:**
City: Austin	TAT Requested (days): std			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 - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: TX, 78703				Other:
Phone: 281 644 9437	PO #:			
Email: douglas.jordan@arcadis.com	WO #:			
Project Name: 30064883-0002B	Project #: 30064883-0002B			
Site: WLU 57	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)	8015_GRO/ DRO/ ORO	300 - Chloride	8021- BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N		
SB-5-S-0-.5-210129	1/29/21	1022	G	Solid						1	
SB-7-S-0-.5-210129		1102		Solid							
SB-6-S-0-.5-210129		1111		Solid							
SB-8-S-0-.5-210129		1140		Solid							
SB-9-S-0-.5-210129		1150		Solid							
SB-10-S-0-.5-210129		1201		Solid							
SB-10-S-1-1.75-210129		1206		Solid							
				Solid							
				Solid							
				Solid							
				Solid							

c/s 1/29/21

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
1	Justin Steinmann	1/29/21 1500	Arcadis		1-29-21 1500	Arcadis
2	Carlos Grajeda	1-29-21 1700	Arcadis		1/29/21 1700	
3						

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

Cooler Temperature(s) °C and Other Remarks: 0.3 , 0.5

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Arcadis U.S., Inc

Date/ Time Received: 01.29.2021 05.00.00 PM

Work Order #: 686645

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 01.29.2021

Brianna Teel

Checklist reviewed by: Sachin Kudchadkar Date: 01.29.2021

Sachin Kudchadkar

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Analytical Report 686646

for

Arcadis U.S., Inc

Project Manager: Morgan Jordan

WLU 57

30064883-0002B

03.04.2021

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 (T104704219-20-24)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-20-21)
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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03.04.2021

Project Manager: **Morgan Jordan**
Arcadis U.S., Inc
1717 W 6th Street, Suite 210
Austin, TX 78703

Reference: Eurofins Xenco, LLC Report No(s): **686646**
WLU 57
Project Address:

Morgan Jordan:

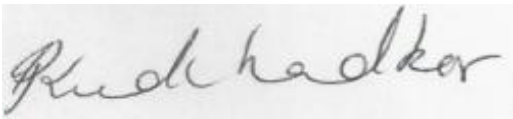
We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 686646. All results being reported under this Report Number apply to the samples analyzed and properly identified 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. 686646 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 686646

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-1-S-0-.5-210128	S	01.28.2021 13:16		686646-001
SB-2-S-0-.5-210128	S	01.28.2021 13:36		686646-002
SB-3-S-0-.5-210128	S	01.28.2021 13:49		686646-003
SB-3-S-1-2-210128	S	01.28.2021 14:10		686646-004
SB-4-S-0-.5-210128	S	01.28.2021 14:38		686646-005
SB-3-SD-0-.5-210128	S	01.28.2021 00:00		686646-006

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CASE NARRATIVE

Client Name: Arcadis U.S., Inc

Project Name: WLU 57

Project ID: *30064883-0002B*
Work Order Number(s): *686646*

Report Date: *03.04.2021*
Date Received: *01.29.2021*

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-3150167 TPH By SW8015 Mod

Samples affected are: 686646-001.

Surrogate o-Terphenyl recovered above QC limits. Samples affected are: 7720889-1-BKS,7720889-1-BLK,7720889-1-BSD,686655-001 S,686655-001 SD,686646-001,686646-002,686646-003,686646-004.

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Certificate of Analytical Results 686646

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id: **SB-1-S-0-.5-210128** Matrix: Soil Date Received:01.29.2021 17:00

Lab Sample Id: 686646-001 Date Collected: 01.28.2021 13:16

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.01.2021 16:45 % Moisture:

Seq Number: 3149707 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**580**	49.8	8.55	mg/kg	02.01.2021 22:53		10

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.04.2021 11:00 % Moisture:

Seq Number: 3150167 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**23.1**	49.9	15.0	mg/kg	02.04.2021 19:03	J	1
Diesel Range Organics (DRO)	C10C28DRO	**33.9**	49.9	15.0	mg/kg	02.04.2021 19:03	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**18.1**	49.9	15.0	mg/kg	02.04.2021 19:03	J	1
Total TPH	PHC635	**75.1**	49.9	15.0	mg/kg	02.04.2021 19:03		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	129	%	70-130	02.04.2021 19:03	
o-Terphenyl	84-15-1	191	%	70-130	02.04.2021 19:03	**

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Certificate of Analytical Results 686646

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id:	**SB-1-S-0-.5-210128**	Matrix:	Soil	Date Received:	01.29.2021 17:00
Lab Sample Id:	686646-001	Date Collected:	01.28.2021 13:16		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	02.01.2021 17:15	% Moisture:	
Seq Number:	3149669			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000382	0.00198	0.000382	mg/kg	02.02.2021 09:51	U	1
Toluene	108-88-3	<0.000452	0.00198	0.000452	mg/kg	02.02.2021 09:51	U	1
Ethylbenzene	100-41-4	<0.000560	0.00198	0.000560	mg/kg	02.02.2021 09:51	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00397	0.00101	mg/kg	02.02.2021 09:51	U	1
o-Xylene	95-47-6	<0.000342	0.00198	0.000342	mg/kg	02.02.2021 09:51	U	1
Total Xylenes	1330-20-7	<0.000342	0.00198	0.000342	mg/kg	02.02.2021 09:51	U	1
Total BTEX		<0.000342	0.00198	0.000342	mg/kg	02.02.2021 09:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	117	%	70-130	02.02.2021 09:51	
4-Bromofluorobenzene	460-00-4	124	%	70-130	02.02.2021 09:51	

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Certificate of Analytical Results 686646

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id: **SB-2-S-0-.5-210128** Matrix: Soil Date Received:01.29.2021 17:00

Lab Sample Id: 686646-002 Date Collected: 01.28.2021 13:36

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.01.2021 16:45 % Moisture:

Seq Number: 3149707 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8.90**	5.00	0.858	mg/kg	02.01.2021 22:59		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.04.2021 11:00 % Moisture:

Seq Number: 3150167 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**15.4**	50.0	15.0	mg/kg	02.04.2021 19:24	J	1
Diesel Range Organics (DRO)	C10C28DRO	**15.9**	50.0	15.0	mg/kg	02.04.2021 19:24	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	02.04.2021 19:24	U	1
Total TPH	PHC635	**31.3**	50.0	15.0	mg/kg	02.04.2021 19:24	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-130	02.04.2021 19:24	
o-Terphenyl	84-15-1	146	%	70-130	02.04.2021 19:24	**

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Certificate of Analytical Results 686646

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id:	**SB-2-S-0-.5-210128**	Matrix:	Soil	Date Received:	01.29.2021 17:00
Lab Sample Id:	686646-002	Date Collected:	01.28.2021 13:36		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	02.01.2021 17:15	% Moisture:	
Seq Number:	3149669			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	02.02.2021 10:12	U	1
Toluene	108-88-3	<0.000454	0.00199	0.000454	mg/kg	02.02.2021 10:12	U	1
Ethylbenzene	100-41-4	<0.000563	0.00199	0.000563	mg/kg	02.02.2021 10:12	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	02.02.2021 10:12	U	1
o-Xylene	95-47-6	<0.000343	0.00199	0.000343	mg/kg	02.02.2021 10:12	U	1
Total Xylenes	1330-20-7	<0.000343	0.00199	0.000343	mg/kg	02.02.2021 10:12	U	1
Total BTEX		<0.000343	0.00199	0.000343	mg/kg	02.02.2021 10:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	108	%	70-130	02.02.2021 10:12	
4-Bromofluorobenzene	460-00-4	118	%	70-130	02.02.2021 10:12	

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Certificate of Analytical Results 686646

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id: **SB-3-S-0-.5-210128** Matrix: Soil Date Received:01.29.2021 17:00

Lab Sample Id: 686646-003 Date Collected: 01.28.2021 13:49

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.01.2021 16:45 % Moisture:

Seq Number: 3149707 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**43.7**	5.03	0.864	mg/kg	02.01.2021 23:04		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.04.2021 11:00 % Moisture:

Seq Number: 3150167 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	02.04.2021 19:46	U	1
Diesel Range Organics (DRO)	C10C28DRO	**947**	50.0	15.0	mg/kg	02.04.2021 19:46		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**294**	50.0	15.0	mg/kg	02.04.2021 19:46		1
Total TPH	PHC635	**1240**	50.0	15.0	mg/kg	02.04.2021 19:46		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-130	02.04.2021 19:46	
o-Terphenyl	84-15-1	158	%	70-130	02.04.2021 19:46	**

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Certificate of Analytical Results 686646

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id:	**SB-3-S-0-.5-210128**	Matrix:	Soil	Date Received:	01.29.2021 17:00
Lab Sample Id:	686646-003	Date Collected:	01.28.2021 13:49		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	02.01.2021 17:15	% Moisture:	
Seq Number:	3149669			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	02.02.2021 10:33	U	1
Toluene	108-88-3	<0.000457	0.00200	0.000457	mg/kg	02.02.2021 10:33	U	1
Ethylbenzene	100-41-4	<0.000566	0.00200	0.000566	mg/kg	02.02.2021 10:33	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00401	0.00102	mg/kg	02.02.2021 10:33	U	1
o-Xylene	95-47-6	<0.000345	0.00200	0.000345	mg/kg	02.02.2021 10:33	U	1
Total Xylenes	1330-20-7	<0.000345	0.00200	0.000345	mg/kg	02.02.2021 10:33	U	1
Total BTEX		<0.000345	0.00200	0.000345	mg/kg	02.02.2021 10:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	119	%	70-130	02.02.2021 10:33	
4-Bromofluorobenzene	460-00-4	126	%	70-130	02.02.2021 10:33	

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Certificate of Analytical Results 686646

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id: **SB-3-S-1-2-210128** Matrix: Soil Date Received:01.29.2021 17:00

Lab Sample Id: 686646-004 Date Collected: 01.28.2021 14:10

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.01.2021 16:45 % Moisture:

Seq Number: 3149707 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**93.2**	5.00	0.858	mg/kg	02.01.2021 23:09		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.04.2021 11:00 % Moisture:

Seq Number: 3150167 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	02.04.2021 20:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	**78.6**	49.9	15.0	mg/kg	02.04.2021 20:07		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**78.7**	49.9	15.0	mg/kg	02.04.2021 20:07		1
Total TPH	PHC635	**157**	49.9	15.0	mg/kg	02.04.2021 20:07		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-130	02.04.2021 20:07	
o-Terphenyl	84-15-1	167	%	70-130	02.04.2021 20:07	**

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Certificate of Analytical Results 686646

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id:	**SB-3-S-1-2-210128**	Matrix:	Soil	Date Received:	01.29.2021 17:00
Lab Sample Id:	686646-004	Date Collected:	01.28.2021 14:10		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	02.01.2021 17:15	% Moisture:	
Seq Number:	3149669			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	02.02.2021 11:56	U	1
Toluene	108-88-3	<0.000460	0.00202	0.000460	mg/kg	02.02.2021 11:56	U	1
Ethylbenzene	100-41-4	<0.000570	0.00202	0.000570	mg/kg	02.02.2021 11:56	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00404	0.00102	mg/kg	02.02.2021 11:56	U	1
o-Xylene	95-47-6	<0.000348	0.00202	0.000348	mg/kg	02.02.2021 11:56	U	1
Total Xylenes	1330-20-7	<0.000348	0.00202	0.000348	mg/kg	02.02.2021 11:56	U	1
Total BTEX		<0.000348	0.00202	0.000348	mg/kg	02.02.2021 11:56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	113	%	70-130	02.02.2021 11:56	
4-Bromofluorobenzene	460-00-4	106	%	70-130	02.02.2021 11:56	

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Certificate of Analytical Results 686646

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id: **SB-4-S-0-.5-210128** Matrix: Soil Date Received:01.29.2021 17:00

Lab Sample Id: 686646-005 Date Collected: 01.28.2021 14:38

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE

Analyst: CHE Date Prep: 02.01.2021 16:45 % Moisture:

Seq Number: 3149707 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**616**	5.00	0.858	mg/kg	02.01.2021 23:15		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.03.2021 17:00 % Moisture:

Seq Number: 3149995 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	02.04.2021 08:13	U	1
Diesel Range Organics (DRO)	C10C28DRO	**333**	49.9	15.0	mg/kg	02.04.2021 08:13		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**157**	49.9	15.0	mg/kg	02.04.2021 08:13		1
Total TPH	PHC635	**490**	49.9	15.0	mg/kg	02.04.2021 08:13		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-130	02.04.2021 08:13	
o-Terphenyl	84-15-1	112	%	70-130	02.04.2021 08:13	

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Certificate of Analytical Results 686646

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id:	**SB-4-S-0-.5-210128**	Matrix:	Soil	Date Received:	01.29.2021 17:00
Lab Sample Id:	686646-005	Date Collected:	01.28.2021 14:38		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	02.01.2021 17:15	% Moisture:	
Seq Number:	3149669			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	02.02.2021 12:17	U	1
Toluene	108-88-3	<0.000457	0.00201	0.000457	mg/kg	02.02.2021 12:17	U	1
Ethylbenzene	100-41-4	<0.000567	0.00201	0.000567	mg/kg	02.02.2021 12:17	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	02.02.2021 12:17	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	02.02.2021 12:17	U	1
Total Xylenes	1330-20-7	<0.000346	0.00201	0.000346	mg/kg	02.02.2021 12:17	U	1
Total BTEX		<0.000346	0.00201	0.000346	mg/kg	02.02.2021 12:17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	113	%	70-130	02.02.2021 12:17	
4-Bromofluorobenzene	460-00-4	122	%	70-130	02.02.2021 12:17	

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Certificate of Analytical Results 686646

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id: **SB-3-SD-0-.5-210128** Matrix: Soil Date Received:01.29.2021 17:00

Lab Sample Id: 686646-006 Date Collected: 01.28.2021 00:00

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: SPC

Analyst: SPC Date Prep: 02.02.2021 16:20 % Moisture:

Seq Number: 3149807 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**55.0**	4.98	0.855	mg/kg	02.02.2021 20:35		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.03.2021 17:00 % Moisture:

Seq Number: 3149995 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	02.04.2021 08:35	U	1
Diesel Range Organics (DRO)	C10C28DRO	**632**	50.0	15.0	mg/kg	02.04.2021 08:35		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**288**	50.0	15.0	mg/kg	02.04.2021 08:35		1
Total TPH	PHC635	**920**	50.0	15.0	mg/kg	02.04.2021 08:35		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-130	02.04.2021 08:35	
o-Terphenyl	84-15-1	105	%	70-130	02.04.2021 08:35	

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Certificate of Analytical Results 686646

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id:	**SB-3-SD-0-.5-210128**	Matrix:	Soil	Date Received:	01.29.2021 17:00
Lab Sample Id:	686646-006	Date Collected:	01.28.2021 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	02.01.2021 17:15	% Moisture:	
Seq Number:	3149669			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	02.02.2021 12:38	U	1
Toluene	108-88-3	<0.000455	0.00200	0.000455	mg/kg	02.02.2021 12:38	U	1
Ethylbenzene	100-41-4	<0.000564	0.00200	0.000564	mg/kg	02.02.2021 12:38	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00399	0.00101	mg/kg	02.02.2021 12:38	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	02.02.2021 12:38	U	1
Total Xylenes	1330-20-7	<0.000344	0.00200	0.000344	mg/kg	02.02.2021 12:38	U	1
Total BTEX		<0.000344	0.00200	0.000344	mg/kg	02.02.2021 12:38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	70-130	02.02.2021 12:38	
1,4-Difluorobenzene	540-36-3	118	%	70-130	02.02.2021 12:38	

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Blank Summary 686646

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id: **7720557-1-BLK** Matrix: SOLID

Lab Sample Id: **7720557-1-BLK**

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

Tech: CHE

Analyst: CHE Date Prep: 02.01.2021 16:45

Seq Number: 3149707

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<0.858	5.00	0.858	mg/kg	02.01.2021 20:35	U	1

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Blank Summary 686646

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id: **7720565-1-BLK** Matrix: SOLID

Lab Sample Id: **7720565-1-BLK**

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

Tech: KTL

Analyst: KTL Date Prep: 02.01.2021 17:15

Seq Number: 3149669

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	02.02.2021 07:04	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	02.02.2021 07:04	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	02.02.2021 07:04	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	02.02.2021 07:04	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	02.02.2021 07:04	U	1

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Blank Summary 686646

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id: **7720615-1-BLK** Matrix: SOLID

Lab Sample Id: **7720615-1-BLK**

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

Tech: SPC

Analyst: SPC Date Prep: 02.02.2021 16:20

Seq Number: 3149807

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<0.858	5.00	0.858	mg/kg	02.02.2021 18:22	U	1

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Blank Summary 686646

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id: **7720754-1-BLK** Matrix: SOLID

Lab Sample Id: **7720754-1-BLK**

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

Tech: DVM

Analyst: ARM Date Prep: 02.03.2021 17:00

Seq Number: 3149995

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	02.03.2021 21:28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	02.03.2021 21:28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	02.03.2021 21:28	U	1

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Blank Summary 686646

Arcadis U.S., Inc, Austin, TX

WLU 57

Sample Id: **7720889-1-BLK** Matrix: SOLID

Lab Sample Id: **7720889-1-BLK**

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

Tech: DVM

Analyst: ARM Date Prep: 02.04.2021 11:00

Seq Number: 3150167

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	02.04.2021 11:50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	02.04.2021 11:50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	02.04.2021 11:50	U	1

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Form 2 - Surrogate Recoveries

Project Name: WLU 57

Report Date: 03042021

Work Orders : 686646 **Project ID:** 30064883-0002B

Lab Batch #: 3149669 **Sample:** 7720565-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.02.2021 05:04 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0340	0.0300	113	70-130	
4-Bromofluorobenzene	0.0325	0.0300	108	70-130	

Lab Batch #: 3149669 **Sample:** 7720565-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.02.2021 05:24 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0321	0.0300	107	70-130	
4-Bromofluorobenzene	0.0331	0.0300	110	70-130	

Lab Batch #: 3149669 **Sample:** 686645-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02.02.2021 05:45 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0313	0.0300	104	70-130	
4-Bromofluorobenzene	0.0345	0.0300	115	70-130	

Lab Batch #: 3149669 **Sample:** 686645-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02.02.2021 06:06 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0327	0.0300	109	70-130	
4-Bromofluorobenzene	0.0336	0.0300	112	70-130	

Lab Batch #: 3149669 **Sample:** 7720565-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.02.2021 07:04 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0308	0.0300	103	70-130	
4-Bromofluorobenzene	0.0360	0.0300	120	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: WLU 57

Report Date: 03042021

Work Orders : 686646 **Project ID:** 30064883-0002B

Lab Batch #: 3149995 **Sample:** 7720754-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.03.2021 21:28 **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	60.2	50.0	120	70-130	

Lab Batch #: 3149995 **Sample:** 7720754-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.03.2021 21:49 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	100	114	70-130	
o-Terphenyl	58.8	50.0	118	70-130	

Lab Batch #: 3149995 **Sample:** 7720754-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.03.2021 22:11 **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	61.8	50.0	124	70-130	

Lab Batch #: 3149995 **Sample:** 686581-041 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02.03.2021 22:53 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.7	99.7	100	70-130	
o-Terphenyl	51.8	49.9	104	70-130	

Lab Batch #: 3149995 **Sample:** 686581-041 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02.03.2021 23:15 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	105	99.9	105	70-130	
o-Terphenyl	54.6	50.0	109	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: WLU 57

Report Date: 03042021

Work Orders : 686646 **Project ID:** 30064883-0002B

Lab Batch #: 3150167 **Sample:** 7720889-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.04.2021 11:50 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-130	
o-Terphenyl	66.3	50.0	133	70-130	**

Lab Batch #: 3150167 **Sample:** 7720889-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.04.2021 12:11 **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	75.0	50.0	150	70-130	**

Lab Batch #: 3150167 **Sample:** 7720889-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.04.2021 12:32 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	128	100	128	70-130	
o-Terphenyl	80.9	50.0	162	70-130	**

Lab Batch #: 3150167 **Sample:** 686655-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02.04.2021 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	123	99.9	123	70-130	
o-Terphenyl	70.5	50.0	141	70-130	**

Lab Batch #: 3150167 **Sample:** 686655-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02.04.2021 13:35 **SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	100	118	70-130	
o-Terphenyl	69.0	50.0	138	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 686646

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Arcadis U.S., Inc

WLU 57

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3149707 — Matrix: Solid — Date Prep: 02.01.2021
MB Sample Id: 7720557-1-BLK — LCS Sample Id: 7720557-1-BKS — LCSD Sample Id: 7720557-1-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	239	96	244	98	90-110	2	20	mg/kg	02.01.2021 20:40	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3149807 — Matrix: Solid — Date Prep: 02.02.2021
MB Sample Id: 7720615-1-BLK — LCS Sample Id: 7720615-1-BKS — LCSD Sample Id: 7720615-1-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	242	97	241	96	90-110	0	20	mg/kg	02.02.2021 18:27	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3149707 — Matrix: Soil — Date Prep: 02.01.2021
Parent Sample Id: 686558-005 — MS Sample Id: 686558-005 S — MSD Sample Id: 686558-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	514	252	745	92	865	139	90-110	15	20	mg/kg	02.01.2021 20:56	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3149707 — Matrix: Soil — Date Prep: 02.01.2021
Parent Sample Id: 686645-003 — MS Sample Id: 686645-003 S — MSD Sample Id: 686645-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	368	250	599	92	615	99	90-110	3	20	mg/kg	02.01.2021 22:11	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3149807 — Matrix: Soil — Date Prep: 02.02.2021
Parent Sample Id: 686865-009 — MS Sample Id: 686865-009 S — MSD Sample Id: 686865-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	214	249	471	103	469	102	90-110	0	20	mg/kg	02.02.2021 19:57	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3149807 — Matrix: Soil — Date Prep: 02.02.2021
Parent Sample Id: 686867-001 — MS Sample Id: 686867-001 S — MSD Sample Id: 686867-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	902	249	1110	84	1110	84	90-110	0	20	mg/kg	02.02.2021 18:43	X

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 686646

Arcadis U.S., Inc

WLU 57

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3149995 — Matrix: Solid — Date Prep: 02.03.2021
MB Sample Id: 7720754-1-BLK — LCS Sample Id: 7720754-1-BKS — LCSD Sample Id: 7720754-1-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	966	97	1020	102	70-130	5	20	mg/kg	02.03.2021 21:49	
Diesel Range Organics (DRO)	<15.0	1000	1020	102	1090	109	70-130	7	20	mg/kg	02.03.2021 21:49	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		114		119		70-130	%	02.03.2021 21:49
o-Terphenyl	120		118		124		70-130	%	02.03.2021 21:49

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3150167 — Matrix: Solid — Date Prep: 02.04.2021
MB Sample Id: 7720889-1-BLK — LCS Sample Id: 7720889-1-BKS — LCSD Sample Id: 7720889-1-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	870	87	870	87	70-130	0	20	mg/kg	02.04.2021 12:11	
Diesel Range Organics (DRO)	<15.0	1000	1130	113	1130	113	70-130	0	20	mg/kg	02.04.2021 12:11	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	102		125		128		70-130	%	02.04.2021 12:11
o-Terphenyl	133	**	150	**	162	**	70-130	%	02.04.2021 12:11

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3149995 — Matrix: Solid — Date Prep: 02.03.2021
MB Sample Id: 7720754-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<15.0	mg/kg	02.03.2021 21:28	

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3150167 — Matrix: Solid — Date Prep: 02.04.2021
MB Sample Id: 7720889-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<15.0	mg/kg	02.04.2021 11:50	

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 686646

Arcadis U.S., Inc

WLU 57

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3149995 — Matrix: Soil — Date Prep: 02.03.2021
Parent Sample Id: 686581-041 — MS Sample Id: 686581-041 S — MSD Sample Id: 686581-041 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	989	99	978	98	70-130	1	20	mg/kg	02.03.2021 22:53	
Diesel Range Organics (DRO)	<15.0	997	912	91	966	97	70-130	6	20	mg/kg	02.03.2021 22:53	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		105		70-130	%	02.03.2021 22:53
o-Terphenyl	104		109		70-130	%	02.03.2021 22:53

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3150167 — Matrix: Soil — Date Prep: 02.04.2021
Parent Sample Id: 686655-001 — MS Sample Id: 686655-001 S — MSD Sample Id: 686655-001 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	999	1030	103	1080	108	70-130	5	20	mg/kg	02.04.2021 13:14	
Diesel Range Organics (DRO)	<15.0	999	1300	130	1300	130	70-130	0	20	mg/kg	02.04.2021 13:14	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	123		118		70-130	%	02.04.2021 13:14
o-Terphenyl	141	**	138	**	70-130	%	02.04.2021 13:14

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3149669 — Matrix: Solid — Date Prep: 02.01.2021
MB Sample Id: 7720565-1-BLK — LCS Sample Id: 7720565-1-BKS — LCSD Sample Id: 7720565-1-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	0.0947	95	0.0878	88	70-130	8	35	mg/kg	02.02.2021 05:04	
Toluene	<0.000456	0.100	0.101	101	0.0970	97	70-130	4	35	mg/kg	02.02.2021 05:04	
Ethylbenzene	<0.000565	0.100	0.0983	98	0.0947	95	70-130	4	35	mg/kg	02.02.2021 05:04	
m,p-Xylenes	<0.00101	0.200	0.199	100	0.186	93	70-130	7	35	mg/kg	02.02.2021 05:04	
o-Xylene	<0.000344	0.100	0.101	101	0.0947	95	70-130	6	35	mg/kg	02.02.2021 05:04	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		113		107		70-130	%	02.02.2021 05:04
4-Bromofluorobenzene	120		108		110		70-130	%	02.02.2021 05:04

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 686646

Arcadis U.S., Inc

WLU 57

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

Seq Number: 3149669 Matrix: Soil Date Prep: 02.01.2021

Parent Sample Id: 686645-001 MS Sample Id: 686645-001 S MSD Sample Id: 686645-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000381	0.0990	0.0334	34	0.0450	45	70-130	30	35	mg/kg	02.02.2021 05:45	X
Toluene	<0.000451	0.0990	0.0325	33	0.0387	39	70-130	17	35	mg/kg	02.02.2021 05:45	X
Ethylbenzene	<0.000559	0.0990	0.0260	26	0.0330	33	70-130	24	35	mg/kg	02.02.2021 05:45	X
m,p-Xylenes	<0.00100	0.198	0.0503	25	0.0646	32	70-130	25	35	mg/kg	02.02.2021 05:45	X
o-Xylene	<0.000341	0.0990	0.0290	29	0.0317	32	70-130	9	35	mg/kg	02.02.2021 05:45	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		109		70-130	%	02.02.2021 05:45
4-Bromofluorobenzene	115		112		70-130	%	02.02.2021 05:45

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
1211 W Florida Ave
Midland TX 79701
Phone 432-704-5440

Chain of Custody Record

Client Information	Sampler: J. Steinmann	Lab PM: Kudchadkar, Sachin G	Carrier Tracking No(s):	COC No: 600-23595-8666.1
Client Contact: Motgan Jordan	Phone: 619 851 8792	E-Mail: sachin.kudchadkar@testamericainc.com		Page: Page 1 of 1
Company: ARCADIS U.S., Inc.				Job #: 6866646
Address: 1717 W 6th Street. Suite 210	Due Date Requested:			
City: Austin	TAT Requested (days): Std			
State, Zip: TX, 78703				
Phone: 281 649 9437	PO #:			
Email: douglas.jordan@arcadis.com	WO #:			
Project Name: 30064883-0002B	Project #: 30064883-0002B			
Site: WLU 57	SSOW#:			

Analysis Requested

Preservation Codes:

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 - Na2S2SO3
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:

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)	8015_GRO/ DRO/ ORO	300 - Chloride	8021- BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N		
SB-1-S-0-.5-210128	1/28/21	1316	G	Solid						1	
SB-2-S-0-.5-210128		1336		Solid							
SB-3-S-0-.5-210128		1349		Solid							
SB-3-S-1-2-210128		1410		Solid							
SB-4-S-0-.5-210128		1438		Solid							
SB-3-SD-0-.5-210128		—		Solid							
				Solid							
				Solid							
				Solid							
				Solid							
				Solid							

Qx 1/28/21

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:

	Date/Time:	Company		Date/Time:	Company
Relinquished by:	1/28/21 1600	Arcadis	Received by:	1-28-21 1600	Arcadis
Relinquished by:	1-29-21 1700	Arcadis	Received by:	1/29/21 1700	
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: .3 .5

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Arcadis U.S., Inc

Date/ Time Received: 01.29.2021 05.00.00 PM

Work Order #: 686646

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 01.29.2021
Brianna Teel

Checklist reviewed by: Sachin Kudchadkar Date: 01.29.2021
Sachin Kudchadkar

Appendix D

Revised C-141 Form 1RP-1992

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NPLM0830341831
District RP	1RP- 1992
Facility ID	NA
Application ID	NA

Release Notification

Responsible Party

Responsible Party: Chevron USA Inc.	OGRID: 4323
Contact Name: Armando Martinez	Contact Telephone: 505-690-5408
Contact email: amarti@chevron.com	Incident # *(assigned by OCD)* NPLM0830341831
Contact mailing address:	

Location of Release Source

Latitude 32.85219 Longitude -103.37143
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: WLU 57	Site Type: Other
Date Release Discovered: 04/01/2007	API# *(if applicable):* 30-025-21885

Unit Letter	Section	Township	Range	County
H	8	17S	36E	Lea

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls):	Volume Recovered (bbls):
☐ Produced Water	Volume Released (bbls):	Volume Recovered (bbls):
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: **The time and source of the impacting event (release) is unknown.** The Initial C-141 states that in April 2007, a soil boring assessment was conducted at site No. 173608G located within the Unit Boundary of the West Lovington Unit. Evidence of groundwater impact was found indicating chloride and low-level hydrocarbon impacts sufficient to warrant further investigation. Verbal notification of potential groundwater impact was made to Chris Williams at the local New Mexico Oil Conservation Division (NMOCD) district office on February 1, 2008. Initial C-141 Form was submitted on March 17, 2008.

State of New Mexico
Oil Conservation Division

Incident ID	NPLM0830341831
District RP	1RP- 1992
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? **Unknown**.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Incident ID	NPLM0830341831
District RP	1RP- 1992
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?	86 (ft bgs)
Did this release impact groundwater or surface water? **Unknown.**	☐ 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: **Between 51 and 100 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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NPLM0830341831
District RP	1RP- 1992
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: 6/30/21_____

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

OCD Only

Received by: Jennifer Nobui Date: 04/18/2022

Arcadis U.S., Inc.
10205 Westheimer Road, Suite 800
Houston
Texas 77042
Phone: 713 953 4800
Fax: 713 977 4620
www.arcadis.com

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
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Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
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 78179

CONDITIONS

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 78179
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Site Assessment Report Accepted. Proceed with proposed additional site assessment. The depth to groundwater has not been adequately determined. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, and data should be no more than 25 years old, and well construction information should be provided in the submission. The responsible party may choose to remediate to the most stringent levels listed in Table 1 of 19.15.29 NMAC in lieu of drilling to determine the depth to groundwater.	4/18/2022