

2025 GROUNDWATER MONITORING REPORT NONENE LOADING RACK

HF SINCLAIR PUGET SOUND REFINERY

SUBMITTED BY:

DECEMBER 2025

SUBMITTED TO:



ALL4 LLC

228 East Champion Street, Suite 101
Bellingham, WA 98225

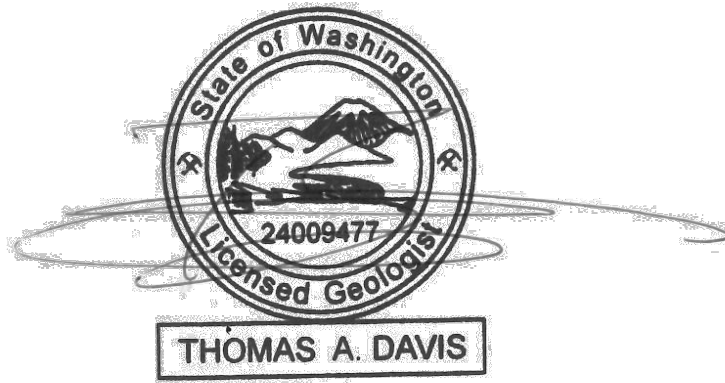


HF Sinclair Puget Sound Refining LLC

8505 South Texas Road
Anacortes, WA 98221

CERTIFICATION STATEMENT

All geologic and hydrogeologic work performed pursuant to this report was conducted under the supervision and direction of the geologist listed below:



12/22/2025

Thomas A. Davis, L.G.

Date

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1. INTRODUCTION

A release of nonene to the ground occurred at the HF Sinclair Puget Sound Refining LLC (HFSPSR) nonene loading rack site (Site) on October 23, 2011. A clogged oily water sewer drain caused the nonene to overflow the loading rack drainage sump. The nonene overflowed into the surrounding rail line ballast-rock. An overview site location map is provided at Figure 1, and a map of the release location is shown on Figure 2.

The release and subsequent site characterization work was documented in a report prepared by Whatcom Environmental Services for Shell Puget Sound Refinery dated January 11, 2012 (WES, 2012). ALL4 LLC acquired WES in December 2023. Annual Groundwater Monitoring Reports summarizing the groundwater conditions at the site in 2012 through 2024 were completed and submitted to the client, with the most recent report submitted in July 2024 for monitoring conducted in 2024 (ALL4 LLC, 2024). All historical data are summarized in Tables 1 and 2.

On February 10, 2015, the Washington State Department of Ecology (Ecology) submitted a letter to the client following review of the annual 2014 summary document and stated that the monitoring frequency of the release may be reduced from quarterly to an annual event (Ecology, 2015). The letter from Ecology is included in Appendix A.

The annual 2025 groundwater sample was collected on July 17, 2025. This report documents the 2025 groundwater monitoring results and should be used in conjunction with previous reports to document the condition of groundwater at the Site.

Gasoline and diesel range total petroleum hydrocarbons (TPH) were detected in groundwater at the Site in 2025. The laboratory analytical results showed that groundwater concentrations of diesel and gasoline range contaminants were detected at concentrations that did not exceed the MTCA Method A target groundwater cleanup levels (Ecology, 2024). Benzene, toluene, ethylbenzene, and total xylenes (BTEX) were not detected above the laboratory reporting limit in 2025.

2. SITE DESCRIPTION

The HF Sinclair Puget Sound Refinery is located at 8505 South Texas Road in Anacortes, Washington. The facility is situated two miles east of the city of Anacortes on the southern portion of March Point. March Point is a north-south-oriented peninsula about 1.3 miles wide and 2.6 miles long. The HF Sinclair Puget Sound Refinery has been an active petroleum refinery since 1958. Mr. Jim Schneider is the facility contact for the nonene release Site. He can be reached at (360) 293-0868.

2.1 SURROUNDING AREA AND SITE TOPOGRAPHY

The HFSPSR facility is bordered to the north by North Texas Road and the Marathon Refinery, to the east by East March's Point Road, to the south by South Texas Road, and to the west by West March's Point Road. Fidalgo Bay is located approximately 0.25 miles west of the site, and Padilla Bay is located approximately 1.25 miles to the east. The City of Anacortes, Washington is located approximately 3.75 miles northwest of the site.

The median elevation of the nonene loading rack site is approximately 70 feet above mean sea level. The site generally slopes towards the west.

2.2 SITE GEOLOGY

The release site is located in the northern portion of the Puget Sound Basin. The region is characterized by thick sequences of Pleistocene glacial advance outwash and meltwater deposits that were deposited on a basement of tectonically deformed ancient sedimentary and metamorphic bedrock. The glacial deposits have been reworked by more recent fluvial, lacustrine, and aeolian actions into the landforms present today.

The HFSPSR site is underlain by glacial till of the Vashon Stade (WDNR, 2000). The till consists of dense, unsorted diamicton which includes clast sizes ranging from boulders to clay. The unit contains localized areas of laminated silt and fine sand. Smaller clasts are generally subangular to rounded while boulders tend to be polished, faceted and striated. The unit ranges in color from gray and olive-gray to brown and yellowish-brown, depending on lithologic content and oxidation state. The thickness of the unit is from less than one meter to a maximum of approximately 25 meters.

2.3 SITE HYDROGEOLOGY

A groundwater monitoring well (W-129) was installed at the site in November 2011 at the location shown on Figure 2. During well installation, groundwater was first encountered at approximately 16 feet below ground surface (bgs). Following completion of the well, groundwater levels gradually rose to approximately one foot below ground surface in the well. This may indicate that the well was completed in a confined aquifer as soils did not appear to be saturated during the drilling of the well until the well reached approximately 16 feet in depth. It may also indicate that perched water contained in the upper more-permeable stratigraphy is filling the well as it moves across the lower, less-permeable stratigraphy. Water levels measured during the wet season sampling events appear to be higher than during dry season sampling events.

Based on numerous groundwater wells and historic groundwater studies conducted at HFSPSR, the general direction of groundwater flow follows Site topography and flows to the west/southwest on the west side of March Point.

3. GROUNDWATER SAMPLING

One groundwater sample was collected from monitoring well W-129 on July 17, 2025. The groundwater sample was analyzed at Eurofins Seattle for diesel range TPH using method NWPTH-Dx, gasoline range TPH using method NWPTH-Gx, and BTEX constituents using method EPA-8260.

Prior to the sampling event, the depth to water in W-129 was measured from the top of the PVC well casing with an electronic well probe and recorded in the field notebook. The depth-to-water recorded in 2025 is included in Table 1. The groundwater sample was collected using a low-flow sampling procedure in accordance with EPA sampling guidelines (EPA, 2017). A YSI multi-parameter water quality meter was used to monitor groundwater chemistry during well purging prior to sample collection. The groundwater sample was collected after groundwater chemistry parameters had stabilized. The final groundwater chemistry parameters representing stable groundwater conditions are summarized in Table 2.

The groundwater sample was collected in sample bottles provided by Eurofins and stored on ice in a cooler immediately following collection. All sample containers included a sample label indicating the sample identification, the sampling date and time, and the sampler's name. Standard industry protocols regarding sample preservation, chain-of-custody, and shipping were followed.

4. GROUNDWATER SAMPLING RESULTS

Groundwater analytical data are summarized in Table 1. Stable groundwater chemistry parameters recorded prior to sample collection are presented in Table 2. The original groundwater laboratory analytical data reports are included in Appendix B.

Gasoline range TPH was detected in the groundwater at a concentration of 700 ug/L during the 2025 sampling event. The detected concentration did not exceed the MTCA Method A target cleanup level of 1,000 ug/L for gasoline range TPH without the presence of benzene.

Diesel/Oil range TPH was detected in the groundwater at a concentration of 220 ug/L during the 2025 sampling event. The detected concentration did not exceed the MTCA Method A target cleanup level of 500 ug/L for diesel/Oil range TPH.

No BTEX constituents were detected in 2025 at concentrations that exceeded the laboratory reporting limits.

5. CONCLUSIONS

One groundwater sample was collected from monitoring well W-129 in July 2025. The sample was analyzed for gasoline and diesel range TPH as well as BTEX constituents. The laboratory analytical results indicated that detected concentrations of gasoline and diesel range TPH did not exceed the MTCA Method A target cleanup levels in 2025. No BTEX constituents were detected above that laboratory reporting limit. The site is underlain by relatively impermeable silt and clay which would act to limit the vertical migration of contamination.

6. REFERENCES

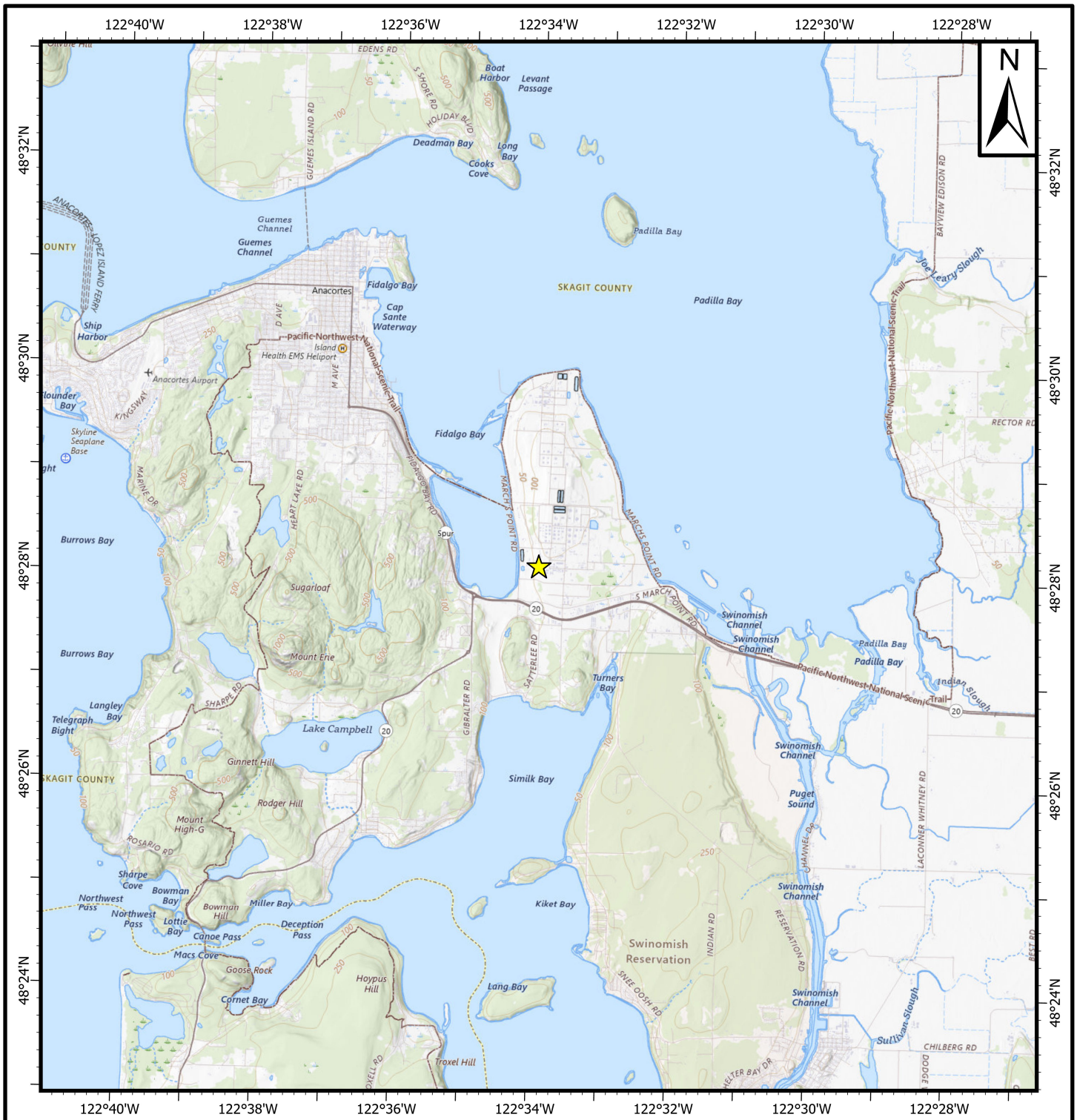
- ALL4, LLC. July 30, 2024. 2024 Groundwater Monitoring Report, Nonene Loading Rack, HF Sinclair, Puget Sound Refinery. Prepared for: HF Sinclair, Puget Sound Refinery.
- U.S. Environmental Protection Agency Region 1. 2017 (rev. 4). Low Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells. EQASOP-GW4.
- Washington State Department of Ecology. 2024. The Model Toxics Control Act Cleanup Regulation, Chapter 173-340 WAC. Toxics Cleanup Program. Amended January 2024. Publication No. 94-06.
- Washington State Department of Ecology. February 10, 2015. Re: Ecology Review of 2014 Groundwater Monitoring Report: Nonene Loading Rack, Shell Puget Sound Refinery.
- Washington State Department of Natural Resources (WDNR). 2000. Geologic Map of the Bellingham 1:100,000 Quadrangle, Washington. Open File Report 2000-5.
- Whatcom Environmental Services, Inc. (WES). January 11, 2012. Independent Remedial Action Report, Nonene Loading Rack, Shell Oil Products US, Puget Sound Refinery. Prepared for Shell Oil Products US, Puget Sound Refinery.

7. LIMITATIONS

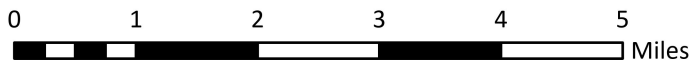
This environmental report is based on conditions that existed at the time the investigation was performed, and samples collected. The findings and conclusions of this report may be affected by the passage of time, by manmade events such as construction on or adjacent to the site, or by natural events such as floods, earthquakes, ground instability, or groundwater fluctuations.

Within the limitations of scope, schedule, and budget, our services have been executed in accordance with generally accepted environmental practices in this area at the time this report was prepared. No warranty or other conditions, express or implied, should be understood.

This report has been prepared for use by HFSPSR by ALL4 LLC. ALL4 prepares a report for the client's exclusive use for a particular project and in accordance with generally accepted practices at the time of investigation. This report was prepared for exclusive use by the client and its agents and may not be used, relied upon, or assigned to a third party without written consent from ALL4. This report is not intended for use by others, and the information contained herein is not applicable to other sites. This report may be made available to regulatory agencies.



Scale: 1:100,000



Locator Map



HF Sinclair Puget Sound Refining, LLC
8505 S. Texas Road
Anacortes, WA 98221

DATE:
12/22/2025

PROJECT:
004531-0033



Figure 1
Site Location Map

HFSPSR - Nonene Loading Rack
Anacortes, WA 98221



Monitoring Well

All data are approximate and should be used for relative location reference only.

Figure 2
Well Location Map

0 25 50 100
Feet
1 inch = 50 feet

DATE:
12/22/2025
PROJECT:
004531-0033.00



HFSPSR - Nonene Loading Rack
Anacortes, WA 98221

Table 1
Groundwater Sample Analytical Results - Nonene Loading Rack Well
HF Sinclair Puget Sound Refining LLC - Anacortes, WA

Sample ID	Depth to Water	NWTPH-Dx	NWTPH-Dx	NWTPH-Gx	EPA-8260	EPA-8260	EPA-8260	EPA-8260
		Diesel Range	Lube-oil Range	Gasoline Range	Benzene	Toluene	Ethylbenzene	Xylenes
Units:	(ft below casing)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
MTCA Method A Cleanup Levels		500	500	800/1000 ^(a)	5	1,000	700	1,000
NONENE LOADING RACK WELL (W-129)								
12/5/11	4.08 ^(b)	ND(<130)	ND(<250)	1,300	ND(<0.12)	ND(<0.20)	ND(<0.10)	ND(<0.91)
3/21/12	3.83	750	ND(<240)	260	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.0)
6/25/12	3.81	360	ND(<240)	420	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.0)
9/18/12	5.64	230	ND(<240)	530	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.0)
11/20/12	3.39	510	ND(<240)	570	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.0)
2/19/13	3.69	660	ND(<240)	160	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.0)
4/22/13	3.73	460	ND(<240)	92	ND(<0.5)	2.10	ND(<0.5)	ND(<1.0)
7/31/13	5.07	130	ND(<240)	200	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.0)
11/25/13	4.15	190	ND(<240)	510	ND(<1.0)	ND(<1.0)	ND(<1.0)	ND(<3.0)
3/19/14	3.66	200	ND(<240)	510	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<2.0)
6/11/14	4.90	190	ND(<240)	870	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<2.0)
8/5/14	4.87	210	ND(<240)	820	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<2.0)
11/11/14	4.02	150	ND(<260)	780	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<2.0)
8/25/15	6.63	ND(<210)	ND(<480)	790	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<2.0)
8/10/16	5.93	ND(<120)	ND(<270)	410	ND(<2.0)	ND(<2.0)	ND(<3.0)	ND(<2.0)
8/3/17	6.20	120	ND(<270)	470	ND(<0.4)	ND(<1.0)	ND(<1.0)	ND(<3.0)
6/26/18	5.10	130	ND(<360)	590	ND(<3.0)	ND(<2.0)	ND(<3.0)	ND(<3.0)
8/7/19	5.32	200	ND(<370)	130	ND(<3.0)	ND(<2.0)	ND(<3.0)	ND(<3.0)
8/11/20	5.40	130	ND(<360)	640	ND(<3.0)	ND(<2.0)	ND(<3.0)	ND(<3.0)
5/4/21	4.50	150	ND(<370)	1,200	ND(<0.2)	ND(<0.2)	ND(<0.2)	ND(<0.5)
2/28/22	3.84	140	ND(<350)	480	ND(<1.0)	ND(<1.0)	ND(<1.0)	ND(<2.0)
3/6/23	3.96	190	ND(<360)	730	ND(<1.0)	ND(<1.0)	ND(<1.0)	ND(<2.0)
5/13/24	4.24	260	ND(<340)	950	ND(<1.0)	ND(<1.0)	ND(<1.0)	ND(<2.0)
7/17/25	4.80	220	ND(<350)	700	ND(<1.0)	ND(<1.0)	ND(<1.0)	ND(<2.0)

^(a) Cleanup level dependent on BTEX concentrations.

^(b) DTW collected on 12/7/11

ND indicates analyte was not detected at level above the laboratory reporting limit.

Table 2
Groundwater Chemistry Parameters - Nonene Loading Rack Well
HF Sinclair Puget Sound Refining LLC - Anacortes, WA

Sample ID	Temperature	Electrical Conductivity	Total Dissolved Solids	Salinity	Dissolved Oxygen	pH	Oxidation/Reduction Potential
Units:	(°C)	(mS/cm)	(g/L)	(ppt)	(mg/L)	(pH units)	(mV)
NONENE LOADING RACK WELL (W-129)							
12/5/11	11.77	0.58	0.38	0.28	0.60	7.95	64.50
3/21/12	9.95	0.58	0.38	0.28	0.08	8.00	-22.60
6/25/12	13.09	0.57	0.37	0.28	0.03	7.91	-46.80
9/18/12 ^(a)	--	--	--	--	--	--	--
11/20/12	12.79	0.63	0.41	0.31	0.63	7.69	9.30
2/19/13	10.24	0.58	0.38	0.29	0.02	7.60	-60.90
4/22/13	11.30	0.59	0.38	0.29	0.02	7.70	-40.10
7/31/13	15.26	0.58	0.38	0.28	0.01	7.83	-38.90
11/25/13	12.62	0.64	0.42	0.31	0.56	7.97	66.00
3/19/14	10.15	0.61	0.40	0.30	0.02	7.74	-18.70
6/11/14	16.04	0.59	0.38	0.29	0.02	7.84	25.00
8/5/14	15.17	0.63	0.41	0.31	0.61	8.15	11.70
11/11/14	13.92	0.65	0.42	0.32	0.58	8.24	20.50
8/25/15	17.31	0.60	0.39	0.29	0.63	7.75	113.10
8/10/16	18.02	0.62	0.40	0.30	0.15	8.08	-90.90
8/3/17	18.46	0.58	0.38	0.28	0.18	8.65	-18.80
6/26/18	15.92	0.58	0.58	0.28	0.19	7.43	43.80
8/7/19	16.67	0.64	0.42	0.31	0.12	7.81	-37.20
8/11/20	17.73	0.62	0.40	0.30	0.27	7.53	-14.50
5/4/21	12.93	0.62	0.41	0.30	0.65	7.39	8.40
2/28/22	9.22	0.59	0.39	0.29	0.64	6.84	105.00
3/6/23	10.20	0.65	0.42	0.32	0.39	7.50	80.40
5/13/24	13.60	0.62	0.40	0.30	0.23	3.66	241.30
7/17/25	19.70	0.63	0.41	0.31	0.22	7.29	82.60

Data collected using a YSI 556 MPS water meter or equivalent.

^(a) Parameters not recorded due to meter error

**APPENDIX A -
ECOLOGY CORRESPONDENCE**



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

February 10, 2015

Mr. Gary Barklind
Shell Oil Products US
8505 S. Texas Road
PO Box 622
Anacortes, WA 98221-0622

**Re: Ecology Review of 2014 Groundwater Monitoring Report: Nonene Loading Rack,
Shell Puget Sound Refinery**

Mr. Barklind:

The Washington State Department of Ecology (Ecology) has reviewed the 2014 Groundwater Monitoring Report: Nonene Loading Rack for the Shell Oil Puget Sound Refinery site. This report provides background on the release of nonene to the ground (rail line ballast rock) on October 21, 2011 and subsequent groundwater monitoring, including four rounds of monitoring in 2014. The release of nonene was characterized and then described in a 2012 Independent Remedial Action Report (IRAP) for the Nonene Loading Rack. The IRAP describes the analysis of two extractable and volatile soil samples that may pose a threat to human health and potable groundwater and the installation of one groundwater monitoring well.

Since the release of nonene in 2011, quarterly groundwater monitoring has been performed at one well (W-129) with analysis for petroleum hydrocarbons and BTEX. Results of the groundwater monitoring demonstrate a decreasing trend for diesel range hydrocarbons and only one exceedance of MTCA Method A cleanup levels for gasoline range hydrocarbons during the first round in 2011. There have been no BTEX exceedances.

Without additional soil sampling and analysis, Ecology assumes the soil remains at concentrations that may pose a threat to human health or potable groundwater. Ecology therefore agrees that the frequency of groundwater monitoring can be reduced from quarterly to an annual basis beginning the first quarter of 2015.

If you have any questions regarding this letter, please contact me at (360) 407-6999 or Guy.Barrett@ecy.wa.gov. Thank you.

Mr. Gary Barklind
February 10, 2015
Page 2 of 2

Sincerely,

A handwritten signature in black ink, appearing to read "Guy Barrett", with a long horizontal line extending from the end of the name.

Guy Barrett, LHG
Site Manager
Industrial Section
Waste 2 Resources Program

cc: Mark Dirkx, Ecology
Kim Wigfield, Ecology

By Certified Mail # 91 7199 9991 7032 9431 7488

**APPENDIX B -
2025 GROUNDWATER SAMPLE LABORATORY ANALYTICAL DATA**

ANALYTICAL REPORT

PREPARED FOR

Attn: Eric Libolt
ALL4, Inc.
228 East Champion Street #101
Bellingham, Washington 98225

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JOB DESCRIPTION

HF Sinclair Puget Sound Refining LLC
PSR: Nonene Loading Rack Site Groundwater Monitoring

JOB NUMBER

580-152458-1

Eurofins Seattle

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northwest, LLC Project Manager.

Authorization



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Authorized for release by
Caitlin Linder, Project Manager
caitlin.linder@et.eurofinsus.com
(253)922-2310

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Case Narrative

Client: ALL4, Inc.
Project: HF Sinclair Puget Sound Refining LLC

Job ID: 580-152458-1

Job ID: 580-152458-1

Eurofins Seattle

Job Narrative 580-152458-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 7/18/2025 9:40 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.5°C.

Gasoline Range Organics

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

GC/MS VOA

Method 8260D: Dibromofluoromethane (Surr) recovery for the following sample was outside the upper control limit: Trip Blanks (580-152458-2). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

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

Hydrocarbons

Method NWTPH_Dx: Surrogate recovery for the following sample was outside control limits: W-129 (580-152458-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

Eurofins Seattle

Definitions/Glossary

Client: ALL4, Inc.

Job ID: 580-152458-1

Project/Site: HF Sinclair Puget Sound Refining LLC

SDG: PSR: Nonene Loading Rack Site Groundwater Monitoring

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

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

Client Sample Results

Client: ALL4, Inc.

Job ID: 580-152458-1

Project/Site: HF Sinclair Puget Sound Refining LLC

SDG: PSR: Nonene Loading Rack Site Groundwater Monitoring

Client Sample ID: W-129

Lab Sample ID: 580-152458-1

Date Collected: 07/17/25 10:35

Matrix: Water

Date Received: 07/18/25 09:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			07/29/25 07:45	1
Toluene	ND		1.0		ug/L			07/29/25 07:45	1
Ethylbenzene	ND		1.0		ug/L			07/29/25 07:45	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/29/25 07:45	1
o-Xylene	ND		1.0		ug/L			07/29/25 07:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	95		80 - 120		07/29/25 07:45	1
4-Bromofluorobenzene (Surr)	107		80 - 120		07/29/25 07:45	1
Dibromofluoromethane (Surr)	108		80 - 120		07/29/25 07:45	1
1,2-Dichloroethane-d4 (Surr)	98		80 - 120		07/29/25 07:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	0.70		0.15		mg/L			07/29/25 07:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		77 - 123		07/29/25 07:45	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)	0.22		0.20		mg/L		07/22/25 10:14	07/26/25 02:28	1
Motor Oil (>C24-C36)	ND		0.35		mg/L		07/22/25 10:14	07/26/25 02:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	80		50 - 150	07/22/25 10:14	07/26/25 02:28	1

Client Sample Results

Client: ALL4, Inc.

Job ID: 580-152458-1

Project/Site: HF Sinclair Puget Sound Refining LLC

SDG: PSR: Nonene Loading Rack Site Groundwater Monitoring

Client Sample ID: Trip Blanks

Lab Sample ID: 580-152458-2

Date Collected: 07/17/25 00:00

Matrix: Water

Date Received: 07/18/25 09:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			07/29/25 04:44	1
Toluene	ND		1.0		ug/L			07/29/25 04:44	1
Ethylbenzene	ND		1.0		ug/L			07/29/25 04:44	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/29/25 04:44	1
o-Xylene	ND		1.0		ug/L			07/29/25 04:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	95		80 - 120		07/29/25 04:44	1
4-Bromofluorobenzene (Surr)	109		80 - 120		07/29/25 04:44	1
Dibromofluoromethane (Surr)	123	S1+	80 - 120		07/29/25 04:44	1
1,2-Dichloroethane-d4 (Surr)	106		80 - 120		07/29/25 04:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.15		mg/L			07/29/25 04:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		77 - 123		07/29/25 04:44	1

QC Sample Results

Client: ALL4, Inc.

Job ID: 580-152458-1

Project/Site: HF Sinclair Puget Sound Refining LLC

SDG: PSR: Nonene Loading Rack Site Groundwater Monitoring

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

Lab Sample ID: MB 580-498577/10

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 498577

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			07/29/25 03:14	1
Toluene	ND		1.0		ug/L			07/29/25 03:14	1
Ethylbenzene	ND		1.0		ug/L			07/29/25 03:14	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/29/25 03:14	1
o-Xylene	ND		1.0		ug/L			07/29/25 03:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		80 - 120		07/29/25 03:14	1
4-Bromofluorobenzene (Surr)	106		80 - 120		07/29/25 03:14	1
Dibromofluoromethane (Surr)	114		80 - 120		07/29/25 03:14	1
1,2-Dichloroethane-d4 (Surr)	109		80 - 120		07/29/25 03:14	1

Lab Sample ID: LCS 580-498577/5

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 498577

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	5.00	5.01		ug/L		100	80 - 122
Toluene	5.00	4.94		ug/L		99	80 - 120
Ethylbenzene	5.00	5.28		ug/L		106	80 - 120
m-Xylene & p-Xylene	5.00	5.03		ug/L		101	80 - 120
o-Xylene	5.00	5.27		ug/L		105	80 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	100		80 - 120
4-Bromofluorobenzene (Surr)	103		80 - 120
Dibromofluoromethane (Surr)	104		80 - 120
1,2-Dichloroethane-d4 (Surr)	105		80 - 120

Lab Sample ID: LCSD 580-498577/6

Client Sample ID: Lab Control Sample Dup

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 498577

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	5.00	4.81		ug/L		96	80 - 122	4	14
Toluene	5.00	4.65		ug/L		93	80 - 120	6	13
Ethylbenzene	5.00	5.08		ug/L		102	80 - 120	4	14
m-Xylene & p-Xylene	5.00	4.90		ug/L		98	80 - 120	3	14
o-Xylene	5.00	5.17		ug/L		103	80 - 120	2	16

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Toluene-d8 (Surr)	98		80 - 120
4-Bromofluorobenzene (Surr)	107		80 - 120
Dibromofluoromethane (Surr)	110		80 - 120
1,2-Dichloroethane-d4 (Surr)	107		80 - 120

QC Sample Results

Client: ALL4, Inc.

Job ID: 580-152458-1

Project/Site: HF Sinclair Puget Sound Refining LLC

SDG: PSR: Nonene Loading Rack Site Groundwater Monitoring

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

Lab Sample ID: MB 580-498574/10

Matrix: Water

Analysis Batch: 498574

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.15		mg/L			07/29/25 03:14	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		77 - 123					07/29/25 03:14	1

Lab Sample ID: LCS 580-498574/7

Matrix: Water

Analysis Batch: 498574

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline	1.00	0.937		mg/L		94	55 - 148		
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	100		77 - 123						

Lab Sample ID: LCSD 580-498574/8

Matrix: Water

Analysis Batch: 498574

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
Gasoline	1.00	0.857		mg/L		86	55 - 148	9	10
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	99		77 - 123						

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

Lab Sample ID: MB 580-497929/1-A

Matrix: Water

Analysis Batch: 498403

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 497929

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.20		mg/L		07/22/25 10:14	07/25/25 18:08	1
Motor Oil (>C24-C36)	ND		0.35		mg/L		07/22/25 10:14	07/25/25 18:08	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	68		50 - 150				07/22/25 10:14	07/25/25 18:08	1

Lab Sample ID: LCS 580-497929/2-A

Matrix: Water

Analysis Batch: 498403

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 497929

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
#2 Diesel (C10-C24)	4.00	2.52		mg/L		63	50 - 120		
Motor Oil (>C24-C36)	4.00	2.81		mg/L		70	64 - 120		

Eurofins Seattle

QC Sample Results

Client: ALL4, Inc.

Job ID: 580-152458-1

Project/Site: HF Sinclair Puget Sound Refining LLC

SDG: PSR: Nonene Loading Rack Site Groundwater Monitoring

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

Lab Sample ID: LCS 580-497929/2-A

Matrix: Water

Analysis Batch: 498403

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 497929

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
<i>o</i> -Terphenyl	70		50 - 150

Lab Sample ID: LCSD 580-497929/3-A

Matrix: Water

Analysis Batch: 498403

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 497929

	Spike	LCSD	LCSD					%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
#2 Diesel (C10-C24)	4.00	2.61		mg/L		65	50 - 120	4	26
Motor Oil (>C24-C36)	4.00	2.88		mg/L		72	64 - 120	3	24

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
<i>o</i> -Terphenyl	71		50 - 150

Lab Chronicle

Client: ALL4, Inc.
Project/Site: HF Sinclair Puget Sound Refining LLC

Job ID: 580-152458-1
SDG: PSR: Nonene Loading Rack Site Groundwater Monitoring

Client Sample ID: W-129
Date Collected: 07/17/25 10:35
Date Received: 07/18/25 09:40

Lab Sample ID: 580-152458-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	498577	JBT	EET SEA	07/29/25 07:45
Total/NA	Analysis	NWTPH-Gx		1	498574	JBT	EET SEA	07/29/25 07:45
Total/NA	Prep	3510C			497929	MB	EET SEA	07/22/25 10:14
Total/NA	Analysis	NWTPH-Dx		1	498403	TL1	EET SEA	07/26/25 02:28

Client Sample ID: Trip Blanks
Date Collected: 07/17/25 00:00
Date Received: 07/18/25 09:40

Lab Sample ID: 580-152458-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	498577	JBT	EET SEA	07/29/25 04:44
Total/NA	Analysis	NWTPH-Gx		1	498574	JBT	EET SEA	07/29/25 04:44

Laboratory References:

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

Accreditation/Certification Summary

Client: ALL4, Inc.

Job ID: 580-152458-1

Project/Site: HF Sinclair Puget Sound Refining LLC

SDG: PSR: Nonene Loading Rack Site Groundwater Monitoring

Laboratory: Eurofins 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	20-004	02-19-27
ANAB	Dept. of Defense ELAP	L2236	01-19-27
Florida	NELAP	E87575	06-30-26
Louisiana (All)	NELAP	03073	06-30-26
Maine	State	WA01273	05-02-26
Montana (UST)	State	NA	04-14-27
New Jersey	NELAP	WA014	06-30-26
New York	NELAP	11662	04-01-26
Oregon	NELAP	4167	07-07-26
US Fish & Wildlife	US Federal Programs	A20571	06-30-26
USDA	US Federal Programs	525-23-4-22573	01-24-28
Wisconsin	State	399133460	09-01-25

Sample Summary

Client: ALL4, Inc.

Job ID: 580-152458-1

Project/Site: HF Sinclair Puget Sound Refining LLC

SDG: PSR: Nonene Loading Rack Site Groundwater Monitoring

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-152458-1	W-129	Water	07/17/25 10:35	07/18/25 09:40
580-152458-2	Trip Blanks	Water	07/17/25 00:00	07/18/25 09:40

1

2

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10

11

eurofins
Environment Testing
TestAmerica

Chain of Custody Record

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: ALL4, Inc.

Job Number: 580-152458-1

SDG Number: PSR: Nonene Loading Rack Site Groundwater Monitoring

Login Number: 152458

List Source: Eurofins Seattle

List Number: 1

Creator: Swartz, Simon

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
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 $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	