Adriane Gifford
Project Manager

Upstream Business Unit
Environmental Management Company
1500 Louisiana Street
Room 38108
Houston, Texas 77002
Tel 832-854-5620
agifford@chevron.com

September 16, 2020

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

Re: 2020 Soil Assessment Report and Closure Request – L Van Etten 18
Case No. 1RP-782
Lea County, New Mexico

Dear New Mexico Oil Conservation Division:

Chevron Environmental Management Company (CEMC) submits herein the *2020 Soil Assessment Report* for 1RP-782, L Van Etten 18. The Site is located approximately 2.7 miles south of Monument, in Unit J, Section 9, Township 20 South, Range 37 East, Lea County. The Report was prepared by Arcadis U.S., Inc. (Arcadis), on behalf of CEMC. Based on the analytical results associated with the recent assessment activities, CEMC respectfully requests closure of 1RP-782.

If you have any questions regarding this submittal, please contact Scott Foord of Arcadis at (713) 953-4853 or me at (832) 854-5620.

Respectfully,

Chevron Environmental Management Company
on behalf of
Chevron U.S.A. Inc.

Adriane Gifford
Project Manager

Encl.

ARCADIS Design & Consultancy for natural and built assets

Chevron Environmental Management Company

2020 SOIL ASSESSMENT REPORT

L Van Etten 18

Case No. 1RP-782

September 2020

Justin Nixon
Task Manager I

Scott Foord, PG
Certified Project Manager

2020 SOIL ASSESSMENT REPORT

L Van Etten 18
Case No. 1RP-782

Prepared for:

Chevron Environmental Management Company
Upstream Business Unit
1500 Louisiana Street, Room 38108
Houston, Tx 77002

Prepared by:

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

Our Ref:

30056842

Date:

September 2020

CONTENTS

TABLES

FIGURES

APPENDICES

1 INTRODUCTION

Arcadis U.S., Inc. (Arcadis) prepared this Site Assessment Report (Report), on behalf of Chevron Environmental Management Company (CEMC), summarizing the soil assessment activities conducted for the L Van Etten 18 (Site).

2 PROJECT SUMMARY

The Site is located approximately 2.7 miles south of Monument, in Unit J, Section 9, Township 20 South, Range 37 East, Lea County, New Mexico (**Figure 1**).

On February 13, 2006, a split in the poly flowline caused by a hot oiler released approximately 1 barrel (bbl) of oil and 4 barrels (bbls) of produced water. The spill area was located outside of the tank battery, and reportedly measured approximately 10 feet by 20 feet. The Initial C-141 Form was submitted in February 2006, and stated the operator recovered 0.5 bbls of oil and 3.5 bbls of produced water with a vacuum truck. Standard operating procedures during the time of the release included shallow soil removal within the spill area and proper disposal of impacted soil. No additional information was available to confirm the soil removal procedure was completed. According to the New Mexico Office of the State Engineers (NMOSE) database, there is a water well approximately 0.09 miles northeast of the Site with a depth to groundwater of 30 feet below ground surface (bgs). The Initial C-141 Form was approved, and the release was assigned remediation permit number 1RP-782. The initial C-141 Form is included as **Appendix A**.

3 2020 SOIL ASSESSMENT

On July 23, 2020, Arcadis personnel collected soil samples from seven locations (HA-1 through HA-7) within the release area based on the in-field site assessment. The soil samples were collected with a hand auger at depths ranging from the surface to approximately 4 feet bgs. After collecting the samples, they were jarred and placed on ice for delivery to TestAmerica in Houston, Texas for analysis. Each boring location was backfilled with the remaining soil. Boring logs are included in **Appendix B**. The samples 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-782. Soils were characterized and logged by a field geologist based on the Unified Soil Classification System (USCS), including texture, structure, and consistence at each sample location from surface to refusal depths encountered within each boring. Soil boring locations are presented in **Figure 2**. The soil samples were analyzed for:

- Chloride by United States Environmental Protection Agency (USEPA) Method 9056A,
- Total Petroleum Hydrocarbons (TPH) as gasoline (TPH-GRO) by USEPA Method 8015,
- TPH as diesel (TPH-DRO) by USEPA Method 8015,
- TPH as oil (TPH-ORO) by USEPA Method 8015, and
- Benzene, toluene, ethylbenzene, and xylene (BTEX) by USAEPA Method 8021B.

4 SOIL ANALYTICAL RESULTS

The soil analytical results were compared to the revised New Mexico Administration Code (NMAC) screening levels for chloride, TPH and BTEX for a site with depth to groundwater less than 50 feet bgs (revised Rule 19.15.29). A summary of the soil sample analytical results is presented in **Table 1**. Copies of the certified analytical reports and chain-of-custody documentation from Eurofins TestAmerica are presented in **Appendix C**. The soil analytical map is presented in **Figure 3**.

4.1 Chloride

Chloride concentrations were reported below the NMAC standard of 600 milligrams/Kilogram (mg/Kg) at all sample locations.

4.2 TPH

Total TPH concentrations exceeded the NMAC Standard of 100 mg/Kg in 4 of the 18 soil samples collected and were:

- 104 mg/Kg at HA-1 (0 – 6 inches bgs)
- 103 mg/Kg at HA-1 (3 – 3.5 feet bgs)
- 101 mg/Kg at HA-2 (3 - 4 feet bgs)
- 134 mg/Kg at HA-7 (3 - 4 feet bgs)

4.3 BTEX

Total BTEX concentrations were reported below the NMAC standard of 50 mg/Kg at all sample locations.

5 RECOMMENDATION

Analytical results associated with recent assessment activities conducted in 2020 indicated that concentrations of TPH exceeding the NMAC Standard are present in boring HA-1 at a depth of (0 -6 inches (104 mg/Kg) and 3 – 3.5 feet bgs (103 mg/Kg)), boring HA-2 at (3 – 4 feet bgs (101 mg/Kg)), and boring HA-7 at (3 - 4 feet bgs (134 mg/Kg)). All additional soil samples collected during the recent soil assessment were below the TPH, BTEX and chloride soil screening standards of 100 mg/Kg, 50 mg/Kg and 600 mg/Kg, respectively. These minor TPH exceedances do not pose a risk to groundwater or the environment based on the shallow depths encountered and limited lateral extent. A photograph log is presented in **Appendix D**. As such, Arcadis, on behalf of CEMC, respectfully requests closure of 1RP-782. The Final C-141 Form is presented in **Appendix E**.

TABLES

Table 1
2020 Soil Analytical Results
L Van Etten 18
Lea County, New Mexico

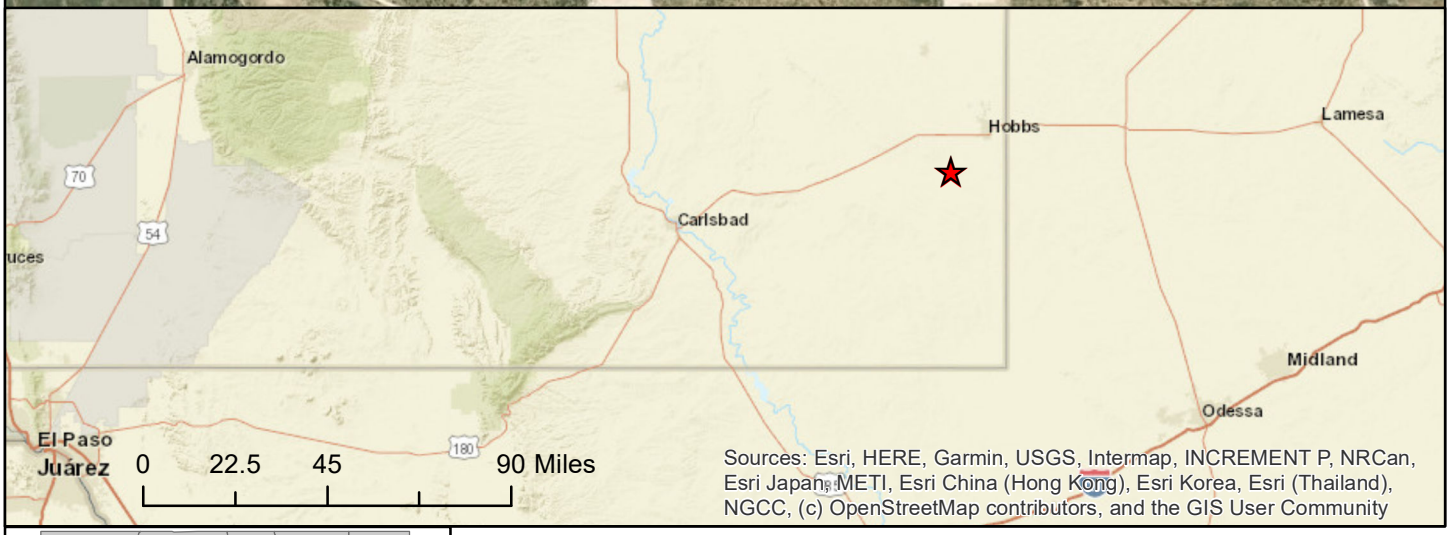
ARCADIS Design & Consultancy for natural and built assets

Sample I.D. No.	Sample Depth (feet bgs)	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	Gasoline Range Organics	Diesel Range Organics	Total GRO + DRO	Oil Range Organics	Total TPH	Chloride
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
NMAC Standards			**10**	**--**	**--**	**--**	**50**	**--**	**--**	**100**	**--**	**100**	**600**
Restoration Requirements													**600***
HA-1	0 - 6"	07/23/20	<0.000631	<0.00138	<0.00102	<0.00113	<0.004161	<0.603	26.3	26.903	77.5	***104***	2.82 J
	1' - 2'	07/23/20	0.00556 J	0.00591 J	<0.00131	0.00832	0.0211 J	<0.715	15.0 J	15.715 J	63.8	80	6.50
	3' - 3.5'	07/23/20	0.00252 J	0.00307 J	<0.00126	0.00247 J	0.00932 J	<0.777	26.2	26.977	75.9	***103***	6.67
HA-2	0 - 6"	07/23/20	0.00234 J	0.00171 J	<0.00123	0.00296 J	0.00824 J	<0.769	9.93 J	10.699 J	73.4	84	9.24
	1' - 2'	07/23/20	0.00196 J	0.00239 J	<0.00104	0.00241 J	0.0078 J	<0.588	6.69 J	7.278 J	47.3	55	2.22 J
	3' - 4'	07/23/20	0.00146 J	<0.00159	<0.00118	<0.00130	0.00553 J	<0.747	23.2	23.947	77.2	***101***	7.80
HA-3	0 - 6"	07/23/20	0.00174 J	<0.00186	<0.00137	<0.00152	0.00649 J	<0.780	<3.48	<4.26	<10.2	<14.46	7.41
	1' - 1.5'	07/23/20	0.00128 J	<0.00141	<0.00104	<0.00116	0.00489 J	<0.593	9.80 J	10.393 J	49.3	60	2.10 J
HA-4	0 - 6"	07/23/20	0.00988	<0.00131	<0.000965	0.00477	0.016925	0.608 J	<2.56	3.168 J	50.6	54	1.95 J
	1' - 1.5'	07/23/20	0.00147 J	0.00185 J	<0.000995	0.00161 J	0.005925 J	<0.635	<2.67	<3.31	48.4	52	2.31 J
HA-5	0 - 6"	07/23/20	0.0101	<0.00141	<0.00104	0.00374 J	0.01629 J	<0.596	<2.57	<3.17	<7.52	<10.69	2.68 J
	1' - 2'	07/23/20	0.0156	0.00969	<0.00103	0.00494 J	0.03126 J	<0.641	<2.61	<3.25	<7.62	<10.87	2.06 J
	3' - 4'	07/23/20	0.00162 J	0.00267 J	<0.00127	<0.00141	0.00697 J	<0.720	15.8	16.52	61.7	78	11.3
HA-6	0 - 6"	07/23/20	0.00171 J	0.00191 J	<0.00102	<0.00113	0.00577 J	<0.633	<2.58	<3.21	41.5	45	1.94 J
	1' - 2'	07/23/20	0.00249 J	0.00362 J	<0.00133	0.00201 J	0.00945 J	<0.811	<3.30	<4.11	54	58	5.19
HA-7	0 - 6"	07/23/20	0.00467 J	<0.00137	<0.00101	<0.00112	0.00817 J	<0.634	<2.58	<3.21	44	47	2.15 J
	1' - 2'	07/23/20	0.00361 J	0.00293 J	<0.00104	<0.00115	0.00873 J	<0.583	<2.59	<3.17	40.4	44	2.00 J
	3' - 4'	07/23/20	0.00404 J	0.00328 J	<0.00122	<0.00135	0.00989 J	<0.729	27.1	27.829	106	***134***	4.64 J

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

Notes:
1. Chloride analyzed by EPA Method 300
2. TPH analyzed by EPA Method 8015D
3. BTEX analyzed by EPA Method 8260C
4. Closure Criteria New Mexico Administrative Code 19.15.29.12.E(2)

FIGURES



Notes:
1. Datum: D_WGS_1984
2. Site Location: 32.5847,-103.2569

N

Chevron Environmental Management Company
L Van Etten 18
Lea County, New Mexico

SITE LOCATION MAP

ARCADIS

FIGURE
1

Document Path: D:\FRAME_Raghavendra\L Van Etten 18\D-ProjectWorking_\MXD\Figure 1 - Site Location Map.mxd

Legend

- Soil Sample Locations

Note:
1. Datum: GCS_WGS_1984
2. Site Location: 32.5847°, --103.2569°

N

0 25 50 100 Feet

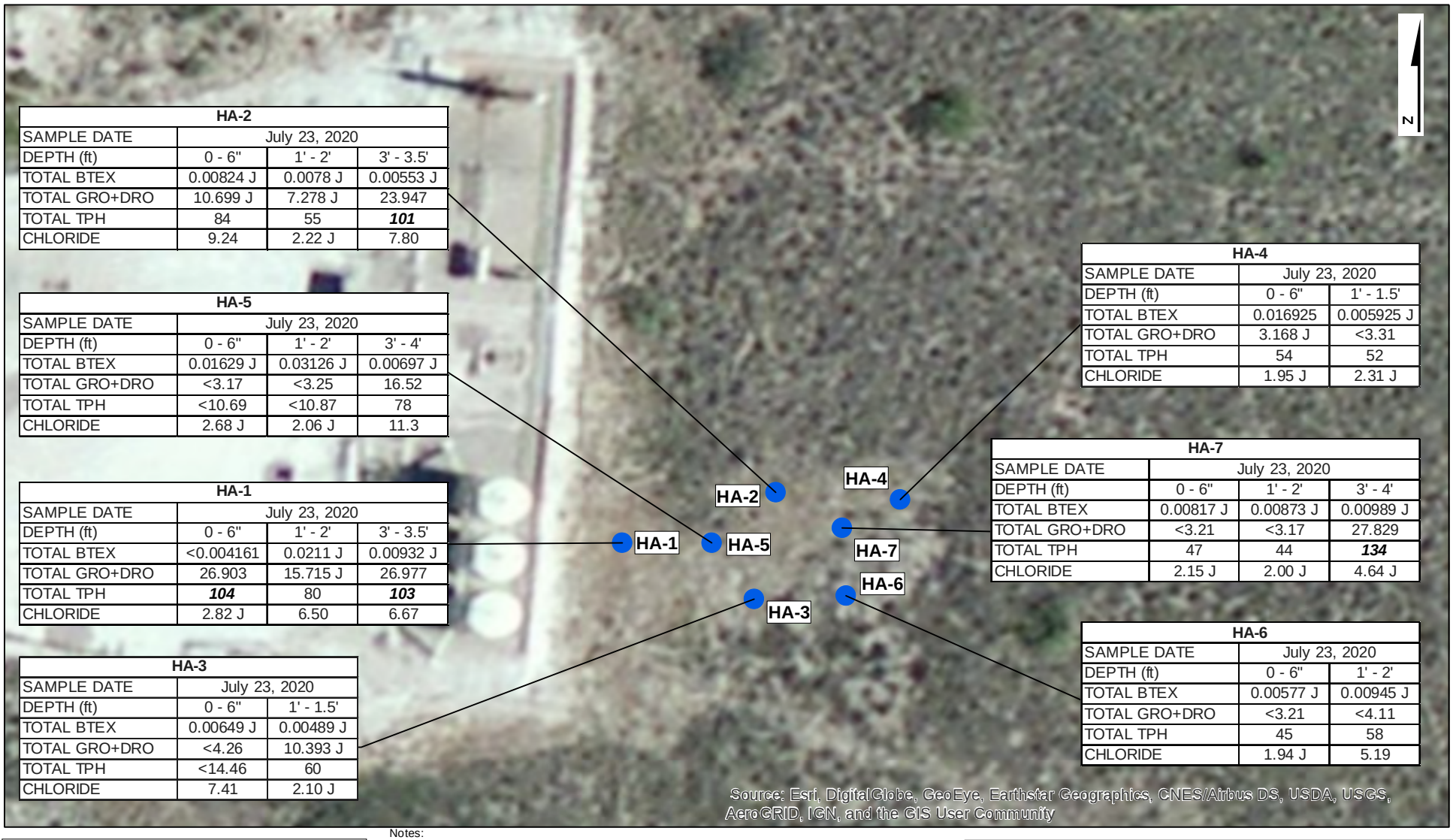
Chevron Environmental Management Company
L Van Etten 18
Lea County, New Mexico

SOIL SAMPLE LOCATIONS MAP

ARCADIS

FIGURE
2

Document Path: D:\FRAME_Raghavendra\L Van Etten 18\D-ProjectWorking_\MXD\Figure 2 - Soil Sample Locations.mxd



HA-2			
SAMPLE DATE	July 23, 2020		
DEPTH (ft)	0 - 6"	1' - 2'	3' - 3.5'
TOTAL BTEX	0.00824 J	0.0078 J	0.00553 J
TOTAL GRO+DRO	10.699 J	7.278 J	23.947
TOTAL TPH	84	55	***101***
CHLORIDE	9.24	2.22 J	7.80

HA-5			
SAMPLE DATE	July 23, 2020		
DEPTH (ft)	0 - 6"	1' - 2'	3' - 4'
TOTAL BTEX	0.01629 J	0.03126 J	0.00697 J
TOTAL GRO+DRO	<3.17	<3.25	16.52
TOTAL TPH	<10.69	<10.87	78
CHLORIDE	2.68 J	2.06 J	11.3

HA-1			
SAMPLE DATE	July 23, 2020		
DEPTH (ft)	0 - 6"	1' - 2'	3' - 3.5'
TOTAL BTEX	<0.004161	0.0211 J	0.00932 J
TOTAL GRO+DRO	26.903	15.715 J	26.977
TOTAL TPH	***104***	80	***103***
CHLORIDE	2.82 J	6.50	6.67

HA-3		
SAMPLE DATE	July 23, 2020	
DEPTH (ft)	0 - 6"	1' - 1.5'
TOTAL BTEX	0.00649 J	0.00489 J
TOTAL GRO+DRO	<4.26	10.393 J
TOTAL TPH	<14.46	60
CHLORIDE	7.41	2.10 J

HA-4		
SAMPLE DATE	July 23, 2020	
DEPTH (ft)	0 - 6"	1' - 1.5'
TOTAL BTEX	0.016925	0.005925 J
TOTAL GRO+DRO	3.168 J	<3.31
TOTAL TPH	54	52
CHLORIDE	1.95 J	2.31 J

HA-7			
SAMPLE DATE	July 23, 2020		
DEPTH (ft)	0 - 6"	1' - 2'	3' - 4'
TOTAL BTEX	0.00817 J	0.00873 J	0.00989 J
TOTAL GRO+DRO	<3.21	<3.17	27.829
TOTAL TPH	47	44	***134***
CHLORIDE	2.15 J	2.00 J	4.64 J

HA-6		
SAMPLE DATE	July 23, 2020	
DEPTH (ft)	0 - 6"	1' - 2'
TOTAL BTEX	0.00577 J	0.00945 J
TOTAL GRO+DRO	<3.21	<4.11
TOTAL TPH	45	58
CHLORIDE	1.94 J	5.19

Legend

Soil Sample Locations

Note:
1. Datum: GCS_WGS_1984
2. Site Location: 32.5847°, --103.2569°

0 25 50 100 Feet

Notes:
1. **Bold** and *italicized* analytes exceeds NMAC Standards.
2. '<' Indicates the analyte was not detected at or above the Method Detection Limit (MDL).
3. NMAC Indicates New Mexico Administration Code.
4. BTEX Indicates Benzene, Toluene, Ethylbenzene, and Total Xylenes.
5. TPH GRO: Total Petroleum Hydrocarbons Gasoline Range Organics
6. TPH ORO: Total Petroleum Hydrocarbons Oil Range Organics
7. TPH DRO: Total Petroleum Hydrocarbon Diesel Range Organics
8. J Indicates Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
9. All values are in mg/kg (Milligram per Kilogram).
10. '" ' " Indicates one foot.
11. '" Indicates inches.
12. *Revised screening limit and restoration criteria within the first 4 feet below ground surface per Rule 19.15.29 effective August 14, 2018.
13. Chloride analyzed by EPA Method 300.
14. TPH analyzed by EPA Method 8015D
15. BTEX analyzed by EPA Method 8260C.
16. Closure Criteria New Mexico Administrative Code 15.29.12.E(2).

Chevron Environmental Management Company
L Van Etten 18
Lea County, New Mexico

SOIL ANALYTICAL RESULTS MAP

ARCADIS

FIGURE 3

Document Path: T:_ENV\Chevron\L Van Etten 18\D-ProjectWorking_\MXD\Figure 3 - Soil Analytical Result Map.mxd

APPENDIX A

Initial C-141 Form 1RP-782

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 USA Inc	Contact Larry Williams
Address PO Box 1949 Eunice, NM 88231	Telephone No. 505-394-1237
Facility Name L Van Etten 18	Facility Type Oil well

Surface Owner S& W Cattle Company	Mineral Owner Private	Lease No.859210

API # 3002533349000

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	9	20 S	37E					

Latitude _____ Longitude _____

NATURE OF RELEASE

Type of Release Oil and Produced water	Volume of Release 1 bbl oil and 4 bbl water	Volume Recovered .5 bbl oil and 3.5 bbl water
Source of Release Hole in 3" Poly flow line	Date and Hour of Occurrence 2/13/06 4:00 pm	Date and Hour of Discovery 2/13/06 2:15
Was Immediate Notice Given? X Yes ☐ No ☐ Not Required	If YES, To Whom? Pat Capeton	
By Whom? Larry Williams	Date and Hour2/14/06 1:00 pm	
Was a Watercourse Reached? ☐ Yes X No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
Hot oiling poly flow line and a split came in line. Shut down hot oiler and called out vacuum truck.

Describe Area Affected and Cleanup Action Taken.*
10' x 20' area just outside of battery. Will remove hydrocarbon impacted soil and take to land farm.

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.

MAR 2006 Received Hobbs OCD

Signature: Larry Williams	OIL CONSERVATION DIVISION
Printed Name: Larry Williams	Approved by District Supervisor:
Title: HES Champion	Approval Date: / Expiration Date:
E-mail Address: lcwl@chevron.com	Conditions of Approval: / Attached ☐
Date: 2/14/06 Phone:505-394-1237	

* Attach Additional Sheets If Necessary

Larry Williams
Chevron USA 4323
Incident - nPAC0607429422

Application - pPAC0607429642

APPENDIX B

Boring Logs

Date Start/Finish: 7/23/2020 **Drilling Company:** Arcadis **Driller's Name:** Justin Steinmann **Drilling Method:** Hand Auger **Sampling Method:** Hand Auger	**Borehole Depth:** 3.5' **Surface Elevation:** N/A **Descriptions By:** Justin Steinmann	**Well/Boring ID:** HA-1 **Client:** CEMC **Location:** L Van Etten 18

DEPTH	Geologic Column	Stratigraphic Description
0		silty sand, med brown, very fine to med sand, subangular, silty, trace pebbles, hard, and trace roots
		silty sand, med brown, very fine, med sand, subangular, slightly moist, no odor
3.5		End of boring 3.5' bgs

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Remarks: Total Depth: 3.5' Below Ground Surface (bgs)

Project: 30056842 Template: LPTEMPLATE_HA_1.ldfx Page: 1 of 1
Data File: HA-1 Date: 8/6/2020 Created/Edited by: AD

Date Start/Finish: 7/23/2020 **Drilling Company:** Arcadis **Driller's Name:** Justin Steinmann **Drilling Method:** Hand Auger **Sampling Method:** Hand Auger	**Borehole Depth:** 5.5' **Surface Elevation:** N/A **Descriptions By:** Justin Steinmann	**Well/Boring ID:** HA-2 **Client:** CEMC **Location:** L Van Etten 18

DEPTH	Geologic Column	Stratigraphic Description
0		silty sand, med brown, very fine, granular, silty, trace caliche granules, trace roots, loose friable
		silty sand, med brown, very fine granules, slightly moist, loose - friable
5		silty sand, med brown, very fine granules, loose - friable, caliche fragments, hard caliche layer at 5.5'
		End of boring 5.5' bgs

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Remarks: Total Depth: 5.5' Below Ground Surface (bgs)

Project: 30056842 Template: LPTEMPLATE_HA_1.ldfx Page: 1 of 1
Data File: HA-2 Date: 8/6/2020 Created/Edited by: AD

Date Start/Finish: 7/23/2020 **Drilling Company:** Arcadis **Driller's Name:** Justin Steinmann **Drilling Method:** Hand Auger **Sampling Method:** Hand Auger	**Borehole Depth:** 4' **Surface Elevation:** N/A **Descriptions By:** Justin Steinmann	**Well/Boring ID:** HA-5 **Client:** CEMC **Location:** L Van Etten 18

DEPTH	Geologic Column	Stratigraphic Description
0		silty sand, med brown, very fine sand, top soil, trace roots, trace pebbles
2		sand, med-brown, well sorted, fine granules, trace-little silt, trace roots, loose, with trace firm clumps
4		sand, light brown, fine granules, firm clasts becoming little, friable, hard, firm caliche
5		End of boring 4' bgs

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Remarks: Total Depth: 4' Below Ground Surface (bgs)

Project: 30056842 Template: LPTEMPLATE_HA_1.ldfx Page: 1 of 1
Data File: HA-5 Date: 8/6/2020 Created/Edited by: AD

Date Start/Finish: 7/23/2020 **Drilling Company:** Arcadis **Driller's Name:** Justin Steinmann **Drilling Method:** Hand Auger **Sampling Method:** Hand Auger	**Borehole Depth:** 4' **Surface Elevation:** N/A **Descriptions By:** Justin Steinmann	**Well/Boring ID:** HA-7 **Client:** CEMC **Location:** L Van Etten 18

DEPTH	Geologic Column	Stratigraphic Description
0		top soil, silty sand, med brown, very fine sand, loose-firm/ friable
		sand, med-brown, fine sand, very fine sand, well sorted, trace silt, trace roots, organic odor, becoming slightly moist at 2', firm friable layer at 3'
5		End of boring 4' bgs

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Infrastructure · Water · Environment · Buildings

Remarks: Total Depth: 4' Below Ground Surface (bgs)

Project: 30056842 Template: LPTEMPLATE_HA_1.ldfx Page: 1 of 1
Data File: HA-7 Date: 8/6/2020 Created/Edited by: AD

APPENDIX C

Laboratory Report

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Houston
6310 Rothway Street
Houston, TX 77040
Tel: (713)690-4444

Laboratory Job ID: 600-208707-1
Client Project/Site: Chevron - L Van Etten 18 Site

For:
ARCADIS U.S., Inc.
1004 North Big Spring
Suite 121
Midland, Texas 79701

Attn: Justin Nixon

Authorized for release by:
8/5/2020 5:32:59 PM

Sachin Kudchadkar, Senior Project Manager
(713)690-4444
Sachin.Kudchadkar@Eurofinset.com

Client: ARCADIS U.S., Inc.
Project/Site: Chevron - L Van Etten 18 Site

Laboratory Job ID: 600-208707-1

Table of Contents

Method Summary

Client: ARCADIS U.S., Inc.
Job ID: 600-208707-1
Project/Site: Chevron - L Van Etten 18 Site

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL HOU
8015D	Gasoline Range Organics (GRO) (GC)	SW846	TAL HOU
8015D	Diesel Range Organics (DRO) (GC)	SW846	TAL HOU
300.0	Anions, Ion Chromatography	MCAWW	TAL HOU
2540B	Percent Moisture	SM20	TAL HOU
3546	Microwave Extraction	SW846	TAL HOU
5030C	Purge and Trap for Solids	SW846	TAL HOU
5030C	Purge and Trap Methanol Dilution	SW846	TAL HOU
DI Leach	Deionized Water Leaching Procedure (Routine)	ASTM	TAL HOU

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM20 = "Standard Methods For The Examination Of Water And Wastewater", 20th Edition."

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL HOU = Eurofins TestAmerica, Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Chevron - L Van Etten 18 Site

Job ID: 600-208707-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
600-208707-1	HA-1-S-0"-6"20200723	Solid	07/23/20 12:58	07/24/20 09:53	
600-208707-2	HA-1-S-1'-2'-20200723	Solid	07/23/20 13:08	07/24/20 09:53	
600-208707-3	HA-1-S-3'-35'-20200723	Solid	07/23/20 13:28	07/24/20 09:53	
600-208707-4	HA-2-S-0"-6'"-20200723	Solid	07/23/20 13:44	07/24/20 09:53	
600-208707-5	HA-2-S-1'-2'-20200723	Solid	07/23/20 13:57	07/24/20 09:53	
600-208707-6	HA-2-S-3'-4'-20200723	Solid	07/23/20 14:01	07/24/20 09:53	
600-208707-7	HA-3-S-0"-6"-20200723	Solid	07/23/20 14:16	07/24/20 09:53	
600-208707-8	HA-3-S-1'-1.5-20200723	Solid	07/23/20 14:21	07/24/20 09:53	
600-208707-9	HA-4-S-0"-6"-20200723	Solid	07/23/20 14:33	07/24/20 09:53	
600-208707-10	HA-4-S-1'-1.5-20200723	Solid	07/23/20 14:42	07/24/20 09:53	
600-208707-11	HA-5-S-0"-6"-20200723	Solid	07/23/20 14:57	07/24/20 09:53	

Client Sample Results

Client: ARCADIS U.S., Inc.
Job ID: 600-208707-1
Project/Site: Chevron - L Van Etten 18 Site

Client Sample ID: HA-1-S-0"-6"20200723
Lab Sample ID: 600-208707-1
Date Collected: 07/23/20 12:58
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 93.8

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.631	U	5.01	0.631	ug/Kg	☼	07/27/20 15:45	07/31/20 18:19	1
Ethylbenzene	1.02	U	5.01	1.02	ug/Kg	☼	07/27/20 15:45	07/31/20 18:19	1
Toluene	1.38	U	5.01	1.38	ug/Kg	☼	07/27/20 15:45	07/31/20 18:19	1
Xylenes, Total	1.13	U	5.01	1.13	ug/Kg	☼	07/27/20 15:45	07/31/20 18:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*61 - 130*	*07/27/20 15:45*	*07/31/20 18:19*	*1*
4-Bromofluorobenzene	*93*		*57 - 140*	*07/27/20 15:45*	*07/31/20 18:19*	*1*
Dibromofluoromethane	*94*		*68 - 140*	*07/27/20 15:45*	*07/31/20 18:19*	*1*
Toluene-d8 (Surr)	*85*		*50 - 130*	*07/27/20 15:45*	*07/31/20 18:19*	*1*

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	0.603	U	1.03	0.603	mg/Kg	☼	07/28/20 10:19	07/28/20 18:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*87*		*70 - 130*	*07/28/20 10:19*	*07/28/20 18:30*	*1*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**26.3**		13.3	2.74	mg/Kg	☼	08/03/20 08:42	08/04/20 09:31	1
Oil Range Organics (C28-C36)	**77.5**		13.3	8.00	mg/Kg	☼	08/03/20 08:42	08/04/20 09:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*143*	*X*	*60 - 140*	*08/03/20 08:42*	*08/04/20 09:31*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2.82**	**J**	4.27	0.570	mg/Kg	☼		08/03/20 17:14	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**6.2**		1.0	1.0	%			07/27/20 14:01	1
Percent Solids	**93.8**		1.0	1.0	%			07/27/20 14:01	1

Client Sample ID: HA-1-S-1'-2'-20200723
Lab Sample ID: 600-208707-2
Date Collected: 07/23/20 13:08
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 78.7

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**5.56**	**J**	6.42	0.809	ug/Kg	☼	07/27/20 15:45	07/31/20 15:14	1
Ethylbenzene	1.31	U	6.42	1.31	ug/Kg	☼	07/27/20 15:45	07/31/20 15:14	1
Toluene	**5.91**	**J**	6.42	1.77	ug/Kg	☼	07/27/20 15:45	07/31/20 15:14	1
Xylenes, Total	**8.32**		6.42	1.45	ug/Kg	☼	07/27/20 15:45	07/31/20 15:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*83*		*61 - 130*	*07/27/20 15:45*	*07/31/20 15:14*	*1*
4-Bromofluorobenzene	*82*		*57 - 140*	*07/27/20 15:45*	*07/31/20 15:14*	*1*
Dibromofluoromethane	*89*		*68 - 140*	*07/27/20 15:45*	*07/31/20 15:14*	*1*
Toluene-d8 (Surr)	*88*		*50 - 130*	*07/27/20 15:45*	*07/31/20 15:14*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Job ID: 600-208707-1
Project/Site: Chevron - L Van Etten 18 Site

Client Sample ID: HA-1-S-1'-2'-20200723
Lab Sample ID: 600-208707-2
Date Collected: 07/23/20 13:08
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 78.7

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	0.715	U	1.22	0.715	mg/Kg	☼	07/28/20 10:19	07/28/20 18:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*100*		*70 - 130*	*07/28/20 10:19*	*07/28/20 18:55*	*1*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**15.0**	**J**	15.7	3.23	mg/Kg	☼	08/03/20 12:12	08/04/20 13:29	1
Oil Range Organics (C28-C36)	**63.8**		15.7	9.44	mg/Kg	☼	08/03/20 12:12	08/04/20 13:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*125*		*60 - 140*	*08/03/20 12:12*	*08/04/20 13:29*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6.50**		5.08	0.678	mg/Kg	☼		08/03/20 18:15	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**21.3**		1.0	1.0	%			07/27/20 14:01	1
Percent Solids	**78.7**		1.0	1.0	%			07/27/20 14:01	1

Client Sample ID: HA-1-S-3'-35'-20200723
Lab Sample ID: 600-208707-3
Date Collected: 07/23/20 13:28
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 80.1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**2.52**	**J**	6.16	0.776	ug/Kg	☼	07/27/20 15:45	08/01/20 09:35	1
Ethylbenzene	1.26	U	6.16	1.26	ug/Kg	☼	07/27/20 15:45	08/01/20 09:35	1
Toluene	**3.07**	**J**	6.16	1.70	ug/Kg	☼	07/27/20 15:45	08/01/20 09:35	1
Xylenes, Total	**2.47**	**J**	6.16	1.39	ug/Kg	☼	07/27/20 15:45	08/01/20 09:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*61 - 130*	*07/27/20 15:45*	*08/01/20 09:35*	*1*
4-Bromofluorobenzene	*97*		*57 - 140*	*07/27/20 15:45*	*08/01/20 09:35*	*1*
Dibromofluoromethane	*98*		*68 - 140*	*07/27/20 15:45*	*08/01/20 09:35*	*1*
Toluene-d8 (Surr)	*88*		*50 - 130*	*07/27/20 15:45*	*08/01/20 09:35*	*1*

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	0.777	U	1.33	0.777	mg/Kg	☼	07/28/20 10:21	07/28/20 19:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*98*		*70 - 130*	*07/28/20 10:21*	*07/28/20 19:20*	*1*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**26.2**		15.5	3.19	mg/Kg	☼	08/03/20 12:12	08/04/20 14:10	1
Oil Range Organics (C28-C36)	**75.9**		15.5	9.34	mg/Kg	☼	08/03/20 12:12	08/04/20 14:10	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Job ID: 600-208707-1
Project/Site: Chevron - L Van Etten 18 Site

Client Sample ID: HA-1-S-3'-35'-20200723
Lab Sample ID: 600-208707-3
Date Collected: 07/23/20 13:28
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 80.1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	*105*		*60 - 140*	*08/03/20 12:12*	*08/04/20 14:10*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6.67**		4.99	0.667	mg/Kg	☼		08/03/20 18:36	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**19.9**		1.0	1.0	%			07/27/20 14:01	1
Percent Solids	**80.1**		1.0	1.0	%			07/27/20 14:01	1

Client Sample ID: HA-2-S-0"-6"'-20200723
Lab Sample ID: 600-208707-4
Date Collected: 07/23/20 13:44
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 78.0

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**2.34**	**J**	6.05	0.762	ug/Kg	☼	07/27/20 15:45	08/01/20 09:57	1
Ethylbenzene	1.23	U	6.05	1.23	ug/Kg	☼	07/27/20 15:45	08/01/20 09:57	1
Toluene	**1.71**	**J**	6.05	1.67	ug/Kg	☼	07/27/20 15:45	08/01/20 09:57	1
Xylenes, Total	**2.96**	**J**	6.05	1.37	ug/Kg	☼	07/27/20 15:45	08/01/20 09:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*93*		*61 - 130*	*07/27/20 15:45*	*08/01/20 09:57*	*1*
4-Bromofluorobenzene	*98*		*57 - 140*	*07/27/20 15:45*	*08/01/20 09:57*	*1*
Dibromofluoromethane	*95*		*68 - 140*	*07/27/20 15:45*	*08/01/20 09:57*	*1*
Toluene-d8 (Surr)	*88*		*50 - 130*	*07/27/20 15:45*	*08/01/20 09:57*	*1*

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	0.769	U	1.31	0.769	mg/Kg	☼	07/28/20 10:21	07/28/20 19:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	*87*		*70 - 130*	*07/28/20 10:21*	*07/28/20 19:45*	*1*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**9.93**	**J**	15.9	3.28	mg/Kg	☼	08/03/20 12:12	08/04/20 14:50	1
Oil Range Organics (C28-C36)	**73.4**		15.9	9.58	mg/Kg	☼	08/03/20 12:12	08/04/20 14:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	*100*		*60 - 140*	*08/03/20 12:12*	*08/04/20 14:50*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9.24**		5.13	0.684	mg/Kg	☼		08/03/20 18:56	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**22.0**		1.0	1.0	%			07/27/20 14:01	1
Percent Solids	**78.0**		1.0	1.0	%			07/27/20 14:01	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Job ID: 600-208707-1
Project/Site: Chevron - L Van Etten 18 Site

Client Sample ID: HA-2-S-1'-2'-20200723
Lab Sample ID: 600-208707-5
Date Collected: 07/23/20 13:57
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 97.7

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1.96**	**J**	5.12	0.645	ug/Kg	☼	07/27/20 15:45	08/01/20 10:19	1
Ethylbenzene	1.04	U	5.12	1.04	ug/Kg	☼	07/27/20 15:45	08/01/20 10:19	1
Toluene	**2.39**	**J**	5.12	1.41	ug/Kg	☼	07/27/20 15:45	08/01/20 10:19	1
Xylenes, Total	**2.41**	**J**	5.12	1.16	ug/Kg	☼	07/27/20 15:45	08/01/20 10:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*61 - 130*	*07/27/20 15:45*	*08/01/20 10:19*	*1*
4-Bromofluorobenzene	*96*		*57 - 140*	*07/27/20 15:45*	*08/01/20 10:19*	*1*
Dibromofluoromethane	*92*		*68 - 140*	*07/27/20 15:45*	*08/01/20 10:19*	*1*
Toluene-d8 (Surr)	*83*		*50 - 130*	*07/27/20 15:45*	*08/01/20 10:19*	*1*

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	0.588	U	1.00	0.588	mg/Kg	☼	07/28/20 10:21	07/28/20 20:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*104*		*70 - 130*	*07/28/20 10:21*	*07/28/20 20:10*	*1*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**6.69**	**J**	12.7	2.61	mg/Kg	☼	08/03/20 12:12	08/04/20 15:30	1
Oil Range Organics (C28-C36)	**47.3**		12.7	7.63	mg/Kg	☼	08/03/20 12:12	08/04/20 15:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*108*		*60 - 140*	*08/03/20 12:12*	*08/04/20 15:30*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2.22**	**J**	4.10	0.547	mg/Kg	☼		08/03/20 19:16	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**2.3**		1.0	1.0	%			07/27/20 14:01	1
Percent Solids	**97.7**		1.0	1.0	%			07/27/20 14:01	1

Client Sample ID: HA-2-S-3'-4'-20200723
Lab Sample ID: 600-208707-6
Date Collected: 07/23/20 14:01
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 81.7

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1.46**	**J**	5.77	0.727	ug/Kg	☼	07/27/20 15:45	08/01/20 10:42	1
Ethylbenzene	1.18	U	5.77	1.18	ug/Kg	☼	07/27/20 15:45	08/01/20 10:42	1
Toluene	1.59	U	5.77	1.59	ug/Kg	☼	07/27/20 15:45	08/01/20 10:42	1
Xylenes, Total	1.30	U	5.77	1.30	ug/Kg	☼	07/27/20 15:45	08/01/20 10:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*61 - 130*	*07/27/20 15:45*	*08/01/20 10:42*	*1*
4-Bromofluorobenzene	*92*		*57 - 140*	*07/27/20 15:45*	*08/01/20 10:42*	*1*
Dibromofluoromethane	*93*		*68 - 140*	*07/27/20 15:45*	*08/01/20 10:42*	*1*
Toluene-d8 (Surr)	*84*		*50 - 130*	*07/27/20 15:45*	*08/01/20 10:42*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Job ID: 600-208707-1
Project/Site: Chevron - L Van Etten 18 Site

Client Sample ID: HA-2-S-3'-4'-20200723
Lab Sample ID: 600-208707-6
Date Collected: 07/23/20 14:01
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 81.7

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	0.747	U	1.27	0.747	mg/Kg	☼	07/29/20 05:31	07/29/20 07:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*85*		*70 - 130*	*07/29/20 05:31*	*07/29/20 07:38*	*1*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**23.2**		15.2	3.13	mg/Kg	☼	08/03/20 12:12	08/04/20 16:11	1
Oil Range Organics (C28-C36)	**77.2**		15.2	9.16	mg/Kg	☼	08/03/20 12:12	08/04/20 16:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*126*		*60 - 140*	*08/03/20 12:12*	*08/04/20 16:11*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7.80**		4.89	0.653	mg/Kg	☼		08/03/20 19:37	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**18.3**		1.0	1.0	%			07/27/20 14:01	1
Percent Solids	**81.7**		1.0	1.0	%			07/27/20 14:01	1

Client Sample ID: HA-3-S-0"-6"-20200723
Lab Sample ID: 600-208707-7
Date Collected: 07/23/20 14:16
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 73.2

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1.74**	**J**	6.73	0.848	ug/Kg	☼	07/27/20 15:45	08/01/20 11:04	1
Ethylbenzene	1.37	U	6.73	1.37	ug/Kg	☼	07/27/20 15:45	08/01/20 11:04	1
Toluene	1.86	U	6.73	1.86	ug/Kg	☼	07/27/20 15:45	08/01/20 11:04	1
Xylenes, Total	1.52	U	6.73	1.52	ug/Kg	☼	07/27/20 15:45	08/01/20 11:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*61 - 130*	*07/27/20 15:45*	*08/01/20 11:04*	*1*
4-Bromofluorobenzene	*100*		*57 - 140*	*07/27/20 15:45*	*08/01/20 11:04*	*1*
Dibromofluoromethane	*95*		*68 - 140*	*07/27/20 15:45*	*08/01/20 11:04*	*1*
Toluene-d8 (Surr)	*89*		*50 - 130*	*07/27/20 15:45*	*08/01/20 11:04*	*1*

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	0.780	U	1.33	0.780	mg/Kg	☼	07/29/20 05:31	07/29/20 08:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*84*		*70 - 130*	*07/29/20 05:31*	*07/29/20 08:02*	*1*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	3.48	U	16.9	3.48	mg/Kg	☼	08/03/20 12:12	08/04/20 16:51	1
Oil Range Organics (C28-C36)	10.2	U	16.9	10.2	mg/Kg	☼	08/03/20 12:12	08/04/20 16:51	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Job ID: 600-208707-1
Project/Site: Chevron - L Van Etten 18 Site

Client Sample ID: HA-3-S-0"-6"-20200723
Lab Sample ID: 600-208707-7
Date Collected: 07/23/20 14:16
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 73.2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	*95*		*60 - 140*	*08/03/20 12:12*	*08/04/20 16:51*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7.41**		5.47	0.730	mg/Kg	☼		08/03/20 20:38	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**26.8**		1.0	1.0	%			07/27/20 14:37	1
Percent Solids	**73.2**		1.0	1.0	%			07/27/20 14:37	1

Client Sample ID: HA-3-S-1'-1.5-20200723
Lab Sample ID: 600-208707-8
Date Collected: 07/23/20 14:21
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 98.2

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1.28**	**J**	5.12	0.645	ug/Kg	☼	07/27/20 15:45	08/01/20 11:26	1
Ethylbenzene	1.04	U	5.12	1.04	ug/Kg	☼	07/27/20 15:45	08/01/20 11:26	1
Toluene	1.41	U	5.12	1.41	ug/Kg	☼	07/27/20 15:45	08/01/20 11:26	1
Xylenes, Total	1.16	U	5.12	1.16	ug/Kg	☼	07/27/20 15:45	08/01/20 11:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*100*		*61 - 130*	*07/27/20 15:45*	*08/01/20 11:26*	*1*
4-Bromofluorobenzene	*96*		*57 - 140*	*07/27/20 15:45*	*08/01/20 11:26*	*1*
Dibromofluoromethane	*97*		*68 - 140*	*07/27/20 15:45*	*08/01/20 11:26*	*1*
Toluene-d8 (Surr)	*87*		*50 - 130*	*07/27/20 15:45*	*08/01/20 11:26*	*1*

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	0.593	U	1.01	0.593	mg/Kg	☼	07/29/20 05:31	07/29/20 08:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	*94*		*70 - 130*	*07/29/20 05:31*	*07/29/20 08:27*	*1*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**9.80**	**J**	12.6	2.60	mg/Kg	☼	08/03/20 12:12	08/04/20 17:32	1
Oil Range Organics (C28-C36)	**49.3**		12.6	7.61	mg/Kg	☼	08/03/20 12:12	08/04/20 17:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	*99*		*60 - 140*	*08/03/20 12:12*	*08/04/20 17:32*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2.10**	**J**	4.07	0.544	mg/Kg	☼		08/03/20 20:58	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**1.8**		1.0	1.0	%			07/27/20 14:37	1
Percent Solids	**98.2**		1.0	1.0	%			07/27/20 14:37	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Job ID: 600-208707-1
Project/Site: Chevron - L Van Etten 18 Site

Client Sample ID: HA-4-S-0"-6"-20200723
Lab Sample ID: 600-208707-9
Date Collected: 07/23/20 14:33
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 99.5

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**9.88**		4.73	0.596	ug/Kg	☼	07/27/20 15:45	08/01/20 11:48	1
Ethylbenzene	0.965	U	4.73	0.965	ug/Kg	☼	07/27/20 15:45	08/01/20 11:48	1
Toluene	1.31	U	4.73	1.31	ug/Kg	☼	07/27/20 15:45	08/01/20 11:48	1
Xylenes, Total	**4.77**		4.73	1.07	ug/Kg	☼	07/27/20 15:45	08/01/20 11:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*61 - 130*	*07/27/20 15:45*	*08/01/20 11:48*	*1*
4-Bromofluorobenzene	*97*		*57 - 140*	*07/27/20 15:45*	*08/01/20 11:48*	*1*
Dibromofluoromethane	*95*		*68 - 140*	*07/27/20 15:45*	*08/01/20 11:48*	*1*
Toluene-d8 (Surr)	*84*		*50 - 130*	*07/27/20 15:45*	*08/01/20 11:48*	*1*

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**0.608**	**J**	1.01	0.593	mg/Kg	☼	07/29/20 05:31	07/29/20 08:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*106*		*70 - 130*	*07/29/20 05:31*	*07/29/20 08:51*	*1*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	2.56	U	12.4	2.56	mg/Kg	☼	08/03/20 12:12	08/04/20 18:52	1
Oil Range Organics (C28-C36)	**50.6**		12.4	7.49	mg/Kg	☼	08/03/20 12:12	08/04/20 18:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*121*		*60 - 140*	*08/03/20 12:12*	*08/04/20 18:52*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1.95**	**J**	4.02	0.537	mg/Kg	☼		08/03/20 21:19	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**0.5**		1.0	1.0	%			07/27/20 14:37	1
Percent Solids	**99.5**		1.0	1.0	%			07/27/20 14:37	1

Client Sample ID: HA-4-S-1'-1.5-20200723
Lab Sample ID: 600-208707-10
Date Collected: 07/23/20 14:42
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 96.0

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1.47**	**J**	4.88	0.614	ug/Kg	☼	07/27/20 15:45	08/01/20 12:10	1
Ethylbenzene	0.995	U	4.88	0.995	ug/Kg	☼	07/27/20 15:45	08/01/20 12:10	1
Toluene	**1.85**	**J**	4.88	1.35	ug/Kg	☼	07/27/20 15:45	08/01/20 12:10	1
Xylenes, Total	**1.61**	**J**	4.88	1.10	ug/Kg	☼	07/27/20 15:45	08/01/20 12:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*61 - 130*	*07/27/20 15:45*	*08/01/20 12:10*	*1*
4-Bromofluorobenzene	*93*		*57 - 140*	*07/27/20 15:45*	*08/01/20 12:10*	*1*
Dibromofluoromethane	*92*		*68 - 140*	*07/27/20 15:45*	*08/01/20 12:10*	*1*
Toluene-d8 (Surr)	*84*		*50 - 130*	*07/27/20 15:45*	*08/01/20 12:10*	*1*

Eurofins TestAmerica, Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Job ID: 600-208707-1
Project/Site: Chevron - L Van Etten 18 Site

Client Sample ID: HA-4-S-1'-1.5-20200723
Lab Sample ID: 600-208707-10
Date Collected: 07/23/20 14:42
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 96.0

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	0.635	U	1.08	0.635	mg/Kg	☼	07/29/20 05:31	07/29/20 09:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*101*		*70 - 130*	*07/29/20 05:31*	*07/29/20 09:16*	*1*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	2.67	U	13.0	2.67	mg/Kg	☼	08/03/20 12:12	08/04/20 19:31	1
Oil Range Organics (C28-C36)	**48.4**		13.0	7.80	mg/Kg	☼	08/03/20 12:12	08/04/20 19:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*114*		*60 - 140*	*08/03/20 12:12*	*08/04/20 19:31*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2.31**	**J**	4.17	0.556	mg/Kg	☼		08/03/20 21:39	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**4.0**		1.0	1.0	%			07/27/20 14:37	1
Percent Solids	**96.0**		1.0	1.0	%			07/27/20 14:37	1

Client Sample ID: HA-5-S-0"-6"-20200723
Lab Sample ID: 600-208707-11
Date Collected: 07/23/20 14:57
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 98.9

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**10.1**		5.10	0.642	ug/Kg	☼	07/27/20 15:45	08/01/20 12:32	1
Ethylbenzene	1.04	U	5.10	1.04	ug/Kg	☼	07/27/20 15:45	08/01/20 12:32	1
Toluene	1.41	U	5.10	1.41	ug/Kg	☼	07/27/20 15:45	08/01/20 12:32	1
Xylenes, Total	**3.74**	**J**	5.10	1.15	ug/Kg	☼	07/27/20 15:45	08/01/20 12:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*61 - 130*	*07/27/20 15:45*	*08/01/20 12:32*	*1*
4-Bromofluorobenzene	*96*		*57 - 140*	*07/27/20 15:45*	*08/01/20 12:32*	*1*
Dibromofluoromethane	*98*		*68 - 140*	*07/27/20 15:45*	*08/01/20 12:32*	*1*
Toluene-d8 (Surr)	*84*		*50 - 130*	*07/27/20 15:45*	*08/01/20 12:32*	*1*

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	0.596	U	1.02	0.596	mg/Kg	☼	07/29/20 05:31	07/29/20 09:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*100*		*70 - 130*	*07/29/20 05:31*	*07/29/20 09:41*	*1*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	2.57	U	12.5	2.57	mg/Kg	☼	08/03/20 12:12	08/04/20 20:10	1
Oil Range Organics (C28-C36)	7.52	U	12.5	7.52	mg/Kg	☼	08/03/20 12:12	08/04/20 20:10	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Job ID: 600-208707-1
Project/Site: Chevron - L Van Etten 18 Site

Client Sample ID: HA-5-S-0"-6"-20200723
Lab Sample ID: 600-208707-11
Date Collected: 07/23/20 14:57
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 98.9

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	118		60 - 140	08/03/20 12:12	08/04/20 20:10	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.68	J	4.05	0.540	mg/Kg	☼		08/03/20 22:00	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	1.1		1.0	1.0	%			07/27/20 14:37	1
Percent Solids	98.9		1.0	1.0	%			07/27/20 14:37	1

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Job ID: 600-208707-1
Project/Site: Chevron - L Van Etten 18 Site

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
X	Surrogate recovery exceeds control limits

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Surrogate Summary

Client: ARCADIS U.S., Inc.
Job ID: 600-208707-1
Project/Site: Chevron - L Van Etten 18 Site

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(61-130)	(57-140)	(68-140)	(50-130)
600-208707-1	HA-1-S-0"-6"20200723	92	93	94	85
600-208707-2	HA-1-S-1'-2'-20200723	83	82	89	88
600-208707-3	HA-1-S-3'-35'-20200723	94	97	98	88
600-208707-4	HA-2-S-0"-6"'-20200723	93	98	95	88
600-208707-5	HA-2-S-1'-2'-20200723	97	96	92	83
600-208707-6	HA-2-S-3'-4'-20200723	90	92	93	84
600-208707-7	HA-3-S-0"-6"-20200723	97	100	95	89
600-208707-8	HA-3-S-1'-1.5-20200723	100	96	97	87
600-208707-9	HA-4-S-0"-6"-20200723	98	97	95	84
600-208707-10	HA-4-S-1'-1.5-20200723	92	93	92	84
600-208707-11	HA-5-S-0"-6"-20200723	101	96	98	84
LCS 600-300116/3	Lab Control Sample	97	100	102	94
LCS 600-300214/3	Lab Control Sample	95	100	100	95
LCSD 600-300116/4	Lab Control Sample Dup	102	99	101	94
LCSD 600-300214/4	Lab Control Sample Dup	89	104	99	103
MB 600-300116/6	Method Blank	112	95	99	88
MB 600-300214/6	Method Blank	104	95	99	88

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Matrix: Solid
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
		TFT1
Lab Sample ID	Client Sample ID	(70-130)
600-208707-1	HA-1-S-0"-6"20200723	87
600-208707-2	HA-1-S-1'-2'-20200723	100
600-208707-3	HA-1-S-3'-35'-20200723	98
600-208707-4	HA-2-S-0"-6"'-20200723	87
600-208707-5	HA-2-S-1'-2'-20200723	104
600-208707-6	HA-2-S-3'-4'-20200723	85
600-208707-7	HA-3-S-0"-6"-20200723	84
600-208707-8	HA-3-S-1'-1.5-20200723	94
600-208707-9	HA-4-S-0"-6"-20200723	106
600-208707-10	HA-4-S-1'-1.5-20200723	101
600-208707-11	HA-5-S-0"-6"-20200723	100
LCS 600-299819/1-A	Lab Control Sample	86
LCS 600-299881/1-A	Lab Control Sample	98
LCSD 600-299819/2-A	Lab Control Sample Dup	86
LCSD 600-299881/2-A	Lab Control Sample Dup	98
MB 600-299819/3-A	Method Blank	85
MB 600-299881/3-A	Method Blank	97

Surrogate Legend

TFT = a,a,a-Trifluorotoluene

Surrogate Summary

Client: ARCADIS U.S., Inc.
Job ID: 600-208707-1
Project/Site: Chevron - L Van Etten 18 Site

Method: 8015D - Diesel Range Organics (DRO) (GC)

Matrix: Solid
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
		OTPH							
Lab Sample ID	Client Sample ID	(60-140)							
600-208707-1	HA-1-S-0"-6"20200723	143 X							
600-208707-2	HA-1-S-1'-2'-20200723	125							
600-208707-3	HA-1-S-3'-35'-20200723	105							
600-208707-4	HA-2-S-0"-6"'-20200723	100							
600-208707-5	HA-2-S-1'-2'-20200723	108							
600-208707-6	HA-2-S-3'-4'-20200723	126							
600-208707-7	HA-3-S-0"-6"-20200723	95							
600-208707-8	HA-3-S-1'-1.5-20200723	99							
600-208707-9	HA-4-S-0"-6"-20200723	121							
600-208707-10	HA-4-S-1'-1.5-20200723	114							
600-208707-11	HA-5-S-0"-6"-20200723	118							
LCS 600-300243/2-A	Lab Control Sample	118							
LCS 600-300290/2-A	Lab Control Sample	127							
LCSD 600-300290/3-A	Lab Control Sample Dup	132							
MB 600-300243/1-A	Method Blank	87							
MB 600-300290/1-A	Method Blank	104							

Surrogate Legend

OTPH = o-Terphenyl

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Chevron - L Van Etten 18 Site

Job ID: 600-208707-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 600-300116/6
Matrix: Solid
Analysis Batch: 300116

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.630	U	5.00	0.630	ug/Kg			07/31/20 09:52	1
Ethylbenzene	1.02	U	5.00	1.02	ug/Kg			07/31/20 09:52	1
Toluene	1.38	U	5.00	1.38	ug/Kg			07/31/20 09:52	1
Xylenes, Total	1.13	U	5.00	1.13	ug/Kg			07/31/20 09:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*112*		*61 - 130*		*07/31/20 09:52*	*1*
4-Bromofluorobenzene	*95*		*57 - 140*		*07/31/20 09:52*	*1*
Dibromofluoromethane	*99*		*68 - 140*		*07/31/20 09:52*	*1*
Toluene-d8 (Surr)	*88*		*50 - 130*		*07/31/20 09:52*	*1*

Lab Sample ID: LCS 600-300116/3
Matrix: Solid
Analysis Batch: 300116

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	51.90		ug/Kg		104	70 - 131
Ethylbenzene	50.0	49.64		ug/Kg		99	66 - 130
m-Xylene & p-Xylene	50.0	50.68		ug/Kg		101	64 - 130
o-Xylene	50.0	49.59		ug/Kg		99	62 - 130
Toluene	50.0	49.75		ug/Kg		99	67 - 130
Xylenes, Total	100	100.3		ug/Kg		100	63 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*61 - 130*
4-Bromofluorobenzene	*100*		*57 - 140*
Dibromofluoromethane	*102*		*68 - 140*
Toluene-d8 (Surr)	*94*		*50 - 130*

Lab Sample ID: LCSD 600-300116/4
Matrix: Solid
Analysis Batch: 300116

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	50.0	55.82		ug/Kg		112	70 - 131	7	30
Ethylbenzene	50.0	54.04		ug/Kg		108	66 - 130	8	30
m-Xylene & p-Xylene	50.0	55.32		ug/Kg		111	64 - 130	9	30
o-Xylene	50.0	54.61		ug/Kg		109	62 - 130	10	30
Toluene	50.0	52.59		ug/Kg		105	67 - 130	6	30
Xylenes, Total	100	109.9		ug/Kg		110	63 - 130	9	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*61 - 130*
4-Bromofluorobenzene	*99*		*57 - 140*
Dibromofluoromethane	*101*		*68 - 140*
Toluene-d8 (Surr)	*94*		*50 - 130*

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Chevron - L Van Etten 18 Site

Job ID: 600-208707-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 600-300214/6
Matrix: Solid
Analysis Batch: 300214

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.630	U	5.00	0.630	ug/Kg			08/01/20 08:51	1
Ethylbenzene	1.02	U	5.00	1.02	ug/Kg			08/01/20 08:51	1
Toluene	1.38	U	5.00	1.38	ug/Kg			08/01/20 08:51	1
Xylenes, Total	1.13	U	5.00	1.13	ug/Kg			08/01/20 08:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*61 - 130*		*08/01/20 08:51*	*1*
4-Bromofluorobenzene	*95*		*57 - 140*		*08/01/20 08:51*	*1*
Dibromofluoromethane	*99*		*68 - 140*		*08/01/20 08:51*	*1*
Toluene-d8 (Surr)	*88*		*50 - 130*		*08/01/20 08:51*	*1*

Lab Sample ID: LCS 600-300214/3
Matrix: Solid
Analysis Batch: 300214

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			50.0	49.34		ug/Kg		99	70 - 131		
Ethylbenzene			50.0	47.07		ug/Kg		94	66 - 130		
m-Xylene & p-Xylene			50.0	47.87		ug/Kg		96	64 - 130		
o-Xylene			50.0	47.30		ug/Kg		95	62 - 130		
Toluene			50.0	46.19		ug/Kg		92	67 - 130		
Xylenes, Total			100	95.17		ug/Kg		95	63 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*61 - 130*
4-Bromofluorobenzene	*100*		*57 - 140*
Dibromofluoromethane	*100*		*68 - 140*
Toluene-d8 (Surr)	*95*		*50 - 130*

Lab Sample ID: LCSD 600-300214/4
Matrix: Solid
Analysis Batch: 300214

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			50.0	49.60		ug/Kg		99	70 - 131	1	30
Ethylbenzene			50.0	48.40		ug/Kg		97	66 - 130	3	30
m-Xylene & p-Xylene			50.0	49.00		ug/Kg		98	64 - 130	2	30
o-Xylene			50.0	47.76		ug/Kg		96	62 - 130	1	30
Toluene			50.0	48.59		ug/Kg		97	67 - 130	5	30
Xylenes, Total			100	96.76		ug/Kg		97	63 - 130	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*89*		*61 - 130*
4-Bromofluorobenzene	*104*		*57 - 140*
Dibromofluoromethane	*99*		*68 - 140*
Toluene-d8 (Surr)	*103*		*50 - 130*

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Chevron - L Van Etten 18 Site

Job ID: 600-208707-1

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 600-299819/3-A
Matrix: Solid
Analysis Batch: 299801

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299819

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	0.586	U	1.00	0.586	mg/Kg		07/28/20 10:19	07/28/20 11:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*85*		*70 - 130*	*07/28/20 10:19*	*07/28/20 11:26*	*1*

Lab Sample ID: LCS 600-299819/1-A
Matrix: Solid
Analysis Batch: 299801

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299819

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics [C6 - C10]	5.04	5.432		mg/Kg		108	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene	*86*		*70 - 130*

Lab Sample ID: LCSD 600-299819/2-A
Matrix: Solid
Analysis Batch: 299801

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299819

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	5.04	5.254		mg/Kg		104	70 - 130	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene	*86*		*70 - 130*

Lab Sample ID: MB 600-299881/3-A
Matrix: Solid
Analysis Batch: 299880

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299881

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	0.586	U	1.00	0.586	mg/Kg		07/29/20 05:31	07/29/20 07:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*97*		*70 - 130*	*07/29/20 05:31*	*07/29/20 07:13*	*1*

Lab Sample ID: LCS 600-299881/1-A
Matrix: Solid
Analysis Batch: 299880

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299881

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics [C6 - C10]	5.04	5.408		mg/Kg		107	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene	*98*		*70 - 130*

QC Sample Results

Client: ARCADIS U.S., Inc.
Job ID: 600-208707-1
Project/Site: Chevron - L Van Etten 18 Site

Method: 8015D - Gasoline Range Organics (GRO) (GC) (Continued)

Lab Sample ID: LCSD 600-299881/2-A
Client Sample ID: Lab Control Sample Dup
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 299880
Prep Batch: 299881

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics [C6 - C10]			5.04	5.915		mg/Kg		117	70 - 130	9	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene	*98*		*70 - 130*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 600-300243/1-A
Client Sample ID: Method Blank
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 300310
Prep Batch: 300243

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	1.71	U	8.30	1.71	mg/Kg		08/03/20 08:42	08/03/20 18:42	1
Oil Range Organics (C28-C36)	5.00	U	8.30	5.00	mg/Kg		08/03/20 08:42	08/03/20 18:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*87*		*60 - 140*	*08/03/20 08:42*	*08/03/20 18:42*	*1*

Lab Sample ID: LCS 600-300243/2-A
Client Sample ID: Lab Control Sample
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 300310
Prep Batch: 300243

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]			66.7	58.69		mg/Kg		88	66 - 134

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*118*		*60 - 140*

Lab Sample ID: MB 600-300290/1-A
Client Sample ID: Method Blank
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 300369
Prep Batch: 300290

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	1.70	U	8.25	1.70	mg/Kg		08/03/20 12:12	08/04/20 11:32	1
Oil Range Organics (C28-C36)	4.97	U	8.25	4.97	mg/Kg		08/03/20 12:12	08/04/20 11:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*104*		*60 - 140*	*08/03/20 12:12*	*08/04/20 11:32*	*1*

Lab Sample ID: LCS 600-300290/2-A
Client Sample ID: Lab Control Sample
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 300369
Prep Batch: 300290

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]			66.6	60.27		mg/Kg		90	66 - 134

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Chevron - L Van Etten 18 Site

Job ID: 600-208707-1

Method: 8015D - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 600-300290/2-A
Matrix: Solid
Analysis Batch: 300369

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 300290

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	127		60 - 140

Lab Sample ID: LCSD 600-300290/3-A
Matrix: Solid
Analysis Batch: 300369

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 300290

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]			66.5	52.72		mg/Kg		79	66 - 134	13	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
o-Terphenyl	132		60 - 140

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 600-300295/1-A
Matrix: Solid
Analysis Batch: 300266

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.534	U	4.00	0.534	mg/Kg			08/03/20 13:33	1

Lab Sample ID: LCS 600-300295/2-A
Matrix: Solid
Analysis Batch: 300266

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			200	192.0		mg/Kg		96	90 - 110		

Lab Sample ID: 600-208707-1 MS
Matrix: Solid
Analysis Batch: 300266

Client Sample ID: HA-1-S-0"-6"20200723
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	2.82	J	107	96.86		mg/Kg	☼	88	80 - 120		

Lab Sample ID: 600-208707-1 MSD
Matrix: Solid
Analysis Batch: 300266

Client Sample ID: HA-1-S-0"-6"20200723
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	2.82	J	107	98.26		mg/Kg	☼	89	80 - 120	1	20

Lab Sample ID: 600-208707-11 MS
Matrix: Solid
Analysis Batch: 300266

Client Sample ID: HA-5-S-0"-6"-20200723
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	2.68	J	101	93.48		mg/Kg	☼	90	80 - 120		

QC Sample Results

Client: ARCADIS U.S., Inc.
Job ID: 600-208707-1
Project/Site: Chevron - L Van Etten 18 Site

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 600-208707-11 MSD
Client Sample ID: HA-5-S-0"-6"-20200723
Matrix: Solid
Prep Type: Soluble
Analysis Batch: 300266

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	2.68	J	101	91.83		mg/Kg	☼	88	80 - 120	2	20

Method: 2540B - Percent Moisture

Lab Sample ID: 600-208707-1 DU
Client Sample ID: HA-1-S-0"-6"20200723
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 299760

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	6.2			6.7		%				7	20
Percent Solids	93.8			93.3		%				0.5	20

Unadjusted Detection Limits

Client: ARCADIS U.S., Inc.
Job ID: 600-208707-1
Project/Site: Chevron - L Van Etten 18 Site

Method: 8260C - Volatile Organic Compounds by GC/MS

Prep: 5030C

Analyte	MQL	MDL	Units
Benzene	5.00	0.630	ug/Kg
Ethylbenzene	5.00	1.02	ug/Kg
Toluene	5.00	1.38	ug/Kg
Xylenes, Total	5.00	1.13	ug/Kg

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Prep: 5030C

Analyte	MQL	MDL	Units
Gasoline Range Organics [C6 - C10]	1.00	0.586	mg/Kg

Method: 8015D - Diesel Range Organics (DRO) (GC)

Prep: 3546

Analyte	MQL	MDL	Units
Diesel Range Organics [C10-C28]	8.30	1.71	mg/Kg
Oil Range Organics (C28-C36)	8.30	5.00	mg/Kg

Method: 300.0 - Anions, Ion Chromatography - Soluble

Leach: DI Leach

Analyte	MQL	MDL	Units
Chloride	4.00	0.534	mg/Kg

General Chemistry

Analyte	MQL	MDL	Units
Percent Moisture	1.0	1.0	%
Percent Solids	1.0	1.0	%

QC Association Summary

Client: ARCADIS U.S., Inc.
Job ID: 600-208707-1
Project/Site: Chevron - L Van Etten 18 Site

GC/MS VOA

Prep Batch: 299750

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-208707-1	HA-1-S-0"-6"20200723	Total/NA	Solid	5030C	
600-208707-2	HA-1-S-1'-2'-20200723	Total/NA	Solid	5030C	
600-208707-3	HA-1-S-3'-35'-20200723	Total/NA	Solid	5030C	
600-208707-4	HA-2-S-0"-6"'-20200723	Total/NA	Solid	5030C	

Prep Batch: 299767

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-208707-5	HA-2-S-1'-2'-20200723	Total/NA	Solid	5030C	
600-208707-6	HA-2-S-3'-4'-20200723	Total/NA	Solid	5030C	
600-208707-7	HA-3-S-0"-6"-20200723	Total/NA	Solid	5030C	
600-208707-8	HA-3-S-1'-1.5-20200723	Total/NA	Solid	5030C	
600-208707-9	HA-4-S-0"-6"-20200723	Total/NA	Solid	5030C	
600-208707-10	HA-4-S-1'-1.5-20200723	Total/NA	Solid	5030C	
600-208707-11	HA-5-S-0"-6"-20200723	Total/NA	Solid	5030C	

Analysis Batch: 300116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-208707-1	HA-1-S-0"-6"20200723	Total/NA	Solid	8260C	299750
600-208707-2	HA-1-S-1'-2'-20200723	Total/NA	Solid	8260C	299750
MB 600-300116/6	Method Blank	Total/NA	Solid	8260C	
LCS 600-300116/3	Lab Control Sample	Total/NA	Solid	8260C	
LCSD 600-300116/4	Lab Control Sample Dup	Total/NA	Solid	8260C	

Analysis Batch: 300214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-208707-3	HA-1-S-3'-35'-20200723	Total/NA	Solid	8260C	299750
600-208707-4	HA-2-S-0"-6"'-20200723	Total/NA	Solid	8260C	299750
600-208707-5	HA-2-S-1'-2'-20200723	Total/NA	Solid	8260C	299767
600-208707-6	HA-2-S-3'-4'-20200723	Total/NA	Solid	8260C	299767
600-208707-7	HA-3-S-0"-6"-20200723	Total/NA	Solid	8260C	299767
600-208707-8	HA-3-S-1'-1.5-20200723	Total/NA	Solid	8260C	299767
600-208707-9	HA-4-S-0"-6"-20200723	Total/NA	Solid	8260C	299767
600-208707-10	HA-4-S-1'-1.5-20200723	Total/NA	Solid	8260C	299767
600-208707-11	HA-5-S-0"-6"-20200723	Total/NA	Solid	8260C	299767
MB 600-300214/6	Method Blank	Total/NA	Solid	8260C	
LCS 600-300214/3	Lab Control Sample	Total/NA	Solid	8260C	
LCSD 600-300214/4	Lab Control Sample Dup	Total/NA	Solid	8260C	

GC VOA

Analysis Batch: 299801

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-208707-1	HA-1-S-0"-6"20200723	Total/NA	Solid	8015D	299819
600-208707-2	HA-1-S-1'-2'-20200723	Total/NA	Solid	8015D	299819
600-208707-3	HA-1-S-3'-35'-20200723	Total/NA	Solid	8015D	299819
600-208707-4	HA-2-S-0"-6"'-20200723	Total/NA	Solid	8015D	299819
600-208707-5	HA-2-S-1'-2'-20200723	Total/NA	Solid	8015D	299819
MB 600-299819/3-A	Method Blank	Total/NA	Solid	8015D	299819
LCS 600-299819/1-A	Lab Control Sample	Total/NA	Solid	8015D	299819
LCSD 600-299819/2-A	Lab Control Sample Dup	Total/NA	Solid	8015D	299819

QC Association Summary

Client: ARCADIS U.S., Inc.
Job ID: 600-208707-1
Project/Site: Chevron - L Van Etten 18 Site

GC VOA

Prep Batch: 299819

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-208707-1	HA-1-S-0"-6"20200723	Total/NA	Solid	5030C	
600-208707-2	HA-1-S-1'-2'-20200723	Total/NA	Solid	5030C	
600-208707-3	HA-1-S-3'-35'-20200723	Total/NA	Solid	5030C	
600-208707-4	HA-2-S-0"-6"'-20200723	Total/NA	Solid	5030C	
600-208707-5	HA-2-S-1'-2'-20200723	Total/NA	Solid	5030C	
MB 600-299819/3-A	Method Blank	Total/NA	Solid	5030C	
LCS 600-299819/1-A	Lab Control Sample	Total/NA	Solid	5030C	
LCSD 600-299819/2-A	Lab Control Sample Dup	Total/NA	Solid	5030C	

Analysis Batch: 299880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-208707-6	HA-2-S-3'-4'-20200723	Total/NA	Solid	8015D	299881
600-208707-7	HA-3-S-0"-6"-20200723	Total/NA	Solid	8015D	299881
600-208707-8	HA-3-S-1'-1.5-20200723	Total/NA	Solid	8015D	299881
600-208707-9	HA-4-S-0"-6"-20200723	Total/NA	Solid	8015D	299881
600-208707-10	HA-4-S-1'-1.5-20200723	Total/NA	Solid	8015D	299881
600-208707-11	HA-5-S-0"-6"-20200723	Total/NA	Solid	8015D	299881
MB 600-299881/3-A	Method Blank	Total/NA	Solid	8015D	299881
LCS 600-299881/1-A	Lab Control Sample	Total/NA	Solid	8015D	299881
LCSD 600-299881/2-A	Lab Control Sample Dup	Total/NA	Solid	8015D	299881

Prep Batch: 299881

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-208707-6	HA-2-S-3'-4'-20200723	Total/NA	Solid	5030C	
600-208707-7	HA-3-S-0"-6"-20200723	Total/NA	Solid	5030C	
600-208707-8	HA-3-S-1'-1.5-20200723	Total/NA	Solid	5030C	
600-208707-9	HA-4-S-0"-6"-20200723	Total/NA	Solid	5030C	
600-208707-10	HA-4-S-1'-1.5-20200723	Total/NA	Solid	5030C	
600-208707-11	HA-5-S-0"-6"-20200723	Total/NA	Solid	5030C	
MB 600-299881/3-A	Method Blank	Total/NA	Solid	5030C	
LCS 600-299881/1-A	Lab Control Sample	Total/NA	Solid	5030C	
LCSD 600-299881/2-A	Lab Control Sample Dup	Total/NA	Solid	5030C	

GC Semi VOA

Prep Batch: 300243

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-208707-1	HA-1-S-0"-6"20200723	Total/NA	Solid	3546	
MB 600-300243/1-A	Method Blank	Total/NA	Solid	3546	
LCS 600-300243/2-A	Lab Control Sample	Total/NA	Solid	3546	

Prep Batch: 300290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-208707-2	HA-1-S-1'-2'-20200723	Total/NA	Solid	3546	
600-208707-3	HA-1-S-3'-35'-20200723	Total/NA	Solid	3546	
600-208707-4	HA-2-S-0"-6"'-20200723	Total/NA	Solid	3546	
600-208707-5	HA-2-S-1'-2'-20200723	Total/NA	Solid	3546	
600-208707-6	HA-2-S-3'-4'-20200723	Total/NA	Solid	3546	
600-208707-7	HA-3-S-0"-6"-20200723	Total/NA	Solid	3546	
600-208707-8	HA-3-S-1'-1.5-20200723	Total/NA	Solid	3546	
600-208707-9	HA-4-S-0"-6"-20200723	Total/NA	Solid	3546	

QC Association Summary

Client: ARCADIS U.S., Inc.
Job ID: 600-208707-1
Project/Site: Chevron - L Van Etten 18 Site

GC Semi VOA (Continued)

Prep Batch: 300290 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-208707-10	HA-4-S-1'-1.5-20200723	Total/NA	Solid	3546	
600-208707-11	HA-5-S-0"-6"-20200723	Total/NA	Solid	3546	
MB 600-300290/1-A	Method Blank	Total/NA	Solid	3546	
LCS 600-300290/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 600-300290/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	

Analysis Batch: 300310

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-208707-1	HA-1-S-0"-6"20200723	Total/NA	Solid	8015D	300243
MB 600-300243/1-A	Method Blank	Total/NA	Solid	8015D	300243
LCS 600-300243/2-A	Lab Control Sample	Total/NA	Solid	8015D	300243

Analysis Batch: 300369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-208707-2	HA-1-S-1'-2'-20200723	Total/NA	Solid	8015D	300290
600-208707-3	HA-1-S-3'-35'-20200723	Total/NA	Solid	8015D	300290
600-208707-4	HA-2-S-0"-6"'-20200723	Total/NA	Solid	8015D	300290
600-208707-5	HA-2-S-1'-2'-20200723	Total/NA	Solid	8015D	300290
600-208707-6	HA-2-S-3'-4'-20200723	Total/NA	Solid	8015D	300290
600-208707-7	HA-3-S-0"-6"-20200723	Total/NA	Solid	8015D	300290
600-208707-8	HA-3-S-1'-1.5-20200723	Total/NA	Solid	8015D	300290
600-208707-9	HA-4-S-0"-6"-20200723	Total/NA	Solid	8015D	300290
600-208707-10	HA-4-S-1'-1.5-20200723	Total/NA	Solid	8015D	300290
600-208707-11	HA-5-S-0"-6"-20200723	Total/NA	Solid	8015D	300290
MB 600-300290/1-A	Method Blank	Total/NA	Solid	8015D	300290
LCS 600-300290/2-A	Lab Control Sample	Total/NA	Solid	8015D	300290
LCSD 600-300290/3-A	Lab Control Sample Dup	Total/NA	Solid	8015D	300290

HPLC/IC

Analysis Batch: 300266

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-208707-1	HA-1-S-0"-6"20200723	Soluble	Solid	300.0	300295
600-208707-2	HA-1-S-1'-2'-20200723	Soluble	Solid	300.0	300295
600-208707-3	HA-1-S-3'-35'-20200723	Soluble	Solid	300.0	300295
600-208707-4	HA-2-S-0"-6"'-20200723	Soluble	Solid	300.0	300295
600-208707-5	HA-2-S-1'-2'-20200723	Soluble	Solid	300.0	300295
600-208707-6	HA-2-S-3'-4'-20200723	Soluble	Solid	300.0	300295
600-208707-7	HA-3-S-0"-6"-20200723	Soluble	Solid	300.0	300295
600-208707-8	HA-3-S-1'-1.5-20200723	Soluble	Solid	300.0	300295
600-208707-9	HA-4-S-0"-6"-20200723	Soluble	Solid	300.0	300295
600-208707-10	HA-4-S-1'-1.5-20200723	Soluble	Solid	300.0	300295
600-208707-11	HA-5-S-0"-6"-20200723	Soluble	Solid	300.0	300295
MB 600-300295/1-A	Method Blank	Soluble	Solid	300.0	300295
LCS 600-300295/2-A	Lab Control Sample	Soluble	Solid	300.0	300295
600-208707-1 MS	HA-1-S-0"-6"20200723	Soluble	Solid	300.0	300295
600-208707-1 MSD	HA-1-S-0"-6"20200723	Soluble	Solid	300.0	300295
600-208707-11 MS	HA-5-S-0"-6"-20200723	Soluble	Solid	300.0	300295
600-208707-11 MSD	HA-5-S-0"-6"-20200723	Soluble	Solid	300.0	300295

QC Association Summary

Client: ARCADIS U.S., Inc.
Job ID: 600-208707-1
Project/Site: Chevron - L Van Etten 18 Site

HPLC/IC

Leach Batch: 300295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-208707-1	HA-1-S-0"-6"20200723	Soluble	Solid	DI Leach	
600-208707-2	HA-1-S-1'-2'-20200723	Soluble	Solid	DI Leach	
600-208707-3	HA-1-S-3'-35'-20200723	Soluble	Solid	DI Leach	
600-208707-4	HA-2-S-0"-6"'-20200723	Soluble	Solid	DI Leach	
600-208707-5	HA-2-S-1'-2'-20200723	Soluble	Solid	DI Leach	
600-208707-6	HA-2-S-3'-4'-20200723	Soluble	Solid	DI Leach	
600-208707-7	HA-3-S-0"-6"-20200723	Soluble	Solid	DI Leach	
600-208707-8	HA-3-S-1'-1.5-20200723	Soluble	Solid	DI Leach	
600-208707-9	HA-4-S-0"-6"-20200723	Soluble	Solid	DI Leach	
600-208707-10	HA-4-S-1'-1.5-20200723	Soluble	Solid	DI Leach	
600-208707-11	HA-5-S-0"-6"-20200723	Soluble	Solid	DI Leach	
MB 600-300295/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 600-300295/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
600-208707-1 MS	HA-1-S-0"-6"20200723	Soluble	Solid	DI Leach	
600-208707-1 MSD	HA-1-S-0"-6"20200723	Soluble	Solid	DI Leach	
600-208707-11 MS	HA-5-S-0"-6"-20200723	Soluble	Solid	DI Leach	
600-208707-11 MSD	HA-5-S-0"-6"-20200723	Soluble	Solid	DI Leach	

General Chemistry

Analysis Batch: 299760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-208707-1	HA-1-S-0"-6"20200723	Total/NA	Solid	2540B	
600-208707-2	HA-1-S-1'-2'-20200723	Total/NA	Solid	2540B	
600-208707-3	HA-1-S-3'-35'-20200723	Total/NA	Solid	2540B	
600-208707-4	HA-2-S-0"-6"'-20200723	Total/NA	Solid	2540B	
600-208707-5	HA-2-S-1'-2'-20200723	Total/NA	Solid	2540B	
600-208707-6	HA-2-S-3'-4'-20200723	Total/NA	Solid	2540B	
600-208707-7	HA-3-S-0"-6"-20200723	Total/NA	Solid	2540B	
600-208707-8	HA-3-S-1'-1.5-20200723	Total/NA	Solid	2540B	
600-208707-9	HA-4-S-0"-6"-20200723	Total/NA	Solid	2540B	
600-208707-10	HA-4-S-1'-1.5-20200723	Total/NA	Solid	2540B	
600-208707-11	HA-5-S-0"-6"-20200723	Total/NA	Solid	2540B	
600-208707-1 DU	HA-1-S-0"-6"20200723	Total/NA	Solid	2540B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Job ID: 600-208707-1
Project/Site: Chevron - L Van Etten 18 Site

Client Sample ID: HA-1-S-0"-6"20200723
Lab Sample ID: 600-208707-1
Date Collected: 07/23/20 12:58
Matrix: Solid
Date Received: 07/24/20 09:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540B		1	299760	07/27/20 14:01	ANP	TAL HOU

Client Sample ID: HA-1-S-0"-6"20200723
Lab Sample ID: 600-208707-1
Date Collected: 07/23/20 12:58
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 93.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			299750	07/27/20 15:45	KLV	TAL HOU
Total/NA	Analysis	8260C		1	300116	07/31/20 18:19	WS1	TAL HOU
Total/NA	Prep	5030C			299819	07/28/20 10:19	WS1	TAL HOU
Total/NA	Analysis	8015D		1	299801	07/28/20 18:30	WS1	TAL HOU
Total/NA	Prep	3546			300243	08/03/20 08:42	EAT	TAL HOU
Total/NA	Analysis	8015D		1	300310	08/04/20 09:31	RJV	TAL HOU
Soluble	Leach	DI Leach			300295	08/03/20 12:50	DTN	TAL HOU
Soluble	Analysis	300.0		1	300266	08/03/20 17:14	W1N	TAL HOU

Client Sample ID: HA-1-S-1'-2'-20200723
Lab Sample ID: 600-208707-2
Date Collected: 07/23/20 13:08
Matrix: Solid
Date Received: 07/24/20 09:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540B		1	299760	07/27/20 14:01	ANP	TAL HOU

Client Sample ID: HA-1-S-1'-2'-20200723
Lab Sample ID: 600-208707-2
Date Collected: 07/23/20 13:08
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 78.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			299750	07/27/20 15:45	KLV	TAL HOU
Total/NA	Analysis	8260C		1	300116	07/31/20 15:14	WS1	TAL HOU
Total/NA	Prep	5030C			299819	07/28/20 10:19	WS1	TAL HOU
Total/NA	Analysis	8015D		1	299801	07/28/20 18:55	WS1	TAL HOU
Total/NA	Prep	3546			300290	08/03/20 12:12	SMB	TAL HOU
Total/NA	Analysis	8015D		1	300369	08/04/20 13:29	RJV	TAL HOU
Soluble	Leach	DI Leach			300295	08/03/20 12:50	DTN	TAL HOU
Soluble	Analysis	300.0		1	300266	08/03/20 18:15	W1N	TAL HOU

Client Sample ID: HA-1-S-3'-35'-20200723
Lab Sample ID: 600-208707-3
Date Collected: 07/23/20 13:28
Matrix: Solid
Date Received: 07/24/20 09:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540B		1	299760	07/27/20 14:01	ANP	TAL HOU

Lab Chronicle

Client: ARCADIS U.S., Inc.
Job ID: 600-208707-1
Project/Site: Chevron - L Van Etten 18 Site

Client Sample ID: HA-1-S-3'-35'-20200723
Lab Sample ID: 600-208707-3

Date Collected: 07/23/20 13:28
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 80.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			299750	07/27/20 15:45	KLV	TAL HOU
Total/NA	Analysis	8260C		1	300214	08/01/20 09:35	WS1	TAL HOU
Total/NA	Prep	5030C			299819	07/28/20 10:21	WS1	TAL HOU
Total/NA	Analysis	8015D		1	299801	07/28/20 19:20	WS1	TAL HOU
Total/NA	Prep	3546			300290	08/03/20 12:12	SMB	TAL HOU
Total/NA	Analysis	8015D		1	300369	08/04/20 14:10	RJV	TAL HOU
Soluble	Leach	DI Leach			300295	08/03/20 12:50	DTN	TAL HOU
Soluble	Analysis	300.0		1	300266	08/03/20 18:36	W1N	TAL HOU

Client Sample ID: HA-2-S-0"-6"'-20200723
Lab Sample ID: 600-208707-4

Date Collected: 07/23/20 13:44
Matrix: Solid
Date Received: 07/24/20 09:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540B		1	299760	07/27/20 14:01	ANP	TAL HOU

Client Sample ID: HA-2-S-0"-6"'-20200723
Lab Sample ID: 600-208707-4

Date Collected: 07/23/20 13:44
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 78.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			299750	07/27/20 15:45	KLV	TAL HOU
Total/NA	Analysis	8260C		1	300214	08/01/20 09:57	WS1	TAL HOU
Total/NA	Prep	5030C			299819	07/28/20 10:21	WS1	TAL HOU
Total/NA	Analysis	8015D		1	299801	07/28/20 19:45	WS1	TAL HOU
Total/NA	Prep	3546			300290	08/03/20 12:12	SMB	TAL HOU
Total/NA	Analysis	8015D		1	300369	08/04/20 14:50	RJV	TAL HOU
Soluble	Leach	DI Leach			300295	08/03/20 12:50	DTN	TAL HOU
Soluble	Analysis	300.0		1	300266	08/03/20 18:56	W1N	TAL HOU

Client Sample ID: HA-2-S-1'-2'-20200723
Lab Sample ID: 600-208707-5

Date Collected: 07/23/20 13:57
Matrix: Solid
Date Received: 07/24/20 09:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540B		1	299760	07/27/20 14:01	ANP	TAL HOU

Client Sample ID: HA-2-S-1'-2'-20200723
Lab Sample ID: 600-208707-5

Date Collected: 07/23/20 13:57
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 97.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			299767	07/27/20 15:45	KLV	TAL HOU
Total/NA	Analysis	8260C		1	300214	08/01/20 10:19	WS1	TAL HOU
Total/NA	Prep	5030C			299819	07/28/20 10:21	WS1	TAL HOU
Total/NA	Analysis	8015D		1	299801	07/28/20 20:10	WS1	TAL HOU

Eurofins TestAmerica, Houston

Lab Chronicle

Client: ARCADIS U.S., Inc.
Job ID: 600-208707-1
Project/Site: Chevron - L Van Etten 18 Site

Client Sample ID: HA-2-S-1'-2'-20200723
Lab Sample ID: 600-208707-5
Date Collected: 07/23/20 13:57
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 97.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			300290	08/03/20 12:12	SMB	TAL HOU
Total/NA	Analysis	8015D		1	300369	08/04/20 15:30	RJV	TAL HOU
Soluble	Leach	DI Leach			300295	08/03/20 12:50	DTN	TAL HOU
Soluble	Analysis	300.0		1	300266	08/03/20 19:16	W1N	TAL HOU

Client Sample ID: HA-2-S-3'-4'-20200723
Lab Sample ID: 600-208707-6
Date Collected: 07/23/20 14:01
Matrix: Solid
Date Received: 07/24/20 09:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540B		1	299760	07/27/20 14:01	ANP	TAL HOU

Client Sample ID: HA-2-S-3'-4'-20200723
Lab Sample ID: 600-208707-6
Date Collected: 07/23/20 14:01
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 81.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			299767	07/27/20 15:45	KLV	TAL HOU
Total/NA	Analysis	8260C		1	300214	08/01/20 10:42	WS1	TAL HOU
Total/NA	Prep	5030C			299881	07/29/20 05:31	WS1	TAL HOU
Total/NA	Analysis	8015D		1	299880	07/29/20 07:38	WS1	TAL HOU
Total/NA	Prep	3546			300290	08/03/20 12:12	SMB	TAL HOU
Total/NA	Analysis	8015D		1	300369	08/04/20 16:11	RJV	TAL HOU
Soluble	Leach	DI Leach			300295	08/03/20 12:50	DTN	TAL HOU
Soluble	Analysis	300.0		1	300266	08/03/20 19:37	W1N	TAL HOU

Client Sample ID: HA-3-S-0"-6"-20200723
Lab Sample ID: 600-208707-7
Date Collected: 07/23/20 14:16
Matrix: Solid
Date Received: 07/24/20 09:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540B		1	299760	07/27/20 14:37	ANP	TAL HOU

Client Sample ID: HA-3-S-0"-6"-20200723
Lab Sample ID: 600-208707-7
Date Collected: 07/23/20 14:16
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 73.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			299767	07/27/20 15:45	KLV	TAL HOU
Total/NA	Analysis	8260C		1	300214	08/01/20 11:04	WS1	TAL HOU
Total/NA	Prep	5030C			299881	07/29/20 05:31	WS1	TAL HOU
Total/NA	Analysis	8015D		1	299880	07/29/20 08:02	WS1	TAL HOU
Total/NA	Prep	3546			300290	08/03/20 12:12	SMB	TAL HOU
Total/NA	Analysis	8015D		1	300369	08/04/20 16:51	RJV	TAL HOU
Soluble	Leach	DI Leach			300295	08/03/20 12:50	DTN	TAL HOU
Soluble	Analysis	300.0		1	300266	08/03/20 20:38	W1N	TAL HOU

Lab Chronicle

Client: ARCADIS U.S., Inc.
Job ID: 600-208707-1
Project/Site: Chevron - L Van Etten 18 Site

Client Sample ID: HA-3-S-1'-1.5-20200723
Lab Sample ID: 600-208707-8
Date Collected: 07/23/20 14:21
Matrix: Solid
Date Received: 07/24/20 09:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540B		1	299760	07/27/20 14:37	ANP	TAL HOU

Client Sample ID: HA-3-S-1'-1.5-20200723
Lab Sample ID: 600-208707-8
Date Collected: 07/23/20 14:21
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 98.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			299767	07/27/20 15:45	KLV	TAL HOU
Total/NA	Analysis	8260C		1	300214	08/01/20 11:26	WS1	TAL HOU
Total/NA	Prep	5030C			299881	07/29/20 05:31	WS1	TAL HOU
Total/NA	Analysis	8015D		1	299880	07/29/20 08:27	WS1	TAL HOU
Total/NA	Prep	3546			300290	08/03/20 12:12	SMB	TAL HOU
Total/NA	Analysis	8015D		1	300369	08/04/20 17:32	RJV	TAL HOU
Soluble	Leach	DI Leach			300295	08/03/20 12:50	DTN	TAL HOU
Soluble	Analysis	300.0		1	300266	08/03/20 20:58	W1N	TAL HOU

Client Sample ID: HA-4-S-0"-6"-20200723
Lab Sample ID: 600-208707-9
Date Collected: 07/23/20 14:33
Matrix: Solid
Date Received: 07/24/20 09:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540B		1	299760	07/27/20 14:37	ANP	TAL HOU

Client Sample ID: HA-4-S-0"-6"-20200723
Lab Sample ID: 600-208707-9
Date Collected: 07/23/20 14:33
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 99.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			299767	07/27/20 15:45	KLV	TAL HOU
Total/NA	Analysis	8260C		1	300214	08/01/20 11:48	WS1	TAL HOU
Total/NA	Prep	5030C			299881	07/29/20 05:31	WS1	TAL HOU
Total/NA	Analysis	8015D		1	299880	07/29/20 08:51	WS1	TAL HOU
Total/NA	Prep	3546			300290	08/03/20 12:12	SMB	TAL HOU
Total/NA	Analysis	8015D		1	300369	08/04/20 18:52	RJV	TAL HOU
Soluble	Leach	DI Leach			300295	08/03/20 12:50	DTN	TAL HOU
Soluble	Analysis	300.0		1	300266	08/03/20 21:19	W1N	TAL HOU

Client Sample ID: HA-4-S-1'-1.5-20200723
Lab Sample ID: 600-208707-10
Date Collected: 07/23/20 14:42
Matrix: Solid
Date Received: 07/24/20 09:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540B		1	299760	07/27/20 14:37	ANP	TAL HOU

Lab Chronicle

Client: ARCADIS U.S., Inc.
Job ID: 600-208707-1
Project/Site: Chevron - L Van Etten 18 Site

Client Sample ID: HA-4-S-1'-1.5-20200723
Lab Sample ID: 600-208707-10

Date Collected: 07/23/20 14:42
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 96.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			299767	07/27/20 15:45	KLV	TAL HOU
Total/NA	Analysis	8260C		1	300214	08/01/20 12:10	WS1	TAL HOU
Total/NA	Prep	5030C			299881	07/29/20 05:31	WS1	TAL HOU
Total/NA	Analysis	8015D		1	299880	07/29/20 09:16	WS1	TAL HOU
Total/NA	Prep	3546			300290	08/03/20 12:12	SMB	TAL HOU
Total/NA	Analysis	8015D		1	300369	08/04/20 19:31	RJV	TAL HOU
Soluble	Leach	DI Leach			300295	08/03/20 12:50	DTN	TAL HOU
Soluble	Analysis	300.0		1	300266	08/03/20 21:39	W1N	TAL HOU

Client Sample ID: HA-5-S-0"-6"-20200723
Lab Sample ID: 600-208707-11

Date Collected: 07/23/20 14:57
Matrix: Solid
Date Received: 07/24/20 09:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540B		1	299760	07/27/20 14:37	ANP	TAL HOU

Client Sample ID: HA-5-S-0"-6"-20200723
Lab Sample ID: 600-208707-11

Date Collected: 07/23/20 14:57
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 98.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			299767	07/27/20 15:45	KLV	TAL HOU
Total/NA	Analysis	8260C		1	300214	08/01/20 12:32	WS1	TAL HOU
Total/NA	Prep	5030C			299881	07/29/20 05:31	WS1	TAL HOU
Total/NA	Analysis	8015D		1	299880	07/29/20 09:41	WS1	TAL HOU
Total/NA	Prep	3546			300290	08/03/20 12:12	SMB	TAL HOU
Total/NA	Analysis	8015D		1	300369	08/04/20 20:10	RJV	TAL HOU
Soluble	Leach	DI Leach			300295	08/03/20 12:50	DTN	TAL HOU
Soluble	Analysis	300.0		1	300266	08/03/20 22:00	W1N	TAL HOU

Laboratory References:

TAL HOU = Eurofins TestAmerica, Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Job ID: 600-208707-1
Project/Site: Chevron - L Van Etten 18 Site

Laboratory: Eurofins TestAmerica, Houston

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704223-19-25	10-31-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
2540B		Solid	Percent Moisture
2540B		Solid	Percent Solids
8015D	3546	Solid	Oil Range Organics (C28-C36)

Eurofins TestAmerica, Houston
6310 Rothway Street
Houston, TX 77040
Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record

Midland #264

eurofins Environment Testing America

Client Information	Sampler: Carlos Grajeda	Lab PM: Kudchadkar, Sachin G	Carrier Tracking No(s):	COC No: 600-77944-20955.1
Client Contact: Justin Nixon	Phone: (432) 312-8031	E-Mail: Sachin.Kudchadkar@Eurofinset.com		Page: Page 1 of 1
Company: ARCADIS U.S., Inc.		Analysis Requested		Job #:
Address: 1004 North Big Spring Suite 121	Due Date Requested: —			Preservation Codes:
City: Midland	TAT Requested (days): STD			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
State, Zip: TX, 79701	PO #: ~~300568042~~ 30056842			
Phone:	WO #:			Other:
Email: Justin.Nixon@arcadis.com	Project #: 60012494			
Project Name: Chevron - L Van Etten 18 Site	SSOW#:			
Site:				

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015D_DRO/ORO- C12-C28/ C28-C35	8015D_GRO, C6-C12	8260B- BTEX	300- Chloride	moisture	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N		
HA-1-S-0'-6"-20200723	7-23-20	1258	G	Solid			X	X	X	X	X	3	
HA-1-S-1'-2'-20200723		1308		Solid									
HA-1-S-3'-3.5'-20200723		1328		Solid									
HA-2-S-0"-6"-20200723		1344		Solid									
HA-2-S-1'-2'-20200723		1357		Solid									
HA-2-S-3'-4'-20200723		~~1404~~ 1401		Solid									
HA-3-S-0'-6"-20200723		1416		Solid									
HA-3-S-1'-1.5'-20200723		1421		Solid									
HA-4-S-0'-6"-20200723		1433		Solid									
HA-4-S-1'-1.5-20200723		1442		Solid									
HA-5-S-0'-6"-20200723	7-23-20	1457	G	Solid			X	X	X	X	X	3	

600-208707 Chain of Custody

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Carlos Grajeda	7-23-20 1650	Arcadis	YCRS	7/24/20 953	EA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Eurofins TestAmerica Houston

Loc: 600
208707

eurofins | Environment Testing TestAmerica

Sample Receipt Checklist

'20 JUL 24 9:53

Date/Time Received: _____

JOB NUMBER: _____ CLIENT: Arcadis

UNPACKED BY: YP CARRIER/DRIVER: Fedex

Custody Seal Present: ☑YES ☐NO Number of Coolers Received: 1

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Therm CF	Corrected Temp (°C)
9515	Y / N	Y / N	1.7	678	-0.1	1.6
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				7/24/20
	Y / N	Y / N				

CF = correction factor

Samples received on ice? ☑YES ☐NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED: ☑NO ☐YES

Base samples are>pH 12: ☐YES ☐NO Acid preserved are<pH 2: ☐YES ☐NO

TX1005 samples frozen upon receipt: ☐ YES DATE & TIME PUT IN FREEZER: _____

pH paper Lot #_____ VOA headspace acceptable (5-6mm): ☐YES ☐NO ☑NA

Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	☑YES	☐ NO

COMMENTS:

7/24/20

HS-SA-WI-013 Rev. 4A; 08/26/2019

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 600-208707-1

Login Number: 208707
List Number: 1
Creator: Rubio, Yuri

List Source: Eurofins TestAmerica, Houston

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

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ANALYTICAL REPORT

Eurofins TestAmerica, Houston
6310 Rothway Street
Houston, TX 77040
Tel: (713)690-4444

Laboratory Job ID: 600-208730-1
Client Project/Site: Chevron - L Van Etten 18 Site

For:
ARCADIS U.S., Inc.
1004 North Big Spring
Suite 121
Midland, Texas 79701

Attn: Justin Nixon

Authorized for release by:
8/7/2020 3:27:52 PM

Sachin Kudchadkar, Senior Project Manager
(713)690-4444
Sachin.Kudchadkar@Eurofinset.com

Client: ARCADIS U.S., Inc.
Project/Site: Chevron - L Van Etten 18 Site

Laboratory Job ID: 600-208730-1

Table of Contents

Method Summary

Client: ARCADIS U.S., Inc.
Job ID: 600-208730-1
Project/Site: Chevron - L Van Etten 18 Site

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL HOU
8015D	Gasoline Range Organics (GRO) (GC)	SW846	TAL HOU
8015D	Diesel Range Organics (DRO) (GC)	SW846	TAL HOU
300.0	Anions, Ion Chromatography	MCAWW	TAL HOU
2540B	Percent Moisture	SM20	TAL HOU
3546	Microwave Extraction	SW846	TAL HOU
5030C	Purge and Trap for Solids	SW846	TAL HOU
5030C	Purge and Trap Methanol Dilution	SW846	TAL HOU
DI Leach	Deionized Water Leaching Procedure (Routine)	ASTM	TAL HOU

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM20 = "Standard Methods For The Examination Of Water And Wastewater", 20th Edition."

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL HOU = Eurofins TestAmerica, Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Chevron - L Van Etten 18 Site

Job ID: 600-208730-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
600-208730-1	HA-5-S-1'-2'-20200723	Solid	07/23/20 15:07	07/24/20 09:53	
600-208730-2	HA-5-S-3'-4'-20200723	Solid	07/23/20 15:14	07/24/20 09:53	
600-208730-3	HA-6-S-0"-6"-20200723	Solid	07/23/20 15:30	07/24/20 09:53	
600-208730-4	HA-6-S-1'-2'-20200723	Solid	07/23/20 15:36	07/24/20 09:53	
600-208730-5	HA-7-S-0"-6"-20200723	Solid	07/23/20 15:45	07/24/20 09:53	
600-208730-6	HA-7-S-1'-2'-20200723	Solid	07/23/20 15:48	07/24/20 09:53	
600-208730-7	HA-7-S-3'-4'-20200723	Solid	07/23/20 15:50	07/24/20 09:53	

Client Sample Results

Client: ARCADIS U.S., Inc.
Job ID: 600-208730-1
Project/Site: Chevron - L Van Etten 18 Site

Client Sample ID: HA-5-S-1'-2'-20200723
Lab Sample ID: 600-208730-1
Date Collected: 07/23/20 15:07
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 97.5

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**15.6**		5.04	0.635	ug/Kg	☼	07/27/20 15:45	07/29/20 14:49	1
Ethylbenzene	1.03	U	5.04	1.03	ug/Kg	☼	07/27/20 15:45	07/29/20 14:49	1
Toluene	**9.69**		5.04	1.39	ug/Kg	☼	07/27/20 15:45	07/29/20 14:49	1
Xylenes, Total	**4.94**	**J**	5.04	1.14	ug/Kg	☼	07/27/20 15:45	07/29/20 14:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*61 - 130*	*07/27/20 15:45*	*07/29/20 14:49*	*1*
4-Bromofluorobenzene	*88*		*57 - 140*	*07/27/20 15:45*	*07/29/20 14:49*	*1*
Dibromofluoromethane	*91*		*68 - 140*	*07/27/20 15:45*	*07/29/20 14:49*	*1*
Toluene-d8 (Surr)	*90*		*50 - 130*	*07/27/20 15:45*	*07/29/20 14:49*	*1*

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	0.641	U	1.09	0.641	mg/Kg	☼	07/29/20 05:31	07/29/20 12:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*102*		*70 - 130*	*07/29/20 05:31*	*07/29/20 12:59*	*1*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	2.61	U	12.7	2.61	mg/Kg	☼	08/03/20 12:12	08/04/20 20:48	1
Oil Range Organics (C28-C36)	7.62	U	12.7	7.62	mg/Kg	☼	08/03/20 12:12	08/04/20 20:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*104*		*60 - 140*	*08/03/20 12:12*	*08/04/20 20:48*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2.06**	**J**	4.10	0.548	mg/Kg	☼		08/05/20 21:32	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**2.5**		1.0	1.0	%			07/27/20 14:37	1
Percent Solids	**97.5**		1.0	1.0	%			07/27/20 14:37	1

Client Sample ID: HA-5-S-3'-4'-20200723
Lab Sample ID: 600-208730-2
Date Collected: 07/23/20 15:14
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 79.3

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1.62**	**J**	6.23	0.785	ug/Kg	☼	07/27/20 15:45	07/29/20 15:12	1
Ethylbenzene	1.27	U	6.23	1.27	ug/Kg	☼	07/27/20 15:45	07/29/20 15:12	1
Toluene	**2.67**	**J**	6.23	1.72	ug/Kg	☼	07/27/20 15:45	07/29/20 15:12	1
Xylenes, Total	1.41	U	6.23	1.41	ug/Kg	☼	07/27/20 15:45	07/29/20 15:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*78*		*61 - 130*	*07/27/20 15:45*	*07/29/20 15:12*	*1*
4-Bromofluorobenzene	*94*		*57 - 140*	*07/27/20 15:45*	*07/29/20 15:12*	*1*
Dibromofluoromethane	*89*		*68 - 140*	*07/27/20 15:45*	*07/29/20 15:12*	*1*
Toluene-d8 (Surr)	*90*		*50 - 130*	*07/27/20 15:45*	*07/29/20 15:12*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Job ID: 600-208730-1
Project/Site: Chevron - L Van Etten 18 Site

Client Sample ID: HA-5-S-3'-4'-20200723
Lab Sample ID: 600-208730-2
Date Collected: 07/23/20 15:14
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 79.3

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	0.720	U	1.23	0.720	mg/Kg	☼	07/29/20 05:31	07/29/20 13:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*90*		*70 - 130*	*07/29/20 05:31*	*07/29/20 13:24*	*1*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**15.8**		15.6	3.22	mg/Kg	☼	08/03/20 12:12	08/04/20 21:26	1
Oil Range Organics (C28-C36)	**61.7**		15.6	9.42	mg/Kg	☼	08/03/20 12:12	08/04/20 21:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*107*		*60 - 140*	*08/03/20 12:12*	*08/04/20 21:26*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**11.3**		5.05	0.674	mg/Kg	☼		08/05/20 21:53	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**20.7**		1.0	1.0	%			07/27/20 14:37	1
Percent Solids	**79.3**		1.0	1.0	%			07/27/20 14:37	1

Client Sample ID: HA-6-S-0"-6"-20200723
Lab Sample ID: 600-208730-3
Date Collected: 07/23/20 15:30
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 99.4

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1.71**	**J**	4.99	0.629	ug/Kg	☼	07/27/20 15:45	07/29/20 15:35	1
Ethylbenzene	1.02	U	4.99	1.02	ug/Kg	☼	07/27/20 15:45	07/29/20 15:35	1
Toluene	**1.91**	**J**	4.99	1.38	ug/Kg	☼	07/27/20 15:45	07/29/20 15:35	1
Xylenes, Total	1.13	U	4.99	1.13	ug/Kg	☼	07/27/20 15:45	07/29/20 15:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*61 - 130*	*07/27/20 15:45*	*07/29/20 15:35*	*1*
4-Bromofluorobenzene	*93*		*57 - 140*	*07/27/20 15:45*	*07/29/20 15:35*	*1*
Dibromofluoromethane	*94*		*68 - 140*	*07/27/20 15:45*	*07/29/20 15:35*	*1*
Toluene-d8 (Surr)	*88*		*50 - 130*	*07/27/20 15:45*	*07/29/20 15:35*	*1*

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	0.633	U	1.08	0.633	mg/Kg	☼	07/29/20 05:31	07/29/20 13:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*98*		*70 - 130*	*07/29/20 05:31*	*07/29/20 13:49*	*1*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	2.58	U	12.5	2.58	mg/Kg	☼	08/03/20 12:12	08/04/20 22:03	1
Oil Range Organics (C28-C36)	**41.5**		12.5	7.53	mg/Kg	☼	08/03/20 12:12	08/04/20 22:03	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Job ID: 600-208730-1
Project/Site: Chevron - L Van Etten 18 Site

Client Sample ID: HA-6-S-0"-6"-20200723
Lab Sample ID: 600-208730-3
Date Collected: 07/23/20 15:30
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 99.4

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	*125*		*60 - 140*	*08/03/20 12:12*	*08/04/20 22:03*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1.94**	**J**	4.03	0.537	mg/Kg	☼		08/05/20 22:13	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**0.6**		1.0	1.0	%			07/27/20 14:37	1
Percent Solids	**99.4**		1.0	1.0	%			07/27/20 14:37	1

Client Sample ID: HA-6-S-1'-2'-20200723
Lab Sample ID: 600-208730-4
Date Collected: 07/23/20 15:36
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 77.5

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**2.49**	**J**	6.51	0.820	ug/Kg	☼	07/27/20 15:45	07/29/20 15:58	1
Ethylbenzene	1.33	U	6.51	1.33	ug/Kg	☼	07/27/20 15:45	07/29/20 15:58	1
Toluene	**3.62**	**J**	6.51	1.80	ug/Kg	☼	07/27/20 15:45	07/29/20 15:58	1
Xylenes, Total	**2.01**	**J**	6.51	1.47	ug/Kg	☼	07/27/20 15:45	07/29/20 15:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*82*		*61 - 130*	*07/27/20 15:45*	*07/29/20 15:58*	*1*
4-Bromofluorobenzene	*91*		*57 - 140*	*07/27/20 15:45*	*07/29/20 15:58*	*1*
Dibromofluoromethane	*91*		*68 - 140*	*07/27/20 15:45*	*07/29/20 15:58*	*1*
Toluene-d8 (Surr)	*87*		*50 - 130*	*07/27/20 15:45*	*07/29/20 15:58*	*1*

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	0.811	U	1.38	0.811	mg/Kg	☼	07/29/20 05:31	07/29/20 14:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	*99*		*70 - 130*	*07/29/20 05:31*	*07/29/20 14:14*	*1*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	3.30	U	16.0	3.30	mg/Kg	☼	08/03/20 12:12	08/04/20 22:41	1
Oil Range Organics (C28-C36)	**54.0**		16.0	9.66	mg/Kg	☼	08/03/20 12:12	08/04/20 22:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	*109*		*60 - 140*	*08/03/20 12:12*	*08/04/20 22:41*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5.19**		5.16	0.689	mg/Kg	☼		08/05/20 22:33	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**22.5**		1.0	1.0	%			07/27/20 14:37	1
Percent Solids	**77.5**		1.0	1.0	%			07/27/20 14:37	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Job ID: 600-208730-1
Project/Site: Chevron - L Van Etten 18 Site

Client Sample ID: HA-7-S-0"-6"-20200723
Lab Sample ID: 600-208730-5
Date Collected: 07/23/20 15:45
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 99.1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**4.67**	**J**	4.98	0.627	ug/Kg	☼	07/27/20 15:45	07/30/20 14:51	1
Ethylbenzene	1.01	U	4.98	1.01	ug/Kg	☼	07/27/20 15:45	07/30/20 14:51	1
Toluene	1.37	U	4.98	1.37	ug/Kg	☼	07/27/20 15:45	07/30/20 14:51	1
Xylenes, Total	1.12	U	4.98	1.12	ug/Kg	☼	07/27/20 15:45	07/30/20 14:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*61 - 130*	*07/27/20 15:45*	*07/30/20 14:51*	*1*
4-Bromofluorobenzene	*93*		*57 - 140*	*07/27/20 15:45*	*07/30/20 14:51*	*1*
Dibromofluoromethane	*93*		*68 - 140*	*07/27/20 15:45*	*07/30/20 14:51*	*1*
Toluene-d8 (Surr)	*88*		*50 - 130*	*07/27/20 15:45*	*07/30/20 14:51*	*1*

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	0.634	U	1.08	0.634	mg/Kg	☼	07/29/20 05:31	07/29/20 14:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*100*		*70 - 130*	*07/29/20 05:31*	*07/29/20 14:38*	*1*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	2.58	U	12.5	2.58	mg/Kg	☼	08/03/20 12:19	08/04/20 23:18	1
Oil Range Organics (C28-C36)	**44.0**		12.5	7.54	mg/Kg	☼	08/03/20 12:19	08/04/20 23:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*86*		*60 - 140*	*08/03/20 12:19*	*08/04/20 23:18*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2.15**	**J**	4.04	0.539	mg/Kg	☼		08/05/20 22:54	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**0.9**		1.0	1.0	%			07/27/20 14:37	1
Percent Solids	**99.1**		1.0	1.0	%			07/27/20 14:37	1

Client Sample ID: HA-7-S-1'-2'-20200723
Lab Sample ID: 600-208730-6
Date Collected: 07/23/20 15:48
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 98.1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**3.61**	**J**	5.10	0.642	ug/Kg	☼	07/27/20 15:45	07/30/20 15:15	1
Ethylbenzene	1.04	U	5.10	1.04	ug/Kg	☼	07/27/20 15:45	07/30/20 15:15	1
Toluene	**2.93**	**J**	5.10	1.41	ug/Kg	☼	07/27/20 15:45	07/30/20 15:15	1
Xylenes, Total	1.15	U	5.10	1.15	ug/Kg	☼	07/27/20 15:45	07/30/20 15:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*61 - 130*	*07/27/20 15:45*	*07/30/20 15:15*	*1*
4-Bromofluorobenzene	*95*		*57 - 140*	*07/27/20 15:45*	*07/30/20 15:15*	*1*
Dibromofluoromethane	*93*		*68 - 140*	*07/27/20 15:45*	*07/30/20 15:15*	*1*
Toluene-d8 (Surr)	*88*		*50 - 130*	*07/27/20 15:45*	*07/30/20 15:15*	*1*

Client Sample Results

Client: ARCADIS U.S., Inc.
Job ID: 600-208730-1
Project/Site: Chevron - L Van Etten 18 Site

Client Sample ID: HA-7-S-1'-2'-20200723
Lab Sample ID: 600-208730-6
Date Collected: 07/23/20 15:48
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 98.1

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	0.583	U	0.995	0.583	mg/Kg	☼	07/29/20 06:32	07/29/20 15:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*105*		*70 - 130*	*07/29/20 06:32*	*07/29/20 15:03*	*1*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	2.59	U	12.6	2.59	mg/Kg	☼	08/03/20 12:19	08/04/20 23:55	1
Oil Range Organics (C28-C36)	**40.4**		12.6	7.59	mg/Kg	☼	08/03/20 12:19	08/04/20 23:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*110*		*60 - 140*	*08/03/20 12:19*	*08/04/20 23:55*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2.00**	**J**	4.08	0.545	mg/Kg	☼		08/05/20 23:55	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**1.9**		1.0	1.0	%			07/27/20 14:37	1
Percent Solids	**98.1**		1.0	1.0	%			07/27/20 14:37	1

Client Sample ID: HA-7-S-3'-4'-20200723
Lab Sample ID: 600-208730-7
Date Collected: 07/23/20 15:50
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 82.3

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**4.04**	**J**	5.99	0.755	ug/Kg	☼	07/27/20 15:45	07/30/20 15:39	1
Ethylbenzene	1.22	U	5.99	1.22	ug/Kg	☼	07/27/20 15:45	07/30/20 15:39	1
Toluene	**3.28**	**J**	5.99	1.65	ug/Kg	☼	07/27/20 15:45	07/30/20 15:39	1
Xylenes, Total	1.35	U	5.99	1.35	ug/Kg	☼	07/27/20 15:45	07/30/20 15:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*61 - 130*	*07/27/20 15:45*	*07/30/20 15:39*	*1*
4-Bromofluorobenzene	*96*		*57 - 140*	*07/27/20 15:45*	*07/30/20 15:39*	*1*
Dibromofluoromethane	*98*		*68 - 140*	*07/27/20 15:45*	*07/30/20 15:39*	*1*
Toluene-d8 (Surr)	*84*		*50 - 130*	*07/27/20 15:45*	*07/30/20 15:39*	*1*

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	0.729	U	1.24	0.729	mg/Kg	☼	07/29/20 06:32	07/29/20 15:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*99*		*70 - 130*	*07/29/20 06:32*	*07/29/20 15:28*	*1*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**27.1**		15.1	3.11	mg/Kg	☼	08/03/20 12:19	08/05/20 00:31	1
Oil Range Organics (C28-C36)	**106**		15.1	9.08	mg/Kg	☼	08/03/20 12:19	08/05/20 00:31	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Job ID: 600-208730-1
Project/Site: Chevron - L Van Etten 18 Site

Client Sample ID: HA-7-S-3'-4'-20200723
Lab Sample ID: 600-208730-7
Date Collected: 07/23/20 15:50
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 82.3

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	128		60 - 140	08/03/20 12:19	08/05/20 00:31	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.64	J	4.86	0.649	mg/Kg	☼		08/06/20 00:16	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	17.7		1.0	1.0	%			07/27/20 14:37	1
Percent Solids	82.3		1.0	1.0	%			07/27/20 14:37	1

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Job ID: 600-208730-1
Project/Site: Chevron - L Van Etten 18 Site

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Surrogate Summary

Client: ARCADIS U.S., Inc.
Job ID: 600-208730-1
Project/Site: Chevron - L Van Etten 18 Site

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(61-130)	(57-140)	(68-140)	(50-130)
600-208730-1	HA-5-S-1'-2'-20200723	89	88	91	90
600-208730-2	HA-5-S-3'-4'-20200723	78	94	89	90
600-208730-3	HA-6-S-0"-6"-20200723	87	93	94	88
600-208730-4	HA-6-S-1'-2'-20200723	82	91	91	87
600-208730-5	HA-7-S-0"-6"-20200723	89	93	93	88
600-208730-6	HA-7-S-1'-2'-20200723	92	95	93	88
600-208730-7	HA-7-S-3'-4'-20200723	99	96	98	84
LCS 600-299887/3	Lab Control Sample	93	99	101	96
LCS 600-299999/3	Lab Control Sample	94	96	97	92
LCSD 600-299887/4	Lab Control Sample Dup	94	99	98	94
LCSD 600-299999/4	Lab Control Sample Dup	96	94	101	92
MB 600-299887/6	Method Blank	110	96	101	92
MB 600-299999/5	Method Blank	78	95	92	91

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Matrix: Solid
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
		TFT1
Lab Sample ID	Client Sample ID	(70-130)
600-208730-1	HA-5-S-1'-2'-20200723	102
600-208730-2	HA-5-S-3'-4'-20200723	90
600-208730-3	HA-6-S-0"-6"-20200723	98
600-208730-4	HA-6-S-1'-2'-20200723	99
600-208730-5	HA-7-S-0"-6"-20200723	100
600-208730-6	HA-7-S-1'-2'-20200723	105
600-208730-7	HA-7-S-3'-4'-20200723	99
LCS 600-299881/1-A	Lab Control Sample	98
LCSD 600-299881/2-A	Lab Control Sample Dup	98
MB 600-299881/3-A	Method Blank	97

Surrogate Legend

TFT = a,a,a-Trifluorotoluene

Method: 8015D - Diesel Range Organics (DRO) (GC)

Matrix: Solid
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
		OTPH
Lab Sample ID	Client Sample ID	(60-140)
600-208730-1	HA-5-S-1'-2'-20200723	104
600-208730-2	HA-5-S-3'-4'-20200723	107
600-208730-3	HA-6-S-0"-6"-20200723	125
600-208730-4	HA-6-S-1'-2'-20200723	109
600-208730-5	HA-7-S-0"-6"-20200723	86

Surrogate Summary

Client: ARCADIS U.S., Inc.
Job ID: 600-208730-1
Project/Site: Chevron - L Van Etten 18 Site

Method: 8015D - Diesel Range Organics (DRO) (GC) (Continued)

Matrix: Solid
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	OTPH (60-140)							
600-208730-6	HA-7-S-1'-2'-20200723	110							
600-208730-7	HA-7-S-3'-4'-20200723	128							
LCS 600-300290/2-A	Lab Control Sample	127							
LCSD 600-300290/3-A	Lab Control Sample Dup	132							
MB 600-300290/1-A	Method Blank	104							

Surrogate Legend

OTPH = o-Terphenyl

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Chevron - L Van Etten 18 Site

Job ID: 600-208730-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 600-299887/6
Matrix: Solid
Analysis Batch: 299887

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.630	U	5.00	0.630	ug/Kg			07/29/20 07:12	1
Ethylbenzene	1.02	U	5.00	1.02	ug/Kg			07/29/20 07:12	1
Toluene	1.38	U	5.00	1.38	ug/Kg			07/29/20 07:12	1
Xylenes, Total	1.13	U	5.00	1.13	ug/Kg			07/29/20 07:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*61 - 130*		*07/29/20 07:12*	*1*
4-Bromofluorobenzene	*96*		*57 - 140*		*07/29/20 07:12*	*1*
Dibromofluoromethane	*101*		*68 - 140*		*07/29/20 07:12*	*1*
Toluene-d8 (Surr)	*92*		*50 - 130*		*07/29/20 07:12*	*1*

Lab Sample ID: LCS 600-299887/3
Matrix: Solid
Analysis Batch: 299887

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	51.67		ug/Kg		103	70 - 131
Ethylbenzene	50.0	49.08		ug/Kg		98	66 - 130
m-Xylene & p-Xylene	50.0	50.43		ug/Kg		101	64 - 130
o-Xylene	50.0	48.60		ug/Kg		97	62 - 130
Toluene	50.0	49.13		ug/Kg		98	67 - 130
Xylenes, Total	100	99.03		ug/Kg		99	63 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*93*		*61 - 130*
4-Bromofluorobenzene	*99*		*57 - 140*
Dibromofluoromethane	*101*		*68 - 140*
Toluene-d8 (Surr)	*96*		*50 - 130*

Lab Sample ID: LCSD 600-299887/4
Matrix: Solid
Analysis Batch: 299887

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	50.0	52.18		ug/Kg		104	70 - 131	1	30
Ethylbenzene	50.0	49.52		ug/Kg		99	66 - 130	1	30
m-Xylene & p-Xylene	50.0	51.05		ug/Kg		102	64 - 130	1	30
o-Xylene	50.0	49.73		ug/Kg		99	62 - 130	2	30
Toluene	50.0	49.69		ug/Kg		99	67 - 130	1	30
Xylenes, Total	100	100.8		ug/Kg		101	63 - 130	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*61 - 130*
4-Bromofluorobenzene	*99*		*57 - 140*
Dibromofluoromethane	*98*		*68 - 140*
Toluene-d8 (Surr)	*94*		*50 - 130*

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Chevron - L Van Etten 18 Site

Job ID: 600-208730-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 600-299999/5
Matrix: Solid
Analysis Batch: 299999

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.630	U	5.00	0.630	ug/Kg			07/30/20 08:14	1
Ethylbenzene	1.02	U	5.00	1.02	ug/Kg			07/30/20 08:14	1
Toluene	1.38	U	5.00	1.38	ug/Kg			07/30/20 08:14	1
Xylenes, Total	1.13	U	5.00	1.13	ug/Kg			07/30/20 08:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*78*		*61 - 130*		*07/30/20 08:14*	*1*
4-Bromofluorobenzene	*95*		*57 - 140*		*07/30/20 08:14*	*1*
Dibromofluoromethane	*92*		*68 - 140*		*07/30/20 08:14*	*1*
Toluene-d8 (Surr)	*91*		*50 - 130*		*07/30/20 08:14*	*1*

Lab Sample ID: LCS 600-299999/3
Matrix: Solid
Analysis Batch: 299999

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	48.20		ug/Kg		96	70 - 131
Ethylbenzene	50.0	44.38		ug/Kg		89	66 - 130
m-Xylene & p-Xylene	50.0	46.33		ug/Kg		93	64 - 130
o-Xylene	50.0	44.99		ug/Kg		90	62 - 130
Toluene	50.0	45.08		ug/Kg		90	67 - 130
Xylenes, Total	100	91.32		ug/Kg		91	63 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*61 - 130*
4-Bromofluorobenzene	*96*		*57 - 140*
Dibromofluoromethane	*97*		*68 - 140*
Toluene-d8 (Surr)	*92*		*50 - 130*

Lab Sample ID: LCSD 600-299999/4
Matrix: Solid
Analysis Batch: 299999

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	50.0	55.76		ug/Kg		112	70 - 131	15	30
Ethylbenzene	50.0	51.78		ug/Kg		104	66 - 130	15	30
m-Xylene & p-Xylene	50.0	52.61		ug/Kg		105	64 - 130	13	30
o-Xylene	50.0	51.13		ug/Kg		102	62 - 130	13	30
Toluene	50.0	51.92		ug/Kg		104	67 - 130	14	30
Xylenes, Total	100	103.7		ug/Kg		104	63 - 130	13	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*61 - 130*
4-Bromofluorobenzene	*94*		*57 - 140*
Dibromofluoromethane	*101*		*68 - 140*
Toluene-d8 (Surr)	*92*		*50 - 130*

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Chevron - L Van Etten 18 Site

Job ID: 600-208730-1

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 600-299881/3-A
Matrix: Solid
Analysis Batch: 299880

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299881

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	0.586	U	1.00	0.586	mg/Kg		07/29/20 05:31	07/29/20 07:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*97*		*70 - 130*	*07/29/20 05:31*	*07/29/20 07:13*	*1*

Lab Sample ID: LCS 600-299881/1-A
Matrix: Solid
Analysis Batch: 299880

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299881

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics [C6 - C10]	5.04	5.408		mg/Kg		107	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene	*98*		*70 - 130*

Lab Sample ID: LCSD 600-299881/2-A
Matrix: Solid
Analysis Batch: 299880

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299881

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	5.04	5.915		mg/Kg		117	70 - 130	9	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene	*98*		*70 - 130*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 600-300290/1-A
Matrix: Solid
Analysis Batch: 300369

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 300290

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	1.70	U	8.25	1.70	mg/Kg		08/03/20 12:12	08/04/20 11:32	1
Oil Range Organics (C28-C36)	4.97	U	8.25	4.97	mg/Kg		08/03/20 12:12	08/04/20 11:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*104*		*60 - 140*	*08/03/20 12:12*	*08/04/20 11:32*	*1*

Lab Sample ID: LCS 600-300290/2-A
Matrix: Solid
Analysis Batch: 300369

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 300290

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	66.6	60.27		mg/Kg		90	66 - 134

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Chevron - L Van Etten 18 Site

Job ID: 600-208730-1

Method: 8015D - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 600-300290/2-A
Matrix: Solid
Analysis Batch: 300369

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 300290

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	127		60 - 140

Lab Sample ID: LCSD 600-300290/3-A
Matrix: Solid
Analysis Batch: 300369

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 300290

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]			66.5	52.72		mg/Kg		79	66 - 134	13	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
o-Terphenyl	132		60 - 140

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 600-300486/1-A
Matrix: Solid
Analysis Batch: 300488

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.534	U	4.00	0.534	mg/Kg			08/04/20 12:38	1

Lab Sample ID: LCS 600-300486/2-A
Matrix: Solid
Analysis Batch: 300488

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			200	186.4		mg/Kg		93	90 - 110		

Lab Sample ID: 600-208730-5 MS
Matrix: Solid
Analysis Batch: 300488

Client Sample ID: HA-7-S-0"-6"-20200723
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	2.15	J	101	88.08		mg/Kg	☼	85	80 - 120		

Lab Sample ID: 600-208730-5 MSD
Matrix: Solid
Analysis Batch: 300488

Client Sample ID: HA-7-S-0"-6"-20200723
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	2.15	J	101	88.00		mg/Kg	☼	85	80 - 120	0	20

QC Sample Results

Client: ARCADIS U.S., Inc.
Job ID: 600-208730-1
Project/Site: Chevron - L Van Etten 18 Site

Method: 2540B - Percent Moisture

Lab Sample ID: 600-208730-1 DU
Client Sample ID: HA-5-S-1'-2'-20200723
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 299760

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	2.5			2.2		%				12	20
Percent Solids	97.5			97.8		%				0.3	20

Unadjusted Detection Limits

Client: ARCADIS U.S., Inc.
Job ID: 600-208730-1
Project/Site: Chevron - L Van Etten 18 Site

Method: 8260C - Volatile Organic Compounds by GC/MS

Prep: 5030C

Analyte	MQL	MDL	Units
Benzene	5.00	0.630	ug/Kg
Ethylbenzene	5.00	1.02	ug/Kg
Toluene	5.00	1.38	ug/Kg
Xylenes, Total	5.00	1.13	ug/Kg

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Prep: 5030C

Analyte	MQL	MDL	Units
Gasoline Range Organics [C6 - C10]	1.00	0.586	mg/Kg

Method: 8015D - Diesel Range Organics (DRO) (GC)

Prep: 3546

Analyte	MQL	MDL	Units
Diesel Range Organics [C10-C28]	8.30	1.71	mg/Kg
Oil Range Organics (C28-C36)	8.30	5.00	mg/Kg

Method: 300.0 - Anions, Ion Chromatography - Soluble

Leach: DI Leach

Analyte	MQL	MDL	Units
Chloride	4.00	0.534	mg/Kg

General Chemistry

Analyte	MQL	MDL	Units
Percent Moisture	1.0	1.0	%
Percent Solids	1.0	1.0	%

QC Association Summary

Client: ARCADIS U.S., Inc.
Job ID: 600-208730-1
Project/Site: Chevron - L Van Etten 18 Site

GC/MS VOA

Prep Batch: 299767

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-208730-1	HA-5-S-1'-2'-20200723	Total/NA	Solid	5030C	
600-208730-2	HA-5-S-3'-4'-20200723	Total/NA	Solid	5030C	
600-208730-3	HA-6-S-0"-6"-20200723	Total/NA	Solid	5030C	
600-208730-4	HA-6-S-1'-2'-20200723	Total/NA	Solid	5030C	
600-208730-5	HA-7-S-0"-6"-20200723	Total/NA	Solid	5030C	
600-208730-6	HA-7-S-1'-2'-20200723	Total/NA	Solid	5030C	
600-208730-7	HA-7-S-3'-4'-20200723	Total/NA	Solid	5030C	

Analysis Batch: 299887

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-208730-1	HA-5-S-1'-2'-20200723	Total/NA	Solid	8260C	299767
600-208730-2	HA-5-S-3'-4'-20200723	Total/NA	Solid	8260C	299767
600-208730-3	HA-6-S-0"-6"-20200723	Total/NA	Solid	8260C	299767
600-208730-4	HA-6-S-1'-2'-20200723	Total/NA	Solid	8260C	299767
MB 600-299887/6	Method Blank	Total/NA	Solid	8260C	
LCS 600-299887/3	Lab Control Sample	Total/NA	Solid	8260C	
LCSD 600-299887/4	Lab Control Sample Dup	Total/NA	Solid	8260C	

Analysis Batch: 299999

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-208730-5	HA-7-S-0"-6"-20200723	Total/NA	Solid	8260C	299767
600-208730-6	HA-7-S-1'-2'-20200723	Total/NA	Solid	8260C	299767
600-208730-7	HA-7-S-3'-4'-20200723	Total/NA	Solid	8260C	299767
MB 600-299999/5	Method Blank	Total/NA	Solid	8260C	
LCS 600-299999/3	Lab Control Sample	Total/NA	Solid	8260C	
LCSD 600-299999/4	Lab Control Sample Dup	Total/NA	Solid	8260C	

GC VOA

Analysis Batch: 299880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-208730-1	HA-5-S-1'-2'-20200723	Total/NA	Solid	8015D	299881
600-208730-2	HA-5-S-3'-4'-20200723	Total/NA	Solid	8015D	299881
600-208730-3	HA-6-S-0"-6"-20200723	Total/NA	Solid	8015D	299881
600-208730-4	HA-6-S-1'-2'-20200723	Total/NA	Solid	8015D	299881
600-208730-5	HA-7-S-0"-6"-20200723	Total/NA	Solid	8015D	299881
600-208730-6	HA-7-S-1'-2'-20200723	Total/NA	Solid	8015D	299881
600-208730-7	HA-7-S-3'-4'-20200723	Total/NA	Solid	8015D	299881
MB 600-299881/3-A	Method Blank	Total/NA	Solid	8015D	299881
LCS 600-299881/1-A	Lab Control Sample	Total/NA	Solid	8015D	299881
LCSD 600-299881/2-A	Lab Control Sample Dup	Total/NA	Solid	8015D	299881

Prep Batch: 299881

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-208730-1	HA-5-S-1'-2'-20200723	Total/NA	Solid	5030C	
600-208730-2	HA-5-S-3'-4'-20200723	Total/NA	Solid	5030C	
600-208730-3	HA-6-S-0"-6"-20200723	Total/NA	Solid	5030C	
600-208730-4	HA-6-S-1'-2'-20200723	Total/NA	Solid	5030C	
600-208730-5	HA-7-S-0"-6"-20200723	Total/NA	Solid	5030C	
600-208730-6	HA-7-S-1'-2'-20200723	Total/NA	Solid	5030C	
600-208730-7	HA-7-S-3'-4'-20200723	Total/NA	Solid	5030C	

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Chevron - L Van Etten 18 Site

Job ID: 600-208730-1

GC VOA (Continued)

Prep Batch: 299881 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 600-299881/3-A	Method Blank	Total/NA	Solid	5030C	
LCS 600-299881/1-A	Lab Control Sample	Total/NA	Solid	5030C	
LCSD 600-299881/2-A	Lab Control Sample Dup	Total/NA	Solid	5030C	

GC Semi VOA

Prep Batch: 300290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-208730-1	HA-5-S-1'-2'-20200723	Total/NA	Solid	3546	
600-208730-2	HA-5-S-3'-4'-20200723	Total/NA	Solid	3546	
600-208730-3	HA-6-S-0"-6"-20200723	Total/NA	Solid	3546	
600-208730-4	HA-6-S-1'-2'-20200723	Total/NA	Solid	3546	
600-208730-5	HA-7-S-0"-6"-20200723	Total/NA	Solid	3546	
600-208730-6	HA-7-S-1'-2'-20200723	Total/NA	Solid	3546	
600-208730-7	HA-7-S-3'-4'-20200723	Total/NA	Solid	3546	
MB 600-300290/1-A	Method Blank	Total/NA	Solid	3546	
LCS 600-300290/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 600-300290/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	

Analysis Batch: 300369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-208730-1	HA-5-S-1'-2'-20200723	Total/NA	Solid	8015D	300290
600-208730-2	HA-5-S-3'-4'-20200723	Total/NA	Solid	8015D	300290
600-208730-3	HA-6-S-0"-6"-20200723	Total/NA	Solid	8015D	300290
600-208730-4	HA-6-S-1'-2'-20200723	Total/NA	Solid	8015D	300290
600-208730-5	HA-7-S-0"-6"-20200723	Total/NA	Solid	8015D	300290
600-208730-6	HA-7-S-1'-2'-20200723	Total/NA	Solid	8015D	300290
600-208730-7	HA-7-S-3'-4'-20200723	Total/NA	Solid	8015D	300290
MB 600-300290/1-A	Method Blank	Total/NA	Solid	8015D	300290
LCS 600-300290/2-A	Lab Control Sample	Total/NA	Solid	8015D	300290
LCSD 600-300290/3-A	Lab Control Sample Dup	Total/NA	Solid	8015D	300290

HPLC/IC

Leach Batch: 300486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-208730-1	HA-5-S-1'-2'-20200723	Soluble	Solid	DI Leach	
600-208730-2	HA-5-S-3'-4'-20200723	Soluble	Solid	DI Leach	
600-208730-3	HA-6-S-0"-6"-20200723	Soluble	Solid	DI Leach	
600-208730-4	HA-6-S-1'-2'-20200723	Soluble	Solid	DI Leach	
600-208730-5	HA-7-S-0"-6"-20200723	Soluble	Solid	DI Leach	
600-208730-6	HA-7-S-1'-2'-20200723	Soluble	Solid	DI Leach	
600-208730-7	HA-7-S-3'-4'-20200723	Soluble	Solid	DI Leach	
MB 600-300486/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 600-300486/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
600-208730-5 MS	HA-7-S-0"-6"-20200723	Soluble	Solid	DI Leach	
600-208730-5 MSD	HA-7-S-0"-6"-20200723	Soluble	Solid	DI Leach	

Analysis Batch: 300488

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-208730-1	HA-5-S-1'-2'-20200723	Soluble	Solid	300.0	300486
600-208730-2	HA-5-S-3'-4'-20200723	Soluble	Solid	300.0	300486

QC Association Summary

Client: ARCADIS U.S., Inc.
Job ID: 600-208730-1
Project/Site: Chevron - L Van Etten 18 Site

HPLC/IC (Continued)

Analysis Batch: 300488 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-208730-3	HA-6-S-0"-6"-20200723	Soluble	Solid	300.0	300486
600-208730-4	HA-6-S-1'-2'-20200723	Soluble	Solid	300.0	300486
600-208730-5	HA-7-S-0"-6"-20200723	Soluble	Solid	300.0	300486
600-208730-6	HA-7-S-1'-2'-20200723	Soluble	Solid	300.0	300486
600-208730-7	HA-7-S-3'-4'-20200723	Soluble	Solid	300.0	300486
MB 600-300486/1-A	Method Blank	Soluble	Solid	300.0	300486
LCS 600-300486/2-A	Lab Control Sample	Soluble	Solid	300.0	300486
600-208730-5 MS	HA-7-S-0"-6"-20200723	Soluble	Solid	300.0	300486
600-208730-5 MSD	HA-7-S-0"-6"-20200723	Soluble	Solid	300.0	300486

General Chemistry

Analysis Batch: 299760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-208730-1	HA-5-S-1'-2'-20200723	Total/NA	Solid	2540B	
600-208730-2	HA-5-S-3'-4'-20200723	Total/NA	Solid	2540B	
600-208730-3	HA-6-S-0"-6"-20200723	Total/NA	Solid	2540B	
600-208730-4	HA-6-S-1'-2'-20200723	Total/NA	Solid	2540B	
600-208730-5	HA-7-S-0"-6"-20200723	Total/NA	Solid	2540B	
600-208730-6	HA-7-S-1'-2'-20200723	Total/NA	Solid	2540B	
600-208730-7	HA-7-S-3'-4'-20200723	Total/NA	Solid	2540B	
600-208730-1 DU	HA-5-S-1'-2'-20200723	Total/NA	Solid	2540B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Job ID: 600-208730-1
Project/Site: Chevron - L Van Etten 18 Site

Client Sample ID: HA-5-S-1'-2'-20200723
Lab Sample ID: 600-208730-1
Date Collected: 07/23/20 15:07
Matrix: Solid
Date Received: 07/24/20 09:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540B		1	299760	07/27/20 14:37	ANP	TAL HOU

Client Sample ID: HA-5-S-1'-2'-20200723
Lab Sample ID: 600-208730-1
Date Collected: 07/23/20 15:07
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 97.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			299767	07/27/20 15:45	KLV	TAL HOU
Total/NA	Analysis	8260C		1	299887	07/29/20 14:49	WS1	TAL HOU
Total/NA	Prep	5030C			299881	07/29/20 05:31	WS1	TAL HOU
Total/NA	Analysis	8015D		1	299880	07/29/20 12:59	WS1	TAL HOU
Total/NA	Prep	3546			300290	08/03/20 12:12	SMB	TAL HOU
Total/NA	Analysis	8015D		1	300369	08/04/20 20:48	RJV	TAL HOU
Soluble	Leach	DI Leach			300486	08/05/20 11:35	DTN	TAL HOU
Soluble	Analysis	300.0		1	300488	08/05/20 21:32	W1N	TAL HOU

Client Sample ID: HA-5-S-3'-4'-20200723
Lab Sample ID: 600-208730-2
Date Collected: 07/23/20 15:14
Matrix: Solid
Date Received: 07/24/20 09:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540B		1	299760	07/27/20 14:37	ANP	TAL HOU

Client Sample ID: HA-5-S-3'-4'-20200723
Lab Sample ID: 600-208730-2
Date Collected: 07/23/20 15:14
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 79.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			299767	07/27/20 15:45	KLV	TAL HOU
Total/NA	Analysis	8260C		1	299887	07/29/20 15:12	WS1	TAL HOU
Total/NA	Prep	5030C			299881	07/29/20 05:31	WS1	TAL HOU
Total/NA	Analysis	8015D		1	299880	07/29/20 13:24	WS1	TAL HOU
Total/NA	Prep	3546			300290	08/03/20 12:12	SMB	TAL HOU
Total/NA	Analysis	8015D		1	300369	08/04/20 21:26	RJV	TAL HOU
Soluble	Leach	DI Leach			300486	08/05/20 11:35	DTN	TAL HOU
Soluble	Analysis	300.0		1	300488	08/05/20 21:53	W1N	TAL HOU

Client Sample ID: HA-6-S-0"-6"-20200723
Lab Sample ID: 600-208730-3
Date Collected: 07/23/20 15:30
Matrix: Solid
Date Received: 07/24/20 09:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540B		1	299760	07/27/20 14:37	ANP	TAL HOU

Lab Chronicle

Client: ARCADIS U.S., Inc.
Job ID: 600-208730-1
Project/Site: Chevron - L Van Etten 18 Site

Client Sample ID: HA-6-S-0"-6"-20200723
Lab Sample ID: 600-208730-3

Date Collected: 07/23/20 15:30
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 99.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			299767	07/27/20 15:45	KLV	TAL HOU
Total/NA	Analysis	8260C		1	299887	07/29/20 15:35	WS1	TAL HOU
Total/NA	Prep	5030C			299881	07/29/20 05:31	WS1	TAL HOU
Total/NA	Analysis	8015D		1	299880	07/29/20 13:49	WS1	TAL HOU
Total/NA	Prep	3546			300290	08/03/20 12:12	SMB	TAL HOU
Total/NA	Analysis	8015D		1	300369	08/04/20 22:03	RJV	TAL HOU
Soluble	Leach	DI Leach			300486	08/05/20 11:35	DTN	TAL HOU
Soluble	Analysis	300.0		1	300488	08/05/20 22:13	W1N	TAL HOU

Client Sample ID: HA-6-S-1'-2'-20200723
Lab Sample ID: 600-208730-4

Date Collected: 07/23/20 15:36
Matrix: Solid
Date Received: 07/24/20 09:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540B		1	299760	07/27/20 14:37	ANP	TAL HOU

Client Sample ID: HA-6-S-1'-2'-20200723
Lab Sample ID: 600-208730-4

Date Collected: 07/23/20 15:36
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 77.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			299767	07/27/20 15:45	KLV	TAL HOU
Total/NA	Analysis	8260C		1	299887	07/29/20 15:58	WS1	TAL HOU
Total/NA	Prep	5030C			299881	07/29/20 05:31	WS1	TAL HOU
Total/NA	Analysis	8015D		1	299880	07/29/20 14:14	WS1	TAL HOU
Total/NA	Prep	3546			300290	08/03/20 12:12	SMB	TAL HOU
Total/NA	Analysis	8015D		1	300369	08/04/20 22:41	RJV	TAL HOU
Soluble	Leach	DI Leach			300486	08/05/20 11:35	DTN	TAL HOU
Soluble	Analysis	300.0		1	300488	08/05/20 22:33	W1N	TAL HOU

Client Sample ID: HA-7-S-0"-6"-20200723
Lab Sample ID: 600-208730-5

Date Collected: 07/23/20 15:45
Matrix: Solid
Date Received: 07/24/20 09:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540B		1	299760	07/27/20 14:37	ANP	TAL HOU

Client Sample ID: HA-7-S-0"-6"-20200723
Lab Sample ID: 600-208730-5

Date Collected: 07/23/20 15:45
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 99.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			299767	07/27/20 15:45	KLV	TAL HOU
Total/NA	Analysis	8260C		1	299999	07/30/20 14:51	WS1	TAL HOU
Total/NA	Prep	5030C			299881	07/29/20 05:31	WS1	TAL HOU
Total/NA	Analysis	8015D		1	299880	07/29/20 14:38	WS1	TAL HOU

Lab Chronicle

Client: ARCADIS U.S., Inc.
Job ID: 600-208730-1
Project/Site: Chevron - L Van Etten 18 Site

Client Sample ID: HA-7-S-0"-6"-20200723
Lab Sample ID: 600-208730-5

Date Collected: 07/23/20 15:45
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 99.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			300290	08/03/20 12:19	SMB	TAL HOU
Total/NA	Analysis	8015D		1	300369	08/04/20 23:18	RJV	TAL HOU
Soluble	Leach	DI Leach			300486	08/05/20 11:35	DTN	TAL HOU
Soluble	Analysis	300.0		1	300488	08/05/20 22:54	W1N	TAL HOU

Client Sample ID: HA-7-S-1'-2'-20200723
Lab Sample ID: 600-208730-6

Date Collected: 07/23/20 15:48
Matrix: Solid
Date Received: 07/24/20 09:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540B		1	299760	07/27/20 14:37	ANP	TAL HOU

Client Sample ID: HA-7-S-1'-2'-20200723
Lab Sample ID: 600-208730-6

Date Collected: 07/23/20 15:48
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 98.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			299767	07/27/20 15:45	KLV	TAL HOU
Total/NA	Analysis	8260C		1	299999	07/30/20 15:15	WS1	TAL HOU
Total/NA	Prep	5030C			299881	07/29/20 06:32	WS1	TAL HOU
Total/NA	Analysis	8015D		1	299880	07/29/20 15:03	WS1	TAL HOU
Total/NA	Prep	3546			300290	08/03/20 12:19	SMB	TAL HOU
Total/NA	Analysis	8015D		1	300369	08/04/20 23:55	RJV	TAL HOU
Soluble	Leach	DI Leach			300486	08/05/20 11:35	DTN	TAL HOU
Soluble	Analysis	300.0		1	300488	08/05/20 23:55	W1N	TAL HOU

Client Sample ID: HA-7-S-3'-4'-20200723
Lab Sample ID: 600-208730-7

Date Collected: 07/23/20 15:50
Matrix: Solid
Date Received: 07/24/20 09:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540B		1	299760	07/27/20 14:37	ANP	TAL HOU

Client Sample ID: HA-7-S-3'-4'-20200723
Lab Sample ID: 600-208730-7

Date Collected: 07/23/20 15:50
Matrix: Solid
Date Received: 07/24/20 09:53
Percent Solids: 82.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			299767	07/27/20 15:45	KLV	TAL HOU
Total/NA	Analysis	8260C		1	299999	07/30/20 15:39	WS1	TAL HOU
Total/NA	Prep	5030C			299881	07/29/20 06:32	WS1	TAL HOU
Total/NA	Analysis	8015D		1	299880	07/29/20 15:28	WS1	TAL HOU
Total/NA	Prep	3546			300290	08/03/20 12:19	SMB	TAL HOU
Total/NA	Analysis	8015D		1	300369	08/05/20 00:31	RJV	TAL HOU
Soluble	Leach	DI Leach			300486	08/05/20 11:35	DTN	TAL HOU
Soluble	Analysis	300.0		1	300488	08/06/20 00:16	W1N	TAL HOU

Lab Chronicle

Client: ARCADIS U.S., Inc.
Job ID: 600-208730-1
Project/Site: Chevron - L Van Etten 18 Site

Laboratory References:

TAL HOU = Eurofins TestAmerica, Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Job ID: 600-208730-1
Project/Site: Chevron - L Van Etten 18 Site

Laboratory: Eurofins TestAmerica, Houston

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704223-19-25	10-31-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
2540B		Solid	Percent Moisture
2540B		Solid	Percent Solids
8015D	3546	Solid	Oil Range Organics (C28-C36)

Eurofins TestAmerica, Houston
6310 Rothway Street
Houston, TX 77040
Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record

Midland #264

eurofins Environment Testing America

Client Information	Sampler: Carlos Grajeda	Lab PM: Kudchadkar, Sachin G	Carrier Tracking No(s):	COC No: 600-77944-20955.1
Client Contact: Justin Nixon	Phone: (432) 312-8031	E-Mail: Sachin.Kudchadkar@Eurofinset.com		Page: Page 1 of 1
Company: ARCADIS U.S., Inc.		Analysis Requested		Job #:
Address: 1004 North Big Spring Suite 121	Due Date Requested: —			Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
City: Midland	TAT Requested (days): STD			
State, Zip: TX, 79701				
Phone:	PO #: ~~3005506842~~ 30056842			Other:
Email: Justin.Nixon@arcadis.com	WO #:			
Project Name: Chevron - L Van Etten 18 Site	Project #: 60012494			
Site:	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015D_DRO/ORO- C12-C28/ C28-C35	8015D_GRO, C6-C12	8260B- BTEX	300- Chloride	moisture	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N		
HA-5-S-1'-2'-20200723	7-23-20	1507	G	Solid			X	X	X	X	X	1	
HA-5-S-3'-4'-20200723		1514		Solid									
HA-6-S-0"-6"-20200723		1530		Solid									
HA-6-S-1'-2'-20200723		1536		Solid									
HA-7-S-0"-6"-20200723		1545		Solid									
HA-7-S-1'-2'-20200723		1548		Solid									
HA-7-S-3'-4'-20200723	7-23-20	1550	G	Solid			X	X	X	X	X	3	
				Solid									
CG	7/23/20			Solid									
				Solid									
				Solid									

600-208730 Chain of Custody

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

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

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Carlos Grajeda	7-23-20 1650	Arcadis	YERO	7/24/20 953	ETA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 01/16/2019

Eurofins TestAmerica, Houston
6310 Rothway Street
Houston, TX 77040
Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record

Midland #264

eurofins Environment Testing America

Client Information	Sampler: Carlos Grajeda	Lab PM: Kudchadkar, Sachin G	Carrier Tracking No(s):	COC No: 600-77944-20955.1
Client Contact: Justin Nixon	Phone: (432) 312-8031	E-Mail: Sachin.Kudchadkar@Eurofinset.com		Page: Page 1 of 1
Company: ARCADIS U.S., Inc.				Job #:
Address: 1004 North Big Spring Suite 121	Due Date Requested: —			
City: Midland	TAT Requested (days): STD			
State, Zip: TX, 79701				
Phone:	PO #: ~~2000555842~~ 30056842			
Email: Justin.Nixon@arcadis.com	WO #:			
Project Name: Chevron - L Van Etten 18 Site	Project #: 60012494			
Site:	SSOW#:			

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015D_DRO/ORO- C12-C28/ C28-C35	8015D_GRO, C6-C12	8260B- BTEX	300- Chloride	moisture	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N		
HA-5-S-1'-2'-20200723	7-23-20	1507	G	Solid			X	X	X	X	X	1	
HA-5-S-3'-4'-20200723		1514		Solid									
HA-6-S-0"-6"-20200723		1530		Solid									
HA-6-S-1'-2'-20200723		1536		Solid									
HA-7-S-0"-6"-20200723		1545		Solid									
HA-7-S-1'-2'-20200723		1548		Solid									
HA-7-S-3'-4'-20200723	7-23-20	1550	G	Solid			X	X	X	X		1	
				~~Solid~~									
CG	7/23/20			Solid									
				Solid									
				Solid									

600-208730 Chain of Custody

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Carlos Grajeda	7-23-20 1650	Arcadis	YCRO	7/24/20 953	ETA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 01/16/2019

Loc: 600
208730

eurofins | Environment Testing TestAmerica

Eurofins TestAmerica Houston

Sample Receipt Checklist

'20 JUL 24 9:53

Date/Time Received: _____

JOB NUMBER: _____ CLIENT: Arcadis

UNPACKED BY: JR CARRIER/DRIVER: Fedex

Custody Seal Present: ☑YES ☐NO Number of Coolers Received: 1

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Therm CF	Corrected Temp (°C)
1190	Y / N	Y / N	2.1	678	-0.1	2.0
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				7/24/20
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice? ☑YES ☐NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED: ☑NO ☐YES

Base samples are>pH 12: ☐YES ☐NO Acid preserved are<pH 2: ☐YES ☐NO

TX1005 samples frozen upon receipt: ☐ YES DATE & TIME PUT IN FREEZER: _____

pH paper Lot #_____ VOA headspace acceptable (5-6mm): ☐YES ☐NO ☑NA

Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	☑YES	☐ NO

COMMENTS:

7/24/20

HS-SA-WI-013 Rev. 4A; 08/26/2019

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 600-208730-1

Login Number: 208730
List Number: 1
Creator: Rubio, Yuri

List Source: Eurofins TestAmerica, Houston

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

APPENDIX D

Photograph Log

Photo: 1

Date: 07/24/2020

Description:
Location sign

Location:
West of tank battery.

Direction:
East

Photo: 2

Date: 07/24/2020

Description:
View of release area outside containment.

Location:
East of tank battery spill location.

Direction:
West

Photo: 3

Date: 07/24/2020

Description:
View of soil boring locations within spill path.

Location:
East of tank battery in spill path.

Direction:
South

Photo: 4

Date: 07/24/2020

Description:
View of release area east of tank battery.

Location:
Inside release area.

Direction:
North East

Photo: 5

Date: 07/24/2020

Description:

Sample location east of tank battery.

Location:
East of tank battery

Direction:
East

APPENDIX E

Final C-141

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	nPAC0607429422
District RP	1RP-782
Facility ID	NA
Application ID	pPAC0607429642

Release Notification

Responsible Party

Responsible Party: Chevron U.S.A. Inc.	OGRID
Contact Name: Adriane Gifford	Contact Telephone: 832-854-5620
Contact email: agifford@chevron.com	Incident # *(assigned by OCD) nPAC0607429422*
Contact mailing address: 1500 Louisiana St, Room 38108, Houston, Tx 77002	

Location of Release Source

Latitude 32.5849075 Longitude -103.2554245
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: L Van Etten 18	Site Type: Tank Battery
Date Release Discovered: 02/13/2006	API# *(if applicable): 30-025-33490000*

Unit Letter	Section	Township	Range	County
J	9	20S	37E	Lea

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (*Name: S & W Cattle Company*)

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls): 1	Volume Recovered (bbls): 0.5
☒ Produced Water	Volume Released (bbls): 4	Volume Recovered (bbls): 3.5
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
Cause of Release: **Split in poly flowline when hot oiling.**		

State of New Mexico
Oil Conservation Division

Incident ID	nPAC0607429422
District RP	1RP-782
Facility ID	NA
Application ID	pPAC0607429642

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? **Initial C-141 Form was received by OCD on March 14, 2006.**	

State of New Mexico
Oil Conservation Division

Incident ID	nPAC0607429422
District RP	1RP-782
Facility ID	NA
Application ID	pPAC0607429642

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

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

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

Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells. **Attached.**
Field data: **Attached.**
Data table of soil contaminant concentration data: **Attached.**
Depth to water determination: **Less than 50 ft bgs.**
Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release: **None identified.**
Boring or excavation logs: **Attached.**
Photographs including date and GIS information: **Photograph 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	nPAC0607429422
District RP	1RP-782
Facility ID	NA
Application ID	pPAC0607429642

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: _____Adriane Gifford____ Title: __Environmental Project Manager___

Signature:_____ Date: __09/16/2020_____

email: ____agifford@chevron.com_____ Telephone: ___832-854-5620_____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nPAC0607429422
District RP	1RP-782
Facility ID	NA
Application ID	pPAC0607429642

Closure

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

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

A scaled site and sampling diagram as described in 19.15.29.11 NMAC: **Attached.**

Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)- **No recent remediation activities were conducted. Standard operating procedures during the time of the release included removal of shallow impacted soil within the spill area and proper disposal. No additional documentation is available.**

Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling): **Attached.**

Description of remediation activities: **No recent remediation activities were completed. Standard operating procedures during the time of the release included removal of shallow impacted soil within the spill area and proper disposal. No additional documentation is available.**

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: _____Adriane Gifford _____ Title: Environmental Project Manager

Signature: _____ Date: 09/16/2020

email: _____agifford@chevron.com_____ Telephone: 832-854-5620_____

State of New Mexico
Oil Conservation Division

Incident ID	nPAC0607429422
District RP	1RP-782
Facility ID	NA
Application ID	pPAC0607429642

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: Bradford Billings Date: 05/27/2022

Printed Name: Bradford Billings Title: Env. Spec.A

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

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

CONDITIONS

Operator: Arcadis U.S., Inc 630 Plaza Drive Highlands Ranch, CO 80129	OGRID: 329073
	Action Number: 10278
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bbillings	None	5/27/2022