Steve Teel, LHG
Toxics Cleanup Program
Washington State Department of Ecology
Southwest Regional Office
PO Box 47775
Olympia, WA 98504

Arcadis U.S., Inc.
111 SW Columbia Street
Suite 670
Portland
Oregon 97201
Tel 503 220 8201
www.arcadis.com

ENVIRONMENT

Subject:
Monitoring Well Decommissioning Report
Former Chevron Service Station No. 211556
Cowlitz Food and Fuel
196 Cowlitz Loop Drive
Toledo, WA 98055

Date:
December 10, 2019

Contact:
Komal Dixit

Phone:
503.765.9525

Email:
Komal.Dixit
@arcadis.com

Our ref:
30012346

Dear Steve Teel:

On behalf of Chevron Environmental Management Company (Chevron), Arcadis U.S., Inc. (Arcadis) prepared this *Monitoring Well Decommissioning Report* (report) for Former Chevron Service Station No. 211556 located at 196 Cowlitz Loop Drive in Toledo, WA (site). A site location map is provided on Figure 1. A site layout map is provided on Figure 2.

The site is known as Cowlitz Food and Fuel in the Washington State Department of Ecology (Ecology) database. Identifiers include:

- Facility Site Identification Number (FSID): 1166
- Cleanup Site Identification Number (CSID): 7025

The work described in this report was performed in accordance with Arcadis' Request to Decommission Select Monitoring Wells letter dated August 16, 2019. Ecology's approval letter dated October 23, 2019, stated that they agreed with the proposal to decommission seven monitoring wells because they are not part of the current sampling network and are not anticipated for future use (Appendix A).

Well Decommissioning Activities

A summary of the well decommissioning activities is provided below. The approximate location of the wells decommissioned as part of this event are presented on Figure 2. The well decommissioning details are presented in Table 1. Well decommissioning reports prepared and submitted to Ecology by Stratus Corporation (Stratus) are included in Appendix B.

Utility Clearance

On October 22, 2019, Arcadis contacted the Washington One Call Utility Notification Center to provide mark-outs of public utilities near the proposed boring locations. On October 24, 2019, Arcadis provided oversight of a private locating company, Geomarkout, conducting ground-penetrating radar and low-frequency electromagnetic scans of the work zones to identify potential subsurface utilities. Potential utilities and structures were marked-out on the surface along with identified underground utilities or structures. Geomarkout identified potential conflicts at two locations: an underground electric main was marked within two feet of MW-117 and a septic tank line was inferred near MW-115. Arcadis developed a “Utility Conflict and Resolution Plan” for these wells, which was reviewed by with Arcadis Health and Safety per standard procedures. The remaining planned well decommissioning locations were not found to conflict with identified underground utilities or structures.

Monitoring Well Monument Removal

On November 4 and 5, 2019, Arcadis provided oversight of a Washington-licensed driller, Stratus, decommissioning seven monitoring wells at the site (MW-103, MW-115, MW-116, MW-117, MW-118, MW-119, and MW-120). Cascade used a jackhammer and vacuum equipment to remove flush-mount well protective casings and bollards prior to well decommissioning.

Monitoring Well Decommissioning

Based on decommissioning logs presented in Appendix B, chip-in-place was determined as the appropriate method for well decommissioning of MW-115, MW-116, MW-117, MW-118, and MW-119. Following monument removal, these former monitoring wells were sealed in place using bentonite chips to approximately 2.5 feet bgs, in accordance with state of Washington guidelines. Two wells, MW-103 and MW-120, were decommissioned by overdrilling methods because the monitoring well logs were not registered with the State of Washington. Stratus used a vacuum truck to clear to 5 ft below ground surface (bgs) and removed the PVC well casing. The wells were then overdrilled with an auger and backfilled with bentonite chips. At least two feet of concrete was

placed above the bentonite seal. At all decommissioned wells the surface was finished to match the surrounding conditions of the site.

Investigation-Derived Waste Management

Construction debris, including well monuments and concrete, were taken offsite by Stratus. Soil and water waste generated from well decommissioning activities and equipment decontamination was temporarily stored on-site in six properly labeled Department of Transportation-approved 55-gallon steel drums, pending waste characterization. Waste characterization samples were collected and sent to Eurofins TestAmerica (TestAmerica) for analysis. The analytical lab report from the waste sampling is found in Appendix C. After waste characterization and profiling, the drums will be transported and disposed at an appropriate regulated facility by a waste management subcontractor.

If you have questions or comments regarding this report, please do not hesitate to contact me.

Sincerely,

Arcadis U.S., Inc.

Komal Dixit

Project Manager

Enclosures:

Table 1	Well Decommissioning Details
Figure 1	Vicinity Map
Figure 2	Site Map
Appendix A	Ecology Well Decommissioning Approval Letter
Appendix B	Well Decommissioning Logs
Appendix C	Waste Sample Analytical Lab Report

Copies:
Tim Bishop, Chevron (electronic)
Charles Vineyard, Owner (file)

TABLES

Table 1
Well Decommissioning Details
Former Texaco Service Station No. 211556
101 Mulford Road
Toledo, Washington

ARCADIS Design & Consultancy for natural and built assets

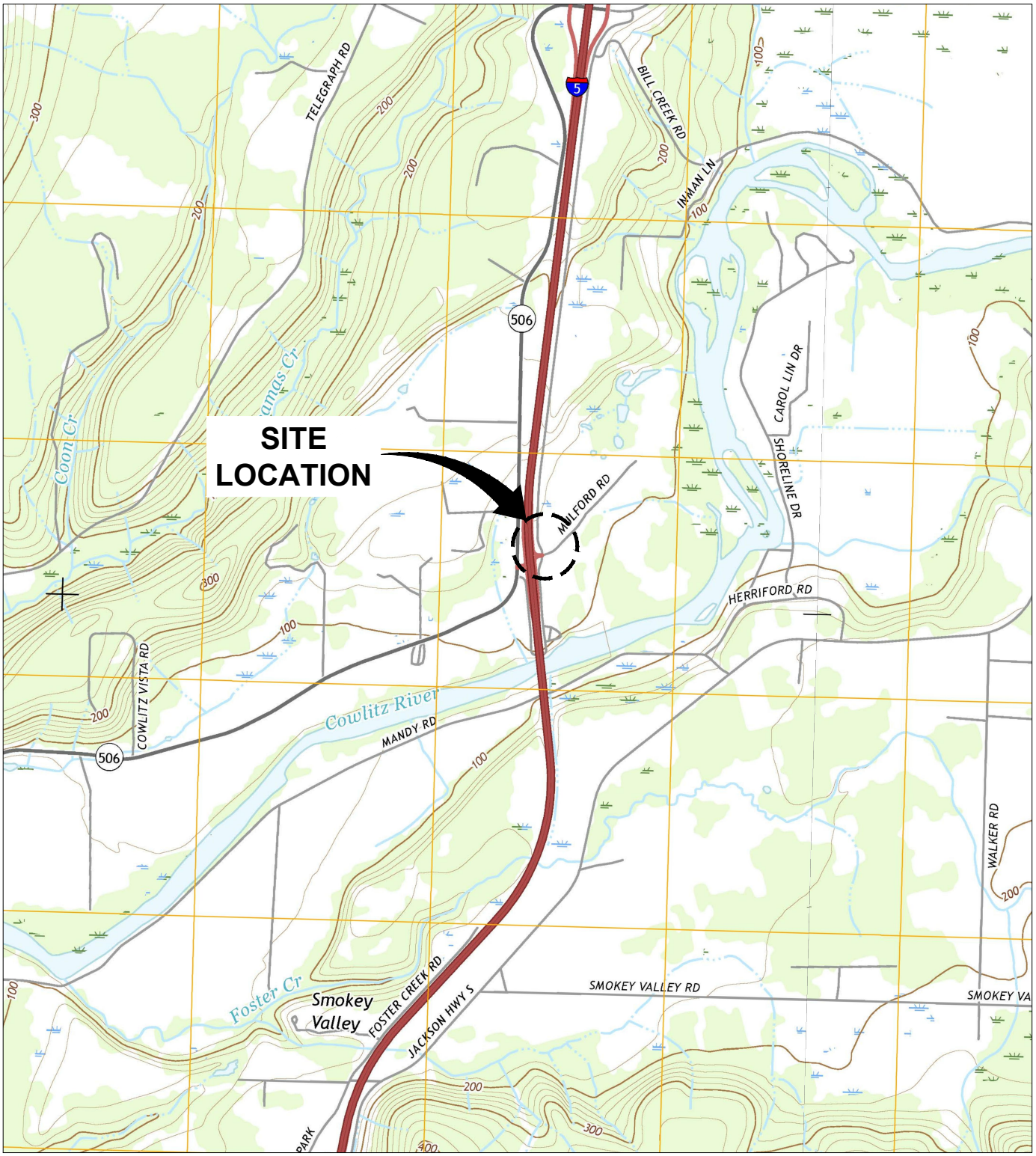
Well ID	Type	Depth (ft)	Well Diameter (in)	Borehole Diameter (in)	Abandonment Method
MW-103	Monitoring Well	20	2	8.5	Overdrill
MW-115	Monitoring Well	18	4	10.25	Chip-in-Place
MW-116	Monitoring Well	18	2	8.25	Chip-in-Place
MW-117	Monitoring Well	18	2	8.25	Chip-in-Place
MW-118	Monitoring Well	18	2	8.25	Chip-in-Place
MW-119	Monitoring Well	17.5	2	8.25	Chip-in-Place
MW-120	Monitoring Well	18	2	8.25	Overdrill

Notes:

ft = feet

in = inch

FIGURES



REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., WINLOCK, WA, 2017 AND TOLEDO, WA, 2017.

N

0 2,000' 4,000'

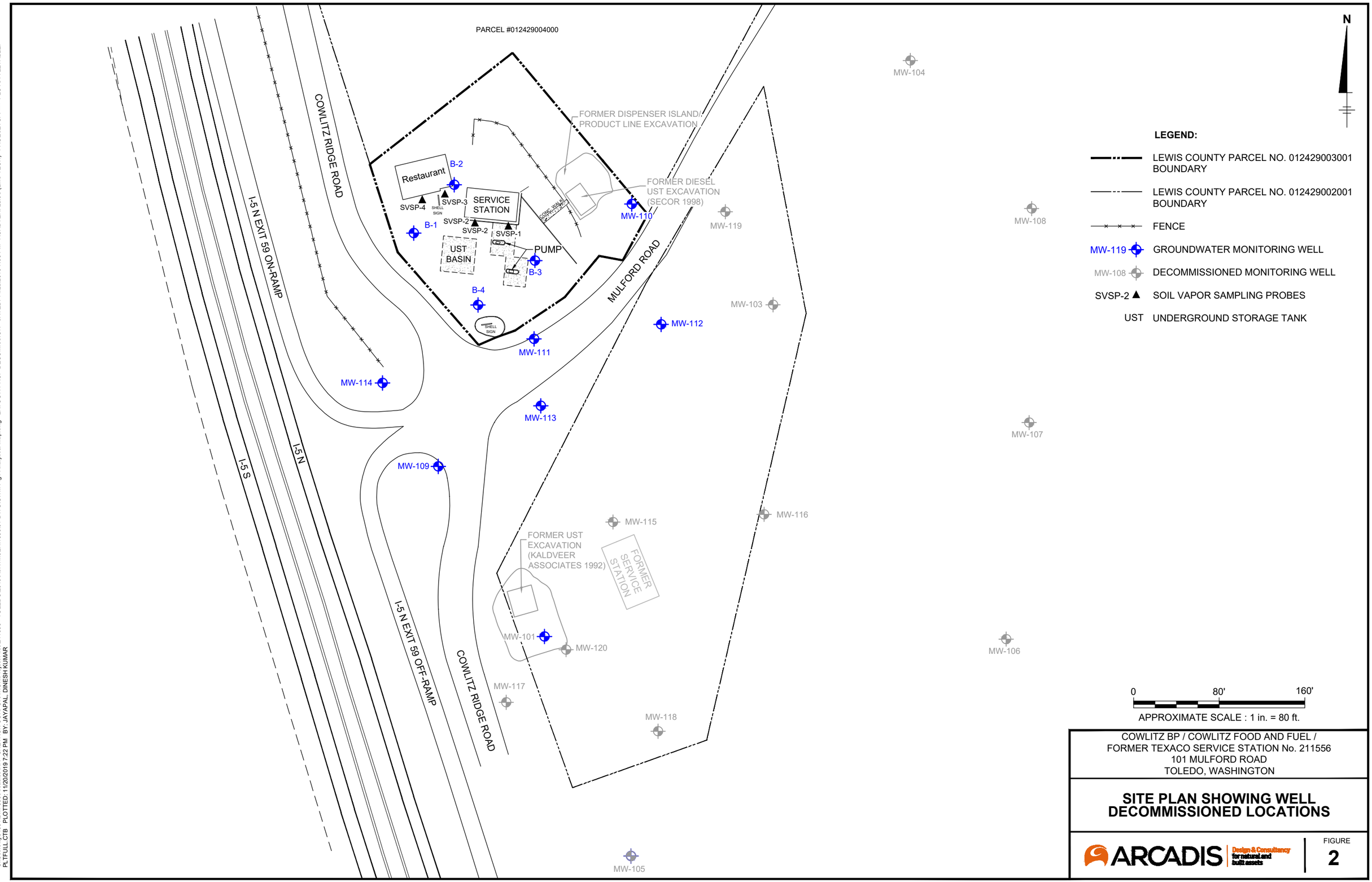
APPROXIMATE SCALE : 1 in. = 2,000 ft.

COWLITZ BP / COWLITZ FOOD AND FUEL /
FORMER TEXACO SERVICE STATION No. 211556
101 MULFORD ROAD
TOLEDO, WASHINGTON

SITE LOCATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE
1



COWLITZ BP / COWLITZ FOOD AND FUEL /
FORMER TEXACO SERVICE STATION No. 211556
101 MULFORD ROAD
TOLEDO, WASHINGTON

SITE PLAN SHOWING WELL DECOMMISSIONED LOCATIONS

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2

APPENDIX A

Ecology Well Decommissioning Approval Letter

COPY

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • 360-407-6300
Call 711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

October 23, 2019

Timothy L. Bishop
Chevron Environmental Management Company
6001 Bollinger Canyon Road
San Ramon, CA 94583

Re: Request to Decommission Select Monitoring Wells:

- **Site Name:** Cowlitz Food & Fuel
- **Site Address:** 101 Mulford Rd, Toledo, Lewis County, WA 98591
- **Facility/Site ID:** 1166
- **Cleanup Site ID:** 7025
- **Agreed Order No.:** DE5236

Dear Timothy L. Bishop:

On August 16, 2019, the Department of Ecology (Ecology) received a request to decommission select wells on the above-referenced Site.[1] Since none of the proposed wells to be decommissioned are currently part of the sampling network nor are they anticipated to be used in the future, Ecology agrees with the proposal.

Please let us know when field work will start. Please also provide us with a brief letter report documenting the work within 30 days of completion.

If you have any questions please contact me at (360) 407-6247 or steve.teel@ecy.wa.gov.

Sincerely,

SSTeel

Steve Teel, LHG
Toxics Cleanup Program
Southwest Regional Office

By certified mail: 9489 0090 0027 6066 6775 72

cc: Charles Vineyard
Komal Dixit, Arcadis
Nick Acklam, Ecology (via email)
Ecology Site File

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[1] *Request to Decommission Select Monitoring Wells*, dated August 7, 2019, prepared by ARCADIS. Available at: https://apps.ecology.wa.gov/gsp/CleanupSiteDocuments.aspx?csid=7025

APPENDIX B

Well Decommissioning Logs

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE57809

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *("x" in box*)

☐ Construction

☒ Decommission

ORIGINAL INSTALLATION Notice of Intent Number:

unknown

Consulting Firm Arcadis

Unique Ecology Well IDTag No. unknown

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) Stroberger, Nicholas

Driller/Engineer /Trainee Signature

Driller or Trainee License No. 3194

If trainee, licensed driller's Signature and License Number:

Type of Well *("x in box)*

☒ Resource Protection

☐ Geotech Soil Boring

Property Owner Charles Vineyard

Site Address 101 Mulford Rd

City Toledo County Lewis

Location SE1/4-1/4 SE1/4 Sec 23 Twn 11N R 2W

EWM ☐ or WWM ☐

Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Min ____ Sec ____

Long Deg ____ Min ____ Sec ____

Tax Parcel No.

Cased or Uncased Diameter 2 Static Level 8'

Work/Decommission Start Date 11/04/19

Work/Decommission Completed Date 11/04/19

Construction Design	Well Data	Formation Description
0 .5 _concrete 4.5' bentonite chips 18'	MW - 103 2" well casing Vac abandon	

SCALE: 1"= ____ PAGE ____ OF ____

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE57809

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *("x" in box*)

☐ Construction

☒ Decommission

ORIGINAL INSTALLATION Notice of Intent Number:

R05469

Consulting Firm Arcadis

Unique Ecology Well IDTag No. ABY 976

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) Stroberger, Nicholas

Driller/Engineer /Trainee Signature _____

Driller or Trainee License No. 3194

If trainee, licensed driller's Signature and License Number:

Type of Well *("x in box)*

☒ Resource Protection

☐ Geotech Soil Boring

Property Owner Charles Vineyard

Site Address 101 Mulford Rd

City Toledo County Lewis

Location SE1/4-1/4 SE1/4 Sec 23 Twn 11N R 2W

EWM ☐ or WWM ☐

Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Min _____ Sec _____

Long Deg _____ Min _____ Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter 4 Static Level 8'

Work/Decommission Start Date 11/04/19

Work/Decommission Completed Date 11/04/19

Construction Design	Well Data	Formation Description
0 .5 _concrete 4.5' bentonite chips 18'	MW - 115 4" well casing Chip in place	

SCALE: 1"= _____ PAGE _____ OF _____

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE57809

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *("x" in box*)

☐ Construction

☒ Decommission

ORIGINAL INSTALLATION Notice of Intent Number:

R05469

Consulting Firm Arcadis

Unique Ecology Well IDTag No. ABY 979

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) Stroberger, Nicholas

Driller/Engineer /Trainee Signature _____

Driller or Trainee License No. 3194

If trainee, licensed driller's Signature and License Number:

Type of Well *("x in box)*

☒ Resource Protection

☐ Geotech Soil Boring

Property Owner Charles Vineyard

Site Address 101 Mulford Rd

City Toledo County Lewis

Location SE1/4-1/4 SE1/4 Sec 23 Twn 11N R 2W

EWM ☐ or WWM ☐

Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Min _____ Sec _____

Long Deg _____ Min _____ Sec _____

Tax Parcel No._____

Cased or Uncased Diameter 2" Static Level 8'

Work/Decommission Start Date 11/04/19

Work/Decommission Completed Date 11/04/19

Construction Design	Well Data	Formation Description
0 .5 _concrete 4.5' bentonite chips 18'	MW - 116 2" well casing Chip in place	

SCALE: 1"= _____ PAGE _____ OF _____

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE57809

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *("x" in box*)

☐ Construction

☒ Decommission

ORIGINAL INSTALLATION Notice of Intent Number:

R05469

Consulting Firm Arcadis

Unique Ecology Well IDTag No. ABY 975

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) Stroberger, Nicholas

Driller/Engineer /Trainee Signature

Driller or Trainee License No. 3194

If trainee, licensed driller's Signature and License Number:

Type of Well *("x in box)*

☒ Resource Protection

☐ Geotech Soil Boring

Property Owner Charles Vineyard

Site Address 101 Mulford Rd

City Toledo County Lewis

Location SE1/4-1/4 SE1/4 Sec 23 Twn 11N R 2W

EWM ☐ or WWM ☐

Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Min ____ Sec ____

Long Deg ____ Min ____ Sec ____

Tax Parcel No.

Cased or Uncased Diameter 2 Static Level 8'

Work/Decommission Start Date 11/04/19

Work/Decommission Completed Date 11/04/19

Construction Design	Well Data	Formation Description
0 .5 _concrete 4.5' bentonite chips 18'	MW - 117 2" well casing Chip in place	

SCALE: 1"= ____ PAGE ____ OF ____

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE57809

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *("x" in box*)

☐ Construction

☒ Decommission

ORIGINAL INSTALLATION Notice of Intent Number:

R05469

Consulting Firm Arcadis

Unique Ecology Well IDTag No. ABY 977

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) Stroberger, Nicholas

Driller/Engineer /Trainee Signature

Driller or Trainee License No. 3194

If trainee, licensed driller's Signature and License Number:

Type of Well *("x in box)*

☒ Resource Protection

☐ Geotech Soil Boring

Property Owner Charles Vineyard

Site Address 101 Mulford Rd

City Toledo County Lewis

Location SE1/4-1/4 SE1/4 Sec 23 Twn 11N R 2W

EWM ☐ or WWM ☐

Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Min ____ Sec ____

Long Deg ____ Min ____ Sec ____

Tax Parcel No.

Cased or Uncased Diameter 2 Static Level 8'

Work/Decommission Start Date 11/04/19

Work/Decommission Completed Date 11/04/19

Construction Design	Well Data	Formation Description
0 .5 _concrete 4.5' bentonite chips 18'	MW - 118 2" well casing Chip in place	

SCALE: 1"= ____ PAGE ____ OF ____

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE57809

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *("x" in box*)

☐ Construction

☒ Decommission

ORIGINAL INSTALLATION Notice of Intent Number:

R05469

Consulting Firm Arcadis

Unique Ecology Well IDTag No. ABY 983

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) Stroberger, Nicholas

Driller/Engineer /Trainee Signature

Driller or Trainee License No. 3194

If trainee, licensed driller's Signature and License Number:

Type of Well *("x in box)*

☒ Resource Protection

☐ Geotech Soil Boring

Property Owner Charles Vineyard

Site Address 101 Mulford Rd

City Toledo County Lewis

Location SE1/4-1/4 SE1/4 Sec 23 Twn 11N R 2W

EWM ☐ or WWM ☐

Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Min ____ Sec ____

Long Deg ____ Min ____ Sec ____

Tax Parcel No.

Cased or Uncased Diameter 2 Static Level 8'

Work/Decommission Start Date 11/04/19

Work/Decommission Completed Date 11/04/19

Construction Design	Well Data	Formation Description
0 .5 _concrete 4.5' bentonite chips 18'	MW - 119 2" well casing Chip in place	

SCALE: 1"= ____ PAGE ____ OF ____

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE57809

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *("x" in box*)

☐ Construction

☒ Decommission

ORIGINAL INSTALLATION Notice of Intent Number:

R05469

Consulting Firm Arcadis

Unique Ecology Well IDTag No. unknown

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) Stroberger, Nicholas

Driller/Engineer /Trainee Signature

Driller or Trainee License No. 3194

If trainee, licensed driller's Signature and License Number:

Type of Well *("x in box)*

☒ Resource Protection

☐ Geotech Soil Boring

Property Owner Charles Vineyard

Site Address 101 Mulford Rd

City Toledo County Lewis

Location SE1/4-1/4 SE1/4 Sec 23 Twn 11N R 2W

EWM ☐ or WWM ☐

Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Min ____ Sec ____

Long Deg ____ Min ____ Sec ____

Tax Parcel No.

Cased or Uncased Diameter 2 Static Level 8'

Work/Decommission Start Date 11/05/19

Work/Decommission Completed Date 11/05/19

Construction Design	Well Data	Formation Description
0 .5 concrete 4.5' bentonite chips 20'	MW - 120 2" well casing Overdrilled with 10.25" HSA	

SCALE: 1"= ____ PAGE ____ OF ____

APPENDIX C

Waste Sample Analytical Lab Report

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-90594-1
Client Project/Site: Chevron Site 211556, Toledo, WA

For:
ARCADIS U.S. Inc
111 SW Columbia Street
Suite 670
Portland, Oregon 97201

Attn: Komal Dixit

M. Elaine Walker

Authorized for release by:
11/25/2019 3:54:12 PM

Elaine Walker, Project Manager II
(253)248-4972
elaine.walker@testamericainc.com

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Job ID: 580-90594-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative
580-90594-1

Receipt
Two samples were received on 11/6/2019 1:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.4º C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC/MS Semi VOA
Method 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 580-316305 and 580-316847 and analytical batch 580-317128 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 580-316305 and 580-316847 and analytical batch 580-317243 recovered outside control limits for the following analytes: Pyridine.

Method 8270D: The LCSD associated with preparation batch 580-316305 and 580-316847 and analytical batch 580-317243 recovered above control limits for surrogate Terphenyl-d14 (Surr). This surrogate recovered within acceptance criteria for all other QC and associated samples, therefore the data is qualified and reported. (LCS 580-316305/2-B) and (LCSD 580-316305/3-B).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
Method 8082A: In analytical batch 580-317112, the %RPD between the primary and confirmation column exceeded 40% for some analytes for the following sample(s): CVX 211556 Soil-191105 (580-90594-1[1.0]). The lower value(s) has been reported in accordance with the laboratory's SOP.

Method 8082A: Surrogate reacovery was outside control limits for MB 580-316938/1-A on one column. The surrogate was in control on the other column and the results have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
Method 5035: The following sample was provided to the laboratory with a significantly different initial weight than that required by the reference method: CVX 211556 Soil-191105 (580-90594-1). Deviations in the weight by more than 20% may affect reporting limits and potentially method performance. The method specifies 10g. The amount provided was below this range.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

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.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
X	Surrogate is outside control limits

Metals

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.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

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
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

Client: ARCADIS U.S. Inc
Job ID: 580-90594-1
Project/Site: Chevron Site 211556, Toledo, WA

Client Sample ID: CVX 211556 Soil-191105
Lab Sample ID: 580-90594-1
Date Collected: 11/05/19 15:29
Matrix: Solid
Date Received: 11/06/19 13:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		400	78	ug/L			11/13/19 00:30	100
1,2-Dichloroethane	ND		200	53	ug/L			11/13/19 00:30	100
2-Butanone	ND		2000	470	ug/L			11/13/19 00:30	100
Benzene	ND		300	53	ug/L			11/13/19 00:30	100
Carbon tetrachloride	ND		300	30	ug/L			11/13/19 00:30	100
Chlorobenzene	ND		200	44	ug/L			11/13/19 00:30	100
Chloroform	ND		500	50	ug/L			11/13/19 00:30	100
Tetrachloroethene	ND		300	41	ug/L			11/13/19 00:30	100
Trichloroethene	ND		300	85	ug/L			11/13/19 00:30	100
Vinyl chloride	ND		100	22	ug/L			11/13/19 00:30	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 126*		*11/13/19 00:30*	*100*
4-Bromofluorobenzene (Surr)	*83*		*80 - 120*		*11/13/19 00:30*	*100*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*11/13/19 00:30*	*100*
Toluene-d8 (Surr)	*103*		*80 - 120*		*11/13/19 00:30*	*100*
Trifluorotoluene (Surr)	*88*		*80 - 120*		*11/13/19 00:30*	*100*

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.060	0.0072	mg/L		11/13/19 08:53	11/13/19 18:58	1
Barium	**0.11**		0.020	0.0039	mg/L		11/13/19 08:53	11/13/19 18:58	1
Cadmium	ND		0.020	0.00050	mg/L		11/13/19 08:53	11/13/19 18:58	1
Chromium	**0.0078**	**J**	0.025	0.0033	mg/L		11/13/19 08:53	11/13/19 18:58	1
Lead	ND		0.030	0.0027	mg/L		11/13/19 08:53	11/13/19 18:58	1
Selenium	ND		0.10	0.0087	mg/L		11/13/19 08:53	11/13/19 18:58	1
Silver	ND		0.050	0.0085	mg/L		11/13/19 08:53	11/13/19 18:58	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0030	0.0015	mg/L		11/13/19 09:28	11/13/19 14:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**95.3**		0.1	0.1	%			11/07/19 12:11	1
Percent Moisture	**4.7**		0.1	0.1	%			11/07/19 12:11	1
Total Solids	**95.3**		0.1	0.1	%			11/07/19 12:11	1

Client Sample ID: CVX 211556 Soil-191105
Lab Sample ID: 580-90594-1
Date Collected: 11/05/19 15:29
Matrix: Solid
Date Received: 11/06/19 13:00
Percent Solids: 95.3

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		9.7	4.4	mg/Kg	☼	11/07/19 15:04	11/07/19 22:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*50 - 150*	*11/07/19 15:04*	*11/07/19 22:35*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.019	0.0071	mg/Kg	☼	11/15/19 12:31	11/19/19 16:38	1
PCB-1221	ND		0.019	0.0040	mg/Kg	☼	11/15/19 12:31	11/19/19 16:38	1
PCB-1232	ND		0.019	0.0047	mg/Kg	☼	11/15/19 12:31	11/19/19 16:38	1
PCB-1242	ND		0.019	0.0034	mg/Kg	☼	11/15/19 12:31	11/19/19 16:38	1
PCB-1248	ND		0.019	0.0028	mg/Kg	☼	11/15/19 12:31	11/19/19 16:38	1
PCB-1254	ND		0.019	0.0036	mg/Kg	☼	11/15/19 12:31	11/19/19 16:38	1
PCB-1260	**0.021**	**p**	0.019	0.0071	mg/Kg	☼	11/15/19 12:31	11/19/19 16:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*76*		*39 - 142*	*11/15/19 12:31*	*11/19/19 16:38*	*1*
Tetrachloro-m-xylene	*82*	*p*	*35 - 129*	*11/15/19 12:31*	*11/19/19 16:38*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		50	12	mg/Kg	☼	11/07/19 16:00	11/10/19 04:14	1
Motor Oil (>C24-C36)	**21**	**J**	50	18	mg/Kg	☼	11/07/19 16:00	11/10/19 04:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*102*		*50 - 150*	*11/07/19 16:00*	*11/10/19 04:14*	*1*

Client: ARCADIS U.S. Inc
Job ID: 580-90594-1
Project/Site: Chevron Site 211556, Toledo, WA

Client Sample ID: CVX 211556 Water-191105
Lab Sample ID: 580-90594-2
Date Collected: 11/05/19 15:56
Matrix: Water
Date Received: 11/06/19 13:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		400	78	ug/L			11/08/19 15:42	100
1,2-Dichloroethane	ND		200	53	ug/L			11/08/19 15:42	100
2-Butanone	ND		2000	470	ug/L			11/08/19 15:42	100
Benzene	ND		300	53	ug/L			11/08/19 15:42	100
Carbon tetrachloride	ND		300	30	ug/L			11/08/19 15:42	100
Chlorobenzene	ND		200	44	ug/L			11/08/19 15:42	100
Chloroform	ND		500	50	ug/L			11/08/19 15:42	100
Tetrachloroethene	ND		300	41	ug/L			11/08/19 15:42	100
Trichloroethene	ND		300	85	ug/L			11/08/19 15:42	100
Vinyl chloride	ND		100	22	ug/L			11/08/19 15:42	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 126*		*11/08/19 15:42*	*100*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*11/08/19 15:42*	*100*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*11/08/19 15:42*	*100*
Toluene-d8 (Surr)	*101*		*80 - 120*		*11/08/19 15:42*	*100*
Trifluorotoluene (Surr)	*110*		*80 - 120*		*11/08/19 15:42*	*100*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		2.0	0.20	ug/L		11/14/19 13:56	11/19/19 16:06	1
2-Methylphenol	ND		3.0	0.25	ug/L		11/14/19 13:56	11/19/19 16:06	1
3 & 4 Methylphenol	ND		4.0	0.15	ug/L		11/14/19 13:56	11/19/19 16:06	1
Hexachloroethane	ND		5.0	0.25	ug/L		11/14/19 13:56	11/19/19 16:06	1
Nitrobenzene	ND		5.0	0.20	ug/L		11/14/19 13:56	11/19/19 16:06	1
Hexachlorobutadiene	ND		5.0	0.30	ug/L		11/14/19 13:56	11/19/19 16:06	1
2,4,6-Trichlorophenol	ND		3.0	0.50	ug/L		11/14/19 13:56	11/19/19 16:06	1
2,4,5-Trichlorophenol	ND	F1	2.0	0.50	ug/L		11/14/19 13:56	11/19/19 16:06	1
2,4-Dinitrotoluene	ND		5.0	0.50	ug/L		11/14/19 13:56	11/19/19 16:06	1
Hexachlorobenzene	ND		3.0	0.20	ug/L		11/14/19 13:56	11/19/19 16:06	1
Pentachlorophenol	ND		50	2.6	ug/L		11/14/19 13:56	11/19/19 16:06	1
Pyridine	ND	F1 *	75	3.0	ug/L		11/14/19 13:56	11/19/19 16:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*86*		*20 - 147*	*11/14/19 13:56*	*11/19/19 16:06*	*1*
Phenol-d5 (Surr)	*71*		*21 - 135*	*11/14/19 13:56*	*11/19/19 16:06*	*1*
Nitrobenzene-d5 (Surr)	*92*		*60 - 120*	*11/14/19 13:56*	*11/19/19 16:06*	*1*
2-Fluorobiphenyl	*88*		*63 - 120*	*11/14/19 13:56*	*11/19/19 16:06*	*1*
2,4,6-Tribromophenol (Surr)	*75*		*28 - 131*	*11/14/19 13:56*	*11/19/19 16:06*	*1*
Terphenyl-d14 (Surr)	*107*		*66 - 120*	*11/14/19 13:56*	*11/19/19 16:06*	*1*

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.060	0.0072	mg/L		11/13/19 08:53	11/13/19 19:02	1
Barium	**0.045**		0.020	0.0039	mg/L		11/13/19 08:53	11/13/19 19:02	1
Cadmium	ND		0.020	0.00050	mg/L		11/13/19 08:53	11/13/19 19:02	1
Chromium	ND		0.025	0.0033	mg/L		11/13/19 08:53	11/13/19 19:02	1
Lead	ND		0.030	0.0027	mg/L		11/13/19 08:53	11/13/19 19:02	1
Selenium	ND		0.10	0.0087	mg/L		11/13/19 08:53	11/13/19 19:02	1
Silver	ND		0.050	0.0085	mg/L		11/13/19 08:53	11/13/19 19:02	1

Client Sample Results

Client: ARCADIS U.S. Inc
Job ID: 580-90594-1
Project/Site: Chevron Site 211556, Toledo, WA

Client Sample ID: CVX 211556 Water-191105
Lab Sample ID: 580-90594-2
Date Collected: 11/05/19 15:56
Matrix: Water
Date Received: 11/06/19 13:00

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0030	0.0015	mg/L		11/13/19 09:28	11/13/19 15:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ignitability	> 211				Degrees F			11/13/19 12:37	1
pH	8.4	HF			SU			11/11/19 14:32	1

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

Lab Sample ID: MB 580-316264/1-A
Matrix: Water
Analysis Batch: 316366

Client Sample ID: Method Blank
Prep Type: TCLP

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		400	78	ug/L			11/08/19 12:23	100
1,2-Dichloroethane	ND		200	53	ug/L			11/08/19 12:23	100
2-Butanone	ND		2000	470	ug/L			11/08/19 12:23	100
Benzene	ND		300	53	ug/L			11/08/19 12:23	100
Carbon tetrachloride	ND		300	30	ug/L			11/08/19 12:23	100
Chlorobenzene	ND		200	44	ug/L			11/08/19 12:23	100
Chloroform	ND		500	50	ug/L			11/08/19 12:23	100
Tetrachloroethene	ND		300	41	ug/L			11/08/19 12:23	100
Trichloroethene	ND		300	85	ug/L			11/08/19 12:23	100
Vinyl chloride	ND		100	22	ug/L			11/08/19 12:23	100

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 126*		*11/08/19 12:23*	*100*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*11/08/19 12:23*	*100*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*11/08/19 12:23*	*100*
Toluene-d8 (Surr)	*102*		*80 - 120*		*11/08/19 12:23*	*100*
Trifluorotoluene (Surr)	*109*		*80 - 120*		*11/08/19 12:23*	*100*

Lab Sample ID: LCS 580-316264/2-A
Matrix: Water
Analysis Batch: 316366

Client Sample ID: Lab Control Sample
Prep Type: TCLP

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1000	999		ug/L		100	70 - 129
1,2-Dichloroethane	1000	1030		ug/L		103	76 - 131
2-Butanone	5000	4470		ug/L		89	65 - 127
Benzene	1000	910		ug/L		91	75 - 121
Carbon tetrachloride	1000	1020		ug/L		102	72 - 129
Chlorobenzene	1000	1020		ug/L		102	80 - 120
Chloroform	1000	956		ug/L		96	73 - 127
Tetrachloroethene	1000	1100		ug/L		110	76 - 120
Trichloroethene	1000	1000		ug/L		100	70 - 120
Vinyl chloride	1000	866		ug/L		87	65 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 126*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*104*		*80 - 120*
Toluene-d8 (Surr)	*98*		*80 - 120*
Trifluorotoluene (Surr)	*109*		*80 - 120*

Lab Sample ID: LCSD 580-316264/3-A
Matrix: Water
Analysis Batch: 316366

Client Sample ID: Lab Control Sample Dup
Prep Type: TCLP

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1000	989		ug/L		99	70 - 129	1	27
1,2-Dichloroethane	1000	1020		ug/L		102	76 - 131	1	18

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

Lab Sample ID: LCSD 580-316264/3-A
Matrix: Water
Analysis Batch: 316366

Client Sample ID: Lab Control Sample Dup
Prep Type: TCLP

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Butanone			5000	4370		ug/L		87	65 - 127	2	29
Benzene			1000	918		ug/L		92	75 - 121	1	14
Carbon tetrachloride			1000	1030		ug/L		103	72 - 129	1	19
Chlorobenzene			1000	1030		ug/L		103	80 - 120	1	15
Chloroform			1000	976		ug/L		98	73 - 127	2	22
Tetrachloroethene			1000	1080		ug/L		108	76 - 120	2	20
Trichloroethene			1000	1040		ug/L		104	70 - 120	4	21
Vinyl chloride			1000	846		ug/L		85	65 - 130	2	28

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*104*		*80 - 120*
Toluene-d8 (Surr)	*100*		*80 - 120*
Trifluorotoluene (Surr)	*110*		*80 - 120*

Lab Sample ID: MB 580-316507/1-A
Matrix: Solid
Analysis Batch: 316644

Client Sample ID: Method Blank
Prep Type: TCLP

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		400	78	ug/L			11/13/19 00:05	100
1,2-Dichloroethane	ND		200	53	ug/L			11/13/19 00:05	100
2-Butanone	ND		2000	470	ug/L			11/13/19 00:05	100
Benzene	ND		300	53	ug/L			11/13/19 00:05	100
Carbon tetrachloride	ND		300	30	ug/L			11/13/19 00:05	100
Chlorobenzene	ND		200	44	ug/L			11/13/19 00:05	100
Chloroform	ND		500	50	ug/L			11/13/19 00:05	100
Tetrachloroethene	ND		300	41	ug/L			11/13/19 00:05	100
Trichloroethene	ND		300	85	ug/L			11/13/19 00:05	100
Vinyl chloride	ND		100	22	ug/L			11/13/19 00:05	100

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 126*		*11/13/19 00:05*	*100*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*11/13/19 00:05*	*100*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*11/13/19 00:05*	*100*
Toluene-d8 (Surr)	*109*		*80 - 120*		*11/13/19 00:05*	*100*
Trifluorotoluene (Surr)	*92*		*80 - 120*		*11/13/19 00:05*	*100*

Lab Sample ID: LCS 580-316507/2-A
Matrix: Solid
Analysis Batch: 316644

Client Sample ID: Lab Control Sample
Prep Type: TCLP

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,1-Dichloroethene			1000	918		ug/L		92	70 - 129		
1,2-Dichloroethane			1000	886		ug/L		89	76 - 131		
2-Butanone			5000	4740		ug/L		95	65 - 127		
Benzene			1000	993		ug/L		99	75 - 121		

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

Lab Sample ID: LCS 580-316507/2-A
Matrix: Solid
Analysis Batch: 316644

Client Sample ID: Lab Control Sample
Prep Type: TCLP

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Carbon tetrachloride			1000	858		ug/L		86	72 - 129		
Chlorobenzene			1000	972		ug/L		97	80 - 120		
Chloroform			1000	945		ug/L		94	73 - 127		
Tetrachloroethene			1000	934		ug/L		93	76 - 120		
Trichloroethene			1000	761		ug/L		76	70 - 120		
Vinyl chloride			1000	985		ug/L		98	65 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 126*
4-Bromofluorobenzene (Surr)	*87*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*
Toluene-d8 (Surr)	*105*		*80 - 120*
Trifluorotoluene (Surr)	*80*		*80 - 120*

Lab Sample ID: LCSD 580-316507/3-A
Matrix: Solid
Analysis Batch: 316644

Client Sample ID: Lab Control Sample Dup
Prep Type: TCLP

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene			1000	831		ug/L		83	70 - 129	10	27
1,2-Dichloroethane			1000	886		ug/L		89	76 - 131	0	18
2-Butanone			5000	4310		ug/L		86	65 - 127	10	29
Benzene			1000	942		ug/L		94	75 - 121	5	14
Carbon tetrachloride			1000	848		ug/L		85	72 - 129	1	19
Chlorobenzene			1000	973		ug/L		97	80 - 120	0	15
Chloroform			1000	905		ug/L		91	73 - 127	4	22
Tetrachloroethene			1000	970		ug/L		97	76 - 120	4	20
Trichloroethene			1000	799		ug/L		80	70 - 120	5	21
Vinyl chloride			1000	984		ug/L		98	65 - 130	0	28

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 126*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*
Dibromofluoromethane (Surr)	*95*		*80 - 120*
Toluene-d8 (Surr)	*104*		*80 - 120*
Trifluorotoluene (Surr)	*91*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-316305/1-B
Matrix: Water
Analysis Batch: 317128

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 316847

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		2.0	0.20	ug/L		11/14/19 13:24	11/19/19 12:12	1
2-Methylphenol	ND		3.0	0.25	ug/L		11/14/19 13:24	11/19/19 12:12	1
3 & 4 Methylphenol	ND		4.0	0.15	ug/L		11/14/19 13:24	11/19/19 12:12	1
Hexachloroethane	ND		5.0	0.25	ug/L		11/14/19 13:24	11/19/19 12:12	1

Client: ARCADIS U.S. Inc
Project/Site: Chevron Site 211556, Toledo, WA

Job ID: 580-90594-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-316305/1-B
Matrix: Water
Analysis Batch: 317128

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 316847

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		5.0	0.20	ug/L		11/14/19 13:24	11/19/19 12:12	1
Hexachlorobutadiene	ND		5.0	0.30	ug/L		11/14/19 13:24	11/19/19 12:12	1
2,4,6-Trichlorophenol	ND		3.0	0.50	ug/L		11/14/19 13:24	11/19/19 12:12	1
2,4,5-Trichlorophenol	ND		2.0	0.50	ug/L		11/14/19 13:24	11/19/19 12:12	1
2,4-Dinitrotoluene	ND		5.0	0.50	ug/L		11/14/19 13:24	11/19/19 12:12	1
Hexachlorobenzene	ND		3.0	0.20	ug/L		11/14/19 13:24	11/19/19 12:12	1
Pentachlorophenol	ND		50	2.6	ug/L		11/14/19 13:24	11/19/19 12:12	1
Pyridine	ND		75	3.0	ug/L		11/14/19 13:24	11/19/19 12:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*82*		*20 - 147*	*11/14/19 13:24*	*11/19/19 12:12*	*1*
Phenol-d5 (Surr)	*75*		*21 - 135*	*11/14/19 13:24*	*11/19/19 12:12*	*1*
Nitrobenzene-d5 (Surr)	*81*		*60 - 120*	*11/14/19 13:24*	*11/19/19 12:12*	*1*
2-Fluorobiphenyl	*81*		*63 - 120*	*11/14/19 13:24*	*11/19/19 12:12*	*1*
2,4,6-Tribromophenol (Surr)	*63*		*28 - 131*	*11/14/19 13:24*	*11/19/19 12:12*	*1*
Terphenyl-d14 (Surr)	*93*		*66 - 120*	*11/14/19 13:24*	*11/19/19 12:12*	*1*

Lab Sample ID: LCS 580-316305/2-B
Matrix: Water
Analysis Batch: 317243

Client Sample ID: Lab Control Sample
Prep Type: TCLP
Prep Batch: 316847

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	10.0	10.2		ug/L		102	46 - 120
2-Methylphenol	10.0	10.7		ug/L		107	49 - 120
3 & 4 Methylphenol	10.0	10.3		ug/L		103	50 - 124
Hexachloroethane	10.0	10.2		ug/L		102	38 - 120
Nitrobenzene	10.0	11.8		ug/L		118	60 - 130
Hexachlorobutadiene	10.0	9.30		ug/L		93	31 - 120
2,4,6-Trichlorophenol	10.0	9.82		ug/L		98	64 - 121
2,4,5-Trichlorophenol	10.0	7.81		ug/L		78	67 - 120
2,4-Dinitrotoluene	10.0	10.6		ug/L		106	63 - 133
Hexachlorobenzene	10.0	10.8		ug/L		108	60 - 120
Pentachlorophenol	20.0	20.6	J	ug/L		103	39 - 147
Pyridine	20.0	8.97	J	ug/L		45	20 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*113*		*20 - 147*
Phenol-d5 (Surr)	*104*		*21 - 135*
Nitrobenzene-d5 (Surr)	*115*		*60 - 120*
2-Fluorobiphenyl	*107*		*63 - 120*
2,4,6-Tribromophenol (Surr)	*97*		*28 - 131*
Terphenyl-d14 (Surr)	*118*		*66 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-316305/3-B
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: TCLP
Analysis Batch: 317243
Prep Batch: 316847

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dichlorobenzene			10.0	9.51		ug/L		95	46 - 120	7	30
2-Methylphenol			10.0	10.2		ug/L		102	49 - 120	4	35
3 & 4 Methylphenol			10.0	9.78		ug/L		98	50 - 124	6	35
Hexachloroethane			10.0	9.86		ug/L		99	38 - 120	3	35
Nitrobenzene			10.0	11.2		ug/L		112	60 - 130	5	31
Hexachlorobutadiene			10.0	9.09		ug/L		91	31 - 120	2	28
2,4,6-Trichlorophenol			10.0	9.18		ug/L		92	64 - 121	7	26
2,4,5-Trichlorophenol			10.0	7.49		ug/L		75	67 - 120	4	26
2,4-Dinitrotoluene			10.0	9.31		ug/L		93	63 - 133	13	23
Hexachlorobenzene			10.0	10.6		ug/L		106	60 - 120	2	23
Pentachlorophenol			20.0	20.8	J	ug/L		104	39 - 147	1	23
Pyridine			20.0	6.18	J *	ug/L		31	20 - 120	37	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorophenol (Surr)	*107*		*20 - 147*
Phenol-d5 (Surr)	*101*		*21 - 135*
Nitrobenzene-d5 (Surr)	*112*		*60 - 120*
2-Fluorobiphenyl	*103*		*63 - 120*
2,4,6-Tribromophenol (Surr)	*101*		*28 - 131*
Terphenyl-d14 (Surr)	*124*	*X*	*66 - 120*

Lab Sample ID: 580-90594-2 MS
Client Sample ID: CVX 211556 Water-191105
Matrix: Water
Prep Type: TCLP
Analysis Batch: 317128
Prep Batch: 316847

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	ND		9.95	7.49		ug/L		75	46 - 120
2-Methylphenol	ND		9.95	7.70		ug/L		77	49 - 120
3 & 4 Methylphenol	ND		9.95	6.75		ug/L		68	50 - 124
Hexachloroethane	ND		9.95	7.79		ug/L		78	38 - 120
Nitrobenzene	ND		9.95	8.88		ug/L		89	60 - 130
Hexachlorobutadiene	ND		9.95	7.51		ug/L		76	31 - 120
2,4,6-Trichlorophenol	ND		9.95	8.19		ug/L		82	64 - 121
2,4,5-Trichlorophenol	ND	F1	9.95	5.82	F1	ug/L		59	67 - 120
2,4-Dinitrotoluene	ND		9.95	7.92		ug/L		80	63 - 133
Hexachlorobenzene	ND		9.95	8.06		ug/L		81	60 - 120
Pentachlorophenol	ND		19.9	13.9	J	ug/L		70	39 - 147
Pyridine	ND	F1 *	19.9	3.33	J F1	ug/L		17	20 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*79*		*20 - 147*
Phenol-d5 (Surr)	*68*		*21 - 135*
Nitrobenzene-d5 (Surr)	*86*		*60 - 120*
2-Fluorobiphenyl	*85*		*63 - 120*
2,4,6-Tribromophenol (Surr)	*75*		*28 - 131*
Terphenyl-d14 (Surr)	*90*		*66 - 120*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-316293/1-A
Matrix: Solid
Analysis Batch: 316304

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 316293

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.0	2.3	mg/Kg		11/07/19 15:04	11/07/19 17:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*50 - 150*	*11/07/19 15:04*	*11/07/19 17:30*	*1*
Trifluorotoluene (Surr)	*104*		*50 - 150*	*11/07/19 15:04*	*11/07/19 17:30*	*1*

Lab Sample ID: LCS 580-316293/2-A
Matrix: Solid
Analysis Batch: 316304

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 316293

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline			40.0	33.9		mg/Kg		85	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*50 - 150*
Trifluorotoluene (Surr)	*98*		*50 - 150*

Lab Sample ID: LCSD 580-316293/3-A
Matrix: Solid
Analysis Batch: 316304

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 316293

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline			40.0	35.1		mg/Kg		88	80 - 120	4	10

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*50 - 150*
Trifluorotoluene (Surr)	*100*		*50 - 150*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 580-316938/1-A
Matrix: Solid
Analysis Batch: 317112

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 316938

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.020	0.0074	mg/Kg		11/15/19 12:31	11/19/19 08:26	1
PCB-1221	ND		0.020	0.0042	mg/Kg		11/15/19 12:31	11/19/19 08:26	1
PCB-1232	ND		0.020	0.0049	mg/Kg		11/15/19 12:31	11/19/19 08:26	1
PCB-1242	ND		0.020	0.0035	mg/Kg		11/15/19 12:31	11/19/19 08:26	1
PCB-1248	ND		0.020	0.0029	mg/Kg		11/15/19 12:31	11/19/19 08:26	1
PCB-1254	ND		0.020	0.0037	mg/Kg		11/15/19 12:31	11/19/19 08:26	1
PCB-1260	ND		0.020	0.0074	mg/Kg		11/15/19 12:31	11/19/19 08:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*93*		*39 - 142*	*11/15/19 12:31*	*11/19/19 08:26*	*1*
DCB Decachlorobiphenyl	*129*		*39 - 142*	*11/15/19 12:31*	*11/19/19 08:26*	*1*
Tetrachloro-m-xylene	*99*		*35 - 129*	*11/15/19 12:31*	*11/19/19 08:26*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: MB 580-316938/1-A
Matrix: Solid
Analysis Batch: 317112

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 316938

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	*194*	*X*	*35 - 129*	*11/15/19 12:31*	*11/19/19 08:26*	*1*

Lab Sample ID: LCS 580-316938/2-A
Matrix: Solid
Analysis Batch: 317112

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 316938

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	0.100	0.0955		mg/Kg		95	41 - 138
PCB-1260	0.100	0.0914		mg/Kg		91	47 - 142

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	*83*		*39 - 142*
Tetrachloro-m-xylene	*91*		*35 - 129*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-316299/1-A
Matrix: Solid
Analysis Batch: 316424

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 316299

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		50	12	mg/Kg		11/07/19 15:54	11/09/19 20:10	1
Motor Oil (>C24-C36)	ND		50	18	mg/Kg		11/07/19 15:54	11/09/19 20:10	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	*105*		*50 - 150*	*11/07/19 15:54*	*11/09/19 20:10*	*1*

Lab Sample ID: LCS 580-316299/2-A
Matrix: Solid
Analysis Batch: 316424

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 316299

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	500	440		mg/Kg		88	70 - 125
Motor Oil (>C24-C36)	500	442		mg/Kg		88	70 - 129

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	*79*		*50 - 150*

Lab Sample ID: LCSD 580-316299/3-A
Matrix: Solid
Analysis Batch: 316424

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 316299

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	500	437		mg/Kg		87	70 - 125	1	16
Motor Oil (>C24-C36)	500	434		mg/Kg		87	70 - 129	2	16

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 580-316299/3-A
Matrix: Solid
Analysis Batch: 316424

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 316299

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*82*		*50 - 150*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 580-316168/1-B
Matrix: Solid
Analysis Batch: 316782

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 316659

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.060	0.0072	mg/L		11/13/19 08:53	11/13/19 18:01	1
Barium	ND		0.020	0.0039	mg/L		11/13/19 08:53	11/13/19 18:01	1
Cadmium	ND		0.020	0.00050	mg/L		11/13/19 08:53	11/13/19 18:01	1
Chromium	ND		0.025	0.0033	mg/L		11/13/19 08:53	11/13/19 18:01	1
Lead	ND		0.030	0.0027	mg/L		11/13/19 08:53	11/13/19 18:01	1
Selenium	ND		0.10	0.0087	mg/L		11/13/19 08:53	11/13/19 18:01	1
Silver	ND		0.050	0.0085	mg/L		11/13/19 08:53	11/13/19 18:01	1

Lab Sample ID: LCS 580-316168/2-B
Matrix: Solid
Analysis Batch: 316782

Client Sample ID: Lab Control Sample
Prep Type: TCLP
Prep Batch: 316659

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	1.15		mg/L		115	80 - 120
Barium	1.00	0.909		mg/L		91	80 - 120
Cadmium	1.00	1.16		mg/L		116	80 - 120
Chromium	1.00	1.09		mg/L		109	80 - 120
Lead	1.00	1.12		mg/L		112	80 - 120
Selenium	1.00	1.19		mg/L		119	80 - 120
Silver	1.00	1.06		mg/L		106	80 - 120

Lab Sample ID: LCSD 580-316168/3-B
Matrix: Solid
Analysis Batch: 316782

Client Sample ID: Lab Control Sample Dup
Prep Type: TCLP
Prep Batch: 316659

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.00	1.10		mg/L		110	80 - 120	4	20
Barium	1.00	0.897		mg/L		90	80 - 120	1	20
Cadmium	1.00	1.11		mg/L		111	80 - 120	4	20
Chromium	1.00	1.05		mg/L		105	80 - 120	4	20
Lead	1.00	1.07		mg/L		107	80 - 120	5	20
Selenium	1.00	1.13		mg/L		113	80 - 120	5	20
Silver	1.00	1.05		mg/L		105	80 - 120	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 580-316168/1-C
Matrix: Solid
Analysis Batch: 316807

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 316675

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0030	0.0015	mg/L		11/13/19 09:28	11/13/19 14:27	1

Lab Sample ID: LCS 580-316168/2-C
Matrix: Solid
Analysis Batch: 316807

Client Sample ID: Lab Control Sample
Prep Type: TCLP
Prep Batch: 316675

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.0200	0.0170		mg/L		85	80 - 120		

Lab Sample ID: LCSD 580-316168/3-C
Matrix: Solid
Analysis Batch: 316807

Client Sample ID: Lab Control Sample Dup
Prep Type: TCLP
Prep Batch: 316675

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			0.0200	0.0175		mg/L		88	80 - 120	3	20

Method: 2540G - SM 2540G

Lab Sample ID: 580-90594-1 DU
Matrix: Solid
Analysis Batch: 316266

Client Sample ID: CVX 211556 Soil-191105
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Solids	95.3			95.2		%				0.1	20
Percent Moisture	4.7			4.8		%				2	20
Total Solids	95.3			95.2		%				0.1	20

Method: 9040C - pH

Lab Sample ID: 580-90594-2 DU
Matrix: Water
Analysis Batch: 316524

Client Sample ID: CVX 211556 Water-191105
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	8.4	HF		8.5		SU				0.4	1

Lab Chronicle

Client: ARCADIS U.S. Inc
Job ID: 580-90594-1
Project/Site: Chevron Site 211556, Toledo, WA

Client Sample ID: CVX 211556 Soil-191105
Lab Sample ID: 580-90594-1
Date Collected: 11/05/19 15:29
Matrix: Solid
Date Received: 11/06/19 13:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			316507	11/11/19 11:53	ART	TAL SEA
TCLP	Analysis	8260C		100	316644	11/13/19 00:30	APR	TAL SEA
TCLP	Leach	1311			316305	11/07/19 16:19	ART	TAL SEA
TCLP	Prep	3010A			316659	11/13/19 08:53	ART	TAL SEA
TCLP	Analysis	6010C		1	316782	11/13/19 18:58	T1H	TAL SEA
TCLP	Leach	1311			316305	11/07/19 16:19	ART	TAL SEA
TCLP	Prep	7470A			316675	11/13/19 09:28	ART	TAL SEA
TCLP	Analysis	7470A		1	316807	11/13/19 14:58	A1B	TAL SEA
Total/NA	Analysis	2540G		1	316266	11/07/19 12:11	JWM	TAL SEA

Client Sample ID: CVX 211556 Soil-191105
Lab Sample ID: 580-90594-1
Date Collected: 11/05/19 15:29
Matrix: Solid
Date Received: 11/06/19 13:00
Percent Solids: 95.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			316293	11/07/19 15:04	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	316304	11/07/19 22:35	TL1	TAL SEA
Total/NA	Prep	3546			316938	11/15/19 12:31	MLT	TAL SEA
Total/NA	Analysis	8082A		1	317112	11/19/19 16:38	CJB	TAL SEA
Total/NA	Prep	3546			316299	11/07/19 16:00	JWM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	316424	11/10/19 04:14	CJ	TAL SEA

Client Sample ID: CVX 211556 Water-191105
Lab Sample ID: 580-90594-2
Date Collected: 11/05/19 15:56
Matrix: Water
Date Received: 11/06/19 13:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			316264	11/07/19 12:00	ART	TAL SEA
TCLP	Analysis	8260C		100	316366	11/08/19 15:42	CJ	TAL SEA
TCLP	Leach	1311			316305	11/07/19 16:19	ART	TAL SEA
TCLP	Prep	3510C			316847	11/14/19 13:56		TAL SEA
TCLP	Analysis	8270D		1	317128	11/19/19 16:06	W1T	TAL SEA
TCLP	Leach	1311			316305	11/07/19 16:19	ART	TAL SEA
TCLP	Prep	3010A			316659	11/13/19 08:53	ART	TAL SEA
TCLP	Analysis	6010C		1	316782	11/13/19 19:02	T1H	TAL SEA
TCLP	Leach	1311			316305	11/07/19 16:19	ART	TAL SEA
TCLP	Prep	7470A			316675	11/13/19 09:28	ART	TAL SEA
TCLP	Analysis	7470A		1	316807	11/13/19 15:01	A1B	TAL SEA
Total/NA	Analysis	1020A		1	316720	11/13/19 12:37	R1K	TAL SEA
Total/NA	Analysis	9040C		1	316524	11/11/19 14:32	ESB	TAL SEA

Laboratory References:

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: ARCADIS U.S. Inc
Job ID: 580-90594-1
Project/Site: Chevron Site 211556, Toledo, WA

Laboratory: Eurofins TestAmerica, Seattle

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-024	01-19-22
ANAB	Dept. of Defense ELAP	L2236	01-19-22
ANAB	ISO/IEC 17025	L2236	01-19-22
Montana (UST)	State	NA	04-13-21
Oregon	NELAP	WA100007	11-06-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	US Federal Programs	P330-17-00039	02-10-20
Washington	State	C553	02-17-20

Sample Summary

Client: ARCADIS U.S. Inc
Project/Site: Chevron Site 211556, Toledo, WA

Job ID: 580-90594-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-90594-1	CVX 211556 Soil-191105	Solid	11/05/19 15:29	11/06/19 13:00	
580-90594-2	CVX 211556 Water-191105	Water	11/05/19 15:56	11/06/19 13:00	

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone: 253-922-2310 Fax: 253-922-5047

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: Tyler Green	Lab PM: Walker, Elaine M	Carrier Tracking No(s):	COC No: 580-36442-11705.1
Client Contact: Tyler Green	Phone: 509.301.7974	E-Mail: elaine.walker@testamericainc.com		Page: Page 1 of 1
Company: ARCADIS U.S. Inc				Job #:
Address: 111 SW Columbia Street Suite 670	Due Date Requested:			
City: Portland	TAT Requested (days): 5			
State, Zip: OR, 97201				
Phone: 503-765-9525(Tel)	PO #: 30012346			
Email: tyler.green@arcadis.com	WO #: 211556			
Project Name: Chevron Site 211556, Toledo, WA	Project #: 58014514			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

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)	8082A, Moisture, NWTPH_Dx	8260C - RCRA list Volatiles	NWTPH_Gx - Northwest - GRO	6010C, 7470A, 8270D	8270D - RCRA list Semivolatiles	6010C, 7470A	1020A, 9040C	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	F	N	N	N	N		
CVX 211556 Soil	11/5/19	1529	C	Solid	N	N	X	X	X	X				8	
				Solid											
CVX 211556 Water	11/5/19	1556	C	Water	N	N		X			X	X	X	12	HCl VOAs were rinsed of preservative. Samples in HCl VOAs are unpreserved.
				Water											

580-90594 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: Tyler Green	Date/Time: 11/6/19 12:07	Company: Arcadis	Received by:	Date/Time: 11/6/19 1207	Company: M.E.		
Relinquished by:	Date/Time: 11/6/19 1300	Company: M.E.	Received by:	Date/Time: 11/6/19 1300	Company: TAEOK		
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: 1.4

Ver: 01/16/2019

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone: 253-922-2310 Fax: 253-922-5047

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information	Sampler: Tyler Green	Lab PM: Walker, Elaine M	Carrier Tracking No(s):	COC No: 580-36442-11705.1
Client Contact: Tyler Green	Phone: 509.301.7974	E-Mail: elaine.walker@testamericainc.com		Page: Page 1 of 1
Company: ARCADIS U.S. Inc				Job #:
Address: 111 SW Columbia Street Suite 670	Due Date Requested:			
City: Portland	TAT Requested (days): 5			
State, Zip: OR, 97201				
Phone: 503-765-9525(Tel)	PO #: 30012346			
Email: tyler.green@arcadis.com	WO #: 211556			
Project Name: Chevron Site 211556, Toledo, WA	Project #: 58014514			
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			Preservation Code:		X	X	N	N	F	N	N	N	N	X	
CVX 211556 Soil	11/5/19	1529	C	Solid	N	N	X	X	X	X				3	
				Solid											
CVX 211556 Water	11/5/19	1556	C	Water	N	N		X			X	X	X	12	HCl VOAs were rinsed of preservative. Samples in HCl VOAs are unpreserved.
				Water											

580-90594 Chain of Custody

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Relinquished by: Tyler Green	Date/Time: 11/6/19 12:07	Company: Arcadis	Received by:	Date/Time: 11/6/19 1207 Company: M.E.
Relinquished by:	Date/Time: 11/6/19 1300	Company: M.E.	Received by:	Date/Time: 11/6/19 1300 Company: TAPOK
Relinquished by:	Date/Time: 11/6/19 1700	Company: TAPOK	Received by: Tom B	Date/Time: 11/7/19 0930 Company: TA-Sea

Custody Seals Intact: ☐ Yes ☐ No Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 1.4 IR7 1.2/1.5

Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 580-90594-1

Login Number: 90594
List Number: 1
Creator: O'Connell, Jason I

List Source: Eurofins TestAmerica, Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
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	
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	

Arcadis U.S., Inc.

111 SW Columbia Street

Suite 670

Portland, Oregon 97201

Tel 503 220 8201

Fax

www.arcadis.com