



**Armando Martinez**  
Operations Lead, Portfolio Operations Central

**INFORMATION ONLY**

May 20, 2021

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

**Re: 2021 Soil Assessment Report – WDDU 88  
Case No. 1RP-925  
Lea County, New Mexico**

Dear Bradford Billings:

Chevron Environmental Management Company (CEMC) submits herein the *2021 Soil Assessment Report* for 1RP-925, WDDU 88. The Site is located approximately 7.84 miles northeast of Jal, in Unit D, Section 5, Township 25 South, Range 38 East, Lea County, New Mexico. The Report was prepared by Arcadis U.S., Inc. (Arcadis), on behalf of CEMREC. Based on the 2021 soil investigation data, additional assessment activities will be evaluated, and a proposed scope will be included in a Work Plan for review and approval to further delineate chloride impact in soil.

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

Respectfully,

Armando Martinez

Encl. Encl. 2021 Soil Assessment Report – WDDU 88

**Armando Martinez**  
**Operations Lead Central**  
Portfolio Operations - Central  
354 State Highway 38, Questa, NM 87556-0469  
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Chevron Environmental Management Company

# 2021 Soil Assessment Report

**WDDU 88**

**NMOCD Case No. 1RP-925**

May 2021

2021 Soil Assessment Report

## 2021 Soil Assessment Report

**WDDU 88**

**NMOCD Case No. 1RP-925**

May 2021

**Prepared By:**

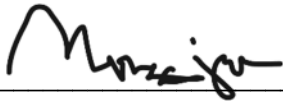
Arcadis U.S., Inc.  
10205 Westheimer Road, Suite 800  
Houston  
Texas 77042  
Phone: 713 953 4800  
Fax: 713 977 4620

**Prepared For:**

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

**Our Ref:**

30065060



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Morgan Jordan  
Task Manager



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Scott Foord, PG  
Certified Project Manager

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2021 Soil Assessment Report

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## 2021 Soil Assessment Report

## 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 WDDU 88 (Site).

## 2 Project Summary

The Site is located approximately 7.84 miles northeast of Jal, in Unit D, Section 5, Township 25 South, Range 38 East, Lea County, New Mexico. A site location map is included as **Figure 1**.

On May 24, 2006, a steel flowline failed due to corrosion releasing approximately 4.4 barrels (bbls) of oil and 95.6 bbls of produced water. The Initial C-141 Form stated the leak was isolated and repaired the following day. According to the New Mexico Office of the State Engineers (NMOSE) database, there is a water well approximately 0.08 miles north of the Site with a depth to groundwater of 105 feet below ground surface (bgs). The Initial C-141 Form for this release was submitted to the New Mexico Oil Conservation Division (NMOCD) on May 24, 2006 and approved by NMOCD on June 13, 2006. The release was assigned remediation permit number 1RP-925. The Initial C-141 Form for this release is included in **Appendix A**.

## 3 2021 Soil Assessment

On January 19-21, 2021, Arcadis personnel collected soil samples from sixteen locations (SB-1 through SB-16) within the release area. The sample locations were determined based on information obtained by Arcadis from the Initial C-141 Form and from Chevron personnel familiar with the release location associated with remediation permit number 1RP-925. 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 soil cuttings. Soil sample locations are presented on **Figure 2**. A photograph log is presented in **Appendix B**. Sample containers (4 oz. soil 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 BTEX, TPH, and chloride for depth to groundwater greater than 100 feet bgs (revised Rule 19.15.29). A summary of the soil sample analytical results is presented in **Table 1**. Copies of the certified analytical reports and chain-of-

## 2021 Soil Assessment Report

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 20,000 mg/kg at all sample locations. However, concentrations did exceed the revised Rule (19.15.29.13) restoration screening criteria of 600 mg/kg within the top 4 feet bgs of the soil column at seven sample locations (SB-4, SB-6, SB-9, SB-10, SB-12, SB-13, and SB-15).
  - SB-4
    - (0 – 0.5 ft) at 1,680 mg/kg
  - SB-6
    - (0 – 0.5 ft) at 1,180 mg/kg
  - SB-9
    - (0 – 0.5 ft) at 936 mg/kg
  - SB-10
    - (0 – 0.5 ft) at 4,180 mg/kg
    - (1 – 2 ft) at 850 mg/kg
  - SB-12
    - (0 – 0.5 ft) at 1,820 mg/kg
    - (1 – 1.25 ft) at 789 mg/kg
  - SB-13
    - (0 – 0.5 ft) at 2,360 mg/kg
  - SB-15
    - (0 – 0.5 ft) at 1,850 mg/kg

## 2021 Soil Assessment Report

# 5 Conclusion

Analytical results associated with the recent assessment activities indicate that concentrations of chloride above the restoration screening criteria of 600 mg/kg within the top 4 feet bgs of the soil column are present in surface and shallow soil in the vicinity of SB-4, SB-6, SB-9, SB-10, SB-12, SB-13, and SB-15. Based upon the findings presented in this report, additional soil assessment activities are recommended to further delineate the chloride impact in soil at the Site. The revised C-141 Form is presented in **Appendix D**.

# Tables



Table 1  
2021 Soil Analytical Results  
Chevron Environmental Management Company  
WDDU 88  
Lea County, New Mexico

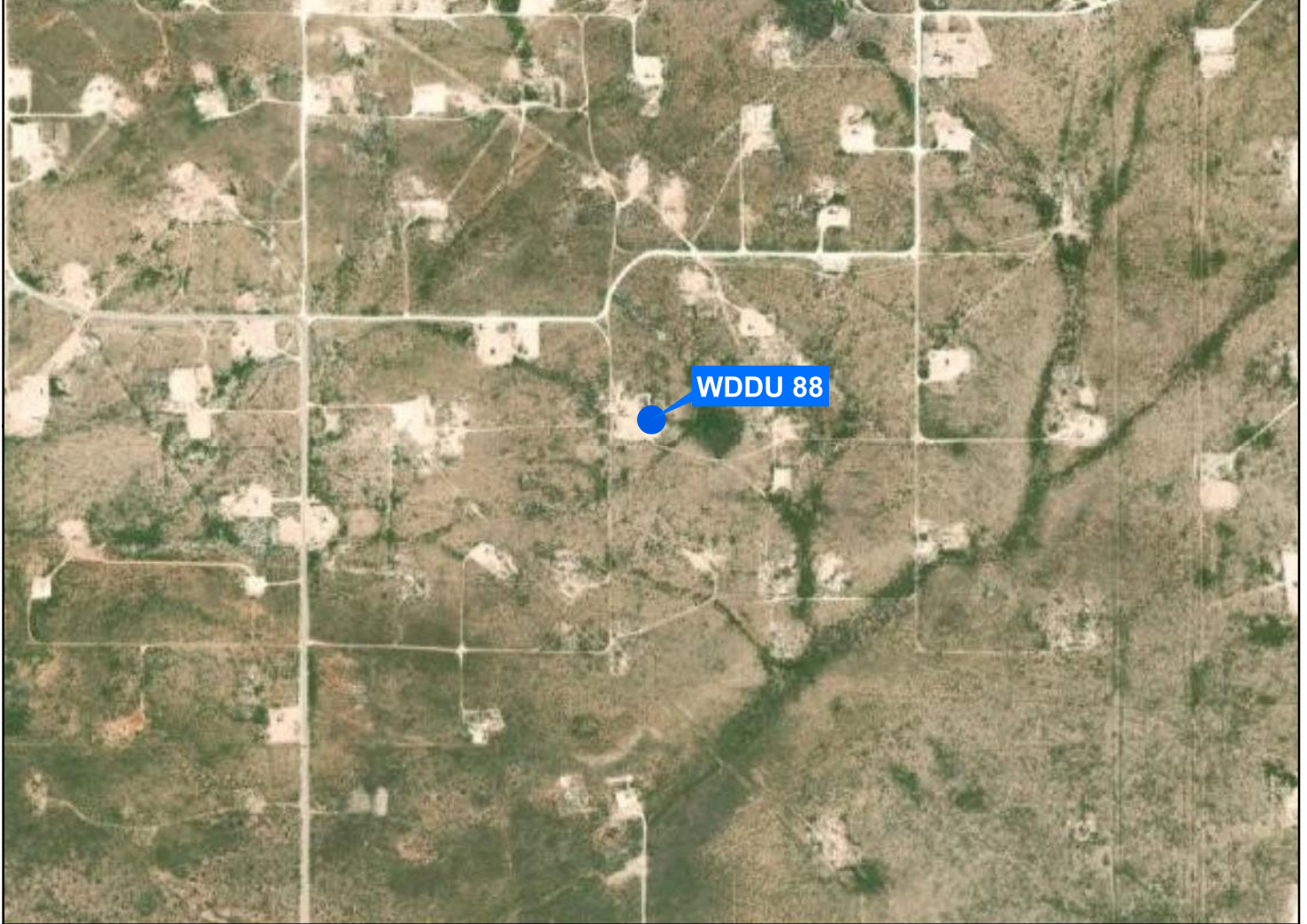


Sample I.D. No.	Sample Depth (feet bgs)	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	Gasoline Range Organics	Diesel Range Organics	Total GRO + DRO	Oil Range Organics	Total TPH	Chloride
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
<b>NMAC Standards</b>			<b>10</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>50</b>	<b>--</b>	<b>--</b>	<b>1,000</b>	<b>--</b>	<b>2,500</b>	<b>20,000</b>
<b>Restoration Requirements</b>													
SB-1	0-5'	01/19/21	<0.000386	<0.000457	0.0656	0.225	0.291	15.8 J	101	116.8 J	58.3	175	42.9
SB-2	0-5'	01/19/21	<0.000387	<0.000458	0.000765 J	0.0174	0.0181	<15.0	24.9 J	24.9 J	15.5 J	40.4 J	219
	1'-1.25'	01/19/21	<0.000383	<0.000453	<0.000561	0.00727	0.00727	15.8 J	<15.0	15.8 J	<15.0	15.8 J	481
SB-3	0-5'	01/19/21	<0.000386	0.00201 J	0.00138 J	0.00515	0.00854	16.4 J	57.1	73.5 J	30.2 J	104	240
	1'-1.5'	01/19/21	<0.000386	0.00182 J	<0.000566	0.00274	0.00456	<15.0	27.8 J	27.8 J	<15.0	27.8 J	55.8
SB-4	0-5'	01/19/21	<0.000384	<0.000455	<0.000564	<0.000344	<0.000344	15.5 J	97.7	113.2	48.6 J	162	1,680
	1'-1.25'	01/19/21	<0.000386	0.00285	<0.000566	0.00128 J	0.00413	<14.9	138	138	64.2	202	385
SB-5	0-5'	01/19/21	<0.000386	<0.000457	<0.000567	<0.000346	<0.000346	<15.0	157	157	73.9	231	414
	1'-2'	01/19/21	<0.000387	<0.000458	<0.000568	<0.000341	<0.000341	16.2 J	58.7	74.9 J	23.7 J	98.6	217
SB-6	0-5'	01/20/21	<0.000381	<0.000451	<0.000559	<0.000341	<0.000341	<15.0	198	198	81.1	279	1,180
SB-7	0-5'	01/20/21	<0.000383	<0.000453	<0.000561	<0.000342	<0.000342	<15.0	35.4 J	35.4 J	15.7 J	51.1	483
SB-8	0-5'	01/20/21	<0.000382	<0.000452	<0.000560	<0.000342	<0.000342	<15.0	30.9 J	30.9 J	<15.0	30.9 J	93.7
DUP (SB-8)	0-5'	01/20/21	<0.000384	<0.000455	<0.000564	<0.000344	<0.000344	<15.0	41.9 J	41.9 J	<15.0	41.9 J	91.8
SB-9	0-5'	01/20/21	<0.000387	<0.000458	<0.000564	<0.000344	<0.000344	<14.9	31.7 J	31.7 J	<15.0	31.7 J	936
	1'-1.25'	01/20/21	<0.000387	<0.000458	<0.000568	<0.000346	<0.000346	33.7 J	53.1	86.8 J	16.2 J	103	95.6
SB-10	0-5'	01/20/21	<0.000385	<0.000456	<0.000565	<0.000344	<0.000344	<15.0	59.6	59.6	18.8 J	78.4	4,180
	1'-2'	01/20/21	<0.000383	<0.000454	<0.000563	<0.000343	<0.000343	<14.9	93.8	93.8	32.3 J	126	850
SB-11	0-5'	01/20/21	<0.000388	<0.000459	<0.000569	<0.000347	<0.000347	<15.0	469	469	192	661	22.8
SB-12	0-5'	01/21/21	<0.000389	<0.000460	<0.000570	0.00277	0.00277	<15.0	18.0 J	18.0 J	<15.0	18.0 J	1,820
	1'-1.25'	01/21/21	<0.000386	<0.000457	<0.000566	<0.000345	<0.000345	<15.0	30.6 J	30.6 J	<15.0	30.6 J	789
SB-13	0-5'	01/21/21	<0.000388	<0.000459	<0.000569	<0.000347	<0.000347	<15.0	24.8 J	24.8 J	<15.0	24.8 J	2,360
SB-14	0-5'	01/21/21	<0.000388	<0.000459	<0.000569	<0.000347	<0.000347	<15.0	87.0	87.0	32.7 J	120	352
SB-15	0-5'	01/21/21	<0.000389	<0.000460	<0.000570	<0.000348	<0.000348	<15.0	28.7 J	28.7 J	<15.0	28.7 J	1,850
	1'-1.5'	01/21/21	<0.000384	<0.000455	<0.000564	<0.000344	<0.000344	<15.0	23.8 J	23.8 J	<15.0	23.8 J	106
SB-16	0-5'	01/21/21	<0.000386	<0.000457	<0.000567	<0.000346	<0.000346	<15.0	54.4	54.4	21.4 J	75.8	92.4

Notes:  
 BOLD = Analytes exceeding NMAC standards and Restoration Requirements  
 J: Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit (MDL) and the concentration is an approximate value  
 < indicates the analyte was not detected at or above the MDL  
 mg/kg: Milligram per Kilogram  
 DUP: Duplicate sample  
 BTEX: Benzene, Toluene, Ethylbenzene, and Total Xylenes  
 NMAC: New Mexico Administration Code  
 TPH GRO: Total Petroleum Hydrocarbons Gasoline Range Organics  
 TPH ORO: Total Petroleum Hydrocarbons Oil Range Organics  
 TPH DRO: Total Petroleum Hydrocarbon Diesel Range Organics  
 Total TPH: GRO + DRO + MRO  
 \*'': Indicates feet  
 \*Revised screening limit and restoration criteria within the first 4 feet below ground surface per Rule 19.15.29 effective August 14, 2018  
 1. Chloride analyzed by United States Environmental Protection Agency (USEPA) Method 300  
 2. TPH analyzed by TPH by SW8015 Mod DRO/ORO Method  
 3. BTEX analyzed by USEPA Method 8021B  
 4. Closure Criteria New Mexico Administrative Code 19.15.29.12.E(2)

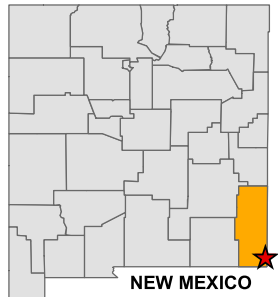
# Figures

0 500 1,000 2,000 Feet



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

P:\T:\ENV\Chevron\Chevron\_WDDU88\MXD\Figure 1\_Site Location Map.mxd: 2/17/2021: 5:16:34 PM



NEW MEXICO



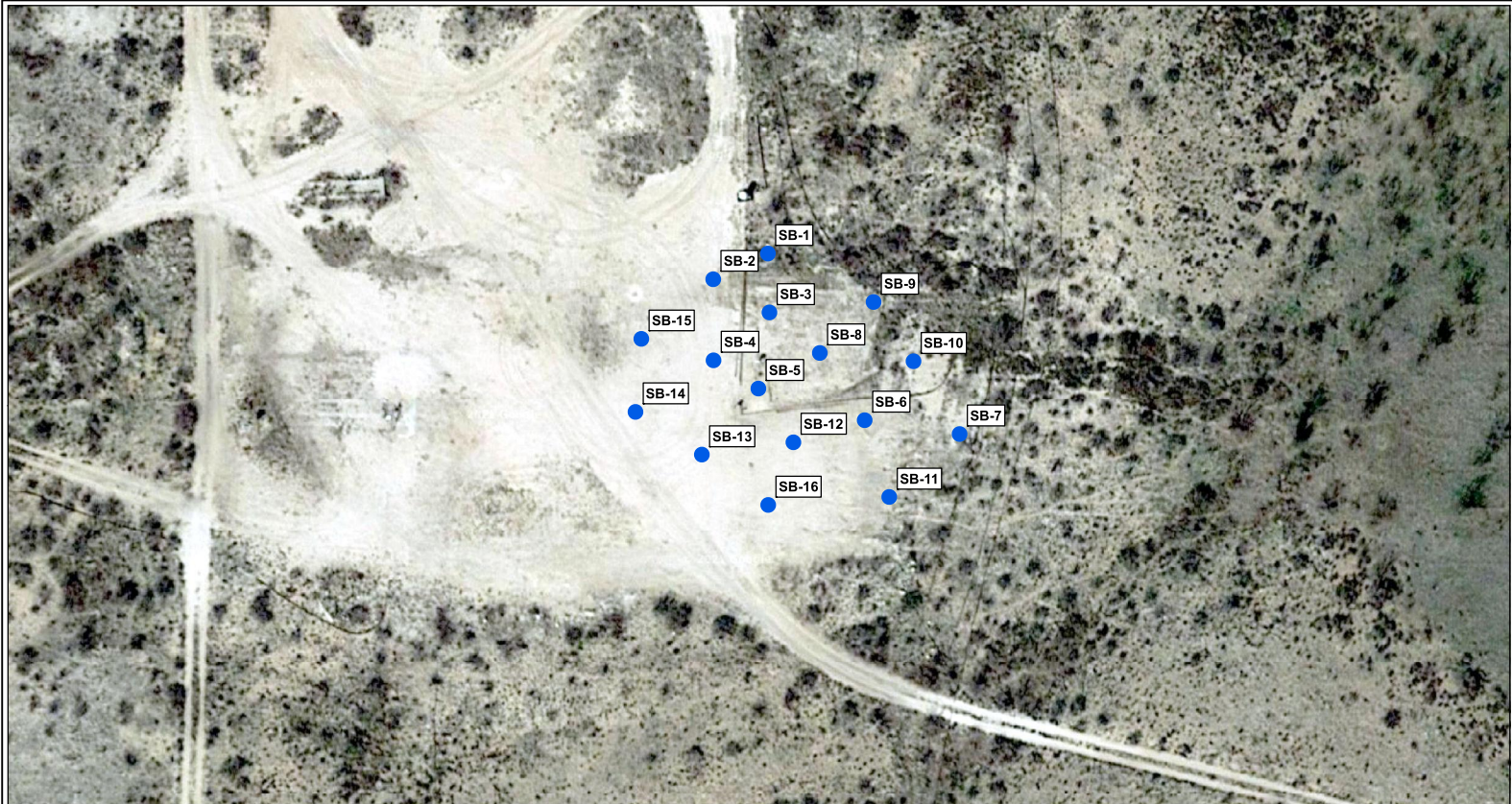
NOTES:  
1. Datum: GCS\_WGS\_1984  
2. Site Location: 32.164736, -103.075586

Chevron Environmental Management Company  
WDDU 88  
Lea County, New Mexico

### SITE LOCATION MAP

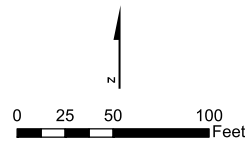


FIGURE  
**1**



**LEGEND:**  
● Soil Sample Locations

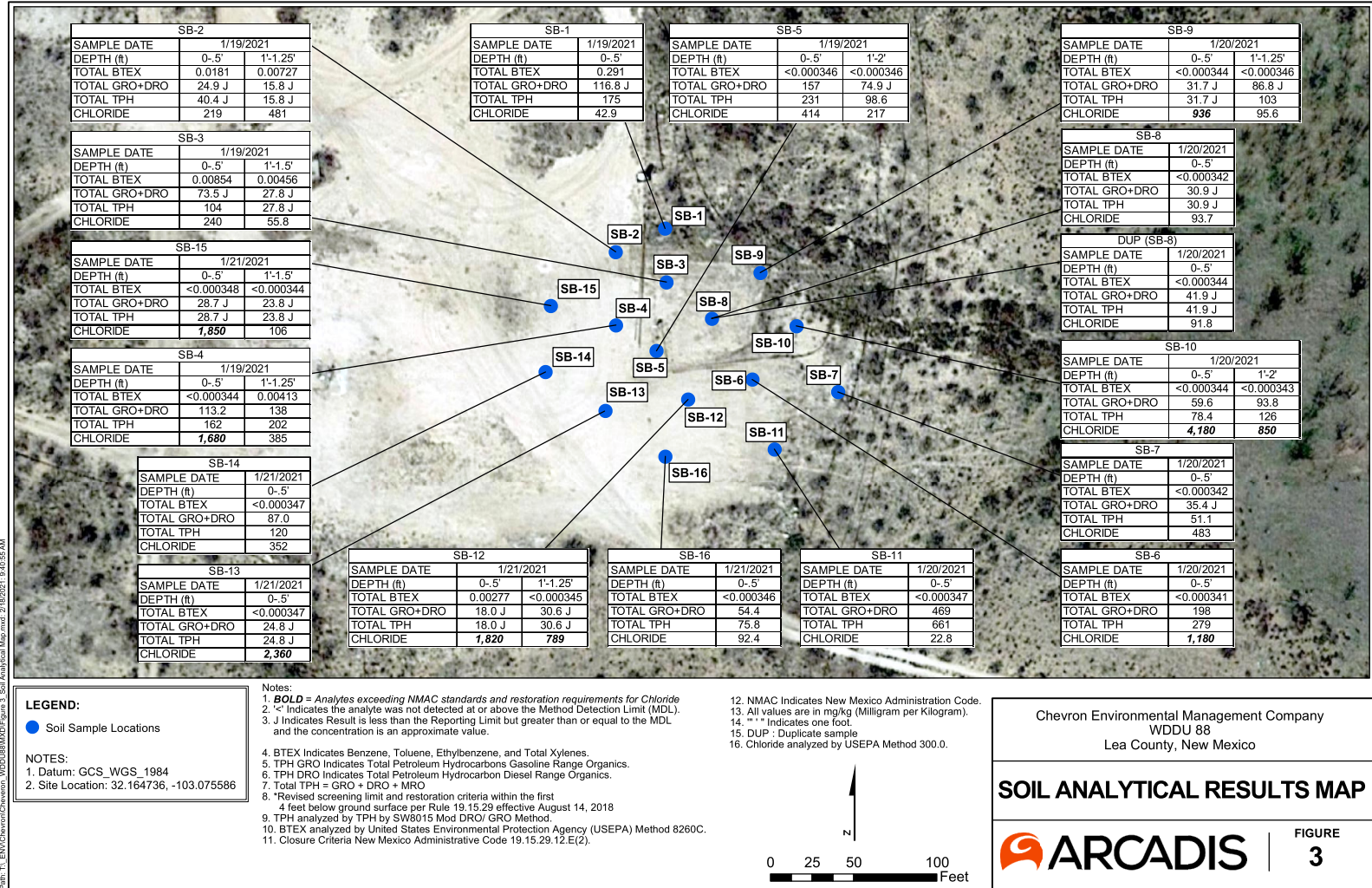
**NOTES:**  
1. Datum: GCS\_WGS\_1984  
2. Site Location: 32.164736, -103.075586



Chevron Environmental Management Company  
WDDU 88  
Lea County, New Mexico

**SOIL SAMPLE LOCATIONS MAP**

 **ARCADIS** | FIGURE 2



# Appendix A

**Initial C-141 Forms - 1RP-925**

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

Initial Report  Final Report

Name of Company Chevron U.S.A. INC	Contact Eddy Gregory
Address P.O. Drawer 29 Andrews Texas 79714	Telephone No. 432-523-7655 Ext 7603
Facility Name WDDU #88	Facility Type- Oil well

Surface Owner George Willis	Mineral Owner-Federal	Lease No.
-----------------------------	-----------------------	-----------

#### LOCATION OF RELEASE

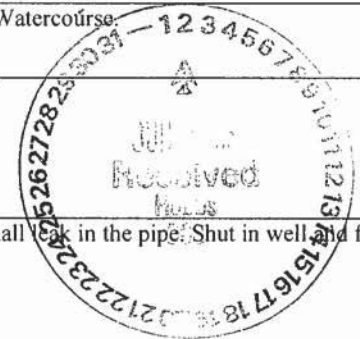
API# 30025 123870000

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	5	25.0S	38e					Lea

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

#### NATURE OF RELEASE

Type of Release Oil and Produced Water	Volume of Release 4.4bbl oil/95.6bbl water	Volume Recovered 0
Source of Release Production flowline	Date and Hour of Occurrence 12:00:00 5/24/06	Date and Hour of Discovery 18:00:00 5/24/06
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Sylvia Dicky	
By Whom? Eddy Gregory	Date and Hour 5/25/06 @ 16:00	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse:	



If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken Steel flow line had external corrosion causing small leak in the pipe. Shut in well and flowline, ordered replacement flowline for installation the following day.

Describe Area Affected and Cleanup Action Taken.\* 205' x 35' area was impacted by the spill. Will pick up hydrocarbon impacted soil and carry to Chevron property for road spread.

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

Signature: <i>Eddy Gregory</i>	<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Eddy Gregory	Approved by District Supervisor:	
Title: HES Champion	Approval Date: 6-13-06	Expiration Date: 90-day
E-mail Address: eegr@chevron.com	Conditions of Approval: Report for delineation of: CI, TPH	Attached <input type="checkbox"/>
Date: 5/24/06	Phone: 432-523-3655	

\* Attach Additional Sheets If Necessary

incident - nPAC 0616632139 100'  
application - pPAC 0616632399  
RPT# 925

# Appendix B

## Photographic Log





### PHOTOGRAPHIC LOG

<b>Property Name:</b> WDDU 88	<b>Location:</b> Lea County, NM	<b>Case No.</b> 1RP-925
----------------------------------	------------------------------------	----------------------------

<b>Photo No.</b> 1	<b>Date:</b> 01/19/2021
-----------------------	----------------------------

**Direction Photo Taken:**  
Facing east

**Description:**  
West side of pad



### PHOTOGRAPHIC LOG

<b>Property Name:</b> WDDU 88	<b>Location:</b> Lea County, NM	<b>Case No.</b> 1RP-925
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<b>Photo No.</b> 2	<b>Date:</b> 01/19/2021
-----------------------	----------------------------

**Direction Photo Taken:**  
Southeast

**Description:**  
Northwest corner of pad





### PHOTOGRAPHIC LOG

<b>Property Name:</b> WDDU 88	<b>Location:</b> Lea County, NM	<b>Case No.</b> 1RP-925
----------------------------------	------------------------------------	----------------------------

<b>Photo No.</b> 3	<b>Date:</b> 01/19/2021
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**Direction Photo Taken:**  
Facing south

**Description:**  
North side of pad



### PHOTOGRAPHIC LOG

<b>Property Name:</b> WDDU 88	<b>Location:</b> Lea County, NM	<b>Case No.</b> 1RP-925
----------------------------------	------------------------------------	----------------------------

<b>Photo No.</b> 4	<b>Date:</b> 01/19/2021
-----------------------	----------------------------

**Direction Photo Taken:**  
Facing southwest

**Description:**  
Northeast corner of pad





### PHOTOGRAPHIC LOG

<b>Property Name:</b> WDDU 88	<b>Location:</b> Lea County, NM	<b>Case No.</b> 1RP-925
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<b>Photo No.</b> 5	<b>Date:</b> 01/19/2021
-----------------------	----------------------------

**Direction Photo Taken:**  
Facing west

**Description:**  
East Center of pad



### PHOTOGRAPHIC LOG



<b>Property Name:</b> WDDU 88	<b>Location:</b> Lea County, NM	<b>Case No.</b> 1RP-925
----------------------------------	------------------------------------	----------------------------



<b>Photo No.</b> 6	<b>Date:</b> 01/19/2021
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**Direction Photo Taken:**  
Facing north

**Description:**  
Disconnected 2" flow line on east side of pad



		<b>PHOTOGRAPHIC LOG</b>	
<b>Property Name:</b> WDDU 88		<b>Location:</b> Lea County, NM	
<b>Case No.:</b> 1RP-925			
<b>Photo No.:</b> 7	<b>Date:</b> 01/19/2021		
<b>Direction Photo Taken:</b> Facing north			
<b>Description:</b> South center of pad			

		<b>PHOTOGRAPHIC LOG</b>	
<b>Property Name:</b> WDDU 88		<b>Location:</b> Lea County, NM	
<b>Case No.:</b> 1RP-925			
<b>Photo No.:</b> 8	<b>Date:</b> 01/19/2021		
<b>Direction Photo Taken:</b> Northeast			
<b>Description:</b> Southwest corner of pad			



**PHOTOGRAPHIC LOG**

<b>Property Name:</b> WDDU 88	<b>Location:</b> Lea County, NM	<b>Case No.</b> 1RP-925
----------------------------------	------------------------------------	----------------------------

<b>Photo No.</b> <b>9</b>	<b>Date:</b> 01/19/21
------------------------------	--------------------------

**Direction Photo Taken:**  
Northwest

**Description:**  
Southeast corner of pad



# **Appendix C**

## **Laboratory Report**

# Analytical Report 685283

for

**Arcadis U.S., Inc**

**Project Manager: Morgan Jordan**

**WDDU 88**

**300065-54-0002B**

**01.22.2021**

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)



01.22.2021

Project Manager: **Morgan Jordan**

**Arcadis U.S., Inc**

1717 W 6th Street, Suite 210

Austin, TX 78703

Reference: Eurofins Xenco, LLC Report No(s): **685283**

**WDDU 88**

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) 685283. 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. 685283 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





# Sample Cross Reference 685283

Arcadis U.S., Inc, Austin, TX

WDDU 88

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-1-S-0-.5-210119	S	01.19.2021 11:30		685283-001
SB-2-S-0-.5-210119	S	01.19.2021 12:06		685283-002
SB-2-S-1-1.25-210119	S	01.19.2021 12:13		685283-003
SB-3-S-0-.5-210119	S	01.19.2021 12:35		685283-004
SB-3-S-1-1.5-210119	S	01.19.2021 12:43		685283-005
SB-4-S-0-.5-210119	S	01.19.2021 14:15		685283-006
SB-4-S-1-1.25-210119	S	01.19.2021 14:23		685283-007
SB-5-S-0-.5-210119	S	01.19.2021 14:35		685283-008
SB-5-S-1-2-210119	S	01.19.2021 14:41		685283-009

**CASE NARRATIVE****Client Name: Arcadis U.S., Inc****Project Name: WDDU 88**Project ID: 300065-54-0002B  
Work Order Number(s): 685283Report Date: 01.22.2021  
Date Received: 01.19.2021

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-3148318 Chloride by EPA 300

Lab Sample ID 685283-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 685283-001, -002, -003, -004, -005, -006.

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

Batch: LBA-3148475 TPH By SW8015 Mod

Surrogate 1-Chlorooctane recovered below QC limits Data confirmed by re-analysis. Samples affected are: 7719656-1-BLK,685283-002,685283-009,685283-005,685283-007,685283-008,685283-001,685283-004.

Batch: LBA-3148562 BTEX by EPA 8021B

Surrogate 1,4-Difluorobenzene recovered below QC limits. Matrix interferences is suspected; Samples affected are: 685339-002 SD,685283-001.

Surrogate 4-Bromofluorobenzene recovered below QC limits . Samples affected are: 7719745-1-BLK,685339-002 SD.



# Certificate of Analytical Results 685283

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: **SB-1-S-0-.5-210119** Matrix: Soil Date Received: 01.19.2021 17:11  
 Lab Sample Id: 685283-001 Date Collected: 01.19.2021 11:30  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: CHE  
 Analyst: CHE Date Prep: 01.20.2021 16:00 % Moisture:  
 Seq Number: 3148318 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	42.9	5.00	0.858	mg/kg	01.21.2021 08:37	X	1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P  
 Tech: DVM  
 Analyst: ARM Date Prep: 01.20.2021 11:00 % Moisture:  
 Seq Number: 3148475 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	15.8	50.0	15.0	mg/kg	01.20.2021 15:28	J	1
Diesel Range Organics (DRO)	C10C28DRO	101	50.0	15.0	mg/kg	01.20.2021 15:28		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	58.3	50.0	15.0	mg/kg	01.20.2021 15:28		1
Total TPH	PHC635	175	50.0	15.0	mg/kg	01.20.2021 15:28		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	61	%	70-130	01.20.2021 15:28	**
o-Terphenyl	84-15-1	74	%	70-130	01.20.2021 15:28	



# Certificate of Analytical Results 685283

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: **SB-1-S-0-.5-210119**

Matrix: Soil

Date Received: 01.19.2021 17:11

Lab Sample Id: 685283-001

Date Collected: 01.19.2021 11:30

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.21.2021 16:00

% Moisture:

Seq Number: 3148562

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	01.21.2021 23:51	U	1
Toluene	108-88-3	<0.000457	0.00201	0.000457	mg/kg	01.21.2021 23:51	U	1
<b>Ethylbenzene</b>	100-41-4	<b>0.0656</b>	0.00201	0.000567	mg/kg	01.21.2021 23:51		1
<b>m,p-Xylenes</b>	179601-23-1	<b>0.107</b>	0.00402	0.00102	mg/kg	01.21.2021 23:51		1
<b>o-Xylene</b>	95-47-6	<b>0.118</b>	0.00201	0.000346	mg/kg	01.21.2021 23:51		1
<b>Total Xylenes</b>	1330-20-7	<b>0.225</b>	0.00201	0.000346	mg/kg	01.21.2021 23:51		1
<b>Total BTEX</b>		<b>0.291</b>	0.00201	0.000346	mg/kg	01.21.2021 23:51		1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>		
4-Bromofluorobenzene	460-00-4	142	%	70-130	01.21.2021 23:51	**		
1,4-Difluorobenzene	540-36-3	64	%	70-130	01.21.2021 23:51	**		



# Certificate of Analytical Results 685283

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: **SB-2-S-0-.5-210119** Matrix: Soil Date Received: 01.19.2021 17:11  
 Lab Sample Id: 685283-002 Date Collected: 01.19.2021 12:06  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: CHE  
 Analyst: CHE Date Prep: 01.20.2021 16:00 % Moisture:  
 Seq Number: 3148318 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	219	5.03	0.864	mg/kg	01.21.2021 08:53		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P  
 Tech: DVM  
 Analyst: ARM Date Prep: 01.20.2021 11:00 % Moisture:  
 Seq Number: 3148475 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	01.20.2021 15:48	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>24.9</b>	50.0	15.0	mg/kg	01.20.2021 15:48	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	15.5	50.0	15.0	mg/kg	01.20.2021 15:48	J	1
<b>Total TPH</b>	PHC635	<b>40.4</b>	50.0	15.0	mg/kg	01.20.2021 15:48	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	62	%	70-130	01.20.2021 15:48	**
o-Terphenyl	84-15-1	70	%	70-130	01.20.2021 15:48	



# Certificate of Analytical Results 685283

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: **SB-2-S-0-.5-210119**

Matrix: Soil

Date Received: 01.19.2021 17:11

Lab Sample Id: 685283-002

Date Collected: 01.19.2021 12:06

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.21.2021 16:00

% Moisture:  
Basis: Wet Weight

Seq Number: 3148562

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000387	0.00201	0.000387	mg/kg	01.22.2021 00:17	U	1
Toluene	108-88-3	<0.000458	0.00201	0.000458	mg/kg	01.22.2021 00:17	U	1
<b>Ethylbenzene</b>	100-41-4	<b>0.000765</b>	0.00201	0.000568	mg/kg	01.22.2021 00:17	J	1
<b>m,p-Xylenes</b>	179601-23-1	<b>0.00217</b>	0.00402	0.00102	mg/kg	01.22.2021 00:17	J	1
<b>o-Xylene</b>	95-47-6	<b>0.0152</b>	0.00201	0.000346	mg/kg	01.22.2021 00:17		1
<b>Total Xylenes</b>	1330-20-7	<b>0.0174</b>	0.00201	0.000346	mg/kg	01.22.2021 00:17		1
<b>Total BTEX</b>		<b>0.0181</b>	0.00201	0.000346	mg/kg	01.22.2021 00:17		1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>		
4-Bromofluorobenzene	460-00-4	104	%	70-130	01.22.2021 00:17			
1,4-Difluorobenzene	540-36-3	89	%	70-130	01.22.2021 00:17			



# Certificate of Analytical Results 685283

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: **SB-2-S-1-1.25-210119**  
Lab Sample Id: 685283-003

Matrix: Soil  
Date Collected: 01.19.2021 12:13

Date Received: 01.19.2021 17:11

Analytical Method: Chloride by EPA 300  
Tech: CHE  
Analyst: CHE  
Seq Number: 3148318

Date Prep: 01.20.2021 16:00

Prep Method: E300P

% Moisture:  
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	481	4.99	0.857	mg/kg	01.21.2021 08:58		1

Analytical Method: TPH By SW8015 Mod  
Tech: DVM  
Analyst: ARM  
Seq Number: 3148475

Date Prep: 01.20.2021 11:00

Prep Method: SW8015P

% Moisture:  
Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
<b>Gasoline Range Hydrocarbons (GRO)</b>	PHC610	<b>15.8</b>	49.9	15.0	mg/kg	01.20.2021 16:07	J	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	49.9	15.0	mg/kg	01.20.2021 16:07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	49.9	15.0	mg/kg	01.20.2021 16:07	U	1
<b>Total TPH</b>	PHC635	<b>15.8</b>	49.9	15.0	mg/kg	01.20.2021 16:07	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-130	01.20.2021 16:07	
o-Terphenyl	84-15-1	130	%	70-130	01.20.2021 16:07	



# Certificate of Analytical Results 685283

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: **SB-2-S-1-1.25-210119**  
Lab Sample Id: 685283-003

Matrix: Soil  
Date Collected: 01.19.2021 12:13

Date Received: 01.19.2021 17:11

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.21.2021 16:00

% Moisture:  
Basis: Wet Weight

Seq Number: 3148562

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	01.22.2021 00:43	U	1
Toluene	108-88-3	<0.000453	0.00199	0.000453	mg/kg	01.22.2021 00:43	U	1
Ethylbenzene	100-41-4	<0.000561	0.00199	0.000561	mg/kg	01.22.2021 00:43	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	01.22.2021 00:43	U	1
<b>o-Xylene</b>	95-47-6	<b>0.00727</b>	0.00199	0.000342	mg/kg	01.22.2021 00:43		1
<b>Total Xylenes</b>	1330-20-7	<b>0.00727</b>	0.00199	0.000342	mg/kg	01.22.2021 00:43		1
<b>Total BTEX</b>		<b>0.00727</b>	0.00199	0.000342	mg/kg	01.22.2021 00:43		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	01.22.2021 00:43	
4-Bromofluorobenzene	460-00-4	111	%	70-130	01.22.2021 00:43	





# Certificate of Analytical Results 685283

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: **SB-3-S-0-.5-210119** Matrix: Soil Date Received: 01.19.2021 17:11  
 Lab Sample Id: 685283-004 Date Collected: 01.19.2021 12:35  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: CHE  
 Analyst: CHE Date Prep: 01.20.2021 16:00 % Moisture:  
 Seq Number: 3148318 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	240	24.8	4.25	mg/kg	01.21.2021 09:03		5

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P  
 Tech: DVM  
 Analyst: ARM Date Prep: 01.20.2021 11:00 % Moisture:  
 Seq Number: 3148475 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	16.4	50.0	15.0	mg/kg	01.20.2021 16:26	J	1
Diesel Range Organics (DRO)	C10C28DRO	57.1	50.0	15.0	mg/kg	01.20.2021 16:26		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	30.2	50.0	15.0	mg/kg	01.20.2021 16:26	J	1
Total TPH	PHC635	104	50.0	15.0	mg/kg	01.20.2021 16:26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	67	%	70-130	01.20.2021 16:26	**
o-Terphenyl	84-15-1	79	%	70-130	01.20.2021 16:26	



# Certificate of Analytical Results 685283

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: **SB-3-S-0-.5-210119**  
Lab Sample Id: 685283-004

Matrix: Soil  
Date Collected: 01.19.2021 12:35

Date Received: 01.19.2021 17:11

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.21.2021 16:00

% Moisture:  
Basis: Wet Weight

Seq Number: 3148562

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000386	0.00201	0.000386	mg/kg	01.22.2021 03:45	U	1
<b>Toluene</b>	108-88-3	<b>0.00201</b>	0.00201	0.000457	mg/kg	01.22.2021 03:45	J	1
<b>Ethylbenzene</b>	100-41-4	<b>0.00138</b>	0.00201	0.000567	mg/kg	01.22.2021 03:45	J	1
<b>m,p-Xylenes</b>	179601-23-1	<b>0.00312</b>	0.00402	0.00102	mg/kg	01.22.2021 03:45	J	1
<b>o-Xylene</b>	95-47-6	<b>0.00203</b>	0.00201	0.000346	mg/kg	01.22.2021 03:45		1
<b>Total Xylenes</b>	1330-20-7	<b>0.00515</b>	0.00201	0.000346	mg/kg	01.22.2021 03:45		1
<b>Total BTEX</b>		<b>0.00854</b>	0.00201	0.000346	mg/kg	01.22.2021 03:45		1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>		
1,4-Difluorobenzene	540-36-3	94	%	70-130	01.22.2021 03:45			
4-Bromofluorobenzene	460-00-4	98	%	70-130	01.22.2021 03:45			



# Certificate of Analytical Results 685283

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: **SB-3-S-1-1.5-210119** Matrix: Soil Date Received: 01.19.2021 17:11  
 Lab Sample Id: 685283-005 Date Collected: 01.19.2021 12:43  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: CHE  
 Analyst: CHE Date Prep: 01.20.2021 16:00 % Moisture:  
 Seq Number: 3148318 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	55.8	25.3	4.34	mg/kg	01.21.2021 09:09		5

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P  
 Tech: DVM  
 Analyst: ARM Date Prep: 01.20.2021 11:00 % Moisture:  
 Seq Number: 3148475 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	01.20.2021 17:05	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>27.8</b>	49.9	15.0	mg/kg	01.20.2021 17:05	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	49.9	15.0	mg/kg	01.20.2021 17:05	U	1
<b>Total TPH</b>	PHC635	<b>27.8</b>	49.9	15.0	mg/kg	01.20.2021 17:05	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	65	%	70-130	01.20.2021 17:05	**
o-Terphenyl	84-15-1	74	%	70-130	01.20.2021 17:05	



# Certificate of Analytical Results 685283

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: **SB-3-S-1-1.25-210119**

Matrix: Soil

Date Received: 01.19.2021 17:11

Lab Sample Id: 685283-005

Date Collected: 01.19.2021 12:43

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.21.2021 16:00

% Moisture:  
Basis: Wet Weight

Seq Number: 3148562

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000386	0.00200	0.000386	mg/kg	01.22.2021 04:10	U	1
<b>Toluene</b>	108-88-3	<b>0.00182</b>	0.00200	0.000457	mg/kg	01.22.2021 04:10	J	1
Ethylbenzene	100-41-4	<0.000566	0.00200	0.000566	mg/kg	01.22.2021 04:10	U	1
<b>m,p-Xylenes</b>	179601-23-1	<b>0.00155</b>	0.00401	0.00102	mg/kg	01.22.2021 04:10	J	1
<b>o-Xylene</b>	95-47-6	<b>0.00119</b>	0.00200	0.000345	mg/kg	01.22.2021 04:10	J	1
<b>Total Xylenes</b>	1330-20-7	<b>0.00274</b>	0.00200	0.000345	mg/kg	01.22.2021 04:10		1
<b>Total BTEX</b>		<b>0.00456</b>	0.00200	0.000345	mg/kg	01.22.2021 04:10		1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>		
4-Bromofluorobenzene	460-00-4	93	%	70-130	01.22.2021 04:10			
1,4-Difluorobenzene	540-36-3	97	%	70-130	01.22.2021 04:10			



# Certificate of Analytical Results 685283

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: **SB-4-S-0-.5-210119** Matrix: Soil Date Received: 01.19.2021 17:11  
 Lab Sample Id: 685283-006 Date Collected: 01.19.2021 14:15  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: CHE  
 Analyst: CHE Date Prep: 01.20.2021 16:00 % Moisture:  
 Seq Number: 3148318 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1680	25.3	4.34	mg/kg	01.21.2021 09:14		5

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P  
 Tech: DVM  
 Analyst: ARM Date Prep: 01.20.2021 11:00 % Moisture:  
 Seq Number: 3148475 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	15.5	49.9	15.0	mg/kg	01.20.2021 17:24	J	1
Diesel Range Organics (DRO)	C10C28DRO	97.7	49.9	15.0	mg/kg	01.20.2021 17:24		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	48.6	49.9	15.0	mg/kg	01.20.2021 17:24	J	1
Total TPH	PHC635	162	49.9	15.0	mg/kg	01.20.2021 17:24		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	76	%	70-130	01.20.2021 17:24	
o-Terphenyl	84-15-1	85	%	70-130	01.20.2021 17:24	



# Certificate of Analytical Results 685283

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: **SB-4-S-0-.5-210119**  
Lab Sample Id: 685283-006

Matrix: Soil  
Date Collected: 01.19.2021 14:15

Date Received: 01.19.2021 17:11

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.21.2021 16:00

% Moisture:  
Basis: Wet Weight

Seq Number: 3148562

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000384	0.00200	0.000384	mg/kg	01.22.2021 04:36	U	1
Toluene	108-88-3	<0.000455	0.00200	0.000455	mg/kg	01.22.2021 04:36	U	1
Ethylbenzene	100-41-4	<0.000564	0.00200	0.000564	mg/kg	01.22.2021 04:36	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00399	0.00101	mg/kg	01.22.2021 04:36	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	01.22.2021 04:36	U	1
Total Xylenes	1330-20-7	<0.000344	0.00200	0.000344	mg/kg	01.22.2021 04:36	U	1
Total BTEX		<0.000344	0.00200	0.000344	mg/kg	01.22.2021 04:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	01.22.2021 04:36	
4-Bromofluorobenzene	460-00-4	99	%	70-130	01.22.2021 04:36	



# Certificate of Analytical Results 685283

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: **SB-4-S-1-1.25-210119** Matrix: Soil Date Received: 01.19.2021 17:11  
 Lab Sample Id: 685283-007 Date Collected: 01.19.2021 14:23  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: CHE  
 Analyst: CHE Date Prep: 01.20.2021 16:15 % Moisture:  
 Seq Number: 3148423 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	385	5.00	0.858	mg/kg	01.20.2021 21:24		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P  
 Tech: DVM  
 Analyst: ARM Date Prep: 01.20.2021 11:00 % Moisture:  
 Seq Number: 3148475 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	49.8	14.9	mg/kg	01.20.2021 17:43	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>138</b>	49.8	14.9	mg/kg	01.20.2021 17:43		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<b>64.2</b>	49.8	14.9	mg/kg	01.20.2021 17:43		1
<b>Total TPH</b>	PHC635	<b>202</b>	49.8	14.9	mg/kg	01.20.2021 17:43		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	63	%	70-130	01.20.2021 17:43	**
o-Terphenyl	84-15-1	73	%	70-130	01.20.2021 17:43	



# Certificate of Analytical Results 685283

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: **SB-4-S-1-1.25-210119**

Matrix: Soil

Date Received: 01.19.2021 17:11

Lab Sample Id: 685283-007

Date Collected: 01.19.2021 14:23

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.21.2021 16:00

% Moisture:

Basis: Wet Weight

Seq Number: 3148562

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000386	0.00200	0.000386	mg/kg	01.22.2021 05:01	U	1
<b>Toluene</b>	108-88-3	<b>0.00285</b>	0.00200	0.000457	mg/kg	01.22.2021 05:01		1
Ethylbenzene	100-41-4	<0.000566	0.00200	0.000566	mg/kg	01.22.2021 05:01	U	1
<b>m,p-Xylenes</b>	179601-23-1	<b>0.00128</b>	0.00401	0.00102	mg/kg	01.22.2021 05:01	J	1
o-Xylene	95-47-6	<0.000345	0.00200	0.000345	mg/kg	01.22.2021 05:01	U	1
<b>Total Xylenes</b>	1330-20-7	<b>0.00128</b>	0.00200	0.000345	mg/kg	01.22.2021 05:01	J	1
<b>Total BTEX</b>		<b>0.00413</b>	0.00200	0.000345	mg/kg	01.22.2021 05:01		1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>		
4-Bromofluorobenzene	460-00-4	99	%	70-130	01.22.2021 05:01			
1,4-Difluorobenzene	540-36-3	105	%	70-130	01.22.2021 05:01			





# Certificate of Analytical Results 685283

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: **SB-5-S-0-.5-210119** Matrix: Soil Date Received: 01.19.2021 17:11  
 Lab Sample Id: 685283-008 Date Collected: 01.19.2021 14:35  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: CHE  
 Analyst: CHE Date Prep: 01.20.2021 16:15 % Moisture:  
 Seq Number: 3148423 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	414	5.02	0.862	mg/kg	01.20.2021 21:40		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P  
 Tech: DVM  
 Analyst: ARM Date Prep: 01.20.2021 11:00 % Moisture:  
 Seq Number: 3148475 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	01.20.2021 18:03	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>157</b>	49.9	15.0	mg/kg	01.20.2021 18:03		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	73.9	49.9	15.0	mg/kg	01.20.2021 18:03		1
<b>Total TPH</b>	PHC635	<b>231</b>	49.9	15.0	mg/kg	01.20.2021 18:03		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	63	%	70-130	01.20.2021 18:03	**
o-Terphenyl	84-15-1	73	%	70-130	01.20.2021 18:03	



# Certificate of Analytical Results 685283

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: **SB-5-S-0-.5-210119** Matrix: Soil Date Received: 01.19.2021 17:11  
 Lab Sample Id: 685283-008 Date Collected: 01.19.2021 14:35  
 Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A  
 Tech: MNR  
 Analyst: MNR Date Prep: 01.21.2021 16:00 % Moisture:  
 Seq Number: 3148562 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	01.22.2021 05:27	U	1
Toluene	108-88-3	<0.000457	0.00201	0.000457	mg/kg	01.22.2021 05:27	U	1
Ethylbenzene	100-41-4	<0.000567	0.00201	0.000567	mg/kg	01.22.2021 05:27	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	01.22.2021 05:27	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	01.22.2021 05:27	U	1
Total Xylenes	1330-20-7	<0.000346	0.00201	0.000346	mg/kg	01.22.2021 05:27	U	1
Total BTEX		<0.000346	0.00201	0.000346	mg/kg	01.22.2021 05:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	01.22.2021 05:27	
4-Bromofluorobenzene	460-00-4	104	%	70-130	01.22.2021 05:27	



# Certificate of Analytical Results 685283

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: **SB-5-S-1-2-210119** Matrix: Soil Date Received: 01.19.2021 17:11  
 Lab Sample Id: 685283-009 Date Collected: 01.19.2021 14:41  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: CHE  
 Analyst: CHE Date Prep: 01.20.2021 16:15 % Moisture:  
 Seq Number: 3148423 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	217	4.96	0.852	mg/kg	01.20.2021 21:45		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P  
 Tech: DVM  
 Analyst: ARM Date Prep: 01.20.2021 11:00 % Moisture:  
 Seq Number: 3148475 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	16.2	49.9	15.0	mg/kg	01.20.2021 18:22	J	1
Diesel Range Organics (DRO)	C10C28DRO	58.7	49.9	15.0	mg/kg	01.20.2021 18:22		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	23.7	49.9	15.0	mg/kg	01.20.2021 18:22	J	1
Total TPH	PHC635	98.6	49.9	15.0	mg/kg	01.20.2021 18:22		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	60	%	70-130	01.20.2021 18:22	**
o-Terphenyl	84-15-1	72	%	70-130	01.20.2021 18:22	



# Certificate of Analytical Results 685283

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: **SB-5-S-1-2-210119** Matrix: Soil Date Received: 01.19.2021 17:11  
 Lab Sample Id: 685283-009 Date Collected: 01.19.2021 14:41  
 Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A  
 Tech: MNR  
 Analyst: MNR Date Prep: 01.21.2021 16:00 % Moisture:  
 Seq Number: 3148562 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000387	0.00201	0.000387	mg/kg	01.22.2021 05:53	U	1
Toluene	108-88-3	<0.000458	0.00201	0.000458	mg/kg	01.22.2021 05:53	U	1
Ethylbenzene	100-41-4	<0.000568	0.00201	0.000568	mg/kg	01.22.2021 05:53	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	01.22.2021 05:53	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	01.22.2021 05:53	U	1
Total Xylenes	1330-20-7	<0.000346	0.00201	0.000346	mg/kg	01.22.2021 05:53	U	1
Total BTEX		<0.000346	0.00201	0.000346	mg/kg	01.22.2021 05:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	01.22.2021 05:53	
4-Bromofluorobenzene	460-00-4	97	%	70-130	01.22.2021 05:53	



**Blank Summary 685283**

**Arcadis U.S., Inc, Austin, TX**  
WDDU 88

Sample Id: 7719570-1-BLK

Matrix: SOLID

Lab Sample Id: 7719570-1-BLK

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 01.20.2021 09:00

Seq Number: 3148318

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<0.858	5.00	0.858	mg/kg	01.20.2021 09:15	U	1



# Blank Summary 685283

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: 7719601-1-BLK

Matrix: SOLID

Lab Sample Id: 7719601-1-BLK

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 01.20.2021 16:15

Seq Number: 3148423

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1.36	5.00	0.858	mg/kg	01.20.2021 21:08	BJ	1



# Blank Summary 685283

Arcadis U.S., Inc, Austin, TX

WDDU 88

Sample Id: 7719656-1-BLK

Matrix: SOLID

Lab Sample Id: 7719656-1-BLK

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 01.20.2021 11:00

Seq Number: 3148475

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	01.20.2021 11:47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	01.20.2021 11:47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	01.20.2021 11:47	U	1



**Blank Summary 685283**

**Arcadis U.S., Inc, Austin, TX**  
 WDDU 88

Sample Id: 7719745-1-BLK

Matrix: SOLID

Lab Sample Id: 7719745-1-BLK

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

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.21.2021 16:00

Seq Number: 3148562

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	01.21.2021 21:43	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	01.21.2021 21:43	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	01.21.2021 21:43	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	01.21.2021 21:43	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	01.21.2021 21:43	U	1





## Form 2 - Surrogate Recoveries

Project Name: WDDU 88

Report Date: 01222021

Work Orders : 685283

Project ID: 300065-54-0002B

Lab Batch #: 3148562

Sample: 7719745-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01.21.2021 19:07

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0307	0.0300	102	70-130	
4-Bromofluorobenzene	0.0281	0.0300	94	70-130	

Lab Batch #: 3148562

Sample: 7719745-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01.21.2021 19:33

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0296	0.0300	99	70-130	
4-Bromofluorobenzene	0.0303	0.0300	101	70-130	

Lab Batch #: 3148562

Sample: 685339-002 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01.21.2021 19:59

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0262	0.0300	87	70-130	
4-Bromofluorobenzene	0.0385	0.0300	128	70-130	

Lab Batch #: 3148562

Sample: 685339-002 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01.21.2021 20:25

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.00400	0.0300	13	70-130	**
4-Bromofluorobenzene	0.00549	0.0300	18	70-130	**

Lab Batch #: 3148562

Sample: 7719745-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01.21.2021 21:43

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0252	0.0300	84	70-130	
4-Bromofluorobenzene	0.0194	0.0300	65	70-130	**

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: WDDU 88

Report Date: 01222021

Work Orders : 685283

Project ID: 300065-54-0002B

Lab Batch #: 3148475

Sample: 7719656-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01.20.2021 11:47

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	60.7	100	61	70-130	**
o-Terphenyl	36.8	50.0	74	70-130	

Lab Batch #: 3148475

Sample: 7719656-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01.20.2021 12:06

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.4	100	77	70-130	
o-Terphenyl	38.0	50.0	76	70-130	

Lab Batch #: 3148475

Sample: 7719656-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01.20.2021 12:25

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.9	100	76	70-130	
o-Terphenyl	36.4	50.0	73	70-130	

Lab Batch #: 3148475

Sample: 685285-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01.20.2021 13:03

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.3	99.7	91	70-130	
o-Terphenyl	41.4	49.9	83	70-130	

Lab Batch #: 3148475

Sample: 685285-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01.20.2021 13:22

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.8	99.9	78	70-130	
o-Terphenyl	36.5	50.0	73	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.



Arcadis U.S., Inc  
WDDU 88

**Analytical Method: Chloride by EPA 300**

Seq Number: 3148318 Matrix: Solid Prep Method: E300P  
 MB Sample Id: 7719570-1-BLK LCS Sample Id: 7719570-1-BKS Date Prep: 01.20.2021  
 LCSD Sample Id: 7719570-1-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	254	102	254	102	90-110	0	20	mg/kg	01.20.2021 09:21	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3148423 Matrix: Solid Prep Method: E300P  
 MB Sample Id: 7719601-1-BLK LCS Sample Id: 7719601-1-BKS Date Prep: 01.20.2021  
 LCSD Sample Id: 7719601-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1.36	250	257	103	256	102	90-110	0	20	mg/kg	01.20.2021 21:13	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3148318 Matrix: Soil Prep Method: E300P  
 Parent Sample Id: 685265-001 MS Sample Id: 685265-001 S Date Prep: 01.20.2021  
 MSD Sample Id: 685265-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	35.9	251	291	102	290	101	90-110	0	20	mg/kg	01.20.2021 09:40	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3148318 Matrix: Soil Prep Method: E300P  
 Parent Sample Id: 685283-001 MS Sample Id: 685283-001 S Date Prep: 01.20.2021  
 MSD Sample Id: 685283-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	42.9	250	349	122	348	122	90-110	0	20	mg/kg	01.21.2021 08:42	X

**Analytical Method: Chloride by EPA 300**

Seq Number: 3148423 Matrix: Soil Prep Method: E300P  
 Parent Sample Id: 685283-007 MS Sample Id: 685283-007 S Date Prep: 01.20.2021  
 MSD Sample Id: 685283-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	385	250	622	95	620	94	90-110	0	20	mg/kg	01.20.2021 21:29	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3148423 Matrix: Soil Prep Method: E300P  
 Parent Sample Id: 685291-003 MS Sample Id: 685291-003 S Date Prep: 01.20.2021  
 MSD Sample Id: 685291-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	4920	2500	7110	88	7110	88	90-110	0	20	mg/kg	01.20.2021 22:44	X

MS/MSD Percent Recovery  
 Relative Percent Difference  
 LCS/LCSD Recovery  
 Log Difference

$[D] = 100 * (C - A) / B$   
 $RPD = 200 * |(C - E) / (C + E)|$   
 $[D] = 100 * (C) / [B]$   
 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



Arcadis U.S., Inc  
WDDU 88

**Analytical Method: TPH By SW8015 Mod**

Seq Number: 3148475

Matrix: Solid

Prep Method: SW8015P

Date Prep: 01.20.2021

MB Sample Id: 7719656-1-BLK

LCS Sample Id: 7719656-1-BKS

LCSD Sample Id: 7719656-1-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	824	82	861	86	70-130	4	20	mg/kg	01.20.2021 12:06	
Diesel Range Organics (DRO)	<15.0	1000	841	84	836	84	70-130	1	20	mg/kg	01.20.2021 12:06	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	61	**	77		76		70-130	%	01.20.2021 12:06
o-Terphenyl	74		76		73		70-130	%	01.20.2021 12:06

**Analytical Method: TPH By SW8015 Mod**

Seq Number: 3148475

Matrix: Solid

Prep Method: SW8015P

Date Prep: 01.20.2021

MB Sample Id: 7719656-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<15.0	mg/kg	01.20.2021 11:47	

**Analytical Method: TPH By SW8015 Mod**

Seq Number: 3148475

Matrix: Soil

Prep Method: SW8015P

Date Prep: 01.20.2021

Parent Sample Id: 685285-001

MS Sample Id: 685285-001 S

MSD Sample Id: 685285-001 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	890	89	782	78	70-130	13	20	mg/kg	01.20.2021 13:03	
Diesel Range Organics (DRO)	<15.0	997	902	90	772	77	70-130	16	20	mg/kg	01.20.2021 13:03	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	91		78		70-130	%	01.20.2021 13:03
o-Terphenyl	83		73		70-130	%	01.20.2021 13:03

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

Seq Number: 3148562

Matrix: Solid

Prep Method: SW5035A

Date Prep: 01.21.2021

MB Sample Id: 7719745-1-BLK

LCS Sample Id: 7719745-1-BKS

LCSD Sample Id: 7719745-1-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	0.0981	98	0.102	102	70-130	4	35	mg/kg	01.21.2021 19:07	
Toluene	<0.000456	0.100	0.0815	82	0.102	102	70-130	22	35	mg/kg	01.21.2021 19:07	
Ethylbenzene	<0.000565	0.100	0.0913	91	0.0993	99	70-130	8	35	mg/kg	01.21.2021 19:07	
m,p-Xylenes	<0.00101	0.200	0.189	95	0.204	102	70-130	8	35	mg/kg	01.21.2021 19:07	
o-Xylene	<0.000344	0.100	0.0921	92	0.0997	100	70-130	8	35	mg/kg	01.21.2021 19:07	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	84		102		99		70-130	%	01.21.2021 19:07
4-Bromofluorobenzene	65	**	94		101		70-130	%	01.21.2021 19:07

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

[D] = 100\*(C-A) / B  
RPD = 200\* |(C-E) / (C+E)|  
[D] = 100 \* (C) / [B]  
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



Arcadis U.S., Inc

WDDU 88

Analytical Method: BTEX by EPA 8021B

Seq Number: 3148562

Parent Sample Id: 685339-002

Matrix: Soil

MS Sample Id: 685339-002 S

Prep Method: SW5035A

Date Prep: 01.21.2021

MSD Sample Id: 685339-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000384	0.0998	0.0879	88	0.0127	13	70-130	150	35	mg/kg	01.21.2021 19:59	XF
Toluene	<0.000455	0.0998	0.0897	90	0.0105	11	70-130	158	35	mg/kg	01.21.2021 19:59	XF
Ethylbenzene	0.00295	0.0998	0.0797	77	0.0105	8	70-130	153	35	mg/kg	01.21.2021 19:59	XF
m,p-Xylenes	0.00604	0.200	0.157	75	0.0220	8	70-130	151	35	mg/kg	01.21.2021 19:59	XF
o-Xylene	0.00141	0.0998	0.0792	78	0.0113	10	70-130	150	35	mg/kg	01.21.2021 19:59	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	87		13	**	70-130	%	01.21.2021 19:59
4-Bromofluorobenzene	128		18	**	70-130	%	01.21.2021 19:59

MS/MSD Percent Recovery  
 Relative Percent Difference  
 LCS/LCSD Recovery  
 Log Difference

$[D] = 100 * (C - A) / B$   
 $RPD = 200 * |(C - E) / (C + E)|$   
 $[D] = 100 * (C) / [B]$   
 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



**Eurofins Xenco**

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

**Chain of Custody Record**

<b>Client Information</b>		Sampler: <u>J. Steinmann</u>		Lab PM: Kudchadkar, Sachin G		Carrier Tracking No(s):		COC No: 600-23595-8666.1			
Client Contact: Motgan Jordan		Phone: <u>619 851 8792</u>		E-Mail: sachin.kudchadkar@testamericainc.com				Page: 1 of 1			
Company: ARCADIS U.S., Inc.		Due Date Requested: _____		<b>Analysis Requested</b>				Job #: <u>1085283</u>			
Address: 1717 W 6th Street, Suite 210		TAT Requested (days): <u>std</u>		Field Filtered Sample (Yes or No) <input type="checkbox"/> Perform MS/MSD (Yes or No) <input type="checkbox"/> 8015_GRO/DRO/ORO <input type="checkbox"/> 300 - Chloride <input type="checkbox"/> 8021 - BTEX <input type="checkbox"/>		Total Number of Containers		Preservation Codes:			
City: Austin		PO #:						A - HCL		M - Hexane	
State, Zip: TX, 78703		WO #:						B - NaOH		N - None	
Phone: <u>281 644 9437</u>		Project #: 30065054-0002B						C - Zn Acetate		O - AsNaO2	
Email: douglas.jordan@arcadis.com		SSOW#:						D - Nitric Acid		P - Na2O4S	
Project Name: 30065-54-0002B						E - NaHSO4		Q - Na2SO3			
Site: WDDU 88						F - MeOH		R - Na2S2O3			
						G - Amchlor		S - H2SO4			
						H - Ascorbic Acid		T - TSP Dodecahydrate			
						I - Ice		U - Acetone			
						J - DI Water		V - MCAA			
						K - EDTA		W - ph 4-5			
						L - EDA		Z - other (specify)			
								Other:			
<b>Sample Identification</b>		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=waste/soil, BT=Tissue, A=Air)			
						Preservation Code:					
<u>SB-1-S-0-S-210119</u>		<u>1/19/21</u>		<u>1130</u>		<u>G</u>		<u>Solid</u>			
<u>SB-2-S-0-S-210119</u>				<u>1206</u>				<u>Solid</u>			
<u>SB-2-S-1-1.25-210119</u>				<u>1213</u>				<u>Solid</u>			
<u>SB-3-S-0-S-210119</u>				<u>1235</u>				<u>Solid</u>			
<u>SB-3-S-1-1.5-210119</u>				<u>1243</u>				<u>Solid</u>			
<u>SB-4-S-0-S-210119</u>				<u>1415</u>				<u>Solid</u>			
<u>SB-4-S-1-1.25-210119</u>				<u>1423</u>				<u>Solid</u>			
<u>SB-5-S-0-S-210119</u>				<u>1435</u>				<u>Solid</u>			
<u>SB-5-S-1-2-210119</u>				<u>1441</u>				<u>Solid</u>			
<u>9/19/21</u>								<u>Solid</u>			
								<u>Solid</u>			
<b>Possible Hazard Identification</b>					<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>						
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> 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: <u>[Signature]</u>		Date/Time: <u>1/19/21 1600</u>		Company: <u>Arcadis</u>		Received by: <u>[Signature]</u>		Date/Time: <u>1-19-21 1600</u>			
Relinquished by: <u>[Signature]</u>		Date/Time: <u>1-19-21 1711</u>		Company: <u>Arcadis</u>		Received by: <u>[Signature]</u>		Date/Time: <u>1-19-21 1711</u>			
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:			
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: <u>4.0°C</u>							

Final 1.000  
Page 33 of 34

# Eurofins Xenco, LLC

## Prelogin/Nonconformance Report- Sample Log-In

Client: Arcadis U.S., Inc

Date/ Time Received: 01.19.2021 05.11.00 PM

Work Order #: 685283

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)?	4.1
#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: 01.20.2021  
 Brianna Teel

Checklist reviewed by: Sachin Kudchadkar Date: 01.20.2021  
 Sachin Kudchadkar



# Analytical Report 685452

for

**Arcadis U.S., Inc**

**Project Manager: Morgan Jordan**

**WDDU 88**

**30065078-0002B**

**02.11.2021**

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)



02.11.2021

Project Manager: **Morgan Jordan**

**Arcadis U.S., Inc**

1717 W 6th Street, Suite 210

Austin, TX 78703

Reference: Eurofins Xenco, LLC Report No(s): **685452**

**WDDU 88**

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) 685452. 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. 685452 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,

A handwritten signature in black ink that reads 'Sachin Kudchadkar'.

**Sachin Kudchadkar**

Project Manager

*A Small Business and Minority Company*

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



# Sample Cross Reference 685452

Arcadis U.S., Inc, Austin, TX

WDDU 88

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-6-S-0-.5-210120				
SB-7-S-0-.5-210120	S	01.20.2021 10:50		685452-001
SB-8-S-0-.5-210120	S	01.20.2021 11:07		685452-002
SB-8-SD-0-.5-210120	S	01.20.2021 11:20		685452-003
SB-9-S-0-.5-210120	S	01.20.2021 00:00		685452-004
SB-9-S-1-1.25-210120	S	01.20.2021 11:26		685452-005
SB-10-S-0-.5-210120	S	01.20.2021 11:30		685452-006
SB-10-S-1-2-210120	S	01.20.2021 13:08		685452-007
SB-10-S-1-2-210120	S	01.20.2021 13:14		685452-008
SB-11-S-0-.5-210120	S	01.20.2021 13:40		685452-009



## CASE NARRATIVE SUMMARY

**Client Name:** *Arcadis U.S., Inc*

**Project Name:** *WDDU 88*

**Project ID:** *30065078-0002B*

**Report Date:** *02.11.2021*

**Work Order Number:** *685452*

**Date Received:** *01.20.2021*

---

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.

A handwritten signature in black ink that reads "Sachin Kudchadkar".

---

Sachin Kudchadkar  
Project Manager



# Certificate of Analytical Results

## 685452

**Arcadis U.S., Inc, Austin, TX**  
WDDU 88

Sample Id: <b>SB-6-S-0-5-210120</b>	Matrix: Solid	Sample Depth:
Lab Sample Id: 685452-001	Date Collected: 01.20.2021 10:50	Date Received: 01.20.2021 16:30
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Analyst: CHE	% Moist:	
Seq Number: 3148563	Date Prep: 01.21.2021 13:20	Tech: CHE
	Prep seq: 7719688	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1180	5.04	0.865	mg/kg	01.21.2021 16:45		1

Analytical Method: TPH By SW8015 Mod	Prep Method: 8015
Analyst: ARM	% Moist:
Seq Number: 3148634	Date Prep: 01.21.2021 11:00
	Prep seq: 7719782
	Tech: ARM

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	49.9	15.0	mg/kg	01.21.2021 20:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	198	49.9	15.0	mg/kg	01.21.2021 20:15		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	81.1	49.9	15.0	mg/kg	01.21.2021 20:15		1
Total TPH	PHC635	279		15.0	mg/kg	01.21.2021 20:15		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	120	70 - 130	%		
o-Terphenyl	151	70 - 130	%		**

Analytical Method: BTEX by EPA 8021B	Prep Method: 5035A
Analyst: KTL	% Moist:
Seq Number: 3148612	Date Prep: 01.21.2021 17:15
	Prep seq: 7719781
	Tech: KTL

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000381	0.00198	0.000381	mg/kg	01.22.2021 10:26	U	1
Toluene	108-88-3	<0.000451	0.00198	0.000451	mg/kg	01.22.2021 10:26	U	1
Ethylbenzene	100-41-4	<0.000559	0.00198	0.000559	mg/kg	01.22.2021 10:26	U	1
m,p-Xylenes	179601-23-1	<0.00100	0.00396	0.00100	mg/kg	01.22.2021 10:26	U	1
o-Xylene	95-47-6	<0.000341	0.00198	0.000341	mg/kg	01.22.2021 10:26	U	1
Total Xylenes	1330-20-7	<0.000341		0.000341	mg/kg	01.22.2021 10:26	U	
Total BTEX		<0.000341		0.000341	mg/kg	01.22.2021 10:26	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	112	70 - 130	%		
4-Bromofluorobenzene	115	70 - 130	%		



## Certificate of Analytical Results

685452

Arcadis U.S., Inc, Austin, TX

WDDU 88

Sample Id: SB-7-S-0-5-210120

Matrix: Solid

Sample Depth:

Lab Sample Id: 685452-002

Date Collected: 01.20.2021 11:07

Date Received: 01.20.2021 16:30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Seq Number: 3148563

Date Prep: 01.21.2021 13:20

Tech: CHE

Prep seq: 7719688

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	483	50.4	8.65	mg/kg	01.21.2021 16:50		10

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Seq Number: 3148634

Date Prep: 01.21.2021 11:00

Tech: ARM

Prep seq: 7719782

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	01.21.2021 20:37	U	1
Diesel Range Organics (DRO)	C10C28DRO	35.4	50.0	15.0	mg/kg	01.21.2021 20:37	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	15.7	50.0	15.0	mg/kg	01.21.2021 20:37	J	1
Total TPH	PHC635	51.1		15.0	mg/kg	01.21.2021 20:37		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	103	70 - 130	%		
o-Terphenyl	121	70 - 130	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5035A

Analyst: KTL

% Moist:

Seq Number: 3148612

Date Prep: 01.21.2021 17:15

Tech: KTL

Prep seq: 7719781

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	01.22.2021 10:46	U	1
Toluene	108-88-3	<0.000453	0.00199	0.000453	mg/kg	01.22.2021 10:46	U	1
Ethylbenzene	100-41-4	<0.000561	0.00199	0.000561	mg/kg	01.22.2021 10:46	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	01.22.2021 10:46	U	1
o-Xylene	95-47-6	<0.000342	0.00199	0.000342	mg/kg	01.22.2021 10:46	U	1
Total Xylenes	1330-20-7	<0.000342		0.000342	mg/kg	01.22.2021 10:46	U	
Total BTEX		<0.000342		0.000342	mg/kg	01.22.2021 10:46	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	108	70 - 130	%		
4-Bromofluorobenzene	117	70 - 130	%		



## Certificate of Analytical Results

685452

Arcadis U.S., Inc, Austin, TX

WDDU 88

Sample Id: SB-8-S-0-5-210120

Matrix: Solid

Sample Depth:

Lab Sample Id: 685452-003

Date Collected: 01.20.2021 11:20

Date Received: 01.20.2021 16:30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Seq Number: 3148563

Date Prep: 01.21.2021 13:20

Tech: CHE

Prep seq: 7719688

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	93.7	4.98	0.855	mg/kg	01.21.2021 16:55		1

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Seq Number: 3148634

Date Prep: 01.21.2021 11:00

Tech: ARM

Prep seq: 7719782

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	01.21.2021 20:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	30.9	50.0	15.0	mg/kg	01.21.2021 20:59	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	01.21.2021 20:59	U	1
Total TPH	PHC635	30.9		15.0	mg/kg	01.21.2021 20:59	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	98	70 - 130	%		
o-Terphenyl	120	70 - 130	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5035A

Analyst: KTL

% Moist:

Seq Number: 3148612

Date Prep: 01.21.2021 17:15

Tech: KTL

Prep seq: 7719781

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000382	0.00198	0.000382	mg/kg	01.22.2021 12:12	U	1
Toluene	108-88-3	<0.000452	0.00198	0.000452	mg/kg	01.22.2021 12:12	U	1
Ethylbenzene	100-41-4	<0.000560	0.00198	0.000560	mg/kg	01.22.2021 12:12	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00397	0.00101	mg/kg	01.22.2021 12:12	U	1
o-Xylene	95-47-6	<0.000342	0.00198	0.000342	mg/kg	01.22.2021 12:12	U	1
Total Xylenes	1330-20-7	<0.000342		0.000342	mg/kg	01.22.2021 12:12	U	
Total BTEX		<0.000342		0.000342	mg/kg	01.22.2021 12:12	U	

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



# Certificate of Analytical Results

685452

Arcadis U.S., Inc, Austin, TX

WDDU 88

Sample Id: **SB-8-SD-0-.5-210120**

Matrix: Solid

Sample Depth:

Lab Sample Id: 685452-004

Date Collected: 01.20.2021 00:00

Date Received: 01.20.2021 16:30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Seq Number: 3148563

Date Prep: 01.21.2021 13:20

Tech: CHE

Prep seq: 7719688

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	91.8	4.96	0.852	mg/kg	01.21.2021 17:00		1

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Seq Number: 3148635

Date Prep: 01.21.2021 17:00

Tech: ARM

Prep seq: 7719785

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	49.9	15.0	mg/kg	01.22.2021 03:53	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>41.9</b>	49.9	15.0	mg/kg	01.22.2021 03:53	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	49.9	15.0	mg/kg	01.22.2021 03:53	U	1
<b>Total TPH</b>	PHC635	<b>41.9</b>		15.0	mg/kg	01.22.2021 03:53	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	103	70 - 130	%		
o-Terphenyl	130	70 - 130	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5035A

Analyst: KTL

% Moist:

Seq Number: 3148612

Date Prep: 01.21.2021 17:15

Tech: KTL

Prep seq: 7719781

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000384	0.00200	0.000384	mg/kg	01.22.2021 12:33	U	1
Toluene	108-88-3	<0.000455	0.00200	0.000455	mg/kg	01.22.2021 12:33	U	1
Ethylbenzene	100-41-4	<0.000564	0.00200	0.000564	mg/kg	01.22.2021 12:33	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00399	0.00101	mg/kg	01.22.2021 12:33	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	01.22.2021 12:33	U	1
Total Xylenes	1330-20-7	<0.000344		0.000344	mg/kg	01.22.2021 12:33	U	
Total BTEX		<0.000344		0.000344	mg/kg	01.22.2021 12:33	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	111	70 - 130	%		
4-Bromofluorobenzene	116	70 - 130	%		





# Certificate of Analytical Results

685452

Arcadis U.S., Inc, Austin, TX

WDDU 88

Sample Id: **SB-9-S-0-5-210120**

Matrix: Solid

Sample Depth:

Lab Sample Id: 685452-005

Date Collected: 01.20.2021 11:26

Date Received: 01.20.2021 16:30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Seq Number: 3148563

Date Prep: 01.21.2021 13:20

Tech: CHE

Prep seq: 7719688

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	936	25.1	4.30	mg/kg	01.21.2021 17:16		5

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Seq Number: 3148635

Date Prep: 01.21.2021 17:00

Tech: ARM

Prep seq: 7719785

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	49.8	14.9	mg/kg	01.22.2021 04:15	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>31.7</b>	49.8	14.9	mg/kg	01.22.2021 04:15	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	49.8	14.9	mg/kg	01.22.2021 04:15	U	1
<b>Total TPH</b>	PHC635	<b>31.7</b>		14.9	mg/kg	01.22.2021 04:15	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	101	70 - 130	%		
o-Terphenyl	129	70 - 130	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5035A

Analyst: KTL

% Moist:

Seq Number: 3148612

Date Prep: 01.21.2021 17:15

Tech: KTL

Prep seq: 7719781

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000384	0.00200	0.000384	mg/kg	01.22.2021 12:54	U	1
Toluene	108-88-3	<0.000455	0.00200	0.000455	mg/kg	01.22.2021 12:54	U	1
Ethylbenzene	100-41-4	<0.000564	0.00200	0.000564	mg/kg	01.22.2021 12:54	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00399	0.00101	mg/kg	01.22.2021 12:54	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	01.22.2021 12:54	U	1
Total Xylenes	1330-20-7	<0.000344		0.000344	mg/kg	01.22.2021 12:54	U	
Total BTEX		<0.000344		0.000344	mg/kg	01.22.2021 12:54	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	108	70 - 130	%		
4-Bromofluorobenzene	117	70 - 130	%		



# Certificate of Analytical Results

685452

Arcadis U.S., Inc, Austin, TX

WDDU 88

Sample Id: SB-9-S-1-1.25-210120

Matrix: Solid

Sample Depth:

Lab Sample Id: 685452-006

Date Collected: 01.20.2021 11:30

Date Received: 01.20.2021 16:30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Seq Number: 3148563

Date Prep: 01.21.2021 13:20

Tech: CHE

Prep seq: 7719688

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	95.6	50.4	8.65	mg/kg	01.21.2021 17:21		10

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Seq Number: 3148635

Date Prep: 01.21.2021 17:00

Tech: ARM

Prep seq: 7719785

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	33.7	50.0	15.0	mg/kg	01.22.2021 04:36	J	1
Diesel Range Organics (DRO)	C10C28DRO	53.1	50.0	15.0	mg/kg	01.22.2021 04:36		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	16.2	50.0	15.0	mg/kg	01.22.2021 04:36	J	1
Total TPH	PHC635	103		15.0	mg/kg	01.22.2021 04:36		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	105	70 - 130	%		
o-Terphenyl	129	70 - 130	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5035A

Analyst: KTL

% Moist:

Seq Number: 3148612

Date Prep: 01.21.2021 17:15

Tech: KTL

Prep seq: 7719781

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000387	0.00201	0.000387	mg/kg	01.22.2021 13:14	U	1
Toluene	108-88-3	<0.000458	0.00201	0.000458	mg/kg	01.22.2021 13:14	U	1
Ethylbenzene	100-41-4	<0.000568	0.00201	0.000568	mg/kg	01.22.2021 13:14	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	01.22.2021 13:14	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	01.22.2021 13:14	U	1
Total Xylenes	1330-20-7	<0.000346		0.000346	mg/kg	01.22.2021 13:14	U	
Total BTEX		<0.000346		0.000346	mg/kg	01.22.2021 13:14	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	112	70 - 130	%		
4-Bromofluorobenzene	115	70 - 130	%		



# Certificate of Analytical Results

## 685452

**Arcadis U.S., Inc, Austin, TX**  
WDDU 88

Sample Id: <b>SB-10-S-0-5-210120</b>	Matrix: Solid	Sample Depth:
Lab Sample Id: 685452-007	Date Collected: 01.20.2021 13:08	Date Received: 01.20.2021 16:30
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Analyst: CHE	% Moist:	
Seq Number: 3148563	Date Prep: 01.21.2021 13:20	Tech: CHE
	Prep seq: 7719688	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
<b>Chloride</b>	16887-00-6	<b>4180</b>	100	17.2	mg/kg	01.21.2021 17:36		20

Analytical Method: TPH By SW8015 Mod	Prep Method: 8015
Analyst: ARM	% Moist:
Seq Number: 3148635	Date Prep: 01.21.2021 17:00
	Prep seq: 7719785
	Tech: ARM

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	49.9	15.0	mg/kg	01.22.2021 04:58	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>59.6</b>	49.9	15.0	mg/kg	01.22.2021 04:58		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<b>18.8</b>	49.9	15.0	mg/kg	01.22.2021 04:58	J	1
<b>Total TPH</b>	PHC635	<b>78.4</b>		15.0	mg/kg	01.22.2021 04:58		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	102	70 - 130	%		
o-Terphenyl	128	70 - 130	%		

Analytical Method: BTEX by EPA 8021B	Prep Method: 5035A
Analyst: KTL	% Moist:
Seq Number: 3148612	Date Prep: 01.21.2021 17:15
	Prep seq: 7719781
	Tech: KTL

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	01.22.2021 13:35	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	01.22.2021 13:35	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	01.22.2021 13:35	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	01.22.2021 13:35	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	01.22.2021 13:35	U	1
Total Xylenes	1330-20-7	<0.000344		0.000344	mg/kg	01.22.2021 13:35	U	
Total BTEX		<0.000344		0.000344	mg/kg	01.22.2021 13:35	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	111	70 - 130	%		
4-Bromofluorobenzene	118	70 - 130	%		



## Certificate of Analytical Results

685452

Arcadis U.S., Inc, Austin, TX

WDDU 88

Sample Id: SB-10-S-1-2-210120

Matrix: Solid

Sample Depth:

Lab Sample Id: 685452-008

Date Collected: 01.20.2021 13:14

Date Received: 01.20.2021 16:30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Seq Number: 3148563

Date Prep: 01.21.2021 13:20

Tech: CHE

Prep seq: 7719688

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	850	50.0	8.58	mg/kg	01.21.2021 17:42		10

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Seq Number: 3148635

Date Prep: 01.21.2021 17:00

Tech: ARM

Prep seq: 7719785

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	49.8	14.9	mg/kg	01.22.2021 05:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	93.8	49.8	14.9	mg/kg	01.22.2021 05:20		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	32.3	49.8	14.9	mg/kg	01.22.2021 05:20	J	1
Total TPH	PHC635	126		14.9	mg/kg	01.22.2021 05:20		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	98	70 - 130	%		
o-Terphenyl	119	70 - 130	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5035A

Analyst: KTL

% Moist:

Seq Number: 3148612

Date Prep: 01.21.2021 17:15

Tech: KTL

Prep seq: 7719781

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	01.22.2021 13:56	U	1
Toluene	108-88-3	<0.000454	0.00199	0.000454	mg/kg	01.22.2021 13:56	U	1
Ethylbenzene	100-41-4	<0.000563	0.00199	0.000563	mg/kg	01.22.2021 13:56	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	01.22.2021 13:56	U	1
o-Xylene	95-47-6	<0.000343	0.00199	0.000343	mg/kg	01.22.2021 13:56	U	1
Total Xylenes	1330-20-7	<0.000343		0.000343	mg/kg	01.22.2021 13:56	U	
Total BTEX		<0.000343		0.000343	mg/kg	01.22.2021 13:56	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	112	70 - 130	%		
4-Bromofluorobenzene	117	70 - 130	%		



# Certificate of Analytical Results

685452

Arcadis U.S., Inc, Austin, TX

WDDU 88

Sample Id: **SB-11-S-0-5-210120**

Matrix: Solid

Sample Depth:

Lab Sample Id: 685452-009

Date Collected: 01.20.2021 13:40

Date Received: 01.20.2021 16:30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Analyst: CHE

% Moist:

Seq Number: 3148563

Date Prep: 01.21.2021 13:20

Tech: CHE

Prep seq: 7719688

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	22.8	4.95	0.850	mg/kg	01.21.2021 17:47		1

Analytical Method: TPH By SW8015 Mod

Prep Method: 8015

Analyst: ARM

% Moist:

Seq Number: 3148635

Date Prep: 01.21.2021 17:00

Tech: ARM

Prep seq: 7719785

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	49.9	15.0	mg/kg	01.22.2021 05:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	469	49.9	15.0	mg/kg	01.22.2021 05:42		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	192	49.9	15.0	mg/kg	01.22.2021 05:42		1
Total TPH	PHC635	661		15.0	mg/kg	01.22.2021 05:42		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	107	70 - 130	%		
o-Terphenyl	120	70 - 130	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5035A

Analyst: KTL

% Moist:

Seq Number: 3148612

Date Prep: 01.21.2021 17:15

Tech: KTL

Prep seq: 7719781

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000388	0.00202	0.000388	mg/kg	01.22.2021 14:17	U	1
Toluene	108-88-3	<0.000459	0.00202	0.000459	mg/kg	01.22.2021 14:17	U	1
Ethylbenzene	100-41-4	<0.000569	0.00202	0.000569	mg/kg	01.22.2021 14:17	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00403	0.00102	mg/kg	01.22.2021 14:17	U	1
o-Xylene	95-47-6	<0.000347	0.00202	0.000347	mg/kg	01.22.2021 14:17	U	1
Total Xylenes	1330-20-7	<0.000347		0.000347	mg/kg	01.22.2021 14:17	U	
Total BTEX		<0.000347		0.000347	mg/kg	01.22.2021 14:17	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	110	70 - 130	%		
4-Bromofluorobenzene	116	70 - 130	%		



# Certificate of Analytical Results

685452

Arcadis U.S., Inc, Austin, TX

WDDU 88

Sample Id: 7719688-1-BLK Matrix: Solid Sample Depth:  
 Lab Sample Id: 7719688-1-BLK Date Collected: Date Received:  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Analyst: CHE % Moist:  
 Seq Number: 3148563 Date Prep: 01.21.2021 13:20 Tech: CHE  
 Prep seq: 7719688

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<0.858	5.00	0.858	mg/kg	01.21.2021 15:32	U	1

Sample Id: 7719781-1-BLK Matrix: Solid Sample Depth:  
 Lab Sample Id: 7719781-1-BLK Date Collected: Date Received:  
 Analytical Method: BTEX by EPA 8021B Prep Method: 5035A  
 Analyst: KTL % Moist:  
 Seq Number: 3148612 Date Prep: 01.21.2021 17:15 Tech: KTL  
 Prep seq: 7719781

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	01.22.2021 07:18	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	01.22.2021 07:18	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	01.22.2021 07:18	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	01.22.2021 07:18	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	01.22.2021 07:18	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	96	70 - 130	%		
4-Bromofluorobenzene	134	70 - 130	%		**



# Certificate of Analytical Results

## 685452

**Arcadis U.S., Inc, Austin, TX**  
WDDU 88

Sample Id: <b>7719782-1-BLK</b>	Matrix: Solid	Sample Depth:
Lab Sample Id: 7719782-1-BLK	Date Collected:	Date Received:
Analytical Method: TPH By SW8015 Mod		Prep Method: 8015
Analyst: ARM	% Moist:	
Seq Number: 3148634	Date Prep: 01.21.2021 11:00	Tech: ARM
	Prep seq: 7719782	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	01.21.2021 11:52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	01.21.2021 11:52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	01.21.2021 11:52	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	96	70 - 130	%		
o-Terphenyl	113	70 - 130	%		

Sample Id: <b>7719785-1-BLK</b>	Matrix: Solid	Sample Depth:
Lab Sample Id: 7719785-1-BLK	Date Collected:	Date Received:
Analytical Method: TPH By SW8015 Mod		Prep Method: 8015
Analyst: ARM	% Moist:	
Seq Number: 3148635	Date Prep: 01.21.2021 17:00	Tech: ARM
	Prep seq: 7719785	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	01.21.2021 21:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	01.21.2021 21:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	01.21.2021 21:42	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	111	70 - 130	%		
o-Terphenyl	139	70 - 130	%		**



**CHRONOLOGY OF HOLDING TIMES**

Analytical Method : Chloride by EPA 300  
 Work Order #: **685452**  
 Date Received: 01.20.2021

Client : Arcadis U.S., Inc  
 Project ID: 30065078-0002B

Field Sample ID	Lab Sample ID	Date Collected	Date Extracted	Expiration Date Extraction	Date Analyzed	Expiration Date Analysis	Q
SB-6-S-0-.5-210120	685452-001	01.20.2021	01.21.2021	02.17.2021	01.21.2021	02.18.2021	
SB-7-S-0-.5-210120	685452-002	01.20.2021	01.21.2021	02.17.2021	01.21.2021	02.18.2021	
SB-8-S-0-.5-210120	685452-003	01.20.2021	01.21.2021	02.17.2021	01.21.2021	02.18.2021	
SB-8-SD-0-.5-210120	685452-004	01.20.2021	01.21.2021	02.17.2021	01.21.2021	02.18.2021	
SB-9-S-0-.5-210120	685452-005	01.20.2021	01.21.2021	02.17.2021	01.21.2021	02.18.2021	
SB-9-S-1-1.5-210120	685452-006	01.20.2021	01.21.2021	02.17.2021	01.21.2021	02.18.2021	
SB-10-S-0-.5-210120	685452-007	01.20.2021	01.21.2021	02.17.2021	01.21.2021	02.18.2021	
SB-10-S-1-2-210120	685452-008	01.20.2021	01.21.2021	02.17.2021	01.21.2021	02.18.2021	
SB-11-S-0-.5-210120	685452-009	01.20.2021	01.21.2021	02.17.2021	01.21.2021	02.18.2021	

F = These samples were analyzed outside the recommended holding time.





**CHRONOLOGY OF HOLDING TIMES**

Analytical Method : TPH By SW8015 Mod  
 Work Order #: **685452**  
 Date Received: 01.20.2021

Client : Arcadis U.S., Inc  
 Project ID: 30065078-0002B

Field Sample ID	Lab Sample ID	Date Collected	Date Extracted	Expiration Date Extraction	Date Analyzed	Expiration Date Analysis	Q
SB-6-S-0-.5-210120	685452-001	01.20.2021	01.21.2021	02.03.2021	01.21.2021	02.04.2021	
SB-7-S-0-.5-210120	685452-002	01.20.2021	01.21.2021	02.03.2021	01.21.2021	02.04.2021	
SB-8-S-0-.5-210120	685452-003	01.20.2021	01.21.2021	02.03.2021	01.21.2021	02.04.2021	
SB-8-SD-0-.5-210120	685452-004	01.20.2021	01.21.2021	02.03.2021	01.22.2021	02.04.2021	
SB-9-S-0-.5-210120	685452-005	01.20.2021	01.21.2021	02.03.2021	01.22.2021	02.04.2021	
SB-9-S-1-1.5-210120	685452-006	01.20.2021	01.21.2021	02.03.2021	01.22.2021	02.04.2021	
SB-10-S-0-.5-210120	685452-007	01.20.2021	01.21.2021	02.03.2021	01.22.2021	02.04.2021	
SB-10-S-1-2-210120	685452-008	01.20.2021	01.21.2021	02.03.2021	01.22.2021	02.04.2021	
SB-11-S-0-.5-210120	685452-009	01.20.2021	01.21.2021	02.03.2021	01.22.2021	02.04.2021	

F = These samples were analyzed outside the recommended holding time.



**CHRONOLOGY OF HOLDING TIMES**

Analytical Method : BTEX by EPA 8021B  
 Work Order #: **685452**  
 Date Received: 01.20.2021

Client : Arcadis U.S., Inc  
 Project ID: 30065078-0002B

Field Sample ID	Lab Sample ID	Date Collected	Date Extracted	Expiration Date Extraction	Date Analyzed	Expiration Date Analysis	Q
SB-6-S-0-.5-210120	685452-001	01.20.2021			01.22.2021	02.03.2021	
SB-7-S-0-.5-210120	685452-002	01.20.2021			01.22.2021	02.03.2021	
SB-8-S-0-.5-210120	685452-003	01.20.2021			01.22.2021	02.03.2021	
SB-8-SD-0-.5-210120	685452-004	01.20.2021			01.22.2021	02.03.2021	
SB-9-S-0-.5-210120	685452-005	01.20.2021			01.22.2021	02.03.2021	
SB-9-S-1-1.5-210120	685452-006	01.20.2021			01.22.2021	02.03.2021	
SB-10-S-0-.5-210120	685452-007	01.20.2021			01.22.2021	02.03.2021	
SB-10-S-1-2-210120	685452-008	01.20.2021			01.22.2021	02.03.2021	
SB-11-S-0-.5-210120	685452-009	01.20.2021			01.22.2021	02.03.2021	

F = These samples were analyzed outside the recommended holding time.



# 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



Analytical Log

Analytical Method:	<u>Chloride by EPA 300</u>	Batch #:	<u>3148563</u>
Project Name:	<u>WDDU 88</u>	Project ID:	<u>30065078-0002B</u>
Client Name:	<u>Arcadis U.S., Inc</u>	WO Number:	<u>685452</u>

<b>Client Sample Id</b>	<b>Lab Sample Id</b>	<b>QC Types</b>
<u>SB-10-S-0-.5-210120</u>	<u>685452-007</u>	<u>SMP</u>
<u>SB-10-S-1-2-210120</u>	<u>685452-008</u>	<u>SMP</u>
<u>SB-11-S-0-.5-210120</u>	<u>685452-009</u>	<u>SMP</u>
<u>SB-6-S-0-.5-210120</u>	<u>685452-001</u>	<u>SMP</u>
<u>SB-7-S-0-.5-210120</u>	<u>685452-002</u>	<u>SMP</u>
<u>SB-8-S-0-.5-210120</u>	<u>685452-003</u>	<u>SMP</u>
<u>SB-8-SD-0-.5-210120</u>	<u>685452-004</u>	<u>SMP</u>
<u>SB-9-S-0-.5-210120</u>	<u>685452-005</u>	<u>SMP</u>
<u>SB-9-S-1-1.5-210120</u>	<u>685452-006</u>	<u>SMP</u>
<u> </u>	<u>685451-007 S</u>	<u>MS</u>
<u> </u>	<u>685451-007 SD</u>	<u>MSD</u>
<u> </u>	<u>685452-004 S</u>	<u>MS</u>
<u> </u>	<u>685452-004 SD</u>	<u>MSD</u>
<u> </u>	<u>7719688-1-BKS</u>	<u>BKS</u>
<u> </u>	<u>7719688-1-BLK</u>	<u>BLK</u>
<u> </u>	<u>7719688-1-BSD</u>	<u>BSD</u>



Analytical Log

Analytical Method:	<u>BTEX by EPA 8021B</u>	Batch #:	<u>3148612</u>
Project Name:	<u>WDDU 88</u>	Project ID:	<u>30065078-0002B</u>
Client Name:	<u>Arcadis U.S., Inc</u>	WO Number:	<u>685452</u>

<b>Client Sample Id</b>	<b>Lab Sample Id</b>	<b>QC Types</b>
<u>SB-10-S-0-.5-210120</u>	<u>685452-007</u>	<u>SMP</u>
<u>SB-10-S-1-2-210120</u>	<u>685452-008</u>	<u>SMP</u>
<u>SB-11-S-0-.5-210120</u>	<u>685452-009</u>	<u>SMP</u>
<u>SB-6-S-0-.5-210120</u>	<u>685452-001</u>	<u>SMP</u>
<u>SB-7-S-0-.5-210120</u>	<u>685452-002</u>	<u>SMP</u>
<u>SB-8-S-0-.5-210120</u>	<u>685452-003</u>	<u>SMP</u>
<u>SB-8-SD-0-.5-210120</u>	<u>685452-004</u>	<u>SMP</u>
<u>SB-9-S-0-.5-210120</u>	<u>685452-005</u>	<u>SMP</u>
<u>SB-9-S-1-1.5-210120</u>	<u>685452-006</u>	<u>SMP</u>
<u> </u>	<u>685451-007 S</u>	<u>MS</u>
<u> </u>	<u>685451-007 SD</u>	<u>MSD</u>
<u> </u>	<u>7719781-1-BKS</u>	<u>BKS</u>
<u> </u>	<u>7719781-1-BLK</u>	<u>BLK</u>
<u> </u>	<u>7719781-1-BSD</u>	<u>BSD</u>



Analytical Log

Analytical Method:	<u>TPH By SW8015 Mod</u>	Batch #:	<u>3148634</u>
Project Name:	<u>WDDU 88</u>	Project ID:	<u>30065078-0002B</u>
Client Name:	<u>Arcadis U.S., Inc</u>	WO Number:	<u>685452</u>

<b>Client Sample Id</b>	<b>Lab Sample Id</b>	<b>QC Types</b>
<u>SB-6-S-0-.5-210120</u>	<u>685452-001</u>	<u>SMP</u>
<u>SB-7-S-0-.5-210120</u>	<u>685452-002</u>	<u>SMP</u>
<u>SB-8-S-0-.5-210120</u>	<u>685452-003</u>	<u>SMP</u>
<u> </u>	<u>685477-001 S</u>	<u>MS</u>
<u> </u>	<u>685477-001 SD</u>	<u>MSD</u>
<u> </u>	<u>7719782-1-BKS</u>	<u>BKS</u>
<u> </u>	<u>7719782-1-BLK</u>	<u>BLK</u>
<u> </u>	<u>7719782-1-BSD</u>	<u>BSD</u>



Analytical Log

Analytical Method: TPH By SW8015 Mod  
 Project Name: WDDU 88  
 Client Name: Arcadis U.S., Inc

Batch #: 3148635  
 Project ID: 30065078-0002B  
 WO Number: 685452

Client Sample Id	Lab Sample Id	QC Types
SB-10-S-0-.5-210120	685452-007	SMP
SB-10-S-1-2-210120	685452-008	SMP
SB-11-S-0-.5-210120	685452-009	SMP
SB-8-SD-0-.5-210120	685452-004	SMP
SB-9-S-0-.5-210120	685452-005	SMP
SB-9-S-1-1.5-210120	685452-006	SMP
	685450-001 S	MS
	685450-001 SD	MSD
	7719785-1-BKS	BKS
	7719785-1-BLK	BLK
	7719785-1-BSD	BSD



## Form 2 - Surrogate Recoveries

Project Name: WDDU 88

Report Date: 02112021

Work Orders : 685452

Project ID: 30065078-0002B

Lab Batch #: 3148612

Sample: 7719781-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01.22.2021 05:16

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0307	0.0300	102	70-130	
4-Bromofluorobenzene	0.0310	0.0300	103	70-130	

Lab Batch #: 3148612

Sample: 7719781-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01.22.2021 05:37

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0311	0.0300	104	70-130	
4-Bromofluorobenzene	0.0301	0.0300	100	70-130	

Lab Batch #: 3148612

Sample: 685451-007 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01.22.2021 05:57

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0322	0.0300	107	70-130	
4-Bromofluorobenzene	0.0349	0.0300	116	70-130	

Lab Batch #: 3148612

Sample: 685451-007 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01.22.2021 06:18

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0322	0.0300	107	70-130	
4-Bromofluorobenzene	0.0354	0.0300	118	70-130	

Lab Batch #: 3148612

Sample: 7719781-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01.22.2021 07:18

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0288	0.0300	96	70-130	
4-Bromofluorobenzene	0.0402	0.0300	134	70-130	**

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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





## Form 2 - Surrogate Recoveries

Project Name: WDDU 88

Report Date: 02112021

Work Orders : 685452

Project ID: 30065078-0002B

Lab Batch #: 3148634

Sample: 7719782-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01.21.2021 11:52

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.6	100	96	70-130	
o-Terphenyl	56.3	50.0	113	70-130	

Lab Batch #: 3148634

Sample: 7719782-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01.21.2021 12:14

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-130	
o-Terphenyl	62.0	50.0	124	70-130	

Lab Batch #: 3148634

Sample: 7719782-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01.21.2021 12:35

### 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	64.9	50.0	130	70-130	

Lab Batch #: 3148634

Sample: 685477-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01.21.2021 13:19

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	99.7	111	70-130	
o-Terphenyl	57.9	49.9	116	70-130	

Lab Batch #: 3148634

Sample: 685477-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01.21.2021 13:41

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	99.6	110	70-130	
o-Terphenyl	58.7	49.8	118	70-130	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: WDDU 88

Report Date: 02112021

Work Orders : 685452

Project ID: 30065078-0002B

Lab Batch #: 3148635

Sample: 7719785-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01.21.2021 21:42

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-130	
o-Terphenyl	69.3	50.0	139	70-130	**

Lab Batch #: 3148635

Sample: 7719785-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01.21.2021 22:04

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	100	116	70-130	
o-Terphenyl	62.4	50.0	125	70-130	

Lab Batch #: 3148635

Sample: 7719785-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01.21.2021 22:26

### 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	63.6	50.0	127	70-130	

Lab Batch #: 3148635

Sample: 685450-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01.21.2021 23:10

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	99.8	106	70-130	
o-Terphenyl	58.0	49.9	116	70-130	

Lab Batch #: 3148635

Sample: 685450-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01.21.2021 23:32

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	99.7	110	70-130	
o-Terphenyl	59.0	49.9	118	70-130	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



Arcadis U.S., Inc  
WDDU 88

Analytical Method: Chloride by EPA 300

Seq Number: 3148563  
MB Sample Id: 7719688-1-BLK

Matrix: Solid  
LCS Sample Id: 7719688-1-BKS

Prep Method: E300P  
Date Prep: 01.21.2021  
LCSD Sample Id: 7719688-1-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	263	105	263	105	90-110	0	20	mg/kg	01.21.2021 15:37	

Analytical Method: Chloride by EPA 300

Seq Number: 3148563  
Parent Sample Id: 685451-007

Matrix: Soil  
MS Sample Id: 685451-007 S

Prep Method: E300P  
Date Prep: 01.21.2021  
MSD Sample Id: 685451-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.857	250	268	107	268	107	90-110	0	20	mg/kg	01.21.2021 15:53	

Analytical Method: Chloride by EPA 300

Seq Number: 3148563  
Parent Sample Id: 685452-004

Matrix: Solid  
MS Sample Id: 685452-004 S

Prep Method: E300P  
Date Prep: 01.21.2021  
MSD Sample Id: 685452-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	91.8	248	352	105	351	105	90-110	0	20	mg/kg	01.21.2021 17:05	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3148634  
MB Sample Id: 7719782-1-BLK

Matrix: Solid  
LCS Sample Id: 7719782-1-BKS

Prep Method: SW8015P  
Date Prep: 01.21.2021  
LCSD Sample Id: 7719782-1-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	1070	107	1120	112	70-130	5	20	mg/kg	01.21.2021 12:14	
Diesel Range Organics (DRO)	<15.0	1000	1150	115	1140	114	70-130	1	20	mg/kg	01.21.2021 12:14	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	96		111		119		70-130	%	01.21.2021 12:14
o-Terphenyl	113		124		130		70-130	%	01.21.2021 12:14

Analytical Method: TPH By SW8015 Mod

Seq Number: 3148635  
MB Sample Id: 7719785-1-BLK

Matrix: Solid  
LCS Sample Id: 7719785-1-BKS

Prep Method: SW8015P  
Date Prep: 01.21.2021  
LCSD Sample Id: 7719785-1-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	1130	113	1110	111	70-130	2	20	mg/kg	01.21.2021 22:04	
Diesel Range Organics (DRO)	<15.0	1000	1160	116	1170	117	70-130	1	20	mg/kg	01.21.2021 22:04	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	111		116		114		70-130	%	01.21.2021 22:04
o-Terphenyl	139	**	125		127		70-130	%	01.21.2021 22:04

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

[D] = 100\*(C-A) / B  
RPD = 200\* |(C-E) / (C+E)|  
[D] = 100 \* (C) / [B]  
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



Arcadis U.S., Inc  
WDDU 88

Analytical Method: TPH By SW8015 Mod  
Seq Number: 3148634

Matrix: Solid  
MB Sample Id: 7719782-1-BLK

Prep Method: SW8015P  
Date Prep: 01.21.2021

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<15.0	mg/kg	01.21.2021 11:52	

Analytical Method: TPH By SW8015 Mod  
Seq Number: 3148635

Matrix: Solid  
MB Sample Id: 7719785-1-BLK

Prep Method: SW8015P  
Date Prep: 01.21.2021

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<15.0	mg/kg	01.21.2021 21:42	

Analytical Method: TPH By SW8015 Mod  
Seq Number: 3148634  
Parent Sample Id: 685477-001

Matrix: Soil  
MS Sample Id: 685477-001 S

Prep Method: SW8015P  
Date Prep: 01.21.2021  
MSD Sample Id: 685477-001 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)	97.1	997	1050	96	1080	99	70-130	3	20	mg/kg	01.21.2021 13:19	
Diesel Range Organics (DRO)	364	997	1350	99	1370	101	70-130	1	20	mg/kg	01.21.2021 13:19	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	111		110		70-130	%	01.21.2021 13:19
o-Terphenyl	116		118		70-130	%	01.21.2021 13:19

Analytical Method: TPH By SW8015 Mod  
Seq Number: 3148635  
Parent Sample Id: 685450-001

Matrix: Soil  
MS Sample Id: 685450-001 S

Prep Method: SW8015P  
Date Prep: 01.21.2021  
MSD Sample Id: 685450-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	998	1080	108	1100	110	70-130	2	20	mg/kg	01.21.2021 23:10	
Diesel Range Organics (DRO)	<15.0	998	1090	109	1130	113	70-130	4	20	mg/kg	01.21.2021 23:10	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		110		70-130	%	01.21.2021 23:10
o-Terphenyl	116		118		70-130	%	01.21.2021 23:10

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

$[D] = 100 * (C - A) / B$   
 $RPD = 200 * |(C - E) / (C + E)|$   
 $[D] = 100 * (C) / [B]$   
 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



Arcadis U.S., Inc  
WDDU 88

Analytical Method: BTEX by EPA 8021B

Seq Number: 3148612

MB Sample Id: 7719781-1-BLK

Matrix: Solid

LCS Sample Id: 7719781-1-BKS

Prep Method: SW5035A

Date Prep: 01.21.2021

LCSD Sample Id: 7719781-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.115	115	0.112	112	70-130	3	35	mg/kg	01.22.2021 05:16	
Toluene	<0.000456	0.100	0.111	111	0.108	108	70-130	3	35	mg/kg	01.22.2021 05:16	
Ethylbenzene	<0.000565	0.100	0.114	114	0.107	107	70-130	6	35	mg/kg	01.22.2021 05:16	
m,p-Xylenes	<0.00101	0.200	0.206	103	0.199	100	70-130	3	35	mg/kg	01.22.2021 05:16	
o-Xylene	<0.000344	0.100	0.110	110	0.106	106	70-130	4	35	mg/kg	01.22.2021 05:16	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		102		104		70-130	%	01.22.2021 05:16
4-Bromofluorobenzene	134	**	103		100		70-130	%	01.22.2021 05:16

Analytical Method: BTEX by EPA 8021B

Seq Number: 3148612

Parent Sample Id: 685451-007

Matrix: Soil

MS Sample Id: 685451-007 S

Prep Method: SW5035A

Date Prep: 01.21.2021

MSD Sample Id: 685451-007 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	0.119	120	0.128	128	70-130	7	35	mg/kg	01.22.2021 05:57	
Toluene	<0.000451	0.0990	0.109	110	0.118	118	70-130	8	35	mg/kg	01.22.2021 05:57	
Ethylbenzene	<0.000559	0.0990	0.0982	99	0.108	108	70-130	10	35	mg/kg	01.22.2021 05:57	
m,p-Xylenes	<0.00100	0.198	0.177	89	0.209	105	70-130	17	35	mg/kg	01.22.2021 05:57	
o-Xylene	<0.000341	0.0990	0.103	104	0.118	118	70-130	14	35	mg/kg	01.22.2021 05:57	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		107		70-130	%	01.22.2021 05:57
4-Bromofluorobenzene	116		118		70-130	%	01.22.2021 05:57

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

[D] = 100\*(C-A) / B  
RPD = 200\* |(C-E) / (C+E)|  
[D] = 100 \* (C) / [B]  
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

## Attachment A Laboratory Data Package Cover Page

Project Name: **WDDU 88**Laboratory Number: **685452**This Data package consists of : Laboratory Batch No(s): **7719688, 7719785, 7719782, 7719781**

This signature page, the laboratory review checklist, and the following reportable data:

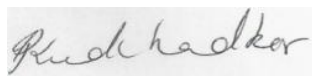
- R1 Field chain-of-custody documentation;
- R2 Sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
- a) Items consistent with NELAC 5
  - b) dilution factors,
  - c) preparation methods,
  - d) cleanup methods, and
  - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate Recovery data including:
- a) Calculated recovery (%R), and
  - b) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
- a) LCS spiking amounts,
  - b) Calculated %R for each analyte, and
  - c) The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
- a) Samples associated with the MS/MSD clearly identified,
  - b) MS/MSD spiking amounts,
  - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
  - d) Calculated %Rs and relative percent differences (RPDs) and
  - e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
- a) the amount of analyte measured in the duplicate,
  - b) the calculated RPD, and
  - c) the laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
- R10 Other problems or anomalies.
- Exception Report for every "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

**Release Statement:** I am responsible for the release of this laboratory data package. 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 in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies, observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

**Check, if applicable:** [ ] This laboratory meets an exception under 30 TAC 25.6 and was last inspection by [ ] TCEQ or [ ] \_\_\_\_\_ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

**Sachin Kudchadkar**

Name (Printed)



Signature

**Project Manager**

Official Title (printed)

**02112021**

Date

A1

1. Items identified by the letter "R" must be included in the laboratory data package submitted to the TCEQ-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report Identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

<b>Attachment A (cont'd): Laboratory Review Checklist: Exception Reports</b>	
Laboratory Name: EUROFINS XENCO, LLC	LRC Date: 02112021
Project Name: WDDU 88	Laboratory Job Number: 685452
Reviewer Name: SGK	Batch Number(s) : 7719688, 7719785, 7719782, 7719781
ER# 1	DESCRIPTION

1 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No is checked on the LRC).





**DCS Summary**

**685452**

**Arcadis U.S., Inc, Austin, TX**  
**WDDU 88**

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

Matrix: **Soil**

Prep Method: **SW5035A**

Laboratory: **Xenco - Midland**

<b>Parameter</b>	<b>SDL</b>	<b>ML</b>	<b>Spike Amount</b>	<b>Actual Amount</b>	<b>Units</b>
Benzene	0.000385	0.00200	0.00100	0.000891	mg/kg
Toluene	0.000456	0.00200	0.00100	0.00121	mg/kg
Ethylbenzene	0.000565	0.00200	0.00100	0.00104	mg/kg
m,p-Xylenes	0.00101	0.00400	0.00200	0.00214	mg/kg
o-Xylene	0.000344	0.00200	0.00100	0.000883	mg/kg

Analytical Method: **Chloride by EPA 300**

Matrix: **Soil**

Prep Method: **E300P**

Laboratory: **Xenco - Midland**

<b>Parameter</b>	<b>SDL</b>	<b>ML</b>	<b>Spike Amount</b>	<b>Actual Amount</b>	<b>Units</b>
Chloride	0.858	5.00	5.00	1.59	mg/kg

**Eurofins Xenco**

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

**Chain of Custody Record**

<b>Client Information</b>		Sampler: <b>J. Steinmann</b>		Lab PM: Kudchadkar, Sachin G		Carrier Tracking No(s):		COC No: 600-23595-8666.1		
Client Contact: Morgan Jordan		Phone: <b>619 851 8792</b>		E-Mail: sachin.kudchadkar@testamericainc.com				Page: <b>1 of 1</b>		
Company: ARCADIS U.S., Inc.								Job #: <b>1085452</b>		
Address: 1717 W 6th Street, Suite 210		Due Date Requested:		<b>Analysis Requested</b> Field Filtered Sample (Yes or No)   Perform MS/MSD (Yes or No)   8015 - GRO/ DRO/ ORO   300 - Chloride   8021 - BTEX		Total Number of containers		Preservation Codes: A - HCL                      M - Hexane B - NaOH                    N - None C - Zn Acetate              O - AsNaO2 D - Nitric Acid              P - Na2O4S E - NaHSO4                  R - Na2SO3 F - MeOH                     S - H2SO4 G - Amchlor                 T - TSP Dodecahydrate H - Ascorbic Acid          U - Acetone I - Ice                          V - MCAA J - DI Water                 W - ph 4-5 K - EDTA                     Z - other (specify) L - EDA		
City: Austin		TAT Requested (days):						Other:		
State, Zip: TX, 78703		PO #:								
Phone: <b>281 644 9437</b>		WO #:								
Email: douglas.jordan@arcadis.com		Project #:								
Project Name: 30065078-0002B		SSOW#:								
Site: <del>WDDU 42</del> WDDU 88										
<b>Sample Identification</b>		<b>Sample Date</b>		<b>Sample Time</b>		<b>Sample Type (C=Comp, G=grab)</b>		<b>Matrix (W=water, S=solid, O=waste/soil, BT=Tissue, A=Air)</b>		
								<b>Preservation Code:</b>		
SB-6-8-0-5-210120		1/20/21		1050		G		Solid		
SB-7-8-0-5-210120				1107				Solid		
SB-8-8-0-5-210120				1120				Solid		
SB-8-SD-0-5-210120				---				Solid		
SB-9-8-0-5-210120				1126				Solid		
SB-9-8-1-1.25-210120				1130				Solid		
SB-10-5-0-5-210120				1308				Solid		
SB-10-5-1-2-210120				1314				Solid		
SB-11-5-0-5-210120				1340				Solid		
		9/20/21						Solid		
								Solid		
<b>Possible Hazard Identification</b>					<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>					
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> 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: <i>[Signature]</i>		Date/Time: 1/20/21 1600		Company: Arcadis		Received by: <i>[Signature]</i>		Date/Time: 1-20-21 1600		Company: Arcadis
Relinquished by: <i>[Signature]</i>		Date/Time: 1-20-21 1630		Company: Arcadis		Received by: <i>[Signature]</i>		Date/Time: 1-20-21 1630		Company:
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: <b>3.9</b>						

Final 1.001  
Page 34 of 35

# Eurofins Xenco, LLC

## Prelogin/Nonconformance Report- Sample Log-In

Client: Arcadis U.S., Inc

Date/ Time Received: 01.20.2021 04.30.00 PM

Work Order #: 685452

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)?	3.9
#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: 01.20.2021  
Brianna Teel

Checklist reviewed by: Sachin Kudchadkar Date: 01.22.2021  
Sachin Kudchadkar

# Analytical Report 685609

for

**Arcadis U.S., Inc**

**Project Manager: Morgan Jordan**

**WDDU 88**

**30065089-002B**

**02.11.2021**

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)



02.11.2021

Project Manager: **Morgan Jordan**

**Arcadis U.S., Inc**

1717 W 6th Street, Suite 210

Austin, TX 78703

Reference: Eurofins Xenco, LLC Report No(s): **685609**

**WDDU 88**

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) 685609. 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. 685609 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,

A handwritten signature in black ink that reads "Sachin Kudchadkar". The signature is written in a cursive style and is positioned above a horizontal line.

**Sachin Kudchadkar**

Project Manager

*A Small Business and Minority Company*

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



# Sample Cross Reference 685609

Arcadis U.S., Inc, Austin, TX

WDDU 88

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-12-S-0-.5-210121	S	01.21.2021 09:42		685609-001
SB-12-S-1-1.25-210121	S	01.21.2021 09:48		685609-002
SB-13-S-0-.5-210121	S	01.21.2021 10:08		685609-003
SB-14-S-0-.5-210121	S	01.21.2021 10:33		685609-004
SB-15-S-0-.5-210121	S	01.21.2021 11:59		685609-005
SB-15-S-1-1.5-210121	S	01.21.2021 12:09		685609-006
SB-16-S-0-.5-210121	S	01.21.2021 12:16		685609-007



## CASE NARRATIVE

**Client Name: Arcadis U.S., Inc**

**Project Name: WDDU 88**

Project ID: 30065089-002B  
Work Order Number(s): 685609

Report Date: 02.11.2021  
Date Received: 01.21.2021

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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



# Certificate of Analytical Results 685609

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: **SB-12-S-0-.5-210121** Matrix: Solid Date Received: 01.21.2021 15:47  
 Lab Sample Id: 685609-001 Date Collected: 01.21.2021 09:42  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: CHE  
 Analyst: CHE Date Prep: 01.22.2021 11:50 % Moisture:  
 Seq Number: 3148732 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1820	25.1	4.31	mg/kg	01.22.2021 15:41		5

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P  
 Tech: DVM  
 Analyst: ARM Date Prep: 01.22.2021 12:00 % Moisture:  
 Seq Number: 3148771 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	01.22.2021 17:48	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>18.0</b>	50.0	15.0	mg/kg	01.22.2021 17:48	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	01.22.2021 17:48	U	1
<b>Total TPH</b>	PHC635	<b>18.0</b>	50.0	15.0	mg/kg	01.22.2021 17:48	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	79	%	70-130	01.22.2021 17:48	
o-Terphenyl	84-15-1	88	%	70-130	01.22.2021 17:48	





# Certificate of Analytical Results 685609

Arcadis U.S., Inc, Austin, TX

WDDU 88

Sample Id: **SB-12-S-0-5-210121**

Matrix: Solid

Date Received: 01.21.2021 15:47

Lab Sample Id: 685609-001

Date Collected: 01.21.2021 09:42

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 01.22.2021 16:15

% Moisture:

Basis: Wet Weight

Seq Number: 3148752

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000389	0.00202	0.000389	mg/kg	01.23.2021 11:04	U	1
Toluene	108-88-3	<0.000460	0.00202	0.000460	mg/kg	01.23.2021 11:04	U	1
Ethylbenzene	100-41-4	<0.000570	0.00202	0.000570	mg/kg	01.23.2021 11:04	U	1
<b>m,p-Xylenes</b>	179601-23-1	<b>0.00174</b>	0.00404	0.00102	mg/kg	01.23.2021 11:04	J	1
<b>o-Xylene</b>	95-47-6	<b>0.00103</b>	0.00202	0.000348	mg/kg	01.23.2021 11:04	J	1
<b>Total Xylenes</b>	1330-20-7	<b>0.00277</b>	0.00202	0.000348	mg/kg	01.23.2021 11:04		1
<b>Total BTEX</b>		<b>0.00277</b>	0.00202	0.000348	mg/kg	01.23.2021 11:04		1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>		
4-Bromofluorobenzene	460-00-4	98	%	70-130	01.23.2021 11:04			
1,4-Difluorobenzene	540-36-3	97	%	70-130	01.23.2021 11:04			



# Certificate of Analytical Results 685609

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: **SB-12-S-1-1.25-210121** Matrix: Solid Date Received: 01.21.2021 15:47  
 Lab Sample Id: 685609-002 Date Collected: 01.21.2021 09:48  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: CHE  
 Analyst: CHE Date Prep: 01.22.2021 11:50 % Moisture:  
 Seq Number: 3148732 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	789	4.98	0.855	mg/kg	01.22.2021 15:57		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P  
 Tech: DVM  
 Analyst: ARM Date Prep: 01.22.2021 12:00 % Moisture:  
 Seq Number: 3148771 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	01.22.2021 18:07	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>30.6</b>	49.9	15.0	mg/kg	01.22.2021 18:07	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	49.9	15.0	mg/kg	01.22.2021 18:07	U	1
<b>Total TPH</b>	PHC635	<b>30.6</b>	49.9	15.0	mg/kg	01.22.2021 18:07	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-130	01.22.2021 18:07	
o-Terphenyl	84-15-1	92	%	70-130	01.22.2021 18:07	



# Certificate of Analytical Results 685609

Arcadis U.S., Inc, Austin, TX

WDDU 88

Sample Id: **SB-12-S-1-1.25-210121**

Matrix: Solid

Date Received: 01.21.2021 15:47

Lab Sample Id: 685609-002

Date Collected: 01.21.2021 09:48

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 01.22.2021 16:15

% Moisture:

Seq Number: 3148752

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	01.23.2021 11:25	U	1
Toluene	108-88-3	<0.000457	0.00200	0.000457	mg/kg	01.23.2021 11:25	U	1
Ethylbenzene	100-41-4	<0.000566	0.00200	0.000566	mg/kg	01.23.2021 11:25	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00401	0.00102	mg/kg	01.23.2021 11:25	U	1
o-Xylene	95-47-6	<0.000345	0.00200	0.000345	mg/kg	01.23.2021 11:25	U	1
Total Xylenes	1330-20-7	<0.000345	0.00200	0.000345	mg/kg	01.23.2021 11:25	U	1
Total BTEX		<0.000345	0.00200	0.000345	mg/kg	01.23.2021 11:25	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>		
1,4-Difluorobenzene	540-36-3	99	%	70-130	01.23.2021 11:25			
4-Bromofluorobenzene	460-00-4	105	%	70-130	01.23.2021 11:25			



# Certificate of Analytical Results 685609

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: **SB-13-S-0-5-210121** Matrix: Solid Date Received: 01.21.2021 15:47  
 Lab Sample Id: 685609-003 Date Collected: 01.21.2021 10:08  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: CHE  
 Analyst: CHE Date Prep: 01.22.2021 11:50 % Moisture:  
 Seq Number: 3148732 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2360	24.8	4.26	mg/kg	01.22.2021 16:02		5

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P  
 Tech: DVM  
 Analyst: ARM Date Prep: 01.22.2021 12:00 % Moisture:  
 Seq Number: 3148771 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	01.22.2021 18:45	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>24.8</b>	50.0	15.0	mg/kg	01.22.2021 18:45	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	01.22.2021 18:45	U	1
<b>Total TPH</b>	PHC635	<b>24.8</b>	50.0	15.0	mg/kg	01.22.2021 18:45	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-130	01.22.2021 18:45	
o-Terphenyl	84-15-1	96	%	70-130	01.22.2021 18:45	



# Certificate of Analytical Results 685609

Arcadis U.S., Inc, Austin, TX

WDDU 88

Sample Id: **SB-13-S-0-5-210121**

Matrix: Solid

Date Received: 01.21.2021 15:47

Lab Sample Id: 685609-003

Date Collected: 01.21.2021 10:08

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 01.22.2021 16:15

% Moisture:  
Basis: Wet Weight

Seq Number: 3148752

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000388	0.00202	0.000388	mg/kg	01.23.2021 11:45	U	1
Toluene	108-88-3	<0.000459	0.00202	0.000459	mg/kg	01.23.2021 11:45	U	1
Ethylbenzene	100-41-4	<0.000569	0.00202	0.000569	mg/kg	01.23.2021 11:45	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00403	0.00102	mg/kg	01.23.2021 11:45	U	1
o-Xylene	95-47-6	<0.000347	0.00202	0.000347	mg/kg	01.23.2021 11:45	U	1
Total Xylenes	1330-20-7	<0.000347	0.00202	0.000347	mg/kg	01.23.2021 11:45	U	1
Total BTEX		<0.000347	0.00202	0.000347	mg/kg	01.23.2021 11:45	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>		
4-Bromofluorobenzene	460-00-4	102	%	70-130	01.23.2021 11:45			
1,4-Difluorobenzene	540-36-3	99	%	70-130	01.23.2021 11:45			



# Certificate of Analytical Results 685609

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: **SB-14-S-0-5-210121** Matrix: Solid Date Received: 01.21.2021 15:47  
 Lab Sample Id: 685609-004 Date Collected: 01.21.2021 10:33  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: CHE  
 Analyst: CHE Date Prep: 01.22.2021 11:50 % Moisture:  
 Seq Number: 3148732 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	352	4.95	0.850	mg/kg	01.22.2021 16:07		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P  
 Tech: DVM  
 Analyst: ARM Date Prep: 01.22.2021 12:00 % Moisture:  
 Seq Number: 3148771 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	01.22.2021 19:04	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>87.0</b>	50.0	15.0	mg/kg	01.22.2021 19:04		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	32.7	50.0	15.0	mg/kg	01.22.2021 19:04	J	1
<b>Total TPH</b>	PHC635	<b>120</b>	50.0	15.0	mg/kg	01.22.2021 19:04		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-130	01.22.2021 19:04	
o-Terphenyl	84-15-1	91	%	70-130	01.22.2021 19:04	



# Certificate of Analytical Results 685609

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: **SB-14-S-0-5-210121** Matrix: Solid Date Received: 01.21.2021 15:47  
 Lab Sample Id: 685609-004 Date Collected: 01.21.2021 10:33  
 Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A  
 Tech: KTL  
 Analyst: KTL Date Prep: 01.22.2021 16:15 % Moisture:  
 Seq Number: 3148752 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	01.23.2021 12:06	U	1
Toluene	108-88-3	<0.000459	0.00202	0.000459	mg/kg	01.23.2021 12:06	U	1
Ethylbenzene	100-41-4	<0.000569	0.00202	0.000569	mg/kg	01.23.2021 12:06	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00403	0.00102	mg/kg	01.23.2021 12:06	U	1
o-Xylene	95-47-6	<0.000347	0.00202	0.000347	mg/kg	01.23.2021 12:06	U	1
Total Xylenes	1330-20-7	<0.000347	0.00202	0.000347	mg/kg	01.23.2021 12:06	U	1
Total BTEX		<0.000347	0.00202	0.000347	mg/kg	01.23.2021 12:06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	01.23.2021 12:06	
1,4-Difluorobenzene	540-36-3	97	%	70-130	01.23.2021 12:06	



# Certificate of Analytical Results 685609

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: **SB-15-S-0-.5-210121** Matrix: Solid Date Received: 01.21.2021 15:47  
 Lab Sample Id: 685609-005 Date Collected: 01.21.2021 11:59  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: CHE  
 Analyst: CHE Date Prep: 01.22.2021 11:50 % Moisture:  
 Seq Number: 3148732 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1850	24.8	4.25	mg/kg	01.22.2021 16:12		5

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P  
 Tech: DVM  
 Analyst: ARM Date Prep: 01.22.2021 12:00 % Moisture:  
 Seq Number: 3148771 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	01.22.2021 19:23	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>28.7</b>	49.9	15.0	mg/kg	01.22.2021 19:23	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	49.9	15.0	mg/kg	01.22.2021 19:23	U	1
<b>Total TPH</b>	PHC635	<b>28.7</b>	49.9	15.0	mg/kg	01.22.2021 19:23	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-130	01.22.2021 19:23	
o-Terphenyl	84-15-1	92	%	70-130	01.22.2021 19:23	





# Certificate of Analytical Results 685609

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: **SB-15-S-0-.5-210121**  
Lab Sample Id: 685609-005

Matrix: Solid  
Date Collected: 01.21.2021 11:59

Date Received: 01.21.2021 15:47

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 01.22.2021 16:15

% Moisture:  
Basis: Wet Weight

Seq Number: 3148752

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000389	0.00202	0.000389	mg/kg	01.23.2021 12:46	U	1
Toluene	108-88-3	<0.000460	0.00202	0.000460	mg/kg	01.23.2021 12:46	U	1
Ethylbenzene	100-41-4	<0.000570	0.00202	0.000570	mg/kg	01.23.2021 12:46	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00404	0.00102	mg/kg	01.23.2021 12:46	U	1
o-Xylene	95-47-6	<0.000348	0.00202	0.000348	mg/kg	01.23.2021 12:46	U	1
Total Xylenes	1330-20-7	<0.000348	0.00202	0.000348	mg/kg	01.23.2021 12:46	U	1
Total BTEX		<0.000348	0.00202	0.000348	mg/kg	01.23.2021 12:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	70-130	01.23.2021 12:46	
1,4-Difluorobenzene	540-36-3	97	%	70-130	01.23.2021 12:46	



# Certificate of Analytical Results 685609

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: **SB-15-S-1-1.5-210121** Matrix: Solid Date Received: 01.21.2021 15:47  
 Lab Sample Id: 685609-006 Date Collected: 01.21.2021 12:09  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: CHE  
 Analyst: CHE Date Prep: 01.22.2021 11:50 % Moisture:  
 Seq Number: 3148732 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	106	5.00	0.858	mg/kg	01.22.2021 16:18		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P  
 Tech: DVM  
 Analyst: ARM Date Prep: 01.22.2021 12:00 % Moisture:  
 Seq Number: 3148771 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	01.22.2021 19:42	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>23.8</b>	50.0	15.0	mg/kg	01.22.2021 19:42	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	01.22.2021 19:42	U	1
<b>Total TPH</b>	PHC635	<b>23.8</b>	50.0	15.0	mg/kg	01.22.2021 19:42	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-130	01.22.2021 19:42	
o-Terphenyl	84-15-1	102	%	70-130	01.22.2021 19:42	



# Certificate of Analytical Results 685609

Arcadis U.S., Inc, Austin, TX

WDDU 88

Sample Id: **SB-15-S-1-1.5-210121**

Matrix: Solid

Date Received: 01.21.2021 15:47

Lab Sample Id: 685609-006

Date Collected: 01.21.2021 12:09

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 01.22.2021 16:15

% Moisture:

Seq Number: 3148752

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	01.23.2021 13:06	U	1
Toluene	108-88-3	<0.000455	0.00200	0.000455	mg/kg	01.23.2021 13:06	U	1
Ethylbenzene	100-41-4	<0.000564	0.00200	0.000564	mg/kg	01.23.2021 13:06	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00399	0.00101	mg/kg	01.23.2021 13:06	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	01.23.2021 13:06	U	1
Total Xylenes	1330-20-7	<0.000344	0.00200	0.000344	mg/kg	01.23.2021 13:06	U	1
Total BTEX		<0.000344	0.00200	0.000344	mg/kg	01.23.2021 13:06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	01.23.2021 13:06	
4-Bromofluorobenzene	460-00-4	100	%	70-130	01.23.2021 13:06	



# Certificate of Analytical Results 685609

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: **SB-16-S-0-5-210121** Matrix: Solid Date Received: 01.21.2021 15:47  
 Lab Sample Id: 685609-007 Date Collected: 01.21.2021 12:16  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: CHE  
 Analyst: CHE Date Prep: 01.22.2021 11:50 % Moisture:  
 Seq Number: 3148732 Basis: Wet Weight

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	92.4	5.00	0.858	mg/kg	01.22.2021 16:23		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P  
 Tech: DVM  
 Analyst: ARM Date Prep: 01.22.2021 12:00 % Moisture:  
 Seq Number: 3148771 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	01.22.2021 20:01	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>54.4</b>	49.9	15.0	mg/kg	01.22.2021 20:01		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	21.4	49.9	15.0	mg/kg	01.22.2021 20:01	J	1
<b>Total TPH</b>	PHC635	<b>75.8</b>	49.9	15.0	mg/kg	01.22.2021 20:01		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-130	01.22.2021 20:01	
o-Terphenyl	84-15-1	91	%	70-130	01.22.2021 20:01	



# Certificate of Analytical Results 685609

Arcadis U.S., Inc, Austin, TX

WDDU 88

Sample Id: **SB-16-S-0-5-210121**

Matrix: Solid

Date Received: 01.21.2021 15:47

Lab Sample Id: 685609-007

Date Collected: 01.21.2021 12:16

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 01.22.2021 16:15

% Moisture:

Seq Number: 3148752

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	01.23.2021 13:27	U	1
Toluene	108-88-3	<0.000457	0.00201	0.000457	mg/kg	01.23.2021 13:27	U	1
Ethylbenzene	100-41-4	<0.000567	0.00201	0.000567	mg/kg	01.23.2021 13:27	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	01.23.2021 13:27	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	01.23.2021 13:27	U	1
Total Xylenes	1330-20-7	<0.000346	0.00201	0.000346	mg/kg	01.23.2021 13:27	U	1
Total BTEX		<0.000346	0.00201	0.000346	mg/kg	01.23.2021 13:27	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>		
4-Bromofluorobenzene	460-00-4	99	%	70-130	01.23.2021 13:27			
1,4-Difluorobenzene	540-36-3	98	%	70-130	01.23.2021 13:27			



# Blank Summary 685609

Arcadis U.S., Inc, Austin, TX  
WDDU 88

Sample Id: 7719772-1-BLK

Matrix: SOLID

Lab Sample Id: 7719772-1-BLK

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 01.22.2021 11:50

Seq Number: 3148732

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<0.858	5.00	0.858	mg/kg	01.22.2021 11:59	U	1



**Blank Summary 685609**

**Arcadis U.S., Inc, Austin, TX**  
 WDDU 88

**Sample Id:** 7719868-1-BLK  
**Lab Sample Id:** 7719868-1-BLK

Matrix: SOLID

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

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 01.22.2021 16:15

Seq Number: 3148752

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	01.23.2021 06:14	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	01.23.2021 06:14	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	01.23.2021 06:14	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	01.23.2021 06:14	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	01.23.2021 06:14	U	1



# Blank Summary 685609

## Arcadis U.S., Inc, Austin, TX

WDDU 88

Sample Id: 7719869-1-BLK

Matrix: SOLID

Lab Sample Id: 7719869-1-BLK

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 01.22.2021 12:00

Seq Number: 3148771

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	01.22.2021 13:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	01.22.2021 13:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	01.22.2021 13:39	U	1





## Form 2 - Surrogate Recoveries

Project Name: WDDU 88

Report Date: 02112021

Work Orders : 685609

Project ID: 30065089-002B

Lab Batch #: 3148752

Sample: 7719868-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01.23.2021 04:15

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0301	0.0300	100	70-130	
4-Bromofluorobenzene	0.0290	0.0300	97	70-130	

Lab Batch #: 3148752

Sample: 7719868-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01.23.2021 04:35

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0302	0.0300	101	70-130	
4-Bromofluorobenzene	0.0284	0.0300	95	70-130	

Lab Batch #: 3148752

Sample: 685574-008 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01.23.2021 04:56

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0299	0.0300	100	70-130	
4-Bromofluorobenzene	0.0308	0.0300	103	70-130	

Lab Batch #: 3148752

Sample: 685574-008 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01.23.2021 05:16

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	70-130	
4-Bromofluorobenzene	0.0300	0.0300	100	70-130	

Lab Batch #: 3148752

Sample: 7719868-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01.23.2021 06:14

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0274	0.0300	91	70-130	
4-Bromofluorobenzene	0.0327	0.0300	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.



## Form 2 - Surrogate Recoveries

Project Name: WDDU 88

Report Date: 02112021

Work Orders : 685609

Project ID: 30065089-002B

Lab Batch #: 3148771

Sample: 7719869-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01.22.2021 13:39

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.0	100	85	70-130	
o-Terphenyl	50.0	50.0	100	70-130	

Lab Batch #: 3148771

Sample: 7719869-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01.22.2021 13:59

### 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	50.9	50.0	102	70-130	

Lab Batch #: 3148771

Sample: 7719869-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01.22.2021 14:18

### 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	49.0	50.0	98	70-130	

Lab Batch #: 3148771

Sample: 685627-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01.22.2021 14:56

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.2	99.7	97	70-130	
o-Terphenyl	46.6	49.9	93	70-130	

Lab Batch #: 3148771

Sample: 685627-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01.22.2021 15:15

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.6	99.9	100	70-130	
o-Terphenyl	49.5	50.0	99	70-130	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



Arcadis U.S., Inc  
WDDU 88

**Analytical Method: Chloride by EPA 300**

Seq Number: 3148732  
MB Sample Id: 7719772-1-BLK

Matrix: Solid

LCS Sample Id: 7719772-1-BKS

Prep Method: E300P

Date Prep: 01.22.2021

LCSD Sample Id: 7719772-1-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	252	101	255	102	90-110	1	20	mg/kg	01.22.2021 12:04	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3148732  
Parent Sample Id: 685547-013

Matrix: Soil

MS Sample Id: 685547-013 S

Prep Method: E300P

Date Prep: 01.22.2021

MSD Sample Id: 685547-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	8.80	253	261	100	261	100	90-110	0	20	mg/kg	01.22.2021 12:20	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3148732  
Parent Sample Id: 685605-005

Matrix: Soil

MS Sample Id: 685605-005 S

Prep Method: E300P

Date Prep: 01.22.2021

MSD Sample Id: 685605-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3650	1250	4940	103	4930	102	90-110	0	20	mg/kg	01.22.2021 15:25	

**Analytical Method: TPH By SW8015 Mod**

Seq Number: 3148771  
MB Sample Id: 7719869-1-BLK

Matrix: Solid

LCS Sample Id: 7719869-1-BKS

Prep Method: SW8015P

Date Prep: 01.22.2021

LCSD Sample Id: 7719869-1-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	823	82	812	81	70-130	1	20	mg/kg	01.22.2021 13:59	
Diesel Range Organics (DRO)	<15.0	1000	821	82	826	83	70-130	1	20	mg/kg	01.22.2021 13:59	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date	Flag
1-Chlorooctane	85		105		102		70-130	%	01.22.2021 13:59	
o-Terphenyl	100		102		98		70-130	%	01.22.2021 13:59	

**Analytical Method: TPH By SW8015 Mod**

Seq Number: 3148771

Matrix: Solid

MB Sample Id: 7719869-1-BLK

Prep Method: SW8015P

Date Prep: 01.22.2021

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<15.0	mg/kg	01.22.2021 13:39	

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

[D] = 100\*(C-A) / B  
RPD = 200\* |(C-E) / (C+E)|  
[D] = 100 \* (C) / [B]  
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



Arcadis U.S., Inc  
WDDU 88

Analytical Method: TPH By SW8015 Mod

Seq Number: 3148771

Parent Sample Id: 685627-001

Matrix: Soil

MS Sample Id: 685627-001 S

Prep Method: SW8015P

Date Prep: 01.22.2021

MSD Sample Id: 685627-001 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	783	79	805	81	70-130	3	20	mg/kg	01.22.2021 14:56	
Diesel Range Organics (DRO)	<15.0	997	813	82	858	86	70-130	5	20	mg/kg	01.22.2021 14:56	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		100		70-130	%	01.22.2021 14:56
o-Terphenyl	93		99		70-130	%	01.22.2021 14:56

Analytical Method: BTEX by EPA 8021B

Seq Number: 3148752

MB Sample Id: 7719868-1-BLK

Matrix: Solid

LCS Sample Id: 7719868-1-BKS

Prep Method: SW5035A

Date Prep: 01.22.2021

LCSD Sample Id: 7719868-1-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	0.110	110	0.110	110	70-130	0	35	mg/kg	01.23.2021 04:15	
Toluene	<0.000456	0.100	0.102	102	0.103	103	70-130	1	35	mg/kg	01.23.2021 04:15	
Ethylbenzene	<0.000565	0.100	0.105	105	0.105	105	70-130	0	35	mg/kg	01.23.2021 04:15	
m,p-Xylenes	<0.00101	0.200	0.211	106	0.208	104	70-130	1	35	mg/kg	01.23.2021 04:15	
o-Xylene	<0.000344	0.100	0.106	106	0.104	104	70-130	2	35	mg/kg	01.23.2021 04:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		100		101		70-130	%	01.23.2021 04:15
4-Bromofluorobenzene	109		97		95		70-130	%	01.23.2021 04:15

Analytical Method: BTEX by EPA 8021B

Seq Number: 3148752

Parent Sample Id: 685574-008

Matrix: Soil

MS Sample Id: 685574-008 S

Prep Method: SW5035A

Date Prep: 01.22.2021

MSD Sample Id: 685574-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000629	0.163	0.151	93	0.145	89	70-130	4	35	mg/kg	01.23.2021 04:56	
Toluene	<0.000744	0.163	0.144	88	0.136	83	70-130	6	35	mg/kg	01.23.2021 04:56	
Ethylbenzene	<0.000923	0.163	0.152	93	0.140	86	70-130	8	35	mg/kg	01.23.2021 04:56	
m,p-Xylenes	<0.00166	0.327	0.303	93	0.277	85	70-130	9	35	mg/kg	01.23.2021 04:56	
o-Xylene	<0.000563	0.163	0.147	90	0.135	83	70-130	9	35	mg/kg	01.23.2021 04:56	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		101		70-130	%	01.23.2021 04:56
4-Bromofluorobenzene	103		100		70-130	%	01.23.2021 04:56

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

[D] = 100\*(C-A) / B  
RPD = 200\* |(C-E) / (C+E)|  
[D] = 100 \* (C) / [B]  
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



**Eurofins Xenco**

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

**Chain of Custody Record**

<b>Client Information</b>		Sampler: <u>J. Steinmann</u>		Lab PM: <u>Kudchadkar, Sachin G</u>		Carrier Tracking No(s):		COC No: <u>600-23595-8666.1</u>			
Client Contact: <u>Motgan Jordan</u>		Phone: <u>619 851 8792</u>		E-Mail: <u>sachin.kudchadkar@testamericainc.com</u>				Page: <u>1 of 1</u>			
Company: <u>ARCADIS U.S., Inc.</u>		Address: <u>1717 W 6th Street, Suite 210</u>		Due Date Requested:		<b>Analysis Requested</b>		Job #: <u>0852009</u>			
City: <u>Austin</u>		State, Zip: <u>TX, 78703</u>		TAT Requested (days): <u>Std</u>				<b>Preservation Codes:</b>			
Phone: <u>281 644 9437</u>		PO #:		Project #: <u>30065089-0002B</u>				A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsHAcO2 D - Nitric Acid P - Na2CO3 E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - ph 4-5 L - EDA Z - other (specify)			
Email: <u>douglas.jordan@arcadis.com</u>		WO #:		SSOW#:				<b>Other:</b>			
Project Name: <u>30065089-0002B</u>		Project #: <u>30065089-0002B</u>		SSOW#:							
Site: <u>WDDU Water Station</u>		WDDU 88									
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)	Performs MS/MSD (Yes or No)	8015 - GRO/ DRO/ ORO	300 - Chloride	8021 - BTEX	Total Number of Containers	Special Instructions/Note:
			Preservation Code:		X	X	N	N	N		
<u>SB-12-S-0-5-210121</u>	<u>1/21/21</u>	<u>0942</u>	<u>G</u>	<u>Solid</u>							
<u>SB-12-S-1-1.25-210121</u>		<u>0948</u>		<u>Solid</u>							
<u>SB-13-S-0-5-210121</u>		<u>1008</u>		<u>Solid</u>							
<u>SB-14-S-0-5-210121</u>		<u>1033</u>		<u>Solid</u>							
<u>SB-15-S-0-5-210121</u>		<u>1159</u>		<u>Solid</u>							
<u>SB-15-S-1-1.25-210121</u>		<u>1209</u>		<u>Solid</u>							
<u>SB-16-S-0-5-210121</u>		<u>1216</u>		<u>Solid</u>							
				<u>Solid</u>							
				<u>Solid</u>							
				<u>Solid</u>							
<b>Possible Hazard Identification</b> <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<b>Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)</b> <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> 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: <u>[Signature]</u>		Date/Time: <u>1/21/21 1500</u>		Company: <u>Arcadis</u>		Received by: <u>[Signature]</u>		Date/Time: <u>1-21-21 1500</u>		Company: <u>Arcadis</u>	
Relinquished by: <u>[Signature]</u>		Date/Time: <u>1-21-21 1547</u>		Company: <u>Arcadis</u>		Received by: <u>[Signature]</u>		Date/Time: <u>1-21-21 1547</u>		Company:	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: <u>7/1.2 1.5</u>							

Final 1.001  
Page 27 of 28

# Eurofins Xenco, LLC

## Prelogin/Nonconformance Report- Sample Log-In

Client: Arcadis U.S., Inc

Date/ Time Received: 01.21.2021 03.47.00 PM

Work Order #: 685609

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)?	1.2
#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: 01.21.2021  
 Brianna Teel

Checklist reviewed by: Sachin Kudchadkar Date: 01.21.2021  
 Sachin Kudchadkar

# Appendix D

**Revised C-141 Form 1RP-925**



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	NPAC0616632139
District RP	1RP-925
Facility ID	NA
Application ID	pPAC0616632399

## Release Notification

### Responsible Party

Responsible Party: Chevron USA	OGRID: 4323
Contact Name: Armando Martinez	Contact Telephone: 505-690-5408
Contact email: amarti@chevron.com	Incident # (assigned by OCD) NPAC0616632139
Contact mailing address:	

### Location of Release Source

Latitude 32.164736 \_\_\_\_\_ Longitude -103.075586 \_\_\_\_\_  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: WDDU #88	Site Type: Oil Well
Date Release Discovered: 05/24/2006	API# (if applicable): 30-025-12387

Unit Letter	Section	Township	Range	County
	5	25S	38E	Lea

Surface Owner:  State  Federal  Tribal  Private

### Nature and Volume of Release

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

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls): 4.4	Volume Recovered (bbls):
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls): 95.6	Volume Recovered (bbls):
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: Steel flow line had external corrosion causing a small leak in the pipe.

State of New Mexico  
Oil Conservation Division

Incident ID	NPAC0616632139
District RP	1RP-925
Facility ID	NA
Application ID	pPAC0616632399

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? <b>Release was greater than 25 barrels.</b>
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? <b>Initial C-141 Form was submitted on May 24, 2006.</b>	

Incident ID	NPAC0616632139
District RP	1RP-925
Facility ID	NA
Application ID	pPAC0616632399

## 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?	105 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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

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

- Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells. **Attached.**
- Field data: **Attached.**
- Data table of soil contaminant concentration data: **Attached.**
- Depth to water determination: **>101 feet bgs**
- Determination of water sources and significant watercourses within 1/2-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.

State of New Mexico  
Oil Conservation Division

Incident ID	NPAC0616632139
District RP	1RP-925
Facility ID	NA
Application ID	pPAC0616632399

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: 05/20/21

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

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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**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 52941

**CONDITIONS**

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 52941
	Action Type: [C-141] Release Corrective Action (C-141)

**CONDITIONS**

Created By	Condition	Condition Date
amaxwell	Submitted report was accepted as information only. Proceed with additional delineation and work plan development. Submit report by 6/9/2023.	3/7/2023