

Issuance Date: _?_
Effective Date: _?_
Expiration Date: _?_

State Waste Discharge Permit Number ST0009276

State of Washington
DEPARTMENT OF ECOLOGY
Central Regional Office
1250 West Alder Street
Union Gap, WA 98903

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

**STE MICHELLE WINE ESTATES
COLUMBIA CREST WINERY
PO Box 231
Paterson, WA 99345**

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

Facility Location: Columbia Crest Drive (SR-221) Paterson, WA 99345	Discharge Location: Legal Description: SE¼ section 31 T. 6N, R. 26 EWM.
Latitude: 45.956911 Longitude: -119.609467	Latitude: 45.968220 Longitude: -119.608998
Treatment Type: Land Treatment Industry Type: Winery	SIC Code: 2084 (Wines, Brandy and Brandy Spirits) NAICS Code: 312130 (Wineries)

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Summary of Permit Report Submittals

Refer to the Special and General Conditions of this permit for additional submittal requirements. The following table is for quick reference only. Enforceable submittal requirements are contained in the permit narrative.

Permit Section	Submittal	Frequency	First Submittal Date
S2.B	Confirmation letter for installation of new monitoring points	1/permit cycle	<u>Enter a specific date 1.5 years after effective date</u>
S3.A	Discharge Monitoring Report (DMR)	Monthly	<u>Enter a specific date</u>
S3.A	Discharge Monitoring Report (DMR)	Quarterly	<u>Enter specific dates</u>
S3.A	Discharge Monitoring Report (DMR)	Semiannual	<u>Enter specific dates</u>
S3.F	Reporting Permit Violations	As necessary	
S4	Evaporation Pond Leak Survey Results	1/permit cycle	<u>Enter a specific date 3 years after the permit effective date</u>
S5.A	Operations and Maintenance (O&M) Manual	1/permit cycle	<u>Enter a specific date 2 year after the permit effective date</u>
S5.A	O&M Manual Update	As necessary	
S5.A.c	Treatment System Operating Plan	1/permit cycle and As necessary	<u>Enter a specific date 2 year after the permit effective date</u>
S5.B	Reporting Bypasses	As necessary	
S6.C	Solid Waste Control Plan	1/permit cycle	<u>Enter a specific date 2 year after the permit effective date</u>
S6.C	Solid Waste Control Plan Update	As necessary	
S7	Application for Permit Renewal	1/permit cycle	<u>Enter a specific date See S6</u>
S8.A.1	Engineering Report pH Adjustment System	1/permit cycle	<u>Enter a specific date 2 years after the permit effective date</u>
S8.A.2	Plans and Specifications pH Adjustment System	1/permit cycle	<u>Enter a specific date 2 years after the permit effective date</u>

Permit Section	Submittal	Frequency	First Submittal Date
S8.A.3	Letter of Construction/Mitigation pH Adjustment System	1/permit cycle	Enter a specific date 3 years after the permit effective date
S8.A.4	Operations and Maintenance Manual pH Adjustment System	1/permit cycle	Enter a specific date 3 years after the permit effective date
S8.B.1	Engineering Report	1/permit cycle and as necessary	Enter a specific date 4 years after effective date
S8.B.2	As-Built Plans and Specifications for in Place Wastewater Infrastructure	1/permit cycle	Enter a specific date 4 years after effective date
S8.B.3	Plans and Specifications (if needed)	1/permit cycle and as necessary	Enter a specific date 4 years after effective date
S9	Groundwater Quality Evaluation Scope of Work	1/permit cycle	Enter a specific date 180 days after permit effective date
S9	Groundwater Quality Evaluation Work Plan	1/permit cycle	Enter a specific date 1 year after permit effective date
S9	Groundwater Quality Evaluation Study Report	1/permit cycle	Enter a specific date 4 years after effective date
S11	Non-Routine Discharge Report	As necessary	
S12	Spill Control Plan	1/permit cycle	Enter a specific date 2 year after the permit effective date
S12	Spill Control Plan Update	As necessary	
S13	Irrigation and Crop Management Plan	1/year	February 15 of each year
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	
G10	Duty to Provide Information	As necessary	

Special Conditions

S1. Discharge limits

S1.A. Land treatment effluent 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.

Beginning on the **Insert effective date**, the Permittee is authorized to apply process wastewater to the designated land treatment site via spray irrigation not to exceed the agronomic rates for nitrogen and water, and at rates for any other wastewater constituents to protect background water quality.

The Permittee may only apply wastewater seasonally from **the 4th week in February through November**. The Permittee must request in writing any changes to the application season and must not discharge outside of the permitted seasonal range until Ecology approves the request.

The Permittee is authorized to apply process wastewater for final treatment on the following designated land treatment sites:

Approximately 206 acres located approximately 2.25 miles northwest of Paterson, directly west of SR-221, and the SE¼ section 31 T. 6N, R. 26 EWM.

Total nitrogen and water applied to the land treatment site must not exceed the crop requirements as determined by the Permittee's Irrigation and Crop Management Plan, Special Condition.

The Permittee must operate the sprayfields in is such a manner as to:

1. Protect the existing and future beneficial uses of both groundwater and surface water.
2. Not cause a violation of the groundwater standards (chapter 173-200 WAC) or the surface water quality standards (chapter 173-201A WAC).

1. Interim Limitations Discharge to the Land Treatment Area:

Beginning on **the effective date** until **Enter a specific date 3 years minus 1 day after effective date**, the Permittee is authorized to

discharge process wastewater and stormwater subject to the following limits:

Effluent Limits: Outfall 001		
Latitude 45.963472 Longitude -119.614552		
Parameter	Monthly	
	Minimum	Maximum
pH	3.5 standard units	10.0 standard units

2. Final Limitations Discharge to the Land Treatment Area

Beginning on **Enter a specific date 3 years after effective date**, the Permittee is authorized to discharge process wastewater and stormwater subject to the following limits:

Effluent Limits: Outfall 001		
Latitude 45.963472 Longitude -119.614552		
Parameter	Monthly	
	Minimum	Maximum
pH	5.0 standard units	10.0 standard units

S1.B Process wastewater evaporation lagoons

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.

1. Interim Limitations Discharge to Ponds 1, 3, and 4

Beginning on **the effective date** until **Enter a specific date 3 years minus 1 day after effective date**, the Permittee is authorized to discharge process wastewater and stormwater to evaporation lagoons at the permitted locations subject to the following limits:

Effluent Limits: Outfall 002		
Pond 1 - Latitude 45.960302 Longitude -119.612171		
Pond 3 - Latitude 45.960807 Longitude -119.608542		
Pond 4 - Latitude 45.962913 Longitude -119.614658		
Parameter	Maximum Depth	
Depth of Water – Pond 1	Minimum of two feet of freeboard – Depth to be determined within 1.5 years of permit effective date	
Depth of Water – Pond 3	Minimum of two feet of freeboard – Depth to be determined within 1.5 year of permit effective date	
Depth of Water – Pond 4	Minimum of two feet of freeboard – Depth to be determined within 1.5 years of permit effective date	
	Minimum	Maximum
pH	3.5 standard units	10.0 standard units

2. Final Limitations Discharge to Ponds 1, 3, and 4

Beginning on **Enter a specific date 3 years after effective date**, the Permittee is authorized to discharge process wastewater and stormwater to evaporation lagoons at the permitted locations subject to the following limits:

Effluent Limits: Outfall 002		
Pond 1 - Latitude 45.960302 Longitude -119.612171		
Pond 3 - Latitude 45.960807 Longitude -119.608542		
Pond 4 - Latitude 45.962913 Longitude -119.614658		
Parameter	Maximum Depth	
Depth of Water – Pond 1	Minimum of two feet of freeboard – Depth to be determined within 1.5 years of permit effective date	
Depth of Water – Pond 3	Minimum of two feet of freeboard – Depth to be determined within 1.5 years of permit effective date	
Depth of Water – Pond 4	Minimum of two feet of freeboard – Depth to be determined within 1.5 years of permit effective date	
	Minimum	Maximum

Effluent Limits: Outfall 002		
Pond 1 - Latitude 45.960302 Longitude -119.612171		
Pond 3 - Latitude 45.960807 Longitude -119.608542		
Pond 4 - Latitude 45.962913 Longitude -119.614658		
pH	5.0 standard units	10.0 standard units

S1.C Sanitary wastewater evaporation lagoons

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.

Beginning on **the permit effective date**, the Permittee is authorized to discharge sanitary wastewater to the single lined evaporation lagoons at the permitted location subject to the following limits:

Effluent Limits: Outfall 003		
Latitude 45.962926 Longitude -119.613140		
Parameter	Maximum Depth	
Depth of Water – Sanitary Pond 1	Minimum of two feet of freeboard – Depth to be determined within 1.5 years of permit effective date	
Depth of Water – Sanitary Pond 2	Minimum of two feet of freeboard – Depth to be determined within 1.5 years of permit effective date	
Depth of Water – Sanitary Pond 3	Minimum of two feet of freeboard – Depth to be determined within 1.5 years of permit effective date	
	Minimum	Maximum
pH	5.0 standard units	10.0 standard units

S1.D Water softener process wastewater evaporation lagoon

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.

Beginning on **the permit effective date**, the Permittee is authorized to discharge water softener process wastewater to a single lined evaporation lagoon at the permitted location subject to the following limits:

Effluent Limits: Outfall 004		
Latitude 45.960119 Longitude -119.609141		
Parameter	Maximum Depth	
Depth of Water – Water Softener Process Wastewater Pond	Minimum of two feet of freeboard – Depth to be determined within 1.5 years of permit effective date	
	Minimum	Maximum
pH	5.0 standard units	10.0 standard units

S1.E. Best management practices/pollution prevention

The Permittee must comply with the following Best Management Practices to prevent pollution to waters of the State:

1. Do not commingle process wastewater streams with sanitary (domestic) sewage.
2. Do not discharge in excess of the hydraulic capacity of the lagoons so that the lagoon overflows.
3. Do not discharge priority pollutants, dangerous wastes, or toxics in toxic amounts.
4. Do not discharge process wastewater to the sprayfield when the soil temperature is below 2°C.

Soil temperature data to be used is the daily minimum soil temperature at 8 inches depth as recorded from the AgWeatherNet Paterson West weather station located at latitude 45.94 and longitude -119.66 (<http://weather.wsu.edu>).

S2. Monitoring requirements

S2.A. Process wastewater and stormwater monitoring

The Permittee must monitor the process wastewater prior to its discharge to the clarifiers and lagoons.

A sampling station must be installed for the wastewater after it leaves the facility and before entering the clarifier and lagoon system by **insert date 1.5 years from effective date of permit**.

Gauges measuring the depth of water in each lagoon must be installed by **insert date 1.5 years from effective date of permit**.

Provide a confirmation letter to Ecology that the new monitoring points have been installed by **insert date 1.5 years from effective date of permit**.

The letter report must describe the location and type of new monitoring equipment installed. The letter report must also include the maximum water depth of each lagoon in feet providing for two feet of freeboard above this depth.

The Permittee must monitor in accordance with the following schedule and the requirements specified in **Appendix A**.

Process Wastewater and Stormwater Lagoon Influent Sample at a Location Before the Clarifier and Lagoon System			
Parameter	Units & Speciation	Sampling Frequency	Sample Type
Flow ^a	gallons/day (gpd)	Continuous ^b	Metered
Flow (Monthly Total)	gallons/month	1/month	Calculated
Depth of Water – Pond 1	feet	Monthly	Measurement
Depth of Water – Pond 3	feet	Monthly	Measurement
Depth of Water – Pond 4	feet	Monthly	Measurement
Biochemical Oxygen Demand (BOD ₅)	mg/L	2/month ^c	24-hour composite ^d
BOD ₅	lbs/day	1/month	Calculated ^e
Soluble BOD ₅	mg/L	2/month	24-hour composite
Soluble BOD ₅	lbs/day	1/month	Calculated

Process Wastewater and Stormwater Lagoon Influent Sample at a Location Before the Clarifier and Lagoon System			
Total Dissolved Solids (TDS)	mg/L	2/month ^f	24-hour composite
TDS	lbs/day	1/month ^g	Calculated
Total Suspended Solids (TSS)	mg/L	1/month	24-hour composite
TSS	lbs/day	1/month	Calculated
Fixed Dissolved Solids (FDS)	mg/L	1/month	24-hour composite
FDS	lbs/day	1/month	Calculated
pH	Standard Units	2/month	Grab ^h
Kjeldahl Nitrogen (TKN)	mg/L as N	1/month	24-hour composite
TKN	lbs/day	1/month	Calculated
Nitrate plus Nitrite Nitrogen	mg/L as N	1/month	24-hour composite
Nitrate plus Nitrite Nitrogen	lbs/day	1/month	Calculated
NH ₃ (Ammonia) Nitrogen	mg/L as N	1/month	24-hour composite
NH ₃ (Ammonia) Nitrogen	lbs/day	1/month	Calculated
Total Nitrogen	mg/L as N	1/month	Calculated
Total Nitrogen	lbs/day	1/month	Calculated
Total Phosphorus	mg/L as P	1/month	24-hour composite
Chloride	mg/L	1/month	24-hour composite
Total Zinc	mg/L	1/month	24-hour composite
Total Zinc	lbs/day	1/month	Calculated
Total Copper	mg/L	1/month	24-hour composite
Total Copper	lbs/day	1/month	Calculated
a	Flow is the amount of process water discharged from the plant prior to mixing with supplemental irrigation water.		
b	Continuous means uninterrupted except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance. The Permittee must sample daily when continuous monitoring is not possible.		
c	1/week means at least one (1) time during each calendar week.		
d	24-hour composite means a series of individual samples collected over a 24-hour period into a single container, and analyzed as one sample.		

Process Wastewater and Stormwater Lagoon Influent Sample at a Location Before the Clarifier and Lagoon System	
	Grab samples will be allowed until 1.5 years after the effective date of the permit when the 24-hour composite samples will need to be collected from the new sampling point.
e	Calculate the average lbs. per day according to the following formula: Average of concentration measurements times average flow of days of discharge in MG, times 8.34.
f	2/month means at least two (2) times during each calendar month.
g	1/month means once (1) time during each calendar month.
h	Grab means an individual sample collected over a fifteen (15) minute, or less, period.

S2.B. Irrigation wastewater monitoring

The Permittee must sample at a location that best represents the discharge pumped and applied to the sprayfield. The sampling point for the irrigated wastewater is at the irrigation pump station located north of the lower lagoon (Outfall 001). The irrigation wastewater sample must be collected after the process wastewater is mixed with any supplemental irrigation water. The Permittee must report results in the annual Irrigation and Crop Plan (Section S12).

A sampling station must be installed for the process wastewater after it is mixed with supplemental irrigation water within 1.5 years of the effective date of this permit.

Provide a confirmation letter to Ecology that the new monitoring points have been installed by **insert date 1.5 years from effective date of permit**. The letter report must describe the location and type of new monitoring equipment installed.

Monitoring at this monitoring point will not commence until the new sampling point is installed.

The Permittee must monitor in accordance with the following schedule and the requirements specified in Appendix A.

Process Wastewater and Stormwater Lagoon Effluent Sample at a Location After Mixing Lagoon Effluent with Supplemental Irrigation Water			
Parameter	Units & Speciation	Sampling Frequency	Sample Type
Flow – Lagoon Effluent	gallons/day (gpd)	Continuous ^a	Metered
Flow – Lagoon Effluent (Monthly Total)	gallons/month	1/month ^b	Calculated
Flow - Combined Lagoon Effluent and Supplemental Irrigation Water (Monthly Total) ^c	gallons/day (gpd)	Continuous	Metered
Flow - Combined Lagoon Effluent and Supplemental Irrigation Water (Monthly Total)	gallons/month	1/month	Calculated
Soluble BOD ₅	mg/L	2/month ^d	24-hour composite ^e
Soluble BOD ₅	lbs/day	2/month	Calculated ^f
Soluble BOD ₅	total lbs/month	1/month	Calculated ^g
Soluble BOD ₅	avg lbs/acre/day	1/month	Calculated ^h
BOD ₅	mg/L	1/week	24-hour composite
BOD ₅	lbs/day	1/week	Calculated
BOD ₅	total lbs/month	1/month	Calculated
BOD ₅	avg lbs/acre/day	1/month	Calculated
TSS	mg/L	1/month ⁱ	24-hour composite
TSS	lbs/day	1/month	Calculated
TDS	mg/L	2/month	24-hour composite
TDS	lbs/day	1/month	Calculated
FDS	mg/L	1/month	24-hour composite
FDS	lbs/day	1/month	Calculated
pH	Standard Units	2/month	Grab ^j
TKN	mg/L as N	2/month	24-hour composite
TKN	lbs/day as N	1/month	Calculated

Process Wastewater and Stormwater Lagoon Effluent Sample at a Location After Mixing Lagoon Effluent with Supplemental Irrigation Water			
Parameter	Units & Speciation	Sampling Frequency	Sample Type
Nitrate plus Nitrite Nitrogen	mg/L as N	2/month	24-hour composite
Nitrate plus Nitrite Nitrogen	lbs/day as N	1/month	Calculated
NH ₃ (Ammonia) Nitrogen	mg/L as N	2/month	24-hour composite
NH ₃ (Ammonia) Nitrogen	lbs/day as N	1/month	Calculated
Total Nitrogen	mg/L as N	2/month	Calculated ^k
Total Nitrogen	lbs/day	1/month	Calculated
Total Nitrogen	total lbs./month	1/month	Calculated
Total Nitrogen	avg lbs/acre/day	1/month	Calculated
Chloride	mg/L	2/month	24-hour composite
Chloride	lbs/day	1/month	Calculated
Sodium	mg/L	1/month	24-hour composite
Calcium	mg/L	1/month	24-hour composite
Magnesium	mg/L	1/month	24-hour composite
Potassium	mg/L	1/month	24-hour composite
Sulfate	mg/L	1/month	24-hour composite
Total Alkalinity (as calcium carbonate)	mg/L	1/month	24-hour composite
Total Copper	mg/L	1/month	24-hour composite
Total Copper	lbs/day	1/month	Calculated
Total Zinc	mg/L	1/month	24-hour composite
Total Zinc	lbs/day	1/month	Calculated
a	Continuous means uninterrupted except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance. The Permittee must sample daily when continuous monitoring is not possible.		
b	1/month means once (1) time during the calendar month.		
c	Flow is combined process wastewater and supplemental irrigation water (river water).		
d	1/week means at least one (1) time during each calendar week.		

Process Wastewater and Stormwater Lagoon Effluent Sample at a Location After Mixing Lagoon Effluent with Supplemental Irrigation Water			
Parameter	Units & Speciation	Sampling Frequency	Sample Type
e	24-hour composite means a series of individual samples collected over a 24-hour period into a single container, and analyzed as one sample. Grab samples will be allowed until 1.5 years after the effective date of the permit when the 24-hour composite samples will need to be collected from the new sampling point.		
f	Calculate the average lbs. per day according to the following formula: Average of concentration measurements times average flow of days of discharge in MG, times 8.34.		
g	Calculate the total lbs. per month by multiplying the lbs. per day by the number of days in the month.		
h	Calculate the average lbs. per acre per day dividing the total pounds per month by the number of days in the month and then dividing the result by the total number of acres.		
i	2/month means at least two (2) times during each calendar month.		
j	Grab means an individual sample collected over a fifteen (15) minute, or less, period.		
k	Calculate the total nitrogen concentration by adding the TKN and Nitrate/Nitrite concentrations.		

S2.C. Supplemental irrigation water monitoring

A sampling point for the supplemental irrigation water prior to mixing with the process wastewater must be installed with 1.5 years of the effective date of this permit.

Provide a confirmation letter to Ecology that the new monitoring points have been installed by **insert date 1.5 years from effective date of permit**. The letter report must describe the location and type of new monitoring equipment installed.

Monitoring at this monitoring point will not commence until the new sampling point is installed.

The Permittee must monitor according to the schedule below:

Supplemental Irrigation Water Sample at a Location Before Mixing with Process Wastewater Lagoon Effluent			
Parameter	Units & Speciation	Sampling Frequency	Sample Type
Flow	gallons/day (gpd)	Continuous ^a	Metered

Supplemental Irrigation Water			
Sample at a Location Before Mixing with Process Wastewater Lagoon Effluent			
Parameter	Units & Speciation	Sampling Frequency	Sample Type
Flow (Monthly Total)	gallons/ month	1/month	Calculated
pH	Standard Units	Semi-annually ^b	Grab ^c
Conductivity	µS/cm	Semi-annually	Grab
Nitrate-Nitrite Nitrogen	mg/L	Semi-annually	Grab
Total Alkalinity (as calcium carbonate)	mg/L	Semi-annually	Grab
Chloride	mg/L	Semi-annually	Grab
Sulfate	mg/L	Semi-annually	Grab
TDS	mg/L	Semi-annually	Grab
Fixed Dissolved Solids	mg/L	Semi-annually	Grab
a	Continuous means uninterrupted except for brief lengths of time for calibration, for power failure, or for unanticipated equipment repair or maintenance. Measurements must be taken hourly when continuous monitoring is not possible.		
b	Semi-annually means once in May and once in October.		
c	Grab means an individual sample collected over a fifteen (15) minute, or less, period.		

S2.D. Sanitary wastewater

A sampling point and flow meter for the sanitary wastewater must be installed by **insert date 1.5 years from effective date of permit**. The monitoring point will be located prior to the wastewater entering any of the single lined evaporation lagoons.

Gauges measuring the depth of water in each lagoon must be installed by **insert date 1.5 years from effective date of permit**.

Provide a confirmation letter to Ecology that the new monitoring points have been installed by **insert date 1.5 years from effective date of permit**.

The letter report must describe the location and type of new monitoring equipment installed. The letter report must also include the maximum water depth of each lagoon in feet providing for two feet of freeboard above this depth.

Monitoring at this monitoring point will not commence until the new sampling point is installed.

The Permittee must monitor according to the schedule below:

Sanitary Wastewater			
Sample at a Location Before Entering the Sanitary Evaporation Lagoons			
Parameter	Units & Speciation	Sampling Frequency	Sample Type
Flow	gallons/day (gpd)	Continuous ^a	Metered
Flow (Monthly Total)	gallons/month	Monthly ^b	Calculated
pH	Standard Units	Monthly	Grab ^c
BOD	mg/L	Monthly	Grab
BOD (Monthly Average)	lbs/day	Monthly	Calculated ^d
Depth of Water - Sanitary Pond 1	feet	Monthly	Measurement
Depth of Water - Sanitary Pond 2	feet	Monthly	Measurement
Depth of Water - Sanitary Pond 3	feet	Monthly	Measurement
Sludge Depth – Sanitary Pond 1	feet	Once during fourth year of permit cycle	Measurement
Sludge Depth – Sanitary Pond 2	feet	Once during fourth year of permit cycle	Measurement
Sludge Depth – Sanitary Pond 3	feet	Once during fourth year of permit cycle	Measurement
a	Continuous means uninterrupted except for brief lengths of time for calibration, for power failure, or for unanticipated equipment repair or maintenance. Measurements must be taken hourly when continuous monitoring is not possible.		
b	Monthly means one (1) time per calendar month.		
c	Grab means an individual sample collected over a fifteen (15) minute, or less, period.		
d	Calculate the average lbs. per day according to the following formula: Average of concentration measurements times average flow of days of discharge in MG, times 8.34.		

S2.E. Water softener process wastewater

A sampling point and flow meter for the water softener wastewater must be installed by **insert date 1.5 years from effective date of permit**. The monitoring point will be located prior to the wastewater entering the single lined evaporation lagoon.

A gauge measuring the depth of water in the lagoon must be installed by **insert date 1.5 years from effective date of permit**.

Provide a confirmation letter to Ecology that the new monitoring points have been installed by **insert date 1.5 years from effective date of permit**.

The letter report must describe the location and type of new monitoring equipment installed. The letter report must also include the maximum water depth of each lagoon in feet providing for two feet of freeboard above this depth.

Monitoring at this monitoring point will not commence until the new sampling point is installed.

The Permittee must monitor according to the schedule below:

Water Softener Process Wastewater			
Sample at a Location Before Entering the Water Softener Process Wastewater Evaporation Lagoon			
Parameter	Units & Speciation	Sampling Frequency	Sample Type
Flow	gallons/day (gpd)	Continuous ^a	Metered
Flow (Monthly Total)	gallons/month	Monthly ^b	Calculated
pH	Standard Units	Monthly	Grab ^c
TDS	mg/L	Monthly	Grab
TDS (Monthly Average)	lbs./day	Monthly	Calculated ^d
Depth of Water	feet	Monthly	Measurement
Sludge Depth	feet	Once during fourth year of permit cycle	Measurement
a	Continuous means uninterrupted except for brief lengths of time for calibration, for power failure, or for unanticipated equipment repair or maintenance. Measurements must be taken hourly when continuous monitoring is not possible.		
b	Monthly means one (1) time per calendar month.		
c	Grab means an individual sample collected over a fifteen (15) minute, or less, period.		
d	Calculate the average lbs. per day according to the following formula: Average of concentration measurements times average flow of days of discharge in MG, times 8.34.		

S2.F. Groundwater monitoring (production wells)

The Permittee must monitor the groundwater at the production wells Well #1 and Well #2 in accordance with the following schedule and the requirements specified in Appendix A.

Production (Source) Well #1 Latitude 45.958519 Longitude -119.608310			
Production (Source) Well #2 Latitude 45.958630 Longitude -119.608465			
Parameter	Units & Speciation	Sampling Frequency	Sample Type
Measured Depth to Groundwater	Feet (nearest 0.01 ft)	Quarterly ^a	Field Measurement
Iron (Total)	mg/L	Quarterly	Grab ^b
Manganese (Total)	mg/L	Quarterly	Grab
Arsenic (Total)	mg/L	Quarterly	Grab
pH	Standard Units	Quarterly	Grab
Conductivity	micromhos/cm	Quarterly	Grab
Temperature	Degrees C	Quarterly	Field Measurement
Sulfate	mg/L	Quarterly	Grab
TDS	mg/L	Quarterly	Grab
Nitrate plus Nitrite Nitrogen	mg/L as N	Quarterly	Grab
a	Quarterly sampling periods are January through March, April through June, July through September, and October through December.		
b	Grab means an individual sample collected over a fifteen (15) minute, or less, period.		

S2.G. Groundwater monitoring (monitoring wells)

There are no existing groundwater monitoring wells at the facility. If the Permittee installs groundwater monitoring wells (permit condition S8.) while covered under this permit, the Permittee must monitor, at a minimum, in accordance with the following schedule and requirements specified in Appendix A. If any additional parameters are monitored, the frequency for all parameters and sampling methods must be included in an Ecology approved work plan (sampling plan).

Future Monitoring Wells if Constructed			
Parameter	Units & Speciation	Sampling Frequency	Sample Type
Ferrous Iron	Present /Absent	To Be Determined ^a	Field Measurement
Iron (Total)	mg/L	To Be Determined	Grab ^b
Total Organic Carbon	mg/L	To Be Determined	Grab
pH	Standard Units	To Be Determined	Grab
Conductivity	Micromho/cm	To Be Determined	Grab
Measured Depth to Groundwater	Feet (nearest 0.01 ft)	To Be Determined	Field Measurement
Temperature	Degrees C	To Be Determined	Field Measurement
Bicarbonate Alkalinity	mg/L as CaCO3	To Be Determined	Grab

Future Monitoring Wells if Constructed			
Parameter	Units & Speciation	Sampling Frequency	Sample Type
Carbonate Alkalinity	mg/L as CaCO ₃	To Be Determined	Grab
Chloride	mg/L	To Be Determined	Grab
Fluoride	mg/L	To Be Determined	Grab
Sulfate	mg/L	To Be Determined	Grab
Total Dissolved Solids	mg/L	To Be Determined	Grab
Nitrate plus Nitrite Nitrogen	mg/L as N	To Be Determined	Grab
Total Kjeldahl Nitrogen (TKN)	mg/L as N	To Be Determined	Grab
Calcium (Total)	mg/L	To Be Determined	Grab
Potassium (Total)	mg/L	To Be Determined	Grab
Magnesium (Total)	mg/L	To Be Determined	Grab
Sodium (Total)	mg/L	To Be Determined	Grab
Manganese (Total)	mg/L	To Be Determined	Grab
Arsenic (Total)	Mg/L	To Be Determined	Grab
a	Sampling frequency to be determined by Ecology approved work plan (sampling plan).		
b	Grab means an individual sample collected over a fifteen (15) minute, or less, period.		

S2.H. Soil monitoring

The Permittee must monitor soil on the land treatment site as follows; the Permittee must:

1. Monitor twice per year unless otherwise specified.
2. Locate sampling sites so they represent each land treatment site or as identified in the crop management plan.
3. Locate sampling sites in the same vicinity each year if possible.
4. Test soil at each sampling site on one-foot soil increments.
5. Submit results annually with the Irrigation and Crop Management Plan.
6. Composite a minimum of four (4) core samples at the six depth increments as defined in the table below (or until auger refusal).
7. Collect samples at a time that best represents soil conditions at the beginning and the end of the crop-growing season.
8. Measure ferrous iron as described in the table below and as follows; the Permittee must:
 - a. In addition to the bi-annual schedule, collect samples from any areas, which show indications of ponding of wastewater or poor plant growth, which might be associated with saturated soils.

- b. Collect four (4) additional samples from other generally low areas of the sprayfield.
- c. Include a brief summary of the results of these tests with the monthly discharge monitoring report (DMR).
- d. Locate on a sketch map the locations of any samples that indicate the presence of ferrous iron and describe the corrective actions taken in the report.

The Permittee must monitor the soils in the sprayfields according to the following schedule:

Parameter	Units & Speciation	Sample Point	Depth Increments ^a
Exchangeable Sodium Percentage	%	Each field	1 through 6 ^b
Cation Exchange Capacity	meq/100g	Each field	1 through 6
Organic Matter	%	Each field	1 through 6
Moisture Content	%	Each field	1 through 6
Total Kjeldahl Nitrogen (TKN)	mg/Kg as N	Each field	1 through 6
Nitrate plus Nitrite Nitrogen	mg/Kg as N	Each field	1 through 6
NH ₃ Nitrogen	mg/Kg as N	Each field	1 through 6
Phosphorus (Total)	mg/Kg	Each field	1 through 6
Conductivity	micromhos/cm	Each field	1 through 6
Ferrous Iron ^b	Presence or absence	Low areas in sprayfield	6 inches
Sodium (Total)	meq/100g	Each field	1 through 6
Calcium (Total)	meq/100g	Each field	1 through 6
Magnesium (Total)	meq/100g	Each field	1 through 6
Potassium (Total)	mg/Kg	Each field	1 through 6
Sulfate	mg/Kg as S	Each field	1 through 6
pH	Standard Units	Each field	1 through 6
a	Depth (inches) vs. Depth increment (ft.) for composite samples: 0 -12" (1ft); 12-24" (2ft); 24-36" (3ft); 36-48" (4ft); 48-60" (5ft); 60-72" (6ft)		
b	The Permittee must test surficial soils (to 6 inch depth) for the presence or absence of ferrous iron using the 1000 mg/liter 2-2' dipyrldyl indicator solution, (<i>Field Techniques for Measuring Wetland Soil Parameters</i> , Faulkner, et. al., May-June, 1989).		

S2.I. Crop monitoring

The Permittee must:

1. Monitor the crops for the parameters listed below on each field once per harvest.

2. Comprise composite samples of at least ten (10) random samples collected from each center-pivot field, and from the handline fields.
3. Submit results annually with the Irrigation and Crop Management Plan.

Parameter	Units, Speciation, & Measurement Basis
Crop Production	dry tons/acre
Moisture Content	%
Crude Protein	%
Total Kjeldahl Nitrogen	%
Nitrate plus Nitrite Nitrogen	mg/Kg as N (dry weight)
Phosphorus	%
Solids (Total Fixed) (Ash Weight)	mg/Kg (dry weight)
Sodium	mg/Kg (dry weight)
Magnesium	mg/Kg (dry weight)
Potassium	mg/Kg (dry weight)
Calcium	mg/Kg (dry weight)

S2.J. 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.

Groundwater sampling must conform to the latest protocols in the *Implementation Guidance for the Ground Water Quality Standards*, (Ecology 2005).

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)

The Permittee must conduct and report all soil analysis in accordance with the Western States Laboratory Plant, Soil and Water Analysis Manual, *Soil, Plant And Water Reference Methods for The Western Region, 4th Edition*, 2013. You can find more information at:

<https://www.naptprogram.org/methods>.

The Permittee must also participate in a proficiency testing program such as the North American Proficiency Testing Program. You can find more information at: <http://www.naptprogram.org/>.

S2.K. 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.
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.L. 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.

Crops and soils data are process control parameters, which do not require preparation by an accredited laboratory. However, the Permittee must obtain this data from a reputable agricultural test lab that is an active participant in a nationally recognized agricultural laboratory proficiency testing program.

S.2.M. Request for reduction in monitoring

The Permittee may request a reduction of the sampling frequency after twelve (12) months of monitoring. Ecology will review each request and at its discretion grant the request when it reissues the permit or by a permit modification.

The Permittee must:

1. Provide a written request.
2. Clearly state the parameters for which it is requesting reduced monitoring.
3. Clearly state the justification for the reduction.

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 S2 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:

<http://www.ecy.wa.gov/programs/wq/permits/paris/webdmr.html>

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.
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. Report single-sample grouped parameters (for example: priority pollutants, PAHs, pulp and paper chlorophenolics, TTOs) on the WQWebDMR form and include: sample date, concentration detected, detection limit (DL) (as necessary), and laboratory quantitation level (QL) (as necessary).

The Permittee must also submit an electronic copy of the laboratory report as an attachment using WQWebDMR. The contract laboratory reports must also include information on the chain of custody, QA/QC results, and documentation of accreditation for the parameter.

7. Ensure that DMRs are electronically submitted no later than the dates specified below, unless otherwise specified in this permit.
8. Submit DMRs for parameters with the monitoring frequencies specified in S2 (monthly, quarterly, annual, etc.) at the reporting schedule identified below. The Permittee must:
 - a. Submit **monthly** DMRs by the 15th day of the following month.

- b. Submit **quarterly DMRs**, unless otherwise specified in the permit, by the 15th 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 on for the quarter beginning on 1/1/20XX 4/1/20XX 7/1/20XX 10/1/20XX.
- c. Submit **semiannual DMRs**, unless otherwise specified in the permit, by July 15 and January 15 of each year. Semiannual sampling periods are January through June, and July through December.

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
Central Regional Office
1250 West Alder Street
Union Gap, WA 98903

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.

The Permittee must retain all records pertaining to the monitoring of sludge for a minimum of five years.

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 Special Condition S2 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 Special Condition S2.

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 immediately report to the Department of Ecology and the Department of Health, Drinking Water Program (at the numbers listed below), all:

- Overflows or leaks of transmission or irrigation pipelines that discharge to a waterbody used as a source of drinking or irrigation water.

Central Regional Office	509-575-2490
Department of Health,	800-521-0323 (business hours)
Drinking Water Program	877-481-4901 (after business hours)
Benton Franklin Health District	509-543-3851 (emergency)

b. Twenty-four-hour reporting

The Permittee must report the following occurrences of noncompliance by telephone, to Ecology at the telephone numbers listed 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.A 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 that are collected and routed to the treatment works.
6. Any leak or failure of the wastewater transmission pipeline or irrigation pipeline distribution system.

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. Maps, drawings, aerial photographs, or pictures to show the location and cause(s) of the non-compliance.
3. The period of noncompliance, including exact dates and times.

4. The estimated time the Permittee expects the noncompliance to continue if not yet corrected.
5. Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
6. 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.

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: <http://www.ecy.wa.gov/programs/spills/other/reportaspill.htm>.

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.

S4. Evaporation Pond Leak Survey

The Permittee must conduct an electronic leak detection survey of each pond in the evaporation pond system within Enter a specific date 2 years after effective date.

Leak detection methods must follow ASTM D6747-04, Standard Guide for Selection of Techniques for Electrical Detection of Potential Leak Paths in Geomembrane and ASTM D7007-16, Standard Practices for Electrical Methods for Locating Leaks in Geomembranes Covered with Water or Earth Materials.

The Permittee must submit results from the leak detection survey, with documented repairs for any leaks found from the survey, by Enter a specific date 3 years after effective date after permit issuance.

S5. 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 also includes keeping a daily operation logbook (paper or electronic), 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.

S5.A. Operations and maintenance (O&M) manual

a. O&M manual submittal and requirements

The Permittee must:

1. Prepare an O&M Manual that meets the requirements of 173-240-150 WAC and submit it to Ecology for approval by Enter a specific date 2 years after effective date. The Permittee must submit a paper copy and an electronic copy (preferably in a portable document format (PDF)).
2. Review the O&M Manual at least annually.
3. Submit to Ecology for review and approval substantial changes or updates to the O&M Manual whenever it incorporates them into the manual.
4. Keep the approved O&M Manual at the permitted facility.
5. Follow the instructions and procedures of this manual.

b. O&M manual components

In addition to the requirements of WAC 173-240-150, the O&M Manual must be consistent with the guidance in Table G1-3 in the *Criteria for Sewage Works Design* (Orange Book) 2008. The O&M Manual must include:

1. Emergency procedures for plant shutdown and cleanup in the event of a wastewater system upset or failure including pipeline leaks.
2. Irrigation system operational controls and procedures.
3. Wastewater system maintenance procedures that contribute to the generation of wastewater.
4. 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.)
5. Treatment plant process control monitoring schedule.
6. Wastewater sampling protocols and procedures for compliance with the sampling and reporting requirements in the wastewater discharge permit.
7. Minimum staffing adequate to operate and maintain the treatment processes and carry out compliance monitoring required by the permit.
8. Irrigation system operational controls, procedures, and equipment specification (including spray nozzle type & size).
9. Table with list of all monitoring wells, corresponding latitudes/longitudes, monitoring well tag numbers.
10. Protocols and procedures for a groundwater monitoring network and soil sampling and testing.
11. Protocols and procedures for lagoon leak detection systems, sampling and testing.
12. Protocols and procedures for evaporator device(s) associated with the lagoon(s).
13. Protocols and procedures for stormwater flow control, source control, and treatment best management practice structures. These must be equivalent to those in Ecology's Eastern Washington Stormwater Manual.

c. Treatment System Operating Plan

The Permittee must summarize the following information in the initial chapter of the O&M Manual entitled the "Treatment System Operating Plan." For the purposes of this permit, a Treatment System Operating Plan (TSOP) is a concise summary of specifically defined elements of the O&M Manual.

The Permittee must submit an updated Treatment System Operating Plan to Ecology **Enter a specific date 2 years after effective date** and as necessary. The Permittee must update and submit this plan, as necessary, to include requirements for any major modifications of the treatment system.

The TSOP must not conflict with the O&M Manual and must include the following information:

1. A baseline operating condition, which describes the operating parameters and procedures, used to meet the effluent limits of S1 at the production levels used in developing these limits.
2. In the event of production rates, which are below the baseline levels used to establish these limits, the plan must describe the operating procedures and conditions needed to maintain design treatment efficiency. The monitoring and reporting must be described in the plan.
3. In the event of an upset, due to plant maintenance activities, severe stormwater events, startups or shutdowns, or other causes, the plan must describe the operating procedures and conditions employed to mitigate the upset. The monitoring and reporting must be described in the plan.
4. A description of any regularly scheduled maintenance or repair activities at the facility which would affect the volume or character of the wastes discharged to the wastewater treatment system and a plan for monitoring and treating/controlling the discharge of maintenance-related materials (such as cleaners, degreasers, solvents, etc.).

S5.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 Special 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.
 - A request for modification of water quality standards as provided for in WAC 173-201A-410, if an exceedance of any water quality standard is anticipated.
 - 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.

S5.C. Irrigation land application best management practices

The Permittee must:

1. Operate the sprayfield system to protect the existing and future beneficial uses of the groundwater, and not cause a violation of the groundwater standards.
2. Not allow spray irrigation practices to result in runoff of wastewater to any surface waters of the state or to any land not owned by or under its control.
3. Use recognized good practices, and all available and reasonable procedures to control odors from the land application system.
4. Implement measures to reduce odors to a reasonable minimum when notified by Ecology.
5. Not apply wastewater to the land treatment sites in quantities that:
 - a. Significantly reduce or destroy the long-term infiltration rate of the soil.
 - b. Would cause long-term anaerobic conditions in the soil.
 - c. Would cause ponding of wastewater and produce objectionable odors or support insects or vectors.
 - d. Would cause leaching losses of constituents of concern beyond the treatment zone or in excess of the approved design. Constituents of concern are constituents in the wastewater, partial decomposition products, or soil constituents that would alter groundwater quality in amounts that would affect current and future beneficial uses.
6. Maintain all irrigation agreements for lands not owned for the duration of the permit cycle. Any reduction in irrigation lands by termination of any irrigation agreements may result in permit modification or revocation.
7. Immediately inform Ecology in writing of any proposed changes to existing irrigation agreements.
8. Maintain a viable and healthy cover crop on all fields that receive wastewater.
9. Use supplemental water or precipitation to meet the leaching requirement to control soil salinity.
10. Adjust irrigation plans during high precipitation events to minimize percolate losses.
11. Discontinue operation during periods of heavy or prolonged rainfall to prevent ground saturation and runoff.

S6. Solid wastes

S6.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.

S6.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. The Permittee must apply for a permit or permit modification as may be required for such discharges to state ground or surface waters.

S6.C. Solid waste control plan

a. Submittal requirements

The Permittee must:

1. Submit a solid waste control plan to Ecology by Enter a specific date 2 years after effective date.
2. Submit to Ecology any proposed revision or modification of the solid waste control plan for review and approval at least 30 days prior to implementation
3. Comply with the plan and any modifications.
4. Submit an update of the solid waste control plan as necessary.

b. Solid Waste Control Plan Content

The solid waste control plan must:

1. Follow Ecology's guidance for preparing a solid waste control plan (<https://apps.ecology.wa.gov/publications/SummaryPages/0710024.html>) and address all solid wastes generated by the permittee.
2. Include at a minimum a description, source, generation rate, and disposal methods of these solid wastes.
3. Not conflict with local or state solid waste regulations.

S7. Application for permit renewal or modification for facility changes

The Permittee must submit an application for renewal of this permit by Insert Date at least one year prior to expiration date.

The Permittee must also submit a new application or addendum at least one hundred eighty (180) 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.

S8. Engineering documents

S8.A. Engineering documents pH adjustment system

1. The Permittee must prepare and submit an approvable **engineering report for a pH adjustment system** in accordance with WAC 173-240 to Ecology for review and approval by Enter a specific date 2 years after effective date.
2. The Permittee must prepare and submit approvable **plans and specifications for a pH adjustment system** to Ecology for review and approval in accordance with chapter 173-240 WAC by Enter a specific date 2 years after effective date.
3. The Permittee must prepare and submit a **letter of construction/mitigation** to Ecology documenting construction of pH adjustment system by Enter a specific date 3 years after effective date.
4. The Permittee must prepare and submit an approvable updated **O&M manual** to Ecology following construction of the pH adjustment system by Enter a specific date 3 years after effective date. This could be included with the O&M Manual submittal requirement in S.5 which is due the same time.

S8.B. Engineering documents

1. The Permittee must prepare and submit an approvable **engineering report** in accordance with WAC 173-240 to Ecology for review and approval by Enter a specific date 4 years after effective date.
2. The report must contain any appropriate requirements as described in "Guidelines for Preparation of Engineering Reports for Industrial Wastewater Land Application Systems" (Washington State Department of Ecology, 1993).
3. The Permittee must prepare and submit **as-built plans and specifications** to Ecology for review in accordance with Chapter 173-240 WAC by Enter a specific date 4 years after effective date.
4. If the approved engineering report determines that new wastewater treatment infrastructure is needed for AKART, the Permittee must prepare and submit approvable **plans and specifications** to Ecology for review and approval in accordance with Chapter 173-240 WAC by Enter a specific date 5 years minus 1 day after effective date.

S9. Groundwater quality evaluation (hydrogeologic study)

The Permittee must evaluate the impacts of its activities on groundwater quality by completing the elements below to include a scope of work for a groundwater quality evaluation study, a groundwater quality evaluation study, a report of study results, installation of a groundwater monitoring network, and ongoing monitoring.

1. By Enter a specific date 6 months after permit effective date, the Permittee must submit a **scope of work** to Ecology for a groundwater quality evaluation study at the wastewater application site, in accordance with WAC 173-200-080. The scope of work must conform to Guidelines for Preparation of Engineering Reports for Industrial Wastewater Land Application Systems, Ecology 1993 and the Implementation Guidance for the Ground Water Quality Standards, Ecology 2005.
2. Upon approval of the scope of work by Ecology, the Permittee must **conduct a study** to determine site-specific hydrogeologic conditions, well siting, quality control protocols, a sampling plan and sampling protocols.

If the scope of work includes installation of new groundwater monitoring wells and/or additional groundwater monitoring, the Permittee must submit a **work plan** by Enter a specific date 1 year after permit effective date.
3. Within **sixty (60) days** after review and approval of the work plan by Ecology, the Permittee must begin construction of the groundwater monitoring network.
 - a. The Permittee must construct wells in accordance with Chapter 173-160 WAC.
 - b. Report to Ecology the tag numbers, latitude and longitude (NAD83/WGS84 datum), and top-of-casing elevations (NAVD88 datum) of each monitoring well.
 - c. After completion of the installation of the groundwater monitoring network, the Permittee must notify Ecology and begin monitoring according to the approved work plan.
4. By Enter a specific date 4 years after permit effective date, the Permittee must submit a report summarizing the results of the study, interpretations of the data, conclusions, and recommendations.

S10. Compliance schedule

By the dates tabulated below, the Permittee must complete the following tasks and submit a report describing, at a minimum:

- Whether it completed the task and, if not, the date on which it expects to complete the task.

- The reasons for delay and the steps it is taking to return the project to the established schedule.

	Tasks	Date Due
1.	<p>New Monitoring Points</p> <p>Complete installation of new monitoring points outlined in S.2:</p> <ul style="list-style-type: none"> - Process Wastewater and Stormwater Lagoon System Influent - Process Wastewater and Stormwater Lagoon System Effluent (after mixing with Supplemental Irrigation Water) - Supplemental Irrigation Water (before mixing with Process Wastewater and Stormwater) - Sanitary Wastewater Lagoon System Influent - Water Softener Process Wastewater Lagoon Influent - Measurement Gauge for Depth of Water in Each of the Seven Lagoons <ul style="list-style-type: none"> - Three process wastewater/stormwater lagoons, three sanitary wastewater lagoons, and one water softener process wastewater lagoon <p>Provide a letter report to Ecology confirming that the new monitoring points have been installed.</p> <p>The letter report must describe the location and type of new monitoring equipment installed.</p> <p>The letter report must also include the maximum water depth of each lagoon in feet providing for two feet of freeboard above this depth.</p>	<p>Enter a specific date 1.5 years after permit effective date</p>
2.	Engineering Documents for pH Adjustment System	<p>Enter a specific date 2 years after permit effective date</p>
3.	Letter of Construction/mitigation for pH Adjustment System	<p>Enter a specific date 3 years after permit effective date</p>
4.	Engineering Report	<p>Enter a specific date 4 years after effective date</p>
5.	As-Built Engineering Plans and Specifications	<p>Enter a specific date 4 years after effective date</p>

	Tasks	Date Due
6.	Engineering Plans and Specifications (if necessary)	Enter a specific date 5 years minus 1 day after effective date
7.	Groundwater Quality Evaluation (Hydrogeologic Study) Scope of Work	Enter a specific date 6 months after permit effective date
8.	Groundwater Quality Evaluation (Hydrogeologic Study) Work Plan	Enter a specific date 1 year after permit effective date
9.	Groundwater Quality Evaluation (Hydrogeologic Study) Report	Enter a specific date 4 years after effective date

S11. Non-routine and unanticipated wastewater

1. Beginning on **the effective date of this permit**, the Permittee is authorized to discharge non-routine wastewater or unanticipated wastewater and therefore not listed on the permit application, on a case-by-case basis if approved by Ecology. Prior to any such discharge, the Permittee must contact Ecology and **at a minimum** provide 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 discharged, in gallons per minute.
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 Special Condition S1 of this permit, water quality standards, and any other limits imposed by Ecology.

3. The Permittee must limit the discharge rate, as referenced in subpart 1.g above, so it will not cause erosion of ditches or structural damage to culverts and their entrances or exits.
4. 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. Once approved and if the proposed discharge is to a municipal storm drain, the Permittee must obtain prior approval from the municipality and notify it when it plans to discharge.

S12. Spill control plan

S12A. Spill control plan submittals and requirements

The Permittee must:

1. Submit to Ecology a spill control plan for the prevention, containment, and control of spills or unplanned releases of pollutants by **Enter a specific date 2 years after the permit effective date**.
2. Review the plan at least annually and update the spill plan as needed.
3. Send changes to the plan to Ecology.
4. Follow the plan and any supplements throughout the term of the permit.

S12.B. Spill control plan components

The spill control plan must include the following:

1. A list of all oil and petroleum products and other materials used and/or stored on-site, which when spilled, or otherwise released into the environment, designate as Dangerous Waste (DW) or Extremely Hazardous Waste (EHW) by the procedures set forth in WAC 173-303-070. Include other materials used and/or stored on-site which may become pollutants or cause pollution upon reaching state's waters.
2. A description of preventive measures and facilities (including an overall facility plot showing drainage patterns) which prevent, contain, or treat spills of these materials.
3. A description of the reporting system the Permittee will use to alert responsible managers and legal authorities in the event of a spill.
4. A description of operator training to implement the plan.

The Permittee may submit plans and manuals required by 40 CFR Part

112, contingency plans required by Chapter 173-303 WAC, or other plans required by other agencies, which meet the intent of this section.

S13. Irrigation and crop management plan

The Permittee must submit an Irrigation and Crop Management Plan annually by **February 15** of each year for Ecology review. The plan must be prepared by a soil scientist and must generally conform to the Guidelines for Preparation of Engineering Reports for Industrial Wastewater Land Application Systems, Ecology 1993.

The Irrigation and Crop Management Plan must include an annual summary of farm operations for the previous year and a cropping and irrigation schedule for the upcoming year as described in the sections below.

S13.A. Annual Summary of Farm Operations for Previous Year

The annual summary must include:

1. For each crop grown, the total acreage and quantity harvested.
2. Calculated balances for nutrients, salts, TDS, or other design limiting parameters. The calculations must include crop consumptive use, wastewater loadings of nutrients, salts, TDS or other design limiting parameters, contributions from commercial fertilizers applied, and supplemental water.
3. A **water balance** including the following calculations:
 - a. Irrigation system efficiency and application uniformity.
 - b. The quantity of supplemental irrigation water and wastewater applied.
 - c. Crop consumptive use.
 - d. Water stored in the soil profile outside the normal growing season.
 - e. Salt leaching requirements.
 - f. The leaching fraction for each field.
4. A comparison of the actual total net nitrogen, water, fixed dissolved solids, (other parameters) loads, and the leaching fractions for each field to the estimated values presented in the previous year's Irrigation and Crop Plan.
5. A summary and evaluation of the **soil testing results**.
6. A summary and evaluation of the **crop testing results**.

7. A summary of groundwater monitoring test results and an evaluation of whether the current operation of the land treatment site is protecting groundwater quality.
8. A detailed list of changes or improvements in the management of the land treatments practices to comply with agronomic rates and leaching requirements.

S13.B. Cropping and irrigation Schedule for Upcoming Year

This schedule must include:

1. Crop Management information including:
 - a. The proposed acreage for each crop.
 - b. Cultivation and harvesting requirements.
 - c. Expected crop yields.
 - d. Methods for establishing a crop.
 - e. Proposed schedule for herbicide, pesticide, and fertilizer application.
2. Irrigation Management information including:
 - a. The frequency and timing of wastewater and supplemental irrigation water application (including harvest and non-harvest periods).
 - b. Recommended rest cycles for wastewater application where organic or hydraulic loading is of concern.
 - c. An estimation of the leaching requirement for each field and the plan to meet the requirement.
3. The estimated annual total net nitrogen and water load capacity, and the fixed dissolved solids and BOD₅ load to each field based on the estimated wastewater discharge and planned crop rotation.

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 at least one hundred eighty (180) days before it wants to discharge more of any pollutant, a new pollutant, or more flow than allowed under this permit. The Permittee should use the State Waste Discharge Permit application, and submit required plans at the same time. Required plans include an Engineering Report, Plans and Specifications, and an Operations and Maintenance manual, (see Chapter 173-240 WAC). Ecology may waive these plan requirements for small changes, so contact Ecology if they do not appear necessary. The Permittee must obtain the written concurrence of the receiving POTW on the application before submitting it to Ecology. The Permittee must continue to comply with the existing permit until it is modified or reissued. Submitting a notice of dangerous waste discharge (to comply with Pretreatment or Dangerous Waste rules) triggers this requirement as well.

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. 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.

G9. 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 may be deemed 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.

G10. Duty to provide information

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.

G11. 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.

DRAFT

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 $\mu\text{g/L}$ unless specified	Quantitation Level (QL) ² $\mu\text{g/L}$ 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

NONCONVENTIONAL POLLUTANTS

Pollutant & CAS No. (if available)	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) ¹ $\mu\text{g/L}$ unless specified	Quantitation Level (QL) ² $\mu\text{g/L}$ unless specified
Alkalinity, Total		SM2320-B		5 mg/L as CaCO ₃

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
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		

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
Fluoride	16984-48-8	SM4500-F E	25	100
Hardness, Total		SM2340B		200 as CaCO ₃
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-NO ₃ - 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)

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
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 ² F/D/E/G		0.2 mg/L
Sulfite (as mg/L SO ₃)		SM4500-SO ₃ B		2 mg/L
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

<i>PRIORITY POLLUTANTS</i>	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ <i>µg/L unless specified</i>	Quantitation Level (QL)² <i>µg/L unless specified</i>
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

<i>PRIORITY POLLUTANTS</i>	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ <i>µg/L unless specified</i>	Quantitation Level (QL)² <i>µg/L unless specified</i>
METALS, CYANIDE & TOTAL PHENOLS					
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

<i>PRIORITY POLLUTANTS</i>	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ <i>µg/L unless specified</i>	Quantitation Level (QL)² <i>µg/L unless specified</i>
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

<i>PRIORITY POLLUTANTS</i>	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ <i>µg/L unless specified</i>	Quantitation Level (QL)² <i>µg/L unless specified</i>
ACID COMPOUNDS					
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

<i>PRIORITY POLLUTANTS</i>	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ <i>µg/L unless specified</i>	Quantitation Level (QL)² <i>µg/L unless specified</i>
VOLATILE COMPOUNDS					
Acrolein	2	107-02-8	624	5	10

<i>PRIORITY POLLUTANTS</i>	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ <i>µg/L unless specified</i>	Quantitation Level (QL)² <i>µg/L unless specified</i>
VOLATILE COMPOUNDS					
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

<i>PRIORITY POLLUTANTS</i>	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ <i>µg/L unless specified</i>	Quantitation Level (QL)² <i>µg/L unless specified</i>
VOLATILE COMPOUNDS					
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
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

<i>PRIORITY POLLUTANTS</i>	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ <i>µg/L unless specified</i>	Quantitation Level (QL)² <i>µg/L unless specified</i>
VOLATILE COMPOUNDS					
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

<i>PRIORITY POLLUTANTS</i>	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ <i>µg/L unless specified</i>	Quantitation Level (QL)² <i>µg/L unless specified</i>
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

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)					
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

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)					
4-Chlorophenyl phenyl ether	40	7005-72-3	625.1	4.2	12.6
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

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)					
Di-n-octyl phthalate	69	117-84-0	625.1	2.5	7.5
1,2-Diphenylhydrazine (<i>as Azobenzene</i>)	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

<i>PRIORITY POLLUTANTS</i>	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ <i>µg/L unless specified</i>	Quantitation Level (QL)² <i>µg/L unless specified</i>
BASE/NEUTRAL COMPOUNDS (compounds in bold are Ecology PBTs)					
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

<i>PRIORITY POLLUTANT</i>	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ <i>µg/L unless specified</i>	Quantitation Level (QL)² <i>µg/L unless specified</i>
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

<i>PRIORITY POLLUTANTS</i>	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ <i>µg/L unless specified</i>	Quantitation Level (QL)² <i>µg/L unless specified</i>
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

<i>PRIORITY POLLUTANTS</i>	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ <i>µg/L unless specified</i>	Quantitation Level (QL)² <i>µg/L unless specified</i>
PESTICIDES/PCBs					
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 $(1, 2, \text{ or } 5) \times 10^n$, 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 μm (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-dichloropropylene (mixed isomers) You may report this parameter as two separate parameters: cis-1, 3-dichloropropene (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.