EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
	WA0029289	City of Bremerton WWTP	

Form 2A NPDES | EPA

U.S. Environmental Protection Agency
Application for NPDES Permit to Discharge Wastewater
NEW AND EXISTING PUBLICLY OWNED TREATMENT WORKS

SECTION 1. BASIC APPLICATION INFORMATION FOR ALL APPLICANTS (40 CFR 122.21(j)(1) and (9))

Facility Information

1.1 Facility name
City of Bremerton WWTP

Mailing address (street or P.O. box)
1600 Oyster Bay Ave. S.

City or town	State	ZIP code
Bremerton	Washington	98312

Contact name (first and last)	Title	Phone number	Email address
Eric Burris	Wastewater Manager	(360) 473-5448	eric.burris@ci.bremerton.wa.u

Location address (street, route number, or other specific identifier) ☑ Same as mailing address

City or town	State	ZIP code

1.2 Is this application for a facility that has yet to commence discharge?
☐ Yes ➔ See instructions on data submission requirements for new dischargers. ☑ No

Applicant Information

1.3 Is applicant different from entity listed under Item 1.1 above?
☑ Yes ☐ No ➔ SKIP to Item 1.4.

Applicant name
City of Bremerton

Applicant address (street or P.O. box)
345 6th Street, Suite 600

City or town	State	ZIP code
Bremerton	Washington	98337-1867

Contact name (first and last)	Title	Phone number	Email address
Greg Wheeler	Mayor	(360) 473-5266	greg.wheeler@ci.bremerton.w

1.4 Is the applicant the facility's owner, operator, or both? (Check only one response.)
☑ Owner ☐ Operator ☐ Both

1.5 To which entity should the NPDES permitting authority send correspondence? (Check only one response.)
☑ Facility ☐ Applicant ☐ Facility and applicant (they are one and the same)

Existing Environmental Permits

1.6 Indicate below any existing environmental permits. (Check all that apply and print or type the corresponding permit number for each.)

Existing Environmental Permits

☑ NPDES (discharges to surface water) WA0029289	☐ RCRA (hazardous waste)	☐ UIC (underground injection control)
☐ PSD (air emissions)	☐ Nonattainment program (CAA)	☐ NESHAPs (CAA)
☐ Ocean dumping (MPRSA)	☐ Dredge or fill (CWA Section 404)	☐ Other (specify)

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
	WA0029289	City of Bremerton WWTP	

Collection System and Population Served

1.7 Provide the collection system information requested below for the treatment works.

Municipality Served	Population Served	Collection System Type (indicate percentage)	Ownership Status
City of Bremerton	39000	40 % separate sanitary sewer 60 % combined storm and sanitary sewer ☐ Unknown	☑ Own ☑ Maintain ☑ Own ☑ Maintain ☐ Own ☐ Maintain
Kitsap Cty Sewer District #1	1500	40 % separate sanitary sewer 60 % combined storm and sanitary sewer ☐ Unknown	☐ Own ☑ Maintain ☐ Own ☑ Maintain ☐ Own ☐ Maintain
Kitsap County	2500	100 % separate sanitary sewer ____ % combined storm and sanitary sewer ☐ Unknown	☐ Own ☑ Maintain ☐ Own ☐ Maintain ☐ Own ☐ Maintain
		____ % separate sanitary sewer ____ % combined storm and sanitary sewer ☐ Unknown	☐ Own ☐ Maintain ☐ Own ☐ Maintain ☐ Own ☐ Maintain
Total Population Served	43000		

	Separate Sanitary Sewer System	Combined Storm and Sanitary Sewer
Total percentage of each type of sewer line (in miles)	40 %	60 %

Indian Country

1.8 Is the treatment works located in Indian Country?

☐ Yes ☑ No

1.9 Does the facility discharge to a receiving water that flows through Indian Country?

☐ Yes ☑ No

Design and Actual Flow Rates

1.10 Provide design *and* actual flow rates in the designated spaces.

Design Flow Rate
nmer/15.5 winter mgd

Annual Average Flow Rates (Actual)		
Two Years Ago	**Last Year**	**This Year**
5.17 mgd	4.56 mgd	5.34 mgd
Maximum Daily Flow Rates (Actual)		
Two Years Ago	**Last Year**	**This Year**
22.39 mgd	26.02 mgd	13.2 mgd

Discharge Points by Type

1.11 Provide the total number of effluent discharge points to waters of the United States by type.

Total Number of Effluent Discharge Points by Type				
Treated Effluent	**Untreated Effluent**	**Combined Sewer Overflows**	**Bypasses**	**Constructed Emergency Overflows**
2		15		

Outfalls and Other Discharge or Disposal Methods

Outfalls Other Than to Waters of the United States

1.12 Does the POTW discharge wastewater to basins, ponds, or other surface impoundments that do not have outlets for discharge to waters of the United States?

☐ Yes ☑ No ➔ SKIP to Item 1.14.

1.13 Provide the location of each surface impoundment and associated discharge information in the table below.

Surface Impoundment Location and Discharge Data

Location	Average Daily Volume Discharged to Surface Impoundment	Continuous or Intermittent (check one)
	gpd	☐ Continuous ☐ Intermittent
	gpd	☐ Continuous ☐ Intermittent
	gpd	☐ Continuous ☐ Intermittent

1.14 Is wastewater applied to land?

☑ Yes ☐ No ➔ SKIP to Item 1.16.

1.15 Provide the land application site and discharge data requested below.

Land Application Site and Discharge Data

Location	Size	Average Daily Volume Applied	Continuous or Intermittent (check one)
1600 Oyster Bay Ave. S.	10 acres	27000 gpd	☐ Continuous ☑ Intermittent
	acres	gpd	☐ Continuous ☐ Intermittent
	acres	gpd	☐ Continuous ☐ Intermittent

1.16 Is effluent transported to another facility for treatment prior to discharge?

☐ Yes ☑ No ➔ SKIP to Item 1.21.

1.17 Describe the means by which the effluent is transported (e.g., tank truck, pipe).

n/a

1.18 Is the effluent transported by a party other than the applicant?

☐ Yes ☑ No ➔ SKIP to Item 1.20.

1.19 Provide information on the transporter below.

Transporter Data

Entity name	Mailing address (street or P.O. box)	
City or town	State	ZIP code
Contact name (first and last)	Title	
Phone number	Email address	

Outfalls and Other Discharge or Disposal Methods Continued

1.20 In the table below, indicate the name, address, contact information, NPDES number, and average daily flow rate of the receiving facility.

Receiving Facility Data

Facility name	Mailing address (street or P.O. box)	
City or town	State	ZIP code
Contact name (first and last)	Title	
Phone number	Email address	
NPDES number of receiving facility (if any) ☐ None	Average daily flow rate mgd	

1.21 Is the wastewater disposed of in a manner other than those already mentioned in Items 1.14 through 1.21 that do not have outlets to waters of the United States (e.g., underground percolation, underground injection)?

☐ Yes ☑ No ➔ SKIP to Item 1.23.

1.22 Provide information in the table below on these other disposal methods.

Information on Other Disposal Methods

Disposal Method Description	Location of Disposal Site	Size of Disposal Site	Annual Average Daily Discharge Volume	Continuous or Intermittent (check one)
		acres	gpd	☐ Continuous ☐ Intermittent
		acres	gpd	☐ Continuous ☐ Intermittent
		acres	gpd	☐ Continuous ☐ Intermittent

Variance Requests

1.23 Do you intend to request or renew one or more of the variances authorized at 40 CFR 122.21(n)? (Check all that apply. Consult with your NPDES permitting authority to determine what information needs to be submitted and when.)

☐ Discharges into marine waters (CWA Section 301(h))

☐ Water quality related effluent limitation (CWA Section 302(b)(2))

☑ Not applicable

Contractor Information

1.24 Are any operational or maintenance aspects (related to wastewater treatment and effluent quality) of the treatment works the responsibility of a contractor?

☐ Yes ☑ No ➔SKIP to Section 2.

1.25 Provide location and contact information for each contractor in addition to a description of the contractor's operational and maintenance responsibilities.

Contractor Information

	Contractor 1	Contractor 2	Contractor 3
Contractor name (company name)			
Mailing address (street or P.O. box)			
City, state, and ZIP code			
Contact name (first and last)			
Phone number			
Email address			
Operational and maintenance responsibilities of contractor			

SECTION 2. ADDITIONAL INFORMATION (40 CFR 122.21(j)(1) and (2))

Outfalls to Waters of the United States

Design Flow

2.1 Does the treatment works have a design flow greater than or equal to 0.1 mgd?

☑ Yes ☐ No ➔ SKIP to Section 3.

Inflow and Infiltration

2.2 Provide the treatment works' current average daily volume of inflow and infiltration.

Average Daily Volume of Inflow and Infiltration
1900000 gpd

Indicate the steps the facility is taking to minimize inflow and infiltration.

Inflow and infiltration reduction continues to be accomplished through ongoing cure-in-place-pipe (CIPP) lining projects which will significantly reduce infiltration into these sewers. Additionally, the City continues to reduce the number of beach sewers, which can be a significant source of inflow, by installing upland sewer systems.

Topographic Map

2.3 Have you attached a topographic map to this application that contains all the required information? (See instructions for specific requirements.)

☑ Yes ☐ No

Flow Diagram

2.4 Have you attached a process flow diagram or schematic to this application that contains all the required information? (See instructions for specific requirements.)

☑ Yes ☐ No

Scheduled Improvements and Schedules of Implementation

2.5 Are improvements to the facility scheduled?

☑ Yes ☐ No ➔ SKIP to Section 3.

Briefly list and describe the scheduled improvements.

1. New boiler; odor control stacks; new bar screens; new dewatering centrifuge; various pump replacements
2. new ultraviolet disinfection system and controls
3.
4.

2.6 Provide scheduled or actual dates of completion for improvements.

Scheduled or Actual Dates of Completion for Improvements

Scheduled Improvement (from above)	Affected Outfalls (list outfall number)	Begin Construction (MM/DD/YYYY)	End Construction (MM/DD/YYYY)	Begin Discharge (MM/DD/YYYY)	Attainment of Operational Level (MM/DD/YYYY)
1.	001	09/01/2025	01/01/2027	01/01/2027	01/01/2027
2.	002	05/01/2025	10/01/2025	10/01/2025	10/01/2025
3.					
4.					

2.7 Have appropriate permits/clearances concerning other federal/state requirements been obtained? Briefly explain your response.

☐ Yes ☑ No ☐ None required or applicable

Explanation:
Projects are currently in the development phase.

SECTION 3. INFORMATION ON EFFLUENT DISCHARGES (40 CFR 122.21(j)(3) to (5))

Description of Outfalls

3.1 Provide the following information for each outfall. (Attach additional sheets if you have more than three outfalls.)

	Outfall Number 001	Outfall Number 002	Outfall Number ____
State	Washington	Washington	
County	Kitsap	Kitsap	
City or town	Bremerton	Bremerton	
Distance from shore	570 ft.	480 ft.	ft.
Depth below surface	250 ft.	75 ft.	ft.
Average daily flow rate	5.02 mgd	3.25 mgd	mgd
Latitude	47° 32′ 59″ N	47° 34′ 57″ N	° ′ ″
Longitude	122° 40′ 11″ W	122° 37′ 45″ W	° ′ ″

Seasonal or Periodic Discharge Data

3.2 Do any of the outfalls described under Item 3.1 have seasonal or periodic discharges?

☑ Yes ☐ No ➔ SKIP to Item 3.4.

3.3 If so, provide the following information for each applicable outfall.

	Outfall Number 002	Outfall Number ____	Outfall Number ____
Number of times per year discharge occurs	0-10		
Average duration of each discharge (specify units)	5 Hours		
Average flow of each discharge	1.98 mgd	mgd	mgd
Months in which discharge occurs	Oct-Apr		

Diffuser Type

3.4 Are any of the outfalls listed under Item 3.1 equipped with a diffuser?

☑ Yes ☐ No ➔ SKIP to Item 3.6.

3.5 Briefly describe the diffuser type at each applicable outfall.

	Outfall Number 001	Outfall Number 002	Outfall Number ____
	568 feet offshore 36inch diameter pipe 20-port diffuser with 6.5 inch openings at 6foot spacing. 29 feet below MLLW.	480 Feet long 36 inch diameter pipe with a single port diffuser. 24 feet below MLLW.	

Waters of the U.S.

3.6 Does the treatment works discharge or plan to discharge wastewater to waters of the United States from one or more discharge points?

☑ Yes ☐ No ➔SKIP to Section 6.

Receiving Water Description

3.7 Provide the receiving water and related information (if known) for each outfall.

	Outfall Number 001	Outfall Number 002	Outfall Number ____
Receiving water name	Sinclair Inlet, Puget Sound	Port Washington Narrows	
Name of watershed, river, or stream system	WRIA 15	WRIA 15	
U.S. Soil Conservation Service 14-digit watershed code			
Name of state management/river basin			
U.S. Geological Survey 8-digit hydrologic cataloging unit code			
Critical low flow (acute)	cfs	cfs	cfs
Critical low flow (chronic)	cfs	cfs	cfs
Total hardness at critical low flow	mg/L of $CaCO_3$	mg/L of $CaCO_3$	mg/L of $CaCO_3$

Treatment Description

3.8 Provide the following information describing the treatment provided for discharges from each outfall.

	Outfall Number 001	Outfall Number 002	Outfall Number ____
Highest Level of Treatment (check all that apply per outfall)	☑ Primary ☐ Equivalent to secondary ☑ Secondary ☐ Advanced ☐ Other (specify) _____	☐ Primary ☐ Equivalent to secondary ☐ Secondary ☐ Advanced ☑ Other (specify) High Rate Clarification	☐ Primary ☐ Equivalent to secondary ☐ Secondary ☐ Advanced ☐ Other (specify) _____
Design Removal Rates by Outfall			
BOD_5 or $CBOD_5$	65 %	n/a %	%
TSS	85 %	50 %	%
Phosphorus	☑ Not applicable %	☑ Not applicable %	☐ Not applicable %
Nitrogen	☑ Not applicable %	☑ Not applicable %	☐ Not applicable %
Other (specify) _____	☑ Not applicable %	☑ Not applicable %	☐ Not applicable %

Treatment Description Continued

3.9 Describe the type of disinfection used for the effluent from each outfall in the table below. If disinfection varies by season, describe below.

	Outfall Number 001	Outfall Number 002	Outfall Number ____
Disinfection type	Sodium Hypochlorite	UV Disinfection	
Seasons used	all seasons	October-May	
Dechlorination used?	☐ Not applicable ☑ Yes ☐ No	☑ Not applicable ☐ Yes ☐ No	☐ Not applicable ☐ Yes ☐ No

Effluent Testing Data

3.10 Have you completed monitoring for all Table A parameters and attached the results to the application package?
☑ Yes ☐ No

3.11 Have you conducted any WET tests during the 4.5 years prior to the date of the application on any of the facility's discharges or on any receiving water near the discharge points?
☑ Yes ☐ No ➔ SKIP to Item 3.13.

3.12 Indicate the number of acute and chronic WET tests conducted since the last permit reissuance of the facility's discharges by outfall number or of the receiving water near the discharge points.

	Outfall Number 001		Outfall Number 002		Outfall Number ____	
	Acute	Chronic	Acute	Chronic	Acute	Chronic
Number of tests of discharge water	20	2	0	0		
Number of tests of receiving water	0	0	0	0		

3.13 Does the treatment works have a design flow greater than or equal to 0.1 mgd?
☑ Yes ☐ No ➔ SKIP to Item 3.16.

3.14 Does the POTW use chlorine for disinfection, use chlorine elsewhere in the treatment process, or otherwise have reasonable potential to discharge chlorine in its effluent?
☑ Yes ➔ Complete Table B, including chlorine. ☐ No ➔ Complete Table B, omitting chlorine.

3.15 Have you completed monitoring for all applicable Table B pollutants and attached the results to this application package?
☑ Yes ☐ No

3.16 Does one or more of the following conditions apply?

- The facility has a design flow greater than or equal to 1 mgd.
- The POTW has an approved pretreatment program or is required to develop such a program.
- The NPDES permitting authority has informed the POTW that it must sample for the parameters in Table C, must sample other additional parameters (Table D), or submit the results of WET tests for acute or chronic toxicity for each of its discharge outfalls (Table E).

☑ Yes ➔ Complete Tables C, D, and E as applicable. ☐ No ➔ SKIP to Section 4.

3.17 Have you completed monitoring for all applicable Table C pollutants and attached the results to this application package?
☑ Yes ☐ No

3.18 Have you completed monitoring for all applicable Table D pollutants required by your NPDES permitting authority and attached the results to this application package?
☑ Yes ☐ No additional sampling required by NPDES permitting authority.

Effluent Testing Data Continued

3.19 Has the POTW conducted either (1) minimum of four quarterly WET tests for one year preceding this permit application or (2) at least four annual WET tests in the past 4.5 years?

☑ Yes ☐ No ➔ Complete tests and Table E and SKIP to Item 3.26.

3.20 Have you previously submitted the results of the above tests to your NPDES permitting authority?

☑ Yes ☐ No ➔ Provide results in Table E and SKIP to Item 3.26.

3.21 Indicate the dates the data were submitted to your NPDES permitting authority and provide a summary of the results.

Date(s) Submitted (MM/DD/YYYY)	Summary of Results
	see attached acute toxicity reports

3.22 Regardless of how you provided your WET testing data to the NPDES permitting authority, did any of the tests result in toxicity?

☐ Yes ☑ No ➔ SKIP to Item 3.26.

3.23 Describe the cause(s) of the toxicity:

3.24 Has the treatment works conducted a toxicity reduction evaluation?

☐ Yes ☑ No ➔ SKIP to Item 3.26.

3.25 Provide details of any toxicity reduction evaluations conducted.

3.26 Have you completed Table E for all applicable outfalls and attached the results to the application package?

☐ Yes ☑ Not applicable because previously submitted information to the NPDES permitting authority.

SECTION 4. INDUSTRIAL DISCHARGES AND HAZARDOUS WASTES (40 CFR 122.21(j)(6) and (7))

Industrial Discharges and Hazardous Wastes

4.1 Does the POTW receive discharges from SIUs or NSCIUs?

☑ Yes ☐ No ➔ SKIP to Item 4.7.

4.2 Indicate the number of SIUs and NSCIUs that discharge to the POTW.

Number of SIUs	Number of NSCIUs
1	

4.3 Does the POTW have an approved pretreatment program?

☐ Yes ☑ No

4.4 Have you submitted either of the following to the NPDES permitting authority that contains information substantially identical to that required in Table F: (1) a pretreatment program annual report submitted within one year of the application or (2) a pretreatment program?

☐ Yes ☑ No ➔ SKIP to Item 4.6.

4.5 Identify the title and date of the annual report or pretreatment program referenced in Item 4.4. SKIP to Item 4.7.

4.6 Have you completed and attached Table F to this application package?

☑ Yes ☐ No

Industrial Discharges and Hazardous Wastes Continued

4.7 Does the POTW receive, or has it been notified that it will receive, by truck, rail, or dedicated pipe, any wastes that are regulated as RCRA hazardous wastes pursuant to 40 CFR 261?

☐ Yes ☑ No ➔ SKIP to Item 4.9.

4.8 If yes, provide the following information:

Hazardous Waste Number	Waste Transport Method (check all that apply)	Annual Amount of Waste Received	Units
	☐ Truck ☐ Rail ☐ Dedicated pipe ☐ Other (specify) _____		
	☐ Truck ☐ Rail ☐ Dedicated pipe ☐ Other (specify) _____		
	☐ Truck ☐ Rail ☐ Dedicated pipe ☐ Other (specify) _____		

4.9 Does the POTW receive, or has it been notified that it will receive, wastewaters that originate from remedial activities, including those undertaken pursuant to CERCLA and Sections 3004(7) or 3008(h) of RCRA?

☐ Yes ☑ No ➔ SKIP to Section 5.

4.10 Does the POTW receive (or expect to receive) less than 15 kilograms per month of non-acute hazardous wastes as specified in 40 CFR 261.30(d) and 261.33(e)?

☐ Yes ➔ SKIP to Section 5. ☐ No

4.11 Have you reported the following information in an attachment to this application: identification and description of the site(s) or facility(ies) at which the wastewater originates; the identities of the wastewater's hazardous constituents; and the extent of treatment, if any, the wastewater receives or will receive before entering the POTW?

☐ Yes ☐ No

SECTION 5. COMBINED SEWER OVERFLOWS (40 CFR 122.21(j)(8))

CSO Map and Diagram

5.1 Does the treatment works have a combined sewer system?

☑ Yes ☐ No ➔SKIP to Section 6.

5.2 Have you attached a CSO system map to this application? (See instructions for map requirements.)

☑ Yes ☐ No

5.3 Have you attached a CSO system diagram to this application? (See instructions for diagram requirements.)

☑ Yes ☐ No

CSO Outfall Description

5.4 For each CSO outfall, provide the following information. (Attach additional sheets as necessary.)

	CSO Outfall Number 1	CSO Outfall Number 2	CSO Outfall Number 3
City or town	Bremerton	Bremerton	Bremerton
State and ZIP code	WA 98310	WA 98310	WA 98310
County	Kitsap	Kitsap	Kitsap
Latitude	47° 34′ 57″ N	47° 34′ 57″ N	47° 34′ 41″ N
Longitude	122° 37′ 45″ W	122° 38′ 07″ W	122° 37′ 31″ E
Distance from shore	150 ft.	85 ft.	1 ft.
Depth below surface	15 ft.	10 ft.	1 ft.

CSO Monitoring

5.5 Did the POTW monitor any of the following items in the past year for its CSO outfalls?

	CSO Outfall Number 1	CSO Outfall Number 2	CSO Outfall Number 3
Rainfall	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No
CSO flow volume	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No
CSO pollutant concentrations	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No
Receiving water quality	☐ Yes ☑ No	☐ Yes ☑ No	☐ Yes ☑ No
CSO frequency	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No
Number of storm events	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No

CSO Events in Past Year

5.6 Provide the following information for each of your CSO outfalls.

	CSO Outfall Number 1	CSO Outfall Number 2	CSO Outfall Number 3
Number of CSO events in the past year	0 events	0 events	0 events
Average duration per event	0 hours ☑ Actual or ☐ Estimated	0 hours ☑ Actual or ☐ Estimated	0 hours ☑ Actual or ☐ Estimated
Average volume per event	0 million gallons ☑ Actual or ☐ Estimated	0 million gallons ☑ Actual or ☐ Estimated	0 million gallons ☑ Actual or ☐ Estimated
Minimum rainfall causing a CSO event in last year	0 inches of rainfall ☑ Actual or ☐ Estimated	0 inches of rainfall ☑ Actual or ☐ Estimated	0 inches of rainfall ☑ Actual or ☐ Estimated

CSO Outfall Description

5.4 For each CSO outfall, provide the following information. (Attach additional sheets as necessary.)

	CSO Outfall Number 4	CSO Outfall Number 6	CSO Outfall Number 7A
City or town	Bremerton	Bremerton	Bremerton
State and ZIP code	WA 98310	WA 98310	WA 98310
County	Kitsap	Kitsap	Kitsap
Latitude	47° 34′ 29″ N	47° 35′ 10″ N	47° 34′ 08″ N
Longitude	122° 36′ 58″ W	122° 38′ 39″ W	122° 36′ 26″ W
Distance from shore	120 ft.	200 ft.	250 ft.
Depth below surface	12 ft.	25 ft.	30 ft.

CSO Monitoring

5.5 Did the POTW monitor any of the following items in the past year for its CSO outfalls?

	CSO Outfall Number 4	CSO Outfall Number 6	CSO Outfall Number 7A
Rainfall	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No
CSO flow volume	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No
CSO pollutant concentrations	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No
Receiving water quality	☐ Yes ☑ No	☐ Yes ☑ No	☐ Yes ☑ No
CSO frequency	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No
Number of storm events	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No

CSO Events in Past Year

5.6 Provide the following information for each of your CSO outfalls.

	CSO Outfall Number 4	CSO Outfall Number 6	CSO Outfall Number 7A
Number of CSO events in the past year	0 events	0 events	0 events
Average duration per event	0 hours ☑ Actual or ☐ Estimated	0 hours ☑ Actual or ☐ Estimated	0 hours ☑ Actual or ☐ Estimated
Average volume per event	0 million gallons ☑ Actual or ☐ Estimated	0 million gallons ☑ Actual or ☐ Estimated	0 million gallons ☑ Actual or ☐ Estimated
Minimum rainfall causing a CSO event in last year	0 inches of rainfall ☑ Actual or ☐ Estimated	0 inches of rainfall ☑ Actual or ☐ Estimated	0 inches of rainfall ☑ Actual or ☐ Estimated

CSO Outfall Description

5.4 For each CSO outfall, provide the following information. (Attach additional sheets as necessary.)

	CSO Outfall Number 7B	CSO Outfall Number 8	CSO Outfall Number 9
City or town	Bremerton	Bremerton	Bremerton
State and ZIP code	WA 98310	WA 98310	WA 98310
County	Kitsap	Kitsap	Kitsap
Latitude	47° 34′ 08″ N	47° 35′ 05″ N	47° 34′ 45″ N
Longitude	122° 36′ 26″ W	122° 39′ 00″ W	122° 38′ 47″ W
Distance from shore	250 ft.	20 ft.	20 ft.
Depth below surface	30 ft.	3 ft.	10 ft.

CSO Monitoring

5.5 Did the POTW monitor any of the following items in the past year for its CSO outfalls?

	CSO Outfall Number 7B	CSO Outfall Number 8	CSO Outfall Number 9
Rainfall	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No
CSO flow volume	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No
CSO pollutant concentrations	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No
Receiving water quality	☐ Yes ☑ No	☐ Yes ☑ No	☐ Yes ☑ No
CSO frequency	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No
Number of storm events	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No

CSO Events in Past Year

5.6 Provide the following information for each of your CSO outfalls.

	CSO Outfall Number 7B	CSO Outfall Number 8	CSO Outfall Number 9
Number of CSO events in the past year	0 events	0 events	1 events
Average duration per event	0 hours ☑ Actual or ☐ Estimated	0 hours ☑ Actual or ☐ Estimated	3.25 hours ☑ Actual or ☐ Estimated
Average volume per event	0 million gallons ☑ Actual or ☐ Estimated	0 million gallons ☑ Actual or ☐ Estimated	.000165 million gallons ☑ Actual or ☐ Estimated
Minimum rainfall causing a CSO event in last year	0 inches of rainfall ☑ Actual or ☐ Estimated	0 inches of rainfall ☑ Actual or ☐ Estimated	.82 inches of rainfall ☑ Actual or ☐ Estimated

CSO Outfall Description

5.4 For each CSO outfall, provide the following information. (Attach additional sheets as necessary.)

	CSO Outfall Number 10	CSO Outfall Number 11	CSO Outfall Number 12
City or town	Bremerton	Bremerton	Bremerton
State and ZIP code	WA 98310	WA 98310	WA 98310
County	Kitsap	Kitsap	Kitsap
Latitude	47° 34′ 44″ N	47° 34′ 44″ N	47° 34′ 43″ N
Longitude	122° 38′ 26″ W	122° 38′ 22″ W	122° 38′ 11″ W
Distance from shore	40 ft.	160 ft.	130 ft.
Depth below surface	5 ft.	45 ft.	35 ft.

CSO Monitoring

5.5 Did the POTW monitor any of the following items in the past year for its CSO outfalls?

	CSO Outfall Number 10	CSO Outfall Number 11	CSO Outfall Number 12
Rainfall	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No
CSO flow volume	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No
CSO pollutant concentrations	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No
Receiving water quality	☐ Yes ☑ No	☐ Yes ☑ No	☐ Yes ☑ No
CSO frequency	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No
Number of storm events	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No

CSO Events in Past Year

5.6 Provide the following information for each of your CSO outfalls.

	CSO Outfall Number 10	CSO Outfall Number 11	CSO Outfall Number 12
Number of CSO events in the past year	0 events	1 events	0 events
Average duration per event	0 hours ☑ Actual or ☐ Estimated	6 hours ☑ Actual or ☐ Estimated	0 hours ☑ Actual or ☐ Estimated
Average volume per event	0 million gallons ☑ Actual or ☐ Estimated	.3115 million gallons ☑ Actual or ☐ Estimated	0 million gallons ☑ Actual or ☐ Estimated
Minimum rainfall causing a CSO event in last year	0 inches of rainfall ☑ Actual or ☐ Estimated	1.34 inches of rainfall ☑ Actual or ☐ Estimated	0 inches of rainfall ☑ Actual or ☐ Estimated

CSO Outfall Description

5.4 For each CSO outfall, provide the following information. (Attach additional sheets as necessary.)

	CSO Outfall Number 13	CSO Outfall Number 16	CSO Outfall Number 17
City or town	Bremerton	Bremerton	Bremerton
State and ZIP code	WA 98310	WA 98310	WA 98310
County	Kitsap	Kitsap	Kitsap
Latitude	47° 35′ 40″ N	47° 33′ 38″ N	47° 33′ 15″ N
Longitude	122° 37′ 45″ W	122° 37′ 43″ W	122° 39′ 04″ W
Distance from shore	20 ft.	0 ft.	0 ft.
Depth below surface	10 ft.	10 ft.	10 ft.

CSO Monitoring

5.5 Did the POTW monitor any of the following items in the past year for its CSO outfalls?

	CSO Outfall Number 13	CSO Outfall Number 16	CSO Outfall Number 17
Rainfall	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No
CSO flow volume	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No
CSO pollutant concentrations	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No
Receiving water quality	☐ Yes ☑ No	☐ Yes ☑ No	☐ Yes ☑ No
CSO frequency	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No
Number of storm events	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No

CSO Events in Past Year

5.6 Provide the following information for each of your CSO outfalls.

	CSO Outfall Number 13	CSO Outfall Number 16	CSO Outfall Number 17
Number of CSO events in the past year	0 events	0 events	0 events
Average duration per event	0 hours ☑ Actual or ☐ Estimated	0 hours ☑ Actual or ☐ Estimated	0 hours ☑ Actual or ☐ Estimated
Average volume per event	0 million gallons ☑ Actual or ☐ Estimated	0 million gallons ☑ Actual or ☐ Estimated	0 million gallons ☑ Actual or ☐ Estimated
Minimum rainfall causing a CSO event in last year	0 inches of rainfall ☑ Actual or ☐ Estimated	0 inches of rainfall ☑ Actual or ☐ Estimated	0 inches of rainfall ☑ Actual or ☐ Estimated

CSO Receiving Waters

5.7 Provide the information in the table below for each of your CSO outfalls.

	CSO Outfall Number 1	CSO Outfall Number 2	CSO Outfall Number 3
Receiving water name	Port Washington Narrows	Port Washington Narrows	Port Washington Narrows
Name of watershed/ stream system	WRIA 15	WRIA 15	WRIA 15
U.S. Soil Conservation Service 14-digit watershed code (if known)	☑ Unknown	☑ Unknown	☑ Unknown
Name of state management/river basin			
U.S. Geological Survey 8-Digit Hydrologic Unit Code (if known)	☑ Unknown	☑ Unknown	☑ Unknown
Description of known water quality impacts on receiving stream by CSO (see instructions for examples)			

SECTION 6. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))

Checklist and Certification Statement

6.1 In Column 1 below, mark the sections of Form 2A that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to provide attachments.

Column 1	Column 2	
☑ Section 1: Basic Application Information for All Applicants	☐ w/ variance request(s)	☐ w/ additional attachments
☑ Section 2: Additional Information	☑ w/ topographic map ☐ w/ additional attachments	☑ w/ process flow diagram
☑ Section 3: Information on Effluent Discharges	☑ w/ Table A ☑ w/ Table B ☑ w/ Table C	☑ w/ Table D ☐ w/ Table E ☐ w/ additional attachments
☑ Section 4: Industrial Discharges and Hazardous Wastes	☑ w/ SIU and NSCIU attachments ☐ w/ additional attachments	☑ w/ Table F
☑ Section 5: Combined Sewer Overflows	☑ w/ CSO map ☑ w/ CSO system diagram	☐ w/ additional attachments
☑ Section 6: Checklist and Certification Statement	☑ w/ attachments	

6.2 **Certification Statement**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name (print or type first and last name)	Official title
Greg Wheeler	Mayor
Signature	**Date signed**
Greg Wheeler	5/24/2023

CSO Receiving Waters

5.7 Provide the information in the table below for each of your CSO outfalls.

	CSO Outfall Number 4	CSO Outfall Number 6	CSO Outfall Number 7A
Receiving water name	Port Washington Narrows	Port Washington Narrows	Sinclair Inlet
Name of watershed/ stream system	WRIA 15	WRIA 15	WRIA 15
U.S. Soil Conservation Service 14-digit watershed code (if known)	☑ Unknown	☑ Unknown	☑ Unknown
Name of state management/river basin			
U.S. Geological Survey 8-Digit Hydrologic Unit Code (if known)	☑ Unknown	☑ Unknown	☑ Unknown
Description of known water quality impacts on receiving stream by CSO (see instructions for examples)			

SECTION 6. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))

Checklist and Certification Statement

6.1 In Column 1 below, mark the sections of Form 2A that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to provide attachments.

Column 1	Column 2
☑ Section 1: Basic Application Information for All Applicants	☐ w/ variance request(s) ☐ w/ additional attachments
☑ Section 2: Additional Information	☑ w/ topographic map ☑ w/ process flow diagram ☐ w/ additional attachments
☑ Section 3: Information on Effluent Discharges	☑ w/ Table A ☑ w/ Table D ☑ w/ Table B ☐ w/ Table E ☑ w/ Table C ☐ w/ additional attachments
☑ Section 4: Industrial Discharges and Hazardous Wastes	☑ w/ SIU and NSCIU attachments ☑ w/ Table F ☐ w/ additional attachments
☑ Section 5: Combined Sewer Overflows	☑ w/ CSO map ☐ w/ additional attachments ☑ w/ CSO system diagram
☑ Section 6: Checklist and Certification Statement	☑ w/ attachments

6.2 **Certification Statement**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name (print or type first and last name)	Official title
Greg Wheeler	Mayor
Signature	**Date signed**
Greg Wheeler	5/24/2023

CSO Receiving Waters

5.7 Provide the information in the table below for each of your CSO outfalls.

	CSO Outfall Number 7A	CSO Outfall Number 8	CSO Outfall Number 9
Receiving water name	Sinclair Inlet	Port Washington Narrows	Port Washington Narrows
Name of watershed/ stream system	WRIA 15	WRIA 15	WRIA 15
U.S. Soil Conservation Service 14-digit watershed code (if known)	☑ Unknown	☑ Unknown	☑ Unknown
Name of state management/river basin			
U.S. Geological Survey 8-Digit Hydrologic Unit Code (if known)	☑ Unknown	☑ Unknown	☑ Unknown
Description of known water quality impacts on receiving stream by CSO (see instructions for examples)			

SECTION 6. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))

Checklist and Certification Statement

6.1 In Column 1 below, mark the sections of Form 2A that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to provide attachments.

Column 1	Column 2
☑ Section 1: Basic Application Information for All Applicants	☐ w/ variance request(s) ☐ w/ additional attachments
☑ Section 2: Additional Information	☑ w/ topographic map ☑ w/ process flow diagram ☐ w/ additional attachments
☑ Section 3: Information on Effluent Discharges	☑ w/ Table A ☑ w/ Table D ☑ w/ Table B ☐ w/ Table E ☑ w/ Table C ☐ w/ additional attachments
☑ Section 4: Industrial Discharges and Hazardous Wastes	☑ w/ SIU and NSCIU attachments ☑ w/ Table F ☐ w/ additional attachments
☑ Section 5: Combined Sewer Overflows	☑ w/ CSO map ☐ w/ additional attachments ☑ w/ CSO system diagram
☑ Section 6: Checklist and Certification Statement	☑ w/ attachments

6.2 **Certification Statement**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name (print or type first and last name)	Official title
Greg Wheeler	Mayor
Signature	**Date signed**
Greg Wheeler	5/24/2023

CSO Receiving Waters

5.7 Provide the information in the table below for each of your CSO outfalls.

	CSO Outfall Number 10	CSO Outfall Number 11	CSO Outfall Number 12
Receiving water name	Port Washington Narrows	Port Washington Narrows	Port Washington Narrows
Name of watershed/ stream system	WRIA 15	WRIA 15	WRIA 15
U.S. Soil Conservation Service 14-digit watershed code (if known)	☑ Unknown	☑ Unknown	☑ Unknown
Name of state management/river basin			
U.S. Geological Survey 8-Digit Hydrologic Unit Code (if known)	☑ Unknown	☑ Unknown	☑ Unknown
Description of known water quality impacts on receiving stream by CSO (see instructions for examples)			

SECTION 6. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))

Checklist and Certification Statement

6.1 In Column 1 below, mark the sections of Form 2A that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to provide attachments.

Column 1	Column 2
☑ Section 1: Basic Application Information for All Applicants	☐ w/ variance request(s) ☐ w/ additional attachments
☑ Section 2: Additional Information	☑ w/ topographic map ☑ w/ process flow diagram ☐ w/ additional attachments
☑ Section 3: Information on Effluent Discharges	☑ w/ Table A ☑ w/ Table D ☑ w/ Table B ☐ w/ Table E ☑ w/ Table C ☐ w/ additional attachments
☑ Section 4: Industrial Discharges and Hazardous Wastes	☑ w/ SIU and NSCIU attachments ☑ w/ Table F ☐ w/ additional attachments
☑ Section 5: Combined Sewer Overflows	☑ w/ CSO map ☐ w/ additional attachments ☑ w/ CSO system diagram
☑ Section 6: Checklist and Certification Statement	☑ w/ attachments

6.2 **Certification Statement**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name (print or type first and last name)	Official title
Greg Wheeler	Mayor
Signature	**Date signed**
Greg Wheeler	5/24/2023

CSO Receiving Waters

5.7 Provide the information in the table below for each of your CSO outfalls.

	CSO Outfall Number 13	CSO Outfall Number 16	CSO Outfall Number 17
Receiving water name	Port Washington Narrows	Sinclair Inlet	Sinclair Inlet
Name of watershed/ stream system	WRIA 15	WRIA 15	WRIA 15
U.S. Soil Conservation Service 14-digit watershed code (if known)	☑ Unknown	☑ Unknown	☑ Unknown
Name of state management/river basin			
U.S. Geological Survey 8-Digit Hydrologic Unit Code (if known)	☑ Unknown	☑ Unknown	☑ Unknown
Description of known water quality impacts on receiving stream by CSO (see instructions for examples)			

SECTION 6. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))

Checklist and Certification Statement

6.1 In Column 1 below, mark the sections of Form 2A that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to provide attachments.

Column 1	Column 2	
☑ Section 1: Basic Application Information for All Applicants	☐ w/ variance request(s)	☐ w/ additional attachments
☑ Section 2: Additional Information	☑ w/ topographic map ☐ w/ additional attachments	☑ w/ process flow diagram
☑ Section 3: Information on Effluent Discharges	☑ w/ Table A ☑ w/ Table B ☑ w/ Table C	☑ w/ Table D ☐ w/ Table E ☐ w/ additional attachments
☑ Section 4: Industrial Discharges and Hazardous Wastes	☑ w/ SIU and NSCIU attachments ☐ w/ additional attachments	☑ w/ Table F
☑ Section 5: Combined Sewer Overflows	☑ w/ CSO map ☑ w/ CSO system diagram	☐ w/ additional attachments
☑ Section 6: Checklist and Certification Statement	☑ w/ attachments	

6.2 **Certification Statement**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name (print or type first and last name)	Official title
Greg Wheeler	Mayor
Signature	**Date signed**
Greg Wheeler	5/25/2023

TABLE A

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
	WA0029289	City of Bremerton WWTP	

Form Approved 03/05/19
OMB No. 2040-0004

TABLE A. EFFLUENT PARAMETERS FOR ALL POTWS

Pollutant	Maximum Daily Discharge		Average Daily Discharge			Analytical Method[1]	ML or MDL (include units)
	Value	Units	Value	Units	Number of Samples		
Biochemical oxygen demand ☐ BOD_5 or ☒ $CBOD_5$ (report one)	52	Mg/L	8	Mg/L ~~887~~	887	SM 5210 B-2011	☐ ML ☒ MDL
Fecal coliform	403	#/100mls	15	#/100mls	1139	SM 9222 D (MFC)-06	☐ ML ☒ MDL
Design flow rate	26.02	GPD	5.22	GPD	1581		
pH (minimum)	6.24	S.U.					
pH (maximum)	8.4	S.U.					
Temperature (winter)	20.3	Celcius	13.69	Celcius	969		
Temperature (summer)	22	Celcius	19.31	Celcius	612		
Total suspended solids (TSS)	85	Mg/L	9.5	Mg/L	1156	SM 2540 D-2011	☐ ML ☒ MDL

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

TABLE A	2018	2019	2020	2021	2022	2023	TOTAL
CBOD Max mg/l	13	24	52	37	38	12	52
CBOD Avg mg/l	8	8	8	8	9	6	8
# of Samples	18	202	204	207	207	49	887
FECAL Max #/100mls	49	62	147	403	100	13	403
FECAL Avg #/100mls	16	15	14	22	13	11	15
# of Samples	21	270	261	262	260	65	1139
FLOW Max gpd	14.6	22.34	18.41	22	26.02	13.2	26.02
FLOW Avg gpd	7.23	4.43	4.79	5.13	4.56	5.17	5.22
# of Samples	31	365	365	365	365	90	1581
pH Min s.u.	6.73	6.56	6.59	6.37	6.24	6.99	6.24
pH Max s.u.	7.41	7.64	8.4	7.63	7.65	7.15	8.4
# of Samples	31	365	365	365	365	90	1581
TEMP WINTER Max celcius	14.9	19	20	19.61	20.3	13	20.3
TEMP WINTER Avg celcius	13.3	14.3	14.43	13.99	14.01	12.1	13.69
# of Samples	31	212	212	212	212	90	969
TEMP SUMMER Max celcius	N/A	21.8	21.8	22	22	N/A	22
TEMP SUMMER Avg celcius	N/A	19.7	19.24	19.52	18.76	N/A	19.31
# of Samples	N/A	153	153	153	153	N/A	612
TSS Max mg/l	17	18	28	51	85	19	85
TSS Avg mg/l	9	8	9	10	13	8	9.5
# of Samples	31	365	291	208	212	49	1156

Numbers represent results from Dec 2018 - Mar 2023

TABLE B

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number

Form Approved 03/05/19
OMB No. 2040-0004

TABLE B. EFFLUENT PARAMETERS FOR ALL POTWS WITH A FLOW EQUAL TO OR GREATER THAN 0.1 MGD

Pollutant	Maximum Daily Discharge		Average Daily Discharge			Analytical Method[1]	ML or MDL (include units)
	Value	Units	Value	Units	Number of Samples		
Ammonia (as N)	68.4	mg/L	29	mg/L	270	EPA 350.1_2_1993	☐ ML ☒ MDL
Chlorine (total residual, TRC)[2]	0.13	mg/L	0.0153	mg/L	1581	SM 4500-Cl G-2011	☐ ML ☒ MDL
Dissolved oxygen	10.06	mg/L	9.93	mg/L	4		☐ ML ☒ MDL
Nitrate/nitrite	4.3	mg/L	1.8	mg/L	98	HACH 10206	☐ ML ☒ MDL
Kjeldahl nitrogen	63	mg/L	25.98	mg/L	52	EPA 351.2	☐ ML ☒ MDL
Oil and grease	<6	mg/L	<6	mg/L	4		☐ ML ☒ MDL
Phosphorus	4.3	mg/L	2.0	mg/L	52	EPA 365.1	☐ ML ☒ MDL
Total dissolved solids	2900	mg/L	1990	mg/L	4		☐ ML ☒ MDL

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

[2] Facilities that do not use chlorine for disinfection, do not use chlorine elsewhere in the treatment process, and have no reasonable potential to discharge chlorine in their effluent are not required to report data for chlorine.

TABLE B	2018	2019	2020	2021	2022	2023
Ammonia Max mg/l	68.4	46.4	48.1	52.85	43	25.4
Ammonia Avg mg/l	26.64	31.85	32.9	32.03	28.9	19.68
# of Samples	5	64	64	63	61	13
Chlorine, Residual Max mg/l	0.13	0.085	0.07	0.11	0.1	0.07
Chlorine, Residual Avg mg/l	0.037	0.019	0.009	0.009	0.01	0.0079
# of Samples	31	365	365	365	365	90
Dissolved Oxygen Max mg/l	N/A	10.01	9.83	10.06	9.83	N/A
Dissolved Oxygen Avg mg/l	N/A	10.01	9.83	10.06	9.83	N/A
# of Samples	0	1	1	1	1	0
Nitrate/Nitrite Max mg/l	4.3	11	2.7	2.5	1.9	0.32
Nitrate/Nitrite Avg mg/l	4.3	3.9	1.3	0.83	0.4	0.26
# of Samples	1	12	12	12	47	14
Kjeldahl Max mg/l	20	63	46	44	35	28
Kjeldahl Avg mg/l	20	28	30	30	23.9	24
# of Samples	1	12	12	12	12	3
Oil & Grease Max	N/A	< 5.1	<5.1	<5.2	<6	N/A
Oil & Grease Avg	N/A	< 5.1	<5.1	<5.2	<6	N/A
# of Samples	0	1	1	1	1	0
Phosphorus Max mg/l	3.1	4.2	4.3	4.3	2.7	1.8
Phosphorus Avg mg/l	3.1	3.6	1.3	1.3	1.2	1.6
# of Samples	1	12	12	12	12	3
Total Dissolved Solids Max	N/A	2500	2900	1600	960	N/A
Total Dissolved Solids Avg	N/A	2500	2900	1600	960	N/A
# of Samples	0	1	1	1	1	0

Numbers represent results from Dec 2018 - Mar 2023

TABLE C

Washington State Department of Ecology **Discharge Monitoring Report (DMR)**

Permit Number: WA0029289 **Permittee:** BREMERTON STP

Facility County: Kitsap **Receiving Waterbody:** Puget Sound

Monitoring Period: 01/01/2022 - 12/31/2022 **Outfall:** 001 - SINCLAIR INLET **Version:** 1

Sample Date: 3/1/2022

Monitoring Point	Parameter	Fraction	Units	Sample	Qualifier Code	Required Detection Level	Required Quantitation Level	Actual Detection Level	Actual Quantitation Level
001	2,4,6-Trichlorophenol		Micrograms/L (ug/L)	B|10		2	4	0.5	1
001	2,4-Dichlorophenol		Micrograms/L (ug/L)	B|10		0.5	1	0.13	0.25
001	2,4-Dimethylphenol		Micrograms/L (ug/L)	B|10		0.5	1	0.13	0.25
001	2,4-Dinitrophenol		Micrograms/L (ug/L)	B|10		1	2	0.75	1.25
001	2-Chlorophenol		Micrograms/L (ug/L)	B|10		1	2	0.25	0.5
001	2-Nitrophenol		Micrograms/L (ug/L)	.16		0.5	1	0.13	0.25
001	4,6-Dinitro-2-Methylphenol (4,6 dinitro-o-cresol)(2-methyl-4,6-dinitrophenol)		Micrograms/L (ug/L)	B|10		1	2	0.5	1.25
001	4-Chloro-3-Methylphenol (Parachlorometa cresol)		Micrograms/L (ug/L)	B|10		1	2	0.25	0.5
001	4-Nitrophenol		Micrograms/L (ug/L)	B|10		0.5	1	0.5	1.25
001	Pentachlorophenol		Micrograms/L (ug/L)	B|10		0.5	1	0.13	0.25
001	Phenol		Micrograms/L (ug/L)	B|10		2	4	0.5	0.75
001	Dimethyl phthalate		Micrograms/L (ug/L)	B|10		1.6	6.4	0.05	0.075
001	Diethyl phthalate		Micrograms/L (ug/L)	B|10		1.9	7.6	0.13	0.25
001	Dibutyl phthalate (Di-n-butyl phthalate)		Micrograms/L (ug/L)	B|10		0.5	1	0.13	0.25
001	Hexachlorobenzene		Micrograms/L (ug/L)	B|10		0.3	0.6	0.075	0.125
001	Fluorene		Micrograms/L (ug/L)	B|10		0.3	0.6	0.075	0.125
001	Fluoranthene		Micrograms/L (ug/L)	B|10		0.3	0.6	0.075	0.15
001	Dibenzo (a,j)acridine		Micrograms/L (ug/L)	B|10		2.5	10	0.63	2.5
001	Dibenzo (a,h)acridine		Micrograms/L (ug/L)	B|10		2.5	10	0.63	2.5
001	Di-N-Octyl Phthalate		Micrograms/L (ug/L)	B|10		0.3	0.6	0.075	0.125
001	Dibenzo(a,h)pyrene		Micrograms/L (ug/L)	B|10		2.5	10	0.63	2.5
001	Dibenzo(a,h)anthracene		Micrograms/L (ug/L)	B|10		0.8	1.6	0.2	0.375
001	Dibenzo(a,e)pyrene		Micrograms/L (ug/L)	B|10		2.5	10	0.63	2.5
001	Hexachlorobutadiene		Micrograms/L (ug/L)	B|10		0.5	1	0.13	0.25
001	Nitrobenzene		Micrograms/L (ug/L)	B|10		0.5	1	0.13	0.25
001	Naphthalene		Micrograms/L (ug/L)	B|10		0.3	0.6	0.2	0.375
001	N-Nitrosodiphenylamine		Micrograms/L (ug/L)	B|10		0.5	1	0.5	0.75
001	Pyrene		Micrograms/L (ug/L)	B|10		0.3	0.6	0.075	0.125

001	Phenanthrene		Micrograms/L (ug/L)	B|10		0.3	0.6	0.075	0.125
001	Perylene		Micrograms/L (ug/L)	B|10		1.9	7.6	0.13	0.25
001	Indeno(1,2,3-cd)pyrene		Micrograms/L (ug/L)	B|10		0.5	1	0.13	0.25
001	Hexachloroethane		Micrograms/L (ug/L)	B|10		0.5	1	0.13	0.25
001	Hexachlorocyclopentadiene (hexachloropentadiene)		Micrograms/L (ug/L)	B|10		0.5	1	0.5	1.25
001	N-Nitrosodimethylamine		Micrograms/L (ug/L)	B|10		2	4	0.5	0.75
001	N-Nitrosodi-n-propylamine		Micrograms/L (ug/L)	B|10		0.5	1	0.13	0.25
001	Isophorone		Micrograms/L (ug/L)	B|10		0.5	1	0.13	0.25
001	4-Chlorophenyl-Phenylether		Micrograms/L (ug/L)	B|10		0.3	0.5	0.075	0.125
001	4-Bromophenyl phenyl ether		Micrograms/L (ug/L)	B|10		0.2	0.4	0.05	0.075
001	3-Methyl cholanthrene (1,2-dihydro-3-methyl-Benz[j]aceanthrylene)		Micrograms/L (ug/L)	B|10		2	8	0.5	2
001	Anthracene		Micrograms/L (ug/L)	B|10		0.3	0.6	0.075	0.125
001	Acenaphthylene		Micrograms/L (ug/L)	B|10		0.3	0.6	0.075	0.125
001	Acenaphthene		Micrograms/L (ug/L)	B|10		0.2	0.4	0.05	0.01
001	2,4-Dinitrotoluene		Micrograms/L (ug/L)	B|10		0.2	0.4	0.13	0.5
001	1,2-Diphenylhydrazine		Micrograms/L (ug/L)	B|10		5	20	0.25	0.5
001	1,2,4-Trichlorobenzene		Micrograms/L (ug/L)	B|10		0.3	0.6	0.075	0.125
001	3,3'-Dichlorobenzidine		Micrograms/L (ug/L)	B|10		0.5	1	0.5	0.5
001	2-Chloronaphthalene		Micrograms/L (ug/L)	B|10		0.3	0.6	0.075	0.125
001	2,6-Dinitrotoluene		Micrograms/L (ug/L)	B|10		0.2	0.4	0.13	0.5
001	Benzo(j)fluoranthene		Micrograms/L (ug/L)	B|10		0.5	1	0.2	0.375
001	Bis(2-Chloroethyl)Ether		Micrograms/L (ug/L)	B|10		0.3	1	0.075	0.125
001	Bis(2-Chloroethoxy)Methane		Micrograms/L (ug/L)	B|10		5.3	21.2	0.13	0.25
001	Benzo(a)anthracene		Micrograms/L (ug/L)	B|10		0.3	0.6	0.075	0.125
001	Chrysene		Micrograms/L (ug/L)	B|10		0.3	0.6	0.075	0.125
001	Butyl benzyl phthalate (Benzyl butyl phthalate)		Micrograms/L (ug/L)	B|10		0.3	0.6	0.075	0.125
001	Bis(2-chloroisopropyl)ether		Micrograms/L (ug/L)	B|10		5.7	17.1	0.25	0.5
001	Benzo(b)fluoranthene (3,4-Benzofluoranthene)		Micrograms/L (ug/L)	B|10		0.8	1.6	0.19	1.2
001	Benzo(a)pyrene		Micrograms/L (ug/L)	B|10		0.5	1	0.13	0.25
001	Benzidine		Micrograms/L (ug/L)	B|10		12	24	7.5	22.5
001	Benzo(r,s,t)pentaphene (dibenzo(a,i) pyrene)		Micrograms/L (ug/L)	B|10		0.5	1	0.63	2.5
001	Benzo(k)fluoranthene (11,12-benzofluoranthene)		Micrograms/L (ug/L)	B|10		0.8	1.6	0.24	1.2

001	Benzo(ghi)perylene		Micrograms/L (ug/L)	B|10		0.5	1	0.13	0.25
001	Dissolved Oxygen		Milligrams/L (mg/L)	9.83			0.2 mg/L	0.2	0.2
001	Oil & Grease		Milligrams/L (mg/L)	B|10				6	6
001	Solids (Residue)	Total Dissolved Solids (TDS)	Milligrams/L (mg/L)	960			20 mg/L	20	20
001	Hardness		Milligrams/L (mg/L)	260			0.2 mg/L	10	10
001	Cyanide	Total	Micrograms/L (ug/L)	B|10		5	10	0.02	0.02
001	Phenolics (Total Phenols)	Total	Micrograms/L (ug/L)	B|10			50	0.0068	0.02
001	Nickel	Total	Micrograms/L (ug/L)	.0028	J	0.1	0.5	0.00013	0.003
001	Lead	Total	Micrograms/L (ug/L)	.00020	J	0.1	0.5	4E-05	0.0004
001	Mercury	Total	Nanograms/L (ng/L)	2.3		0.2 ng/L	0.5 ng/L	0.079	0.5
001	Thallium	Total	Micrograms/L (ug/L)	B|10		0.09	0.36	2.9E-05	0.001
001	Zinc	Total	Micrograms/L (ug/L)	.014		0.5	2.5	0.00093	0.007
001	Selenium	Total	Micrograms/L (ug/L)	B|10		1	1	0.0021	0.008
001	Silver	Total	Micrograms/L (ug/L)	B|10		0.04	0.2	2.5E-05	0.0004
001	Beryllium	Total	Micrograms/L (ug/L)	B|10		0.1	0.5	0.00011	0.0004
001	Cadmium	Total	Micrograms/L (ug/L)	B|10		0.05	0.25	3.7E-05	0.0004
001	Antimony	Total	Micrograms/L (ug/L)	.00045	J	0.3	1.0	0.00013	0.0008
001	Arsenic	Total	Micrograms/L (ug/L)	.00056	J	0.1	0.5	0.0002	0.001
001	Copper	Total	Micrograms/L (ug/L)	.0034		0.4	2	0.0006	0.002
001	Chromium	Total	Micrograms/L (ug/L)	.0010		0.2	1	0.00017	0.0008
001	Chromium, Hexavalent	Dissolved (soluble)	Micrograms/L (ug/L)	.078		0.3	1.2	0.0049	0.03
001	4,4'-DDD		Micrograms/L (ug/L)	B|10		0.025	0.05	0.0057	0.014
001	4,4'-DDE		Micrograms/L (ug/L)	B|10		0.025	0.051	0.0029	0.0096
001	4,4'-DDT		Micrograms/L (ug/L)	B|10		0.025	0.05	0.0048	0.019
001	Aldrin		Micrograms/L (ug/L)	B|10		0.025	0.05	0.0067	0.023
001	Chlordane		Micrograms/L (ug/L)	B|10		0.025	0.05	0.029	0.19
001	Dieldrin		Micrograms/L (ug/L)	B|10		0.025	0.05	0.0048	0.017
001	Endosulfan I (alpha endosulfan)		Micrograms/L (ug/L)	B|10		0.025	0.05	0.0029	0.019
001	Endosulfan II (beta endosulfan)		Micrograms/L (ug/L)	B|10		0.025	0.05	0.0048	0.023
001	Endosulfan Sulfate		Micrograms/L (ug/L)	B|10		0.025	0.05	0.0029	0.019
001	Endrin		Micrograms/L (ug/L)	B|10		0.025	0.05	0.0029	0.011
001	Endrin Aldehyde		Micrograms/L (ug/L)	B|10		0.025	0.05	0.033	0.057
001	Heptachlor		Micrograms/L (ug/L)	B|10		0.025	0.05	0.0038	0.014

001	Heptachlor Epoxide		Micrograms/L (ug/L)	B|10		0.025	0.05	0.0029	0.019
001	Lindane (gamma-BHC)		Micrograms/L (ug/L)	B|10		0.025	0.05	0.0048	0.019
001	PCB-aroclor 1016		Micrograms/L (ug/L)	B|10		0.13	0.5	0.058	0.43
001	PCB-aroclor 1221		Micrograms/L (ug/L)	B|10		0.25	0.5	0.072	0.43
001	PCB-aroclor 1232		Micrograms/L (ug/L)	B|10		0.25	0.5	0.06	0.43
001	PCB-aroclor 1242		Micrograms/L (ug/L)	B|10		0.25	0.5	0.057	0.43
001	PCB-aroclor 1248		Micrograms/L (ug/L)	B|10		0.25	0.5	0.05	0.43
001	PCB-aroclor 1254		Micrograms/L (ug/L)	B|10		0.25	0.5	0.072	0.43
001	PCB-aroclor 1260		Micrograms/L (ug/L)	B|10		0.13	0.5	0.058	0.43
001	Toxaphene		Micrograms/L (ug/L)	B|10		0.24	0.5	0.44	1.9
001	alpha-BHC		Micrograms/L (ug/L)	B|10		0.025	0.05	0.0038	0.017
001	beta-BHC		Micrograms/L (ug/L)	B|10		0.025	0.05	0.0048	0.02
001	delta-BHC		Micrograms/L (ug/L)	B|10		0.025	0.05	0.0048	0.014
001	1,1,1-Trichloroethane		Micrograms/L (ug/L)	B|10		1	2	0.39	1
001	1,1,2,2-Tetrachloroethane		Micrograms/L (ug/L)	B|10		1.9	2	0.52	1
001	1,1,2-Trichloroethane		Micrograms/L (ug/L)	B|10		1	2	0.24	1
001	1,1-Dichloroethane		Micrograms/L (ug/L)	B|10		1	2	0.28	1
001	1,1-Dichloroethene (1,1-dichloroethylene)		Micrograms/L (ug/L)	B|10		1	2	0.28	1
001	1,2 Trans-Dichloroethylene OR Trans 1,2 Dichloroethene (Ethylene dichloride)		Micrograms/L (ug/L)	B|10		1	2	0.39	1
001	1,2-Dichlorobenzene		Micrograms/L (ug/L)	B|10		1.9	7.6	0.46	1
001	1,2-Dichloroethane		Micrograms/L (ug/L)	B|10		1	2	0.42	1
001	1,2-Dichloropropane		Micrograms/L (ug/L)	B|10		1	2	0.18	1
001	1,3-Dichlorobenzene		Micrograms/L (ug/L)	B|10		1.9	7.6	0.48	1
001	1,3-Dichloropropene (1,3 Dichloropropylene)		Micrograms/L (ug/L)	.48	J	1	2	0.41	1
001	1,4-Dichlorobenzene		Micrograms/L (ug/L)	B|10		4.4	17.6	0.46	1
001	2-Chloroethylvinylether		Micrograms/L (ug/L)	B|10		1	2	0.53	1
001	Acrolein		Micrograms/L (ug/L)	B|10		5	10	3.5	15
001	Acrylonitrile		Micrograms/L (ug/L)	B|10		1	2	3.6	15
001	Benzene		Micrograms/L (ug/L)	B|10		1	2	0.24	1
001	Bromoform		Micrograms/L (ug/L)	B|10		1	2	0.51	1
001	Bromomethane (methyl bromide)		Micrograms/L (ug/L)	B|10		5	10	0.21	1
001	Carbon Tetrachloride		Micrograms/L (ug/L)	B|10		1	2	0.3	1

001	Chlorobenzene		Micrograms/L (ug/L)	B|10		1	2	0.44	1
001	Chloroethane		Micrograms/L (ug/L)	B|10		1	2	0.35	1
001	Chloroform		Micrograms/L (ug/L)	.82	J	1	2	0.26	1
001	Chloromethane (methyl chloride)		Micrograms/L (ug/L)	B|10		1	2	0.28	1
001	Dibromochloromethane (chlorodibromomethane)		Micrograms/L (ug/L)	B|10		1	2	0.43	1
001	Dichlorobromomethane		Micrograms/L (ug/L)	B|10		1	2	0.29	1
001	Ethylbenzene		Micrograms/L (ug/L)	B|10		1	2	0.5	1
001	Methylene Chloride		Micrograms/L (ug/L)	B|10		5	10	1.4	3
001	Tetrachloroethene (tetrachloroethylene)		Micrograms/L (ug/L)	B|10		1	2	0.41	1
001	Toluene		Micrograms/L (ug/L)	B|10		1	2	0.39	1
001	Trichloroethene (Trichloroethylene)		Micrograms/L (ug/L)	B|10		1	2	0.26	1
001	Vinyl Chloride		Micrograms/L (ug/L)	B|10		1	2	0.22	1

Reporting Codes Used: B - Below Detection Limit/No Detection

Washington State Department of Ecology **Discharge Monitoring Report (DMR)**

Permit Number: WA0029289 **Permittee:** BREMERTON STP

Facility County: Kitsap **Receiving Waterbody:** Puget Sound

Monitoring Period: 01/01/2022 - 12/31/2022 **Outfall:** 002 **Version:** 1

Sample Date: 3/1/2022

Monitoring Point	Parameter	Fraction	Units	Sample	Qualifier Code	Required Detection Level	Required Quantitation Level	Actual Detection Level	Actual Quantitation Level
002	2,4,6-Trichlorophenol		Micrograms/L (ug/L)	B|10		2	4	0.48	0.952
002	2,4-Dichlorophenol		Micrograms/L (ug/L)	B|10		0.5	1	0.12	0.238
002	2,4-Dimethylphenol		Micrograms/L (ug/L)	B|10		0.5	1	0.12	0.238
002	2,4-Dinitrophenol		Micrograms/L (ug/L)	B|10		1	2	0.71	1.19
002	2-Chlorophenol		Micrograms/L (ug/L)	B|10		1	2	0.26	0.476
002	2-Nitrophenol		Micrograms/L (ug/L)	B|10		0.5	1	0.12	0.238
002	4,6-Dinitro-2-Methylphenol (4,6 dinitro-o-cresol)(2-methyl-4,6-dinitrophenol)		Micrograms/L (ug/L)	0.22		1	2	0.48	1.19
002	4-Chloro-3-Methylphenol (Parachlorometa cresol)		Micrograms/L (ug/L)	B|10		1	2	0.24	0.476
002	4-Nitrophenol		Micrograms/L (ug/L)	B|10		0.5	1	0.48	1.19
002	Pentachlorophenol		Micrograms/L (ug/L)	B|10		0.5	1	0.12	0.238
002	Phenol		Micrograms/L (ug/L)	B|10		2	4	0.48	0.714
002	Dimethyl phthalate		Micrograms/L (ug/L)	B|10		1.6	6.4	0.048	0.0714
002	Diethyl phthalate		Micrograms/L (ug/L)	0.829		1.9	7.6	0.12	0.238
002	Dibutyl phthalate (Di-n-butyl phthalate)		Micrograms/L (ug/L)	B|10		0.5	1	0.12	0.238
002	Hexachlorobenzene		Micrograms/L (ug/L)	B|10		0.3	0.6	0.071	0.119
002	Fluorene		Micrograms/L (ug/L)	B|10		0.3	0.6	0.071	0.119
002	Fluoranthene		Micrograms/L (ug/L)	B|10		0.3	0.6	0.071	0.143
002	Dibenzo (a,j)acridine		Micrograms/L (ug/L)	B|10		2.5	10	0.6	2.38
002	Dibenzo (a,h)acridine		Micrograms/L (ug/L)	B|10		2.5	10	0.6	2.38
002	Di-N-Octyl Phthalate		Micrograms/L (ug/L)	B|10		0.3	0.6	0.071	0.119
002	Dibenzo(a,h)pyrene		Micrograms/L (ug/L)	B|10		2.5	10	0.6	2.38
002	Dibenzo(a,h)anthracene		Micrograms/L (ug/L)	B|10		0.8	1.6	0.19	0.357
002	Dibenzo(a,e)pyrene		Micrograms/L (ug/L)	B|10		2.5	10	0.6	2.38
002	Hexachlorobutadiene		Micrograms/L (ug/L)	B|10		0.5	1	0.12	0.238
002	Nitrobenzene		Micrograms/L (ug/L)	B|10		0.5	1	0.12	0.238
002	Naphthalene		Micrograms/L (ug/L)	B|10		0.3	0.6	0.19	0.357
002	N-Nitrosodiphenylamine		Micrograms/L (ug/L)	B|10		0.5	1	0.24	0.476
002	Pyrene		Micrograms/L (ug/L)	B|10		0.3	0.6	0.071	0.119

002	Phenanthrene		Micrograms/L (ug/L)	B|10		0.3	0.6	0.071	0.119
002	Perylene		Micrograms/L (ug/L)	B|10		1.9	7.6	0.12	0.238
002	Indeno(1,2,3-cd)pyrene		Micrograms/L (ug/L)	B|10		0.5	1	0.12	0.238
002	Hexachloroethane		Micrograms/L (ug/L)	B|10		0.5	1	0.12	0.238
002	Hexachlorocyclopentadiene (hexachloropentadiene)		Micrograms/L (ug/L)	B|10		0.5	1	0.48	1.19
002	N-Nitrosodimethylamine		Micrograms/L (ug/L)	B|10		2	4	0.48	0.714
002	N-Nitrosodi-n-propylamine		Micrograms/L (ug/L)	B|10		0.5	1	0.12	0.238
002	Isophorone		Micrograms/L (ug/L)	B|10		0.5	1	0.12	0.238
002	4-Chlorophenyl-Phenylether		Micrograms/L (ug/L)	B|10		0.3	0.5	0.071	0.119
002	4-Bromophenyl phenyl ether		Micrograms/L (ug/L)	B|10		0.2	0.4	0.048	0.0714
002	3-Methyl cholanthrene (1,2-dihydro-3-methyl-Benz[j]aceanthrylene)		Micrograms/L (ug/L)	B|10		2	8	0.48	1.9
002	Anthracene		Micrograms/L (ug/L)	B|10		0.3	0.6	0.071	0.119
002	Acenaphthylene		Micrograms/L (ug/L)	B|10		0.3	0.6	0.071	0.119
002	Acenaphthene		Micrograms/L (ug/L)	B|10		0.2	0.4	0.048	0.0952
002	2,4-Dinitrotoluene		Micrograms/L (ug/L)	B|10		0.2	0.4	0.12	0.476
002	1,2-Diphenylhydrazine		Micrograms/L (ug/L)	B|10		5	20	0.24	0.476
002	1,2,4-Trichlorobenzene		Micrograms/L (ug/L)	B|10		0.3	0.6	0.071	0.119
002	3,3'-Dichlorobenzidine		Micrograms/L (ug/L)	B|10		0.5	1	0.476	0.476
002	2-Chloronaphthalene		Micrograms/L (ug/L)	B|10		0.3	0.6	0.071	0.119
002	2,6-Dinitrotoluene		Micrograms/L (ug/L)	B|10		0.2	0.4	0.12	0.476
002	Benzo(j)fluoranthene		Micrograms/L (ug/L)	B|10		0.5	1	0.19	0.357
002	Bis(2-Chloroethyl)Ether		Micrograms/L (ug/L)	B|10		0.3	1	0.071	0.119
002	Bis(2-Chloroethoxy)Methane		Micrograms/L (ug/L)	B|10		5.3	21.2	0.12	0.238
002	Benzo(a)anthracene		Micrograms/L (ug/L)	B|10		0.3	0.6	0.071	0.119
002	Chrysene		Micrograms/L (ug/L)	B|10		0.3	0.6	0.071	0.119
002	Butyl benzyl phthalate (Benzyl butyl phthalate)		Micrograms/L (ug/L)	0.11		0.3	0.6	0.071	0.119
002	Bis(2-chloroisopropyl)ether		Micrograms/L (ug/L)	B|10		5.7	17.1	0.24	0.476
002	Benzo(b)fluoranthene (3,4-Benzofluoranthene)		Micrograms/L (ug/L)	B|10		0.8	1.6	0.19	0.357
002	Benzo(a)pyrene		Micrograms/L (ug/L)	B|10		0.5	1	0.12	0.238
002	Benzidine		Micrograms/L (ug/L)	B|10		12	24	7.14	21.4
002	Benzo(r,s,t)pentaphene (dibenzo(a,i) pyrene)		Micrograms/L (ug/L)	B|10		0.5	1	0.6	2.38
002	Benzo(k)fluoranthene (11,12-benzofluoranthene)		Micrograms/L (ug/L)	B|10		0.8	1.6	0.19	0.357

002	Benzo(ghi)perylene		Micrograms/L (ug/L)	B|10		0.5	1	0.12	0.238
002	Nitrogen, Ammonia Total (As Nh4)	Total	Milligrams/L (mg/L)	3.8				0.26	0.5
002	Nitrate + Nitrite	Total	Milligrams/L (mg/L)	0.084	J		100 mg/L	0.06	0.15
002	TKN	Total	Milligrams/L (mg/L)	7.0			300	0.69	1
002	Phosphorus	Total	Milligrams/L (mg/L)	0.16		30	10	0.025	0.05
002	Dissolved Oxygen		Milligrams/L (mg/L)	9.71			0.2 mg/L	0.2	0.2
002	Oil & Grease		Milligrams/L (mg/L)	B|10				6.1	6.1
002	Solids (Residue)	Total Dissolved Solids (TDS)	Milligrams/L (mg/L)	420			20 mg/L	10	10
002	Temperature	Measured	Degrees C	11.8			0.2 degree	0.2	0.2
002	Cyanide	Total	Micrograms/L (ug/L)	B|10		5	10	0.02	0.02
002	Phenolics (Total Phenols)	Total	Micrograms/L (ug/L)	B|10			50	0.02	0.0068
002	Nickel	Total	Micrograms/L (ug/L)	1.0		0.1	0.5	0.42	1
002	Lead	Total	Micrograms/L (ug/L)	0.12		0.1	0.5	0.063	0.2
002	Mercury	Total	Nanograms/L (ng/L)	1.4		0.2 ng/L	0.5 ng/L	0.079	0.5
002	Thallium	Total	Micrograms/L (ug/L)	B|10		0.09	0.36	0.03	0.2
002	Zinc	Total	Micrograms/L (ug/L)	8.6		0.5	2.5	5.2	10
002	Selenium	Total	Micrograms/L (ug/L)	B|10		1	1	0.56	1
002	Silver	Total	Micrograms/L (ug/L)	B|10		0.04	0.2	0.031	0.2
002	Beryllium	Total	Micrograms/L (ug/L)	B|10		0.1	0.5	0.12	0.2
002	Cadmium	Total	Micrograms/L (ug/L)	B|10		0.05	0.25	0.057	0.2
002	Antimony	Total	Micrograms/L (ug/L)	1.5		0.3	1.0	0.47	1
002	Arsenic	Total	Micrograms/L (ug/L)	0.56		0.1	0.5	0.063	0.2
002	Copper	Total	Micrograms/L (ug/L)	1.3		0.4	2	0.62	1
002	Chromium	Total	Micrograms/L (ug/L)	B|10		0.2	1	0.59	1
002	Chromium, Hexavalent	Dissolved (soluble)	Micrograms/L (ug/L)	.078		0.3	1.2	0.0049	0.03
002	4,4'-DDD		Micrograms/L (ug/L)	B|10		0.025	0.05	0.0063	0.016
002	4,4'-DDE		Micrograms/L (ug/L)	B|10		0.025	0.051	0.0031	0.01
002	4,4'-DDT		Micrograms/L (ug/L)	B|10		0.025	0.05	0.0052	0.021
002	Aldrin		Micrograms/L (ug/L)	B|10		0.025	0.05	0.0073	0.025
002	Chlordane		Micrograms/L (ug/L)	B|10		0.025	0.05	0.0083	0.028
002	Dieldrin		Micrograms/L (ug/L)	B|10		0.025	0.05	0.0052	0.019
002	Endosulfan I (alpha endosulfan)		Micrograms/L (ug/L)	B|10		0.025	0.05	0.0031	0.021
002	Endosulfan II (beta endosulfan)		Micrograms/L (ug/L)	B|10		0.025	0.05	0.0052	0.025

002	Endosulfan Sulfate		Micrograms/L (ug/L)	B|10		0.025	0.05	0.0031	0.021
002	Endrin		Micrograms/L (ug/L)	B|10		0.025	0.05	0.0031	0.013
002	Endrin Aldehyde		Micrograms/L (ug/L)	B|10		0.025	0.05	0.035	0.063
002	Heptachlor		Micrograms/L (ug/L)	B|10		0.025	0.05	0.0042	0.016
002	Heptachlor Epoxide		Micrograms/L (ug/L)	B|10		0.025	0.05	0.0031	0.021
002	Lindane (gamma-BHC)		Micrograms/L (ug/L)	B|10		0.025	0.05	0.0052	0.021
002	PCB-aroclor 1016		Micrograms/L (ug/L)	B|10		0.13	0.5	0.064	0.47
002	PCB-aroclor 1221		Micrograms/L (ug/L)	B|10		0.25	0.5	0.078	0.47
002	PCB-aroclor 1232		Micrograms/L (ug/L)	B|10		0.25	0.5	0.066	0.47
002	PCB-aroclor 1242		Micrograms/L (ug/L)	B|10		0.25	0.5	0.061	0.47
002	PCB-aroclor 1248		Micrograms/L (ug/L)	B|10		0.25	0.5	0.054	0.47
002	PCB-aroclor 1254		Micrograms/L (ug/L)	B|10		0.25	0.5	0.078	0.47
002	PCB-aroclor 1260		Micrograms/L (ug/L)	B|10		0.13	0.5	0.064	0.47
002	Toxaphene		Micrograms/L (ug/L)	B|10		0.24	0.5	0.48	2.1
002	alpha-BHC		Micrograms/L (ug/L)	B|10		0.025	0.05	0.0042	0.019
002	beta-BHC		Micrograms/L (ug/L)	B|10		0.025	0.05	0.013	0.022
002	delta-BHC		Micrograms/L (ug/L)	B|10		0.025	0.05	0.0052	0.016
002	1,1,1-Trichloroethane		Micrograms/L (ug/L)	B|10		1	2	1	2
002	1,1,2,2-Tetrachloroethane		Micrograms/L (ug/L)	B|10		1.9	2	1	2
002	1,1,2-Trichloroethane		Micrograms/L (ug/L)	B|10		1	2	1	2
002	1,1-Dichloroethane		Micrograms/L (ug/L)	B|10		1	2	1	2
002	1,1-Dichloroethene (1,1-dichloroethylene)		Micrograms/L (ug/L)	B|10		1	2	1	2
002	1,2 Trans-Dichloroethylene OR Trans 1,2 Dichloroethene (Ethylene dichloride)		Micrograms/L (ug/L)	B|10		1	2	1	2
002	1,2-Dichlorobenzene		Micrograms/L (ug/L)	B|10		1.9	7.6	1	2
002	1,2-Dichloroethane		Micrograms/L (ug/L)	B|10		1	2	1	2
002	1,2-Dichloropropane		Micrograms/L (ug/L)	B|10		1	2	1	2
002	1,3-Dichlorobenzene		Micrograms/L (ug/L)	B|10		1.9	7.6	1	2
002	1,3-Dichloropropene (1,3 Dichloropropylene)		Micrograms/L (ug/L)	B|10		1	2	1	2
002	1,4-Dichlorobenzene		Micrograms/L (ug/L)	1.5		4.4	17.6	1	2
002	2-Chloroethylvinylether		Micrograms/L (ug/L)	B|10		1	2	1	2
002	Acrolein		Micrograms/L (ug/L)	B|10		5	10	5	10
002	Acrylonitrile		Micrograms/L (ug/L)	B|10		1	2	1	2

002	Benzene		Micrograms/L (ug/L)	B|10		1	2	1	2
002	Bromoform		Micrograms/L (ug/L)	B|10		1	2	1	2
002	Bromomethane (methyl bromide)		Micrograms/L (ug/L)	B|10		5	10	5	10
002	Carbon Tetrachloride		Micrograms/L (ug/L)	B|10		1	2	1	2
002	Chlorobenzene		Micrograms/L (ug/L)	B|10		1	2	1	2
002	Chloroethane		Micrograms/L (ug/L)	B|10		1	2	1	2
002	Chloroform		Micrograms/L (ug/L)	1.1		1	2	1	2
002	Chloromethane (methyl chloride)		Micrograms/L (ug/L)	B|10		1	2	1	2
002	Dibromochloromethane (chlorodibromomethane)		Micrograms/L (ug/L)	B|10		1	2	1	2
002	Dichlorobromomethane		Micrograms/L (ug/L)	B|10		1	2	1	2
002	Ethylbenzene		Micrograms/L (ug/L)	B|10		1	2	1	2
002	Methylene Chloride		Micrograms/L (ug/L)	B|10		5	10	5	10
002	Tetrachloroethene (tetrachloroethylene)		Micrograms/L (ug/L)	B|10		1	2	1	2
002	Toluene		Micrograms/L (ug/L)	29		1	2	1	2
002	Trichloroethene (Trichloroethylene)		Micrograms/L (ug/L)	B|10		1	2	1	2
002	Vinyl Chloride		Micrograms/L (ug/L)	B|10		1	2	1	2

Reporting Codes Used: B - Below Detection Limit/No Detection

I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Eric Burris
Signature

1/13/2023 9:22:57 AM
Date

Washington State Department of Ecology **Discharge Monitoring Report (DMR)**

Permit Number: WA0029289 **Permittee:** BREMERTON STP

Facility County: Kitsap **Receiving Waterbody:** Puget Sound

Monitoring Period: 01/01/2021 - 12/31/2021 **Outfall:** 001 - SINCLAIR INLET **Version:** 1

Sample Date: 1/5/2021

Monitoring Point	Parameter	Fraction	Units	Sample	Qualifier Code	Required Detection Level	Required Quantitation Level	Actual Detection Level	Actual Quantitation Level
001	2,4,6-Trichlorophenol		Micrograms/L (ug/L)	B|0		2	4	0.098	0.59
001	2,4-Dichlorophenol		Micrograms/L (ug/L)	B|0		0.5	1	0.2	0.98
001	2,4-Dimethylphenol		Micrograms/L (ug/L)	B|0		0.5	1	0.16	3.9
001	2,4-Dinitrophenol		Micrograms/L (ug/L)	B|0		1	2	1.6	4.9
001	2-Chlorophenol		Micrograms/L (ug/L)	B|0		1	2	0.049	0.98
001	2-Nitrophenol		Micrograms/L (ug/L)	.15	J	0.5	1	0.069	0.98
001	4,6-Dinitro-2-Methylphenol (4,6 dinitro-o-cresol)(2-methyl-4,6-dinitrophenol)		Micrograms/L (ug/L)	B|0		1	2	0.54	2
001	4-Chloro-3-Methylphenol (Parachlorometa cresol)		Micrograms/L (ug/L)	B|0		1	2	0.13	0.59
001	4-Nitrophenol		Micrograms/L (ug/L)	B|0		0.5	1	1.7	9.8
001	Pentachlorophenol		Micrograms/L (ug/L)	B|0		0.5	1	3.1	9.8
001	Phenol		Micrograms/L (ug/L)	B|0		2	4	0.35	0.98
001	Dimethyl phthalate		Micrograms/L (ug/L)	B|0		1.6	6.4	0.059	0.59
001	Diethyl phthalate		Micrograms/L (ug/L)	B|0		1.9	7.6	0.15	0.98
001	Dibutyl phthalate (Di-n-butyl phthalate)		Micrograms/L (ug/L)	B|0		0.5	1	0.43	2.9
001	Hexachlorobenzene		Micrograms/L (ug/L)	B|0		0.3	0.6	0.039	0.59
001	Fluorene		Micrograms/L (ug/L)	B|0		0.3	0.6	0.049	0.25
001	Fluoranthene		Micrograms/L (ug/L)	B|0		0.3	0.6	0.059	0.25
001	Dibenzo (a,j)acridine		Micrograms/L (ug/L)	B|0		2.5	10	0.63	2.5
001	Dibenzo (a,h)acridine		Micrograms/L (ug/L)	B|0		2.5	10	0.63	2.5
001	Di-N-Octyl Phthalate		Micrograms/L (ug/L)	B|0		0.3	0.6	0.13	0.98
001	Dibenzo(a,h)pyrene		Micrograms/L (ug/L)	B|0		2.5	10	0.63	2.5
001	Dibenzo(a,h)anthracene		Micrograms/L (ug/L)	B|0		0.8	1.6	0.2	0.375
001	Dibenzo(a,e)pyrene		Micrograms/L (ug/L)	B|0		2.5	10	0.63	2.5
001	Hexachlorobutadiene		Micrograms/L (ug/L)	B|0		0.5	1	0.059	0.98
001	Nitrobenzene		Micrograms/L (ug/L)	B|0		0.5	1	0.039	0.98
001	Naphthalene		Micrograms/L (ug/L)	B|0		0.3	0.6	0.15	0.39
001	N-Nitrosodiphenylamine		Micrograms/L (ug/L)	B|0		0.5	1	0.069	0.98
001	Pyrene		Micrograms/L (ug/L)	B|0		0.3	0.6	0.039	0.98

001	Phenanthrene		Micrograms/L (ug/L)	B|0		0.3	0.6	0.029	0.98
001	Perylene		Micrograms/L (ug/L)	B|0		1.9	7.6	0.13	0.25
001	Indeno(1,2,3-cd)pyrene		Micrograms/L (ug/L)	B|0		0.5	1	0.13	0.39
001	Hexachloroethane		Micrograms/L (ug/L)	B|0		0.5	1	0.049	0.98
001	Hexachlorocyclopentadiene (hexachloropentadiene)		Micrograms/L (ug/L)	B|0		0.5	1	0.27	2
001	N-Nitrosodimethylamine		Micrograms/L (ug/L)	B|0		2	4	0.26	2
001	N-Nitrosodi-n-propylamine		Micrograms/L (ug/L)	B|0		0.5	1	0.29	1.9
001	Isophorone		Micrograms/L (ug/L)	B|0		0.5	1	0.098	0.39
001	4-Chlorophenyl-Phenylether		Micrograms/L (ug/L)	B|0		0.3	0.5	0.049	0.59
001	4-Bromophenyl phenyl ether		Micrograms/L (ug/L)	B|0		0.2	0.4	0.059	0.59
001	3-Methyl cholanthrene (1,2-dihydro-3-methyl-Benz[j]aceanthrylene)		Micrograms/L (ug/L)	B|0		2	8	0.5	2
001	Anthracene		Micrograms/L (ug/L)	B|0		0.3	0.6	0.049	0.98
001	Acenaphthylene		Micrograms/L (ug/L)	B|0		0.3	0.6	0.059	0.98
001	Acenaphthene		Micrograms/L (ug/L)	B|0		0.2	0.4	0.049	0.39
001	2,4-Dinitrotoluene		Micrograms/L (ug/L)	B|0		0.2	0.4	0.098	0.98
001	1,2-Diphenylhydrazine		Micrograms/L (ug/L)	11	J	5	20	0.059	2
001	1,2,4-Trichlorobenzene		Micrograms/L (ug/L)	B|0		0.3	0.6	0.039	0.39
001	3,3'-Dichlorobenzidine		Micrograms/L (ug/L)	B|0		0.5	1	0.61	2
001	2-Chloronaphthalene		Micrograms/L (ug/L)	B|0		0.3	0.6	0.029	0.98
001	2,6-Dinitrotoluene		Micrograms/L (ug/L)	B|0		0.2	0.4	0.098	0.39
001	Benzo(j)fluoranthene		Micrograms/L (ug/L)	B|0		0.5	1	0.2	0.375
001	Bis(2-Chloroethyl)Ether		Micrograms/L (ug/L)	B|0		0.3	1	0.029	0.098
001	Bis(2-Chloroethoxy)Methane		Micrograms/L (ug/L)	B|0		5.3	21.2	0.049	0.59
001	Benzo(a)anthracene		Micrograms/L (ug/L)	B|0		0.3	0.6	0.049	0.25
001	Chrysene		Micrograms/L (ug/L)	B|0		0.3	0.6	0.039	0.25
001	Butyl benzyl phthalate (Benzyl butyl phthalate)		Micrograms/L (ug/L)	B|0		0.3	0.6	0.91	3.9
001	Bis(2-chloroisopropyl)ether		Micrograms/L (ug/L)	B|0		5.7	17.1	0.059	0.25
001	Benzo(b)fluoranthene (3,4-Benzofluoranthene)		Micrograms/L (ug/L)	B|0		0.8	1.6	0.039	0.25
001	Benzo(a)pyrene		Micrograms/L (ug/L)	B|0		0.5	1	0.039	0.25
001	Benzidine		Micrograms/L (ug/L)	B|0		12	24	7.5	22.5
001	Benzo(r,s,t)pentaphene (dibenzo(a,i) pyrene)		Micrograms/L (ug/L)	B|0		0.5	1	0.63	2.5
001	Benzo(k)fluoranthene (11,12-benzofluoranthene)		Micrograms/L (ug/L)	B|0		0.8	1.6	0.049	0.25

001	Benzo(ghi)perylene		Micrograms/L (ug/L)	B|0		0.5	1	0.039	0.25
001	Dissolved Oxygen		Milligrams/L (mg/L)	10.06			0.2 mg/L	0.2	0.2
001	Oil & Grease		Milligrams/L (mg/L)	B|0				5.2	5.2
001	Solids (Residue)	Total Dissolved Solids (TDS)	Milligrams/L (mg/L)	1600			20 mg/L	20	20
001	Hardness		Milligrams/L (mg/L)	340			0.2 mg/L	10	10
001	Cyanide	Total	Micrograms/L (ug/L)	B|0		5	10	0.06	0.06
001	Phenolics (Total Phenols)	Total	Micrograms/L (ug/L)	B|0			50	0.35	0.98
001	Nickel	Total	Micrograms/L (ug/L)	.0033	J	0.1	0.5	0.0031	0.075
001	Lead	Total	Micrograms/L (ug/L)	B|0		0.1	0.5	0.001	0.01
001	Mercury	Total	Nanograms/L (ng/L)	1.1		0.2 ng/L	0.5 ng/L	0.14	0.5
001	Thallium	Total	Micrograms/L (ug/L)	B|0		0.09	0.36	0.00073	0.025
001	Zinc	Total	Micrograms/L (ug/L)	.028	J	0.5	2.5	0.023	0.18
001	Selenium	Total	Micrograms/L (ug/L)	B|0		1	1	0.052	0.2
001	Silver	Total	Micrograms/L (ug/L)	B|0		0.04	0.2	0.00063	0.01
001	Beryllium	Total	Micrograms/L (ug/L)	B|0		0.1	0.5	0.0028	0.01
001	Cadmium	Total	Micrograms/L (ug/L)	B|0		0.05	0.25	0.00093	0.01
001	Antimony	Total	Micrograms/L (ug/L)	B|0		0.3	1.0	0.0031	0.02
001	Arsenic	Total	Micrograms/L (ug/L)	B|0		0.1	0.5	0.0051	0.025
001	Copper	Total	Micrograms/L (ug/L)	B|0		0.4	2	0.015	0.05
001	Chromium	Total	Micrograms/L (ug/L)	B|0		0.2	1	0.0043	0.02
001	Chromium, Hexavalent	Dissolved (soluble)	Micrograms/L (ug/L)	.078	J	0.3	1.2	0.049	0.3
001	4,4'-DDD		Micrograms/L (ug/L)	B|0		0.025	0.05	0.0061	0.015
001	4,4'-DDE		Micrograms/L (ug/L)	B|0		0.025	0.051	0.0031	0.01
001	4,4'-DDT		Micrograms/L (ug/L)	B|0		0.025	0.05	0.0051	0.02
001	Aldrin		Micrograms/L (ug/L)	B|0		0.025	0.05	0.0072	0.025
001	Chlordane		Micrograms/L (ug/L)	B|0		0.025	0.05	0.031	0.2
001	Dieldrin		Micrograms/L (ug/L)	B|0		0.025	0.05	0.0051	0.018
001	Endosulfan I (alpha endosulfan)		Micrograms/L (ug/L)	B|0		0.025	0.05	0.0031	0.02
001	Endosulfan II (beta endosulfan)		Micrograms/L (ug/L)	B|0		0.025	0.05	0.0051	0.025
001	Endosulfan Sulfate		Micrograms/L (ug/L)	B|0		0.025	0.05	0.0031	0.02
001	Endrin		Micrograms/L (ug/L)	B|0		0.025	0.05	0.0031	0.012
001	Endrin Aldehyde		Micrograms/L (ug/L)	B|0		0.025	0.05	0.035	0.061
001	Heptachlor		Micrograms/L (ug/L)	B|00		0.025	0.05	0.0041	0.015

001	Heptachlor Epoxide		Micrograms/L (ug/L)	B|0		0.025	0.05	0.0031	0.02
001	Lindane (gamma-BHC)		Micrograms/L (ug/L)	B|0		0.025	0.05	0.0051	0.02
001	PCB-aroclor 1016		Micrograms/L (ug/L)	B|0		0.13	0.5	0.062	0.46
001	PCB-aroclor 1221		Micrograms/L (ug/L)	B|0		0.25	0.5	0.077	0.46
001	PCB-aroclor 1232		Micrograms/L (ug/L)	B|0		0.25	0.5	0.064	0.46
001	PCB-aroclor 1242		Micrograms/L (ug/L)	B|0		0.25	0.5	0.06	0.46
001	PCB-aroclor 1248		Micrograms/L (ug/L)	B|0		0.25	0.5	0.053	0.46
001	PCB-aroclor 1254		Micrograms/L (ug/L)	B|0		0.25	0.5	0.077	0.46
001	PCB-aroclor 1260		Micrograms/L (ug/L)	B|0		0.13	0.5	0.062	0.46
001	Toxaphene		Micrograms/L (ug/L)	B|0		0.24	0.5	0.47	2
001	alpha-BHC		Micrograms/L (ug/L)	B|0		0.025	0.05	0.0041	0.018
001	beta-BHC		Micrograms/L (ug/L)	B|0		0.025	0.05	0.012	0.021
001	delta-BHC		Micrograms/L (ug/L)	B|0		0.025	0.05	0.0051	0.015
001	1,1,1-Trichloroethane		Micrograms/L (ug/L)	B|0		1	2	0.39	3
001	1,1,2,2-Tetrachloroethane		Micrograms/L (ug/L)	B|0		1.9	2	0.52	3
001	1,1,2-Trichloroethane		Micrograms/L (ug/L)	B|0		1	2	0.24	1
001	1,1-Dichloroethane		Micrograms/L (ug/L)	B|0		1	2	0.22	2
001	1,1-Dichloroethene (1,1-dichloroethylene)		Micrograms/L (ug/L)	B|0		1	2	0.28	4
001	1,2 Trans-Dichloroethylene OR Trans 1,2 Dichloroethene (Ethylene dichloride)		Micrograms/L (ug/L)	B|0		1	2	0.39	3
001	1,2-Dichlorobenzene		Micrograms/L (ug/L)	B|0		1.9	7.6	0.46	2
001	1,2-Dichloroethane		Micrograms/L (ug/L)	B|0		1	2	0.42	2
001	1,2-Dichloropropane		Micrograms/L (ug/L)	B|0		1	2	0.18	1
001	1,3-Dichlorobenzene		Micrograms/L (ug/L)	B|0		1.9	7.6	0.46	2
001	1,3-Dichloropropene (1,3 Dichloropropylene)		Micrograms/L (ug/L)	B|0		1	2	0.2	1
001	1,4-Dichlorobenzene		Micrograms/L (ug/L)	B|0		4.4	17.6	0.46	4
001	2-Chloroethylvinylether		Micrograms/L (ug/L)	B|0		1	2	0.53	1
001	Acrolein		Micrograms/L (ug/L)	B|0		5	10	3.5	15
001	Acrylonitrile		Micrograms/L (ug/L)	B|0		1	2	3.6	15
001	Benzene		Micrograms/L (ug/L)	B|0		1	2	0.24	3
001	Bromoform		Micrograms/L (ug/L)	B|0		1	2	0.56	3
001	Bromomethane (methyl bromide)		Micrograms/L (ug/L)	B|0		5	10	0.21	6
001	Carbon Tetrachloride		Micrograms/L (ug/L)	B|0		1	2	0.3	3

001	Chlorobenzene		Micrograms/L (ug/L)	B|0		1	2	0.44	2
001	Chloroethane		Micrograms/L (ug/L)	B|0		1	2	0.35	5
001	Chloroform		Micrograms/L (ug/L)	2.2		1	2	0.26	5
001	Chloromethane (methyl chloride)		Micrograms/L (ug/L)	B|0		1	2	0.28	20
001	Dibromochloromethane (chlorodibromomethane)		Micrograms/L (ug/L)	B|0		1	2	0.43	2
001	Dichlorobromomethane		Micrograms/L (ug/L)	B|0		1	2	0.29	2
001	Ethylbenzene		Micrograms/L (ug/L)	B|0		1	2	0.5	3
001	Methylene Chloride		Micrograms/L (ug/L)	B|0		5	10	1.4	5
001	Tetrachloroethene (tetrachloroethylene)		Micrograms/L (ug/L)	B|0		1	2	0.26	3
001	Toluene		Micrograms/L (ug/L)	B|0		1	2	0.39	2
001	Trichloroethene (Trichloroethylene)		Micrograms/L (ug/L)	B|0		1	2	0.26	3
001	Vinyl Chloride		Micrograms/L (ug/L)	B|0		1	2	0.22	1

Reporting Codes Used: B - Below Detection Limit/No Detection

Permit Number: WA0029289 **Permittee:** BREMERTON STP

Facility County: Kitsap **Receiving Waterbody:** Puget Sound

Monitoring Period: 01/01/2021 - 12/31/2021 **Outfall:** 002 **Version:** 1

Sample Date: 1/5/2021

Monitoring Point	Parameter	Fraction	Units	Sample	Qualifier Code	Required Detection Level	Required Quantitation Level	Actual Detection Level	Actual Quantitation Level
002	2,4,6-Trichlorophenol		Micrograms/L (ug/L)	B|0		2	4	0.095	0.57
002	2,4-Dichlorophenol		Micrograms/L (ug/L)	B|0		0.5	1	0.19	3.8
002	2,4-Dimethylphenol		Micrograms/L (ug/L)	B|0		0.5	1	0.15	3.8
002	2,4-Dinitrophenol		Micrograms/L (ug/L)	B|0		1	2	1.5	4.8
002	2-Chlorophenol		Micrograms/L (ug/L)	B|0		1	2	0.048	0.95
002	2-Nitrophenol		Micrograms/L (ug/L)	.24	J	0.5	1	0.14	0.95
002	4,6-Dinitro-2-Methylphenol (4,6 dinitro-o-cresol)(2-methyl-4,6-dinitrophenol)		Micrograms/L (ug/L)	B|0		1	2	0.25	4.8
002	4-Chloro-3-Methylphenol (Parachlorometa cresol)		Micrograms/L (ug/L)	B|0		1	2	0.12	0.57
002	4-Nitrophenol		Micrograms/L (ug/L)	B|0		0.5	1	1.6	14
002	Pentachlorophenol		Micrograms/L (ug/L)	B|0		0.5	1	3.1	9.5
002	Phenol		Micrograms/L (ug/L)	1.9	J	2	4	0.34	3.8
002	Dimethyl phthalate		Micrograms/L (ug/L)	B|0		1.6	6.4	0.057	0.57
002	Diethyl phthalate		Micrograms/L (ug/L)	.63	J	1.9	7.6	0.14	11
002	Dibutyl phthalate (Di-n-butyl phthalate)		Micrograms/L (ug/L)	B|0		0.5	1	0.42	2.9
002	Hexachlorobenzene		Micrograms/L (ug/L)	B|0		0.3	0.6	0.038	0.57
002	Fluorene		Micrograms/L (ug/L)	B|0		0.3	0.6	0.048	1.9
002	Fluoranthene		Micrograms/L (ug/L)	B|0		0.3	0.6	0.057	2.9
002	Dibenzo (a,j)acridine		Micrograms/L (ug/L)	B|0		2.5	10	0.61	2.44
002	Dibenzo (a,h)acridine		Micrograms/L (ug/L)	B|0		2.5	10	0.61	2.44
002	Di-N-Octyl Phthalate		Micrograms/L (ug/L)	B|0		0.3	0.6	0.12	0.95
002	Dibenzo(a,h)pyrene		Micrograms/L (ug/L)	B|0		2.5	10	0.61	2.44
002	Dibenzo(a,h)anthracene		Micrograms/L (ug/L)	B|0		0.8	1.6	0.2	0.366
002	Dibenzo(a,e)pyrene		Micrograms/L (ug/L)	B|0		2.5	10	0.61	2.44
002	Hexachlorobutadiene		Micrograms/L (ug/L)	B|0		0.5	1	0.057	0.95
002	Nitrobenzene		Micrograms/L (ug/L)	B|0		0.5	1	0.038	0.85
002	Naphthalene		Micrograms/L (ug/L)	B|0		0.3	0.6	0.15	0.38
002	N-Nitrosodiphenylamine		Micrograms/L (ug/L)	B|0		0.5	1	0.067	14
002	Pyrene		Micrograms/L (ug/L)	B|0		0.3	0.6	0.038	1.9

002	Phenanthrene		Micrograms/L (ug/L)	B|0		0.3	0.6	0.029	0.95
002	Perylene		Micrograms/L (ug/L)	B|0		1.9	7.6	0.12	0.244
002	Indeno(1,2,3-cd)pyrene		Micrograms/L (ug/L)	B|0		0.5	1	0.12	0.95
002	Hexachloroethane		Micrograms/L (ug/L)	B|0		0.5	1	0.048	0.95
002	Hexachlorocyclopentadiene (hexachloropentadiene)		Micrograms/L (ug/L)	B|0		0.5	1	0.095	4.8
002	N-Nitrosodimethylamine		Micrograms/L (ug/L)	.3		2	4	0.25	3.8
002	N-Nitrosodi-n-propylamine		Micrograms/L (ug/L)	B|0		0.5	1	0.057	0.57
002	Isophorone		Micrograms/L (ug/L)	B|0		0.5	1	0.095	0.38
002	4-Chlorophenyl-Phenylether		Micrograms/L (ug/L)	B|0		0.3	0.5	0.048	0.57
002	4-Bromophenyl phenyl ether		Micrograms/L (ug/L)	B|0		0.2	0.4	0.057	0.57
002	3-Methyl cholanthrene (1,2-dihydro-3-methyl-Benz[j]aceanthrylene)		Micrograms/L (ug/L)	B|0		2	8	0.49	1.95
002	Anthracene		Micrograms/L (ug/L)	B|0		0.3	0.6	0.048	14
002	Acenaphthylene		Micrograms/L (ug/L)	B|0		0.3	0.6	0.057	0.95
002	Acenaphthene		Micrograms/L (ug/L)	B|0		0.2	0.4	0.048	0.38
002	2,4-Dinitrotoluene		Micrograms/L (ug/L)	B|0		0.2	0.4	0.095	0.95
002	1,2-Diphenylhydrazine		Micrograms/L (ug/L)	B|0		5	20	0.057	1.9
002	1,2,4-Trichlorobenzene		Micrograms/L (ug/L)	B|0		0.3	0.6	0.038	0.38
002	3,3'-Dichlorobenzidine		Micrograms/L (ug/L)	B|0		0.5	1	0.59	14
002	2-Chloronaphthalene		Micrograms/L (ug/L)	B|0		0.3	0.6	0.029	0.95
002	2,6-Dinitrotoluene		Micrograms/L (ug/L)	B|0		0.2	0.4	0.038	0.57
002	Benzo(j)fluoranthene		Micrograms/L (ug/L)	B|0		0.5	1	0.12	0.366
002	Bis(2-Chloroethyl)Ether		Micrograms/L (ug/L)	B|0		0.3	1	0.029	0.57
002	Bis(2-Chloroethoxy)Methane		Micrograms/L (ug/L)	B|0		5.3	21.2	0.048	0.57
002	Benzo(a)anthracene		Micrograms/L (ug/L)	B|0		0.3	0.6	0.048	0.95
002	Chrysene		Micrograms/L (ug/L)	B|0		0.3	0.6	0.038	0.57
002	Butyl benzyl phthalate (Benzyl butyl phthalate)		Micrograms/L (ug/L)	B|0		0.3	0.6	0.89	9.5
002	Bis(2-chloroisopropyl)ether		Micrograms/L (ug/L)	B|0		5.7	17.1	0.24	0.4888
002	Benzo(b)fluoranthene (3,4-Benzofluoranthene)		Micrograms/L (ug/L)	B|0		0.8	1.6	0.038	0.95
002	Benzo(a)pyrene		Micrograms/L (ug/L)	B|0		0.5	1	0.038	0.95
002	Benzidine		Micrograms/L (ug/L)	B|0		12	24	2.9	9.5
002	Benzo(r,s,t)pentaphene (dibenzo(a,i) pyrene)		Micrograms/L (ug/L)	B|0		0.5	1	0.61	2.44
002	Benzo(k)fluoranthene (11,12-benzofluoranthene)		Micrograms/L (ug/L)	B|0		0.8	1.6	0.048	0.95

002	Benzo(ghi)perylene		Micrograms/L (ug/L)	B|0		0.5	1	0.038	0.95
002	Nitrogen, Ammonia Total (As Nh4)	Total	Milligrams/L (mg/L)	6.3				0.26	0.5
002	Nitrate + Nitrite	Total	Milligrams/L (mg/L)	1.3			100 mg/L	0.018	0.05
002	TKN	Total	Milligrams/L (mg/L)	12.0			300	0.26	0.5
002	Phosphorus	Total	Milligrams/L (mg/L)	.72		30	10	0.032	
002	Dissolved Oxygen		Milligrams/L (mg/L)	6.97			0.2 mg/L	0.1	0.1
002	Oil & Grease		Milligrams/L (mg/L)	B|0				5.2	5.2
002	Solids (Residue)	Total Dissolved Solids (TDS)	Milligrams/L (mg/L)	110			20 mg/L	10	10
002	Temperature	Measured	Degrees C	12.4			0.2 degree	0.2	0.3
002	Cyanide	Total	Micrograms/L (ug/L)	B|0		5	10	0.06	0.06
002	Phenolics (Total Phenols)	Total	Micrograms/L (ug/L)	.42			50	0.35	0.96
002	Nickel	Total	Micrograms/L (ug/L)	1.1		0.1	0.5	0.15	0.2
002	Lead	Total	Micrograms/L (ug/L)	.20		0.1	0.5	0.05	0.1
002	Mercury	Total	Nanograms/L (ng/L)	.002		0.2 ng/L	0.5 ng/L	0.00014	0.0005
002	Thallium	Total	Micrograms/L (ug/L)	B|0		0.09	0.36	0.05	0.1
002	Zinc	Total	Micrograms/L (ug/L)	19		0.5	2.5	2	5
002	Selenium	Total	Micrograms/L (ug/L)	.38	J	1	1	0.3	0.6
002	Silver	Total	Micrograms/L (ug/L)	B|0		0.04	0.2	0.1	0.2
002	Beryllium	Total	Micrograms/L (ug/L)	B|0		0.1	0.5	0.1	0.2
002	Cadmium	Total	Micrograms/L (ug/L)	B|0		0.05	0.25	0.05	0.1
002	Antimony	Total	Micrograms/L (ug/L)	.33		0.3	1.0	0.2	0.5
002	Arsenic	Total	Micrograms/L (ug/L)	.55		0.1	0.5	0.1	0.2
002	Copper	Total	Micrograms/L (ug/L)	3.7		0.4	2	0.25	0.5
002	Chromium	Total	Micrograms/L (ug/L)	.38	J	0.2	1	0.25	0.5
002	Chromium, Hexavalent	Dissolved (soluble)	Micrograms/L (ug/L)	B|0		0.3	1.2	0.049	0.3
002	4,4'-DDD		Micrograms/L (ug/L)	B|0		0.025	0.05	0.0064	0.16
002	4,4'-DDE		Micrograms/L (ug/L)	B|0		0.025	0.051	0.0032	0.011
002	4,4'-DDT		Micrograms/L (ug/L)	B|0		0.025	0.05	0.00054	0.021
002	Aldrin		Micrograms/L (ug/L)	B|0		0.025	0.05	0.0075	0.026
002	Chlordane		Micrograms/L (ug/L)	B|0		0.025	0.05	0.032	0.21
002	Dieldrin		Micrograms/L (ug/L)	B|0		0.025	0.05	0.0054	0.019
002	Endosulfan I (alpha endosulfan)		Micrograms/L (ug/L)	B|0		0.025	0.05	0.0032	0.021
002	Endosulfan II (beta endosulfan)		Micrograms/L (ug/L)	B|0		0.025	0.05	0.00054	0.026

002	Endosulfan Sulfate		Micrograms/L (ug/L)	B|0		0.025	0.05	0.0032	0.021
002	Endrin		Micrograms/L (ug/L)	B|0		0.025	0.05	0.0032	0.013
002	Endrin Aldehyde		Micrograms/L (ug/L)	B|0		0.025	0.05	0.0036	0.064
002	Heptachlor		Micrograms/L (ug/L)	B|0		0.025	0.05	0.0043	0.016
002	Heptachlor Epoxide		Micrograms/L (ug/L)	B|0		0.025	0.05	0.0032	0.021
002	Lindane (gamma-BHC)		Micrograms/L (ug/L)	B|0		0.025	0.05	0.0054	0.021
002	PCB-aroclor 1016		Micrograms/L (ug/L)	B|0		0.13	0.5	0.045	0.48
002	PCB-aroclor 1221		Micrograms/L (ug/L)	B|0		0.25	0.5	0.08	0.48
002	PCB-aroclor 1232		Micrograms/L (ug/L)	B|0		0.25	0.5	0.067	0.48
002	PCB-aroclor 1242		Micrograms/L (ug/L)	B|0		0.25	0.5	0.063	0.48
002	PCB-aroclor 1248		Micrograms/L (ug/L)	B|0		0.25	0.5	0.056	0.48
002	PCB-aroclor 1254		Micrograms/L (ug/L)	B|0		0.25	0.5	0.08	0.48
002	PCB-aroclor 1260		Micrograms/L (ug/L)	B|0		0.13	0.5	0.065	0.48
002	Toxaphene		Micrograms/L (ug/L)	B|0		0.24	0.5	0.49	2.1
002	alpha-BHC		Micrograms/L (ug/L)	B|0		0.025	0.05	0.0043	0.019
002	beta-BHC		Micrograms/L (ug/L)	B|0		0.025	0.05	0.13	0.22
002	delta-BHC		Micrograms/L (ug/L)	B|0		0.025	0.05	0.0054	0.016
002	1,1,1-Trichloroethane		Micrograms/L (ug/L)	B|0		1	2	0.39	3
002	1,1,2,2-Tetrachloroethane		Micrograms/L (ug/L)	B|0		1.9	2	0.52	3
002	1,1,2-Trichloroethane		Micrograms/L (ug/L)	.29	J	1	2	0.24	1
002	1,1-Dichloroethane		Micrograms/L (ug/L)	B|0		1	2	0.42	2
002	1,1-Dichloroethene (1,1-dichloroethylene)		Micrograms/L (ug/L)	B|0		1	2	0.28	4
002	1,2 Trans-Dichloroethylene OR Trans 1,2 Dichloroethene (Ethylene dichloride)		Micrograms/L (ug/L)	B|0		1	2	0.39	3
002	1,2-Dichlorobenzene		Micrograms/L (ug/L)	B|0		1.9	7.6	0.46	2
002	1,2-Dichloroethane		Micrograms/L (ug/L)	B|0		1	2	0.42	2
002	1,2-Dichloropropane		Micrograms/L (ug/L)	B|0		1	2	0.18	1
002	1,3-Dichlorobenzene		Micrograms/L (ug/L)	B|0		1.9	7.6	0.18	2
002	1,3-Dichloropropene (1,3 Dichloropropylene)		Micrograms/L (ug/L)	B|0		1	2	0.2	1
002	1,4-Dichlorobenzene		Micrograms/L (ug/L)	B|0		4.4	17.6	0.46	4
002	2-Chloroethylvinylether		Micrograms/L (ug/L)	1.2	J	1	2	0.53	20
002	Acrolein		Micrograms/L (ug/L)	B|0		5	10	3.5	30
002	Acrylonitrile		Micrograms/L (ug/L)	B|0		1	2	3.6	30

002	Benzene		Micrograms/L (ug/L)	B|0		1	2	0.24	3
002	Bromoform		Micrograms/L (ug/L)	B|0		1	2	0.56	3
002	Bromomethane (methyl bromide)		Micrograms/L (ug/L)	B|0		5	10	0.21	6
002	Carbon Tetrachloride		Micrograms/L (ug/L)	B|0		1	2	0.3	3
002	Chlorobenzene		Micrograms/L (ug/L)	B|0		1	2	0.44	2
002	Chloroethane		Micrograms/L (ug/L)	B|0		1	2	0.35	5
002	Chloroform		Micrograms/L (ug/L)	.70		1	2	0.26	5
002	Chloromethane (methyl chloride)		Micrograms/L (ug/L)	B|0		1	2	0.28	20
002	Dibromochloromethane (chlorodibromomethane)		Micrograms/L (ug/L)	B|0		1	2	0.43	2
002	Dichlorobromomethane		Micrograms/L (ug/L)	.42	J	1	2	0.29	2
002	Ethylbenzene		Micrograms/L (ug/L)	B|0		1	2	0.5	3
002	Methylene Chloride		Micrograms/L (ug/L)	B|0		5	10	1.4	5
002	Tetrachloroethene (tetrachloroethylene)		Micrograms/L (ug/L)	.93	J	1	2	0.41	3
002	Toluene		Micrograms/L (ug/L)	.84	J	1	2	0.39	2
002	Trichloroethene (Trichloroethylene)		Micrograms/L (ug/L)	B|0		1	2	0.26	3
002	Vinyl Chloride		Micrograms/L (ug/L)	B|0		1	2	0.22	1

Reporting Codes Used: B - Below Detection Limit/No Detection

I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Eric Burris
Signature

1/14/2022 10:18:37 AM
Date

Washington State Department of Ecology **Discharge Monitoring Report (DMR)**

Permit Number: WA0029289 **Permittee:** BREMERTON STP

Facility County: Kitsap **Receiving Waterbody:** Puget Sound

Monitoring Period: 01/01/2020 - 12/31/2020 **Outfall:** 001 - SINCLAIR INLET **Version:** 1

Sample Date: 1/23/2020

Monitoring Point	Parameter	Fraction	Units	Sample	Qualifier Code	Required Detection Level	Required Quantitation Level	Actual Detection Level	Actual Quantitation Level
001	2,4,6-Trichlorophenol		Micrograms/L (ug/L)	0		2	4	9.4	57
001	2,4-Dichlorophenol		Micrograms/L (ug/L)	0		0.5	1	15	380
001	2,4-Dimethylphenol		Micrograms/L (ug/L)	0		0.5	1	15	380
001	2,4-Dinitrophenol		Micrograms/L (ug/L)	0		1	2	150	470
001	2-Chlorophenol		Micrograms/L (ug/L)	0		1	2	4.7	94
001	2-Nitrophenol		Micrograms/L (ug/L)	0		0.5	1	14	94
001	4,6-Dinitro-2-Methylphenol (4,6 dinitro-o-cresol)(2-methyl-4,6-dinitrophenol)		Micrograms/L (ug/L)	0		1	2	24	470
001	4-Chloro-3-Methylphenol (Parachlorometa cresol)		Micrograms/L (ug/L)	0		1	2	12	57
001	4-Nitrophenol		Micrograms/L (ug/L)	0		0.5	1	160	1400
001	Pentachlorophenol		Micrograms/L (ug/L)	0		0.5	1	48	940
001	Phenol		Micrograms/L (ug/L)	0		2	4	34	380
001	Dimethyl phthalate		Micrograms/L (ug/L)	0		1.6	6.4	5.7	57
001	Diethyl phthalate		Micrograms/L (ug/L)	0		1.9	7.6	14	1100
001	Dibutyl phthalate (Di-n-butyl phthalate)		Micrograms/L (ug/L)	0		0.5	1	41	280
001	Hexachlorobenzene		Micrograms/L (ug/L)	0		0.3	0.6	3.8	57
001	Fluorene		Micrograms/L (ug/L)	0		0.3	0.6	4.7	190
001	Fluoranthene		Micrograms/L (ug/L)	0		0.3	0.6	5.7	280
001	Dibenzo (a,j)acridine		Micrograms/L (ug/L)	0		2.5	10	0.63	2.5
001	Dibenzo (a,h)acridine		Micrograms/L (ug/L)	0		2.5	10	0.63	2.5
001	Di-N-Octyl Phthalate		Micrograms/L (ug/L)	0		0.3	0.6	0.2	0.375
001	Dibenzo(a,h)pyrene		Micrograms/L (ug/L)	0		2.5	10	0.63	2.5
001	Dibenzo(a,h)anthracene		Micrograms/L (ug/L)	0		0.8	1.6	0.2	0.375
001	Dibenzo(a,e)pyrene		Micrograms/L (ug/L)	0		2.5	10	0.63	2.5
001	Hexachlorobutadiene		Micrograms/L (ug/L)	0		0.5	1	9.4	470
001	Nitrobenzene		Micrograms/L (ug/L)	0		0.5	1	3.8	94
001	Naphthalene		Micrograms/L (ug/L)	0		0.3	0.6	3.8	38
001	N-Nitrosodiphenylamine		Micrograms/L (ug/L)	0		0.5	1	6.6	1400
001	Pyrene		Micrograms/L (ug/L)	0		0.3	0.6	3.8	190

001	Phenanthrene		Micrograms/L (ug/L)	0		0.3	0.6	2.8	94
001	Perylene		Micrograms/L (ug/L)	0		1.9	7.6	0.13	2.5
001	Indeno(1,2,3-cd)pyrene		Micrograms/L (ug/L)	0		0.5	1	12	94
001	Hexachloroethane		Micrograms/L (ug/L)	0		0.5	1	4.7	94
001	Hexachlorocyclopentadiene (hexachloropentadiene)		Micrograms/L (ug/L)	0		0.5	1	9.4	470
001	N-Nitrosodimethylamine		Micrograms/L (ug/L)	0		2	4	24	380
001	N-Nitrosodi-n-propylamine		Micrograms/L (ug/L)	0		0.5	1	5.7	57
001	Isophorone		Micrograms/L (ug/L)	0		0.5	1	9.4	38
001	4-Chlorophenyl-Phenylether		Micrograms/L (ug/L)	0		0.3	0.5	4.7	57
001	4-Bromophenyl phenyl ether		Micrograms/L (ug/L)	0		0.2	0.4	5.7	57
001	3-Methyl cholanthrene (1,2-dihydro-3-methyl-Benz[j]aceanthrylene)		Micrograms/L (ug/L)	.594		2	8	0.13	0.25
001	Anthracene		Micrograms/L (ug/L)	0		0.3	0.6	4.7	1400
001	Acenaphthylene		Micrograms/L (ug/L)	0		0.3	0.6	5.7	94
001	Acenaphthene		Micrograms/L (ug/L)	0		0.2	0.4	4.7	38
001	2,4-Dinitrotoluene		Micrograms/L (ug/L)	0		0.2	0.4	150	470
001	1,2-Diphenylhydrazine		Micrograms/L (ug/L)	0		5	20	5.7	190
001	1,2,4-Trichlorobenzene		Micrograms/L (ug/L)	0		0.3	0.6	3.8	38
001	3,3'-Dichlorobenzidine		Micrograms/L (ug/L)	0		0.5	1	58	1400
001	2-Chloronaphthalene		Micrograms/L (ug/L)	0		0.3	0.6	2.8	94
001	2,6-Dinitrotoluene		Micrograms/L (ug/L)	0		0.2	0.4	3.8	57
001	Benzo(j)fluoranthene		Micrograms/L (ug/L)	0		0.5	1	0.2	0.375
001	Bis(2-Chloroethyl)Ether		Micrograms/L (ug/L)	0		0.3	1	2.8	57
001	Bis(2-Chloroethoxy)Methane		Micrograms/L (ug/L)	0		5.3	21.2	4.7	57
001	Benzo(a)anthracene		Micrograms/L (ug/L)	0		0.3	0.6	4.7	94
001	Chrysene		Micrograms/L (ug/L)	0		0.3	0.6	3.8	57
001	Butyl benzyl phthalate (Benzyl butyl phthalate)		Micrograms/L (ug/L)	0		0.3	0.6	88	940
001	Bis(2-chloroisopropyl)ether		Micrograms/L (ug/L)	0		5.7	17.1	0.25	0.5
001	Benzo(b)fluoranthene (3,4-Benzofluoranthene)		Micrograms/L (ug/L)	0		0.8	1.6	3.8	94
001	Benzo(a)pyrene		Micrograms/L (ug/L)	0		0.5	1	3.8	94
001	Benzidine		Micrograms/L (ug/L)	0		12	24	280	940
001	Benzo(r,s,t)pentaphene (dibenzo(a,i) pyrene)		Micrograms/L (ug/L)	0		0.5	1	0.63	2.5
001	Benzo(k)fluoranthene (11,12-benzofluoranthene)		Micrograms/L (ug/L)	0		0.8	1.6	4.7	94

001	Benzo(ghi)perylene		Micrograms/L (ug/L)	0		0.5	1	3.8	94
001	Dissolved Oxygen		Milligrams/L (mg/L)	9.83			0.2 mg/L	0.2	0.2
001	Oil & Grease		Milligrams/L (mg/L)	0				5.1	5.1
001	Solids (Residue)	Total Dissolved Solids (TDS)	Milligrams/L (mg/L)	2900			20 mg/L	20	20
001	Hardness		Milligrams/L (mg/L)	340			0.2 mg/L	0.2	0.2
001	Cyanide	Total	Micrograms/L (ug/L)	0		5	10	0.06	0.06
001	Phenolics (Total Phenols)	Total	Micrograms/L (ug/L)	.0082	J		50	0.0068	0.02
001	Nickel	Total	Micrograms/L (ug/L)	.0083	J	0.1	0.5	0.0062	0.015
001	Lead	Total	Micrograms/L (ug/L)	0		0.1	0.5	0.001	0.005
001	Mercury	Total	Nanograms/L (ng/L)	.0026		0.2 ng/L	0.5 ng/L	0.00014	0.0005
001	Thallium	Total	Micrograms/L (ug/L)	0		0.09	0.36	0.00033	0.005
001	Zinc	Total	Micrograms/L (ug/L)	.026	J	0.5	2.5	0.0095	0.035
001	Selenium	Total	Micrograms/L (ug/L)	0		1	1	0.01	0.04
001	Silver	Total	Micrograms/L (ug/L)	0		0.04	0.2	0.00028	0.002
001	Beryllium	Total	Micrograms/L (ug/L)	0		0.1	0.5	0.00036	0.002
001	Cadmium	Total	Micrograms/L (ug/L)	0		0.05	0.25	0.0005	0.004
001	Antimony	Total	Micrograms/L (ug/L)	0		0.3	1.0	0.00055	0.004
001	Arsenic	Total	Micrograms/L (ug/L)	0		0.1	0.5	0.001	0.005
001	Copper	Total	Micrograms/L (ug/L)	.0077	J	0.4	2	0.003	0.01
001	Chromium	Total	Micrograms/L (ug/L)	0		0.2	1	0.00087	0.004
001	Chromium, Hexavalent	Dissolved (soluble)	Micrograms/L (ug/L)	.01		0.3	1.2	0.01	0.01
001	4,4'-DDD		Micrograms/L (ug/L)	0		0.025	0.05	0.0056	0.014
001	4,4'-DDE		Micrograms/L (ug/L)	0		0.025	0.051	0.0028	0.0093
001	4,4'-DDT		Micrograms/L (ug/L)	0		0.025	0.05	0.0046	0.019
001	Aldrin		Micrograms/L (ug/L)	0		0.025	0.05	0.0065	0.022
001	Chlordane		Micrograms/L (ug/L)	0		0.025	0.05	0.028	0.19
001	Dieldrin		Micrograms/L (ug/L)	0		0.025	0.05	0.0046	0.017
001	Endosulfan I (alpha endosulfan)		Micrograms/L (ug/L)	0		0.025	0.05	0.0028	0.019
001	Endosulfan II (beta endosulfan)		Micrograms/L (ug/L)	0		0.025	0.05	0.0046	0.022
001	Endosulfan Sulfate		Micrograms/L (ug/L)	0		0.025	0.05	0.0028	0.019
001	Endrin		Micrograms/L (ug/L)	0		0.025	0.05	0.0028	0.011
001	Endrin Aldehyde		Micrograms/L (ug/L)	0		0.025	0.05	0.031	0.056
001	Heptachlor		Micrograms/L (ug/L)	0		0.025	0.05	0.0037	0.014

001	Heptachlor Epoxide		Micrograms/L (ug/L)	0		0.025	0.05	0.0028	0.019
001	Lindane (gamma-BHC)		Micrograms/L (ug/L)	0		0.025	0.05	0.0046	0.019
001	PCB-aroclor 1016		Micrograms/L (ug/L)	0		0.13	0.5	0.056	0.42
001	PCB-aroclor 1221		Micrograms/L (ug/L)	0		0.25	0.5	0.069	0.42
001	PCB-aroclor 1232		Micrograms/L (ug/L)	0		0.25	0.5	0.058	0.42
001	PCB-aroclor 1242		Micrograms/L (ug/L)	0		0.25	0.5	0.055	0.42
001	PCB-aroclor 1248		Micrograms/L (ug/L)	0		0.25	0.5	0.048	0.42
001	PCB-aroclor 1254		Micrograms/L (ug/L)	0		0.25	0.5	0.069	0.42
001	PCB-aroclor 1260		Micrograms/L (ug/L)	0		0.13	0.5	0.056	0.42
001	Toxaphene		Micrograms/L (ug/L)	0		0.24	0.5	0.43	1.9
001	alpha-BHC		Micrograms/L (ug/L)	0		0.025	0.05	0.0037	0.017
001	beta-BHC		Micrograms/L (ug/L)	0		0.025	0.05	0.011	0.019
001	delta-BHC		Micrograms/L (ug/L)	0		0.025	0.05	0.0046	0.014
001	1,1,1-Trichloroethane		Micrograms/L (ug/L)	0		1	2	0.39	3
001	1,1,2,2-Tetrachloroethane		Micrograms/L (ug/L)	0		1.9	2	0.52	3
001	1,1,2-Trichloroethane		Micrograms/L (ug/L)	0		1	2	0.24	1
001	1,1-Dichloroethane		Micrograms/L (ug/L)	0		1	2	0.22	2
001	1,1-Dichloroethene (1,1-dichloroethylene)		Micrograms/L (ug/L)	0		1	2	0.78	4
001	1,2 Trans-Dichloroethylene OR Trans 1,2 Dichloroethene (Ethylene dichloride)		Micrograms/L (ug/L)	0		1	2	0.39	3
001	1,2-Dichlorobenzene		Micrograms/L (ug/L)	0		1.9	7.6	0.46	2
001	1,2-Dichloroethane		Micrograms/L (ug/L)	0		1	2	0.53	2
001	1,2-Dichloropropane		Micrograms/L (ug/L)	0		1	2	0.18	1
001	1,3-Dichlorobenzene		Micrograms/L (ug/L)	0		1.9	7.6	0.18	2
001	1,3-Dichloropropene (1,3 Dichloropropylene)		Micrograms/L (ug/L)	0		1	2	0.2	1
001	1,4-Dichlorobenzene		Micrograms/L (ug/L)	0		4.4	17.6	0.48	4
001	2-Chloroethylvinylether		Micrograms/L (ug/L)	0		1	2	4	20
001	Acrolein		Micrograms/L (ug/L)	0		5	10	7.3	30
001	Acrylonitrile		Micrograms/L (ug/L)	0		1	2	9.2	30
001	Benzene		Micrograms/L (ug/L)	0		1	2	0.53	3
001	Bromoform		Micrograms/L (ug/L)	0		1	2	0.56	3
001	Bromomethane (methyl bromide)		Micrograms/L (ug/L)	0		5	10	1.1	6
001	Carbon Tetrachloride		Micrograms/L (ug/L)	0		1	2	0.3	3

001	Chlorobenzene		Micrograms/L (ug/L)	1.6	J	1	2	0.44	2
001	Chloroethane		Micrograms/L (ug/L)	0		1	2	1.1	5
001	Chloroform		Micrograms/L (ug/L)	2.1	J	1	2	0.5	5
001	Chloromethane (methyl chloride)		Micrograms/L (ug/L)	0		1	2	5.4	20
001	Dibromochloromethane (chlorodibromomethane)		Micrograms/L (ug/L)	0		1	2	0.5	2
001	Dichlorobromomethane		Micrograms/L (ug/L)	.2	J	1	2	0.14	2
001	Ethylbenzene		Micrograms/L (ug/L)	0		1	2	0.5	5
001	Methylene Chloride		Micrograms/L (ug/L)	0		5	10	1.4	5
001	Tetrachloroethene (tetrachloroethylene)		Micrograms/L (ug/L)	0		1	2	0.41	3
001	Toluene		Micrograms/L (ug/L)	0		1	2	0.39	2
001	Trichloroethene (Trichloroethylene)		Micrograms/L (ug/L)	0		1	2	0.85	3
001	Vinyl Chloride		Micrograms/L (ug/L)	0		1	2	0.22	1

Washington State Department of Ecology **Discharge Monitoring Report (DMR)**

Permit Number: WA0029289 **Permittee:** BREMERTON STP

Facility County: Kitsap **Receiving Waterbody:** Puget Sound

Monitoring Period: 01/01/2020 - 12/31/2020 **Outfall:** 002 **Version:** 1

Sample Date: 1/23/2020

Monitoring Point	Parameter	Fraction	Units	Sample	Qualifier Code	Required Detection Level	Required Quantitation Level	Actual Detection Level	Actual Quantitation Level
002	2,4,6-Trichlorophenol		Micrograms/L (ug/L)	0		2	4	0.48	2.9
002	2,4-Dichlorophenol		Micrograms/L (ug/L)	0		0.5	1	0.96	19
002	2,4-Dimethylphenol		Micrograms/L (ug/L)	0		0.5	1	0.76	19
002	2,4-Dinitrophenol		Micrograms/L (ug/L)	0		1	2	7.6	24
002	2-Chlorophenol		Micrograms/L (ug/L)	0		1	2	0.24	4.8
002	2-Nitrophenol		Micrograms/L (ug/L)	0		0.5	1	0.72	4.8
002	4,6-Dinitro-2-Methylphenol (4,6 dinitro-o-cresol)(2-methyl-4,6-dinitrophenol)		Micrograms/L (ug/L)	0		1	2	1.2	24
002	4-Chloro-3-Methylphenol (Parachlorometa cresol)		Micrograms/L (ug/L)	0		1	2	0.62	2.9
002	4-Nitrophenol		Micrograms/L (ug/L)	0		0.5	1	8.1	72
002	Pentachlorophenol		Micrograms/L (ug/L)	0		0.5	1	2.4	48
002	Phenol		Micrograms/L (ug/L)	0		2	4	1.7	19
002	Dimethyl phthalate		Micrograms/L (ug/L)	0		1.6	6.4	0.29	2.9
002	Diethyl phthalate		Micrograms/L (ug/L)	.95	J	1.9	7.6	0.72	57
002	Dibutyl phthalate (Di-n-butyl phthalate)		Micrograms/L (ug/L)	0		0.5	1	2.1	14
002	Hexachlorobenzene		Micrograms/L (ug/L)	0		0.3	0.6	0.19	2.9
002	Fluorene		Micrograms/L (ug/L)	0		0.3	0.6	0.24	9.6
002	Fluoranthene		Micrograms/L (ug/L)	0		0.3	0.6	0.29	14
002	Dibenzo (a,j)acridine		Micrograms/L (ug/L)	0		2.5	10	0.63	2.5
002	Dibenzo (a,h)acridine		Micrograms/L (ug/L)	0		2.5	10	0.63	2.5
002	Di-N-Octyl Phthalate		Micrograms/L (ug/L)	0		0.3	0.6	0.62	4.8
002	Dibenzo(a,h)pyrene		Micrograms/L (ug/L)	0		2.5	10	0.63	2.5
002	Dibenzo(a,h)anthracene		Micrograms/L (ug/L)	0		0.8	1.6	0.33	2.9
002	Dibenzo(a,e)pyrene		Micrograms/L (ug/L)	0		2.5	10	0.62	2.5
002	Hexachlorobutadiene		Micrograms/L (ug/L)	0		0.5	1	0.29	4.8
002	Nitrobenzene		Micrograms/L (ug/L)	0		0.5	1	0.19	4.8
002	Naphthalene		Micrograms/L (ug/L)	0		0.3	0.6	0.19	1.9
002	N-Nitrosodiphenylamine		Micrograms/L (ug/L)	0		0.5	1	0.33	72
002	Pyrene		Micrograms/L (ug/L)	0		0.3	0.6	0.19	9.6

002	Phenanthrene		Micrograms/L (ug/L)	0		0.3	0.6	0.14	4.8
002	Perylene		Micrograms/L (ug/L)	0		1.9	7.6	0.13	0.25
002	Indeno(1,2,3-cd)pyrene		Micrograms/L (ug/L)	0		0.5	1	0.62	4.8
002	Hexachloroethane		Micrograms/L (ug/L)	0		0.5	1	0.24	4.8
002	Hexachlorocyclopentadiene (hexachloropentadiene)		Micrograms/L (ug/L)	0		0.5	1	0.48	24
002	N-Nitrosodimethylamine		Micrograms/L (ug/L)	0		2	4	1.2	19
002	N-Nitrosodi-n-propylamine		Micrograms/L (ug/L)	0		0.5	1	0.29	2.9
002	Isophorone		Micrograms/L (ug/L)	0		0.5	1	0.48	1.9
002	4-Chlorophenyl-Phenylether		Micrograms/L (ug/L)	0		0.3	0.5	0.24	2.9
002	4-Bromophenyl phenyl ether		Micrograms/L (ug/L)	0		0.2	0.4	0.29	2.9
002	3-Methyl cholanthrene (1,2-dihydro-3-methyl-Benz[j]aceanthrylene)		Micrograms/L (ug/L)	0		2	8	0.13	0.25
002	Anthracene		Micrograms/L (ug/L)	0		0.3	0.6	0.24	72
002	Acenaphthylene		Micrograms/L (ug/L)	0		0.3	0.6	0.29	4.8
002	Acenaphthene		Micrograms/L (ug/L)	0		0.2	0.4	0.24	1.9
002	2,4-Dinitrotoluene		Micrograms/L (ug/L)	0		0.2	0.4	0.48	4.8
002	1,2-Diphenylhydrazine		Micrograms/L (ug/L)	0		5	20	0.29	9.6
002	1,2,4-Trichlorobenzene		Micrograms/L (ug/L)	0		0.3	0.6	0.19	1.9
002	3,3'-Dichlorobenzidine		Micrograms/L (ug/L)	0		0.5	1	3	72
002	2-Chloronaphthalene		Micrograms/L (ug/L)	0		0.3	0.6	0.14	4.8
002	2,6-Dinitrotoluene		Micrograms/L (ug/L)	.67	J	0.2	0.4	0.19	2.9
002	Benzo(j)fluoranthene		Micrograms/L (ug/L)	0		0.5	1	0.2	0.395
002	Bis(2-Chloroethyl)Ether		Micrograms/L (ug/L)	0		0.3	1	0.14	2.9
002	Bis(2-Chloroethoxy)Methane		Micrograms/L (ug/L)	0		5.3	21.2	0.24	2.9
002	Benzo(a)anthracene		Micrograms/L (ug/L)	0		0.3	0.6	0.24	4.8
002	Chrysene		Micrograms/L (ug/L)	0		0.3	0.6	0.19	2.9
002	Butyl benzyl phthalate (Benzyl butyl phthalate)		Micrograms/L (ug/L)	0		0.3	0.6	4.4	48
002	Bis(2-chloroisopropyl)ether		Micrograms/L (ug/L)	0		5.7	17.1	0.075	0.125
002	Benzo(b)fluoranthene (3,4-Benzofluoranthene)		Micrograms/L (ug/L)	0		0.8	1.6	0.19	4.8
002	Benzo(a)pyrene		Micrograms/L (ug/L)	0		0.5	1	0.19	4.8
002	Benzidine		Micrograms/L (ug/L)	0		12	24	14	48
002	Benzo(r,s,t)pentaphene (dibenzo(a,i) pyrene)		Micrograms/L (ug/L)	0		0.5	1	0.63	2.5
002	Benzo(k)fluoranthene (11,12-benzofluoranthene)		Micrograms/L (ug/L)	0		0.8	1.6	0.24	4.8

002	Benzo(ghi)perylene		Micrograms/L (ug/L)	0		0.5	1	0.19	4.8
002	Nitrogen, Ammonia Total (As Nh4)	Total	Milligrams/L (mg/L)	8.8				0.26	0.5
002	Nitrate + Nitrite	Total	Milligrams/L (mg/L)	1.1			100 mg/L	0.06	0.15
002	TKN	Total	Milligrams/L (mg/L)	14			300	0.75	1
002	Phosphorus	Total	Milligrams/L (mg/L)	.54		30	10	0.032	0.1
002	Dissolved Oxygen		Milligrams/L (mg/L)	9.24			0.2 mg/L	0.2	0.2
002	Oil & Grease		Milligrams/L (mg/L)	6.4				5.1	5.1
002	Solids (Residue)	Total Dissolved Solids (TDS)	Milligrams/L (mg/L)	280			20 mg/L	10	10
002	Temperature	Measured	Degrees C	11.6			0.2 degree	0.2	0.2
002	Cyanide	Total	Micrograms/L (ug/L)	0		5	10	0.06	0.06
002	Phenolics (Total Phenols)	Total	Micrograms/L (ug/L)	0			50	1.7	19
002	Nickel	Total	Micrograms/L (ug/L)	1.7		0.1	0.5	0.15	0.2
002	Lead	Total	Micrograms/L (ug/L)	.79		0.1	0.5	0.05	0.1
002	Mercury	Total	Nanograms/L (ng/L)	.00082		0.2 ng/L	0.5 ng/L	0.00014	0.0005
002	Thallium	Total	Micrograms/L (ug/L)	.28		0.09	0.36	0.05	0.1
002	Zinc	Total	Micrograms/L (ug/L)	25		0.5	2.5	2	5
002	Selenium	Total	Micrograms/L (ug/L)	0		1	1	0.3	0.6
002	Silver	Total	Micrograms/L (ug/L)	.33		0.04	0.2	0.1	0.2
002	Beryllium	Total	Micrograms/L (ug/L)	.3		0.1	0.5	0.1	0.2
002	Cadmium	Total	Micrograms/L (ug/L)	.29		0.05	0.25	0.05	0.1
002	Antimony	Total	Micrograms/L (ug/L)	.67		0.3	1.0	0.3	0.5
002	Arsenic	Total	Micrograms/L (ug/L)	.75		0.1	0.5	0.1	0.2
002	Copper	Total	Micrograms/L (ug/L)	4.1		0.4	2	0.25	0.5
002	Chromium	Total	Micrograms/L (ug/L)	.77		0.2	1	0.25	0.5
002	Chromium, Hexavalent	Dissolved (soluble)	Micrograms/L (ug/L)	.01		0.3	1.2	0.001	0.001
002	4,4'-DDD		Micrograms/L (ug/L)	0		0.025	0.05	0.0055	0.014
002	4,4'-DDE		Micrograms/L (ug/L)	0		0.025	0.051	0.0028	0.0092
002	4,4'-DDT		Micrograms/L (ug/L)	0		0.025	0.05	0.0046	0.018
002	Aldrin		Micrograms/L (ug/L)	0		0.025	0.05	0.0064	0.022
002	Chlordane		Micrograms/L (ug/L)	0		0.025	0.05	0.028	0.18
002	Dieldrin		Micrograms/L (ug/L)	0		0.025	0.05	0.0046	0.017
002	Endosulfan I (alpha endosulfan)		Micrograms/L (ug/L)	0		0.025	0.05	0.0028	0.018
002	Endosulfan II (beta endosulfan)		Micrograms/L (ug/L)	0		0.025	0.05	0.0046	0.022

002	Endosulfan Sulfate		Micrograms/L (ug/L)	0		0.025	0.05	0.0028	0.018
002	Endrin		Micrograms/L (ug/L)	0		0.025	0.05	0.0028	0.011
002	Endrin Aldehyde		Micrograms/L (ug/L)	0		0.025	0.05	0.031	0.055
002	Heptachlor		Micrograms/L (ug/L)	0		0.025	0.05	0.0037	0.014
002	Heptachlor Epoxide		Micrograms/L (ug/L)	0		0.025	0.05	0.028	0.018
002	Lindane (gamma-BHC)		Micrograms/L (ug/L)	0		0.025	0.05	0.0046	0.018
002	PCB-aroclor 1016		Micrograms/L (ug/L)	0		0.13	0.5	0.056	0.41
002	PCB-aroclor 1221		Micrograms/L (ug/L)	0		0.25	0.5	0.069	0.41
002	PCB-aroclor 1232		Micrograms/L (ug/L)	0		0.25	0.5	0.058	0.41
002	PCB-aroclor 1242		Micrograms/L (ug/L)	0		0.25	0.5	0.054	0.41
002	PCB-aroclor 1248		Micrograms/L (ug/L)	0		0.25	0.5	0.048	0.41
002	PCB-aroclor 1254		Micrograms/L (ug/L)	0		0.25	0.5	0.069	0.41
002	PCB-aroclor 1260		Micrograms/L (ug/L)	0		0.13	0.5	0.056	0.41
002	Toxaphene		Micrograms/L (ug/L)	0		0.24	0.5	0.42	1.8
002	alpha-BHC		Micrograms/L (ug/L)	0		0.025	0.05	0.0037	0.017
002	beta-BHC		Micrograms/L (ug/L)	0		0.025	0.05	0.011	0.019
002	delta-BHC		Micrograms/L (ug/L)	0		0.025	0.05	0.0046	0.014
002	1,1,1-Trichloroethane		Micrograms/L (ug/L)	0		1	2	0.39	3
002	1,1,2,2-Tetrachloroethane		Micrograms/L (ug/L)	0		1.9	2	0.52	3
002	1,1,2-Trichloroethane		Micrograms/L (ug/L)	0		1	2	0.24	1
002	1,1-Dichloroethane		Micrograms/L (ug/L)	0		1	2	0.22	2
002	1,1-Dichloroethene (1,1-dichloroethylene)		Micrograms/L (ug/L)	0		1	2	0.78	4
002	1,2 Trans-Dichloroethylene OR Trans 1,2 Dichloroethene (Ethylene dichloride)		Micrograms/L (ug/L)	0		1	2	0.39	3
002	1,2-Dichlorobenzene		Micrograms/L (ug/L)	0		1.9	7.6	0.46	3
002	1,2-Dichloroethane		Micrograms/L (ug/L)	0		1	2	0.53	2
002	1,2-Dichloropropane		Micrograms/L (ug/L)	0		1	2	0.18	1
002	1,3-Dichlorobenzene		Micrograms/L (ug/L)	0		1.9	7.6	0.18	2
002	1,3-Dichloropropene (1,3 Dichloropropylene)		Micrograms/L (ug/L)	0		1	2	0.2	1
002	1,4-Dichlorobenzene		Micrograms/L (ug/L)	0		4.4	17.6	0.48	4
002	2-Chloroethylvinylether		Micrograms/L (ug/L)	0		1	2	4	20
002	Acrolein		Micrograms/L (ug/L)	0		5	10	7.3	30
002	Acrylonitrile		Micrograms/L (ug/L)	0		1	2	9.2	30

002	Benzene		Micrograms/L (ug/L)	0		1	2	0.53	3
002	Bromoform		Micrograms/L (ug/L)	0		1	2	0.56	3
002	Bromomethane (methyl bromide)		Micrograms/L (ug/L)	0		5	10	1.1	6
002	Carbon Tetrachloride		Micrograms/L (ug/L)	0		1	2	0.3	3
002	Chlorobenzene		Micrograms/L (ug/L)	0		1	2	0.44	2
002	Chloroethane		Micrograms/L (ug/L)	0		1	2	1.1	5
002	Chloroform		Micrograms/L (ug/L)	1.2	J	1	2	0.5	5
002	Chloromethane (methyl chloride)		Micrograms/L (ug/L)	0		1	2	0.5	5
002	Dibromochloromethane (chlorodibromomethane)		Micrograms/L (ug/L)	0		1	2	0.5	2
002	Dichlorobromomethane		Micrograms/L (ug/L)	0		1	2	0.14	2
002	Ethylbenzene		Micrograms/L (ug/L)	0		1	2	0.5	3
002	Methylene Chloride		Micrograms/L (ug/L)	0		5	10	1.4	5
002	Tetrachloroethene (tetrachloroethylene)		Micrograms/L (ug/L)	.52	J	1	2	0.41	3
002	Toluene		Micrograms/L (ug/L)	1.1	J	1	2	0.39	2
002	Trichloroethene (Trichloroethylene)		Micrograms/L (ug/L)	0		1	2	0.85	3
002	Vinyl Chloride		Micrograms/L (ug/L)	0		1	2	0.22	1

I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Eric Burris
Signature

10/1/2020 10:32:18 AM
Date

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
	WA0029289	City of Bremerton WWTP	

Form Approved 03/05/19
OMB No. 2040-0004

TABLE D. ADDITIONAL POLLUTANTS AS REQUIRED BY NPDES PERMITTING AUTHORITY

Pollutant (list)	Maximum Daily Discharge		Average Daily Discharge			Analytical Method[1]	ML or MDL (include units)
	Value	Units	Value	Units	Number of Samples		
☑ No additional sampling is required by NPDES permitting authority.							
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

TABLE F

EPA Identification Number	NPDES Permit Number	Facility Name
	WA0029289	City of Bremerton WWTP

Form Approved 03/05/19
OMB No. 2040-0004

TABLE F. INDUSTRIAL DISCHARGE INFORMATION

Response space is provided for three SIUs. Copy the table to report information for additional SIUs.

	SIU 1	SIU ___	SIU ___
Name of SIU	Puget Sound Naval Shipyard and IMF		
Mailing address (street or P.O. box)	Code 106.3 1400 Farragut Ave Building 427		
City, state, and ZIP code	Bremerton, WA 98314		
Description of all industrial processes that affect or contribute to the discharge.	See attached SWD permit.		
List the principal products and raw materials that affect or contribute to the SIU's discharge.	See attached SWD permit.		
Indicate the average daily volume of wastewater discharged by the SIU.	1000000 gpd	gpd	gpd
How much of the average daily volume is attributable to process flow?	1000000 gpd	gpd	gpd
How much of the average daily volume is attributable to non-process flow?	0 gpd	gpd	gpd
Is the SIU subject to local limits?	☑ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Is the SIU subject to categorical standards?	☑ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No

TABLE F. INDUSTRIAL DISCHARGE INFORMATION

Response space is provided for three SIUs. Copy the table to report information for additional SIUs.

	SIU 1	SIU ___	SIU ___
Under what categories and subcategories is the SIU subject?	40 CFR part 433.17		
Has the POTW experienced problems (e.g., upsets, pass-through interferences) in the past 4.5 years that are attributable to the SIU?	☐ Yes ☑ No	☐ Yes ☐ No	☐ Yes ☐ No
If yes, describe.			

PUGET SOUND NAVY SHIPYARD NPDES PERMIT

Issuance Date: October 1, 2020
Effective Date: November 1, 2020
Expiration Date: October 31, 2025
Modification Date: April 13, 2023

State Waste Discharge Permit Number ST0007374

State of Washington
DEPARTMENT OF ECOLOGY
Northwest Regional Office
PO Box 330316
Shoreline, WA 98133-9716

In compliance with the provisions of the
State of Washington Water Pollution Control Law
Chapter 90.48 Revised Code of Washington, as amended,

Puget Sound Naval Shipyard and Intermediate Maintenance Facility
Code 106.3, Building 427, 2nd Floor
1400 Farragut Avenue
Bremerton, Washington 98314

is authorized to discharge wastewater in accordance with the special and general conditions which follow.

Facility Location: Code 106.3, Building 427, 2nd Floor 1400 Farragut Avenue Bremerton, Washington 98314 Industry Type: Naval Shipyard POTW Receiving Discharge: City of Bremerton Wastewater Treatment Plant	SIC Code: 9711 National Security NAICS Code: 928110 National Security SIC: 3731 Ship Building and Repairing NAICS: 336611 Ship Building and Repairing Significant Industrial User Metal Finishing Categorical Industry

Rachel McCrea
Water Quality Section Manager
Northwest Region Office
Washington State Department of Ecology

Table of Contents

Summary of Permit Report Submittals

Refer to the Special and General Conditions of this permit for additional submittal requirements.

Permit Section	Submittal	Frequency	First Submittal Date
S3.A.7.a.	**Monthly** Discharge monitoring report (DMR)	Monthly	**December 28, 2020**
S3.A.7.b.	**Quarterly** DMR	Quarterly	**April 28, 2021**
S3.A.7.c.	**Semiannual** DMR	Semiannual	**July 28, 2021**
S3.F.	Reporting permit violations	As necessary	
S3.I.	Dangerous waste discharge notification	As necessary	
S3.K.	Notice of temporary changes in discharges	As necessary	
S3.L.	Reporting of temporary discharges exempt from immediate reporting (with permit application)	1/permit cycle	**August 31, 2025**
S4.B.	Reporting bypasses	As necessary	
S9.A.4.	Slug discharge control plan	1/permit cycle	**August 31, 2025**
S11.A.	Salinity study report	Once	**November 1, 2021**
S11.B.	Conductivity source identification and reporting	Monthly, as necessary	**Report with monthly DMR, see S3.A**
S11.C.	Internal conductivity monitoring network design report	1/permit cycle	**August 31, 2025**
S11.E.	Annual salinity report	Annual	**November 1, 2021**
S12.	Report on discharges from cooling towers (with permit application)	1/permit cycle	**August 31, 2025**
S13.	Characteristics of installation restoration site discharges	Annual	**March 15, 2021**
S16.	Application for permit renewal	1/permit cycle	**August 31, 2025**
G1.	Notice of change in authorization	As necessary	
G4.	Permit application for substantive changes to the discharge	As necessary	
G5.	Engineering report for construction or modification activities	As necessary	
G7.	Notice of permit transfer	As necessary	
G12.	Duty to provide information	As necessary	

Special Conditions

S1. Discharge limits

All discharges and activities authorized by this permit must comply with the terms and conditions of this permit. The discharge of any of the following pollutants more frequently than, or at a concentration in excess of, that authorized by this permit violates the terms and conditions of this permit.

A discharge of a pollutant in excess of local limits set by the City of Bremerton Wastewater Treatment Plant and those local limits calculated by the Department of Ecology (Ecology) violates the terms and conditions of this permit.

Beginning on the effective date, the Permittee is authorized to discharge wastewater to City of Bremerton sewer system subject to the following limits. See Appendix B for additional industrial discharges authorized by this permit.

Table 1: Effluent Limits and Monitoring Requirements

Ecology Sample Point 001, Navy Discharge Designation 99-1109-001
Building 1109, Industrial Wastewater Pretreatment Facility, Treated Effluent

Parameter, Units	Daily Maximum [b]	Monthly Average [a]	Sampling Frequency	Sample Type
Flow, gpd	30,000	N/A	Daily	Electronic Tank Level Indicator (TLI)
Cadmium(T), mg/L [c]	0.11	0.07	Each Batch	Grab [k]
Chromium(T), mg/L [c]	2.77	1.71	Each Batch	Grab [k]
Copper(T), mg/L [c]	3.38	2.07	Each Batch	Grab [k]
Lead(T), mg/L [c]	0.69	0.43	Each Batch	Grab [k]
Nickel(T), mg/L [c]	3.98	2.38	Each Batch	Grab [k]
Silver(T), mg/L [c]	0.43	0.24	Each Batch	Grab [k]
Zinc(T), mg/L [c]	2.61	1.48	Each Batch	Grab [k]
Cyanide(T), mg/L [d]	1.2	0.65	Quarterly	Grab [k]
Total Toxic Organics (TTO) 40 CFR 433, mg/L [e]	2.13	N/A	Quarterly	Grab [k]
Polychlorinated biphenyls (PCBs), total aroclors, ug/L	15	N/A	Semiannual	Grab [k]
pH,Standard Units [f]	Not outside the range 5.0- 11.0	N/A	Each Batch	Grab [k]

Sample Point 002, 99-1109-002
Building 1109, Industrial Wastewater Pretreatment Facility – Cyanide Destruction

Parameter, Units	Daily Maximum [b]	Monthly Average [a]	Sampling Frequency	Sample Type
Flow, gpd	20,000	N/A	Each Batch	Electronic Tank Level Indicator (TLI)

Parameter, Units	Daily Maximum [b]	Monthly Average [a]	Sampling Frequency	Sample Type
Cyanide (Amenable to Chlorination), mg/L	0.86	0.32	Quarterly	Grab [k]
Sample Point 003, 99-OW1-001 Treated Bilgewater (Oily Water Treatment Plant Located SW of Drydock 1)				
Parameter, Units	**Daily Maximum [b]**		**Sampling Frequency**	**Sample Type**
Flow, gpd	230,000		Daily	TLI or Meter
Copper(T), mg/L [c]	3.4		Monthly	Composite [l]
Nickel (T), mg/L [c]	0.92		Monthly	Composite [l]
Zinc(T), mg/L [c]	3.5		Monthly	Composite [l]
Total Toxic Organics (TTO) 40 CFR 433, mg/L [e]	2.13		Quarterly	Grab [k]
TPH, mg/L [g]	100		Quarterly	Grab [k]
Sample Point 004, 99-OW2-001 Treated Bilgewater (Oily Water Treatment Plant Located SW of Drydock 2)				
Parameter, Units	**Daily Maximum [b]**		**Sampling Frequency**	**Sample Type**
Flow, gpd	230,000		Daily	TLI or Meter
Copper(T), mg/L [c]	3.4		Monthly	Composite [l]
Nickel (T), mg/L [c]	0.92		Monthly	Composite [l]
Zinc(T), mg/L [c]	3.5		Monthly	Composite [l]
Total Toxic Organics (TTO) 40 CFR 433, mg/L [e]	2.13		Quarterly	Grab [k]
TPH, mg/L [g]	100		Quarterly	Grab [k]
Sample Point 005, 99-OW3-001 Treated Bilgewater (Oily Water Treatment Plant Located SW of Drydock 3)				
Parameter, Units	**Daily Maximum [b]**		**Sampling Frequency**	**Sample Type**
Flow, gpd	230,000		Daily	TLI or Meter
Copper(T), mg/L [c]	3.4		Monthly	Composite [l]
Nickel (T), mg/L [c]	0.92		Monthly	Composite [l]
Zinc(T), mg/L [c]	3.5		Monthly	Composite [l]
Total Toxic Organics (TTO) 40 CFR 433, mg/L [e]	2.13		Quarterly	Grab [k]
TPH, mg/L [g]	100		Quarterly	Grab [k]
Sample Point 006, 99-OW4-001 Treated Bilgewater (Oily Water Treatment Plant Located SE of Drydock 4)				
Parameter, Units	**Daily Maximum [b]**		**Sampling Frequency**	**Sample Type**
Flow, gpd	230,000		Daily	TLI or Meter
Copper(T), mg/L [c]	3.4		Monthly	Composite [l]
Nickel (T), mg/L [c]	0.92		Monthly	Composite [l]
Zinc(T), mg/L [c]	3.5		Monthly	Composite [l]
Total Toxic Organics (TTO) 40 CFR 433, mg/L [e]	2.13		Quarterly	Grab [k]
TPH, mg/L [g]	100		Quarterly	Grab

Sample Point 007, 99-OW5-001 **Treated Bilgewater (Oily Water Treatment Plant Located SE of Drydock 5)**			
Parameter, Units	**Daily Maximum [b]**	**Sampling Frequency**	**Sample Type**
Flow, gpd	230,000	Daily	TLI or Meter
Copper(T), mg/L [c]	3.4	Monthly	Composite [l]
Nickel (T), mg/L [c]	0.92	Monthly	Composite [l]
Zinc(T), mg/L [c]	3.5	Monthly	Composite [l]
Total Toxic Organics (TTO) 40 CFR 433, mg/L [e]	2.13	Quarterly	Grab [k]
TPH, mg/L [g]	100	Quarterly	Grab [k]
Sample Point 008, 99-OW6-001 **Treated Bilgewater (Oily Water Treatment Plant Located SW of Drydock 6)**			
Parameter, Units	**Daily Maximum [b]**	**Sampling Frequency**	**Sample Type**
Flow, gpd	230,000	Daily	TLI or Meter
Copper(T), mg/L [c]	3.4	Monthly	Composite [l]
Nickel (T), mg/L [c]	0.92	Monthly	Composite [l]
Zinc(T), mg/L [c]	3.5	Monthly	Composite [l]
Total Toxic Organics (TTO) 40 CFR 433, mg/L [e]	2.13	Quarterly	Grab [k]
TPH, mg/L [g]	100	Quarterly	Grab [k]
Sample Point 009, 99-OW7-001 **Treated Bilgewater (Oily Water Treatment Plant Located NE of Pier D)–*System expected to be operational in 2020***			
Parameter, Units	**Daily Maximum [b]**	**Sampling Frequency**	**Sample Type**
Flow, gpd	230,000	Daily	TLI or Meter
Copper(T), mg/L [c]	3.4	Monthly	Composite [l]
Nickel (T), mg/L [c]	0.92	Monthly	Composite [l]
Zinc(T), mg/L [c]	3.5	Monthly	Composite [l]
Total Toxic Organics (TTO) 40 CFR 433, mg/L [e]	2.13	Quarterly	Grab [k]
TPH, mg/L [g]	100	Quarterly	Grab [k]
Sample Point 010, 99-DD1-002 **Drydock 1 Process Water Collection System**			
Parameter, Units	**Daily Maximum [b]**	**Sampling Frequency**	**Sample Type**
Flow, gpd	N/A for flow (Discharge through 99-DD16-002)	N/A for flow (Discharge through 99-DD16-002)	N/A for flow (Discharge through 99-DD16-002)
Chromium (T), mg/L [c]	5.0	Semiannual	Composite [l]
Copper(T), mg/L [c]	3.4	Quarterly	Composite [l]
Lead (T), mg/L [c]	0.74	Semiannual	Composite [l]
Nickel (T), mg/L [c]	0.92	Semiannual	Composite [l]
Zinc(T), mg/L [c]	3.5	Quarterly	Composite

Sample Point 011, 99-DD2-002 Drydock 2 Process Water Collection System			
Parameter, Units	**Daily Maximum [b]**	**Sampling Frequency**	**Sample Type**
Flow, gpd	N/A for flow (Discharge through 99-DD16-002)	N/A for flow (Discharge through 99-DD16-002)	N/A for flow (Discharge through 99-DD16-002)
Chromium (T), mg/L [c]	5.0	Semiannual	Composite [l]
Copper(T), mg/L [c]	3.4	Quarterly	Composite [l]
Lead (T), mg/L [c]	0.74	Semiannual	Composite [l]
Nickel (T), mg/L [c]	0.92	Semiannual	Composite [l]
Zinc(T), mg/L [c]	3.5	Quarterly	Composite [l]
Sample Point 012, 99-DD3-002 Drydock 3 Process Water Collection System			
Parameter, Units	**Daily Maximum [b]**	**Sampling Frequency**	**Sample Type**
Flow, gpd	N/A for flow (Discharge through 99-DD16-002)	N/A for flow (Discharge through 99-DD16-002)	N/A for flow (Discharge through 99-DD16-002)
Chromium (T), mg/L [c]	5.0	Semiannual	Composite [l]
Copper(T), mg/L [c]	3.4	Quarterly	Composite [l]
Lead (T), mg/L [c]	0.74	Semiannual	Composite [l]
Nickel (T), mg/L [c]	0.92	Semiannual	Composite [l]
Zinc(T), mg/L [c]	3.5	Quarterly	Composite [l]
Sample Point 013, 99-DD4-002 Drydock 4 Process Water Collection System			
Parameter, Units	**Daily Maximum [b]**	**Sampling Frequency**	**Sample Type**
Flow, gpd	N/A for flow (Discharge through 99-DD16-002)	N/A for flow (Discharge through 99-DD16-002)	N/A for flow (Discharge through 99-DD16-002)
Chromium (T), mg/L [c]	5.0	Semiannual	Composite [l]
Copper(T), mg/L [c]	3.4	Quarterly	Composite [l]
Lead (T), mg/L [c]	0.74	Semiannual	Composite [l]
Nickel (T), mg/L [c]	0.92	Semiannual	Composite [l]
Zinc(T), mg/L [c]	3.5	Quarterly	Composite [l]
Sample Point 014, 99-DD5-002 Drydock 5 Process Water Collection System			
Parameter, Units	**Daily Maximum [b]**	**Sampling Frequency**	**Sample Type**
Flow, gpd	N/A for flow (Discharge through 99-DD16-002)	N/A for flow (Discharge through 99-DD16-002)	N/A for flow (Discharge through 99-DD16-002)
Chromium (T), mg/L [c]	5.0	Semiannual	Composite [l]
Copper(T), mg/L [c]	3.4	Quarterly	Composite [l]
Lead (T), mg/L [c]	0.74	Semiannual	Composite [l]
Nickel (T), mg/L [c]	0.92	Semiannual	Composite [l]
Zinc(T), mg/L [c]	3.5	Quarterly	Composite [l]

Sample Point 015, 99-DD6-002 Drydock 6 Process Water Collection System			
Parameter, Units	**Daily Maximum [b]**	**Sampling Frequency**	**Sample Type**
Flow, gpd	N/A for flow (Discharge through 99-DD16-002)	N/A for flow (Discharge through 99-DD16-002)	N/A for flow (Discharge through 99-DD16-002)
Chromium (T), mg/L [c]	5.0	Semiannual	Composite [l]
Copper(T), mg/L [c]	3.4	Quarterly	Composite [l]
Lead (T), mg/L [c]	0.74	Semiannual	Composite [l]
Nickel (T), mg/L [c]	0.92	Semiannual	Composite [l]
Zinc(T), mg/L [c]	3.5	Quarterly	Composite [l]
Sample Point 016, 99-DD16-002 Combined Drydock Process Water Collection System Discharge			
Parameter (Units)	**Daily Maximum [b]**	**Sampling Frequency**	**Sample Type**
Flow, gpd	950,000	Daily	Metered or pump run time
Sample Point 077, 17-857-011 Aluminum Sheet Metal Deburring			
Parameters	**Daily Maximum**	**Monthly Average**	**Sampling Frequency**	**Sample Type**
Flow, gpd	800	NA	1/batch	Metered
TSS, mg/L [h]	100	NA	Semiannual	Grab [k]
Sample Point 087, NBK-912-001 Steam Utility Plant Boiler Blowdown and Miscellaneous Discharges			
Parameters	**Daily Maximum**	**Sampling Frequency**	**Sample Type**
Flow, gpd	300,000	Continuous [m]	Metered
Copper (T), mg/L [c]	3.4	Quarterly	Grab [k]
Zinc (T), mg/L [c]	3.5	Quarterly	Grab [k]
Sample Point 105, Lift Station Number WB-3 (West End) – to City of Bremerton WWTP			
Parameter (Units)	**Daily Maximum [b]**	**Sampling Frequency**	**Sample Type**
Arsenic (T), mg/L) [c]	0.10	NA	NA
Cadmium (T), (mg/L) [c]	0.10	Monthly	Composite [l]
Chromium (T), (mg/L) [c]	1.0	Monthly	Composite [l]
Chromium (hexavalent), mg/L	0.25	NA	NA
Conductivity (mS/cm) [j]	Report Only	Daily	Continuous [l]
Salinity (ppt) [j]	Report Only	Daily	Calculated
Copper (T), (mg/L) [c]	0.75	Monthly	Composite [l]
Lead (T), (mg/L) [c]	0.25	Monthly	Composite [l]
Mercury (T), (mg/L) [c]	0.010	Monthly	Composite [l]
Molybdenum (T), (mg/L) [c]	1.0	N/A	N/A
Nickel (T), (mg/L) [c]	0.60	Monthly	Composite [l]
Selenium (T), (mg/L) [c]	0.10	NA	NA
Parameter (Units)	**Daily**	**Sampling**	**Sample**

	Maximum [b]	Frequency	Type
Silver (T), (mg/L) [c]	0.20	Monthly	Composite [l]
Zinc (T), (mg/L) [c]	2.0	Monthly	Composite [l]
Cyanide (T), mg/L	0.64	Monthly	Grab [k]
Cyanide, Free (mg/L)	0.20	NA	NA
Ammonia, mg/L	50.0	NA	NA
Benzene, mg/L	0.07	NA	NA
Ethyl Benzene, mg/L	1.70	NA	NA
Toluene, mg/L	1.40	NA	NA
Oil and Grease (mg/L) [i]	100	Quarterly	Grab [k]
TPH, (mg/L) [g]	50	Monthly	Grab [k]
pH (std. units)	6.0 - 10.0	NA	NA
Sample Point 106, Lift Station Number 9– to City of Bremerton WWTP			
Parameter (Units)	**Daily Maximum [b]**	**Sampling Frequency**	**Sample Type**
Arsenic (T), mg/L) [c]	0.10	NA	NA
Cadmium (T), (mg/L) [c]	0.10	Monthly	Composite [l]
Chromium (T), (mg/L) [c]	1.0	Monthly	Composite [l]
Chromium (hexavalent), mg/L	0.25	NA	NA
Conductivity (mS/cm) [j]	Report Only	Daily	Continuous [l]
Salinity (ppt) [j]	Report Only	Daily	Calculated
Copper (T), (mg/L) [c]	0.75	Monthly	Composite [l]
Lead (T), (mg/L) [c]	0.25	Monthly	Composite [l]
Mercury (T), (mg/L) [c]	0.010	Monthly	Composite [l]
Molybdenum (T), (mg/L) [c]	1.0	N/A	N/A
Nickel (T), (mg/L) [c]	0.60	Monthly	Composite [l]
Selenium (T), (mg/L) [c]	0.10	NA	NA
Silver (T), (mg/L) [c]	0.20	Monthly	Composite [l]
Zinc (T), (mg/L) [c]	2.0	Monthly	Composite [l]
Cyanide (T), mg/L	0.64	Quarterly	Grab [k]
Cyanide, Free (mg/L)	0.20	NA	NA
Ammonia, mg/L	50.0	NA	NA
Benzene, mg/L	0.07	NA	NA
Ethyl Benzene, mg/L	1.70	NA	NA
Toluene, mg/L	1.40	NA	NA
Oil and Grease (mg/L) [i]	100	Quarterly	Grab [k]
TPH, (mg/L) [g]	50	Monthly	Grab [k]
pH (std. units)	6.0 - 10.0	NA	NA

[a] The average monthly effluent limit is defined as the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

[b] The maximum daily effluent limit is defined as the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. For pollutants with limits expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For other units of measurement, the daily discharge is the average measurement of the pollutant over the day.

[c] The "T" following the names of metals indicates total, as opposed to dissolved metals.

[d] The "T" following cyanide indicates total cyanide, as opposed to cyanide amenable to chlorination. Cyanide samples must be properly preserved with sodium hydroxide per ASTM D7511-12. If chlorine is present (which is an oxidant and oxidants are known interferents in cyanide analysis), samples must be dechlorinated using an appropriate reducing agent, ascorbic acid or sodium arsenite (ASTM D7365 – 09a).

[e] The term TTOs (Total Toxic Organics) shall mean the summation of all quantifiable values greater than 0.01 mg/L for the compounds listed below. TTO samples must be collected in a well-sealed container with zero headspace. The term "TTO" indicates those organic chemical compounds listed in 40 CFR Part 433.11(e). The results of analysis for TTO's shall be reported as the sum of the concentrations of all TTO compounds quantified at concentrations greater than 0.01 mg/L.

In lieu of the monitoring and reporting requirements for TTO compounds, as described immediately above, the Permittee is authorized to elect to prepare a Toxic Organics Management Plan (TOMP), see permit condition S10 for more information.

For TTO monitoring at the OWTS (SP003 through SP009), PSNS&IMF is authorized to analyze and submit the results for the purgeable (volatile) subset of the TTO's, as listed in EPA Method 624.1 (2016) Table 1, in lieu of results for all TTOs. In addition, PSNS&IMF can exclude acrolein and acrylonitrile from the TTO sampling at these sample points. These exceptions do not apply to TTO monitoring of the IWPF effluent (SP001).

Acenaphthene	Naphthalene
Acrolein	Nitrobenzene
Acrylonitrile	Naphthalene
Benzene	Nitrobenzene
Benzidine	2-Nitrophenol
Carbon tetrachloride (tetrachloromethane)	4-Nitrophenol
Chlorobenzene	2,4-Dinitrophenol
1,2,4-Trichlorobenzene	4,6-Dinitro-o-cresol
Hexachlorobenzene	N-nitrosodimethylamine
1,2,-Dichloroethane	N-nitrosodiphenylamine
1,1,1-Trichloroethane	N-nitrosodi-n-propylamine
Hexachloroethane	Pentachlorophenol
1,1-Dichloroethane	Phenol
1,1,2-Trichloroethane	Bis (2-ethylhexyl) phthalate
1,1,2,2-Tetrachloroethane	Butyl benzyl phthalate
Chloroethane	Di-n-butyl phthalate
Bis (2-chloroethyl) ether	Di-n-octyl phthalate
2-Chloroethyl vinyl ether (mixed)	Diethyl phthalate
2-Chloronaphthalene	Dimethyl phthalate
2,4,6-Trichlorophenol	1,2-Benzanthracene(benzo(a)anthracene)
Parachlorometa cresol	Benzo(a)pyrene (3,4-benzopyrene)
Chloroform (trichloromethane)	3,4-Benzofluoranthene (benzo(b)fluoranthene)
2-Chlorophenol	11,12-Benzofluoranthene (benzo(k)fluoranthene)
1,2-Dichlorobenzene	Chrysene
1,3-Dichlorobenzene	Acenaphthylene
1,4-Dichlorobenzene	Anthracene
3,3-Dichlorobenzidine	1,12-Benzoperylene (benzo(ghi)perylene)
1,1-Dichloroethylene	Fluorene
1,2-Trans-dichloroethylene	Phenanthrene
2,4-Dichlorophenol	1,2,5,6-Dibenzanthracene (dibenzo(a,h)anthracene)
1,2-Dichloropropane	Indeno(1,2,3-cd) pyrene (2,3-o-phenlene pyrene)

1,3-Dichloropropylene (1,3-dichloropropene)	Pyrene
2,4-Dimethylphenol	Tetrachloroethylene
2,4-Dinitrotoluene	Toluene
2,6-Dinitrotoluene	Trichloroethylene
1,2-Diphenylhydrazine	Vinyl chloride (chloroethylene)
Ethylbenzene	Aldrin
Fluoranthene	Dieldrin
4-Chlorophenyl phenyl ether	Chlordane (technical mixture and metabolites)
4-Bromophenyl phenyl ether	4,4-DDT
Bis (2-chloroisopropyl) ether	4,4-DDE (p,p-DDX)
Bis (2-chloroethoxy) methane	Alpha-endosulfan
1,2-Dichloropropane	Beta-endosulfan
1,2-Dichloropropylene (1,3-dichloropropene)	Endosulfan sulfate
2,4-Dimethylphenol	Endrin
2,4-Dinitrotoluene	Endrin aldehyde
2,6-Dinitrotoluene	Heptachlor
1,2-Diphenylhydrazine	Heptachlor epoxide
Ethylbenzene	(BHC-hexachlorocyclohexane)
Fluoranthene	Alpha-BHC
4-Chlorophenyl phenyl ether	Beta-BHC
4-Bromophenyl phenyl ether	Gamma-BHC
Bis (2-chloroisopropyl) ether	Delta-BHC
Methylene chloride (dichloromethane)	(PCB-polychlorinated biphenyls)
Methyl chloride (chloromethane)	PCB-1242 (Arochlor 1242)
Methyl bromide (bromomethane)	PCB-1254 (Arochlor 1254)
Bromoform (tribromomethane)	PCB-1221 (Arochlor 1221)
Dichlorobromomethane	PCB-1232 (Arochlor 1232)
Chlorodibromomethane	PCB-1248 (Arochlor 1248)
Hexachlorobutadiene	PCB-1260 (Arochlor 1260)
Hexachlorocyclopentadiene	PCB-1016 (Arochlor 1016)
Isophorone	Toxaphene
	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)

[f] The Permittee must monitor the final effluent by means of a continuous pH probe/recorder. The Permittee must calibrate and maintain the meter and probe in such a manner as to ensure its reliability and accuracy. Calibration and maintenance activities must be recorded in an operator's log.

If the continuous pH monitoring system is inoperable, the Permittee is authorized to monitor for pH manually using a calibrated pH meter. When pH is monitored manually, a pH reading must be taken at least one time each hour, and the measured pH values must be entered in the operator's log.

In addition, the Permittee must maintain a pH log for any batch discharges of wastewater not routed through the continuous pretreatment system. The Permittee may measure the pH for batch discharges using pH paper or a well calibrated probe. pH determinations performed *in situ* are exempt from the requirement that the analyses be performed in an accredited laboratory. However, should the Permittee choose to convey samples to its accredited laboratory for determination, the Permittee may hold (beginning at the time of the collection of the sample) such samples for a period of up to two hours prior to performance of the analytical procedure for determination of pH.

The term "SU" following "pH" in the table above indicates standard pH units.

[g] The term TPH indicates Total Petroleum Hydrocarbons (Gasoline Extended Range and Diesel Extended Range, see Appendix A Method NWTPH for more details). The permittee is allowed to use EPA Method 1664B for TPH analysis.

[h] "TSS" indicates Total Suspended Solids

[i] Oil and Grease cannot exceed daily maximum limit of 100 mg/L.
[j] Beginning on the effective date of this permit, PSNS & IMF is required to take conductivity measurements at the frequencies and sampling locations specified above and report results to Ecology in the DMRs. PSNS & IMF is required to report daily average and instantaneous maximum values for both conductivity and salinity. Conductivity measurements must be corrected to a temperature of 25 °C.
[k] Grab sample is a single sample or measurement taken at a specific time.
[l] Daily composite samples must consist of a minimum of four time- or flow-proportional grab samples collected throughout the process day from a well-mixed effluent chamber. In cases in which the process results in a single batch discharge which is in its entirety contained in a single vessel, the Permittee may employ a single grab instead of a composite sample provided that the sample is representative and taken from a well-mixed container. SP105 – Composite samples at SP105 may be flow or time-proportional. The City of Bremerton owns Lift Station WB-3, so PSNS&IMF must coordinate with the City to take the required samples at this location. SP106 – Composite samples at SP106 must be flow-proportional. PSNS&IMF is authorized to take time-proportional samples only when flow-proportional is unattainable, such as use of temporary pumps at LS 9. If PSNS&IMF is taking time-proportional samples, a note must be recorded in the DMR with a timeline to resume flow-proportional sampling. Conductivity – PSNS&IMF is required to continuously monitor conductivity at SP105 and SP106. Ecology authorizes PSNS&IMF to continuously sample only when flow is present (i.e. pumps are running at the lift stations) to ensure representative sampling.
[m] Continuous means uninterrupted except for brief lengths of time for calibration, for power failure, or for unanticipated equipment repair or maintenance.

Wastewaters resulting from clean-in-place operations on vessels piping systems, using acid or base compounds must be treated in Building 1109, or bilge water treatment systems prior to being discharged to the sanitary sewer. Wastewaters generated from metal finishing operations generated on vessels must be treated in Building 1109 prior to discharge to the sanitary sewer. If any wastewater that could be designated as dangerous waste is taken to Building 1109 for treatment, the resulting effluent must be devoid of dangerous waste characteristics prior to discharge to the sanitary sewer.

Concentrated organic compounds must be disposed of in accordance with the requirements of WAC 173-303, and must not be discharged to the sanitary sewer, and must not be diluted to render them non-concentrated for purposes of discharging them to the sanitary sewer. However, quantities of less than one gallon of methyl alcohol, isopropyl alcohol, propyl alcohol, butyl alcohol, ethyl alcohol, ethylene glycol, and propylene glycol may be discharged to the sanitary sewer in each batch discharged, provided that the resulting mixture is less than 15% of the above compounds combined by volume. The resulting mixture must have a closed cup flash point of greater than 140° Fahrenheit, and must not be a dangerous waste as defined by WAC 173-303.

S2. Monitoring requirements

S2.A. Monitoring requirements

The Permittee must monitor the wastewater in accordance with the schedule set forth in S1, above, the requirements specified in Appendix A, as well as in accordance with the following requirements.

S2.B. Sampling and analytical procedures

Samples and measurements taken to meet the requirements of this permit must represent the volume and nature of the monitored parameters, including representative sampling of any unusual discharge or discharge condition, including bypasses, upsets and maintenance-related conditions affecting effluent quality.

Sampling and analytical methods used to meet the water and wastewater monitoring requirements specified in this permit must conform to the latest revision of the following rules and documents unless otherwise specified in this permit or approved in writing by Ecology.

- Guidelines Establishing Test Procedures for the Analysis of Pollutants contained in 40 CFR Part 136.
- Standard Methods for the Examination of Water and Wastewater (APHA).

S2.C. Flow measurement, field measurement, and continuous monitoring devices

The Permittee must:

1. Select and use appropriate flow measurement, field measurement, and continuous monitoring devices and methods consistent with accepted scientific practices.
2. Install, calibrate, and maintain these devices to ensure the accuracy of the measurements is consistent with the accepted industry standard, the manufacturer's recommendation, and approved O&M manual procedures for the device and the wastestream.
3. Calibrate continuous monitoring instruments weekly unless it can demonstrate a longer period is sufficient based on monitoring records. The Permittee:

a. May calibrate apparatus for continuous monitoring of dissolved oxygen by air calibration.

b. Must calibrate continuous pH measurement instruments using a grab sample analyzed in the lab with a pH meter calibrated with standard buffers and analyzed within 15 minutes of sampling.

c. Must calibrate continuous chlorine measurement instruments using a grab sample analyzed in the laboratory within 15 minutes of sampling.

4. Use field measurement devices as directed by the manufacturer and do not use reagents beyond their expiration dates.

5. Establish a calibration frequency for each device or instrument in the O&M manual that conforms to the frequency recommended by the manufacturer.

6. Calibrate flow-monitoring devices at a minimum frequency of at least one calibration per year.

7. Maintain calibration records for at least three years.

S2.D. Laboratory accreditation

The Permittee must ensure that all monitoring data required by Ecology for permit specified parameters is prepared by a laboratory registered or accredited under the provisions of chapter 173-50 WAC, *Accreditation of Environmental Laboratories*. Flow, temperature, settleable solids, conductivity, pH, and internal process control parameters are exempt from this requirement. The Permittee must obtain accreditation for conductivity and pH if it must receive accreditation or registration for other parameters.

S3. Reporting and recording requirements

The Permittee must monitor and report in accordance with the following conditions. Falsification of information submitted to Ecology is a violation of the terms and conditions of this permit.

S3.A. Discharge monitoring reports

The first monitoring period begins on the effective date of the permit (unless otherwise specified). The Permittee must:

1. Summarize, report, and submit monitoring data obtained during each monitoring period on the electronic discharge monitoring report (DMR)

form provided by Ecology within the Water Quality Permitting Portal. Include data for each of the parameters tabulated in Special Condition S1 and as required by the form. Report a value for each day sampling occurred (unless specifically exempted in the permit) and for the summary values (when applicable) included on the electronic form.

To find out more information and to sign up for the Water Quality Permitting Portal go to: https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance/WQWebPortal-guidance

2. Enter the "No Discharge" reporting code for an entire DMR, for a specific monitoring point, or for a specific parameter as appropriate, if the Permittee did not discharge wastewater or a specific pollutant during a given monitoring period.
3. Report single analytical values below detection as "less than the detection level (DL)" by entering < followed by the numeric value of the detection level (e.g. < 2.0) on the DMR. If the method used did not meet the minimum DL and quantitation level (QL) identified in the permit, report the actual QL and DL in the comments or in the location provided.
4. Report the test method used for analysis in the comments if the laboratory used an alternative method not specified in the permit and as allowed in Appendix A. This reporting requirement doesn't apply if PSNS & IMF uses an alternative method approved per 40 CFR Part 136.
5. Calculate average values and calculated total values (unless otherwise specified in the permit) using:
    a. The reported numeric value for all parameters measured between the agency-required detection value and the agency-required quantitation value.
    b. One-half the detection value (for values reported below detection) if the lab detected the parameter in another sample from the same monitoring point for the reporting period.
    c. Zero (for values reported below detection) if the lab did not detect the parameter in another sample for the reporting period.
6. Ensure that DMRs are electronically submitted no later than the dates specified below, unless otherwise specified in this permit.

7. Submit DMRs for parameters with the monitoring frequencies specified in S1 (monthly, quarterly, annual, etc.) at the reporting schedule identified below. The Permittee must:
   a. Submit **monthly** DMRs by the 28th day of the following month.
   b. Submit **quarterly DMRs** by the 28th day of the month following the monitoring period. Quarterly sampling periods are January through March, April through June, July through September, and October through December. The Permittee must submit the first quarterly DMR by **April 28, 2021**, for the quarter beginning on **January 1, 2021.**
   c. Submit **semiannual DMRs** by July 28th and January 28th of each year. Semiannual sampling periods are January through June and July through December. The Permittee must submit the first semiannual DMR by **July 28, 2021**, for the semiannual period beginning on **January 1, 2021**.

S3.B. Permit submittals and schedules

The Permittee must use the Water Quality Permitting Portal – Permit Submittals application (unless otherwise specified in the permit) to submit all other written permit-required reports by the date specified in the permit.

When another permit condition requires submittal of a paper (hard-copy) report, the Permittee must ensure that it is postmarked or received by Ecology no later than the dates specified by this permit. Send these paper reports to Ecology at:

Water Quality Permit Coordinator
Department of Ecology
Northwest Regional Office
PO Box 330316
Shoreline, WA 98133-9716

S3.C. Records retention

The Permittee must retain records of all monitoring information for a minimum of three (3) years. Such information must include all calibration and maintenance records and all original recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit. The Permittee must extend this period of retention during the course of

any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by Ecology.

S3.D. Recording of results

For each measurement or sample taken, the Permittee must record the following information:

1. The date, exact place, method, and time of sampling or measurement.
2. The individual who performed the sampling or measurement.
3. The dates the analyses were performed.
4. The individual who performed the analyses.
5. The analytical techniques or methods used.
6. The results of all analyses.

S3.E. Additional monitoring by the Permittee

If the Permittee monitors any pollutant more frequently than required by Condition S1 of this permit, then the Permittee must include the results of such monitoring in the calculation and reporting of the data submitted in the Permittee's DMR unless otherwise specified by Condition S1.

S3.F. Reporting permit violations

The Permittee must take the following actions when it violates or is unable to comply with any permit condition:

1. Immediately take action to stop, contain, and cleanup unauthorized discharges or otherwise stop the noncompliance and correct the problem.
2. If applicable, immediately repeat sampling and analysis. Submit the results of any repeat sampling to Ecology within thirty (30) days of sampling.

a. Immediate reporting

The Permittee must report any noncompliance that may endanger health or the environment immediately to the Department of Ecology's Regional Office 24-hour number listed below, and to the Bremerton Wastewater Treatment Plant, the Department of Health Shellfish Protection Program, and the Kitsap Public Health District:

Ecology NW Regional Office:	**206-594-0000**
Bremerton Wastewater Treatment Plant:	**360-340-2523** **360-900-9024**
Department of Health, Shellfish Program:	**360-236-3330 (business hours)** **360-789-8962 (after business hours)**
Kitsap Public Health District:	**360-728-2235 (call 24/7, after business hours press 9)**

b. Twenty-four-hour reporting

The Permittee must report the following occurrences of noncompliance by telephone, see phone number above, within 24 hours from the time the Permittee becomes aware of any of the following circumstances. The Permittee must report:

1. Any noncompliance that may endanger health or the environment, unless previously reported under immediate reporting requirements.
2. Any unanticipated bypass that causes an exceedance of an effluent limit in the permit (See Part S4.B., "Bypass Procedures").
3. Any upset that causes an exceedance of an effluent limit in the permit. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limits because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
4. Any violation of a maximum daily or instantaneous maximum discharge limit for any of the pollutants in Section S1 of this permit.
5. Any overflow prior to the treatment works, whether or not such overflow endangers health or the environment or exceeds any effluent limit in the permit. This requirement does not include industrial process wastewater overflows to impermeable surfaces which are collected and routed to the treatment works.

c. Report within five days

The Permittee must also submit a written report within five days of the time that the Permittee becomes aware of any reportable event under subparts a or b, above. The report must contain:

1. A description of the noncompliance and its cause.
2. The period of noncompliance, including exact dates and times.
3. The estimated time the Permittee expects the noncompliance to continue if not yet corrected.
4. Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
5. If the noncompliance involves an overflow prior to the treatment works, an estimate of the quantity (in gallons) of untreated overflow.

d. Waiver of written reports

Ecology may waive the written report required in subpart c, above, on a case-by-case basis upon request if the Permittee has submitted a timely oral report, as outlined above.

e. All other permit violation reporting

The Permittee must report all permit violations, which do not require immediate or within 24 hours reporting, when it submits monitoring reports for S3.A ("Reporting"). The reports must contain the information listed in subpart c, above. Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply.

S3.G. Other reporting

a. Spills of oil or hazardous materials

The Permittee must report a spill of oil or hazardous materials in accordance with the requirements of RCW 90.56.280 and chapter 173-303-145. You can obtain further instructions at the following website: https://ecology.wa.gov/About-us/Get-involved/Report-an-environmental-issue/Report-a-spill .

b. Failure to submit relevant or correct facts

Where the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to Ecology, it must submit such facts or information promptly.

S3.H. Maintaining a copy of this permit

The Permittee must keep a copy of this permit at the facility and make it available upon request to Ecology inspectors.

S3.I. Dangerous waste discharge notification

The Permittee must notify the publicly owned treatment works (POTW) and Ecology in writing of the intent to discharge into the POTW any substance designated as a dangerous waste in accordance with the provisions of WAC 173-303-070. It must make this notification at least 90 days prior to the date that it proposes to initiate the discharge. The Permittee must not discharge this substance until authorized by Ecology and the POTW. It must also comply with the notification requirements of Special Condition S17 and General Condition G4.

S3.J. Spill notification

The Permittee must notify the POTW immediately (as soon as discovered) of all discharges that could cause problems to the POTW, such as process spills and unauthorized discharges (including slug discharges).

S3.K. Notice of Temporary Changes in Discharges

The Permittee must notify Ecology and the City of Bremerton of temporary changes in discharge quantity or quality at least three days prior to the proposed change, using a form provided by the City of Bremerton. Changes in significant discharges require notification of Ecology as described under Section G4 of this permit.

However, temporary discharges with a volume of less than 1,000 gallons and which are evaluated and found not to be a dangerous waste, hazardous waste, or a categorical discharge as defined under 40 CFR Parts 403-699, and are determined not to contain pollutants in concentrations greater than the local limits, may be made without prior notice to the City of Bremerton.

S3.L. Reporting of temporary discharges exempt from immediate notification

The Permittee must report all temporary discharges that did not require immediate notification during the permit term, as stated above, and evaluated using the Waste Information Sheet (WIS) process in the permit application by **August 31, 2025**. The Permittee must report the name and other identifying information of the discharge, date the discharge occurred, estimated volume of discharge, and frequency of discharge.

S4. Operation and maintenance

The Permittee must, at all times, properly operate and maintain all facilities or systems of treatment and control (and related appurtenances) which are installed to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems, which are installed by a Permittee only when the operation is necessary to achieve compliance with the conditions of this permit.

S4.A. Operations and maintenance manual

a. O&M manual submittal and requirements

The Permittee must:

1. Maintain up to date operations and maintenance (O&M) manuals that meet the requirements of WAC 173-240-150.
2. Review the O&M manuals annually and update them as needed.
3. Submit to Ecology for review substantial changes or updates to the O&M Manuals.
4. Keep the approved O&M manuals at the permitted facility.
5. Follow the instructions and procedures of the manuals.

b. O&M manual components

In addition to the requirements of WAC 173-240-150, the O&M manual must include:

1. Emergency procedures for plant shutdown and cleanup in event of wastewater system upset, spill, failure, or demand by the publicly owned treatment works (POTW) treating the discharge.
2. Wastewater system maintenance procedures that contribute to the generation of process wastewater.
3. Any directions to maintenance staff when cleaning, or maintaining other equipment or performing other tasks which are necessary to protect the operation of the wastewater system (for example, defining maximum allowable discharge rate for draining a tank, blocking all floor drains before beginning the overhaul of a stationary engine.)
4. Wastewater sampling protocols and procedures for compliance with the sampling and reporting requirements in the wastewater discharge permit.
5. Minimum staffing adequate to operate and maintain the treatment processes and carry out compliance monitoring required by the permit.
6. Treatment plant process control monitoring schedule.

S4.B. Bypass procedures

This permit prohibits a bypass, which is the intentional diversion of waste streams from any portion of a treatment facility. Ecology may take enforcement action against a Permittee for a bypass unless one of the following circumstances (1, 2, or 3) applies.

1. Bypass for essential maintenance without the potential to cause violation of permit limits or conditions.

   This permit authorizes a bypass if it allows for essential maintenance and does not have the potential to cause violations of limits or other conditions of this permit, or adversely impact public health as determined by Ecology prior to the bypass. The Permittee must submit prior notice, if possible, at least ten (10) days before the date of the bypass.

2. Bypass is unavoidable, unanticipated, and results in noncompliance of this permit.

   This permit authorizes such a bypass only if:

a. Bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass.

b. No feasible alternatives to the bypass exist, such as:

- The use of auxiliary treatment facilities.
- Retention of untreated wastes.
- Stopping production.
- Maintenance during normal periods of equipment downtime, but not if the Permittee should have installed adequate backup equipment in the exercise of reasonable engineering judgment to prevent a bypass.
- Transport of untreated wastes to another treatment facility.

c. The Permittee has properly notified Ecology of the bypass as required in Condition S3.F of this permit.

3. If bypass is anticipated and has the potential to result in noncompliance of this permit.

a. The Permittee must notify Ecology at least thirty (30) days before the planned date of bypass. The notice must contain:

- A description of the bypass and its cause.
- An analysis of all known alternatives which would eliminate, reduce, or mitigate the need for bypassing.
- A cost-effectiveness analysis of alternatives including comparative resource damage assessment.
- The minimum and maximum duration of bypass under each alternative.
- A recommendation as to the preferred alternative for conducting the bypass.
- The projected date of bypass initiation.
- A statement of compliance with SEPA.
- Details of the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass.

b. For probable construction bypasses, the Permittee must notify Ecology of the need to bypass as early in the planning process as possible. The Permittee must consider the analysis required above

during the project planning and design process. The project-specific engineering report or facilities plan as well as the plans and specifications must include details of probable construction bypasses to the extent practical. In cases where the Permittee determines the probable need to bypass early, the Permittee must continue to analyze conditions up to and including the construction period in an effort to minimize or eliminate the bypass.

c. Ecology will consider the following prior to issuing an administrative order for this type of bypass:

- If the bypass is necessary to perform construction or maintenance-related activities essential to meet the requirements of this permit.
- If feasible alternatives to bypass exist, such as the use of auxiliary treatment facilities, retention of untreated wastes, stopping production, maintenance during normal periods of equipment down time, or transport of untreated wastes to another treatment facility.
- If the Permittee planned and scheduled the bypass to minimize adverse effects on the public and the environment.

After consideration of the above and the adverse effects of the proposed bypass and any other relevant factors, Ecology will approve or deny the request. Ecology will give the public an opportunity to comment on bypass incidents of significant duration, to the extent feasible. Ecology will approve a request to bypass by issuing an administrative order under RCW 90.48.120.

S4.C. Best management practices\pollution prevention program

The Permittee must:

1. **Not** discharge concentrated organic compounds to the sanitary sewer system.
2. Store waste chemicals awaiting disposal in such a manner as to not enter the sanitary sewer.
3. Close the spill control valve (when so-equipped) if a spill occurs within the process area, to prevent the entry of concentrated wastes or chemicals into the sanitary sewer system.
4. Segregate and store non-compatible chemicals securely in separate containment areas that prevent mixing of incompatible or reactive materials.

5. Locate process tanks in a bermed, roofed, and secured area, capable of containing a minimum of 110% of the volume capacity of the largest tank within the bermed enclosure.
6. Maintain a sealed floor within the bermed area of all wet metal finishing areas, as well as areas which serve as storage areas for wet process chemicals and baths.
7. Maintain the pretreatment system in good operating order.
8. **Not** discharge motor oil, brake fluid, gear oil, and automatic transmission fluid drained from vehicles in motor vehicle or equipment maintenance areas to the sanitary sewer.
9. Maintain all grease traps and oil/water separators, which discharge to the City of Bremerton WWTP, in good working order. Inspect such grease traps on at least a monthly basis and clean as necessary. Maintain a log of each such inspection and cleaning performed and make the log available, upon request, to Ecology during any inspection of the facility it conducts.
10. **Not** discharge wastewater to sanitary sewer from its food service establishments (FSEs) if free floating polar fats, oils, and greases (FOG) are visible on the surface or adhering to the sides of storage containers.
11. **Not** discharge particles or paint chips resulting from grinding, sanding, shot peening, abrasive blasting, cutting, and any other abrasive operations to the sanitary sewer.
12. **Not** discharge wastewater containing AFFF, or any wastewater containing halogenated organic compounds (HOC), with total HOC concentration exceeding 0.01% (100 ppm).
13. **Not** discharge surfactant materials, such as soaps and detergents, to the sanitary sewer in quantities sufficient to cause excessive foaming in the WWTP effluent or to otherwise cause interference in the WWTP. Excessive foaming is foaming resulting in interference, pass-through, or upset at the WWTP, or which otherwise impedes the normal and efficient operation of the WWTP.
14. **Not** discharge colored materials or other low-transmittance material to the sanitary sewer in such quantities or concentrations as to interfere with the disinfection process at Bremerton's East Plant which uses UV disinfection, or in such amounts as to cause pass-through resulting in impairment of the aesthetic character or designated uses of the receiving water.

S5. Prohibited discharges

The Permittee must comply with these General and Specific Prohibitions.

S5.A. General prohibitions

The Permittee must not introduce into the POTW pollutant(s), which cause pass through or interference.

S5.B. Specific prohibitions

In addition, the Permittee must not introduce the following into the POTW:

1. Pollutants which create a fire or explosion hazard in the POTW, including, but not limited to, waste streams with a closed cup flashpoint of less than 60 degrees C (140 degrees F) using the test methods specified in 40 CFR 261.21.
2. Solid or viscous pollutants in amounts, which will cause obstruction to the flow in the POTW resulting in interference.
3. Any pollutant (including oxygen-demanding pollutants (BOD_5, etc.), released in a discharge at a flow rate and/or pollutant concentration that will cause interference with the POTW.
4. Heat in amounts which will inhibit biological activity in the POTW resulting in interference, but in no case heat in such quantities that the temperature at the POTW treatment plant exceeds 40 degrees C (104 degrees F) unless the approval authority, upon request of the POTW, approves alternative temperature limits.
5. Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through.
6. Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems.
7. Any trucked or hauled pollutants, except at discharge points designated by the POTW.

S5.C. Prohibited unless approved

Any of the following discharges are prohibited unless approved by Ecology under extraordinary circumstances (such as a lack of direct discharge

alternatives due to combined sewer service or a need to augment sewage flows due to septic conditions):

1. Noncontact cooling water in significant volumes.
2. Storm water and other direct inflow sources.
3. Wastewaters significantly affecting system hydraulic loading, which do not require treatment or would not be afforded a significant degree of treatment by the system.
4. The discharge of dangerous wastes as defined in Chapter 173-303 WAC (Unless specifically authorized in this permit).

S6. Dilution prohibited

The Permittee must not intentionally dilute the wastewater discharge with stormwater or increase the use of potable water, process water, noncontact cooling water, or, in any way, attempt to dilute an effluent as a partial or complete substitute for adequate treatment to achieve compliance with the limits contained in this permit.

S7. Solid waste disposal

S7.A. Solid waste handling

The Permittee must handle and dispose of all solid waste material in such a manner as to prevent its entry into state ground or surface water.

S7.B. Leachate

The Permittee must not allow leachate from its solid waste material to enter state waters without providing all known, available, and reasonable methods of treatment, nor allow such leachate to cause violations of the State Surface Water Quality Standards, Chapter 173-201A WAC, or the State Ground Water Quality Standards, Chapter 173-200 WAC.

S8. Non-routine and unanticipated discharges

1. Beginning on the effective date of this permit, the Permittee is authorized to discharge non-routine wastewater on a case-by-case basis to the sanitary sewer if approved by Ecology and the POTW. Prior to any such discharge, the Permittee must contact Ecology and the City of Bremerton to provide **at a minimum** the following information:

a. The proposed discharge location.
b. The nature of the activity that will generate the discharge.
c. Any alternatives to the discharge, such as reuse, storage, or recycling of the water.
d. The total volume of water it expects to discharge.
e. The results of the chemical analysis of the water.
f. The date of proposed discharge.
g. The expected rate of discharge, in gallons per day.
h. The expected rate of discharge in gallons per minute for discharges greater than 20,000 gallons.

2. The Permittee must analyze the water for all constituents limited for the discharge and report them as required by subpart 1.e, above. The analysis must also include any parameter deemed necessary by Ecology. All discharges must comply with the effluent limits as established in Condition S1 of this permit and any other limits imposed by Ecology.
3. The discharge cannot proceed until Ecology has reviewed the information provided and has authorized the discharge by letter to the Permittee or by an Administrative Order.
4. However, temporary discharges with a volume of less than 1,000 gallons per day and which are evaluated and found not to be a dangerous waste, hazardous waste, or a categorical discharge as defined under 40 CFR Parts 403-699, and are determined not to contain pollutants in concentrations greater than the local limits, may be made without prior notice to the City of Bremerton and Ecology. The Permittee must report these discharges in the permit application, see permit condition S3.L for more information.

S9. Slug discharge control plan

S9.A. Slug discharge control plan submittal and requirements

The Permittee must:

1. Review its existing slug discharge plan and update it as needed.
2. Keep the current approved plan on the plant site and make it readily available to facility personnel.
3. Follow the approved plan and any approved supplements throughout the term of the permit.

4. Submit an update of the slug discharge control plan, or the existing plan if no updates are needed, by **August 31, 2025**.

S9.B. Slug discharge control plan components

The slug discharge control plan must include the following information and procedures relating to the prevention of unauthorized slug discharges; it must include:

1. A description of a reporting system the Permittee will use to immediately notify facility management, the POTW operator, and appropriate state, federal, and local authorities of any slug discharges, and provisions to provide a written follow-up report within five days.
2. A description of operator training, equipment, and facilities (including overall facility plan) for preventing, containing, or treating slug discharges.
3. Procedures to prevent adverse impact from accidental spills including:
   a. Inspection and maintenance of storage areas
   b. Handling and transfer of materials
   c. Loading and unloading operations
   d. Control of plant site run-off
   e. Worker training
   f. Building of containment structures or equipment
   g. Measures for containing toxic organic pollutants (including solvents)
   h. Measures and equipment for emergency response
4. A list of all raw materials, products, chemicals, and hazardous materials used, processed, or stored at the facility; the normal quantity maintained on the premises for each listed material; and a map showing where they are located.
5. Measures to control of sources of salt water to the Bremerton sewer system.
6. A description of discharge practices for batch and continuous processes under normal and non-routine circumstances.
7. A brief description of any unauthorized discharges which occurred during the past 36-months and subsequent measures taken by Permittee to prevent or to reduce the possibility of further unauthorized discharges.

8. An implementation schedule including additional operator training and procurement and installation of equipment or facilities required to properly implement the plan.

S10. Toxic organic management plan

In lieu of the monitoring and reporting requirements for TTO compounds, as outlined in S1, the Permittee is authorized to elect to prepare a Toxic Organics Management Plan (TOMP), and submit the plan to the Department of Ecology, and comply with the provisions of that Plan. In addition, should the Permittee elect to employ this monitoring/ reporting exemption, the Permittee must submit a TTO Certification Statement with each Discharge Monitoring Report where TTO reporting is required. The TTO Certification Statement text must be the following:

"TTO Certification Statement

Based on my inquiry of the person or persons directly responsible for managing compliance with the permit limitation for total toxic organics (TTO), I certify, that to the best of my knowledge and belief, no dumping of concentrated organics into wastewaters has occurred since the filing of the last discharge monitoring report. I further certify that this facility is implementing the Toxic Organic Management Plan submitted to the Washington State Department of Ecology"

*Responsible Official*_____*Date* _____

If the Permittee elects to develop and maintain a toxic organic management plan, the plan must include a description of the procedures used by the Permittee to minimize the discharge or toxic organic compounds (TTOs) to the sanitary sewer. The term "TTO" includes those organic compounds listed in 40 CFR Part 433.11(e) and listed in S1. The Permittee must review the toxic organic management plan at least annually and modify the plan, as necessary, to meet the provisions of this permit with respect to discharge of toxic organic compounds to the POTW and to groundwater.

S11. Salinity Reduction

The Permittee must minimize the use of marine (salt) water for sources that discharge to the Bremerton sewer to the maximum extent practicable. Additionally, the Permittee must reduce introduction of marine water and high saline groundwater to the sanitary sewer system. This permit does not authorize discharge of groundwater to the sanitary sewer system, except in locations/operations noted in the permit, and typical infiltration and inflow of uncontaminated groundwater expected from any sewer system.

S11.A. Salinity study report

The Permittee is required to conduct a salinity study and submit results to Ecology by **November 1, 2021**. The report must include a description of sampling activities and rationale, a summary of analytical results, a description of high salinity sources as identified in sampling activities, potential remedies for reducing high salinity sources, and an analysis of the feasibility of implementing those measures. The study must assess salinity sources base-wide, including the PWCS in the graving docks, discharges to OWTS, and high salinity groundwater infiltration into the collection system.

S11.B. Conductivity source identification and reporting requirement

Beginning on the effective date of this modification, the Permittee must investigate and identify sources of high conductivity wastewater that lead to a daily average conductivity reading equal to or greater than,

- At SP105 (LS WB-3),
  - When 0 carriers are present: 11 mS/cm (6.2 ppt)
  - When 1+ carriers are present: 18.3 mS/cm (10.8 ppt)
- At SP106 (LS 9): 14.9 mS/cm (8.7 ppt)

The Permittee must include a report of source identification as an attachment to monthly DMRs.

The Permittee is authorized to use continuous conductivity data obtained at LS 1, in lieu of WB-3 for this evaluation. The Permittee must at a minimum consider all sources already identified in the Salinity Study submitted in accordance with S11.A and provide an identification strategy.

S11.C. Internal conductivity monitoring network design report

The Permittee must submit a design report for an internal conductivity monitoring network by August 31, 2025. The report must include,

- Proposed locations for continuous conductivity monitoring equipment. At a minimum, the Permittee must evaluate the monitoring locations used in the

Salinity Study Report process and provide explanation for why proposed locations were selected.

- Identify data collection frequencies (real-time, weekly, monthly) for each proposed monitoring location. Real-time data transfer should be prioritized in sewer areas that see larger fluctuations in conductivity due to operations and/or groundwater infiltration.

- Description of alarm system at LS 1 to notify staff of high conductivity spikes at the lift station which may have an immediate impact on the City's WWTP.

- An estimated timeline for obtaining funding, installation, and testing of the internal monitoring network.

If a full design report is not completed by the due date, the Permittee must submit as much information as is available as well as the timeline to complete the full design.

S11.D. Best management practices for reducing salinity inputs

The Permittee must,

- Train all necessary staff and contractors on importance of controlling salinity discharges to the sanitary sewer. Jobs with an increased potential or risk of high saline discharges should be prioritized.

- Where applicable, revise process instructions and contracts to require minimization of usage of marine water or use freshwater when feasible.

S11.E. Annual salinity report

Starting on **November 1, 2021** and annually thereafter, PSNS&IMF must submit a report including,

- All uses of saline water for sources that discharge to the sanitary sewer and any processes or infrastructure that infiltrates or otherwise discharges high saline waters to the sanitary sewer system.
- A description of efforts or projects completed during the past 12 months to reduce use of marine water for sources that discharge to and introduction of high saline water to the sewer system, including the estimated quantity of marine water use reduction attained and which final lift station these flows contribute to (SP105 or 106).

- Information on how the Permittee implemented the BMPs outlined in S11.D, as necessary.
- An evaluation and summary of reportable events, as outlined in S11.B, including proposed reduction actions.
- An analysis of conductivity measurements at LS 1 compared to WB-3.

S12. Report on discharges from cooling towers

Beginning on the effective date of this permit, the Permittee must identify all cooling towers with discharges greater than 5,000 gallons per day maximum (including any annual drainings for maintenance), and sample the discharges from those cooling towers for total copper and total zinc once during the life of this permit. The Permittee may employ grab sampling or time proportional sampling techniques at the time of draining. By **August 31, 2025**, the Permittee must submit a report summarizing the results of the sampling of the cooling tower along with its permit renewal application. The purpose of this requirement is to determine whether the discharges from the cooling towers are significant sources of copper and zinc.

S13. Annual report describing characteristics of installation restoration site discharges

The Permittee is required to monitor wastewater/groundwater discharged from those installation restoration sites, which due to previous sampling or knowledge of previous uses, have a reasonable potential to contain contaminants in excess of the following limits:

Pollutant Parameter	Limit	Sampling Frequency [1]	Sample Type
Flow, gpd	NA	Each Batch	Estimated
TTO (volatile fraction only), mg/L	2.13	Each 100,000 gallons [2]	Grab
TPH, mg/L	50	Each 100,000 gallons [2]	Grab
Chromium, T, mg/L	5.0	Each 100,000 gallons [2]	Grab
Lead, T, mg/L	0.79	Each 100,000 gallons [2]	Grab
Nickel, T, mg/L	0.98	Each 100,000 gallons [2]	Grab

[1] Sampling is not required if the rate of flow is less than 1000 gpd or if the total flow from a project is less than 100,000 gallons.

[2] The Permittee must collect a sample for each 100,000 gallons of flow for each site, which has been determined to have a reasonable potential to exceed the limit for and of the following: total toxic organics volatile fraction (TTO), total petroleum hydrocarbons, total chromium, total lead and total nickel.

No later than **March 15th of each year**, the Permittee must submit an annual report to Ecology containing the sampling results of installation restoration-related wastewater which was discharged to the sanitary sewer during the previous calendar year, based on the monitoring required in the table above. In addition, the Permittee must send a copy of the annual reports to the City of Bremerton Department of Public Works on March 15th of each year.

S14. Discharge of radioactive materials

The Permittee must not discharge radioactive material to the POTW or ground waters of the state in excess of quantities or concentrations set forth in WAC 246-221-190. No provisions in this permit shall be interpreted to be applicable to those aspects of governmental regulation of radioactive waters which have been preempted from state regulation by the Atomic Energy Act of 1954, as interpreted by the United States Supreme Court in the cases of *Northern States Power /co. v. Minnesota 405 US 1035 (1972)* and *Train v. Colorado Public Interest Research Group, 426 US 1 (1976)*. The Permittee must immediately inform the City of Bremerton and Ecology upon becoming aware of a violation of this requirement.

S15. Maintenance of fuel oil/gasoline spill detection and warning system

The Permittee must operate and maintain equipment suitable for the real time detection of fuel oil and gasoline spills at lift station number 9 and lift station number WB-3. The fuel oil/gasoline spill detectors must be equipped with warning systems which will alert spill response personnel immediately upon detection of a fuel oil or gasoline spill. The Permittee may maintain the equipment at other specific locations, provided that the locations upstream or downstream of the listed locations monitor substantially the same wastewater streams as the above-named lift station locations, and provided that the Permittee obtains written authorization from Ecology for use of any alternative locations.

S16. Application for permit renewal or modification for facility changes

The Permittee must submit an application for renewal of this permit by **August 31, 2025**.

The Permittee must also submit a new application or addendum at least sixty (60) days prior to commencement of discharges, resulting from the activities listed below, which may result in permit violations. These activities include any

facility expansions, production increases, or other planned changes, such as process modifications, in the permitted facility.

General Conditions

G1. Signatory requirements

All applications, reports, or information submitted to Ecology must be signed as follows:

1. All permit applications must be signed by either a principal executive officer or ranking elected official.
2. All reports required by this permit and other information requested by Ecology must be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
   a. The authorization is made in writing by the person described above and is submitted to Ecology at the time of authorization, and
   b. The authorization specifies either a named individual or any individual occupying a named position.
3. Changes to authorization. If an authorization under paragraph G1.2, above, is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization must be submitted to Ecology prior to or together with any reports, information, or applications to be signed by an authorized representative.
4. Certification. Any person signing a document under this section must make the following certification:

   "I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

G2. Right of entry

Representatives of Ecology have the right to enter at all reasonable times in or upon any property, public or private, for the purpose of inspecting and investigating conditions relating to the pollution or the possible pollution of any waters of the state. Reasonable times include normal business hours; hours during which production, treatment, or discharge occurs; or times when Ecology

suspects a violation requiring immediate inspection. Representatives of Ecology must be allowed to have access to, and copy at reasonable cost, any records required to be kept under terms and conditions of the permit; to inspect any monitoring equipment or method required in the permit; and to sample the discharge, waste treatment processes, or internal waste streams.

G3. Permit actions

This permit is subject to modification, suspension, or termination, in whole or in part by Ecology for any of the following causes:

1. Violation of any permit term or condition;
2. Obtaining a permit by misrepresentation or failure to disclose all relevant facts;
3. A material change in quantity or type of waste disposal;
4. A material change in the condition of the waters of the state; or
5. Nonpayment of fees assessed pursuant to RCW 90.48.465.

Ecology may also modify this permit, including the schedule of compliance or other conditions, if it determines good and valid cause exists, including promulgation or revisions of regulations or new information.

G4. Reporting a cause for modification

The Permittee must submit a new application, or a supplement to the previous application, along with required engineering plans and reports, whenever a new or increased discharge or change in the nature of the discharge is anticipated which is not specifically authorized by this permit. This application must be submitted at least sixty (60) days prior to any proposed changes. Submission of this application does not relieve the Permittee of the duty to comply with the existing permit until it is modified or reissued.

G5. Plan review required

Prior to constructing or modifying any wastewater control facilities, an engineering report and detailed plans and specifications must be submitted to Ecology for approval in accordance with Chapter 173-240 WAC. Engineering reports, plans, and specifications should be submitted at least 180 days prior to the planned start of construction. Facilities must be constructed and operated in accordance with the approved plans.

G6. Compliance with other laws and statutes

Nothing in the permit excuses the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

G7. Transfer of this permit

This permit is automatically transferred to a new owner or operator if:

1. A written agreement between the old and new owner or operator containing a specific date for transfer of permit responsibility, coverage, and liability is submitted to Ecology;
2. A copy of the permit is provided to the new owner; and
3. Ecology does not notify the Permittee of the need to modify the permit.

Unless this permit is automatically transferred according to Section 1, above, this permit may be transferred only if it is modified to identify the new Permittee and to incorporate such other requirements as determined necessary by Ecology.

G8. Reduced production for compliance

The Permittee must control production or discharge to the extent necessary to maintain compliance with the terms and conditions of this permit upon reduction of efficiency, loss, or failure of its treatment facility until the treatment capacity is restored or an alternative method of treatment is provided. This requirement applies in the situation where, among other things, the primary source of power for the treatment facility is reduced, lost, or fails.

G9. Removed substances

Collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters must not be resuspended or reintroduced to the effluent stream for discharge.

G10. Payment of fees

The Permittee must submit payment of fees associated with this permit as assessed by Ecology. Ecology may revoke this permit if the permit fees established under Chapter 173-224 WAC are not paid.

G11. Penalties for violating permit conditions

Any person who is found guilty of willfully violating the terms and conditions of this permit is guilty of a crime, and upon conviction thereof shall be punished by a fine of up to ten thousand dollars and costs of prosecution, or by

imprisonment in the discretion of the court. Each day upon which a willful violation occurs is a separate and additional violation.

Any person who violates the terms and conditions of a waste discharge permit incurs, in addition to any other penalty as provided by law, a civil penalty in the amount of up to ten thousand dollars for every such violation. Each and every such violation is a separate and distinct offense, and in case of a continuing violation, every day's continuance is a separate and distinct violation.

The validity of this condition (G11) may be limited for some federal facilities to the extent that such facilities are able to demonstrate that their liability for payment of penalties, and other sanctions, is subject to limitations under the doctrine of *sovereign immunity*. This proviso is not intended as an endorsement or rejection, by Ecology, of the Permittee's assertion of immunity from penalties and sanctions, under the doctrine of *sovereign immunity.*

G12. Duty to provide information

Subject to applicable restrictions imposed by national security laws and regulations, the Permittee must submit to Ecology, within a reasonable time, all information which Ecology may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee must also submit to Ecology upon request, copies of records required to be kept by this permit.

G13. Duty to comply

The Permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of chapter 90.48 RCW and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

Appendix A - List of Pollutants

With Analytical Methods, Detection Limits And Quantitation Levels

The Permittee must use the specified analytical methods, detection limits (DLs) and quantitation levels (QLs) in the following table for permit and application required monitoring unless:

- Another permit condition specifies other methods, detection levels, or quantitation levels.
- The method used produces measurable results in the sample and EPA has listed it as an EPA-approved method in 40 CFR Part 136.

If the Permittee uses an alternative method, not specified in the permit and as allowed above, it must report the test method, DL, and QL on the discharge monitoring report or in the required report.

If the Permittee is unable to obtain the required DL and QL in its effluent due to matrix effects, the Permittee must submit a matrix-specific detection limit (MDL) and a quantitation limit (QL) to Ecology with appropriate laboratory documentation.

When the permit requires the Permittee to measure the base neutral compounds in the list of priority pollutants, it must measure all of the base neutral pollutants listed in the table below. The list includes EPA required base neutral priority pollutants and several additional polynuclear aromatic hydrocarbons (PAHs). The Water Quality Program added several PAHs to the list of base neutrals below from Ecology's Persistent Bioaccumulative Toxics (PBT) List. It only added those PBT parameters of interest to Appendix A that did not increase the overall cost of analysis unreasonably.

Ecology added this appendix to the permit in order to reduce the number of analytical "non-detects" in permit-required monitoring and to measure effluent concentrations near or below criteria values where possible at a reasonable cost.

The lists below include conventional pollutants (as defined in CWA section 502(6) and 40 CFR Part 122.), toxic or priority pollutants as defined in CWA section 307(a)(1) and listed in 40 CFR Part 122 Appendix D, 40 CFR Part 401.15 and 40 CFR Part 423 Appendix A), and nonconventionals. 40 CFR Part 122 Appendix D (Table V) also identifies toxic pollutants and hazardous substances which are required to be reported by dischargers if expected to be present. This permit Appendix A list does not include those parameters.

CONVENTIONAL POLLUTANTS

Pollutant	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
Biochemical Oxygen Demand		SM5210-B		2 mg/L
Biochemical Oxygen Demand, Soluble		SM5210-B [3]		2 mg/L
Fecal Coliform		SM 9221E,9222	N/A	Specified in method - sample aliquot dependent
Oil and Grease (HEM) (Hexane Extractable Material)		1664 A or B	1,400	5,000
pH		SM4500-H^+ B	N/A	N/A
Total Suspended Solids		SM2540-D		5 mg/L
Conductivity*		SM2510	NA	NA

**** The precision of commercial conductivity meters is commonly between 0.1 and 1.0%. Reproducibility of 1 to 2% is expected after an instrument has been calibrated with such data as is shown in Table 2510:I.***

NONCONVENTIONAL POLLUTANTS

Pollutant & CAS No. (if available)	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] µg/L unless specified	Quantitation Level (QL)[2] µg/L unless specified
Alkalinity, Total		SM2320-B		5 mg/L as CaCO3
Aluminum, Total	7429-90-5	200.8	2.0	10
Ammonia, Total (as N)		SM4500-NH3-B and C/D/E/G/H		20
Barium Total	7440-39-3	200.8	0.5	2.0
BTEX (benzene +toluene + ethylbenzene + m,o,p xylenes)		EPA SW 846 8021/8260	1	2
Boron, Total	7440-42-8	200.8	2.0	10.0
Chemical Oxygen Demand		SM5220-D		10 mg/L
Chloride		SM4500-Cl B/C/D/E and SM4110 B		Sample and limit dependent
Chlorine, Total Residual		SM4500 Cl G		50.0
Cobalt, Total	7440-48-4	200.8	0.05	0.25
Color		SM2120 B/C/E		10 color units
Dissolved oxygen		SM4500-OC/OG		0.2 mg/L
Flow		Calibrated device		
Fluoride	16984-48-8	SM4500-F E	25	100
Hardness, Total		SM2340B		200 as CaCO3
Iron, Total	7439-89-6	200.7	12.5	50
Magnesium, Total	7439-95-4	200.7	10	50
Manganese, Total	7439-96-5	200.8	0.1	0.5
Molybdenum, Total	7439-98-7	200.8	0.1	0.5
Nitrate + Nitrite Nitrogen (as N)		SM4500-NO3- E/F/H		100
Nitrogen, Total Kjeldahl (as N)		SM4500-N_{org}B/C and SM4500NH_3-B/C/D/EF/G/H		300
NWTPH Dx [4]		Ecology NWTPH Dx	250	250
NWTPH Gx [5]		Ecology NWTPH Gx	250	250
Phosphorus, Total (as P)		SM 4500 PB followed by SM4500-PE/PF	3	10
Salinity		SM2520-B		3 practical salinity units or scale (PSU or PSS)
Settleable Solids		SM2540 -F		Sample and limit dependent
Soluble Reactive Phosphorus (as P)		SM4500-P E/F/G	3	10
Sulfate (as mg/L SO_4)		SM4110-B		0.2 mg/L
Sulfide (as mg/L S)		SM4500-S^2F/D/E/G		0.2 mg/L
Sulfite (as mg/L SO_3)		SM4500-SO3B		2 mg/L

NONCONVENTIONAL POLLUTANTS

Pollutant & CAS No. (if available)	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] µg/L unless specified	Quantitation Level (QL)[2] µg/L unless specified
Temperature (max. 7-day avg.)		Analog recorder or use micro-recording devices known as thermistors		0.2° C
Tin, Total	7440-31-5	200.8	0.3	1.5
Titanium, Total	7440-32-6	200.8	0.5	2.5
Total Coliform		SM 9221B, 9222B, 9223B	N/A	Specified in method - sample aliquot dependent
Total Organic Carbon		SM5310-B/C/D		1 mg/L
Total dissolved solids		SM2540 C		20 mg/L

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
METALS, CYANIDE & TOTAL PHENOLS					
Antimony, Total	114	7440-36-0	200.8	0.3	1.0
Arsenic, Total	115	7440-38-2	200.8	0.1	0.5
Beryllium, Total	117	7440-41-7	200.8	0.1	0.5
Cadmium, Total	118	7440-43-9	200.8	0.05	0.25
Chromium (hex) dissolved	119	18540-29-9	SM3500-Cr C	0.3	1.2
Chromium, Total	119	7440-47-3	200.8	0.2	1.0
Copper, Total	120	7440-50-8	200.8	0.4	2.0
Lead, Total	122	7439-92-1	200.8	0.1	0.5
Mercury, Total	123	7439-97-6	1631E	0.0002	0.0005
Nickel, Total	124	7440-02-0	200.8	0.1	0.5
Selenium, Total	125	7782-49-2	200.8	1.0	1.0
Silver, Total	126	7440-22-4	200.8	0.04	0.2
Thallium, Total	127	7440-28-0	200.8	0.09	0.36
Zinc, Total	128	7440-66-6	200.8	0.5	2.5
Cyanide, Total	121	57-12-5	335.4	5	10
Cyanide, Weak Acid Dissociable	121		SM4500-CN I	5	10
Cyanide, Free Amenable to Chlorination (Available Cyanide)	121		SM4500-CN G	5	10
Phenols, Total	65		EPA 420.1		50

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
ACID COMPOUNDS					
2-Chlorophenol	24	95-57-8	625.1	3.3	9.9
2,4-Dichlorophenol	31	120-83-2	625.1	2.7	8.1
2,4-Dimethylphenol	34	105-67-9	625.1	2.7	8.1
4,6-dinitro-o-cresol | (2-methyl-4,6,-dinitrophenol)	60	534-52-1	625.1/1625B	24	72
2,4 dinitrophenol	59	51-28-5	625.1	42	126
2-Nitrophenol	57	88-75-5	625.1	3.6	10.8
4-Nitrophenol	58	100-02-7	625.1	2.4	7.2
Parachlorometa cresol (4-chloro-3-methylphenol)	22	59-50-7	625.1	3.0	9.0
Pentachlorophenol	64	87-86-5	625.1	3.6	10.8
Phenol	65	108-95-2	625.1	1.5	4.5
2,4,6-Trichlorophenol	21	88-06-2	625.1	2.7	8.1

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
VOLATILE COMPOUNDS					
Acrolein	2	107-02-8	624	5	10
Acrylonitrile	3	107-13-1	624	1.0	2.0
Benzene	4	71-43-2	624.1	4.4	13.2
Bromoform	47	75-25-2	624.1	4.7	14.1
Carbon tetrachloride	6	56-23-5	624.1/601 or SM6230B	2.8	8.4
Chlorobenzene	7	108-90-7	624.1	6.0	18.0
Chloroethane	16	75-00-3	624/601	1.0	2.0
2-Chloroethylvinyl Ether	19	110-75-8	624	1.0	2.0
Chloroform	23	67-66-3	624.1 or SM6210B	1.6	4.8
Dibromochloromethane (chlordibromomethane)	51	124-48-1	624.1	3.1	9.3
1,2-Dichlorobenzene	25	95-50-1	624	1.9	7.6
1,3-Dichlorobenzene	26	541-73-1	624	1.9	7.6
1,4-Dichlorobenzene	27	106-46-7	624	4.4	17.6
Dichlorobromomethane	48	75-27-4	624.1	2.2	6.6
1,1-Dichloroethane	13	75-34-3	624.1	4.7	14.1
1,2-Dichloroethane	10	107-06-2	624.1	2.8	8.4
1,1-Dichloroethylene	29	75-35-4	624.1	2.8	8.4
1,2-Dichloropropane	32	78-87-5	624.1	6.0	18.0
1,3-dichloropropene (mixed isomers) (1,2-dichloropropylene)[6]	33	542-75-6	624.1	5.0	15.0

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
VOLATILE COMPOUNDS					
Ethylbenzene	38	100-41-4	624.1	7.2	21.6
Methyl bromide (Bromomethane)	46	74-83-9	624/601	5.0	10.0
Methyl chloride (Chloromethane)	45	74-87-3	624	1.0	2.0
Methylene chloride	44	75-09-2	624.1	2.8	8.4
1,1,2,2-Tetrachloroethane	15	79-34-5	624.1	6.9	20.7
Tetrachloroethylene	85	127-18-4	624.1	4.1	12.3
Toluene	86	108-88-3	624.1	6.0	18.0
1,2-Trans-Dichloroethylene (Ethylene dichloride)	30	156-60-5	624.1	1.6	4.8
1,1,1-Trichloroethane	11	71-55-6	624.1	3.8	11.4
1,1,2-Trichloroethane	14	79-00-5	624.1	5.0	15.0
Trichloroethylene	87	79-01-6	624.1	1.9	5.7
Vinyl chloride	88	75-01-4	624/SM6200B	1.0	2.0

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
BASE/NEUTRAL COMPOUNDS (compounds in bold are Ecology PBTs)					
Acenaphthene	1	83-32-9	625.1	1.9	5.7
Acenaphthylene	77	208-96-8	625.1	3.5	10.5
Anthracene	78	120-12-7	625.1	1.9	5.7
Benzidine	5	92-87-5	625.1	44	132
Benzyl butyl phthalate	67	85-68-7	625.1	2.5	7.5
Benzo(*a*)anthracene	72	56-55-3	625.1	7.8	23.4
Benzo(b)fluoranthene (3,4-benzofluoranthene)[7]	74	205-99-2	610/625.1	4.8	14.4
Benzo(j)fluoranthene[7]		**205-82-3**	625	0.5	1.0
Benzo(k)fluoranthene (11,12-benzofluoranthene)[7]	75	207-08-9	610/625.1	2.5	7.5
Benzo(r,s,t)pentaphene		**189-55-9**	625	1.3	5.0
Benzo(*a*)pyrene	73	50-32-8	610/625.1	2.5	7.5
Benzo(*ghi*)Perylene	79	191-24-2	610/625.1	4.1	12.3
Bis(2-*chloroethoxy*)methane	43	111-91-1	625.1	5.3	15.9
Bis(2-*chloroethyl*)ether	18	111-44-4	611/625.1	5.7	17.1
Bis(2-*chloroisopropyl*)ether	42	39638-32-9	625	0.5	1.0
Bis(2-*ethylhexyl*)phthalate	66	117-81-7	625.1	2.5	7.5
4-Bromophenyl phenyl ether	41	101-55-3	625.1	1.9	5.7
2-Chloronaphthalene	20	91-58-7	625.1	1.9	5.7
4-Chlorophenyl phenyl ether	40	7005-72-3	625.1	4.2	12.6

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
BASE/NEUTRAL COMPOUNDS (compounds in bold are Ecology PBTs)					
Chrysene	76	218-01-9	610/625.1	2.5	7.5
Dibenzo (a,h)acridine		**226-36-8**	610M/625M	2.5	10.0
Dibenzo (a,j)acridine		**224-42-0**	610M/625M	2.5	10.0
Dibenzo(a-*h*)anthracene (1,2,5,6-dibenzanthracene)	82	53-70-3	625.1	2.5	7.5
Dibenzo(a,e)pyrene		192-65-4	610M/625M	2.5	10.0
Dibenzo(a,h)pyrene		189-64-0	625M	2.5	10.0
3,3-Dichlorobenzidine	28	91-94-1	605/625.1	16.5	49.5
Diethyl phthalate	70	84-66-2	625.1	1.9	5.7
Dimethyl phthalate	71	131-11-3	625.1	1.6	4.8
Di-n-butyl phthalate	68	84-74-2	625.1	2.5	7.5
2,4-dinitrotoluene	35	121-14-2	609/625.1	5.7	17.1
2,6-dinitrotoluene	36	606-20-2	609/625.1	1.9	5.7
Di-n-octyl phthalate	69	117-84-0	625.1	2.5	7.5
1,2-Diphenylhydrazine (*as Azobenzene*)	37	122-66-7	1625B	5.0	20
Fluoranthene	39	206-44-0	625.1	2.2	6.6
Fluorene	80	86-73-7	625.1	1.9	5.7
Hexachlorobenzene	9	118-74-1	612/625.1	1.9	5.7
Hexachlorobutadiene	52	87-68-3	625.1	0.9	2.7
Hexachlorocyclopentadiene	53	77-47-4	1625B/625	2.0	4.0
Hexachloroethane	12	67-72-1	625.1	1.6	4.8
Indeno(*1,2,3-cd*)Pyrene	83	193-39-5	610/625.1	3.7	11.1
Isophorone	54	78-59-1	625.1	2.2	6.6
3-Methyl cholanthrene		**56-49-5**	625	2.0	8.0
Naphthalene	55	91-20-3	625.1	1.6	4.8
Nitrobenzene	56	98-95-3	625.1	1.9	5.7
N-Nitrosodimethylamine	61	62-75-9	607/625	2.0	4.0
N-Nitrosodi-n-propylamine	63	621-64-7	607/625	0.5	1.0
N-Nitrosodiphenylamine	62	86-30-6	625	1.0	2.0
Perylene		**198-55-0**	625	1.9	7.6
Phenanthrene	81	85-01-8	625.1	5.4	16.2
Pyrene	84	129-00-0	625.1	1.9	5.7
1,2,4-Trichlorobenzene	8	120-82-1	625.1	1.9	5.7

PRIORITY POLLUTANT	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
DIOXIN					
2,3,7,8-Tetra-Chlorodibenzo-P-Dioxin (2,3,7,8 TCDD)	129	1746-01-6	1613B	1.3 pg/L	5 pg/L

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
PESTICIDES/PCBs					
Aldrin	89	309-00-2	608.3	4.0 ng/L	12 ng/L
alpha-BHC	102	319-84-6	608.3	3.0 ng/L	9.0 ng/L
beta-BHC	103	319-85-7	608.3	6.0 ng/L	18 ng/L
gamma-BHC (Lindane)	104	58-89-9	608.3	4.0 ng/L	12 ng/L
delta-BHC	105	319-86-8	608.3	9.0 ng/L	27 ng/L
Chlordane [8]	91	57-74-9	608.3	14 ng/L	42 ng/L
4,4'-DDT	92	50-29-3	608.3	12 ng/L	36 ng/L
4,4'-DDE	93	72-55-9	608.3	4.0 ng/L	12 ng/L
4,4' DDD	94	72-54-8	608.3	11ng/L	33 ng/L
Dieldrin	90	60-57-1	608.3	2.0 ng/L	6.0 ng/L
alpha-Endosulfan	95	959-98-8	608.3	14 ng/L	42 ng/L
beta-Endosulfan	96	33213-65-9	608.3	4.0 ng/L	12 ng/L
Endosulfan Sulfate	97	1031-07-8	608.3	66 ng/L	198 ng/L
Endrin	98	72-20-8	608.3	6.0 ng/L	18 ng/L
Endrin Aldehyde	99	7421-93-4	608.3	23 ng/L	70 ng/L
Heptachlor	100	76-44-8	608.3	3.0 ng/L	9.0 ng/L
Heptachlor Epoxide	101	1024-57-3	608.3	83 ng/L	249 ng/L
PCB-1242 [9]	106	53469-21-9	608.3	0.065	0.195
PCB-1254	107	11097-69-1	608.3	0.065	0.195
PCB-1221	108	11104-28-2	608.3	0.065	0.195
PCB-1232	109	11141-16-5	608.3	0.065	0.195
PCB-1248	110	12672-29-6	608.3	0.065	0.195
PCB-1260	111	11096-82-5	608.3	0.065	0.195
PCB-1016 [9]	112	12674-11-2	608.3	0.065	0.195
Toxaphene	113	8001-35-2	608.3	240 ng/L	720 ng/L

1. Detection level (DL) or detection limit means the minimum concentration of an analyte (substance) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero as determined by the procedure given in 40 CFR part 136, Appendix B.
2. Quantitation Level (QL) also known as Minimum Level of Quantitation (ML) - The lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that the lab has used all method-specified sample weights, volumes, and cleanup procedures. The QL is calculated by multiplying the MDL by 3.18 and rounding the

result to the number nearest to (1, 2, or 5) x 10^n, where n is an integer (64 FR 30417).
ALSO GIVEN AS:
The smallest detectable concentration of analyte greater than the Detection Limit (DL) where the accuracy (precision & bias) achieves the objectives of the intended purpose. (Report of the Federal Advisory Committee on Detection and Quantitation Approaches and Uses in Clean Water Act Programs Submitted to the US Environmental Protection Agency, December 2007).

3. Soluble Biochemical Oxygen Demand method note: First, filter the sample through a Millipore Nylon filter (or equivalent) - pore size of 0.45-0.50 um (prep all filters by filtering 250 ml of laboratory grade deionized water through the filter and discard). Then, analyze sample as per method 5210-B.
4. NWTPH Dx - Northwest Total Petroleum Hydrocarbons Diesel Extended Range – see https://fortress.wa.gov/ecy/publications/documents/97602.pdf
5. NWTPH Gx - Northwest Total Petroleum Hydrocarbons Gasoline Extended Range – see https://fortress.wa.gov/ecy/publications/documents/97602.pdf
6. 1, 3-dichloroproylene (mixed isomers) - You may report this parameter as two separate parameters: cis-1, 3-dichlorpropropene (10061-01-5) and trans-1, 3-dichloropropene (10061-02-6).
7. Total Benzofluoranthenes - Because Benzo(b)fluoranthene, Benzo(j)fluoranthene and Benzo(k)fluoranthene co-elute you may report these three isomers as total benzofluoranthenes.
8. Chlordane - You may report alpha-chlordane (5103-71-9) and gamma-chlordane (5103-74-2) in place of chlordane (57-74-9). If you report alpha and gamma-chlordane, the DL/PQLs that apply are 14/42 ng/L.
9. PCB 1016 & PCB 1242 - You may report these two PCB compounds as one parameter called PCB 1016/1242.

Appendix B. - Additional industrial discharges authorized

In addition to the authorizations to discharge set forth in S1 of this permit, the Permittee is authorized to discharge wastewater from the following intermittent discharges resulting from routine operations.

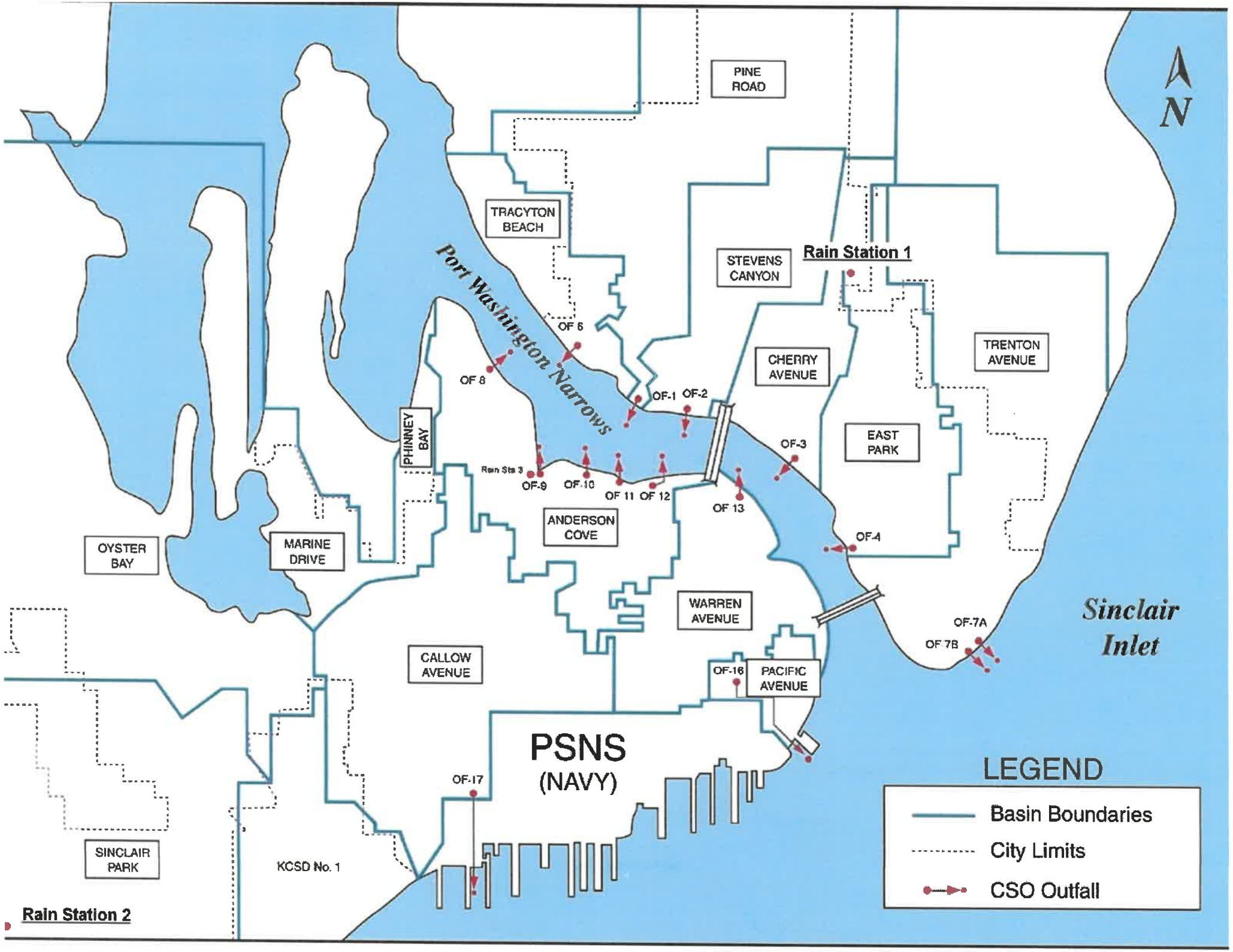
Table 2: Listing of Additional Discharges and Associated Flows as Authorized in this Permit for Puget Sound Naval Shipyard & Intermediate Maintenance Facility

Ecology Discharge Point No.	Navy Discharge Designation (NDD)	Description of Source of Wastewater	Flows Based on Permit Application, gpd
17	38-58-003	Oxygen System Cleaning With Non Ionic Detergent	200
18	38-58-004	Oxygen System Piping and Components Cleaning with Oxygen Cleaning Compound (OCC) Wastewater	810
19	38-58-006	Oxygen Clean Room Washers Wastewater	270
20	134-59-001	Metallurgical Sample Salt Water Bath Vapor Condensation	10
21	134-59-002	Dissolved Oxygen Ampoules Testing	10
22	134-59-004	Chemistry Laboratory Miscellaneous Sample Wastewater	110
23	134-59-005	IX (Ion Exchange) Resin Rinsewater	21
24	134-59-007	Hand Washing Water (Hand Washing of Labware and Apparatus)	120
25	64-78-001	Training Coverall Washing Wastewater	240
26	06-107-001	Respirator/Face Shield Washing	1,660
27	56-107-024	Tank Hydrotesting, Deionized Waster Trailer Flushing, Demineralizer Flushing	8,010
28	56-107-026	Pipe Test Stand Area Common Sump (combined sample point for 56-107-008, -020, -021, -022, -025, -027, -028, -029)	1,440
29	56-107-030	Natural Gas Infrared Heater Condensate	15
30	56-107-031	Hose Flushing and Pump Hydrotesting	20
31	67-290-001	Electronics Parts Washing Sinks	60
32	06-431-004	Gauge and Torch Leak Testing	90
33	06-431-008	Air Filter Cleaning Washwater	20
34	06-431-009	Plug Parts Washing	56
35	31-431-A28-001	Ultrasonic Parts Cleaning Tank	40
36	31-431-DOOR1-002	Water Jet Cutting Wastewater	5,000
37	31-431-Mez-003	Parts Hydrotesting Water	300
38	31-431-004	Pump/Valve Test Closed Loop	12,000
39	31-431-006	Valve Hydrotesting Water	200
40	31-431-007	Fresh Water Pump Testing	500
41	31-431-023	Boiler Blowdown and Off-Specification Boiler Feedwater	29,050
42	67-431-414B-004	Electronic Cabinet Washdown Water	200
43	67-431-Gauge Room 006	Gauge Cleaning Sink Water	20
44	67-431-Room 526-008	Gauge Cleaning Eductor Pump Water	5
45	67-431-009	Air Pariticulate Detector Components Washing Water	5
46	67-431-011	Flow Calibration Wastewater	15
47	67-431-012	Sonar Soak Tank	320
48	67-431-013	Sonar Hydrotest Vessels	1,160
49	67-431-014	ID-Mark Rinsewater	30

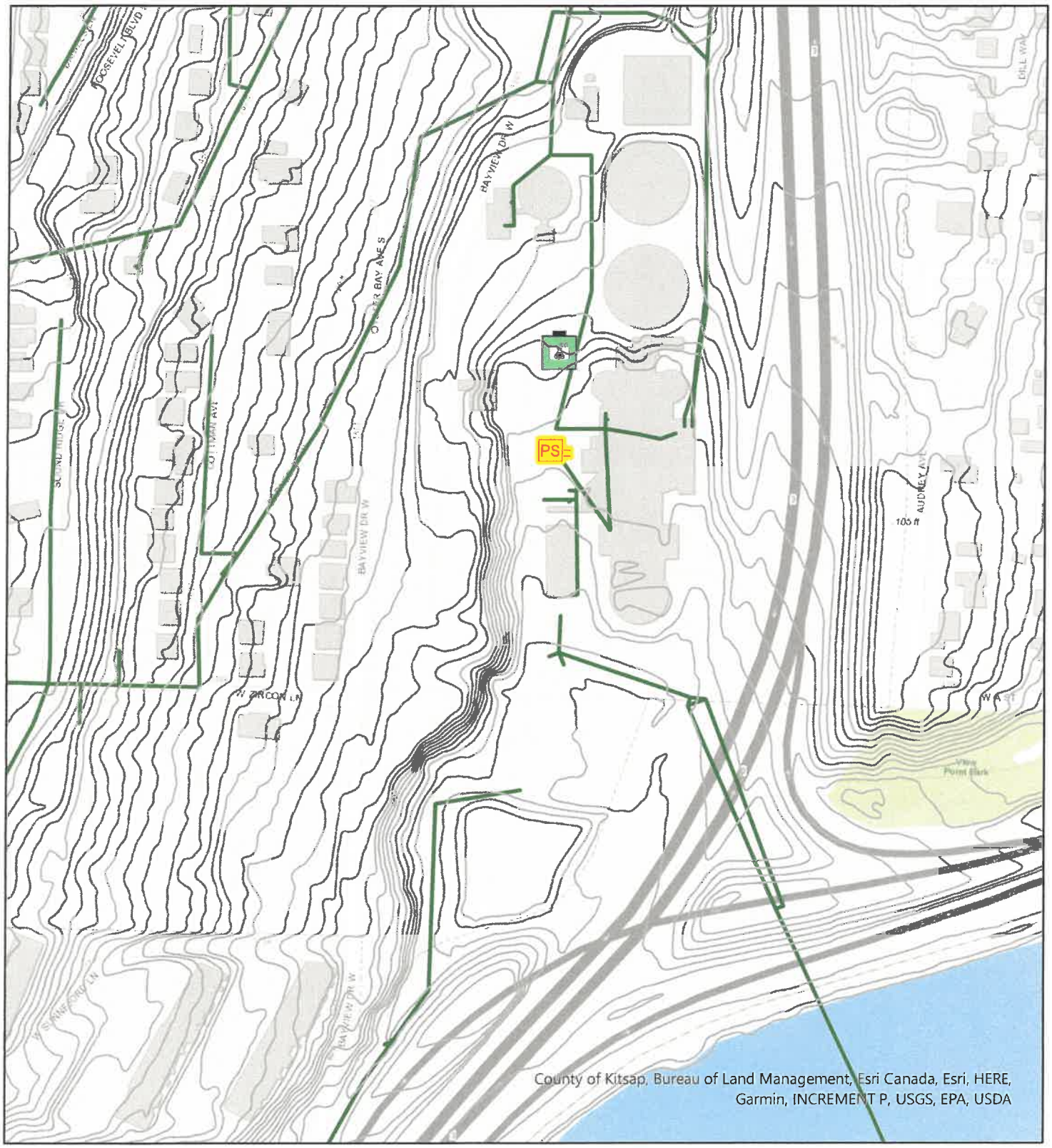
Table 2: Listing of Additional Discharges and Associated Flows as Authorized in this Permit for Puget Sound Naval Shipyard & Intermediate Maintenance Facility

Ecology Discharge Point No.	Navy Discharge Designation (NDD)	Description of Source of Wastewater	Flows Based on Permit Application, gpd
50	135-431-203-002	Non-Destructive Testing X-Ray Development Rinsewater	50
51	11-452-001	Forge Shop Heat Treating Quench Water	2,500
52	NBK-455-001	Mechanical Car Wash Facility	6,600
53	NBK-455-004	Hand Car Wash Facility	3,300
54	98-455-001	Crane Parts Steam Cleaning	4,100
55	71-457-005	Ball Valve Quench Water	850
56	26-460-002	Deionized Water Production Backwash	300
57	26-460-003	Welding School Quenching	30
58	99-462-001	Regulator/Hose Test Steam Condensate	10
59	99-462-002	Pipe Brazing Quench Sink	25
60	99-462-003	Plumbing Valve Sterilization Water	200
61	99-462-004	High Pressure Potable Water Hose Testing and Sterilization Trough	400
62	99-462-005	Fresh Water Hose Flushing Water	400
63	99-462-007	High Pressure Air Hose Flushing Water	25
64	99-462-009	Fitting and Pipe Hydrotesting	300
65	26-495-001	Gas Hose Leak Testing Tank Water	20
68	64-851-001	Water Jet Cutting	3,000
69	56-856-001	Pipe/Tubing/Pump Hydrotesting and Flushing	2
70	99-856-003	Ultrasonic Parts Cleaner	30
71	38-Pier 6-001	Heat Exchanger Hydrolance Training	2,700
76	17-857-010	Air Compressor Condensation	2
78	17-857-012	Laser Bonding	20
79	ROTO-17-857-002	Rotoclone for Aluminum Passivation Room	10,700
80	31-873-002	Bandsaw/Buffer Rotoclone Water	50
81	31-873-003	Reverse Osmosis	300
82	99-874-001	Paper Shredder Wetdown	200
83	99-875-001	Salt Water/ Fresh Water/ Sewage Hose Cleaning and Sterilization Water	10,000
84	99-875-002	High Pressure Testing of Salt Water/Fresh Water/Sewage Hose	5,000
85	134-900-003	pH Analysis Wastewater	1
86	NBK-900-004	Off-Specification Steam Condensate from Building 900	214,000
88	NBK-971-001	Emergency Generator Oil/Water Separator Wastewater	5
89	760-980-002	Scuba Gear Maintenance Cleaning Wastewater	10
90	NBK-1107-001	Stormwater from Parking Garage at Building 1107, Oil/Water Separator	58,900
91	NBK-1140-001	Stormwater from Parking Garage at Building 1140	12,700
92	99-PW2-001	Drydock 2 Pump Station	3,600
93	99-PW4-001	Drydock 4 Pump Station	9,000
94	99-PW5-001	Drydock 5 Pump Station	7,200
95	99-PW6-001	Drydock 6 Pump Station	25,000
96	CD-IR-001	Construction Dewatering at Installation Restoration Sites	25,000
97	MWR-Carwash 001	Commercial Carwash Facility	1,500

Table 2: Listing of Additional Discharges and Associated Flows as Authorized in this Permit for Puget Sound Naval Shipyard & Intermediate Maintenance Facility			
Ecology Discharge Point No.	**Navy Discharge Designation (NDD)**	**Description of Source of Wastewater**	**Flows Based on Permit Application, gpd**
98	SHPBD-001	Shipboard Domestic Wastewater	N/A
99	Tower-001	Cooling Tower Blowdowns	N/A
100	NCCW-001	Minor Sources of Non-Contact Cooling Water	N/A
101	DDGIrySmp-001	Drydock Utility Service Gallery Sumps	N/A
102	NonIREx-001	Utility Vaults and Excavation Groundwater Outside IR Sites	N/A
103	NPHydrTst-001	New Piping Hydrotesting and Disinfection Water	N/A
104	WISP-001	Miscellaneous Discharges under to Waste Information Sheet Process	N/A


N
PINE ROAD
TRACYTON BEACH
Port Washington Narrows
Rain Station 1
STEVENS CANYON
TRENTON AVENUE
CHERRY AVENUE
EAST PARK
PHINNEY BAY
OF 6
OF 8
OF-1
OF-2
OF-3
Rain Sta 3
OF-9
OF-10
OF 11
OF 12
OF 13
OF-4
ANDERSON COVE
OYSTER BAY
MARINE DRIVE
WARREN AVENUE
OF-7A
OF 7B
Sinclair Inlet
CALLOW AVENUE
OF-16
PACIFIC AVENUE
PSNS
(NAVY)
OF-17
SINCLAIR PARK
KCSD No. 1
Rain Station 2
LEGEND
Basin Boundaries
City Limits
CSO Outfall

TOPOGRAPHIC MAP WESTSIDE BREMERTON TREATMENT PLANT



N
W E
S

0.03 0.01 0 0.03 0.05 0.08 0.1

Miles

Legend

- Countour
- SewerPumpStations
- Sewer Treatment Plant
- Sewer Mains

TOPOGRAPHIC MAP EASTSIDE BREMERTON TREATMENT PLANT

N
W E
S

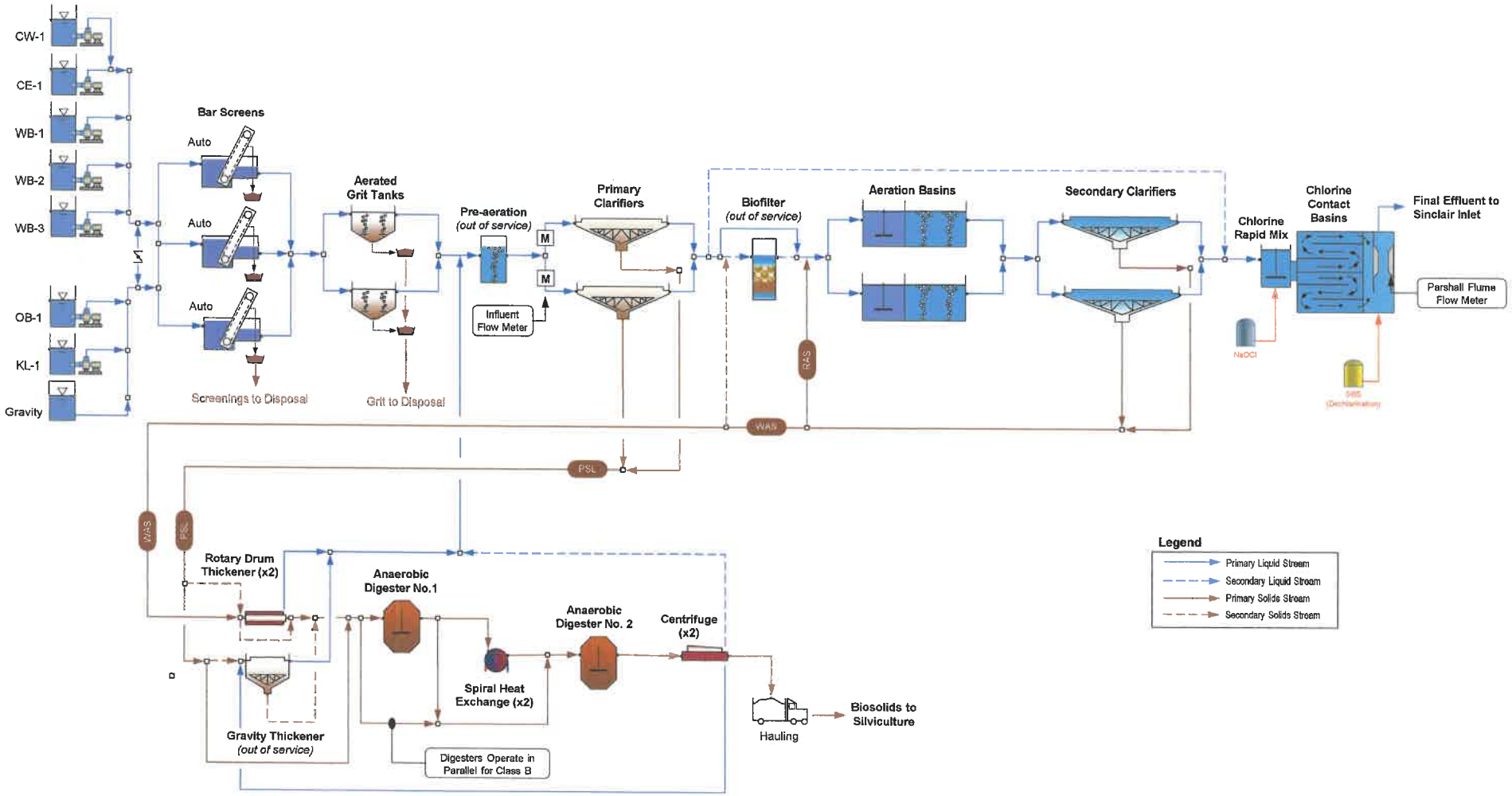
0.03 0.01 0 0.03 0.05 0.08 0.1

Miles

Legend

- Countour
- SewerPumpStations
- Sewer Treatment Plant
- Sewer Mains

City of Bremerton WWTP Process Schematic



WESTSIDE TREATMENT PLANT
ACUTE TOXICITY REPORTS

ENTHALPY ANALYTICAL

TOXICITY LABORATORY & CONSULTING

Acute Toxicity Testing Results for City of Bremerton WWTP

Monitoring Period: January 2021

Prepared For: Jackie Horton
City of Bremerton
1600 Oyster Bay Ave. S
Bremerton, Washington 98312

Prepared By: Enthalpy Analytical

Date Submitted: January 29, 2021

Data Quality Assurance:

- Enthalpy Analytical is accredited in accordance with NELAP by the State of Oregon Environmental Laboratory Accreditation Program (Lab ID 4053). It is also certified by the State of California Water Resources Control Board Environmental Laboratory Accreditation Program (Certificate No. 1802) and the State of Washington Department of Ecology (Lab ID C552).
- All data have been reviewed and verified.
- All test results have met minimum test acceptability criteria under their respective EPA protocols, unless otherwise noted in this report.
- All test results have met internal Quality Assurance Program requirements.

Results Verified by: _____
Barbara Orelo, Project Manager

4340 Vandever Avenue
San Diego, California 92120
858.587.7333
fax: 858.587.3961

Introduction

An acute toxicity test using the fathead minnow, *Pimephales promelas*, was conducted on an effluent sample collected from the City of Bremerton's Wastewater Treatment Plant in January 2021. Testing was performed at Enthalpy Analytical located in San Diego, California, between January 20 and 24, 2021.

Materials and Methods

Sample Collection, Transport, and Receipt

The effluent sample was collected in a low-density polyethylene cubitainer by City of Bremerton personnel. The sample was packed in a cooler containing ice and shipped to the laboratory by overnight delivery service. Appropriate chain-of-custody (COC) procedures were employed during collection and transport. Upon arrival at Enthalpy, the cooler was opened, the sample inspected, and contents verified against information on the COC form. Receipt temperature was measured and recorded on the COC form. Standard water quality parameters were measured and recorded on a sample check-in sheet and are summarized in Table 1. The sample was stored in the dark at 4°C until used for testing.

Table 1. Sample Information

Sample ID	Plant Effluent
Lab Log-In No.	21-0080
Collection Date and Time	01/19/2021; 0730h
Receipt Date and Time	01/20/2021; 0925h
Receipt Temperature (°C)	2.0
Dissolved Oxygen (mg/L)	12.1
pH (units)	7.31
Conductivity (µS/cm)	2,740
Salinity (ppt)	1.4
Alkalinity (mg/L $CaCO_3$)	130
Hardness (mg/L $CaCO_3$)	322
Total Chlorine (mg/L)	<0.02
Total Ammonia (mg/L as N)	14.1

Test Methods

The acute toxicity test was conducted using fathead minnows according to procedures presented by USEPA (2002) and WDOE (2016) as summarized in Table 2.

Table 2. Summary of Methods for the 96h Fathead Minnow Acute Toxicity Test

Test Initiation Date and Time	01/20/2021; 1530h
Test Termination Date and Time	01/24/2021; 1340h
Test Organism	*Pimephales promelas* (fathead minnow)
Test Organism Source; Age	Aquatic BioSystems, Fort Collins, CO; 7 days
Test Duration	96 ± 2 hours
Feeding	*Artemia* nauplii during holding time and 2 hours prior to test solution renewal
Test Chamber	500 mL plastic cup
Test Solution Volume	250 mL
Test Temperature	20 ± 1°C
Dilution/Control Water	Moderately Hard Synthetic Water
Test Concentrations (% sample)	100, 50, 25, 12.5, 2.7 and 0 (laboratory control)
Number of Organisms/Chamber	10
Number of Replicates/Concentration	4
Photoperiod	16 hours light/8 hours dark
Test Protocol	EPA-821-R-02-012 and WQ-R-95-80
Additional Sample Treatments	Test chambers placed under 5% CO_2 atmosphere to control pH drift for unionized ammonia suppression
Test Acceptability Criterion for Controls	≥ 90% mean survival
Statistical Analysis Software	CETIS™ v1.8.7.20
Reference Toxicant	Copper chloride

Results

No statistically significant effects were detected in any of the effluent concentrations tested. Mean survival in the undiluted effluent was 95 percent. Results are summarized in Table 3. A statistical summary and copy of the laboratory bench sheet for the acute test can be found in Appendix A.

Table 3. Summary of Results for the Fathead Minnow Acute Toxicity Test

Concentration (% effluent)	Mean Survival (%)	NOEC (% effluent)	LOEC (% effluent)	LC_{50} (% effluent)
0.0 (Lab Control)	100	100	>100	>100
2.7	100			
12.5	90.0			
25	97.5			
50	100			
100	95.0			

NOEC = No Observed Effect Concentration

LOEC = Lowest Observed Effect Concentration

LC_{50} = Effluent concentration estimated to produce mortality in 50 percent of the test organisms

Quality Assurance

The sample was received within the appropriate temperature range specified by WDOE (2016), and the test was initiated within the required 36-hour sample holding time. The toxicity test met the acceptability criterion for survival of control organisms.

The Acute Critical Effluent Concentration (ACEC) for the month of January is 5.0 percent effluent. Due to a laboratory error, 2.7 percent effluent was tested instead of 5.0 percent. 2.7 percent is the ACEC for the months of May through September. However, there were no significant effects detected in much higher concentrations than 5.0 percent. Therefore, it is unlikely that an effect would have been detected at the 5.0 percent effluent concentration.

Statistical analysis followed standard USEPA flowchart selections and the dose-response relationship was reviewed to ensure the validity of the data. Based on the dose response observed during testing, the calculated effect concentration is deemed reliable. The sample check-in sheet and COC form are provided in Appendices B and C, respectively. A list of qualifier codes is provided in Appendix D.

Results for monthly reference toxicant testing used to monitor laboratory performance and test organism sensitivity are summarized in Table 4. The median effect value for the reference toxicant test fell within the acceptable range of the mean of historical test results plus or minus two standard deviations, indicating that the test organisms were as sensitive to copper as those historically tested. The coefficient of variation (CV) for the test is also provided in the table.

Table 4. Reference Toxicant Test Results

Species	Endpoint	Date initiated	LC_{50} (µg/L copper)	Acceptable Range (µg/L copper)	CV (%)
Fathead Minnow	96h survival	01/12/2021	93.5	19.5 – 146	38.2

LC_{50} = Effluent concentration estimated to produce mortality in 50 percent of the test organisms
CV = Coefficient of Variation

References

Tidepool Scientific Software. 2000-2013. CETIS Comprehensive Environmental Toxicity Information System Software, Version 1.8.7.20.

USEPA. 2002. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition. EPA-821-R-02-012.

WDOE. 2016. Whole Effluent Toxicity Testing Guidance and Test Review Criteria. Washington State Department of Ecology. Water Quality Program. Publication number: WQ-R-95-80, Revised June 2016.

Appendix A

Statistical Summary and Raw Bench Sheet

CETIS Summary Report

Fathead Minnow 96-h Acute Survival Test — **Nautilus Environmental (CA)**

Batch ID:	13-0041-6527	**Test Type:**	Survival (96h)	**Analyst:**	
Start Date:	20 Jan-21 15:30	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Mod-Hard Synthetic Water
Ending Date:	24 Jan-21 13:40	**Species:**	Pimephales promelas	**Brine:**	Not Applicable
Duration:	94h	**Source:**	Aquatic Biosystems, CO	**Age:**	7d

Sample ID:	02-8525-7676	**Code:**	21-0080	**Client:**	Bremerton, City of
Sample Date:	19 Jan-21 07:30	**Material:**	POTW Effluent	**Project:**	
Receive Date:	20 Jan-21 09:25	**Source:**	Bremerton WWTP (WA0029289)		
Sample Age:	32h (2 °C)	**Station:**	Plant Effluent		

Comparison Summary

Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method
00-3923-0166	96h Survival Rate	100	>100	NA	7.7%	1	Steel Many-One Rank Sum Test

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits	Overlap	Decision
00-3923-0166	96h Survival Rate	Control Resp	1	0.9 - NL	Yes	Passes Acceptability Criteria

96h Survival Rate Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	4	1	1	1	1	1	0	0	0.0%	0.0%
2.7		4	1	1	1	1	1	0	0	0.0%	0.0%
12.5		4	0.9	0.7701	1	0.8	1	0.04082	0.08165	9.07%	10.0%
25		4	0.975	0.8954	1	0.9	1	0.025	0.05	5.13%	2.5%
50		4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	0.95	0.8581	1	0.9	1	0.02887	0.05774	6.08%	5.0%

96h Survival Rate Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Water	1	1	1	1
2.7		1	1	1	1
12.5		0.9	0.8	1	0.9
25		0.9	1	1	1
50		1	1	1	1
100		1	0.9	0.9	1

Fathead Minnow 96-h Acute Survival Test — **Nautilus Environmental (CA)**

Analysis ID: 00-3923-0166 Endpoint: 96h Survival Rate CETIS Version: CETISv1.8.7
Analyzed: 25 Jan-21 12:57 Analysis: Nonparametric-Control vs Treatments Official Results: Yes

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	NOEL	LOEL	TOEL	TU
Angular (Corrected)	NA	C > T	NA	NA	7.7%	100	>100	NA	1

Steel Many-One Rank Sum Test

Control	vs	C-%	Test Stat	Critical	Ties	DF	P-Value	P-Type	Decision(α:5%)
Dilution Water		2.7	18	10	1	6	0.8333	Asymp	Non-Significant Effect
		12.5	12	10	1	6	0.1424	Asymp	Non-Significant Effect
		25	16	10	1	6	0.6105	Asymp	Non-Significant Effect
		50	18	10	1	6	0.8333	Asymp	Non-Significant Effect
		100	14	10	1	6	0.3451	Asymp	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.08043842	0.01608768	5	3.112	0.0338	Significant Effect
Error	0.09306192	0.005170106	18			
Total	0.1735003		23			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Mod Levene Equality of Variance	2.505	4.248	0.0687	Equal Variances
Variances	Levene Equality of Variance	4.542	4.248	0.0075	Unequal Variances
Distribution	Shapiro-Wilk W Normality	0.8619	0.884	0.0037	Non-normal Distribution

96h Survival Rate Summary

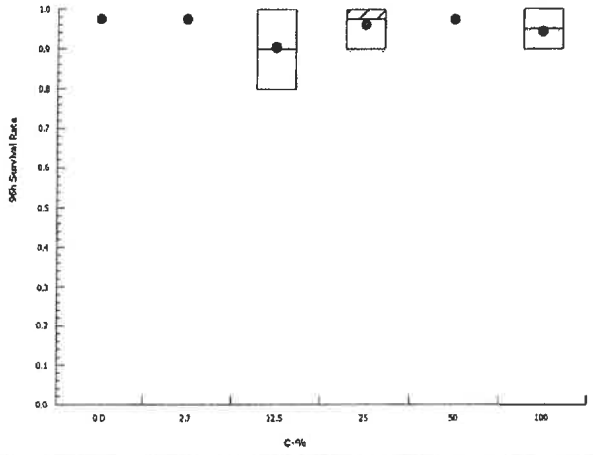
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Dilution Water	4	1	1	1	1	1	1	0	0.0%	0.0%
2.7		4	1	1	1	1	1	1	0	0.0%	0.0%
12.5		4	0.9	0.7701	1	0.9	0.8	1	0.04082	9.07%	10.0%
25		4	0.975	0.8954	1	1	0.9	1	0.025	5.13%	2.5%
50		4	1	1	1	1	1	1	0	0.0%	0.0%
100		4	0.95	0.8581	1	0.95	0.9	1	0.02887	6.08%	5.0%

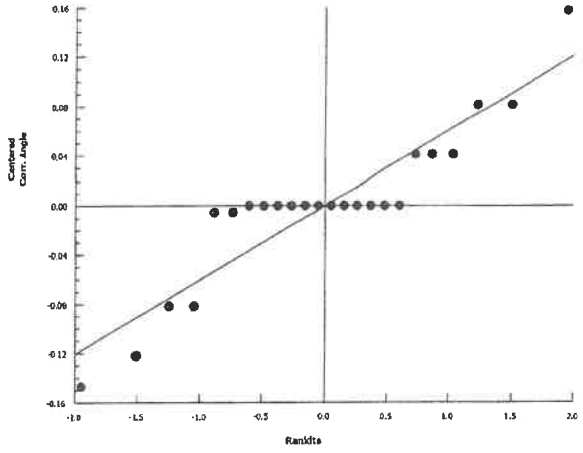
Angular (Corrected) Transformed Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Dilution Water	4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.0%	0.0%
2.7		4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.0%	0.0%
12.5		4	1.254	1.056	1.453	1.249	1.107	1.412	0.06231	9.94%	11.17%
25		4	1.371	1.242	1.501	1.412	1.249	1.412	0.04074	5.94%	2.89%
50		4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.0%	0.0%
100		4	1.331	1.181	1.48	1.331	1.249	1.412	0.04705	7.07%	5.77%

Fathead Minnow 96-h Acute Survival Test					Nautilus Environmental (CA)
Analysis ID:	00-3923-0166	Endpoint:	96h Survival Rate	CETIS Version:	CETISv1.8.7
Analyzed:	25 Jan-21 12:57	Analysis:	Nonparametric-Control vs Treatments	Official Results:	Yes

Graphics





96-hour Freshwater Acute Bioassay
Static-Renewal Conditions
DF-006

Water Quality Measurements & Test Organism Survival

Client: City of Bremerton
Sample ID: Plant Effluent
Sample Log-In: 21- 0080
Test No.: 2101-5082

Test Species: *P. promelas*
Start Date/Time: 1/19/2021 1530
End Date/Time: 1/23/2021 1340

	Tech Initials				
	0	24	48	72	96
Counts:	RT	RT	EG	RT	AS
Readings:	RT	RT	EG	RT	AS
Dilutions made by:	AS		TN		

Concentration (%)	RAND #	Number of Live Organisms					Conductivity (µmhos/cm)					Temperature (°C)					Dissolved Oxygen (mg/L)					pH (units)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
Lab Control	1	10	10	10	10	10	302	306	303	312	306	20.3	19.9	19.5	19.8	19.8	8.5	8.8	9.3	7.8	7.5	7.43	7.61	7.51	7.48	7.45
(MHSW)	13	10	10	10	10	10			306					19.8					8.0					7.58		
	20	10	10	10	10	10																				
	2	10	10	10	10	10																				
2.7	4	10	10	10	10	10	370	372	378	382	373	20.1	19.9	19.4	19.7	19.9	8.4	8.4	8.9	7.8	7.0	7.43	7.58	7.47	7.46	7.45
	7	10	10	10	10	10			373					19.7					7.7					7.55		
	17	10	10	10	10	10																				
	3	10	10	10	10	10																				
12.5	16	10	10	9	9	9	635	625	618	629	613	20.2	19.8	19.9	19.6	19.9	8.6	8.2	8.9	7.8	7.1	7.41	7.51	7.40	7.44	7.45
	19	10	10	9	9	8			630					19.7					7.6					7.51		
	21	10	10	10	10	10																				
	15	10	10	10	10	9																				
25	8	10	10	9	9	9	963	944	962	973	947	20.3	19.9	19.5	19.7	20.0	8.7	8.0	8.9	7.8	6.9	7.41	7.51	7.38	7.43	7.50
	24	10	10	10	10	10			958					19.7					7.5					7.50		
	22	10	10	10	10	10																				
	10	10	10	10	10	10																				
50	5	10	10	10	10	10	1587	1552	1610	1618	1571	20.3	19.8	19.9	19.8	19.9	8.9	7.8	9.0	7.6	6.7	7.43	7.51	7.38	7.58	7.61
	11	10	10	10	10	10			1966					19.8					7.2					7.53		
	18	10	10	10	10	10																				
	6	10	10	10	10	10																				
100	12	10	10	10	10	10	2780	2700	2860	2870	2790	20.6	19.9	19.5	19.7	20.0	9.3	7.6	9.3	7.4	6.5	7.42	7.64	7.38	7.66	7.78
	23	10	10	10	10	9			2740					19.7					7.0					7.65		
	14	10	9	9	9	9																				
	9	10	10	10	10	10																				

Rand # QC: RT
Initial Counts QC'd by: GH / AR
Initiated by: RT

Environmental Chamber: C

Animal Source/Date Received: ABS / 1/19/21

Age at Initiation: 7 days

Animal Acclimation Qualifiers (circle all that apply): Q22 / Q23 / Q24 / (none)

Feeding Times					
	0	24	48	72	96
AM:	--	--	0940	--	--
PM:	--	--	--	--	--

Comments: i = initial reading in fresh test solution, f = final reading in test chamber prior to renewal

Organisms fed prior to initiation, circle one (y) / n) @ Q18 HS 1/20/21

QC Check: AS 1/24/21

Final Review: VB 1/26/21

Appendix B
Sample Receipt Information

Enthalpy Analytical
4340 Vandever Avenue
San Diego, CA 92120

Client: City of Bremerton
Sample ID: Plant Effluent
Test ID No(s).: 21O1-5082

NORTHWEST CLIENTS
Sample Check-In Information
DC-005

Sample Description: 4: light yellow, clear, odorless, no debris

Sample (A, B, C):	A			
Log-in No. (21-xxxx):	0080			
Sample Collection Date & Time:	1/19/21 0730			
Sample Receipt Date & Time:	1/20/21 0925			
Number of Containers & Container Type:	2 x 4L cube			
Approx. Total Volume Received (L):	~~2~~ 4 ~8L			
Check-in Temperature (°C)	2.0			
Temperature OK? [1]	(Y) N	Y N	Y N	Y N
DO (mg/L)	12.1			
pH (units)	~~7.25~~ 7.31			
Conductivity (µS/cm)	2740			
Salinity (ppt)	1.4			
Alkalinity (mg/L) [2]	130			
Hardness (mg/L) [2,3]	322			
Total Chlorine (mg/L)	<0.02			
Technician Initials	AES			

Subsamples for Additional Chemistry Required:
(NH3) (always required)
Other _____
Tech Initials A AS B___ C___

COC Complete (Y/N)?
A Y B___ C___

Filtration? Y (N) **Initials:** _____
Pore Size: _____
Organisms or Debris

Salinity Adjustment? Y (N)
Test: Source: Target ppt:
Test: Source: Target ppt:
Test: Source: Target ppt:

pH Adjustment? Y (N)

	A	B	C
Initial pH:			
Amount of HCl added:			
Final pH:			

Cl_2 Adjustment? Y (N)

	A	B	C
Initial Free Cl_2:			
STS added:			
Final Free Cl_2:			

Sample Aeration? Y (N)

	A	B	C
Initial D.O.			
Duration & Rate			
Final D.O.			

Test Performed: Acute Fathead Minnow **Control/Dilution Water:** 8:2 / Lab SW / Lab ART (Other: MHSW
Alkalinity: 52 Hardness or Salinity: 98
Additional Control? Y (N) = _____ Alkalinity: _____ Hardness or Salinity: _____

Test Performed: _____ **Control/Dilution Water:** 8:2 / Lab SW / Lab ART Other: _____
Alkalinity: _____ Hardness or Salinity: _____
Additional Control? Y N = _____ Alkalinity: _____ Hardness or Salinity: _____

Test Performed: _____ **Control/Dilution Water:** 8:2 / Lab SW / Lab ART Other: _____
Alkalinity: _____ Hardness or Salinity: _____
Additional Control? Y N = _____ Alkalinity: _____ Hardness or Salinity: _____

Notes: [1] Temperature of sample should be 0-6°C at receipt.
[2] mg/L as CaCO3, [3] Measured for freshwater samples only, NA = Not Applicable

Additional Comments: Test conducted under 5% CO_2 atmosphere to control pH drift.
@Log AES 1/20/21

QC Check: AES 1/24/21
Final Review: VD 1/26/21

Total Ammonia Analysis
Freshwater

Overlying Water

DC-001

Client: City of Bremerton
Project: Quarterly NPDES- Plant Effluent
Test Type: Acute Fathead Minnow

DI Blank: 0.0
Test Start Date: 1/19/2021

Analyst: GR
Analysis Date: 1/22/21

N x 1.22

Sample ID	Nautilus ID	Sub-Sample Date	Test Day	NH3-N (mg/L)	Ammonia (mg/L)
Blank Spike (10 mg/L NH_3)		NA	NA	9.3	11.3
Plant Effluent	21-0080	1/19/21	check-in	14.1	17.2
Spike Check (10 mg/L NH_3)		NA	NA		
Sample Duplicate[a]	21-0080	NA	NA	13.9	17.0
Sample Duplicate + Spike[a]		NA	NA	22.9	~~27.8~~ 27.9
Spike Check (10 mg/L NH_3)		NA	NA	9.3	11.3

Relative Percent Difference (RPD) = [sample] (mg/L) - [sample duplicate] (mg/L) / [average ammonia] (mg/L) x 100 — **Acceptable Range: 0-20%**

Percent Recovery = [spiked sample] (mg/L) - [sample] (mg/L) / nominal [spike] (mg/L) x 100 — **Acceptable Range: 80-120%[b]**

QC Sample ID	[NH_3]	[Sample Dup]	Measured [Spike]	Nominal [Spike]	RPD	% Recovery
Blank	0.0	NA	11.3	10	NA	113
Plant Effluent	17.2	17.0	27.9	10	1.2	107

Comments: ④ Q18 GR 1/22/21

Notes: [a]Unless otherwise noted, the last sample listed on the datasheet is used for duplicate and duplicate + spike QC check.

[b] Acceptable range for % recovery applies only to the blank spike. Spike recoveries in samples may vary based on sample matrix and are for information only.

[c] Calculation not performed due to one or both values below the method detection limit.

Method Detection Limit = 0.5 mg/L

QC Check: AKS 1/24/21

Final Review: [illegible] 1/26/21

Appendix C

Chain-of-Custody Form

Enthalpy Analytical - Environmental Toxicology

4340 Vandever Avenue
San Diego, CA 92120
Phone 858.587.7333
infoSD@enthalpy.com

Chain of Custody

Date 1/19/21 Page 1 of 1

Sample Collection By: Luke Mora

Report to:

Company	City of Bremerton WWTP
Address	1600 OYSTER BAY AVE S
City/State/Zip	Bremerton, WA. 98312
Contact	JACKIE HORTON
Phone	360-473-5446
Email	JAcquelyn.Horton@ci.bremerton.WA.us

Invoice To: Same as Report to ☒

Company	
Address	Same
City/State/Zip	
Contact	
Phone	
Email	

ANALYSES REQUIRED

Enthalpy Matrix Codes:
G = Grab
C = Composite
FW = Freshwater
SW = Seawater
Sed = Sediment
STRM = Stormwater
GW = Groundwater
WW = Wastewater
O = Other (specify)

	SAMPLE ID	SAMPLE Date	Time	Type (G or C)	MATRIX CODE (FW, SW, Sed, STRM, GW, WW, O)	Container Type	Qty	COMMENTS	Acute Toxicity	Fathead minnow	Receipt Temperature (°C)
1	EFFLUENT	1/19/21	0730	C	WW	Cube	2	Please suppress ammonia.	X		2.0
2											
3											
4											
5											
6											
7											
8											
9											
10											

Thank You!

PROJECT INFORMATION

Project Name:	
PO No.:	
Shipped Via:	FedEx

SAMPLE RECEIPT

Total No. of Containers	2
Received Good Condition?	Y
Matches Test Schedule?	Y

SPECIAL INSTRUCTIONS/COMMENTS:

1) RELINQUISHED BY (CLIENT)
(Signature) (Time)
(Printed Name) (Date)
(Company)

2) RECEIVED BY (COURIER)
(Signature) (Time)
(Printed Name) (Date)
(Company)

3) RELINQUISHED BY (COURIER)
(Signature) (Time)
(Printed Name) (Date)
(Company)

4) RECEIVED BY (LABORATORY)
(Signature) (Time) 0925
(Printed Name) (Date) Rachel Tellez 1/20/21
(Company) (Log-in #s) EA-SD 21-0080

Additional costs may be required for sample disposal or storage. Payment net 30 unless otherwise contracted.
Shaded areas are for lab use only
Report turn-around-time varies depending on length of test; please inquire with your project manager.

http://enthalpy.com/environmental-toxicology-2/

Appendix D
Qualifier Codes

Nautilus Environmental

Glossary of Qualifier Codes:

Q1 - Temperatures out of recommended range; corrective action taken and recorded in Test Temperature Correction Log

Q2 - Temperatures out of recommended range; no action taken, test terminated same day

Q3 - Sample aerated prior to initiation or renewal due to dissolved oxygen (D.O.) levels below 6.0 mg/L

Q4 - Test aerated; D.O. levels dropped below 4.0 mg/L

Q5 - Test initiated with aeration due to an anticipated drop in D.O.

Q6 - Airline obstructed or fell out of replicate and replaced; drop in D.O. occurred

Q7 - Salinity out of recommended range

Q8 - Spilled test chamber/ Unable to recover test organism(s)

Q9 - Inadequate sample volume remaining, 50% renewal performed

Q10 - Inadequate sample volume remaining, no renewal performed

Q11 - Sample out of holding time; refer to QA section of report

Q12 - Replicate(s) not initiated; excluded from data analysis

Q13 - Survival counts not recorded due to poor visibility or heavy debris

Q14 - D.O. percent saturation was checked and was ≤ 110%

Q15 - Did not meet minimum test acceptability criteria. Refer to QA section of report.

Q16 - Percent minimum significant difference (PMSD) was below the lower bound limit for acceptability. This indicates that statistics may be over-sensitive in detecting a difference from the control due to low variability in the data set.

Q17 - Percent minimum significant difference (PMSD) was above the upper bound limit for acceptability. This indicates that statistics may be under-sensitive in detecting a difference from the control due to high variability in the data set.

Q18 - Incorrect Entry

Q19 - Illegible Entry

Q20 - Miscalculation

Q21 - Other (provide reason in comments section)

Q22 - Greater than 10% mortality observed upon receipt and/or in holding prior to test initiation. Organisms acclimated to test conditions at Nautilus and ultimately deemed fit to use for testing.

Q23 - Test organisms received at a temperature greater than 3°C outside the recommended test temperature range. However, due to age-specific protocol requirements and/or sample holding time constraints, the organisms were used to initiate tests upon the day of arrival. Organisms were acclimated to the appropriate test conditions upon receipt and prior to test initiation.

Q24 - Test organisms received at salinity greater than 3 ppt outside of the recommended test salinity range. However, due to age-specific protocol requirements and/or sample holding time constraints, the organisms were used to initiate tests upon the day of arrival. Organisms were acclimated to the appropriate test conditions upon receipt and prior to test initiation.

ENTHALPY ANALYTICAL

TOXICITY LABORATORY & CONSULTING

Acute Toxicity Testing Results for City of Bremerton WWTP

Monitoring Period: April 2021

Prepared For: Jackie Horton
City of Bremerton
1600 Oyster Bay Ave. S
Bremerton, Washington 98312

Prepared By: Enthalpy Analytical

Date Submitted: May 5, 2021

Data Quality Assurance:

- Enthalpy Analytical is accredited in accordance with NELAP by the State of Oregon Environmental Laboratory Accreditation Program (Lab ID 4053). It is also certified by the State of California Water Resources Control Board Environmental Laboratory Accreditation Program (Certificate No. 1802) and the State of Washington Department of Ecology (Lab ID C552).
- All data have been reviewed and verified.
- All test results have met minimum test acceptability criteria under their respective EPA protocols, unless otherwise noted in this report.
- All test results have met internal Quality Assurance Program requirements.

Results Verified by: Barbara Orelo

Barbara Orelo, Project Manager

4340 Vandever Avenue
San Diego, California 92120
858.587.7333
fax: 858.587.3961

Introduction

An acute toxicity test using the water flea, *Ceriodaphnia dubia*, was conducted on an effluent sample collected from the City of Bremerton's Wastewater Treatment Plant in April 2021. Testing was performed at Enthalpy Analytical located in San Diego, California, between April 21 and 23, 2021.

Materials and Methods

Sample Collection, Transport, and Receipt

The effluent sample was collected in a low-density polyethylene cubitainer by City of Bremerton personnel. The sample was packed in a cooler containing ice and shipped to Enthalpy by overnight delivery service. Appropriate chain-of-custody (COC) procedures were employed during collection and transport. Upon arrival at Enthalpy, the cooler was opened, the sample inspected, and contents verified against information on the COC form. Receipt temperature was measured and recorded on the COC form. Standard water quality parameters were measured and recorded on a sample check-in sheet and are summarized in Table 1. The sample was stored in the dark at 4°C until used for testing.

Table 1. Sample Information

Sample ID	Plant Effluent
Enthalpy Log-In No.	21-0419
Collection Date and Time	04/20/2021; 0720h
Receipt Date and Time	04/21/2021; 1000h
Receipt Temperature (°C)	1.6
Dissolved Oxygen (mg/L)	11.1
pH (units)	7.57
Conductivity (µS/cm)	4,500
Salinity (ppt)	2.5
Alkalinity (mg/L $CaCO_3$)	197
Hardness (mg/L $CaCO_3$)	471
Total Chlorine (mg/L)	<0.02
Total Ammonia (mg/L as N)	30.4

Test Methods

The acute toxicity test was conducted using the water flea according to procedures presented by USEPA (2002) as summarized in Table 2.

Table 2. Summary of Methods for the 48h Water Flea Acute Toxicity Test

Test Initiation Date and Time	4/21/2021; 1500h
Test Termination Date and Time	4/23/2021; 1630h
Test Organism	*Ceriodaphnia dubia* (water flea)
Test Organism Source; Age	In-house culture; < 24 hours
Test Duration	48 ± 2 hours
Feeding	YTC and green algae suspension during holding. No feeding during the exposure period.
Test Chamber	30 mL plastic cup
Test Solution Volume	15 mL
Test Temperature	20 ± 1°C
Dilution/Control Water	Moderately Hard Synthetic Water
Test Concentrations (% sample)	100, 50, 25, 12.5, 5.0 and 0.0 (laboratory control)
Number of Organisms/Chamber	5
Number of Replicates/Concentration	4
Photoperiod	16 hours light/8 hours dark
Test Protocol	EPA-821-R-02-012
Test Acceptability Criterion for Controls	≥ 90% survival
Statistical Analysis Software	CETIS™ v1.8.7.20
Reference Toxicant	Copper chloride

Results

No statistically significant effects were detected in the acute critical effluent concentration (ACEC) of 5.0 percent sample, which exhibited 100 percent survival. Mean survival in the undiluted effluent was 45 percent and was statistically significant compared to the lab control. Results are summarized in Table 3. A statistical summary and copy of the laboratory bench sheet for the acute test can be found in Appendix A.

Table 3. Summary of Results for the Water Flea Acute Toxicity Test

Concentration (% effluent)	Mean Survival (%)	NOEC (% effluent)	LOEC (% effluent)	LC_{50} (% effluent)
0.0 (Lab Control)	100	50	100	95.5
5.0	100			
12.5	100			
25	100			
50	100			
100	**45.0**			

NOEC = No Observed Effect Concentration
LOEC = Lowest Observed Effect Concentration
LC_{50} = Effluent concentration estimated to produce mortality in 50 percent of the test organisms
Values in **bold** indicate a statistically significant effect

Quality Assurance

The sample was received within the appropriate temperature range specified by WDOE (2016), and the test was initiated within the required 36-hour sample holding time. The toxicity test met the acceptability criterion for survival of control organisms.

Statistical analysis followed standard USEPA flowchart selections and the dose-response relationship was reviewed to ensure the validity of the data. Based on the dose response observed during testing, the calculated effect concentration is deemed reliable. The sample check-in sheet and COC form are provided in Appendices B and C, respectively. A list of qualifier codes is provided in Appendix D.

Results for monthly reference toxicant testing used to monitor laboratory performance and test organism sensitivity are summarized in Table 4. The median effect value for the reference toxicant test fell within the acceptable range of the mean of historical test results plus or minus two standard deviations, indicating that the test organisms were as sensitive to copper as those historically tested. The coefficient of variation (CV) for the test is also provided in the table.

Table 4. Reference Toxicant Test Results

Species	Endpoint	Date initiated	LC_{50} (µg/L Cu)	Acceptable Range (µg/L Cu)	CV (%)
Water Flea	48h survival	04/06/2021	21.4	11.4 – 32.9	24.3

LC_{50} = Effluent concentration estimated to produce mortality in 50 percent of the test organisms
CV = Coefficient of Variation

References

Tidepool Scientific Software. 2000-2013. CETIS Comprehensive Environmental Toxicity Information System Software, Version 1.8.7.20.

USEPA. 2002. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition. EPA-821-R-02-012.

WDOE. 2016. Whole Effluent Toxicity Testing Guidance and Test Review Criteria. Washington State Department of Ecology. Water Quality Program. Publication number: WQ-R-95-80, Revised June 2016.

Appendix A

Statistical Summary and Raw Bench Sheet

CETIS Summary Report

Ceriodaphnia 48-h Acute Survival Test — **Nautilus Environmental (CA)**

Batch ID:	09-1810-3228	**Test Type:**	Survival (48h)	**Analyst:**	
Start Date:	21 Apr-21 15:00	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Mod-Hard Synthetic Water
Ending Date:	23 Apr-21 16:30	**Species:**	Ceriodaphnia dubia	**Brine:**	Not Applicable
Duration:	50h	**Source:**	In-House Culture	**Age:**	<24h

Sample ID:	14-4201-2288	**Code:**	21-0419	**Client:**	Bremerton, City of
Sample Date:	20 Apr-21 07:20	**Material:**	POTW Effluent	**Project:**	
Receive Date:	21 Apr-21 10:00	**Source:**	Bremerton WWTP (WA0029289)		
Sample Age:	32h (1.6 °C)	**Station:**	Plant Effluent		

Comparison Summary

Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method
16-9813-0379	48h Survival Rate	50	100	70.71	12.8%	2	Steel Many-One Rank Sum Test

Point Estimate Summary

Analysis ID	Endpoint	Level	%	95% LCL	95% UCL	TU	Method
10-4547-5171	48h Survival Rate	EC25	72.73	64.94	86.36	1.375	Linear Interpolation (ICPIN)
		EC50	95.45	79.87	N/A	1.048	

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits	Overlap	Decision
10-4547-5171	48h Survival Rate	Control Resp	1	0.9 - NL	Yes	Passes Acceptability Criteria
16-9813-0379	48h Survival Rate	Control Resp	1	0.9 - NL	Yes	Passes Acceptability Criteria

48h Survival Rate Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Lab Control	4	1	1	1	1	1	0	0	0.0%	0.0%
5		4	1	1	1	1	1	0	0	0.0%	0.0%
12.5		4	1	1	1	1	1	0	0	0.0%	0.0%
25		4	1	1	1	1	1	0	0	0.0%	0.0%
50		4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	0.45	0.1453	0.7547	0.2	0.6	0.09574	0.1915	42.55%	55.0%

48h Survival Rate Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Lab Control	1	1	1	1
5		1	1	1	1
12.5		1	1	1	1
25		1	1	1	1
50		1	1	1	1
100		0.6	0.2	0.6	0.4

CETIS Analytical Report

Ceriodaphnia 48-h Acute Survival Test — **Nautilus Environmental (CA)**

Analysis ID:	16-9813-0379	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.8.7
Analyzed:	27 Apr-21 13:34	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	NOEL	LOEL	TOEL	TU
Angular (Corrected)	NA	C > T	NA	NA	12.8%	50	100	70.71	2

Steel Many-One Rank Sum Test

Control	vs	C-%	Test Stat	Critical	Ties	DF	P-Value	P-Type	Decision(α:5%)
Lab Control		5	18	10	1	6	0.8333	Asymp	Non-Significant Effect
		12.5	18	10	1	6	0.8333	Asymp	Non-Significant Effect
		25	18	10	1	6	0.8333	Asymp	Non-Significant Effect
		50	18	10	1	6	0.8333	Asymp	Non-Significant Effect
		100*	10	10	0	6	0.0417	Asymp	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	1.261376	0.2522752	5	37.31	<0.0001	Significant Effect
Error	0.121714	0.00676189	18			
Total	1.38309		23			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Mod Levene Equality of Variance	7.962	4.248	0.0004	Unequal Variances
Variances	Levene Equality of Variance	11.94	4.248	<0.0001	Unequal Variances
Distribution	Shapiro-Wilk W Normality	0.522	0.884	<0.0001	Non-normal Distribution

48h Survival Rate Summary

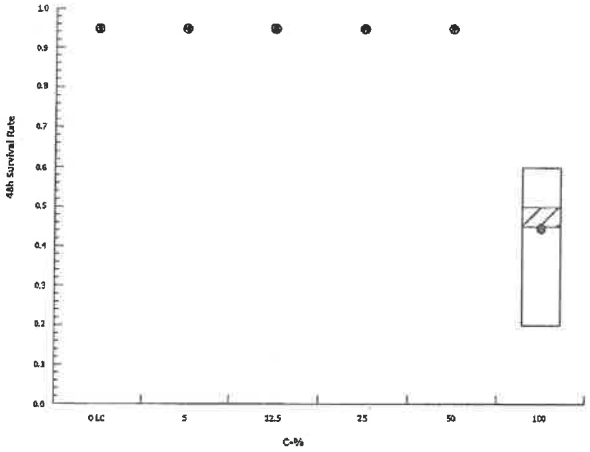
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Lab Control	4	1	1	1	1	1	1	0	0.0%	0.0%
5		4	1	1	1	1	1	1	0	0.0%	0.0%
12.5		4	1	1	1	1	1	1	0	0.0%	0.0%
25		4	1	1	1	1	1	1	0	0.0%	0.0%
50		4	1	1	1	1	1	1	0	0.0%	0.0%
100		4	0.45	0.1453	0.7547	0.5	0.2	0.6	0.09574	42.55%	55.0%

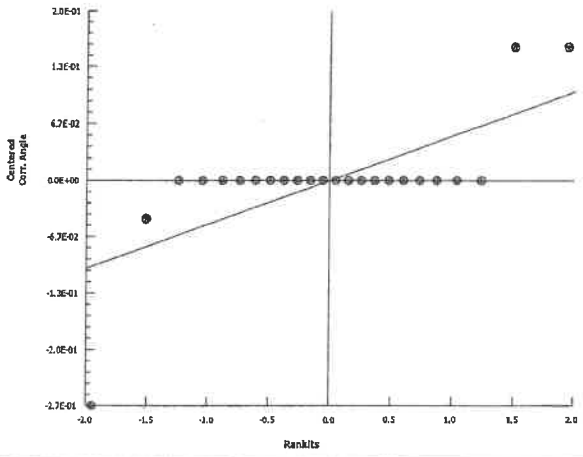
Angular (Corrected) Transformed Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Lab Control	4	1.345	1.345	1.346	1.345	1.345	1.345	0	0.0%	0.0%
5		4	1.345	1.345	1.346	1.345	1.345	1.345	0	0.0%	0.0%
12.5		4	1.345	1.345	1.346	1.345	1.345	1.345	0	0.0%	0.0%
25		4	1.345	1.345	1.346	1.345	1.345	1.345	0	0.0%	0.0%
50		4	1.345	1.345	1.346	1.345	1.345	1.345	0	0.0%	0.0%
100		4	0.7301	0.4096	1.051	0.7854	0.4636	0.8861	0.1007	27.59%	45.73%

Ceriodaphnia 48-h Acute Survival Test					Nautilus Environmental (CA)
Analysis ID:	16-9813-0379	Endpoint:	48h Survival Rate	CETIS Version:	CETISv1.8.7
Analyzed:	27 Apr-21 13:34	Analysis:	Nonparametric-Control vs Treatments	Official Results:	Yes

Graphics





CETIS Analytical Report

Ceriodaphnia 48-h Acute Survival Test — Nautilus Environmental (CA)

Analysis ID:	10-4547-5171	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.8.7
Analyzed:	27 Apr-21 13:34	**Analysis:**	Linear Interpolation (ICPIN)	**Official Results:**	Yes

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1873114	1000	Yes	Two-Point Interpolation

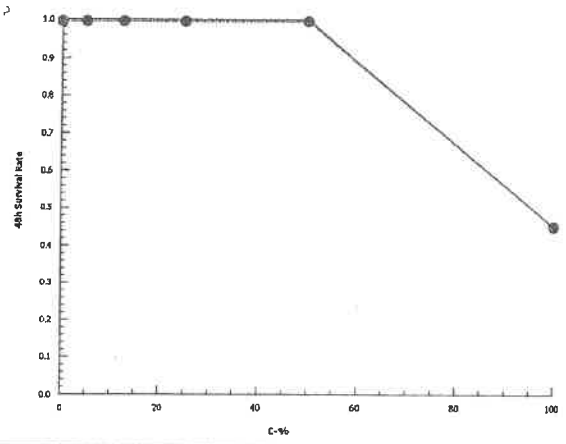
Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC25	72.73	64.94	86.36	1.375	1.158	1.54
EC50	95.45	79.87	N/A	1.048	NA	1.252

48h Survival Rate Summary

			Calculated Variate(A/B)								
C-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect	A	B
0	Lab Control	4	1	1	1	0	0	0.0%	0.0%	20	20
5		4	1	1	1	0	0	0.0%	0.0%	20	20
12.5		4	1	1	1	0	0	0.0%	0.0%	20	20
25		4	1	1	1	0	0	0.0%	0.0%	20	20
50		4	1	1	1	0	0	0.0%	0.0%	20	20
100		4	0.45	0.2	0.6	0.09574	0.1915	42.55%	55.0%	9	20

Graphics



48-hour Freshwater Acute Bioassay
Static-Renewal Conditions
DF-020

Water Quality Measurements & Test Organism Survival

Client: City of Bremerton
Sample ID: Plant Effluent
Sample Log-In: 21- 0419
Test No.: 2104-5073

Test Species: *C. dubia*
Start Date/Time: 4/21/2021 1500
End Date/Time: 4/23/2021 1630

	Tech Initials		
	0	24	48
Counts:	RT	HH	GH
Readings:	HH	GH	RT
Dilutions made by:	HH		

Concentration (%)	RAND #	Number of Live Organisms			Conductivity (µmhos/cm)			Temperature (°C)			Dissolved Oxygen (mg/L) QA			pH (units)		
		0	24	48	0	24	48	0	24	48	0	24	48	0	24	48
Lab Control	1	5	5	(A)/5	375	379	381	20.0	19.7	20.2	9.0	9.3	7.5	7.51	7.89	7.80
(MHSW)	13	5	5	5												
	20	5	5	5												
	2	5	5	5												
5.0	4	5	5	5	592	591	624	20.5	19.8	20.2	8.9	9.2	7.3	7.43	7.90	7.86
	7	5	5	5												
	17	5	5	5												
	3	5	5	5												
12.5	16	5	5	5	914	914	898	20.2	19.8	20.2	9.0	9.1	7.4	7.52	7.98	7.86
	19	5	5	5												
	21	5	5	5												
	15	5	5	5												
25	8	5	5	5	1437	1452	1432	20.3	19.6	20.2	9.0	9.2	7.5	7.58	8.05	8.03
	24	5	5	5												
	22	5	5	5												
	10	5	5	5												
50	5	5	5	5	2540	2550	2550	20.3	19.6	20.2	9.0	9.2	7.5	7.63	8.16	8.04
	11	5	5	5												
	18	5	5	5												
	6	5	5	5												
100	12	5	5	3	4560	4620	4630	20.1	19.5	20.2	9.0	9.1	7.5	7.64	8.14	8.15
	23	5	5	1												
	14	5	5	3												
	9	5	5	2												

Rand # QC: HH
Initial Count QC: HH

Environmental Chamber: C.

Animal Source/Date Received: Internal / N/A

Age at Initiation: < 24 hours

Animal Acclimation Qualifiers (circle all that apply): Q22 (Q23) Q24 / none

Comments: Organisms fed prior to initiation, circle one (y / n)
(A) 0 18 GH 4/23/21

QC Check: AS 4/27/21

Final Review: BO 5/5/21

Enthalpy Analytical. 4340 Vandever Avenue. San Diego, CA 92120.

Appendix B

Sample Receipt Information

Enthalpy Analytical
4340 Vandever Avenue
San Diego, CA 92120

Client: City of Bremerton
Sample ID: Plant Effluent
Test ID No(s).: 2104-5073

NORTHWEST CLIENTS
Sample Check-In Information
DC-005

Sample Description: A: Light yellow, clear, no odor, no debris

Sample (A, B, C):	A			
Log-in No. (21-xxxx):	0419			
Sample Collection Date & Time:	4/20/21 0720			
Sample Receipt Date & Time:	4/21/21 1000			
Number of Containers & Container Type:	1-4L cubi			
Approx. Total Volume Received (L):	~4			
Check-in Temperature (°C)	1.6			
Temperature OK? [1]	(Y) N	Y N	Y N	Y N
DO (mg/L)	11.1			
pH (units)	7.57			
Conductivity (µS/cm)	41500			
Salinity (ppt)	2.5			
Alkalinity (mg/L) [2]	197			
Hardness (mg/L) [2,3]	471			
Total Chlorine (mg/L)	<0.02			
Technician Initials	GH			

Subsamples for Additional Chemistry Required:
(NH3) (always required)
Other _____
Tech Initials A GH B___ C___

COC Complete (Y/N)?
A Y B___ C___

Filtration? Y (N) **Initials:** _____
Pore Size: _____
Organisms or Debris

Salinity Adjustment? Y (N)

Test:	Source:	Target ppt:
Test:	Source:	Target ppt:
Test:	Source:	Target ppt:

pH Adjustment? Y (N)

	A	B	C
Initial pH:			
Amount of HCl added:			
Final pH:			

Cl_2 Adjustment? Y (N)

	A	B	C
Initial Free Cl_2:			
STS added:			
Final Free Cl_2:			

Sample Aeration? Y (N)

	A	B	C
Initial D.O.			
Duration & Rate			
Final D.O.			

Test Performed: Acute C. dubia **Control/Dilution Water:** 8:2 / Lab SW / Lab ART (Other:) MHSW
Alkalinity: 60 Hardness or Salinity: 90
Additional Control? Y (N) = _____ Alkalinity: _____ Hardness or Salinity: _____

Test Performed: _____ **Control/Dilution Water:** 8:2 / Lab SW / Lab ART Other: _____
Alkalinity: _____ Hardness or Salinity: _____
Additional Control? Y N = _____ Alkalinity: _____ Hardness or Salinity: _____

Test Performed: _____ **Control/Dilution Water:** 8:2 / Lab SW / Lab ART Other: _____
Alkalinity: _____ Hardness or Salinity: _____
Additional Control? Y N = _____ Alkalinity: _____ Hardness or Salinity: _____

Notes: [1] Temperature of sample should be 0-6°C at receipt.
[2] mg/L as CaCO3, [3] Measured for freshwater samples only, NA = Not Applicable

Additional Comments: _____

QC Check: AES 4/27/21
Final Review: BO 5/5/21

Total Ammonia Analysis
Freshwater

Overlying Water

DC-001

Client: City of Bremerton
Project: Plant Effluent
Test Type: Acute water flea

DI Blank: 0.0
Test Start Date: 4/21/2021

Analyst: KB
Analysis Date: 4/29/21

N x 1.22

Sample ID	Enthalpy ID	Sub-Sample Date	Test Day	NH3-N (mg/L)	Ammonia (mg/L)
Blank Spike (10 mg/L NH_3)		NA	NA	8.4	10.2
Plant Effluent	21-0419	4/21/2021	Check In	30.4	37.1
Spike Check (10 mg/L NH_3)		NA	NA	8.4	10.2
Batch QA Sample	21-0427			0.0	<0.5
Sample Duplicate[a]	21-0427	NA	NA	0.1	<0.5
Sample Duplicate + Spike[a]		NA	NA	9.4	11.5
Spike Check (10 mg/L NH_3)		NA	NA	8.4	10.2

Relative Percent Difference (RPD) = [sample] (mg/L) - [sample duplicate] (mg/L) / [average ammonia] (mg/L) x 100 — **Acceptable Range: 0-20%**

Percent Recovery = [spiked sample] (mg/L) - [sample] (mg/L) / nominal [spike] (mg/L) x 100 — **Acceptable Range: 80-120%[b]**

QC Sample ID	[NH_3]	[Sample Dup]	Measured [Spike]	Nominal [Spike]	RPD	% Recovery
Blank	0.0	NA	~~8.4~~ 10.2	10	NA	102
Batch QA Sample	<0.5	<0.5	11.5	10	(c)	(c)

	Reagent 1	Reagent 2	Test Tubes
Standard Lot Number	A0356	A1005	A0274

Comments: @QL8 AFS 060 KB 5/4/21

Notes: [a]Unless otherwise noted, the last sample listed on the datasheet is used for duplicate and duplicate + spike QC check.

[b] Acceptable range for % recovery applies only to the blank spike. Spike recoveries in samples may vary based on sample matrix and are for information only.

[c] Calculation not performed due to one or both values below the method detection limit.

HACH Ammonia Nitrogen Test Kit, Test 'N Tube™ Vials. Method 10031. Method Detection Limit = 0.5 mg/L

QC Check: AFS 5/4/21

Final Review: BO 5/5/21

Appendix C
Chain-of-Custody Form

Enthalpy Analytical - Environmental Toxicology

4340 Vandever Avenue
San Diego, CA 92120
Phone 858.587.7333

Chain of Custody

Date 4/20/21 Page 1 of 1

Sample Collection By: Mike A

Report to:
Company: City of Bremerton WWTP
Address: 1600 OYSTER BAY AVE S.
City/State/Zip: BREMERTON, WA. 98312
Contact: JACKIE HORTON
Phone: 360-473-5446
Email: JACQUELYN.HORTON@CI.BREMERTON.WA.US

Invoice To: Same as Report to ☒
Company
Address
City/State/Zip
Contact
Phone
Email

ANALYSES REQUIRED

Enthalpy Matrix Codes:
G = Grab
C = Composite
FW = Freshwater
SW = Seawater
Sed = Sediment
STRM = Stormwater
GW = Groundwater
WW = Wastewater
O = Other (specify)

	SAMPLE ID	SAMPLE Date	SAMPLE Time	SAMPLE Type (G or C)	MATRIX CODE (FW, SW, Sed, STRM, GW, WW, O)	Container Type	Container Qty	COMMENTS	Acute Toxicity	Daphnia (A)					Receipt Temperature (°C)
1	EFFLUENT	4/20/21	0720	C	WW	Cube	1	PLEASE SUPPRESS Ammonia	✓						1.6
2															
3															
4															
5															
6															
7															
8															
9															
10															

PROJECT INFORMATION
Project Name:
PO No.:
Shipped Via: Fed Ex

SAMPLE RECEIPT
Total No. of Containers: 1
Received Good Condition? Y
Matches Test Schedule? Y

SPECIAL INSTRUCTIONS/COMMENTS:

Thank You!

(A) Ceriodaphnia dubia tested instead

1) RELINQUISHED BY (CLIENT)
(Signature) Jackie Horton (Time)
(Printed Name) Jackie Horton (Date) 4/20/21
(Company) City of Bremerton WWTP

2) RECEIVED BY (COURIER)
(Signature) (Time)
(Printed Name) (Date)
(Company)

3) RELINQUISHED BY (COURIER)
(Signature) (Time)
(Printed Name) (Date)
(Company)

4) RECEIVED BY (LABORATORY)
(Signature) (Time) 1000
(Printed Name) Rachel Toller (Date) 4/21/21
(Company) EA-SD (Log-In #s) 21-0419

Additional costs may be required for sample disposal or storage. Payment net 30 unless otherwise contracted.
Shaded areas are for lab use only
Report turn-around-time varies depending on length of test; please inquire with your project manager.

http://enthalpy.com/environmental-toxicology-2/

Appendix D
Qualifier Codes

ENTHALPY ANALYTICAL
TOXICITY LABORATORY & CONSULTING

Glossary of Qualifier Codes:

Q1 - Temperature out of recommended range; corrective action taken and recorded in Test Temperature Correction Log

Q2 - Temperature out of recommended range; no action taken, test terminated same day

Q3 - Sample pH adjusted to within range of 6-9 with reagent grade NaOH or HCl, as needed

Q4 - Test aerated; D.O. levels dropped below 4.0 mg/L

Q5 - Test initiated with continuous aeration due to an anticipated drop in D.O.

Q6 - Airline obstructed or fell out of replicate and replaced; drop in D.O. occurred

Q7 - Salinity out of recommended range

Q8 - Spilled test chamber/ Unable to recover test organism(s)

Q9 - Inadequate sample volume remaining, partial renewal performed

Q10 - Inadequate sample volume remaining, no renewal performed

Q11 - Sample out of holding time; refer to QA section of report

Q12 - Replicate(s) not initiated; excluded from data analysis

Q13 - Survival counts not recorded due to poor visibility or heavy debris

Q14 - D.O. percent saturation was checked and was ≤ 110%

Q15 - Did not meet minimum test acceptability criteria. Refer to QA section of report.

Q16 - Percent minimum significant difference (PMSD) was below the lower bound limit for acceptability. This indicates that statistics may be over-sensitive in detecting a difference from the control due to low variability in the data set. Test results were reviewed and reported in accordance with guidance found in EPA-833-R-00-003, 2000 unless otherwise specified.

Q17 - Percent minimum significant difference (PMSD) was above the upper bound limit for acceptability. This indicates that statistics may be under-sensitive in detecting a difference from the control due to high variability in the data set. Test results were reviewed and reported in accordance with EPA-833-R-00-003, 2000 guidance unless otherwise specified.

Q18 - Incorrect or illegible Entry

Q19 - Miscalculation

Q20 - PMSD criteria do not apply to test of significant toxicity (TST) analysis

Q21 - Other (provide reason in comments section)

Q22 - Greater than 10% batch mortality observed upon receipt and/or in holding prior to test initiation. Organisms acclimated to test conditions at Enthalpy and ultimately deemed fit to use for testing.

Q23 - Test organisms experienced a temperature shift greater than 3°C in holding or were received at a temperature greater than 3°C outside the recommended test temperature range and had minimal time to acclimate prior to test initiation. However, due to age-specific protocol requirements and/or sample holding time constraints, the organisms were used to initiate test(s). Organisms were ultimately deemed fit to use for testing.

Q24 - Test organisms experienced a salinity shift greater than 3 ppt in holding or were received at a salinity greater than 3 ppt outside the recommended test salinity range and had minimal time to acclimate prior to test initiation. However, due to age-specific protocol requirements and/or sample holding time constraints, the organisms were used to initiate test(s). Organisms were ultimately deemed fit to use for testing.

ENTHALPY ANALYTICAL

TOXICITY LABORATORY & CONSULTING

Acute Toxicity Testing Results for City of Bremerton WWTP

Monitoring Period: July 2021

Prepared For: Jackie Horton
City of Bremerton
1600 Oyster Bay Ave. S
Bremerton, Washington 98312

Prepared By: Enthalpy Analytical

Date Submitted: August 11, 2021

Data Quality Assurance:

- Enthalpy Analytical is accredited in accordance with NELAP by the State of Oregon Environmental Laboratory Accreditation Program (Lab ID 4053). It is also certified by the State of California Water Resources Control Board Environmental Laboratory Accreditation Program (Certificate No. 1802) and the State of Washington Department of Ecology (Lab ID C552).
- All data have been reviewed and verified.
- All test results have met minimum test acceptability criteria under their respective EPA protocols, unless otherwise noted in this report.
- All test results have met internal Quality Assurance Program requirements.

Results Verified by: Borelo

Barbara Orelo, Project Manager

4340 Vandever Avenue
San Diego, California 92120
858.587.7333
fax: 858.587.3961

Introduction

An acute toxicity test using the fathead minnow, *Pimephales promelas*, was conducted on an effluent sample collected from the City of Bremerton's Wastewater Treatment Plant in July 2021. Testing was performed at Enthalpy Analytical located in San Diego, California, between July 28 and August 1, 2021.

Materials and Methods

Sample Collection, Transport, and Receipt

The effluent sample was collected in a low-density polyethylene cubitainer by City of Bremerton personnel. The sample was packed in a cooler containing ice and shipped to the laboratory by overnight delivery service. Appropriate chain-of-custody (COC) procedures were employed during collection and transport. Upon arrival at Enthalpy, the cooler was opened, the sample inspected, and contents verified against information on the COC form. Receipt temperature was measured and recorded on the COC form. Standard water quality parameters were measured and recorded on a sample check-in sheet and are summarized in Table 1. The sample was stored in the dark at 4°C until used for testing.

Table 1. Sample Information

Sample ID	Plant Effluent
Lab Log-In No.	21-0798
Collection Date and Time	07/27/2021; 0700h
Receipt Date and Time	07/28/2021; 0950h
Receipt Temperature (°C)	1.7
Dissolved Oxygen (mg/L)	10.2
pH (units)	7.55
Conductivity (µS/cm)	6,850
Salinity (ppt)	3.9
Alkalinity (mg/L $CaCO_3$)	185
Hardness (mg/L $CaCO_3$)	--
Total Chlorine (mg/L)	<0.02
Total Ammonia (mg/L as N)	30.3

Test Methods

The acute toxicity test was conducted using fathead minnows according to procedures presented by USEPA (2002) and WDOE (2016) as summarized in Table 2.

Table 2. Summary of Methods for the 96h Fathead Minnow Acute Toxicity Test

Test Initiation Date and Time	07/28/2021; 1630h
Test Termination Date and Time	08/1/2021; 1510h
Test Organism	*Pimephales promelas* (fathead minnow)
Test Organism Source; Age	Aquatic BioSystems, Fort Collins, CO; 6 days
Test Duration	96 ± 2 hours
Feeding	*Artemia* nauplii during holding time and 2 hours prior to test solution renewal
Test Chamber	500 mL plastic cup
Test Solution Volume	250 mL
Test Temperature	20 ± 1°C
Dilution/Control Water	Moderately Hard Synthetic Water
Test Concentrations (% sample)	100, 50, 25, 12.5, 2.7 and 0 (laboratory control)
Number of Organisms/Chamber	10
Number of Replicates/Concentration	4
Photoperiod	16 hours light/8 hours dark
Test Protocol	EPA-821-R-02-012 and WQ-R-95-80
Additional Sample Treatments	Test chambers placed under 5% CO_2 atmosphere to control pH drift for unionized ammonia suppression
Test Acceptability Criterion for Controls	≥ 90% mean survival
Statistical Analysis Software	CETIS™ v1.8.7.20
Reference Toxicant	Copper chloride

Statistical Analysis

Statistical analysis was conducted using USEPA flow chart specifications as outlined in the test guidance manual (USEPA 2002). Organism performance in the sample concentrations was compared to that observed in the lab control exposure. Results were used to calculate the No Observed Effect Concentration (NOEC) and mean lethal concentration (LC_{50}) values. Statistical analysis was performed using the Comprehensive Environmental Toxicity Information System™ (CETIS) by Tidepool Scientific Software, version 1.8.7.20.

Results

No statistically significant effects were observed in the acute critical effluent concentration (ACEC) of 2.7 percent sample, which exhibited 97.5 percent survival. Mean survival in the undiluted effluent was 80 percent. Results are summarized in Table 3. A statistical summary and copy of the laboratory bench sheet for the acute test can be found in Appendix A.

Table 3. Summary of Results for the Fathead Minnow Acute Toxicity Test

Concentration (% effluent)	Mean Survival (%)	NOEC (% effluent)	LOEC (% effluent)	LC_{50} (% effluent)
0.0 (Lab Control)	95.0	100	>100	>100
2.7	97.5			
12.5	97.5			
25	100			
50	97.5			
100	80.0			

NOEC = No Observed Effect Concentration

LOEC = Lowest Observed Effect Concentration

LC_{50} = Effluent concentration estimated to produce mortality in 50 percent of the test organisms

Quality Assurance

The sample was received within the appropriate temperature range specified by WDOE (2016), and the test was initiated within the required 36-hour sample holding time. The toxicity test met the acceptability criterion for survival of control organisms.

Statistical analysis followed standard USEPA flowchart selections and the dose-response relationship was reviewed to ensure the validity of the data. Based on the dose response observed during testing, the calculated effect concentration is deemed reliable. The sample check-in sheet and COC form are provided in Appendices B and C, respectively. A list of qualifier codes is provided in Appendix D.

Reference Toxicant

Results for monthly reference toxicant testing used to monitor laboratory performance and test organism sensitivity are summarized in Table 4. The median effect value for the reference toxicant test fell within the acceptable range of the mean of historical test results plus or minus two standard deviations, indicating that the test organisms were as sensitive to copper as those historically tested. The coefficient of variation (CV) for the test is also provided in the table.

Table 4. Reference Toxicant Test Results

Species	Endpoint	Date initiated	LC_{50} (µg/L copper)	Historical mean ± 2 SD (µg/L copper)	CV (%)
Fathead Minnow	96h survival	7/28/2021	75.9	76.6 ± 65.7	42.9

LC_{50} = Effluent concentration estimated to produce mortality in 50 percent of the test organisms

CV = Coefficient of Variation

References

Tidepool Scientific Software. 2000-2013. CETIS Comprehensive Environmental Toxicity Information System Software, Version 1.8.7.20.

USEPA. 2002. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition. EPA-821-R-02-012.

WDOE. 2016. Whole Effluent Toxicity Testing Guidance and Test Review Criteria. Washington State Department of Ecology. Water Quality Program. Publication number: WQ-R-95-80, Revised June 2016.

Appendix A
Statistical Summary and Raw Bench Sheet

CETIS Summary Report

Fathead Minnow 96-h Acute Survival Test — Nautilus Environmental (CA)

Batch ID:	15-5728-7134	Test Type:	Survival (96h)	Analyst:	
Start Date:	28 Jul-21 16:30	Protocol:	EPA/821/R-02-012 (2002)	Diluent:	Mod-Hard Synthetic Water
Ending Date:	01 Aug-21 15:10	Species:	Pimephales promelas	Brine:	Not Applicable
Duration:	95h	Source:	Aquatic Biosystems, CO	Age:	6d

Sample ID:	15-3050-4369	Code:	21-0798	Client:	Bremerton, City of
Sample Date:	27 Jul-21 07:00	Material:	POTW Effluent	Project:	
Receive Date:	28 Jul-21 09:50	Source:	Bremerton WWTP (WA0029289)		
Sample Age:	34h (1.7 °C)	Station:	Plant Effluent		

Comparison Summary

Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method
18-6180-7588	96h Survival Rate	100	>100	NA	10.5%	1	Steel Many-One Rank Sum Test

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits	Overlap	Decision
18-6180-7588	96h Survival Rate	Control Resp	0.95	0.9 - NL	Yes	Passes Acceptability Criteria

96h Survival Rate Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	4	0.95	0.8581	1	0.9	1	0.02887	0.05774	6.08%	0.0%
2.7		4	0.975	0.8954	1	0.9	1	0.025	0.05	5.13%	-2.63%
12.5		4	0.975	0.8954	1	0.9	1	0.025	0.05	5.13%	-2.63%
25		4	1	1	1	1	1	0	0	0.0%	-5.26%
50		4	0.975	0.8954	1	0.9	1	0.025	0.05	5.13%	-2.63%
100		4	0.8	0.6163	0.9837	0.7	0.9	0.05774	0.1155	14.43%	15.79%

96h Survival Rate Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Water	0.9	1	1	0.9
2.7		1	1	0.9	1
12.5		1	1	1	0.9
25		1	1	1	1
50		1	1	0.9	1
100		0.9	0.7	0.7	0.9

CETIS Analytical Report

Fathead Minnow 96-h Acute Survival Test — Nautilus Environmental (CA)

Analysis ID:	18-6180-7588	**Endpoint:**	96h Survival Rate	**CETIS Version:**	CETISv1.8.7
Analyzed:	03 Aug-21 10:18	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	NOEL	LOEL	TOEL	TU
Angular (Corrected)	NA	C > T	NA	NA	10.5%	100	>100	NA	1

Steel Many-One Rank Sum Test

Control	vs	C-%	Test Stat	Critical	Ties	DF	P-Value	P-Type	Decision(α:5%)
Dilution Water		2.7	20	10	3	6	0.9516	Asymp	Non-Significant Effect
		12.5	20	10	3	6	0.9516	Asymp	Non-Significant Effect
		25	22	10	2	6	0.9908	Asymp	Non-Significant Effect
		50	20	10	3	6	0.9516	Asymp	Non-Significant Effect
		100	12	10	1	6	0.1424	Asymp	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.2235715	0.0447143	5	5.267	0.0037	Significant Effect
Error	0.1528247	0.008490259	18			
Total	0.3763961		23			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Mod Levene Equality of Variance	2.362	4.248	0.0816	Equal Variances
Variances	Levene Equality of Variance	8.317	4.248	0.0003	Unequal Variances
Distribution	Shapiro-Wilk W Normality	0.8743	0.884	0.0064	Non-normal Distribution

96h Survival Rate Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Dilution Water	4	0.95	0.8581	1	0.95	0.9	1	0.02887	6.08%	0.0%
2.7		4	0.975	0.8954	1	1	0.9	1	0.025	5.13%	-2.63%
12.5		4	0.975	0.8954	1	1	0.9	1	0.025	5.13%	-2.63%
25		4	1	1	1	1	1	1	0	0.0%	-5.26%
50		4	0.975	0.8954	1	1	0.9	1	0.025	5.13%	-2.63%
100		4	0.8	0.6163	0.9837	0.8	0.7	0.9	0.05774	14.43%	15.79%

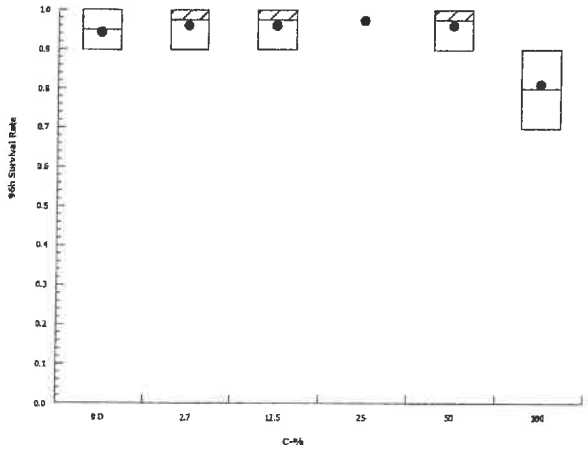
Angular (Corrected) Transformed Summary

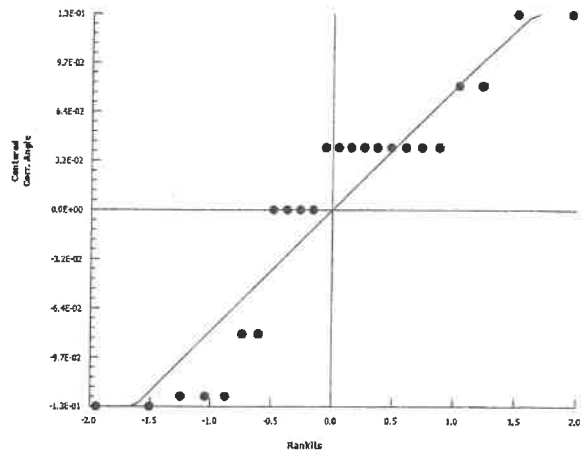
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Dilution Water	4	1.331	1.181	1.48	1.331	1.249	1.412	0.04705	7.07%	0.0%
2.7		4	1.371	1.242	1.501	1.412	1.249	1.412	0.04074	5.94%	-3.06%
12.5		4	1.371	1.242	1.501	1.412	1.249	1.412	0.04074	5.94%	-3.06%
25		4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.0%	-6.12%
50		4	1.371	1.242	1.501	1.412	1.249	1.412	0.04074	5.94%	-3.06%
100		4	1.12	0.8832	1.357	1.12	0.9912	1.249	0.07445	13.29%	15.82%

Analyst: JL QA: MCS 8/4/21 BD 8/11/21

Fathead Minnow 96-h Acute Survival Test					Nautilus Environmental (CA)
Analysis ID:	18-6180-7588	Endpoint:	96h Survival Rate	CETIS Version:	CETISv1.8.7
Analyzed:	03 Aug-21 10:18	Analysis:	Nonparametric-Control vs Treatments	Official Results:	Yes

Graphics





96-hour Freshwater Acute Bioassay
Static-Renewal Conditions
DF-006

Water Quality Measurements & Test Organism Survival

Client: City of Bremerton
Sample ID: Plant Effluent
Sample Log-In: 21-0798
Test No.: 2107-5056

Test Species: *P. promelas*
Start Date/Time: ~~7/21/2021~~ 7/22/21 1630 (B)
End Date/Time: ~~7/25/2021~~ ~~7/31/21~~ 8/1/21 1510 (A)

Tech Initials	0	24	48	72	96
Counts:	EG/RB	RT	EG	EG	RT
Readings:	EG	RT	EG	EG	RT
Dilutions made by:	RT		EG		

Concentration (%)	RAND #	Number of Live Organisms					Conductivity (µmhos/cm)					Temperature (°C)					Dissolved Oxygen (mg/L)					pH (units)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
Lab Control	1	10	10	10	9	9	318	320	i 309	302	322	20.1	20.5	i 20.1	20.2	20.4	8.9	8.2	i 8.1	8.0	8.3	7.72	7.86	i 7.63	7.72	7.45
(MHSW)	13	10	10	10	10	10			f 309					f 20.4					f 7.5					f 7.72		
	20	10	10	10	10	10																				
	2	10	10	10	~~9~~ 10	9																				
2.7	4	10	10	10	10	10	537	528	i 515	506	536	20.0	20.2	i 20.0	20.0	20.2	8.9	7.7	i 8.1	7.6	8.0	7.63	7.80	i 7.61	7.67	7.41
	7	10	10	10	10	10			f 508					f 20.2					f 7.4					f 7.60		
	17	10	10	~~9~~ 10	9	9																				
	3	10	10	10	10	10																				
12.5	16	10	10	10	10	10	1247	1210	i 1219	1193	1255	20.0	20.2	i 20.0	19.9	20.2	8.8	7.7	i 8.2	7.5	7.8	7.51	7.68	i 7.53	7.55	7.39
	19	10	10	10	10	10			f 1172					f 20.1					f 7.3					f 7.49		
	21	10	10	10	10	10																				
	15	10	10	9	9	9																(B)				
25	8	10	10	10	10	10	2210	2135	i 2110	2072	2200	20.0	20.2	i 20.0	20.0	20.2	8.9	7.6	i 8.3	7.5	7.5	~~7.59~~ 7.49	7.60	i 7.48	7.52	7.49
	24	10	10	10	10	10			f 2043					f 20.1					f 7.1			7.43		f 7.49		
	22	10	10	10	10	10																				
	10	10	10	10	10	10																				
50	5	10	10	10	10	10	3980	3740	i 3580	3760	~~4010~~	19.9	20.2	i 20.0	20.1	20.3	9.0	7.3	i 8.4	7.2	7.2	7.38	7.56	i 7.51	7.58	7.72
	11	10	10	10	10	10			f 3610		4010 (C)			f 20.3					f 7.0					f 7.60		
	18	10	10	10	10	9																				
	6	10	10	10	10	10																				
100	12	10	10	9	9	9	6640	7140	i 7140	6990	6600	19.9	20.2	i 19.9	20.0	20.2	9.2	6.6	i 8.8	6.1	5.8	7.46	7.67	i 7.52	7.60	7.75
	23	10	10	10	9	7			f 6780					f 20.2					f 6.1					f 7.65		
	14	10	10	7	7	7																				
	9	10	10	10	10	9																				
									i					i					i					i		
									f					f					f					f		

Rand # QC: EG
Initial Counts QC'd by: RT
Initiated by: EG 080 RB

Environmental Chamber: C

Animal Source/Date Received: ABS 7/22/21

Age at Initiation: 6d

Animal Acclimation Qualifiers (circle all that apply): Q22 / (Q23) / Q24 / none

Feeding Times	0	24	48	72	96
AM:	--	--	1135	--	--
PM:	--	--	--	--	--

Comments: i = initial reading in fresh test solution, f = final reading in test chamber prior to renewal

Organisms fed prior to initiation, circle one (y) / n (A) RT Q18 7/24/21 (B) EG Q18 7/28/21
(C) EG Q18 7/30/21 (D) EG Q18 7/31/21 @Q18 BO 080 RT

QC Check: ARS 8/2/21

Final Review: BO 8/11/21

Appendix B

Sample Receipt Information

Enthalpy Analytical
4340 Vandever Avenue
San Diego, CA 92120

Client: City of Bremerton
Sample ID: Plant Effluent
Test ID No(s).: 2107-5056

NORTHWEST CLIENTS
Sample Check-In Information
DC-005

Sample Description: A: light yellow, clear, no odor, no debris

Sample (A, B, C):	A			
Log-in No. (21-xxxx):	0798			
Sample Collection Date & Time:	7/27/21 0700			
Sample Receipt Date & Time:	7/28/21 0950			
Number of Containers & Container Type:	2- 4L Cubi			
Approx. Total Volume Received (L):	~8L			
Check-in Temperature (°C)	1.7			
Temperature OK? [1]	(Y) N	Y N	Y N	Y N
DO (mg/L)	10.2			
pH (units)	7.55			
Conductivity (µS/cm)	6850			
Salinity (ppt)	3.9			
Alkalinity (mg/L) [2]	185			
Hardness (mg/L) [2,3]	—			
Total Chlorine (mg/L)	<0.02			
Technician Initials	SP			

Subsamples for Additional Chemistry Required:
(NH3) (always required)
Other _____
Tech Initials A SP B___ C___

COC Complete (Y/N)?
A Y B___ C___

Filtration? Y (N) Initials: _____
Pore Size: _____
Organisms or Debris

Salinity Adjustment? Y (N)
Test: Source: Target ppt:
Test: Source: Target ppt:
Test: Source: Target ppt:

pH Adjustment? Y (N)

	A	B	C
Initial pH:			
Amount of HCl added:			
Final pH:			

Cl_2 Adjustment? Y (N)

	A	B	C
Initial Free Cl_2:			
STS added:			
Final Free Cl_2:			

Sample Aeration? Y (N)

	A	B	C
Initial D.O.			
Duration & Rate			
Final D.O.			

Test Performed: Acute Fathead Minnow — Control/Dilution Water: 8:2 / Lab SW / Lab ART (Other: MHSW)
Alkalinity: 58 Hardness or Salinity: 96
Additional Control? Y (N) = _____ Alkalinity: _____ Hardness or Salinity: _____

Test Performed: _____ — Control/Dilution Water: 8:2 / Lab SW / Lab ART Other: _____
Alkalinity: _____ Hardness or Salinity: _____
Additional Control? Y N = _____ Alkalinity: _____ Hardness or Salinity: _____

Test Performed: _____ — Control/Dilution Water: 8:2 / Lab SW / Lab ART Other: _____
Alkalinity: _____ Hardness or Salinity: _____
Additional Control? Y N = _____ Alkalinity: _____ Hardness or Salinity: _____

Notes: [1] Temperature of sample should be 0-6°C at receipt.
[2] mg/L as $CaCO_3$, [3] Measured for freshwater samples only, NA = Not Applicable

Additional Comments: Test conducted under 5% CO_2 atmosphere to control pH drift

QC Check: AS 8/3/21
Final Review: BO 8/11/21

Total Ammonia Analysis
Freshwater

Overlying Water

DC-001

Client: City of Bremerton
Project: Toxicity testing
Test Type: ~~Chronic fathead~~ Acute Fathead minnow
DI Bo 8/11/21
DI Blank: 0.0 **Analyst:** KB
Test Start Date: 7/28/2021 **Analysis Date:** 8/8/21

Sample ID	Enthalpy ID	Sub-Sample Date	Test Day	NH3-N (mg/L) N x 1.22	Ammonia (mg/L)
Blank Spike (10 mg/L NH_3)		NA	NA	8.2	10.0
Plant Effluent	21-0798	7/28/2021	check-in	30.3	37.0
Spike Check (10 mg/L NH_3)		NA	NA	8.2	10.0
Batch QC	21-0794			0.5	0.6
Sample Duplicate[a]		NA	NA	0.5	0.6
Sample Duplicate + Spike[a]		NA	NA	10.2	12.4
Spike Check (10 mg/L NH_3)		NA	NA	8.2	10.0

Relative Percent Difference (RPD) = [sample] (mg/L) - [sample duplicate] (mg/L) / [average ammonia] (mg/L) x 100 — **Acceptable Range: 0-20%**

Percent Recovery = [spiked sample] (mg/L) - [sample] (mg/L) / nominal [spike] (mg/L) x 100 — **Acceptable Range: 80-120%[b]**

QC Sample ID	[NH_3]	[Sample Dup]	Measured [Spike]	Nominal [Spike]	RPD	% Recovery
Blank	0.0	NA	10.0	10	NA	100
Batch QC	0.6	0.6	12.4	10	0	118

	Reagent 1	Reagent 2	Test Tubes
Standard Lot Number	A1053	A1005	A1084

Comments:

Notes: [a]Unless otherwise noted, the last sample listed on the datasheet is used for duplicate and duplicate + spike QC check.

[b] Acceptable range for % recovery applies only to the blank spike. Spike recoveries in samples may vary based on sample matrix and are for information only.

[c] Calculation not performed due to one or both values below the method detection limit.

HACH Ammonia Nitrogen Test Kit, Test 'N Tube™ Vials. Method 10031. Method Detection Limit = 0.5 mg/L

QC Check: A/S 8/9/21 **Final Review:** BO 8/11/21

Appendix C
Chain-of-Custody Form

Enthalpy Analytical - Environmental Toxicology

4340 Vandever Avenue
San Diego, CA 92120
Phone 858.587.7333
infoSD@enthalpy.com

Chain of Custody

Date_____ Page___ of ___

Sample Collection By:

Report to:

Company	City of Bremerton WWTP
Address	1800 Oyster Bay Ave S.
City/State/Zip	Bremerton, WA 98312
Contact	Jackie Horton
Phone	360-473-5446
Email	Jacquelyn.Horton@ci.bremerton.wa.us

Invoice To: Same as Report to ☑

Company	
Address	
City/State/Zip	
Contact	
Phone	
Email	

ANALYSES REQUIRED

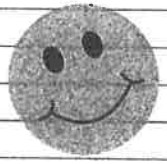
1 composite @ Fathead Minnow

Enthalpy Matrix Codes:
G = Grab
C = Composite
FW = Freshwater
SW = Seawater
Sed = Sediment
STRM = Stormwater
GW = Groundwater
WW = Wastewater
O = Other (specify)

	SAMPLE ID	SAMPLE Date	SAMPLE Time	SAMPLE Type (G or C)	MATRIX CODE (FW, SW, Sed, STRM, GW, WW, O)	Container Type	Container Qty	COMMENTS	Receipt Temperature (°C)
1	EFFLUENT	7/27/21	0700	C	WW	Cube	2	Please Suppress Ammonia ✓	1.7
2									
3									
4									
5									
6									
7									
8									
9									
10									

Thank You!



PROJECT INFORMATION

Project Name:	
PO No.:	
Shipped Via:	Courier

SAMPLE RECEIPT

Total No. of Containers	2
Received Good Condition?	Y
Matches Test Schedule?	Y

@ Fathead minnow tested per permit requirements; see email attachment

1) RELINQUISHED BY (CLIENT)

(Signature)	Jackie Horton
(Time)	0800
(Printed Name)	Jackie Horton
(Date)	7/27/21
(Company)	

2) RECEIVED BY (COURIER)

(Signature)	
(Time)	
(Printed Name)	
(Date)	
(Company)	

3) RELINQUISHED BY (COURIER)

(Signature)	
(Time)	
(Printed Name)	
(Date)	
(Company)	

4) RECEIVED BY (LABORATORY)

(Signature)	Sunthe
(Time)	0950
(Printed Name)	Soheil Patel
(Date)	7/28/21
(Company)	EA-SD
(Log-in #s)	21-0798

Additional costs may be required for sample disposal or storage. Payment net 30 unless otherwise contracted.
Shaded areas are for lab use only
Report turn-around-time varies depending on length of test; please inquire with your project manager.

http://enthalpy.com/environmental-toxicology-2/

MONTROSE

Barbara Orelo <barbara.orelo@enthalpy.com>

Toxicity sample 7/27/21

3 messages

Barbara Orelo <barbara.orelo@enthalpy.com> Wed, Jul 28, 2021 at 9:58 AM
To: Jacquelyn Horton <Jacquelyn.Horton@ci.bremerton.wa.us>

Good Morning Jackie,

We received the sample in good condition this morning but the chain of custody has "topsmelt" listed under analysis instead of "acute fathead minnow". Can you please confirm that the analysis is with the fathead minnow? I believe you don't need chronic toxicity with topsmelt until 2022.

Thanks,
Barbara

--
Barbara Orelo
Project Manager, Environmental Toxicology
Enthalpy Analytical, LLC. (Formerly Nautilus Environmental)
(858)-587-7333 x14008

ENTHALPY ANALYTICAL

Jacquelyn Horton <Jacquelyn.Horton@ci.bremerton.wa.us> Wed, Jul 28, 2021 at 10:03 AM
To: Barbara Orelo <barbara.orelo@enthalpy.com>

Good Morning Barbara,

Sorry I missed your call!! I got in on the last ring.

I first put fathead minnow then I was looking in the permit so I changed it. It was one of those weeks already!! Yes Fathead minnow is good for me.

Yes next year we have to do both topsmelt and daphid in April and Oct next year for Chronic toxicity.

I hope you have a great day

Jackie ☺

Appendix D
Qualifier Codes

Glossary of Qualifier Codes

Q1 - Temperature out of recommended range; corrective action taken and recorded in Test Temperature Correction Log

Q2 - Temperature out of recommended range; no action taken, test terminated same day

Q3 - Sample pH adjusted to within range of 6-9 with reagent grade NaOH or HCl, as needed

Q4 - Test aerated; D.O. levels dropped below 4.0 mg/L

Q5 - Test initiated with continuous aeration due to an anticipated drop in D.O.

Q6 - Airline obstructed or fell out of replicate and replaced; drop in D.O. occurred

Q7 - Salinity out of recommended range

Q8 - Spilled test chamber/ Unable to recover test organism(s)

Q9 - Inadequate sample volume remaining, partial renewal performed

Q10 - Inadequate sample volume remaining, no renewal performed

Q11 - Sample out of holding time; refer to QA section of report

Q12 - Replicate(s) not initiated; excluded from data analysis

Q13 - Survival counts not recorded due to poor visibility or heavy debris

Q14 - D.O. percent saturation was checked and was ≤ 110%

Q15 - Did not meet minimum test acceptability criteria. Refer to QA section of report.

Q16 - Percent minimum significant difference (PMSD) was below the lower bound limit for acceptability. This indicates that statistics may be over-sensitive in detecting a difference from the control due to low variability in the data set. Test results were reviewed and reported in accordance with guidance found in EPA-833-R-00-003, 2000 unless otherwise specified.

Q17 - Percent minimum significant difference (PMSD) was above the upper bound limit for acceptability. This indicates that statistics may be under-sensitive in detecting a difference from the control due to high variability in the data set. Test results were reviewed and reported in accordance with EPA-833-R-00-003, 2000 guidance unless otherwise specified.

Q18 - Incorrect or illegible Entry

Q19 - Miscalculation

Q20 - PMSD criteria do not apply to the test of significant toxicity (TST) analysis

Q21 - Other (provide reason in comments section)

Q22 - Greater than 10% batch mortality observed upon receipt and/or in holding prior to test initiation. Organisms acclimated to test conditions at Enthalpy and ultimately deemed fit to use for testing.

Q23 - Test organisms experienced a temperature shift greater than 3°C within 1 day or were received at a temperature greater than 3°C outside the recommended test temperature range and had minimal time to acclimate prior to test initiation. However, due to age-specific protocol requirements and/or sample holding time constraints, the organisms were used to initiate test(s). Organisms were ultimately deemed fit to use for testing.

Q24 - Test organisms experienced a salinity shift greater than 3 ppt within 1 day or were received at a salinity greater than 3 ppt outside the recommended test salinity range and had minimal time to acclimate prior to test initiation. However, due to age-specific protocol requirements and/or sample holding time constraints, the organisms were used to initiate test(s). Organisms were ultimately deemed fit to use for testing.

ENTHALPY ANALYTICAL

TOXICITY LABORATORY & CONSULTING

Acute Toxicity Testing Results for City of Bremerton WWTP

Monitoring Period: October 2021

Prepared For: Jackie Horton
City of Bremerton
1600 Oyster Bay Ave. S
Bremerton, Washington 98312

Prepared By: Enthalpy Analytical

Date Submitted: November 10, 2021

Data Quality Assurance:

- Enthalpy Analytical is accredited in accordance with NELAP by the State of Oregon Environmental Laboratory Accreditation Program (Lab ID 4053). It is also certified by the State of California Water Resources Control Board Environmental Laboratory Accreditation Program (Certificate No. 1802) and the State of Washington Department of Ecology (Lab ID C552).
- All data have been reviewed and verified.
- All test results have met minimum test acceptability criteria under their respective EPA protocols, unless otherwise noted in this report.
- All test results have met internal Quality Assurance Program requirements.

Results Verified by: _____
Barbara Orelo, Project Manager

4340 Vandever Avenue
San Diego, California 92120
858.587.7333
fax: 858.587.3961

Introduction

An acute toxicity test using the water flea, *Ceriodaphnia dubia*, was conducted on an effluent sample collected from the City of Bremerton's Wastewater Treatment Plant in October 2021. Testing was performed at Enthalpy Analytical located in San Diego, California, between October 20 and 22, 2021.

Materials and Methods

Sample Collection, Transport, and Receipt

The effluent sample was collected in a low-density polyethylene cubitainer by City of Bremerton personnel. The sample was packed in a cooler containing ice and shipped to Enthalpy by overnight delivery service. Appropriate chain-of-custody (COC) procedures were employed during collection and transport. Upon arrival at Enthalpy, the cooler was opened, the sample inspected, and contents verified against information on the COC form. Receipt temperature was measured and recorded on the COC form. Standard water quality parameters were measured and recorded on a sample check-in sheet and are summarized in Table 1. The sample was stored in the dark at 4°C until used for testing.

Table 1. Sample Information

Sample ID	Plant Effluent
Enthalpy Log-In No.	21-1071
Collection Date and Time	10/19/2021; 0745h
Receipt Date and Time	10/20/2021; 0950h
Receipt Temperature (°C)	2.0
Dissolved Oxygen (mg/L)	10.2
pH (units)	7.54
Conductivity (µS/cm)	6,180
Salinity (ppt)	3.5
Alkalinity (mg/L $CaCO_3$)	175
Hardness (mg/L $CaCO_3$)	NM
Total Chlorine (mg/L)	0.02
Total Ammonia (mg/L as N)	26.4

NM = Not measured

Test Methods

The acute toxicity test was conducted using the water flea according to procedures presented by USEPA (2002) as summarized in Table 2.

Table 2. Summary of Methods for the 48h Water Flea Acute Toxicity Test

Test Initiation Date and Time	10/20/2021; 1540h
Test Termination Date and Time	10/22/2021; 1555h
Test Organism	*Ceriodaphnia dubia* (water flea)
Test Organism Source; Age	In-house culture; < 24 hours
Test Duration	48 ± 2 hours
Feeding	YTC and green algae suspension during holding. No feeding during the exposure period.
Test Chamber	30 mL plastic cup
Test Solution Volume	15 mL
Test Temperature	20 ± 1°C
Dilution/Control Water	Moderately Hard Synthetic Water
Test Concentrations (% sample)	100, 50, 25, 12.5, 5.0 and 0.0 (laboratory control)
Number of Organisms/Chamber	5
Number of Replicates/Concentration	4
Photoperiod	16 hours light/8 hours dark
Test Protocol	EPA-821-R-02-012
Additional Sample Treatments	Test chambers placed under 5% CO2 atmosphere to control pH drift for unionized ammonia suppression
Test Acceptability Criterion for Controls	≥ 90% survival
Statistical Analysis Software	CETIS™ v1.8.7.20
Reference Toxicant	Copper chloride

Statistical Analysis

Statistical analysis was conducted using USEPA flow chart specifications as outlined in the test guidance manual (USEPA 2002). Organism performance in the sample concentrations was compared to that observed in the lab control exposure. Results were used to calculate the No Observed Effect Concentration (NOEC) and mean lethal concentration (LC50) values. Statistical analysis was performed using the Comprehensive Environmental Toxicity Information System™ (CETIS) by Tidepool Scientific Software, version 1.8.7.20.

Results

No statistically significant effects were detected in the acute critical effluent concentration (ACEC) of 5.0 percent sample, which exhibited 100 percent survival. Mean survival in the undiluted effluent was 0 percent and was statistically significant compared to the lab control. Results are summarized in Table 3. A statistical summary and copy of the laboratory bench sheet for the acute test can be found in Appendix A.

Table 3. Summary of Results for the Water Flea Acute Toxicity Test

Concentration (% effluent)	Mean Survival (%)	NOEC (% effluent)	LOEC (% effluent)	LC_{50} (% effluent)
0.0 (Lab Control)	100	50	100	73.7
5.0	100			
12.5	100			
25	100			
50	95.0			
100	**0.00**			

NOEC = No Observed Effect Concentration
LOEC = Lowest Observed Effect Concentration
LC_{50} = Effluent concentration estimated to produce mortality in 50 percent of the test organisms
Values in **bold** indicate a statistically significant effect

Quality Assurance

The sample was received within the appropriate temperature range specified by WDOE (2016), and the test was initiated within the required 36-hour sample holding time. The toxicity test met the acceptability criterion for survival of control organisms.

Statistical analysis followed standard USEPA flowchart selections, and the dose-response relationship was reviewed to ensure the validity of the data. Based on the dose response observed during testing, the calculated effect concentration is deemed reliable. The sample check-in sheet and COC form are provided in Appendices B and C, respectively. A list of qualifier codes is provided in Appendix D.

Reference Toxicant Testing

Results for monthly reference toxicant testing used to monitor laboratory performance and test organism sensitivity are summarized in Table 4. The median effect value for the reference toxicant test fell within the acceptable range of the mean of historical test results plus or minus two standard deviations, indicating that the test organisms were as sensitive to copper as those historically tested. The coefficient of variation (CV) for the test is also provided in the table.

Table 4. Reference Toxicant Test Results

Species	Endpoint	Date initiated	LC_{50} (µg/L Cu)	Acceptable Range (µg/L Cu)	CV (%)
Water Flea	48h survival	10/20/2021	13.2	11.8 – 30.7	22.3

LC_{50} = Effluent concentration estimated to produce mortality in 50 percent of the test organisms
CV = Coefficient of Variation

References

Tidepool Scientific Software. 2000-2013. CETIS Comprehensive Environmental Toxicity Information System Software, Version 1.8.7.20.

USEPA. 2002. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition. EPA-821-R-02-012.

WDOE. 2016. Whole Effluent Toxicity Testing Guidance and Test Review Criteria. Washington State Department of Ecology. Water Quality Program. Publication number: WQ-R-95-80, Revised June 2016.

Appendix A
Statistical Summary and Raw Bench Sheet

CETIS Summary Report

Ceriodaphnia 48-h Acute Survival Test — **Nautilus Environmental (CA)**

Batch ID:	14-8432-1750	**Test Type:**	Survival (48h)	**Analyst:**	
Start Date:	20 Oct-21 15:40	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Mod-Hard Synthetic Water
Ending Date:	22 Oct-21 15:55	**Species:**	Ceriodaphnia dubia	**Brine:**	Not Applicable
Duration:	48h	**Source:**	In-House Culture	**Age:**	<24h

Sample ID:	16-1853-1938	**Code:**	21-1071	**Client:**	Bremerton, City of
Sample Date:	19 Oct-21 07:45	**Material:**	POTW Effluent	**Project:**	
Receive Date:	20 Oct-21 09:50	**Source:**	Bremerton WWTP (WA0029289)		
Sample Age:	32h (2 °C)	**Station:**	Plant Effluent		

Comparison Summary

Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method
07-3354-4476	48h Survival Rate	50	100	70.71	9.55%	2	Steel Many-One Rank Sum Test

Point Estimate Summary

Analysis ID	Endpoint	Level	%	95% LCL	95% UCL	TU	Method
05-1808-3870	48h Survival Rate	EC25	60.53	53.1	63.68	1.652	Linear Interpolation (ICPIN)
		EC50	73.68	68.73	75.79	1.357	

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits	Overlap	Decision
05-1808-3870	48h Survival Rate	Control Resp	1	0.9 - NL	Yes	Passes Acceptability Criteria
07-3354-4476	48h Survival Rate	Control Resp	1	0.9 - NL	Yes	Passes Acceptability Criteria

48h Survival Rate Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Lab Control	4	1	1	1	1	1	0	0	0.0%	0.0%
5		4	1	1	1	1	1	0	0	0.0%	0.0%
12.5		4	1	1	1	1	1	0	0	0.0%	0.0%
25		4	1	1	1	1	1	0	0	0.0%	0.0%
50		4	0.95	0.7909	1	0.8	1	0.05	0.1	10.53%	5.0%
100		4	0	0	0	0	0	0	0		100.0%

48h Survival Rate Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Lab Control	1	1	1	1
5		1	1	1	1
12.5		1	1	1	1
25		1	1	1	1
50		0.8	1	1	1
100		0	0	0	0

Analyst: SM QA: AC, 11/4/21 11/4/21

Ceriodaphnia 48-h Acute Survival Test — Nautilus Environmental (CA)

Analysis ID:	07-3354-4476	Endpoint:	48h Survival Rate
Analyzed:	26 Oct-21 11:08	Analysis:	Nonparametric-Control vs Treatments
CETIS Version:	CETISv1.8.7		
Official Results:	Yes		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	NOEL	LOEL	TOEL	TU
Angular (Corrected)	NA	C > T	NA	NA	9.55%	50	100	70.71	2

Steel Many-One Rank Sum Test

Control	vs	C-%	Test Stat	Critical	Ties	DF	P-Value	P-Type	Decision(α:5%)
Lab Control		5	18	10	1	6	0.8000	Asymp	Non-Significant Effect
		12.5	18	10	1	6	0.8000	Asymp	Non-Significant Effect
		25	18	10	1	6	0.8000	Asymp	Non-Significant Effect
		50	16	10	1	6	0.5661	Asymp	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.01134158	0.002835395	4	1	0.4380	Non-Significant Effect
Error	0.04253092	0.002835395	15			
Total	0.0538725		19			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Mod Levene Equality of Variance	1	4.893	0.4380	Equal Variances
Variances	Levene Equality of Variance	9	4.893	0.0006	Unequal Variances
Distribution	Shapiro-Wilk W Normality	0.5088	0.866	<0.0001	Non-normal Distribution

48h Survival Rate Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Lab Control	4	1	1	1	1	1	1	0	0.0%	0.0%
5		4	1	1	1	1	1	1	0	0.0%	0.0%
12.5		4	1	1	1	1	1	1	0	0.0%	0.0%
25		4	1	1	1	1	1	1	0	0.0%	0.0%
50		4	0.95	0.7909	1	1	0.8	1	0.05	10.53%	5.0%
100		4	0	0	0	0	0	0	0		100.0%

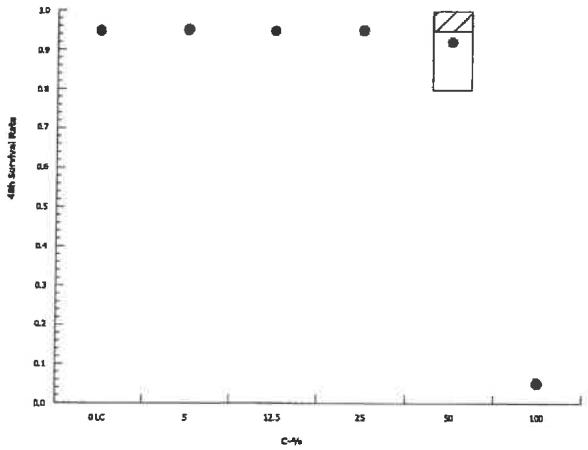
Angular (Corrected) Transformed Summary

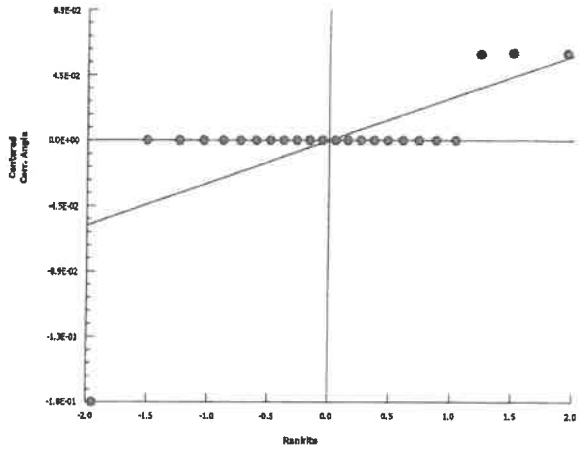
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Lab Control	4	1.345	1.345	1.346	1.345	1.345	1.345	0	0.0%	0.0%
5		4	1.345	1.345	1.346	1.345	1.345	1.345	0	0.0%	0.0%
12.5		4	1.345	1.345	1.346	1.345	1.345	1.345	0	0.0%	0.0%
25		4	1.345	1.345	1.346	1.345	1.345	1.345	0	0.0%	0.0%
50		4	1.286	1.096	1.475	1.345	1.107	1.345	0.05953	9.26%	4.43%
100		4	0.2255	0.2255	0.2256	0.2255	0.2255	0.2255	0	0.0%	83.24%

Ceriodaphnia 48-h Acute Survival Test — **Nautilus Environmental (CA)**

Analysis ID:	07-3354-4476	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.8.7
Analyzed:	26 Oct-21 11:08	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

Graphics





CETIS Analytical Report

Ceriodaphnia 48-h Acute Survival Test — **Nautilus Environmental (CA)**

Analysis ID:	05-1808-3870	**Endpoint:**	48h Survival Rate	**CETIS Version:**	CETISv1.8.7
Analyzed:	04 Nov-21 10:58	**Analysis:**	Linear Interpolation (ICPIN)	**Official Results:**	Yes

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1806731	1000	Yes	Two-Point Interpolation

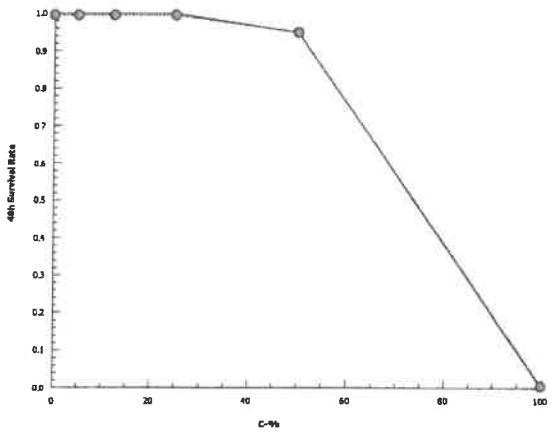
Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC25	60.53	53.1	63.68	1.652	1.57	1.883
EC50	73.68	68.73	75.79	1.357	1.319	1.455

48h Survival Rate Summary

			Calculated Variate(A/B)								
C-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect	A	B
0	Lab Control	4	1	1	1	0	0	0.0%	0.0%	20	20
5		4	1	1	1	0	0	0.0%	0.0%	20	20
12.5		4	1	1	1	0	0	0.0%	0.0%	20	20
25		4	1	1	1	0	0	0.0%	0.0%	20	20
50		4	0.95	0.8	1	0.05	0.1	10.53%	5.0%	19	20
100		4	0	0	0	0	0		100.0%	0	20

Graphics



48-hour Freshwater Acute Bioassay
Static-Renewal Conditions
DF-020

Water Quality Measurements & Test Organism Survival

Client: City of Bremerton
Sample ID: Plant Effluent
Sample Log-In: 21-1071
Test No.: 2110-S109

Test Species: *C. dubia*
Start Date/Time: 10/20/2021 1540
End Date/Time: 10/24/2021 1555 (A)

	Tech Initials		
	0	24	48
Counts:	KL	HH	RT
Readings:	RT	HH	RT
Dilutions made by:	SP	-	-

Concentration (%)	RAND #	Number of Live Organisms			Conductivity (µmhos/cm)			Temperature (°C)			Dissolved Oxygen (mg/L) QHH			pH (units)		
		0	24	48	0	24	48	0	24	48	0	24	48	0	24	48
Lab Control	1	5	5	5	291	302	298	20.2	19.9	20.1	8.6	9.1	8.8	7.79	7.76	8.02
(MHSW)	13	5	5	5												
	20	5	5	5												
	2	5	5	5												
5.0	4	5	5	5	604	613	610	19.9	19.9	20.1	8.5	9.1	8.6	7.78	7.80	8.04
	7	5	5	5												
	17	5	5	5												
	3	5	5	5												
12.5	16	5	5	5	1221	1237	1245	19.9	19.9	20.1	8.5	9.1	8.7	7.73	7.88	8.03
	19	5	5	5												
	21	5	5	5												
	15	5	5	5												
25	8	5	5	5	2093	2122	2155	20.0	19.8	20.1	8.6	9.1	8.6	7.72	7.91	8.01
	24	5	5	5												
	22	5	5	5												
	10	5	5	5												
50	5	5	5	4	3780	3820	3850	20.0	19.9	20.1	8.6	9.0	8.8	7.71	8.01	8.05
	11	5	5	5												
	18	5	5	5												
	6	5	5	5												
100	12	5	2	0	6250	6320	6130	20.0	19.8	20.1	8.6	8.8	8.8	7.79	8.15	8.09
	23	5	3	0												
	14	5	2	0												
	9	5	5	0												

Rand # QC: RT
Initial Count QC: RT

Environmental Chamber: C.

Animal Source/Date Received: Internal / N/A
Age at Initiation: < 24 hours

Animal Acclimation Qualifiers (circle all that apply): Q22 / Q23 / Q24 / none

Comments: Organisms fed prior to initiation, circle one: (y) n)
(A) HH 10/18/21

QC Check: JL 10/25/21
Final Review: AES 11/3/21

Appendix B
Sample Receipt Information

Enthalpy Analytical
4340 Vandever Avenue
San Diego, CA 92120

Client: City of Bremerton
Sample ID: Plant Effluent
Test ID No(s).: 2110 - 5109

NORTHWEST CLIENTS
Sample Check-In Information
DC-005

Sample (A, B, C):	A			
Log-In No. (21-xxxx):	1071			
Sample Collection Date & Time:	10/19/21 0745			
Sample Receipt Date & Time:	10/20/21 0950			
Number of Containers & Container Type:	1 x 4L cubi			
Approx. Total Volume Received (L):	~4L			
Check-in Temperature (°C)	2.0			
Temperature OK? [1]	(Y) N	Y N	Y N	Y N
DO (mg/L)	10.2			
pH (units)	7.54			
Conductivity (µS/cm)	6180			
Salinity (ppt)	3.5			
Alkalinity (mg/L) [2]	175			
Hardness (mg/L) [2,3]	—			
Total Chlorine (mg/L)	0.02			
Technician Initials	KB			

Sample Description:
A light yellow, clear, no odor, no debris

Subsamples for Additional Chemistry Required:
(NH3) (always required)
Other _____
Tech Initials A KB B___ C___

COC Complete (Y/N)?
A Y B___ C___

Filtration? Y (N) **Initials:** _____
Pore Size: _____
Organisms or **Debris**

Salinity Adjustment? Y (N)
Test: **Source:** **Target ppt:**
Test: **Source:** **Target ppt:**
Test: **Source:** **Target ppt:**

pH Adjustment? Y (N)

	A	B	C
Initial pH:			
Amount of HCl added:			
Final pH:			

Cl_2 Adjustment? Y (N)

	A	B	C
Initial Free Cl_2:			
STS added:			
Final Free Cl_2:			

Sample Aeration? Y (N)

	A	B	C
Initial D.O.			
Duration & Rate			
Final D.O.			

Test Performed: Acute C. dubia **Control/Dilution Water:** 8:2 / Lab SW / Lab ART (Other: MASW
Alkalinity: 50 Hardness or Salinity: 83
Additional Control? Y (N) = _____ Alkalinity: _____ Hardness or Salinity: _____

Test Performed: _____ **Control/Dilution Water:** 8:2 / Lab SW / Lab ART **Other:** _____
Alkalinity: _____ Hardness or Salinity: _____
Additional Control? Y N = _____ Alkalinity: _____ Hardness or Salinity: _____

Test Performed: _____ **Control/Dilution Water:** 8:2 / Lab SW / Lab ART **Other:** _____
Alkalinity: _____ Hardness or Salinity: _____
Additional Control? Y N = _____ Alkalinity: _____ Hardness or Salinity: _____

Notes: [1] Temperature of sample should be 0-6°C at receipt.
[2] mg/L as CaCO3, [3] Measured for freshwater samples only, NA = Not Applicable

Additional Comments: Test conducted under 5% CO2 atmosphere to control pH drift

QC Check: JL 10/25/21
Final Review: ACS 11/3/21

Total Ammonia Analysis
Freshwater

Overlying Water

DC-001

Client: City of Bremerton
Project: Plant Effluent
Test Type: Acute Water Flea

DI Blank: 0.0
Test Start Date: 10/20/2021

Analyst: BS
Analysis Date: 10/30/21

Sample ID	Enthalpy ID	Sub-Sample Date	Test Day	NH3-N (mg/L)	N x 1.22 Ammonia (mg/L)
Blank Spike (10 mg/L NH_3)		NA	NA	8.5	10.4
Plant Effluent	21-1071	10/20/2021		~~0.0~~ 26.4	~~<0.5~~ 32.2
Spike Check (10 mg/L NH_3)		NA	NA		
	~~21-1071~~	~~10/20/2021~~			
Sample Duplicate[a]	21-1071	NA	NA	27.0	32.9
Sample Duplicate + Spike[a]		NA	NA	36.1	44.0
Spike Check (10 mg/L NH_3)		NA	NA	8.6	10.5

Relative Percent Difference (RPD) = [sample] (mg/L) - [sample duplicate] (mg/L) / [average ammonia] (mg/L) x 100 — **Acceptable Range: 0-20%**

Percent Recovery = [spiked sample] (mg/L) - [sample] (mg/L) / nominal [spike] (mg/L) x 100 — **Acceptable Range: 80-120%[b]**

QC Sample ID	[NH_3]	[Sample Dup]	Measured [Spike]	Nominal [Spike]	RPD	% Recovery
Blank	0.0	NA	10.4	10	NA	104
21-1071	32.2	32.9	44.0	10	2.2	118

	Reagent 1	Reagent 2	Test Tubes
Standard Lot Number	A1198	A1197, A1208	A1240

Comments:

Notes: [a]Unless otherwise noted, the last sample listed on the datasheet is used for duplicate and duplicate + spike QC check.

[b]Acceptable range for % recovery applies only to the blank spike. Spike recoveries in samples may vary based on sample matrix and are for information only.

[c]Calculation not performed due to one or both values below the method detection limit.

Method Detection Limit = 0.5 mg/L

QC Check: JL 11/3/21

Final Review: AO 11/4/21

Appendix C
Chain-of-Custody Form

Enthalpy Analytical - Environmental Toxicology

4340 Vandever Avenue
San Diego, CA 92120
Phone 858.587.7333
infoSD@enthalpy.com

Chain of Custody

Date 10/19/21 Page 1 of 1

Sample Collection By: Ethan Silfman

Report to:
- Company: City of Bremerton WWTP
- Address: 1000 OYSTER BAY AVE S.
- City/State/Zip: BREMERTON, W.A. 98312
- Contact: JACKIE HORTON
- Phone: 360-473-5446
- Email: JACQUELYN.HORTON@CI.BREMERTON.WA.US

Invoice To: Same as Report to ☑
- Company
- Address: Same
- City/State/Zip
- Contact
- Phone
- Email

ANALYSES REQUIRED

Enthalpy Matrix Codes:
G = Grab; C = Composite; FW = Freshwater; SW = Seawater; Sed = Sediment; STRM = Stormwater; GW = Groundwater; WW = Wastewater; O = Other (specify)

	SAMPLE ID	SAMPLE Date	SAMPLE Time	SAMPLE Type (G or C)	MATRIX CODE (FW, SW, Sed, STRM, GW, WW, O)	Container Type	Container Qty	COMMENTS	(a) Daphnia Pulex Acute TOX	Receipt Temperature (°C)
1	PLANT EFFLUENT	10/19/21	0745	C	WW	Cube	1	PLEASE SUPPRESS Ammonia.	✓	2.0°C
2										
3										
4										
5										
6										
7										
8										
9										
10										

PROJECT INFORMATION
- Project Name:
- PO No.:
- Shipped Via:

SAMPLE RECEIPT
- Total No. of Containers: 1
- Received Good Condition? Y
- Matches Test Schedule? Y

SPECIAL INSTRUCTIONS/COMMENTS:
(a) Ceriodaphnia dubia tested instead

1) RELINQUISHED BY (CLIENT)
(Signature) Jackie Horton (Time) 0800
(Printed Name) Jackie Horton (Date)
(Company) City of Bremerton WWTP

2) RECEIVED BY (COURIER)
(Signature) (Time)
(Printed Name) (Date)
(Company)

3) RELINQUISHED BY (COURIER)
(Signature) (Time)
(Printed Name) (Date)
(Company)

4) RECEIVED BY (LABORATORY)
(Signature) (Time) 0950
(Printed Name) Kobi Barjugo (Date) 10/20/21
(Company) EA-SD (Log-in #s) 21-1071

Additional costs may be required for sample disposal or storage. Payment net 30 unless otherwise contracted.
Shaded areas are for lab use only
Report turn-around-time varies depending on length of test; please inquire with your project manager.

http://enthalpy.com/environmental-toxicology-2/

Appendix D
Qualifier Codes

Glossary of Qualifier Codes

Q1 - Temperature out of recommended range; corrective action taken and recorded in Test Temperature Correction Log

Q2 - Temperature out of recommended range; no action taken, test terminated same day

Q3 - Sample pH adjusted to within range of 6-9 with reagent grade NaOH or HCl, as needed

Q4 - Test aerated; D.O. levels dropped below 4.0 mg/L

Q5 - Test initiated with continuous aeration due to an anticipated drop in D.O.

Q6 - Airline obstructed or fell out of replicate and replaced; drop in D.O. occurred

Q7 - Salinity out of recommended range

Q8 - Spilled test chamber/ Unable to recover test organism(s)

Q9 - Inadequate sample volume remaining, partial renewal performed

Q10 - Inadequate sample volume remaining, no renewal performed

Q11 - Sample out of holding time; refer to QA section of report

Q12 - Replicate(s) not initiated; excluded from data analysis

Q13 - Survival counts not recorded due to poor visibility or heavy debris

Q14 - D.O. percent saturation was checked and was ≤ 110%

Q15 - Did not meet minimum test acceptability criteria. Refer to QA section of report.

Q16 - Percent minimum significant difference (PMSD) was below the lower bound limit for acceptability. This indicates that statistics may be over-sensitive in detecting a difference from the control due to low variability in the data set. Test results were reviewed and reported in accordance with guidance found in EPA-833-R-00-003, 2000 unless otherwise specified.

Q17 - Percent minimum significant difference (PMSD) was above the upper bound limit for acceptability. This indicates that statistics may be under-sensitive in detecting a difference from the control due to high variability in the data set. Test results were reviewed and reported in accordance with EPA-833-R-00-003, 2000 guidance unless otherwise specified.

Q18 - Incorrect or illegible Entry

Q19 - Miscalculation

Q20 - PMSD criteria do not apply to the test of significant toxicity (TST) analysis

Q21 - Other (provide reason in comments section)

Q22 - Greater than 10% batch mortality observed upon receipt and/or in holding prior to test initiation. Organisms acclimated to test conditions at Enthalpy and ultimately deemed fit to use for testing.

Q23 - Test organisms experienced a temperature shift greater than 3°C within 1 day or were received at a temperature greater than 3°C outside the recommended test temperature range and had minimal time to acclimate prior to test initiation. However, due to age-specific protocol requirements and/or sample holding time constraints, the organisms were used to initiate test(s). Organisms were ultimately deemed fit to use for testing.

Q24 - Test organisms experienced a salinity shift greater than 3 ppt within 1 day or were received at a salinity greater than 3 ppt outside the recommended test salinity range and had minimal time to acclimate prior to test initiation. However, due to age-specific protocol requirements and/or sample holding time constraints, the organisms were used to initiate test(s). Organisms were ultimately deemed fit to use for testing.

CSO OUTFALL OF-12 ABANDONMENT LETTER AND ENGINEERING DOCUMENTS

May 22, 2023

Madison Diaz
Washington Department of Ecology
Water Quality Program
PO Box 330316
Shoreline, WA 98133-9716

Subject: CSO Outfall OF-12 Abandonment

Madison,

This letter (along with attached supporting documents from the City of Bremerton's Engineering Department) is to inform Ecology of the City of Bremerton's abandonment of CSO Outfall OF-12.

The outfall was abandoned with the upgrade of lift station CW-4 in the Spring of 2020. I have attached supporting Engineering documents along with this letter.

Please feel free to reach out with any questions or concerns.

Sincerely,

Eric J. Burris
WW Manager, City of Bremerton
360-473-5448
eric.burris@ci.bremerton.wa.us

Public Works and Utilities Department
100 Oyster Bay Ave. N. • Bremerton, WA 98312 • (360) 473-5315 • FAX (360) 473-5360

MEMORANDUM

DATE: May 22, 2023

TO: Eric Burris, Wastewater Manager

FROM: Bill Davis, Managing Engineer - Utilities

SUBJECT: Justification for Abandonment of CSO Structure OF-12 in 2020

OF-12 is one of 15 combined sewer overflow (CSO) outfalls that are maintained and monitored by the City of Bremerton. OF-12 is located in Anderson Cove Basin (ACB), which contains five sub-basins, each with its own CSO outfall. Prior to sewer separation improvements that were performed in ACB in the late 1990s, OF-12 would overflow regularly. Since these improvements were completed in 1999, no overflow has occurred at OF-12. However, overflows have continued to occur at some of the other noted CSO outfalls in ACB as shown in the table below.

CSO Structure in ACB	# of CSO events over the past 20 years (2003 – 2020)	Year of most recent CSO event
OF-8	7	2020
OF-9	11	2022
OF-10	15	2020
OF-11	21	2022
OF-12	0	1999

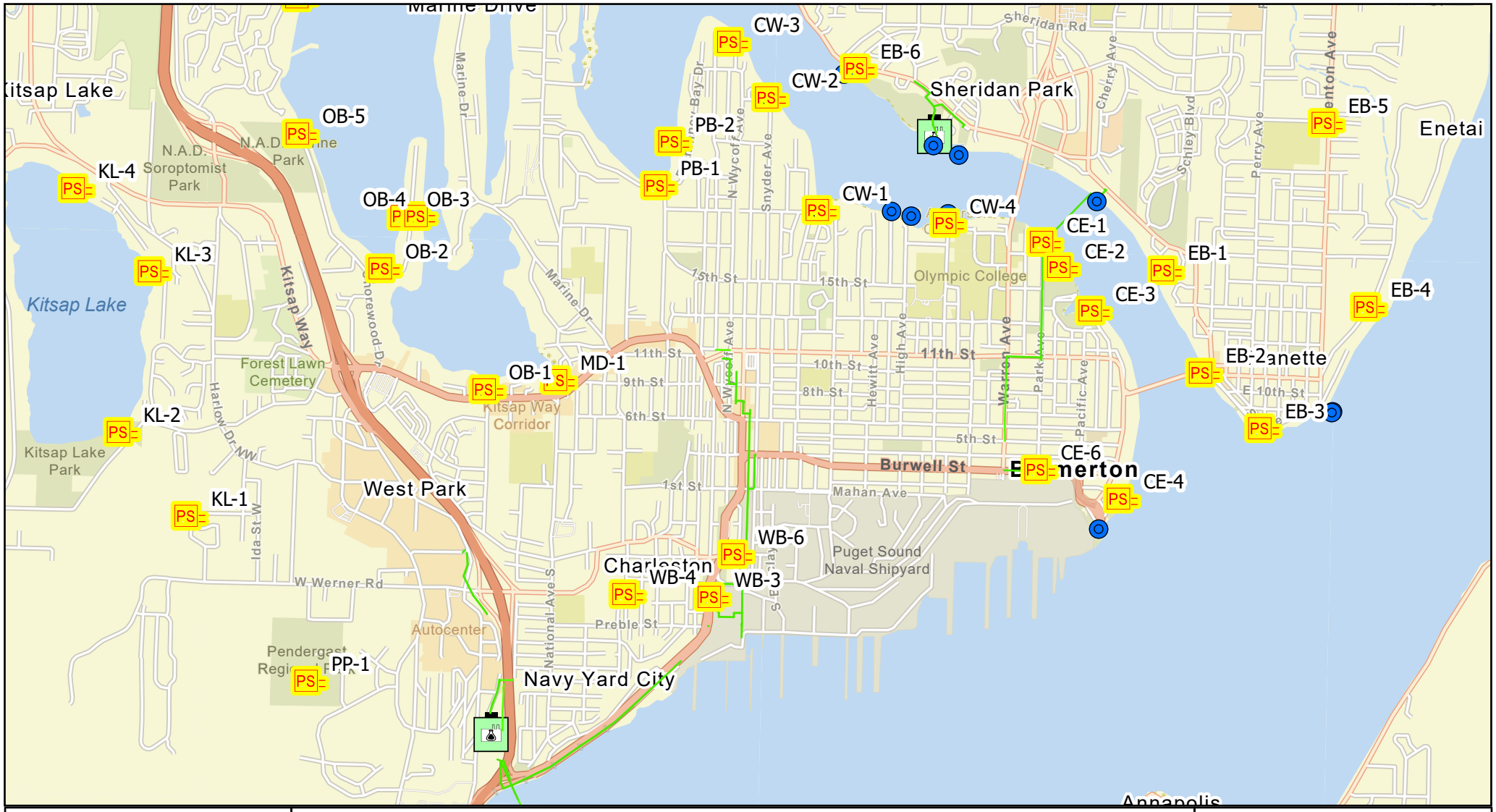
In 2020, the City completed a project which relocated and upgraded Sewage Pump Station CW-4, which is where OF-12 was located. OF-12 would overflow if the incoming flow from the OF-12 sub-basin exceeded the capacity of the CW-4 pumps during a rainfall event. The former CW-4 was located on a bluff at end of Ohio Avenue and would pump into the beach sewer, eventually ending up at Sewage Pump Station CW-1, where it would be pumped out of ACB. Since there was not a flow meter at CW-4 prior to the upgrade, the City used pumping trend data to estimate the pumping flow rate prior to the upgrade. During normal operation, the flow rate was estimated between 70 and 80 gpm. When the liquid level in the wet well approached the overflow elevation, the pumping rate exceeded 200 gpm. The upgraded CW-4 capacity during wet-weather operation is approximately 600 gpm (and between 900 and 1000 gpm with both pumps operating), approximately triple the capacity of the previous station.

Formerly, all the flow from CW-4 would remain in ACB, since the flow was directed through the beach sewer towards CW-1, which would pump the flow out of ACB. Since OF-9, OF-10, and OF-11 were all affected by flow in the beach sewer, CW-4 was contributing to CSO events in

these sub-basins. However, with the upgrade project, the section of beach sewer immediately downstream of CW-4 was abandoned in-place and the CW-4 discharge was redirected out of the basin during wet weather events, therefore no longer impacting these other CSO outfalls.

In summary, OF-12 was no longer needed and the City took it out of service at the completion of the CW-4 Upgrade Project in 2020 for the following reasons:

- No CSO event has occurred at OF-12 since 1999 (over 23 years ago), which was when the separation improvements for ACB were completed;
- OF-12 would overflow if the incoming flow from the sub-basin to CW-4 exceeded the station's pumping capacity. The pumping capacity was approximately tripled (from 200 gpm to 600 gpm) during the upgrade, essentially removing any possibility of a CSO event at OF-12.



Legend

- Cso Structure & Outfall
- Sewer/Storm Mains 24" & Larger
- SewerPumpStations
- Sewer Treatment Plant

Sanitary and Storm System

County of Kitsap, WA State Parks GIS, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/ NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA

2023

Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet

N

0 0.35 0.7 Mi

0 0.5 1 Km