Fact Sheet for IPDES Permit No. ID0027901

Idaho Department of Environmental Quality (DEQ) Proposes to Issue an
Idaho Pollutant Discharge Elimination System (IPDES) Permit to Discharge Pollutants
Pursuant to the Provisions of IDAPA 58.01.25 to:

Henggeler Packing Company, Inc.

Public Comment Start Date:	05/05/2021
Public Comment Expiration Date:	06/04/2021
Technical Contact:	Rakael Pope (208) 373-0502 Rakael.Pope@deq.idaho.gov

Purpose of this Fact Sheet

This fact sheet explains and documents the decisions the Idaho Department of Environmental Quality (DEQ) made in drafting the proposed Idaho Pollutant Discharge Elimination System (IPDES) permit for Henggeler Packing Co., Inc.

This fact sheet complies with IDAPA 58.01.25.108.02 of the Idaho Administrative Code, which requires DEQ to prepare a permit and accompanying fact sheet for public evaluation before issuing an NPDES permit.

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Acronyms

1Q10	1 day, 10 year low flow
7Q10	7 day, 10 year low flow
AML	Average Monthly Limit
AWL	Average Weekly Limit
BA	Biological Assessment
BOD_5	Biochemical oxygen demand, five-day
BMP	Best Management Practices
BPT	Best Practicable control Technology currently available
°C	Degrees Celsius
CFR	Code of Federal Regulations
cfs	Cubic Feet per Second
CV	Coefficient of Variation
CWA	Clean Water Act
DEQ	Idaho Department of Environmental Quality
DMR	Discharge Monitoring Report
EPA	U.S. Environmental Protection Agency
gpd	Gallons per day
ICIS	Integrated Compliance Information System
DEQ	Idaho Department of Environmental Quality
I/I	Inflow and Infiltration
IPDES	Idaho Pollutant Discharge Elimination System
LA	Load Allocation
lb/day	Pounds per day
MDL	Maximum Daily Limit or Method Detection Limit
mgd	Million gallons per day
mg/L	Milligrams per liter
mL	Milliliters
NAICS	North American Industry Classification System
NSPS	New Source Performance Standards
O&M	Operations and maintenance
QAPP	Quality Assurance Project Plan

RP	Reasonable Potential
RPMF	Reasonable Potential Multiplier Factor
RWC	Receiving Water Concentration
SIC	Standard Industrial Classification
s.u.	Standard Units
TKN	Total Kjeldahl Nitrogen
TMDL	Total Maximum Daily Load
TOC	Total Organic Carbon
TRC	Total Residual Chlorine
TRE	Toxicity Reduction Evaluation
TSD	Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001)
TSS	Total suspended solids
WLA	Wasteload allocation
WQBEL	Water quality-based effluent limit
WQS	Idaho Water Quality Standards

1 Introduction

This fact sheet explains and documents the decisions the Idaho Department of Environmental Quality (DEQ) Idaho Pollutant Discharge Elimination System (IPDES) permit for Henggeler Packing Co., Inc. (Henggeler Packing). This fact sheet complies with the Rules Regulating the Idaho Pollutant Discharge Elimination System Program (IDAPA 58.01.25), which requires DEQ to prepare a permit and accompanying fact sheet for public evaluation before issuing an IPDES permit.

DEQ proposes to issue the IPDES permit for Henggeler Packing The permit places conditions on the discharge of pollutants from the facility to waters of the United States. In order to ensure protection of water quality and human health, the permit places limits on the types and amounts of pollutants that can be discharged from the facility.

This fact sheet includes:

- a map and description of the discharge location;
- a listing of effluent limits and other conditions for the facility to comply with;
- documentation supporting the effluent limits;
- technical material supporting the conditions in the permit; and
- information on public comment, public hearing, and appeal procedures.

Terms used in this fact sheet are defined in Section 5, Definitions, of the permit.

Public Comment

The permit application, permit, and fact sheet describing the terms and conditions applicable to the permit are available for public review and comment during a public comment period. The public is provided at least 30 days to submit comments to DEQ. Persons wishing to request a public meeting for this facility's draft permit must do so in writing within the 14 calendar days of the public notice being published that a draft permit has been prepared; request for public meetings must be submitted to DEQ by May 05, 2021. Requests for extending a public comment period must be provided to DEQ in writing before the last day of the comment period. For more details on preparing and filing comments about these documents, please see the IPDES guidance *Public Participation in the Permitting Process* at "*https://www2.deq.idaho.gov/admin/LEIA/api/document/download/4814"*. For more information, please contact the permit writer.

After the close of the public comment period, DEQ considers information provided by the public, prepares a document summarizing the public comments and DEQ's response to each comment, and may make changes to the permit in response to the public comments. DEQ will include the summary and responses to comments in the final fact sheet in Appendix E. DEQ may request more information from the applicant in order to respond to public comments (IDAPA 58.01.25.109.02.h.). After the public comment period and prior to issuing the final permit decision, DEQ will also provide the applicant an opportunity to submit additional information to address proposed changes and support the response to public comments.

The Environmental Protection Agency (EPA) may take up to 90 days from the publication of public notice of the draft permit to develop and document specific grounds for objections to a proposed permit. If EPA objects to a proposed permit DEQ must satisfactorily address the

objections within the time period specified in the memorandum of agreement between EPA and DEQ (40 CFR 123.44). Otherwise, EPA may issue a permit in accordance with 40 CFR 121, 122, 124. If EPA issues the permit any state, interstate agency or interested person may request EPA hold a public hearing regarding the objection.

Permit Issuance

Following the public comment period on a permit, and after receipt of any comments on the proposed permit from EPA, DEQ will issue a final permit decision, the final permit, and fact sheet. All comments received will be addressed in Appendix E of the final fact sheet and any resulting changes to the permit or fact sheet documented. A final permit decision means a final decision to issue, deny, modify, revoke and reissue, or terminate a permit (IDAPA 58.01.25.107.04.). The final permit and final fact sheet will be posted on the DEQ website.

The permit holder or applicant and any person or entity who filed comments or who participated in a public meeting on the draft permit may file a petition for review of a permit decision as outlined in Appendix E. The petition for review must be filed with DEQ's hearing coordinator within 28 days after DEQ serves notice of the final permit decision. Any party that participated in the petition for review that is still aggrieved by the final IPDES action or determination has a right to file a petition for judicial review (IDAPA 58.01.25.204.26).

Documents are Available for Review

The IPDES permit and fact sheet can be reviewed or obtained by visiting or contacting the DEQ State office between 8:00 a.m. and 5:00 p.m., Monday through Friday at the address below. The permit, fact sheet, and other information can also be found by visiting the DEQ website at "*http://www.deq.idaho.gov"*.

DEQ
1410 N. Hilton
Boise, ID 83706
208-373-0502

The fact sheet and permits are also available at the applicable Regional Office:

DEQ Boise Regional Office
1445 N. Orchard St.
Boise, ID 83706

Disability Reasonable Accommodation Notice

For technical questions regarding the permit or fact sheet, contact Rakael Pope at the phone number or e-mail address at the beginning of this fact sheet. Those with impaired hearing or speech may contact a TDD operator at 1-800-833-6384 (ask to be connected to Rakael Pope at the above phone number). Additional services can be made available to a person with disabilities by contacting Rakael Pope.

2 Background Information

2.1 Facility Description

This fact sheet provides information on the IPDES permit for the following entity:

Table 1. Facility information.

IPDES Permit #	ID0027901	
Permittee	Henggeler Packing Co., Inc.	
Facility Physical Address	6730 Elmore Road Fruitland, ID 83619	
Facility Mailing Address	PO Box 313 Fruitland, ID 83619	
Facility Contact	Name: Title: Telephone number:	Ryan Henggeler Owner 208-452-4212
Responsible Official	Name: Title: Telephone number:	Ryan Henggeler Owner 208-452-4212
Facility Location	Latitude: Longitude:	43.98845° -116.89365°
Receiving Water Name	Drain S-14 (tributary to the Payette River) Assessment Unit: ID17050122SW001_02	
Outfall Location	Latitude: Longitude:	43.988881° -116.890244°
Permit Status		
Issuance or Renewal	Issuance	
Application Submittal Date	09/30/1997	
Date Application Deemed Complete	1997 (EPA)	

2.1.1 Facility Information

Henggeler Packing Company, Inc. (Henggeler Packing) owns and operates a fresh fruit and vegetable packing facility located in Fruitland, Idaho. Generally, the facility packs apples, plums, peaches and asparagus. Some cherries and prunes are packed on a very limited basis.

According to records from EPA, Henggeler Packing applied for an NPDES permit from EPA on September 30, 1997. At EPA's request, Henggeler Packing submitted an updated application, which EPA received on August 9, 2018. A draft permit was prepared by EPA for EPA's public comment period in December 2018. However, a final permit was not issued to this facility by EPA.

Henggeler Packing was founded in 1943[1] and began operating and discharging pollutants at its current site in 1959[2]. A flow diagram, map, current satellite image, and historical USGS aerial photo taken on August 3, 1974 are in Appendix A.

[1] *https://www.henggelerpacking.com/about*
[2] EPA notes on a conversation with Ryan Henggeler, October 12, 2018.

2.1.2 Permit History

This is the initial IPDES permit for an existing facility; thus, there is no permitting history for permit ID0027901.

2.1.3 Outfall Description

The system contains two outfalls; Internal Outfall 201 and Outfall 001. Internal Outfall 201 discharges process fruit wash water and is identified for packing process wastewater sampling. It is located prior to the manifold where packing process wastewater mixes with non-contact effluent composed of sump pump flow and groundwater heat pump discharge. Discharge increases from July 1 to November 30, when the facility actively packs fresh produce. Henggeler Packing has indicated it is reviewing alternative methods to eliminate discharge of this non-contact effluent to surface water. Sampling at Internal Outfall 201 to demonstrate compliance with permit limits provides the facility flexibility to reroute non-contact effluent away from Outfall 001 without requiring a permit modification. Henggeler Packing must notify DEQ prior to changing effluent discharge points to ensure compliance with permit limits, which includes discontinuing non-contact effluent discharges to surface water.

Both Internal Outfall 201 effluent and sump pump/ groundwater heat pump effluent are then discharged to Outfall 001, which is located near the northeast corner of the facility, between Northwest 1st Avenue and Northwest 2nd Avenue and just south of Noble Canal. The facility discharges to an agricultural drainage, which is a tributary to the Payette River within Assessment Unit (AU) ID17050122SW001_02. The Idaho State Department of Agriculture (ISDA) refers to this drain as "S-14." The discharge occurs continuously due to non-contact sump and heat pump well water overflow. The outfall pipe is an exposed, open pipe.

2.1.4 Effluent Characterization

To characterize the effluent, DEQ evaluated the facility's application, and additional data provided by Henggeler Packing Co., Inc. The effluent quality is summarized in Table 2; data is provided in Appendix B.

Table 2. Effluent characterization at Outfall 001.

Parameter	Units	Maximum	Minimum	Number of Measurements
Ammonia, Total as N	mg/L	0.02	0.01	2 [a]
BOD_5	mg/L	25	24	2 [a]
Boron	µg/L	120	60	5 [b]
Calcium	mg/L	51	31	5 [b]
Cobalt	µg/L	16	6	5 [b]
Conductivity	µohms/cm	640	350	5 [b]
Copper	µg/L	9	1	5 [b]
Hardness (as CaCO3)[c]	mg/L	206	114	5 [b]
Iron	µg/L	860	2	5 [b]
Magnesium	mg/L	19	9	5 [b]
Manganese	µg/L	19	<5	5 [b]
Molybdenum	µg/L	200	8	5 [b]
Nitrate	mg/L	4.3	2.6	5 [b]
Phosphorus	mg/L	0.6	0.07	5 [b]

Parameter	Units	Maximum	Minimum	Number of Measurements
Potassium	mg/L	7	2	5 [b]
Selenium	µg/L	70	40	5 [b]
Sodium	mg/L	83	39	5 [b]
Sulfate	mg/L	13	10	5 [b]
Total Suspended Solids (TSS)	mg/L	80	3	7 [a, b]
Zinc	µg/L	10	1	5 [b]

a. 2001 & 2003 data from permittee forwarded to DEQ by EPA.
b. 1997 NPDES permit application data forwarded to DEQ by EPA.
c. Calculated from reported calcium and magnesium concentrations from the 1997 permit application data.

2.1.5 Compliance History

Since this is the first IPDES permit issued to this facility, there is no IPDES or NPDES compliance history.

2.2 Description of Receiving Water

In drafting permit conditions, the effect of the facility's discharge on the receiving water must be analyzed. The details of that analysis are provided later in this fact sheet. This section summarizes characteristics of the receiving that impact that analysis.

Henggeler Packing discharges to Drain S-14, which is a tributary to the Payette River, in Fruitland, Idaho, Canyon County. The interactive map for DEQ's 2018/2020 Integrated Report[3] indicates that the receiving water is part of assessment unit (AU) ID17050122SW001_2, a perennial stream (DEQ 2016c). The AU has the following designated uses:

- Cold water aquatic life
- Salmonid spawning
- Primary contact recreation
- Domestic water supply

In addition, Idaho Water Quality Standards (WQS) state that all waters of the State of Idaho are protected for industrial and agricultural water supply, wildlife habitats and aesthetics (IDAPA 58.01.02.100.03.b and c, 100.04, and 100.05).

For waters designated for salmonid spawning, the WQS specify criteria for dissolved oxygen (DO) and temperature, which are more stringent than the criteria for cold water aquatic life use and which apply during the time spawning and incubation occurs. The 2019–2024 Idaho Fisheries Management Plan[4] states that rainbow trout and mountain whitefish have been observed in the Payette River drainage between the Payette River mouth and the Black Canyon Dam. Therefore, DEQ assumes that rainbow trout and mountain whitefish could be present in Drain S-14, as well. Spawning and incubation occur from March 15 through July 15 for rainbow trout and from October 15 through March 15 for mountain whitefish. Thus, the salmonid spawning criteria apply for most of the year, except from July 16 through October 14.

[3] DEQ, Idaho's 2018/2020 Integrated Report. Stat *https://mapcase.deq.idaho.gov/wq2020/default.html*
[4] *https://idfg.idaho.gov/sites/default/files/2019-2024-idaho-fisheries-management-plan-original.pdf*

ISDA collected water quality data in the receiving water during 2000–2002 and 2008. The "S-14 Up" station is upstream of the discharge, and the "S-14" station is located downstream of the discharge. ISDA's flow data show a minimum flow of 1.54 cfs at the "S-14 Up" sampling station, with measurements taken every month of the year.

Locations of the sampling stations are shown in Figure 1.

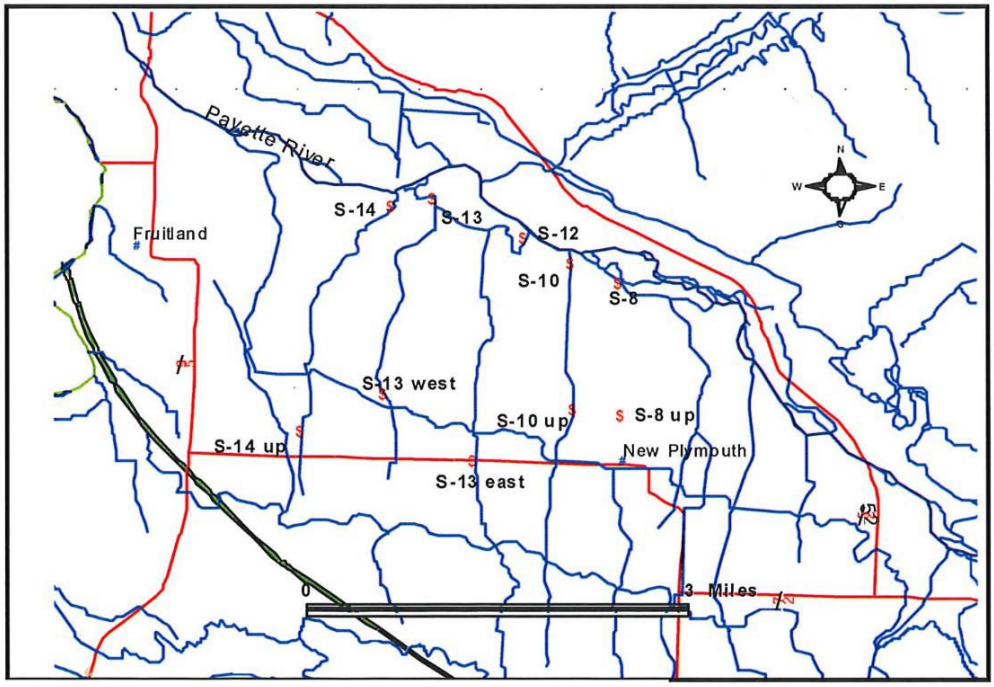

Figure 1. ISDA S-Drain sampling locations.

The water quality for the receiving water (stations S-14 and S-14 Up) is summarized in Table 3.

Table 3. Ambient background data for S-14 and S-14 Up.

Parameter	Units	Percentile	Value
Station S-14 Up (2000–2002)			
Temperature	°C	5th – 95th	8.8 – 18.4
pH	Standard units	5th – 95th	7.65 – 8.43
Dissolved Oxygen	mg/L	5th – 95th	6.51 – 11.57
Dissolved Oxygen Saturation	%	5th – 95th	66.5 – 102.7
E. coli	#/100 ml	5th – 95th	33 – 2,400
Nitrate + Nitrite	mg/L	5th – 95th	0.91 – 6.56
Orthophosphate	µg/L	5th – 95th	50 – 161
Phosphorus, Total as P	µg/L	5th – 95th	100 – 232
TSS	mg/L	5th – 95th	10 – 96
Station S-14 (2000–2002, 2008)			
Temperature	°C	5th – 95th	5.8 – 18.1
pH	Standard units	5th – 95th	7.66 – 8.31
Dissolved Oxygen	mg/L	5th – 95th	7.30 – 11.53
Dissolved Oxygen Saturation	%	5th – 95th	67.5 – 100.8
E. coli	#/100 ml	5th – 95th	43 – 1,455
Nitrate + Nitrite	mg/L	5th – 95th	1.31 – 6.92
Orthophosphate	µg/L	5th – 95th	44 – 155
Phosphorus, Total as P	µg/L	5th – 95th	86 – 558
TSS	mg/L	5th – 95th	11 – 240

2.2.1 Water Quality Impairments

Water bodies not supporting existing or designated beneficial uses must be identified as water quality limited, and a total maximum daily load (TMDL) must be prepared for those pollutants causing impairment. A central purpose of TMDLs is to establish waste load allocations (WLAs) for point source discharges, which are set at levels designed to help restore the water body to a condition that supports existing and designated beneficial uses. Discharge permits must contain limits that are consistent with the assumptions and requirements of WLAs that have been assigned to the discharge in an EPA-approved TMDL.

Idaho's 2018/2020 Integrated Report lists Drain S-14, which is a tributary to the Payette River, as "not assessed" (category 3). In December 1999, DEQ published the Lower Payette River Subbasin Assessment and Total Maximum Daily Load (Lower Payette TMDL; DEQ 1999). It was approved by EPA in May of 2000. This TMDL includes load allocations and WLAs for bacteria, including a load allocation for Drain S-14. Since the permittee's domestic waste is discharged to an Idaho Southwest District Health approved and permitted septic system, bacteria are not a suspected pollutant of concern for Henggeler Packing, and therefore are not included in this permit.

All routine lab analyses by Idaho Bureau of Laboratories for total coliform from Henggeler Packing's potable water distribution system have provided an "absent" result since 2013. Henggeler Packing uses this potable water to wash the fruit. The facility also uses a chlorine dioxide antibacterial treatment during fruit processing.

2.2.2 Critical Conditions

The low flow conditions of a water body are used to determine water quality-based effluent limits (WQBELs). In general, Idaho's water quality standards (WQS) require criteria be evaluated at the following low flow design conditions (See IDAPA 58.01.02.210.03) as defined in Table 4. The 1Q10 represents the lowest one day flow with a recurrence frequency of once in 10 years. The 7Q10 represents lowest average seven consecutive day flow with a recurrence frequency of once in 10 years. The 30Q5 represents the lowest average 30 consecutive day flow with a recurrence frequency of once in five years. The harmonic mean is a long-term mean flow value calculated by dividing the number of daily flow measurements by the sum of the reciprocals of the flows. The 30Q10 represents the lowest average 30 consecutive day flow with a recurrence frequency of once in 10 years.

In accordance with the DEQ Effluent Limit Development Guidance (DEQ, 2017), because 10 years of flow data were not available for the receiving water, flows were estimated using arithmetic and harmonic means as the basis for all other calculations. EPA's Technical Support Document (TSD) (EPA, 1991) defines the relationship between harmonic mean, arithmetic mean, and 7Q10. Using this relationship, additional flows were estimated (1Q10 and 30Q5). Estimated critical low flows for the receiving water are summarized in Table 4.

Table 4. Critical flows in the receiving water (Drain S-14).

Flows	Annual Flow (cfs)	Seasonal Flows [SF1] July 1 – November 30 (cfs)	Seasonal Flows [SF2] December 1 – June 30 (cfs)	Seasonal Flows [SF3] July 16 – October 14 (cfs)
1Q10	1.54	3.86	1.07	5.31
7Q10	2.05	5.40	1.39	6.90
30Q5	2.25	5.95	1.53	7.59
Harmonic Mean	5.16	9.05	4.10	11.4
Source: Water quality data collected by ISDA during 2000-2002 and 2008				

2.3 Pollutants of Concern

DEQ may identify pollutants of concern (POCs) for the discharge based on, but not limited to, those which:

- Have a technology-based limit (TBEL)
- Have an assigned WLA from a TMDL
- Had an effluent limit in the previous permit
- Are present in the effluent monitoring data reported in the application, DMRs, or special studies
- Are expected to be in the discharge based on the nature of the discharge
- Are impairing the beneficial uses of the receiving water

To determine POCs for further analysis, DEQ evaluated all pertinent and available information such as the permit application, raw discharge data provided by the facility, ground water quality, and Safety Data Sheets (SDS) of chemicals that Henggeler Packing uses and all chemicals used by the growers who supply fruit to the packing company. All products had registered EPA numbers and were registered by the Idaho State Department of Agriculture (ISDA). Grower chemicals SDSs were found, components were sorted, and all were compared to EPA's Toxic Priority List, and GC/MS Group B, Group C, and Pesticides in *Idaho Pollutant Discharge Elimination System Users Guide Volume 3—Non-POTW* (DEQ, 2018). The wastewater process for this facility includes fruit washing and packaging. Pollutants expected in the discharge from a facility with this type of treatment, include:

- TSS
- Biochemical Oxygen Demand (BOD_5)
- Total Residual Chlorine (if chlorine is used to disinfect)
- pH
- Temperature
- Total Phosphorus (TP)
- Pesticides/fungicides
- Coatings (wax)

In addition, ISDA collected ambient data for pesticides in Drain S-14 in 2008. The pesticides that ISDA detected are in the following table:

Table 5. Pesticide Concentrations in Drain S-14 and Aquatic Life Benchmarks.

Pesticide	Highest Concentration in Drain S-14 (µg/L)	Lowest Aquatic Life Benchmark (µg/L)	Benchmark Type
2,4-D	1.4	299.2	Vascular plants, acute
Alachlor	0.067	1.64	Nonvascular plants, acute
Bentazon	0.24	4,500	Nonvascular plants, acute
Dacthal (DCPA)	0.89	> 11,000	Vascular and nonvascular plants, acute
EPTC	0.38	800	Invertebrates, chronic
Ethalfluralin	0.052	0.4	Fish, chronic
Metolachlor	0.21	1	Invertebrates, chronic
Oxyfluorfen	0.13	0.29	Nonvascular plants, acute
Pendimathalin	0.16	5.2	Nonvascular plants, acute
Terbicil	0.2	11	Nonvascular plants, acute
Source for measured pesticide concentrations in Drain S-14: ISDA, 2008. Source for aquatic life benchmarks: https://www.epa.gov/pesticide-science-and-assessing-pesticide- risks/aquatic-life-benchmarks-and-ecological-risk			

Of the pesticides detected in Drain S-14, water quality criteria have been established only for 2,4-D. The most stringent water quality criterion is the human health criterion for the consumption of water and organisms, which is 1 mg/L.

ISDA also analyzed for the following pesticides, but none were detected in Drain S-14:

- Bromacil
- Chlorpyrifos
- Desethyl Atrazine
- Dicamba
- Dimethoate
- Diuron
- Hexazinone
- Malathion
- MCPA
- Methomyl
- Metribuzin

Of the pesticides detected in Drain S-14, all are well below the water quality criteria (if any) and the aquatic life benchmarks. No monitoring requirements for the pesticides analyzed by ISDA in 2008 are proposed in the permit.

2.4 Applicability of Regulations Concerning New Sources and New Dischargers

IDAPA 58.01.25.103.07 prohibits the issuance of a permit to a "new source" or a "new discharger" if it will "cause or contribute to the violation of water quality standards." Additionally, IDAPA 58.01.25.305.b allows compliance schedules for "new sources" and "new dischargers"

> *…only when necessary to allow a reasonable opportunity to attain compliance with requirements issued or revised after commencement of construction but less than three (3) years before commencement of the relevant discharge…*

Henggeler Packing is not a "new source" as defined in IDAPA 58.01.25.010.58 because there are no Clean Water Act Section 306 standards of performance (i.e., new source performance standards) applicable to this facility.

Henggeler Packing is not a "new discharger" as defined in IDAPA 58.01.25.010.57, because discharge of pollutants commenced at the current site before August 13, 1979. Therefore, regulations concerning "new sources" and "new dischargers" are not applicable to Henggeler Packing.

3 Effluent Limits and Monitoring

Monitoring has been broken out between the two Outfalls to provide the facility flexibility to reroute non-contact effluent away from Outfall 001 without requiring a permit modification. Henggeler Packing must notify DEQ prior to changing effluent discharge points to ensure compliance with permit limits, which includes discontinuing non-contact effluent discharges to surface water.

Table 6 below presents the proposed effluent limits and monitoring requirements for Internal Outfall 201 in the 2021 Permit.

Table 7 and Table 8 below present the proposed effluent limits and monitoring requirements for Outfall 001 in the 2021 Permit.

Table 6. Pollutants with effluent limits and monitoring requirements for Internal Outfall 201.

Parameter	Discharge Period	Units	Effluent Limits		Monitoring Requirements		Reporting Period (DMR Months)
			Monthly Average	Daily Maximum	Sample Type	Sample Frequency	
Biochemical Oxygen Demand (BOD_5)	07/01 to 11/30	mg/L	30	60	Grab[a]	1/month	Monthly Reporting (July, August, September, October, November, December)
Total Suspended Solids (TSS)	07/01 to 11/30	mg/L	30	60	Grab[a]	1/month	Monthly Reporting (July, August, September, October, November, December)
Total Residual Chlorine (TRC)[b,c]	07/01 to 11/30	mg/L	0.092	0.184[a]	Grab[a]	1/week[d]	Monthly Reporting (July, August, September, October, November, December)
		lb/day	0.055	0.110[a]	Calculation[d]		
Phosphorus, Total as P (TP)[b]	07/01 to 09/30[d]	mg/L	Report[e]	—	Grab[a]	1/month	Monthly Reporting (July, August, September)
		lb/day	0.021	—	Calculation[d]		

a. A grab sample is an individual sample collected over a 15-minute period or less.
b. These effluent limits have a compliance schedule. See Section 5.1.
c. The permittee must monitor for chlorine only when chemicals containing chlorine are added to the process and cooling water or well water overflow discharges.
d. Calculation means figured concurrently with the respective sample, using the following formula: Concentration (in mg/L) X Flow (in mgd) X Conversion Factor (8.34) = lb/day
e. Report means average monthly concentration (mg/L) should be entered into July, August, and September DMRs for consideration during the next permitting cycle.

Table 7. Pollutants with effluent limits and monitoring requirements for Outfall 001.

Parameter	Discharge Period	Units	Effluent Limits				Monitoring Requirements		Reporting Period (DMR Months)
			Monthly Average	Daily Maximum	Instantaneous Minimum	Instantaneous Maximum	Sample Type	Sample Frequency	
pH	01/01 to 12/31	Standard Units	—	—	6.5[a]	9.0[a]	Grab[b]	1/week	Monthly Reporting (All)
Biochemical Oxygen Demand (BOD_5)	12/01 to 06/30	mg/L	30	60	—	—	Grab[b]	2/month	Monthly Reporting (January, February, March, April, May, June, July, December)
Total Suspended Solids (TSS)	12/01 to 06/30	mg/L	30	60	—	—	Grab[b]	2/month	Monthly Reporting (January, February, March, April, May, June, July, December)
Total Residual Chlorine (TRC)[c,d]	12/01 to 06/30	mg/L	0.032[f]	0.065[a]	—	—	Grab[b]	1/week	Monthly Reporting (December, January, February, March, April, May, June, July)
		lb/day	0.019[e]	0.039[a]	—	—	Calculation[e]		
Phosphorus, Total as P (TP)[c]	05/01 to 06/30[d]	mg/L	Report[g]	—	—	—	Grab[b]	1/month	Monthly Reporting (May, June, July)
		lb/day	0.063	—	—	—	Calculation[e]		

a. Exceedance of a maximum daily limit, instantaneous maximum limit, or instantaneous minimum limit requires 24-hour reporting in accordance with permit section 2.2.7. See 2.2.7 for additional 24-hour reporting requirements.
b. A grab sample is an individual sample collected over a 15-minute period or less.
c. These effluent limits have a compliance schedule. See Section 5.1.
d. The permittee must monitor for chlorine only when chemicals containing chlorine are added to cooling water or well water overflow discharges
e. Calculation means figured concurrently with the respective sample, using the following formula: Concentration (in mg/L) X Flow (in mgd) X Conversion Factor (8.34) = lb/day
f. This limit for chlorine is not quantifiable using EPA-approved analytical methods. The minimum level (ML) for chlorine using EPA-approved methods is 50 µg/L (0.05 mg/L). Therefore, DEQ will use 50 µg/L as the compliance evaluation level for this parameter. The permittee will be in compliance with the total residual chlorine limits if the average monthly and maximum daily concentrations are less than 50 µg/L and the average monthly and maximum daily mass loadings are less than 0.019 lb/day from December 1 to July 31. For average monthly calculations, see Appendix D.
g. Report means monthly average concentration (mg/L) should be entered into monthly DMRs for consideration during the next permitting cycle.

Table 8. Effluent limits for temperature[a] for Outfall 001.

Discharge Period	Units	Effluent Limits		Monitoring Requirements		Reporting Period (DMR Months)
		Instantaneous Maximum	Maximum Daily Average	Sample Type	Sample Frequency	
07/16 to 10/14	°C	—	21.4[b]	Recorded	Continuous[b,c] or Two Grab/week[d]	Monthly (July, August, September, October)
10/15 to 07/15	°C	13 [b]	9 [b]	Recorded	Continuous[b,c] or Two Grab/week[d]	Monthly (October, November, December, January, February, March, April, May, June, July)

a. These temperature effluent limits have a compliance schedule. See Section 5.1
b. Continuous means uninterrupted except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance. The time interval for the associated data logger must be no greater than 60 minutes.
c. Continuous temperature monitoring must begin within one year from the effective date of this permit. Until that time, two grab samples per week are acceptable.
d. A grab sample is an individual sample collected over a 15-minute period or less. Temperature grab sampling must occur when the effluent is or near its daily maximum temperature, which usually occurs in the late afternoon

3.1 Basis for Effluent Limits

Regulations require that effluent limits in an IPDES permit must be either technology-based (TBEL) or water quality-based (WQBEL).

TBELs are set according to the level of treatment that is achievable using available technology. TBELs are based upon the treatment processes used to reduce specific pollutants. TBELs are set by the EPA and published as a regulation. DEQ may develop a TBEL on a case-by-case basis (40 CFR 125.3, IDAPA 58.01.25.302, and IDAPA 58.01.25.303).

WQBELs are calculated so the effluent will comply with the Surface Water Quality Standards (IDAPA 58.01.02) or the National Toxics Rule (40 CFR 131.36) applicable to the receiving water.

DEQ must apply the most stringent of these limits to each POC. These limits are described below.

3.2 Technology-Based Effluent Limits

3.2.1 Federal Effluent Limit Guidelines

The CWA requires industrial facilities to comply with Effluent Limit Guidelines applicable to their SIC or NAICS.

3.2.2 Facility-Specific Technology-Based Effluent Limits

For dischargers other than publicly owned treatment works (POTWs), the CWA requires effluent limitations based on the best practicable control technology currently available. For conventional pollutants, the CWA requires effluent limits based on the best conventional pollutant control technology (BCT), and, for toxic and non-conventional pollutants, effluent limits based on the best available technology economically achievable (BAT) (CWA Section 301(b) and 40 CFR 125.3(a)(2) and promulgated by IDAPA 58.01.25.003.02(n)).

Technology-based effluent limits may be established through application of EPA-promulgated effluent limit guidelines (ELGs), or on a case-by-case basis under Section 401(a)(1) of the CWA (these are referred to as best professional judgment or BPJ effluent limits), or through a combination of these methods (40 CFR 125.3(c) and promulgated through IDAPA 58.01.25.003).

The EPA has not promulgated ELGs for fresh fruit packing, although the EPA has promulgated ELGs for canned and preserved fruits and vegetables (40 CFR 407). Since ELGs have not been promulgated for this industry, DEQ must establish effluent limits using BPJ.

This permit allows discharges of the following types of wastewater to surface water; other types of wastewater must be disposed of using methods other than surface discharge:

- Process wastewater containing:
  - No chemical additives,
  - Only chlorine-based products, non-chlorine based sanitizers, or
  - Secondary treated linear alkyl sulfonate (LAS) based soaps, acidic or basic washes, buffers, and/or food grade waxes.
- Non-contact cooling water containing no priority pollutants, or other unapproved wastes or toxics in toxic amounts.

Also, TBELs of 30 mg/L maximum monthly limits for BOD_5 and TSS, which are based on secondary treatment standards for municipal wastewater (40 CFR 125.3(a)(1)) and promulgated through IDAPA 58.01.25.003). Therefore, DEQ has expressed the 30 mg/L limit for BOD_5 and TSS as an average monthly limit instead of a maximum daily limit, consistent with 40 CFR 133.102. A sedimentation device or additional filtration device may be necessary to meet the TSS effluent limits for surface water discharge.

IDAPA 58.01.25.303.04 states that effluent limits for dischargers other than POTWs must, unless impracticable, be stated as maximum daily and average monthly discharge limits. Therefore, in addition to the 30 mg/L average monthly limit, a maximum daily limit has been established of 60 mg/L. Also, a 2:1 ratio between the maximum daily and average monthly limits has been used by EPA as typical for IPDES permits when facility-specific effluent data are not available to characterize effluent variability (EPA, 1991[5]). Technology-based effluent limits for this facility are summarized in Table 9.

Table 9. Technology-based effluent limits.

Parameter	Units	Average Monthly Limit	Maximum Daily Limit
BOD_5	mg/L	30	60
TSS	mg/L	30	60
pH	s.u.	Within the limits of 6.5 – 9.0[a]	
Source: Best professional judgment (DEQ/EPA)			

[5] EPA (US Environmental Protection Agency). 1991. *Technical Support Document for Water Quality-based Toxics Control*. Office of Water, Washington, D.C. EPA/505/2-90-001.

3.3 Water Quality-Based Effluent Limits

3.3.1 Statutory and Regulatory Basis

Section 301(b)(1)(C) of the Clean Water Act (CWA) requires the development of limits in permits necessary to meet WQS. The IPDES regulation IDAPA 58.01.25.302.06 implementing Section 301(b)(1)(C) of the CWA requires that permits include limits for all pollutants or parameters which are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any WQS, including narrative criteria for water quality. Effluent limits must also meet the applicable water quality requirements of affected States other than the State in which the discharge originates, which may include downstream States (40 CFR 122.4(d), 122.44(d)(4), see also CWA Section 401(a)(2)).

The regulations require the permitting authority to make this evaluation using procedures that account for existing controls on point and non-point sources of pollution, the variability of the pollutant in the effluent, species sensitivity (for toxicity), and where appropriate, dilution in the receiving water. The limits must be stringent enough to ensure that WQS are met and must be consistent with any available TMDL WLA for the discharge. If there are no approved TMDLs that specify WLAs for this discharge, all of the WQBELs are calculated directly from the applicable WQS.

3.3.2 Reasonable Potential Analysis and Need for Water Quality-Based Effluent Limits

DEQ uses the process described in the *Effluent Limit Development Guidance* (DEQ 2017) to determine whether there is reasonable potential for the discharge to cause or contribute to an exceedance of water quality criteria (WQC). To determine if there is reasonable potential for a given pollutant, DEQ compares the maximum projected receiving water concentration to the WQC for that pollutant. If the projected receiving water concentration exceeds the criteria, there is reasonable potential, and a water quality-based effluent limit must be included in the permit.

In some cases, a dilution allowance or mixing zone is permitted. A mixing zone is a limited area or volume of water where initial dilution of a discharge takes place and within which certain water quality criteria may be exceeded (IDAPA 58.01.02.060). While the criteria may be exceeded within the mixing zone, the use and size of the mixing zone must be limited such that the water body as a whole will not be impaired, all designated uses are maintained and acutely toxic conditions are prevented.

The Idaho WQS at IDAPA 58.01.02.060 provides Idaho's mixing zone policy for point source discharges. In the permit, the IDEQ proposes to authorize mixing zones. The proposed mixing zones are summarized in Table 10. DEQ also calculated dilution factors for seasonal critical low flow conditions. The TRC dilution factors are calculated with the effluent flow rate set equal to the fruit packing and cooling production flow of 0.072 mgd. The temperature dilution factors are calculated based on an effluent flow rate of 0.108 mgd (75 gpm) which is the combined flow rate of the process and cooling water (50 gpm) and overflow well water (25 gpm) discharges. The overflow well water discharge occurs year-round and the process and cooling water discharge only occurs during packing. A mixing zone for temperature is only authorized for July 16 – October 14, when the more stringent salmonid spawning temperature criteria do not apply.

Table 10. Authorized mixing zones for Henggeler Packing.

Pollutant	Discharge Period	Authorized Mixing Zone (% of Critical Low Flow)			
		Aquatic Life		Human Health	
		Acute (1Q10)	Chronic (7Q10/1Q10)	Water and Fish (30Q5 or Harmonic Mean)	Fish Only (30Q5 or Harmonic Mean)
TRC	[SF1][a] 07/01 to 11/30	25% of 3.86 cfs	25% of 5.63 cfs	—	—
TRC	[SF2][b] 12/01 to 06/30	25% of 1.07 cfs	25% of 1.39 cfs	—	—
Temperature[d]	[SF3][c] 07/16 to 10/14[d]	5% of 5.31 cfs [instantaneous maximum]	25% of 5.31 cfs [maximum daily average]	—	—

a. SF1 refers to receiving water critical flows during the first seasonal flow period of July 1 through November 30, when fruit packing occurs.
b. SF2 refers to receiving water critical flows during the second seasonal flow period of December 1 through July 31, when no packing occurs.
c. SF3 refers to receiving water critical flows during the third seasonal flow period of July 16 through October 14, which is the time period outside of the designated beneficial use of salmonid spawning.
d. A mixing zone for temperature is only authorized for July 16 - October 14, when the more stringent salmonid spawning temperature criteria do not apply.

The reasonable potential analysis and water quality-based effluent limit calculations were based on mixing zones shown in Table 10. If IDEQ revises the allowable mixing zone in its final certification of this permit, reasonable potential analysis and water quality-based effluent limit calculations will be revised accordingly.

The equations used to conduct the reasonable potential analysis and calculate the water quality-based effluent limits are provided in Appendix D.

3.3.3 Reasonable Potential and Water Quality-Based Effluent Limits

The reasonable potential and water quality-based effluent limit for specific parameters are summarized below. The calculations are provided in Appendix D.

3.3.3.1 Ammonia, Total as N

Ammonia criteria are based on a formula which relies on the pH and temperature of the receiving water, because the fraction of ammonia present as the toxic, un-ionized form increases with increasing pH and temperature. Therefore, the criteria become more stringent as pH and temperature increase. The table below details the equations used to determine water quality criteria for ammonia.

Table 11. Ammonia Criteria

Total ammonia nitrogen criteria (mg N/L):
Seasonal Basis - Season 1 (Aug-Nov)
Based on IDAPA 58.01.02

INPUT	
1. Receiving Water Temperature (deg C):	18.2
2. Receiving Water pH:	8.21
3. Is the receiving water a cold water designated us	Yes
4. Are non-salmonid early life stages present or abse	Present
OUTPUT	
Total ammonia nitrogen criteria (mg N/L):	
Acute Criterion (CMC)	**3.75**
Chronic Criterion (CCC)	**1.39**

Acute Criteria Equation: Cold Water

$$CMC = \frac{0.275}{1+10^{7.204-pH}} + \frac{39.0}{1+10^{pH-7.204}}$$

Acute Criteria Equation: Warm Water

$$CMC = \frac{0.411}{1+10^{7.204-pH}} + \frac{58.4}{1+10^{pH-7.204}}$$

Chronic Criteria: Cold Water, Early Life Stages Present

$$CCC = \left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}}\right) \bullet MIN(2.85, 1.45 \cdot 10^{0.028(25-T)})$$

Chronic Criteria: Cold Water, Early Life Stages Absent

$$CCC = \left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}}\right) \bullet 1.45 \cdot 10^{0.028(25-T)})$$

Total ammonia nitrogen criteria (mg N/L):
Seasonal Basis - Season 2 (Dec- Jul)
Based on IDAPA 58.01.02

INPUT	
1. Receiving Water Temperature (deg C):	18.0
2. Receiving Water pH:	8.31
3. Is the receiving water a cold water designated us	Yes
4. Are non-salmonid early life stages present or abse	Present
OUTPUT	
Total ammonia nitrogen criteria (mg N/L):	
Acute Criterion (CMC)	**3.09**
Chronic Criterion (CCC)	**1.20**

Acute Criteria Equation: Cold Water

$$CMC = \frac{0.275}{1+10^{7.204-pH}} + \frac{39.0}{1+10^{pH-7.204}}$$

Acute Criteria Equation: Warm Water

$$CMC = \frac{0.411}{1+10^{7.204-pH}} + \frac{58.4}{1+10^{pH-7.204}}$$

Chronic Criteria: Cold Water, Early Life Stages Present

$$CCC = \left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}}\right) \bullet MIN(2.85, 1.45 \cdot 10^{0.028(25-T)})$$

Chronic Criteria: Cold Water, Early Life Stages Absent

$$CCC = \left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}}\right) \bullet 1.45 \cdot 10^{0.028(25-T)})$$

Only two ammonia effluent samples were available, both taken outside of the fruit packing season when nutrients in the wastewater aren't likely to be highest. No receiving water ammonia data were available. Without a statistically significant sample population, a reasonable potential analysis (RPA) could not be conducted. The permit requires the permittee monitor the effluent and receiving water for ammonia, pH, and temperature in order to determine the applicable ammonia criteria for the next permit reissuance.

3.3.3.2 pH

The Idaho WQS at IDAPA 58.01.02.250.01.a, require pH values to be within the range of 6.5 to 9.0. Mixing zones are generally not granted for pH, therefore the most stringent water quality criterion must be met before the effluent is discharged to the receiving water. Effluent pH data were compared to the water quality criteria. Available pH effluent data indicate that the facility can meet water quality criteria for pH at the end-of-pipe. Therefore, the effluent limits for pH are a range of 6.5 to 9.0.

3.3.3.3 Dissolved Oxygen (DO) and BOD_5

Natural decomposition of organic material in wastewater effluent impacts dissolved oxygen (DO) in the receiving water at distances far outside of the regulated mixing zone. The BOD_5 of an effluent sample indicates the amount of biodegradable material in the wastewater and estimates the magnitude of oxygen consumption the wastewater will generate in the receiving water.

The reasonable potential to cause or contribute to violations of the dissolved oxygen criteria of 6 mg/L can be evaluated using the Streeter-Phelps model. The Streeter-Phelps equation (also known as the "dissolved oxygen sag" equation) is based on a mass balance which is affected by two processes. One is that oxygen is removed from water by the degradation of organic materials. In other words, the biochemical oxygen demand of an organic waste is satisfied by oxygen taken from

the water. The second process is "reaeration" by oxygen transfer into the water from the atmosphere.

The analysis was done based on the worst case effluent of the facility. The model shows that the minimum downstream DO will be 6.47 mg/L and, therefore, is unlikely to contribute to a violation of DO criteria. Estimated worst case was used for input data into the model based on best available information.

3.3.3.4 Phosphorus, Total as P (TP)

The Payette River is not impaired for nutrients. However, the Snake River-Hells Canyon Total Maximum Daily Load (IDEQ and ODEQ 2004) establishes a load allocation of 0.070 mg/L for the Payette River at its mouth, for the season of May – September (see Table 4.0.9 on page 447 of the TMDL). There is no assimilative capacity in either the Payette River or Drain S-14 because phosphorus concentrations are above the 0.070 mg/L target (see Table 3). The maximum effluent concentration is also above the 0.070 mg/L target (see Table 2). Therefore, the discharge of phosphorus has the reasonable potential to cause or contribute to excursions above water quality standards and the permit establishes an effluent limit of 0.070 mg/L during the months of May through September.

TP load for Outfall 001 (May 1 to June 30)

$$TP\ Daily\ Load = \frac{0.070\ mg}{L} \times \frac{0.108\ million\ gal}{day} \times \frac{8.34\ lbs}{gallon} = 0.063\ lbs/day$$

TP load for Internal Outfall 201 (July 1 to September 31)

$$TP\ Daily\ Load = \frac{0.07\ mg}{L} \times \frac{0.036\ million\ gal}{day} x \frac{8.34\ lbs}{gallon} = 0.021\ lbs/day$$

A maximum daily limit was not included as it is not appropriate for nutrients with far field effects (see DEQ 2017, section 3.7.1.3). Using an assumed coefficient of variation (CV) of 0.6 for TP loads and the proposed sampling schedule of once per month, an average monthly limit (AML) load based on this WLA was calculated (Appendix D, Table 16). The AML for TP is 0.13 lb/day.

This parameter has a compliance schedule with interim limits (see Section 5.1).

3.3.3.5 Total Residual Chlorine

The permit application indicates that apples and peaches are rinsed with a chlorine dioxide solution prior to being rinsed in water. Henggeler Packing did not have effluent data for chlorine to supply to DEQ. However, since chlorine is used in the process of packing apples and peaches, the discharge has the reasonable potential to cause or contribute to excursions above water quality standards for chlorine (IDAPA 58.01.02.210.01). An effluent TRC concentration of 3 mg/L was assumed in the RPA (based on DMR data from EPA from other packing plants). Therefore, the permit includes WQBELs for chlorine, if chlorine is used. The chlorine effluent limits have the same seasons as production/packing flow. This parameter has a compliance schedule, and no interim limits (see Section 5.1).

3.3.3.6 Residues

The Idaho WQS require that surface waters of the State be free from floating, suspended or submerged matter of any kind in concentrations impairing designated beneficial uses (IDAPA 58.01.02.200.05). The permit contains a narrative limit prohibiting the discharge of such materials.

3.3.3.7 Temperature

The water quality criteria for temperature in Drain S-14 are:

- July 16 – October 14 (cold water aquatic life): 22°C or less with a maximum daily average of no greater than 19°C. IDAPA 58.01.02.250.02.b.
- October 15 – July 15 (salmonid spawning): 13°C or less with a maximum daily average of no greater than 9°C. IDAPA 58.01.02.250.02.f.

The maximum instantaneous temperatures measured by the ISDA at the S-14 Up monitoring station during these seasons are:

- 18.7°C from July 16 – October 14 (n = 13)
- 19.8°C from October 15 – July 15 (n = 26)

DEQ does not have effluent temperature data for Henggeler Packing. To estimate an effluent temperature for the purpose of determining if the discharge has the reasonable potential to cause or contribute to excursions above WQS for temperature, the EPA compiled and forwarded to DEQ the effluent temperature data from 50 fruit packing facilities located in the Northwest for the period of 2013 – 2018. From this data, the maximum effluent temperatures reported ranged from 14.1 to 71.4°C, with an average of 26.4°C.

From July 16 – October 14, when the cold water aquatic life criteria apply, the receiving water temperature upstream from the discharge is less than the daily average water quality criterion. Thus, the receiving water has assimilative capacity to dilute a discharge of heat, and a mixing zone may be authorized. The RPA and temperature limits for this season were based on a mixing zone encompassing 25% of the 1Q10 stream flow rate. From July 16 – October 14, the facility does not have the reasonable potential to cause or contribute to excursions above the instantaneous maximum criterion of 22°C, but does have the reasonable potential to cause or contribute to excursions above the daily average criterion of 19°C. Therefore only a "maximum daily average limit" (which is defined as the maximum allowable average temperature over a day) is included for July 16 – October 14.

From October 15 – July 15, when the salmonid spawning criteria apply, the receiving water does not have assimilative capacity to dilute a discharge of heat, and therefore no mixing zone may be authorized. Based on fruit packing facility effluent data supplied by EPA, the effluent temperature is likely to be higher than the criteria (9°C daily average and 13°C maximum). Therefore, the discharge has the reasonable potential to cause or contribute to excursions above WQS for temperature—the temperature limits for October 15 – July 15 apply the daily average and instantaneous maximum water quality criteria at the end-of-pipe.

This parameter has a compliance schedule, and no interim limits (see Section 5.1)

3.3.3.8 Metals

Limited effluent data were available for selenium, copper, iron, magnesium, molybdenum, cobalt, manganese, and zinc (5 data points, each, from the permittee's 1997 discharge permit application). No receiving water quality data for metals were available. Idaho does not have water quality criteria for cobalt, magnesium, molybdenum, iron, or manganese. Without a statistically significant sample population, an RPA could not be conducted. However, the grower chemicals and products used by the facility were evaluated from SDS data. Copper was found in one product (see section 3.3.3.11), Cuprofix, a product authorized for use on trees after harvest, early spring, or during bloom, but not authorized for application directly to fruit. The permit requires that the permittee monitor the effluent and receiving water for selenium, copper, and zinc in order to determine the applicable criteria for the next permit reissuance. If copper is present in the effluent, copper biotic ligand model (BLM) receiving water monitoring requirements will be added to the permit at reissuance.

3.3.3.9 Arsenic

No effluent data were available for arsenic; however, it was present during a 2019 sampling of the well that provides water for fruit packing and process cooling. Without a statistically significant sample population, an RPA could not be conducted. The permit requires that the permittee monitor the effluent and receiving water for arsenic in order to determine the applicable criteria for the next permit reissuance.

3.3.3.10 Pesticides and Fungicides

Pesticides and fungicides are sometimes used in fruit packing facilities (Ecology 2016b). However, the permit applications did not indicate that any pesticides or fungicides are used at the facility. The permit includes a requirement that the permittee not use pesticides or fungicides in the process and cooling water discharge, in the overflow well water discharge, or on any product or material that comes into direct contact with those discharges.

Even though the permittee does not use pesticides or fungicides at the facility, the fruit may have pesticides that were applied prior to harvest, or residues from legacy pesticides, which could be discharged in the effluent.

In 2007 and 2008, the Washington Department of Ecology (Ecology) analyzed effluents from four fruit packing facilities in the Yakima River basin for several legacy pesticides or breakdown products, as well as the insecticides chlorpyrifos and endosulfan, which were in use at the time of the study (Ecology 2010). Endosulfan use was phased out between 2012 and 2016 (75 FR 69065).

In this study, Ecology quantitatively measured the following pesticides and breakdown products in fruit packing discharges at concentrations greater than the Idaho water quality criterion applicable to Drain S-14:

- 4,4'-DDD
- 4,4'-DDE
- Dieldrin
- Heptachlor epoxide

Heptachlor epoxide is a breakdown product of heptachlor, and 4,4'-DDD and 4,4'-DDE are breakdown products of 4,4'-DDT. DDT and heptachlor were also detected in fruit packing

effluents in the Ecology study (Ecology, 2010 and Ecology, 2016), and, although the results were estimates, the estimated effluent concentrations of DDT and heptachlor exceeded Idaho's water quality criteria.

Because these compounds or their precursors have been measured in fruit packing effluents in other facilities at concentrations above Idaho's water quality criteria, the permit includes annual effluent monitoring, during the packing season, of the following pesticides and breakdown products:

- 4,4'-DDD
- 4,4'-DDE
- 4,4'-DDT
- Dieldrin
- Heptachlor
- Heptachlor epoxide

ISDA collected ambient data for pesticides in Drain S-14 in 2008. In general, the pesticides that ISDA tested for in Drain S-14 are different from those that Ecology tested for in fruit packing effluents, although both studies analyzed for chlorpyrifos. The EPA has established aquatic life benchmarks (which are not water quality criteria) for the pesticides that were detected in Drain S-14.

A list of the pesticides that ISDA detected in Drain S-14, as well as a comparison of the highest pesticide concentrations to the aquatic life benchmarks, is provided in Table 12.

Table 12. Pesticide concentrations in Drain S-14 and Aquatic Life Benchmarks.

Pesticide	Highest Concentration in Drain S-14 (µg/L)	Lowest Aquatic Life Benchmark (µg/L)	Benchmark Type
2,4-D	1.4	299.2	Vascular plants, acute
Alachlor	0.067	1.64	Nonvascular plants, acute
Bentazon	0.24	4,500	Nonvascular plants, acute
Dacthal (DCPA)	0.89	> 11,000	Vascular and nonvascular plants, acute
EPTC	0.38	800	Invertebrates, chronic
Ethalfluralin	0.052	0.4	Fish, chronic
Metolachlor	0.21	1	Invertebrates, chronic
Oxyfluorfen	0.13	0.29	Nonvascular plants, acute
Pendimethalin	0.16	5.2	Nonvascular plants, acute
Terbacil	0.2	11	Nonvascular plants, acute
Source for measured pesticide concentrations in Drain S-14: ISDA 2008. Source for aquatic life benchmarks: https://www.epa.gov/pesticide-science-and-assessing-pesticide-risks/aquatic-life-benchmarks-and-ecological-risk			

Of the pesticides detected in Drain S-14, water quality criteria have been established only for 2,4-D. The most stringent Idaho water quality criterion for 2,4-D is the human health criterion for the consumption of water and organisms, which is 1,000 µg/L. The highest concentration of 2,4-D measured in Drain S-14 was 1.4 µg/L (Table 1).

The following pesticides were analyzed but not detected in Drain S-14:

- Bromacil
- Chlorpyrifos

- Desethyl Atrazine
- Dicamba
- Dimethoate
- Diuron
- Hexazinone
- Malathion
- MCPA
- Methomyl
- Metribuzin

Because the concentrations of all of the pesticides detected in Drain S-14 are well below the water quality criteria (if any) and the aquatic life benchmarks, no monitoring requirements for the pesticides analyzed by ISDA in 2008 are included in the permit.

3.3.3.11 Grower Chemicals

The permittee supplied a list of chemicals used by the growers that supply produce to this facility. The list includes:

- 440 Superior Spray
- CuprofixUltra40d
- Promalin
- Agri-mycin50
- Mycoshield
- Tri-fol
- Captan 50 Wettable Powder
- Mora-LeafB-33
- Regulaid
- Sevin SL
- Ethephon 2SL
- NDemand 30L
- Refine 6.25L
- Topguard
- Nuprid 4 Fmax
- Rally40WSP
- Intrepid 2F
- Sysstem-advanced
- Sysstem-Seacal
- Sysstem-cal
- AdmirePro
- Assail 70WP
- Avaun
- Onager Opt
- Gatten
- Flint Ext
- Pristin
- Fontelis

EPA Pesticide identification numbers were identified and listed ingredients evaluated against regulated chemicals in Idaho Water Quality Standards (IDAPA 58.01.02); IPDES User's Guide to Permitting and Compliance, Volume 3 – Non-POTW (DEQ, 2018); 40 CFR 122; 40 CFR 117.12(a)(2) and (c); and 40 CFR 423, Appendix A. Potential effluent pollutants from this list were determined to be Ammonia, Boron, Carbaryl, Copper, Formaldehyde, Naphthalene, Sodium, TSS, TP, TRC, and Zinc. Since no effluent data were available for these chemicals, the permit requires that the permittee monitor the effluent for them in order to determine the applicable criteria for the next permit reissuance.

3.3.3.12 Coatings (Wax)

The 2018 permit application indicates that the permittee uses food-grade waxes on peaches and apples. Safety data sheets (SDSs) for the waxes were provided in the application, and the SDSs did

not indicate any hazardous ingredients.[6, 7] The label for the wax used on apples states that the ingredients are carnauba wax, vegetable fatty acid soap, food grade shellac, silicone anti-foam, and water. These are minor contributors to the wastewater and will not cause or contribute to water quality standards violations if properly applied (Ecology 2016b).

3.3.3.13 Fruit Cleaner

The 2018 permit application indicates that the permittee uses a concentrated cleaner to clean the fruit before it is packed. An SDS for this product was provided in the application, and the SDS did not indicate the product contains any hazardous ingredients.[8]

3.3.4 Narrative Criteria

DEQ must consider the narrative criteria described in IDAPA 58.01.02.200 when it determines permit limits and conditions. Narrative WQC limit the toxic, radioactive, or other deleterious material concentrations that the facility may discharge which have the potential to adversely affect designated uses, cause acute or chronic toxicity to biota, impair aesthetic attributes, or adversely affect human health.

The Idaho WQS require that surface waters of the State be free from floating, suspended, or submerged matter of any kind in concentrations impairing designated beneficial uses. The permit contains a narrative limit prohibiting the discharge of such materials or any violation of narrative WQC.

3.4 Antidegradation

DEQ's antidegradation policy provides three levels of protection to water bodies in Idaho subject to Clean Water Act (CWA) jurisdiction (IDAPA 58.01.02.051).

- Tier I of antidegradation protection is designed to ensure that existing uses and the water quality necessary to protect those uses is maintained and protected (IDAPA 58.01.02.051.01; 58.01.02.052.01). A Tier I review is performed for all new or reissued permits or licenses (IDAPA 58.01.02.052.07).
- Tier II protection applies to any water bodies considered to be high quality waters (where the water quality exceeds levels necessary to support propagation of fish, shellfish, wildlife, and recreation in and on the water) and provides that water quality will be maintained and protected unless allowing for lower water quality is deemed by the state as necessary to accommodate important economic or social development in the area. In allowing any lowering of water quality DEQ must ensure adequate water quality to protect existing uses fully and must assure that there will be achieved the highest statutory and regulatory requirements for all new and existing point sources (IDAPA 58.01.02.051.02; 58.01.02.052.08).
- Tier III protection applies to water bodies that have been designated by the Idaho Legislature as outstanding national resource waters and provides that water quality is to be maintained and protected (IDAPA 58.01.02.051.03; 58.01.02.052.09).

[6] SDS for US Syntec Phase 3 Carnauba Plus: *http://ussyntec.net/data/MSDS/Phase%203%20Carnauba%20Plus.pdf*
[7] SDS for US Syntec Phase 3 Peaché: *http://ussyntec.net/data/MSDS/Phase%203%20Peache.pdf*
[8] SDS for US Syntec Phase 1&2 Nu-Q: *http://ussyntec.net/data/MSDS/Phase%201%20&%202%20Nu-Q.pdf*

DEQ employs a water body by water body approach to implementing Idaho's antidegradation policy. This approach means that any water body fully supporting its beneficial uses will be considered high quality (IDAPA 58.01.02.052.05.a). Any water body not fully supporting its beneficial uses will be provided Tier I protection for that use unless specific circumstances warranting Tier II protection are met (IDAPA 58.01.02.052.05.c). The most recent federally approved Integrated Report and supporting data are used to determine support status and the tier of protection (IDAPA 58.01.02.052.05).

Henggeler Packing discharges to Drain S-14 within the Payette Subbasin assessment unit (AU) 7050122SW001_02 (Graveyard and Langley Gulches, and Haw Creek). This AU has the following designated beneficial uses: salmonid spawning, cold water aquatic life, primary contact recreation, and domestic water supply. In addition to these uses; all waters of the state are protected for agricultural and industrial water supply, wildlife habitat, and aesthetics (IDAPA 58.01.02.140.16).

This AU is included in Category 3 (Unassessed Waters) of the (2018/2020) Integrated Report. Therefore, DEQ must provide an appropriate level of protection on a case-by-case basis using information available at this time (IDAPA 58.01.02.052.05.b).

Drain S-14 is a tributary to the Payette River, which is currently not supporting its assessed uses for salmonid spawning, cold water aquatic life, and contact recreation. As such, DEQ will provide a Tier I protection for the contact recreation and aquatic life uses.

For waters designated for salmonid spawning, the Idaho WQS specify criteria for dissolved oxygen (DO) and temperature that are more stringent than the criteria for the cold water aquatic life use and which apply during the time spawning and incubation occurs. The Idaho Department of Fish and Game's website states that rainbow trout and mountain whitefish have been observed in the Payette River in fish surveys since 1990, and mountain whitefish are a recommended game fish for the Payette River (Idaho Department of Fish and Game, 2019). DEQ assumes that rainbow trout and mountain whitefish could be present in Drain S-14 as well. Spawning and incubation occur from January 15 through July 15 for rainbow trout and from October 15 through March 15 for mountain whitefish. Thus, the salmonid spawning criteria apply for most of the year, except from July 16 through October 14.

3.4.1 Protection and Maintenance of Existing Uses (Tier I Protection)

A Tier I review is performed for all new or reissued permits or licenses, applies to all waters subject to the jurisdiction of the Clean Water Act, and requires demonstration that existing and designated uses and the level of water quality necessary to protect existing and designated uses shall be maintained and protected. In order to protect and maintain existing and designated beneficial uses, a permitted discharge must comply with narrative and numeric criteria of the Idaho WQS, as well as other provisions of the WQS. The numeric and narrative criteria in the WQS are set at levels that ensure protection of existing and designated beneficial uses. The effluent limits and associated requirements contained in this permit are set at levels that ensure compliance with the narrative and numeric criteria in the WQS.

Water bodies not supporting existing or designated beneficial uses must be identified as water quality limited, and a total maximum daily load (TMDL) must be prepared for those pollutants causing impairment. A central purpose of TMDLs is to establish wasteload allocations for point source discharges, which are set at levels designed to help restore the water body to a condition that supports existing and designated beneficial uses. Discharge permits must contain limits that are consistent with wasteload allocations in the approved TMDL.

Prior to the development of the TMDL, the WQS require the application of the antidegradation policy and implementation provisions to maintain and protect uses (IDAPA 58.01.02.055.04).

Although the Payette River is not impaired for nutrients, the Payette River received a total phosphorus wasteload allocation in the approved Snake River Hells Canyon TMDL (DEQ and ODEQ 2004) of 0.07 mg/L to be measured at the mouth from May through September. Because the TMDL did not include a wasteload allocation for Henggeler Packing, and there is no reserve for growth or assimilative capacity in the Payette River, the effluent limits for total phosphorus contained in the permit are set at levels that comply with the 0.07 mg/L wasteload allocation for the Payette River that was developed in the TMDL.

The Lower Payette TMDL (DEQ 1999) identified temperature, nutrients, and bacteria as pollutants of concern for HUC 17050122. Henggeler Packing is not a suspected source of *E. coli*, which is the only constituent that included a wasteload reduction in the watershed for this TMDL. This TMDL did not include wasteload allocations for temperature or total phosphorus.

The limits in this permit were developed to achieve the water quality necessary to support existing and designated aquatic life beneficial uses and comply with the applicable numeric and narrative criteria in Drain S-14 and the Payette River.

In sum, the effluent limits and associated requirements contained in this permit are set at levels that ensure compliance with the narrative and numeric criteria in the WQS and the wasteload allocations established in the Snake River Hells Canyon TMDL. Therefore, DEQ has determined the permit will protect and maintain existing and designated beneficial uses in the Drain S-14 in compliance with the Tier I provisions of Idaho's WQS (IDAPA 58.01.02.051.01 and 58.01.02.052.07).

3.5 Antibacksliding

Section 402(o) of the CWA and regulations at IDAPA 58.01.25.200 generally prohibit the renewal, reissuance or modification of an existing IPDES permit that contains effluent limits, permit conditions, or standards that are less stringent than those established in the previous permit (i.e., anti-backsliding) but provides limited exceptions. For explanation of the antibacksliding exceptions refer to section 4.1 of the Effluent Limit Development Guidance (DEQ 2017).

An anti-backsliding analysis was not necessary because this is an initial permit. This is an initial permit so there are no effluent limits and monitoring requirements from a previous permit.

4 Monitoring Requirements

This is an initial permit so there are no effluent limits and monitoring requirements from a previous permit. Table 13 and Table 14 present the effluent limits and monitoring requirements in the 2021 permit.

4.1 Basis for Effluent and Receiving Water Monitoring

Idaho regulations IDAPA 58.01.02 and 58.01.25 require that monitoring be included in permits to determine compliance with effluent limits and other permit restrictions. Monitoring may also be required to gather data to assess the need for future effluent limits or to monitor effluent impacts on

receiving water quality. Permittees are responsible for conducting the monitoring and reporting the results on monthly DMRs and in annual reports.

The permit also requires the permittee to perform effluent monitoring required by the IPDES Industrial (Non-POTW) Individual Permit Application, so that these data will be available when the permittee applies for a renewal of its IPDES permit.

The permittee is responsible for conducting the monitoring and for reporting results on DMRs or on the application for renewal, as appropriate, to DEQ.

4.2 Additional Effluent Monitoring

Monitoring frequencies are based on the nature and effect of the pollutant, as well as a determination of the minimum sampling necessary to adequately monitor the facility's performance. Permittees have the option of taking more frequent samples than are required under the permit. These samples must be used for averaging if they are conducted using the EPA-approved test methods (generally found in 40 CFR 136) or as specified in the permit.

Pollutants that must be monitored but do not have effluent limits are presented in Table 13 and Table 14. The sampling location must be after the last treatment unit and prior to discharge to the receiving water. The samples must be representative of the volume and nature of the monitored discharge. If no discharge occurs during the reporting period, "no discharge" must be reported on the DMR.

Table 13. Additional effluent monitoring for Internal Outfall 201.

Parameter	Monitoring Period	Units	Monthly Average	Daily Maximum	Sample Frequency	Sample Type	Reporting Period (DMR Months)
Flow	07/01 to 11/30	mgd	Report	Report	5/week or continuous[a]	Measure-ment	Monthly (July, August, September, October, November)
pH	07/01 to 11/30	S.U.	Report	Report	2/year[b]	Grab[c]	Annually (December[d])
Ammonia, Total as N	07/01 to 11/30	mg/L	—	Report	2/year[b]	Grab[c]	Annually (December[d])
Nitrate + Nitrite, as N	07/01 to 11/30	mg/L	—	Report	2/year[b]	Grab[c]	Annually (December[d])
Total Kjeldahl Nitrogen (TKN)	07/01 to 11/30	mg/L	—	Report	2/year[b]	Grab[c]	Annually (December[d])
Selenium, Total	07/01 to 11/30	mg/L	—	Report	2/year[b]	Grab[c]	Annually (December[d])
Arsenic, Total	07/01 to 11/30	mg/L	—	Report	2/year[b]	Grab[c]	Annually (December[d])
Copper, Total	07/01 to 11/30	mg/L	—	Report	2/year[b]	Grab[c]	Annually (December[d])
Zinc, Total	07/01 to 11/30	mg/L	—	Report	2/year[b]	Grab[c]	Annually (December[d])
Hardness, Total as $CaCO_3$	07/01 to 11/30	mg/L	—	Report	2/year[b]	Grab[c]	Annually (December[d])
Phosphorus, Total as (TP)	07/01 to 11/30	mg/L	—	Report	2/year[b]	Grab[c]	Annually (December[d])
Carbaryl	07/01 to 11/30	mg/L	—	Report	1/year[d]	Grab[c]	Annually (December[d])
4,4'-DDD	07/01 to 11/30	ng/L	—	Report	1/year[d]	Grab[c]	Annually (December[d])
4,4'-DDE	07/01 to 11/30	ng/L	—	Report	1/year[d]	Grab[c]	Annually (December[d])
4,4'-DDT	07/01 to 11/30	ng/L	—	Report	1/year[d]	Grab[c]	Annually (December[d])
Dieldrin	07/01 to 11/30	ng/L	—	Report	1/year[d]	Grab[c]	Annually (December[d])
Heptachlor	07/01 to 11/30	ng/L	—	Report	1/year[d]	Grab[c]	Annually (December[d])
Heptachlor epoxide	07/01 to 11/30	ng/L	—	Report	1/year[d]	Grab[c]	Annually (December[d])
Naphthalene	07/01 to 11/30	ng/L	—	Report	1/year[d]	Grab[c]	Annually (December[d])

a. The permittee may switch to a continuously recording flowmeter for Internal Outfall 201 flow measurements. Internal Outfall 201 flow measurements must be submitted with monthly DMR's during the July 1 – November 30 monitoring period.
b. For parameters with 2/year sample frequency, one sample should be taken during the July 1 to September 30 monitoring period and the other during the October 1 to November 31 monitoring period. Report results annually in the December DMR's.
c. A grab sample is an individual sample collected over a 15-minute period or less.
d. DMR data from 2/year and 1/year samples should be reported annually with the December DMRs, which are due in January.

Table 14. Additional effluent monitoring for Outfall 001.

Parameter	Monitoring Period	Units	Monthly Average	Daily Maximum	Sample Frequency	Sample Type	Reporting Period (DMR Months)
Flow	01/01 to 12/31	mgd	Report	Report	5/week or Continuous[a,b]	Recorded	Monthly (All Months)
Arsenic, Total	01/01 to 12/31	mg/L	—	Report	2/year[c]	Grab[d]	Annually[e] (December)
Hardness, Total as $CaCO_3$	01/01 to 12/31	mg/L	—	Report	2/year[c]	Grab[d]	Annually[e] (December)

a. Continuous flow monitoring must begin within one year of the effective date of this permit. Until that time, daily measurements are acceptable.
b. For months with no discharge, use an appropriate NODI code for the DMR.
c. One sample must be taken when packing is occurring and one must be taken when packing is not occurring.
d. A grab sample is an individual sample collected over a 15-minute period or less.
e. Data from samples taken 2/year must be reported with December DMRs which are due in January.

4.3 Receiving Water Monitoring

In general, receiving water monitoring may be required for pollutants of concern to assess the assimilative capacity of the receiving water for the pollutant. In addition, receiving water monitoring may be required for pollutants for which the water quality criteria are dependent and to collect data for TMDL development if the facility discharges to an impaired water body.

Table 15 presents the proposed receiving water monitoring requirements for the permit. The permittee must establish receiving water monitoring in Drain S-14 upstream of the point of discharge. The permit states that, to the extent practicable, surface water sample collection must occur on the same day as effluent sample collection. Receiving water monitoring results must be submitted with the DMR.

Table 15. Receiving water monitoring requirements for Drain S-14 (REC1) Upstream of Outfall 001.

Parameter	Monitoring Period	Units	Instantaneous Minimum	Instantaneous Maximum	Daily Maximum	Sample Frequency	Sample Type	Reporting Period (DMR Months)
Dissolved Oxygen	01/01 to 12/31	mg/L	—	—	Report	2x/year	Grab[a]	Annually[b] (December)
Ammonia, Total as N	08/01 to 11/30	mg/L	—	—	Report	2x/year	Grab[a]	Annually[b] (December)
Nitrate + Nitrite as N	01/01 to 12/31	mg/L	—	—	Report	2x/year	Grab[a]	Annually[b] (December)
Phosphorus, Total as TP	01/01 to 12/31	mg/L	—	—	Report	2x/year	Grab[a]	Annually[b] (December)
Hardness, Total as $CaCO_3$	01/01 to 12/31	mg/L	—	—	Report	2x/year	Grab[a]	Annually[b] (December)
pH[c, d]	01/01 to 12/31	Standard Units	Report	Report	—	4x/year	Grab[a]	Quarterly[e] (Varies)
Temperature[d,f]	01/01 to 12/31	mg/L	—	—	Report	4x/year	Grab[a]	Quarterly[e] (Varies)

a. A grab sample is an individual sample collected over a 15-minute period or less.
b. For parameters with 2/year sample frequency, one sample should be taken during the December 1 to June 30 monitoring period and the other during the July 1 to November 31. Report results annually in the December DMR's, which are due in January.
c. The pH must be analyzed within 15 minutes of sample collection.
d. These parameters must be sampled concurrently.
e. Quarters are defined as: January 1-March 31; April 1-June 30; July 1-September 30; and October 1-December 31. Report results annually in March DMRs (due in April), June DMRs (due in July), October DMRs (due in November), and December DMR's (due in January).
f. Temperature grab sampling must occur when the effluent is at or near its daily maximum temperature, which usually occurs in the late afternoon.

4.4 Intake Monitoring

Monitoring of intake water from the potable water well for TP, TN, arsenic, and selenium is optional, as the permit requires monitoring of discharge and no intake credits are requested.

If the permittee will request intake credit consideration in the next permit cycle, parameters monitored in the intake from the permittee's well must be summarized and reported through the E-Permitting System both annually and with a permit renewal application.

4.5 Permit Renewal Monitoring

The renewal application for this permit requires that at least one analysis be performed for each pollutant that the permittee indicated on their application that is or is likely to be present in the facility's effluent. The permittee may enter the pollutant sampling data through the IPDES E-Permitting System after receiving the lab analyses or at the time of permit re-application.

The permittee must also submit a new application or addendum at least 180 days prior to commencement of discharges, resulting from activities. These activities include any facility expansions, production increases, or other planned changes such as process modification, in the permitted facility.

With the application, the permittee must also upload data from monitoring of intake water from the facility's well and data from receiving water monitors.

In addition, the permittee must continue permit effluent monitoring listed in the effluent and receiving water tables (Table 6, Table 7, Table 8, Table 13, Table 14, and Table 15) until a new permit is issued.

4.6 Electronic Submission of Discharge Monitoring Reports

The permit requires that the permittee submit DMR data electronically using NetDMR. NetDMR is a national web-based tool that allows DMR data to be submitted electronically via a secure Internet application.

The EPA currently conducts free training on the use of NetDMR. Further information about NetDMR, including upcoming trainings and contacts, is provided on the following website: https://netdmr.epa.gov. The permittee may use NetDMR after requesting and receiving permission from EPA Region 10.

Idaho regulations IDAPA 58.01.02 and 58.01.25 require that monitoring be included in permits to determine compliance with effluent limits and other permit restrictions. Monitoring may also be required to gather data to assess the need for future effluent limits or to monitor effluent impacts on receiving water quality. Permittees are responsible for conducting the monitoring and reporting the results to EPA and/or IDEQ on monthly DMRs and in annual reports.

5 Special Conditions

5.1 Compliance Schedule

IDAPA 58.01.25.305 and 40 CFR 122.47 allow for compliance schedules in IPDES permits to provide additional time for permittees to achieve compliance.

The permit includes a compliance schedule for total phosphorus (TP), temperature, and total residual chlorine (TRC).

The permit provides a 10-year period to evaluate how the permittee will approach the temperature and TP limits, document findings and plans, and implement the course of action. After an approach is decided, the permittee will have another year to provide DEQ a schedule in which to implement their plan. The facility will have the remaining 5 years to implement their plan (e.g., receiving upgrade bids, construction, install equipment, etc.). Additional specific compliance schedule tasks may be added in future permit cycles once the permittee has chosen the approach to meet final limits.

The permit includes a compliance schedule for TRC because it is unknown if the permittee can meet new permit limits. A period of five years with no interim limits is given to monitor for TRC and install dechlorination equipment, if necessary, to comply with final effluent limits.

IDAPA 58.01.25.305.01 states that schedules of compliance shall require compliance as soon as possible. Alternatively, IDAPA 58.01.25.305.02 states that an IPDES permittee may choose to terminate direct discharge to waters of the United States rather than continuing to operate and meeting permit requirements.

5.2 Best Management Practices (BMP) Plan

IDAPA 58.01.25.302.13 requires the permittee to use best management practices (BMPs) in order to control or abate the discharge of pollutants whenever BMPs are reasonably necessary to carry out the purposes and intent of the CWA.

DEQ may specify in a permit the terms and conditions under which waste material may be disposed of. This permit requires the permittee to develop and implement a plan for control or abatement of the discharge of pollutants including TRC, temperature, and phosphorus in order to prevent or minimize the potential for the release of pollutants to waters of the U.S. in Idaho through plant site runoff, spillage, leaks, or erosion. The permit contains certain BMP conditions which must be included in the BMP plan. The permit requires the permittee to develop a BMP plan within one year from the effective date of the final permit and implement the plan within two years of the effective date of the final permit. The plan must be kept on site and made available to the Department upon request.

6 Standard Conditions

Section 4 of the permit contains standard regulatory documents and conditions that must be included in all IPDES permits. DEQ bases the standard conditions on state and federal law and regulations. Because they are based on federal regulations, they cannot be challenged in the context of an individual IPDES permit action. The standard regulatory language covers requirements such as monitoring, recording, and reporting requirements, compliance responsibilities, and other general requirements.

6.1.1 Quality Assurance Plan

In accordance with IDAPA 58.01.25.300.05, permittees are required to develop procedures to ensure that the monitoring data submitted is accurate and explain data anomalies if they occur. The permittee is required to update and implement a plan. The quality assurance plan shall consist of standard operating procedures for collecting, handling, storing and shipping samples, laboratory analysis, and data reporting. The plan shall be retained on site and made available to DEQ upon

request. Henggeler Packing is required to complete a Quality Assurance Plan within one year of the effective date of the final permit.

6.1.2 Operation and Maintenance Manual

The permit requires Henggeler Packing to properly operate and maintain all facilities and systems of conveyance, treatment, and control. Proper operation and maintenance is essential to meeting discharge limits, monitoring requirements, and all other permit requirements at all times. The permittee is required to maintain and implement an operation and maintenance plan for their facility. The plan must be retained onsite and made available to DEQ upon request.

7 Permit Expiration or Modification

The permit will expire five years from the effective date.

DEQ may modify a permit before its expiration date only for causes specified in IDAPA58.01.25.201. A modification other than a *minor modification* requires preparing a draft permit that incorporates the proposed changes, preparing a fact sheet, and conducting a public review period. Only the permit conditions subject to the modification will be reopened when a permit is modified. All other conditions of the existing permit will remain in effect. Modifying a permit does not change the expiration date of the original permit.

8 References

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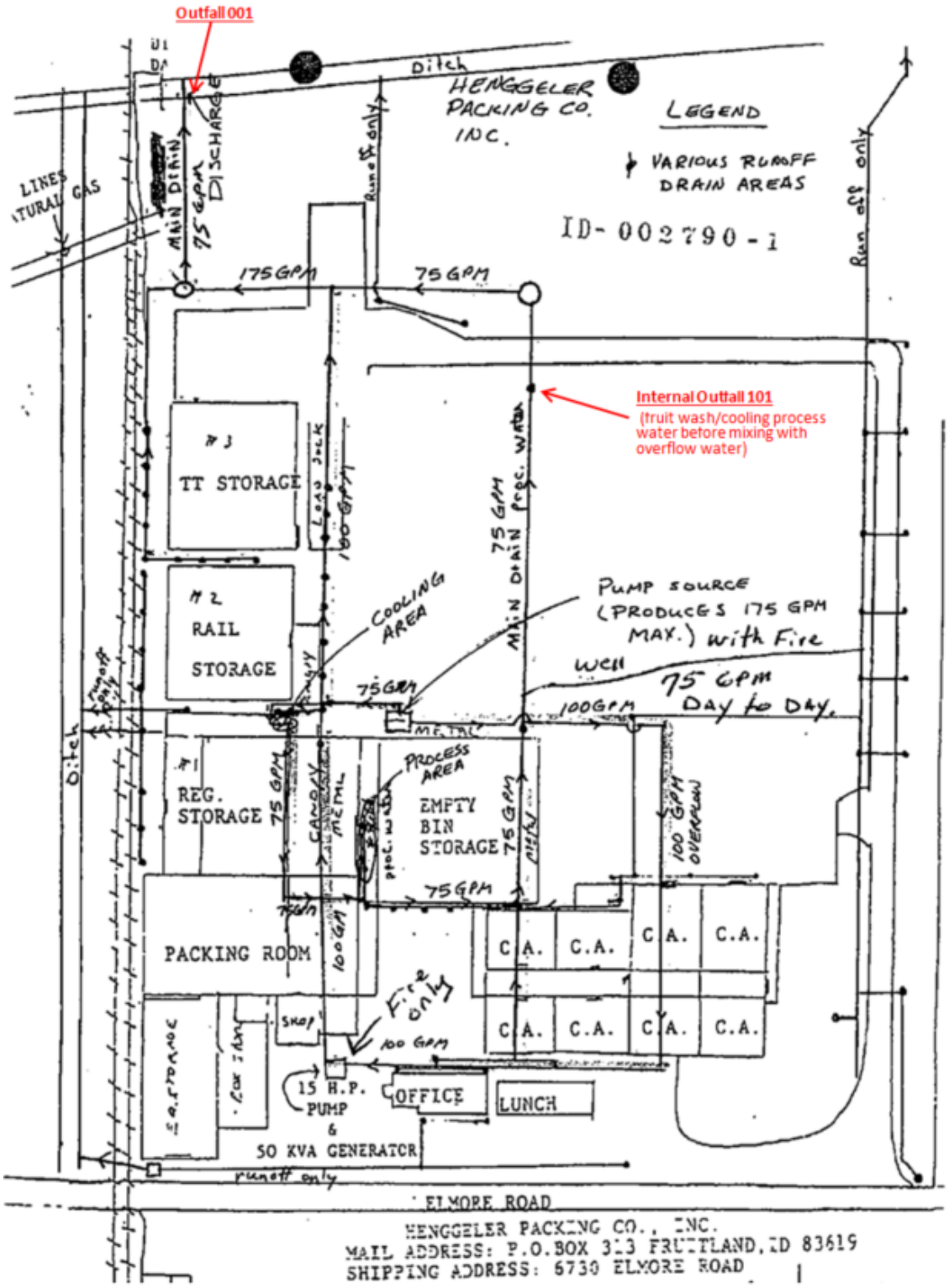
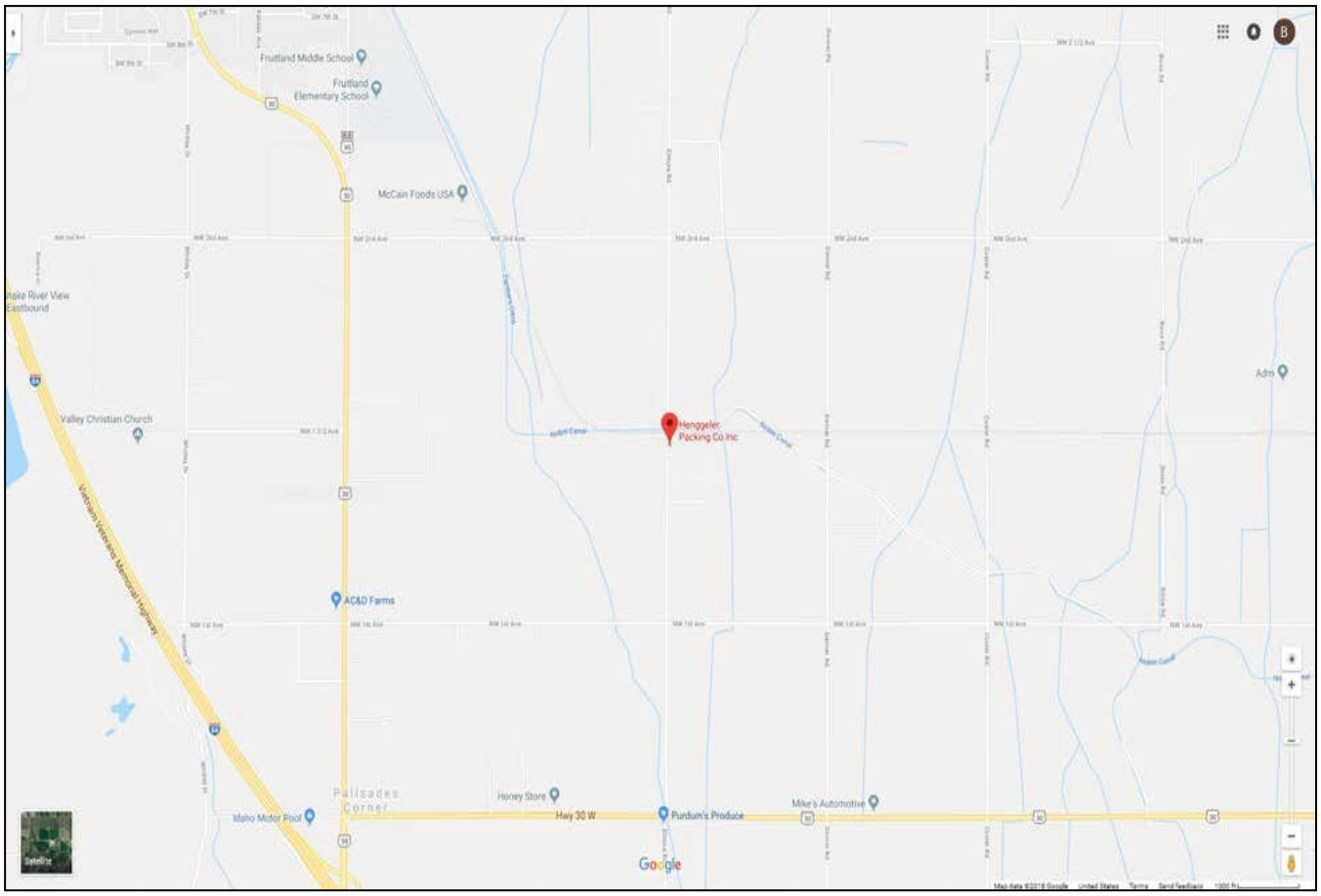
Appendix A. Facility Maps / Process Schematics

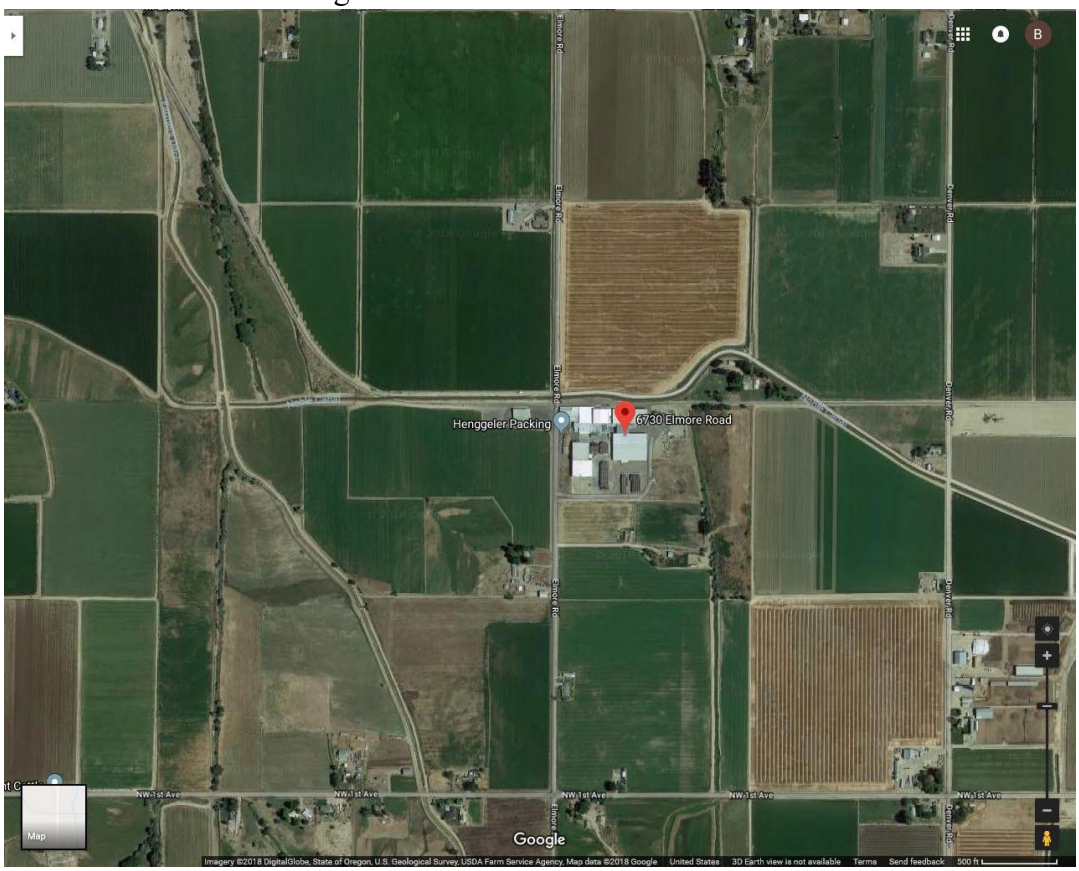
A. Flow Diagram



B. Map


Fruitland Middle School
Fruitland Elementary School
McCain Foods USA
Valley Christian Church
Henggeler Packing Co Inc
AC&D Farms
Honey Store
Hwy 30 W
Purdum's Produce
Mike's Automotive
Idaho Motor Pool
Palisades Corner
Google

C. Current Satellite Image



D. Historical USGS Aerial Image (August 3, 1974)



Appendix B. Water Quality Data

A. Effluent Data

Date ➔	8/23/1997	8/23/1997	8/23/1997	8/23/1997	8/23/1997	2/27/2001	2/11/2003		Minimum	Median	Average	Maximum	Count	Std Dev
Sample ID	1	None	2	2:30	3:30	21373	52162							
pH	8.7	8.5	8.7	8.6	8.7				8.5	8.7	8.64	8.7	5	0.09
Conductivity (µmhos/cm)	620	350	640	640	640				350	640	578	640	5	127.7
Sodium (ppm)	82	39	83	75	82				39	82	72.2	83	5	18.8
Potassium (ppm)	7	2	5	5	3				2	5	4.4	7	5	1.9
Calcium (ppm)	49	31	50	47	51				31	49	45.6	51	5	8.3
Magnesium (ppm)	19	9	18	17	18				9	18	16.2	19	5	4.1
Hardness (mg/L as CaCO3, calculated)	200	114	199	187	201				114	198.8	180	201	5	37.3
Boron (ppm)	0.12	0.06	0.12	0.11	0.12				0.06	0.12	0.106	0.12	5	0.026
Nitrate (ppm)	3.7	2.6	3.7	4.3	3.6				2.6	3.7	3.58	4.3	5	0.61
Sulfate (ppm)	13	10	12	11	11				10	11	11.4	13	5	1.1
Phosphorus (ppm)	0.6	0.1	0.07	0.6	0.2				0.07	0.2	0.314	0.6	5	0.27
Cobalt (ppm)	0.01	0.006	0.009	0.01	0.016				0.006	0.01	0.0102	0.016	5	0.0036
Copper (ppm)	0.004	0.001	0.009	0.007	0.004				0.001	0.004	0.005	0.009	5	0.0031
Iron Remark			<											
Iron (ppm)	0.06	0.86	0.003	0.002	0.01				0.002	0.01	0.187	0.86	5	0.3770
Manganese Remark			<	<	<									
Manganese (ppm)	0.019	0.01	0.007	0.005	0.01				0.005	0.01	0.0102	0.019	5	0.0054
Molybdenum (ppm)	0.2	0.008	0.029	0.02	0.02				0.008	0.02	0.0554	0.2	5	0.0812
Selenium (ppm)	0.07	0.04	0.058	0.06	0.058				0.04	0.058	0.0572	0.07	5	0.0108
Zinc (ppm)	0.01	0.001	0.01	0.01	0.005				0.001	0.01	0.0072	0.01	5	0.0041
TSS (mg/L)	80	27	30	13	8	3	8		3	13	24.1	80	7	26.6
TDS (mg/L)	425	244	452	469	402				244	425	398.4	469	5	90.0
Ammonia as N (mg/L)						0.01	0.02		0.01	0.015	0.015	0.02	2	0.007
BOD_5 (mg/L)						25	24		24	24.5	24.5	25	2	0.7
Comment	Date listed is the date received by the lab.					Date listed is the date collected.								

B. Receiving Water Data

Station S-14 Up

Date	D.O. (mg/L)	Temp (°C)	DO %Sat	Conductivity (µmhos/cm)	TDS (mg/L)	pH	Discharge (CFS)	Nitrate + nitrite (mg/L)	Total-P (mg/L)	Ortho-P Remark	Ortho-P (mg/L)	TSS (mg/L)	TVSS Remark	TVSS (mg/L)	Fecal Remark	Fecal (#/100 ml)	E. Coli Remark	E. Coli (#/100
4/13/2000	10.92	15.5	109.5	465	234	8.34	2.34	3.17	0.15		0.08	54		5		310		250
4/25/2000	10.04	12.4	93.6	296	148	8.01	4.01	7.62	0.03	<	0.05	24		5		100		80
5/10/2000	9.19	12.1	85.78	231	119	8.20	6.87	1.53	0.18		0.07	40		5		460		460
5/25/2000	9.43	15.7	94.8	395	204	7.94	7.70	2.99	0.10		0.10	27	<	2		3200		2200
6/8/2000	9.01	15.6	90.4	491	247	7.67	6.60	2.96	0.18		0.18	10	<	2		740		740
6/22/2000	8.65	17.2	89.7	371	187	7.68	8.68	2.96	0.26		0.23	20		2		3700		3700
7/6/2000	8.87	17	92	209	105	7.51	17.9	1.32	0.10		0.08	17		3		1100		600
7/19/2000	8.66	18.7	93.6	248	125	7.51	18.0	1.90	0.14		0.09	29		2		270		270
8/3/2000	6.91	18.4	73.3	334	169	7.87	12.8	2.69	0.17		0.05	47		12		1300		1300
8/15/2000	6.51	16.5	66.6	413	207	7.85	11.5	4.01	0.20		0.16	35	<	2		2500		1000
8/31/2000	6.71	16.5	68.1	308	156	7.85	13.2	2.74	0.15		0.12	25		2		2100		270
9/14/2000	6.49	15.8	65.6	311	157	7.68	9.95	2.19	0.11		0.08	18		2		1200		370
9/28/2000	7.88	13.4	75.3	269	136	7.91	13.4	2.18	0.13		0.12	16		6		233		200
10/14/2000	7.91	11.8	73.1	232	115	7.81	10.5	1.44	0.09		0.05	15		3		170		130
10/19/2000	8.59	12.2	79.9	239	120	7.95	9.78	2.00	0.11		0.06	39		3		66		33
11/15/2000	8.77	10.3	78.1	752	371	8.21	3.86	5.75	0.13		0.10	18		3		170		130
12/13/2000	9.65	9.5	83.2	782	374	8.43	1.69	5.22	0.17		0.10	25		2		200		100
1/31/2001	10.01	8.1	84.1	774	386	8.27	2.46	7.47	0.22		0.09	90		10		23		23
2/22/2001	10.24	9.8	90.4	773	385	8.38	2.86	5.92	0.13		0.10	15		3		43		43
3/14/2001	11.61	10.2	103.3	767	399	8.45	3.14	6.51	0.13		0.07	4		2		240		240
4/3/2001	11.62	9.3	101.6	796	398	8.32	2.02	6.38	0.17		0.09	4		1		240		93
4/18/2001	9.07	12	84.3	134	68	7.99	12.1	0.23	0.23		0.08	193		15		2400		2400
5/2/2001	9.35	11.2	85.2	137	68	8.07	13.2	0.54	0.27		0.05	193		14		230		230
5/16/2001	8.89	14.9	87	183	92	7.98	12.9	0.93	0.22		0.08	91		8		230		230
5/31/2001	8.67	17.7	92.8	200	103	7.92	16.9	1.36	0.23		0.12	58		12		2400		2400
6/13/2001	8.85	14.9	86.9	247	123	8.09	17.9	1.74	0.21		0.14	36		5		430		430
6/26/2001	6.88	16.3	70.2	470	238	8.01	13.7	3.91	0.12		0.10	33	<	2		430		430
7/12/2001	6.76	19.8	73.2	313	161	7.94	30.7	1.99	0.12		0.11	27		4		1600		970
7/19/2001	6.46	16.7	64.5	369	194	7.93	20.9	2.54	0.17		0.10	26		3		2900		600
8/7/2001	6.88	17.4	71.8	444	225	8.01	7.05	3.33	0.17		0.10	54		7		800		800
8/23/2001	7.01	18	74.2	308	156	8.14	12.9	1.89	0.18		0.10	22		4		1500		1500
9/5/2001	7.21	17.4	75.9	312	157		12.5	2.00	0.13		0.08	33		6		800		400
9/26/2001	8.34	14.7	82.3	281	142	8.14	11.1	2.02	0.10		0.08	20		4		700		300
10/4/2001	8.24	13.8	79	392	197	8.00	7.40	2.54	0.10		0.08	16		1		25000		200
10/18/2001	9.55	10.3	85.1	314	154	8.08	8.54	2.14	0.13		0.05	75		9		400		66
11/15/2001	9.99	11.6	91.4	734	364	8.23	6.94	5.36	0.14		0.10	56		7		1100		670
12/12/2001				790	378	mlfx	2.58	5.32	0.20		0.08	46		7	<	33	<	33
1/17/2002	9.96	8.9	86.5	776	367	8.01	2.22	5.37	0.17		0.07	69		7		70		50
2/6/2002	10.51	7.5	87.7	767	381	8.33	1.62	6.00	0.13		0.08	53		7		30		30
3/13/2002	11.56	10	102.6	764	385	8.44	1.54	5.77	0.12		0.08	13		4		50		40
Minimum	6.46	7.5	64.5	134	68	7.51	1.54	0.23	0.03		0.05	4		1		23		23
5th	6.51	8.82	66.5	181	90.8	7.65	1.69	0.91	0.10		0.05	10		2		33		33
Median	8.85	14.7	85.1	352	178	8.01	9.23	2.72	0.15		0.085	28		4		430		270
Geometric	8.64	13.4	83.2	381	191	8.03	7.28	2.71	0.14		0.09	30		4		447		272
Average	8.77	13.8	83.9	435	217	8.03	9.55	3.35	0.15		0.09	42		5		1487		600
90th	10.59	17.8	96.2	774	385	8.35	17.9	6.04	0.22		0.12	77		10		2540		1570
95th	11.57	18.4	102.7	782	387	8.43	18.15	6.56	0.23		0.16	96		12		3225		2400
Maximum	11.62	19.8	109.5	796	399	8.45	30.70	7.62	0.27		0.23	193		15		25000		3700
Count	39	39	39	40	40	38	40	40	40		40	40		40		40		40

Station S-14

Date	DO (mg/L)	Temp (°C)	DO (%Sat)	Conductivity (µmhos/cm)	TDS (mg/L)	pH	Discharge (CFS)	TSS (mg/L)	TP (mg/L)	OP (mg/L)	E. coli remark	E. coli (#/100 m l)	Nitrate + nitrite (mg/L)
4/13/2000	8.02	13.1	76.1	501	251	7.89	2.05	26	0.15	0.08		1100	3.68
4/25/2000	9.03	11.7	83	200	98	7.42	16	131	0.2	0.025		380	0.95
5/10/2000	8.85	11.5	81.3	265	131	8.06	29.3	121	0.21	0.06		540	1.35
5/25/2000	9.56	15	94.9	260	132	7.87	28	134	0.18	0.14		120	1.95
6/8/2000	10.3	16.2	105	275	143	7.84	24.6	144	0.15	0.13		400	2.29
6/22/2000	9.9	16.6	101.5	289	147	7.75	23.5	92	0.23	0.13		3800	2.58
7/6/2000	10.78	15.1	107	257	133	7.64	31.2	84	0.16	0.1		570	2.18
7/19/2000	9.51	17.9	100	289	144	7.62	29.7	76	0.18	0.09		370	2.25
8/3/2000	8.3	18.2	87.9	298	158	7.96	33.6	22	0.14	0.11		530	2.52
8/15/2000	8.03	16.4	81	319	159	7.78	42.5	25	0.18	0.16		1000	3.27
8/31/2000	7.89	16.3	80.6	285	140	7.72	41.7	15	0.14	0.14		270	2.53
9/14/2000	7.87	16.2	80.2	255	129	7.8	31	16	0.13	0.07		970	1.94
9/28/2000	8.56	13.1	81.4	312	155	7.96	29.2	26	0.09	0.08		170	3.36
10/12/2000	8.93	11.7	82.3	266	126	7.87	35.2	26	0.12	0.09		230	1.65
10/19/2000	9.1	12.3	85.3	263	132	7.91	23.70	23	0.07	0.025		130	1.56
11/15/2000	9.6	9	82.5	713	361	8.24	3.64	91	0.2	0.12		33	6.61
12/12/2000	10.39	7.2	86.1	767	370	8.59	2.26	11	0.15	0.12		130	6.29
1/17/2001	10.82	3.4	81	748	378	8.31	1.87	6	0.2	0.09		43	7.06
2/22/2001	10.17	7.1	84	729	357	8.31	2.3	15	0.15	0.12		43	6.53
4/3/2001	na	na	na	770	371	8.16	1.98	11	0.12	0.09		460	6.86
4/18/2001	7.34	11.2	66.8	159	80	8.04	20.7	401	0.56	0.09		240	0.2
5/2/2001	6.86	8.7	59.1	230	113	8.06	16	189	0.3	0.09		930	1.58
5/16/2001	7.2	13.4	59.1	214	107	7.89	28	150	0.33	0.15		2400	1.47
5/31/2001	7.54	14.9	72	224	111	7.78	37.2	162	0.34	0.13		390	1.51
6/13/2001	7.42	12.3	68.2	282	139	7.71	22.3	130	0.21	0.09		430	2.24
6/26/2001	7.39	16.6	70.2	337	172	7.88	31.3	239	0.36	0.12		930	2.61
7/12/2001	7.26	19.1	84	351	176	7.81	32.5	150	0.34	0.12		1500	2.55
7/19/2001	7.41	16.1	79.1	360	176	7.88	33.2	91	0.26	0.09		250	3.02
8/7/2001	8.02	18.2	85.2	369	189	7.87	26.9	90	0.27	0.15		500	3.09
8/23/2001	7.97	16.6	81.8	406	202	8.07	28.6	89	0.26	0.12		700	4
9/5/2001	8.22	16.8	85	364	182	na	29.2	95	0.22	0.1		400	3.02
9/26/2001	9.21	14	89.5	323	158	7.71	23.3	64	0.12	0.09		400	2.62
10/4/2001	9.62	13.3	92	380	185	7.69	21.2	44	0.11	0.05		600	2.42
10/18/2001	10.38	9.7	91.2	375	181	7.84	20.2	50	0.11	0.07	<	33	2.98
11/15/2001	10.26	10	90.9	716	351	7.82	4.56	44	0.17	0.12		100	6.36
12/12/2001	11.11	7.5	92.6	734	317	mlfx	4.11	16	0.17	0.11	<	33	6.34
1/17/2002	12.09	6.1	97	711	354	7.78	2.62	12	0.1	0.1		80	7.26
2/6/2002	11.94	3.7	89.7	713	365	7.86	1.97	12	0.07	0.07		40	6.9
3/13/2002	10.49	6.9	86.3	753	382	8.12	2.1	9	0.08	0.08		220	6.59
5/20/2006	9.27	14.7	91.5	249	122	7.90	42.6	241	0.557	0.083		1200	
4/22/2008	11.98	5.4	94.6	261.3	128	8.31	20.4	87.3	0.792	0.208		140	
5/6/2008	9.76	12.2	90.8	254.3	125	8.06	31.1	485.7	0.559	0.084		250	
6/3/2008	9.49	14.2	92.2	266	130	8.11	38.2	156	0.519	0.076		1400	
6/17/2008	9.38	15	92.9	336	165	7.93	23.7	149	0.395	0.108		580	
7/1/2008	9.01	17.6	94.5	374	183	8.12	27.7	162	0.319	0.107		460	
7/15/2008	8.43	18	89.2	317	155	7.92	36.3	136	0.372	0.121		440	
7/29/2008	8.73	17	90	335	164		29.4	167	0.342	0.1		440	
8/12/2008	8.75	16.6	89.9	325	159	8.17	28.2	94.5	0.294	0.117		410	
8/27/2008	9.64	13.5	92.6	376	184	8.21	26.8	61.3	0.338	0.172		460	
9/9/2008	9.51	13.8	91.9	346	170	8.03	32.3	136	0.303	0.097		980	
9/23/2008	10.1	12.8	95.5	332	163	8.05	22.5	66.5	0.159	0.055		250	
10/7/2008	9.89	13.4	94.7	308	151	7.88	23.2	52.8	0.131	0.036		200	
Minimum	6.86	3.4	59.1	159	80	7.42	1.87	6	0.07	0.03		33	0.20
5th	7.30	5.8	67.5	219.5	109	7.66	2.02	11	0.09	0.04		37	1.31
Median	9.21	13.5	87.9	324	159	7.89	26.85	88	0.20	0.10		400	2.61
Geometric	9.07	12.3	85.7	354.5	176	7.94	16.78	62	0.21	0.09		326	2.82
Average	9.16	13.1	86.3	387.3	191	7.94	23.11	99	0.24	0.10		551	3.44
90th	10.78	17.6	95.5	727.7	361	8.22	36.19	167	0.39	0.14		1090	6.66
95th	11.53	18.1	100.8	750.3	370	8.31	39.78	240	0.56	0.15		1445	6.92
Maximum	12.09	19.1	107	770	382	8.59	42.60	486	0.79	0.21		3800	7.26
Count	51	51	51	52	52	49	52	52	52	52		52	39

Appendix C. Low Flow Conditions and Dilution

A. Low Flow Condition

The low flow conditions of a water body are used to determine water quality-based effluent limits. In general, Idaho's water quality standards require criteria be evaluated at the following low flow receiving water conditions (see IDAPA 58.01.02.210.03) as defined below:

Table C-1: Critical Low Flow Rates	
Acute aquatic life	1Q10 or 1B3
Chronic aquatic life	7Q10 or 4B3
Non-carcinogenic human health criteria	30Q5
Carcinogenic human health criteria	harmonic mean flow
Chronic Ammonia	30B3, 30Q10 or 30Q5

1. The 1Q10 represents the lowest one day flow with an average recurrence frequency of once in 10 years.
2. The 1B3 is biologically based and indicates an allowable exceedance of once every 3 years.
3. The 7Q10 represents lowest average 7 consecutive day flow with an average recurrence frequency of once in 10 years.
4. The 4B3 is biologically based and indicates an allowable exceedance for 4 consecutive days once every 3 years.
5. The 30Q5 represents the lowest average 30 consecutive day flow with an average recurrence frequency of once in 5 years.
7. The harmonic mean is a long-term mean flow value calculated by dividing the number of daily flow measurements by the sum of the reciprocals of the flows.

Idaho's water quality standards do not specify a low flow to use for acute and chronic ammonia criteria, however, the EPA's *Water Quality Criteria; Notice of Availability; 1999 Update of Ambient Water Quality Criteria for Ammonia; Notice* (64 FR 71976, December 22, 1999) identifies the appropriate flows to be used. For the 30-day average chronic aquatic life criterion for ammonia in fresh water, the 30B3 biologically-based low flow rate is recommended, but the 30Q5 or 30Q10 hydrologically-based flow rates are at least as protective as the 30B3 and may be used instead of the 30B3 (see 64 FR 71976). DEQ has used the 30Q5 flow rate in this case.

ISDA collected flow data for Drain S-14 at a location upstream from the discharge. DEQ estimated the critical low flows of Drain S-14 based on these data. The available flow data are summarized in Table C-2, below:

Table C-2: Flow Data for Station S-14 Up	
Date	**Stream Flow (CFS)**
4/13/2000	2.34
4/25/2000	4.01
5/10/2000	6.87
5/25/2000	7.7
6/8/2000	6.6
6/22/2000	8.68
7/6/2000	17.9
7/19/2000	18
8/3/2000	12.8
8/15/2000	11.5
8/31/2000	13.2
9/14/2000	9.95
9/28/2000	13.4
10/14/2000	10.5
10/19/2000	9.78
11/15/2000	3.86

Table C-2: Flow Data for Station S-14 Up	
Date	**Stream Flow (CFS)**
12/13/2000	1.69
1/31/2001	2.46
2/22/2001	2.86
3/14/2001	3.14
4/3/2001	2.02
4/18/2001	12.1
5/2/2001	13.2
5/16/2001	12.9
5/31/2001	16.9
6/13/2001	17.9
6/26/2001	13.7
7/12/2001	30.7
7/19/2001	20.9
8/7/2001	7.05
8/23/2001	12.9
9/5/2001	12.5
9/26/2001	11.1
10/4/2001	7.4
10/18/2001	8.54
11/15/2001	6.94
12/12/2001	2.58
1/17/2002	2.22
2/6/2002	1.62
3/13/2002	1.54
Minimum	1.54
Harmonic Mean	5.16
Arithmetic Mean	9.55

Specifically, DEQ used the relationship between the arithmetic mean, harmonic mean, and the 7Q10 on Page 89 of the *Technical Support Document for Water Quality-based Toxics Control* (TSD) (EPA 1991). When solved for the 7Q10, this relationship is:

$$7Q10 = \left(\frac{Q_{hm}}{1.194{Q_{am}}^{0.473}}\right)^{1/0.552}$$

This results in an estimated 7Q10 flow rate for drain S-14 of 2.05 CFS. As stated on Page 89 of the TSD, "in the comparisons of flows for smaller rivers (i.e., low flow of 50 cfs), the 30Q5 flow was, on the average, only 1.1 times that of the 7Q10." For this small stream, DEQ estimated the 30Q5 as being 1.1 times the 7Q10, or 2.25 CFS. According to the EPA's Technical Guidance Manual for Performing Wasteload Allocations, Book VI: Design Conditions: Chapter 1: Stream Design Flow for Steady-State Modeling (EPA 1986), the mean ratio between the 7Q10 and the 1Q10 is 1.3. In this case, the 7Q10 divided by 1.3 is equal to 1.6 CFS, however, due to the small number of measurements available, DEQ used the minimum flow rate measured (1.54 CFS) to estimate the 1Q10.

In addition to the estimating the year-round critical low flows as described above, DEQ also estimated seasonal low flows. The packing season generally lasts from July through November (communication with Ryan Henggeler, August 15, 2018). Thus, DEQ estimated critical low flows for July 1 – November 30 and December 1 – June 31, as shown in Table C-3 and C-4. The flows for July – November are generally higher than from December – June.

DEQ also estimated critical flows for the season of July 16 – October 14, as shown in Table C-5, when salmonid spawning water quality criteria do not apply. The flows for this season are similar to the July – November flows.

Table C-3 Summary of Estimated Critical Low Flows for July – November	
Statistic	**Flow (CFS)**
Minimum	3.86
Harmonic Mean	10.27
Arithmetic Mean	12.57
1Q10	3.86
7Q10	5.63
30Q5	6.20

Table C-4 Summary of Estimated Critical Low Flows for December – June	
Statistic	**Flow (CFS)**
Minimum	1.54
Harmonic Mean	3.55
Arithmetic Mean	6.81
1Q10	1.07
7Q10	1.39
30Q5	1.53

Table C-5 Summary of Estimated Critical Low Flows for July 16 – October 14	
Statistic	**Flow (CFS)**
Minimum	7.05
Harmonic Mean	11.4
Arithmetic Mean	12.4
1Q10	5.31
7Q10	6.90
30Q5	7.59

Appendix D. Technical Calculations

The results of the technical calculations are discussed above in sections 3.2 and 3.3 of the fact sheet.

A. Technology-Based Effluent Limits

The CWA requires POTWs to meet performance-based requirements based on available wastewater treatment technology. Section 301 of the CWA established a required performance level, referred to as secondary treatment, which all POTWs were required to meet by July 1, 1977. The EPA has developed and promulgated secondary treatment effluent limits, which are found in 40 CFR 133. These TBELs apply to all municipal wastewater treatment facilities and identify the minimum level of effluent quality attainable by application of secondary treatment in terms of BOD_5, TSS, and pH.

The concentration and removal rate limits for BOD_5 and TSS are the technology-based effluent limits of 40 CFR 133.102. As explained below, DEQ has determined that more stringent WQBELs are necessary for pH, TRC, and phosphorus, in order to ensure compliance with WQS.

B. Reasonable Potential and Water Quality-Based Effluent Limit Calculations

DEQ uses the process in the *Effluent Limit Development Guidance* (DEQ 2017) to determine reasonable potential. After characterizing the effluent and receiving water, DEQ compares the projected receiving water concentration after the effluent is discharged to the water quality criteria for the pollutant of concern. If the projected concentration exceeds the criterion, there is reasonable potential and an effluent limit is developed.

If DEQ chooses to authorize a mixing zone, the water quality criteria must still be met at the edge of the mixing zone. If after the analysis of the mixing zone, water quality criteria are not being met, the facility will receive an effluent limit that identifies both the size of the mixing zone and the final effluent limit.

Mass-Balance

For discharges to flowing water bodies, the maximum projected receiving water concentration is determined using the following mass-balance equation:

$$C_d = \frac{(C_e Q_e) + \lfloor C_u (Q_u \times \%MZ) \rfloor}{Q_e + (Q_u \times \%MZ)}$$

Equation 1. Simple mass-balance equation.

Where:

C_d = downstream receiving water concentration	Calculated value
Q_e = critical effluent flow	From discharge flow data (design flow for POTW)
Q_u = critical upstream flow (1Q10 acute criterion, 7Q10 chronic, or harmonic mean)	From water quality standards
%MZ = percent of critical low flow provided by mixing zone	From mixing zone analysis
C_u = critical upstream pollutant concentration (90th to 95th percentile)	From receiving water data

C_e = critical effluent pollutant concentration Calculated value using

A dilution factor (D) can be introduced to describe the allowable mixing. A dilution factor represents the ratio of the receiving water body low flow percentage (i.e., the low-flow design discharge conditions) to the effluent discharge volume and is expressed as:

$$Dilution\ Factor = D_f = \frac{(Q_S \times P + Q_e)}{Q_e} = \frac{(Q_s \times P)}{Q_e} + 1$$

Equation 2. Dilution factor calculation.

Where: D_f= Dilution factor

Qs = Receiving water low-flow condition (cfs)

P = Mixing zone percentage

Qe = Effluent discharge flow (cfs)

The above equations for C_d are the forms of the mass-balance equation, which were used to determine reasonable potential and calculate WLAs.

Critical Effluent Pollutant Concentration

When determining the projected receiving water concentration downstream of the effluent discharge, DEQ's *Effluent Limit Development Guidance* (DEQ 2017) recommends using the critical effluent pollutant concentration (C_e) in the mass balance calculation (see Equation 1). To determine the C_e DEQ has adopted EPA's statistical approach that accounts for day-to-day variability in effluent quality by identifying the number of samples, calculating the coefficient of variation (CV) (Equation 7, below), and selecting a reasonable potential multiplying factor (RPMF) from the tables in the *Effluent Limit Development Guidance* (DEQ 2017).

$$CV = \frac{Standard\ Deviation}{Mean}$$

Equation 3. CV calculation.

$$C_e = MOEC\ x\ RPMF$$

Equation 4. C_e calculation.

If the C_e exceeds water quality criteria then a reasonable potential analysis is conducted.

Reasonable Potential Analysis

The discharge has reasonable potential to cause or contribute to an exceedance of WQC, referred to as a reasonable potential to exceed (RPTE), if the critical concentration of the pollutant at the end of pipe exceeds the most stringent WQC for that pollutant. This RPTE may result in end-of-pipe limits or may be accommodated if the receiving water has sufficient low flows to provide a mixing zone and the POC does not have acute toxicity attributes. Other conditions may also be applicable that may restrict the use of a mixing zone for the POC.

C. WQBEL Calculations

The following calculations demonstrate how the WQBELs in the permit were calculated. The permit includes WQBELs for TP, TRC, pH. The following discussion presents the general

equations used to calculate the WQBELs.

Calculate the Wasteload Allocations (WLAs)
WLAs are calculated using the same mass-balance equations used to calculate the concentration of the pollutant at the mixing zone boundary in the RPA. WLAs must be calculated for both acute and chronic criteria. To calculate the WLAs, C_d is set equal to the appropriate criterion and the equation is solved for C_e. The calculated C_e is the WLA. Equation 9 is rearranged to solve for the WLA:

Equation 5. Simple mass-balance equation for calculating WLA for flowing water.

$$C_e = WLA_{(a\ or\ c)} = \frac{WQC_{(a\ or\ c)}[Q_e + (Q_u \times \%MZ)] - [C_u \times (Q_u \times \%MZ)]}{Q_e}$$

Where:

$WQC_{(a\ or\ c)}$ = Pollutant water quality criterion (acute or chronic)	Calculated value
Q_e = Critical effluent flow	From discharge flow data (design flow for POTW)
Q_u = Critical upstream flow (1Q10 acute criterion or 7Q10 chronic)	From water quality standards
%MZ = Percent of critical low flow provided by mixing zone	From mixing zone analysis
C_u = Critical upstream pollutant concentration (90th to 95th percentile)	From receiving water data
$C_e = WLA_{(a\ or\ c)}$ = wasteload allocation (acute or chronic)	Calculated from Equation 4

Idaho's WQC for some metals are expressed as the dissolved fraction. The rules regulating the IPDES program (IDAPA 58.01.25.303.03) require that effluent limits be expressed as total recoverable metal unless standards have been promulgated allowing limits specified in dissolved, valent, or total forms. A case-by-case basis has been established for limits specified in dissolved, valent, or total form, or all approved analytical methods for the metal inherently measure only its dissolved form. Therefore, the permit writer should calculate a WLA in total recoverable metal that will be protective of the dissolved criterion. This is accomplished by dividing the WLA expressed as dissolved by the criteria translator. As discussed in *Guidance Document on Dynamic Modeling and Translators* (EPA 1993), the criteria translator (CT) is equal to the conversion factor when site-specific translators are not available. Conversion factors for metals criteria are listed in DEQ's Water Quality Standards (WQS) at IDAPA 58.01.02.210.02. The WQS also lists several guidance documents at IDAPA 58.01.02.210.04 that are recommended for the development of site specific translators.

The next step is to compute the acute and chronic long-term average ($LTA_{(a\ or\ c)}$) concentrations, which will be derived from the acute and chronic WLAs. This is done using the following equations from the *Effluent Limit Development Guidance* (DEQ 2017):

$$LTA_a = WLA_a \times e^{(0.5\sigma^2 - z_{99}\sigma)}$$ **Equation 6. Acute LTA for toxics.**

Where:

LTA_a = Acute long-term average	Calculated value
WLA_a = Acute wasteload allocation	Calculated value. See Equation 5. Simple mass-balance equation for calculating WLA for flowing water.
e = Base of natural log	Approximately 2.718
σ = Square root of σ^2	
$\sigma^2 = Ln(CV^2+1)$	Ln is the natural log
CV = Coefficient of variation	Calculated using field data. If 10 or less samples available, use default value of 0.6. See Equation 3
Z_{99} = z score of the 99th percentile of the normal distribution	2.326

$$LTA_c = WLA_c \times e^{(0.5\sigma_n^2 - z_{99}\sigma_n)}$$ **Equation 7. Chronic LTA average for toxics.**

Where:

LTA_c = Chronic long-term average	Calculated value
WLA_c = Chronic wasteload allocation	Calculated value. See Equation 5. Simple mass-balance equation for calculating WLA for flowing water.
e = Base of natural log	Approximately 2.718
σ_n = Square root of σ_n^2	
$\sigma_n^2 = Ln[(CV^2)/n + 1)]$	Ln is the natural log
CV = Coefficient of variation	Calculated using field data. If 10 or less, samples available use default value of 0.6. See Equation 3.
Z_{99} = z score of the 99th percentile of the normal distribution	2.326
n = Averaging period for the chronic water quality criterion (typically 4 days)	Varies

The acute and chronic LTAs are compared, and the more stringent of the two is used to calculate the maximum daily and average monthly limits.

Derive the Maximum Daily and Average Monthly Effluent Limits

Using the *Effluent Limit Development Guidance* (DEQ 2017) equations, the maximum daily limit (MDL) and average monthly limit (AML) are calculated as follows:

$$Maximum\ Daily\ Limit = LTA_m \times e^{(z_{99}\sigma - 0.5\sigma^2)}$$ **Equation 8. Maximum daily limit for toxics.**

Where:

LTA_m = Minimum long-term average value	Lesser value calculated from Equation 6 and Equation 7
e = Base of natural log	Approximately 2.718
σ = Square root of σ^2	
$\sigma^2 = Ln(CV^2+1)$	Ln is the natural log of base e
Z_{99} = z score of the 99th percentile of the normal distribution	2.326

CV = Coefficient of variation — See Equation 3.

$$AML = LTA_m \times e^{(z_{95}\sigma_n - 0.5\sigma_n^2)}$$

Equation 9. Average monthly limit for toxics.

Where:

LTA_m = Minimum long-term average	Lesser value calculated from Equation 6 and Equation 7
AML = Average monthly limit	Calculated value
e = Base of natural log	Approximately 2.718
σ_n = Square root of σ_n^2	
σ_n^2 = Ln[(CV^2)/n + 1]	Ln is the natural log of base e
Z_{95} = z score of the 95th percentile of the normal distribution	1.645
n = Number of sample specified in the permit to be analyzed each month	Typically n = 1, 2, 4, 10, or 30.
CV = Coefficient of variation	See Equation 3

D. Effluent Limit Calculations for pH

The following tables demonstrate how appropriate effluent limits were determined for pH. The pH at the edge of the mixing zone is a function of effluent and ambient pH, temperature, and alkalinity (IDAPA 58.01.02.060.01.c). The critical alkalinity is the minimum for the ambient water and the maximum for the effluent. The critical pHs for the upper pH limit are the maximum effluent pH limit and the 95th percentile ambient pH. The critical pHs for the lower pH limit are the minimum effluent pH limit and the 5th percentile ambient pH. DEQ adjusted the effluent pH in 0.1 standard unit intervals until the pH at the edge of the mixing zone was between 6.5 and 9.0 standard units, as required by the WQWS. DEQ did not evaluate effluent pHs above 9.0 standard units or below 6.0 standard units, because this is the range of the TBELs for pH.

Table 16. Henggeler Packing RPA details the calculations for WQBELs

Reasonable Potential Analysis (RPA) and Water Quality Effluent Limit (WQBEL) Calculations

Facility Name	Henggeler
Facility Flow (mgd)	0.072
Facility Flow (cfs)	0.11

Fruit Packing WW only!

Critical River Flows	(IDAPA 58.01.02 03. b)	Seasonal Aug-Nov Crit. Flows	Seasonal Dec-Jul Crit. Flows	units
Aquatic Life - Acute Criteria - Criterion Max. Concentration (CMC)	1Q10	3.86	1.07	cfs
Aquatic Life - Chronic Criteria - Criterion Continuous Concentration (CCC)	7Q10 or 4B3	5.40	1.39	cfs
Ammonia	30B3/30Q10 (seasonal)			cfs
Human Health - Non-Carcinogen	30Q5	5.95	1.53	cfs
Human Health - carcinogen	Harmonic Mean Flow	9.05	4.10	cfs

List any criteria

Receiving Water Data		Notes:	Seasonal Aug-Nov	Seasonal Dec-Jul
Hardness, as mg/L $CaCO_3$	Hardness, as mg/L $CaCO_3$	5th percentile @ critical flows	114	114
Temperature, °C	Temperature, °C	90th - 95th percentile	18.2	18
pH, S.U.	pH, S.U.	90th - 95th percentile	8.21	8.31

min. hardness 25 m

Pollutants of Concern			AMMONIA, default: cold water, fish early life stages present		CHLORINE (Total Residual)	CHLORINE (Total Residual)
Effluent Data	Number of Samples in Data Set (n)				1	1
	Coefficient of Variation (CV) = Std. Dev./Mean (default CV = 0.6)				0.6	0.6
	Effluent Concentration, µg/L (Max. or 95th Percentile) - (C_e)				3,000	3,000
	Calculated 50th % Effluent Conc. (when n>10), Human Health Only					
Receiving Water Statistics	90th Percentile Conc., µg/L - (C_u)				0	0
	Geometric Mean, µg/L, Human Health Criteria Only					
Applicable Water Quality Criteria	Aquatic Life Criteria, µg/L	Acute	--	--	19.	19.
	Aquatic Life Criteria, µg/L	Chronic	--	--	11.	11.
	Human Health Water and Organism, µg/L		--	--	--	--
	Human Health, Organism Only, µg/L		--	--	--	--
	Metals Criteria Translator, decimal (or default use Conversion Factor)	Acute			--	--
		Chronic			--	--
	Carcinogen (Y/N), Human Health Criteria Only		--	--	N	N
Assign Percent Mixing	Use this row to set the mixing zone size instead of letting it auto-calculate				25%	25%
Percent River Flow	Aquatic Life - Acute	1Q10	--	--	25%	25%
	Aquatic Life - Chronic	7Q10 or 4B3			25%	25%
		30B3 or 30Q10			25%	25%
	Human Health - Non-Carcinogen and Chronic Ammonia	Harmonic Mean	--	--	25%	25%
	Human Health - Carcinogen	Harmonic Mean			25%	25%
Calculated Dilution Factors (DF) (or enter Modeled DFs)	Aquatic Life - Acute	1Q10	--	--	9.66	3.40
	Aquatic Life - Chronic	7Q10 or 4B3			13.12	4.12
		30B3 or 30Q10			1.00	1.00
	Human Health - Non-Carcinogen and Chronic Ammonia	Harmonic Mean	--	--	21.31	10.20
	Human Health - Carcinogen	Harmonic Mean			21.31	10.20

Aquatic Life Reasonable Potential Analysis

σ	$\sigma^2=\ln(CV^2+1)$		--	--	0.555	0.555
P_n	=(1-confidence level)$^{1/n}$, where confidence level =	99%	--	--	0.010	0.010
Multiplier (TSD p. 57)	$=\exp(z\sigma-0.5\sigma^2)/\exp[\text{normsinv}(P_n)\sigma-0.5\sigma^2]$, where	99%	--	--	13.2	13.2
Statistically projected critical discharge concentration (C_e)			--	--	39591	39591
Predicted max. conc.(ug/L) at Edge-of-Mixing Zone		Acute	--	--	4097	11639
(note: for metals, concentration as dissolved using conversion factor as translator)		Chronic	--	--	3018	9610
Reasonable Potential To Exceed (RPTE) Aquatic Life Criteria			--	--	**Yes**	**Yes**

Aquatic Life Effluent Limit Calculations

Number of Compliance Samples Expected per month (n)					4	4
n used to calculate AML (if chronic is limiting then use min=4 or for ammonia min=30)			--	--	4	4
LTA Coeff. Var. (CV), decimal	(Use CV of data set or default = 0.6)		--	--	0.6	0.6
Permit Limit Coeff. Var. (CV), decimal	(Use CV from data set or default = 0.6)		--	--	0.6	0.6
Acute WLA, ug/L	C_e = (Acute Criteria x MZ_a) - C_u x (MZ_a-1)	Acute	--	--	183.6	64.6
Chronic WLA, ug/L	C_e = (Chronic Criteria x MZ_c) - C_u x (MZ_c-1)	Chronic	--	--	144.3	45.3
Long Term Ave (LTA), ug/L	WLAc x $\exp(0.5\sigma^2-z\sigma)$, Acute	99%	--	--	58.9	20.7
(99th % occurrence prob.)	WLAa x $\exp(0.5\sigma^2-z\sigma)$; ammonia n=30, Chronic	99%	--	--	76.1	23.9
Limiting LTA, ug/L	used as basis for limits calculation		--	--	58.9	20.7
Applicable Metals Criteria Translator (metals limits as total recoverable)					--	--
Average Monthly Limit (AML), ug/L	, where % occurrence prob =	95%	--	--	**92**	**32**
Maximum Daily Limit (MDL), ug/L	, where % occurrence prob =	99%	--	--	**184**	**65**
Average Monthly Limit (AML), mg/L			--	--	**0.092**	**0.032**
Maximum Daily Limit (MDL), mg/L			--	--	**0.184**	**0.065**
Average Monthly Limit (AML), lb/day			--	--	**0.055**	**0.019**
Maximum Daily Limit (MDL), lb/day			--	--	**0.110**	**0.039**

Human Health Reasonable Potential Analysis

σ	$\sigma^2=\ln(CV^2+1)$				0.555	0.555
P_n	=(1-confidence level)$^{1/n}$ where confidence level =	95%			0.050	0.050
Multiplier	$=\exp(2.326\sigma-0.5\sigma^2)/\exp[\text{invnorm}(P_N)\sigma-0.5\sigma^2]$, prob. =	50%			2.490	2.490
Dilution Factor (for Human Health Criteria)					21.3	10.2
Max Conc. at edge of Chronic Zone, ug/L (C_e)					350	732
Reasonable Potential to exceed HH Water & Organism					**NO**	**NO**
Reasonable Potential to exceed HH Organism Only					**NO**	**NO**

Table 17. Total Phosphorus TMDL Derived Monthly Limit

Annual/Seasonal Limit Calculations where the TMDL WLA is Assumed the LTA

ENTER TMDL WLA:	**0.063**	lb/day
Facility Flow:	**0.108**	mgd
Design Flow:	**0.167**	cfs

Multiplier to Calculate Permit Limits from LTA Reference: TSD Page 103

Number of Samples per Month (n)				**1**
Number of Samples per Week Set (n/4)				**0.25**
(i.e. 4 if sampling weekly for a month)				
Coefficient of Variation (CV) = Std. Dev./Mean				**0.6**
weekly σ	σ = std deviation			0.944
	$\sigma^2=\ln(CV^2/(n/4)+1)$			0.892
monthly σ	σ n= std deviation			0.555
	$\sigma n^2=\ln(CV^2/n+1)$			0.307
Average Monthly Limit (AML),	$\exp(z\sigma_n-0.5z\sigma_n^2)$; where % probability basis =	**95%**	Z= 1.64	2.13
Maximum Daily Limit (MDL),	$\exp(z\sigma-0.5z\sigma^2)$; where % probability basis=	**99%**	Z= 2.33	3.12
Average Weekly Limit (AWL),	$\exp(z\sigma_{n/4}-0.5z\sigma_{n/4}^2)$; where % probability basis =	**99%**	Z= 2.33	5.76
Ratio AWL/AML				2.70

Calculation:	**LTA, Limiting**	**x**	**Multiplier**	**=**	**Limit**	
AML = LTA, limiting x Multiplier	0.063	x	2.13	=	0.134	lb/day
MDL = LTA, limiting x Multiplier	0.063	x	3.12	=	NA	lb/day
AWL = AML x Multiplier	0.134	x	2.70	=	NA	lb/day
AAL/AAS=					0.063	lb/day

Annual/Seasonal Limit Calculations where the TMDL WLA is Assumed the LTA

ENTER TMDL WLA:	**0.063**	lb/day
Facility Flow:	**0.108**	mgd
Design Flow:	**0.167**	cfs

Multiplier to Calculate Permit Limits from LTA Reference: TSD Page 103

Number of Samples per Month (n)				**1**
Number of Samples per Week Set (n/4)				**0.25**
(i.e. 4 if sampling weekly for a month)				
Coefficient of Variation (CV) = Std. Dev./Mean				**0.6**
weekly σ	σ = std deviation			0.944
	$\sigma^2=\ln(CV^2/(n/4)+1)$			0.307
monthly σ	σ n= std deviation			0.555
	$\sigma n^2=\ln(CV^2/n+1)$			0.307
Average Monthly Limit (AML),	$\exp(z\sigma_n-0.5z\sigma_n^2)$; where % probability basis =	**95%**	Z= 1.64	2.13
Maximum Daily Limit (MDL),	$\exp(z\sigma-0.5z\sigma^2)$; where % probability basis=	**99%**	Z= 2.33	3.12
Average Weekly Limit (AWL),	$\exp(z\sigma_{n/4}-0.5z\sigma_{n/4}^2)$; where % probability basis =	**99%**	Z= 2.33	5.76
Ratio AWL/AML				2.70

Calculation:	**LTA, Limiting**	**x**	**Multiplier**	**=**	**Limit**	
AML = LTA, limiting x Multiplier	0.063	x	2.13	=	0.134	lb/day
MDL = LTA, limiting x Multiplier	0.063	x	3.12	=	NA	lb/day
AWL = AML x Multiplier	0.134	x	2.70	=	NA	lb/day
AAL/AAS=					0.063	lb/day

Appendix E. Public Involvement Information

DEQ proposes to issue a permit to Henggeler Packing The permit includes wastewater discharge limits and other conditions. This fact sheet describes the facility and DEQ's reasons for requiring permit conditions.

DEQ placed a Public Notice of Draft on May 5, 2021 in Independent Enterprise to inform the public and to invite comment on the draft Idaho Pollutant Discharge Elimination System permit and fact sheet.

The notice:

- Tells where copies of the draft permit and fact sheet are available for public evaluation (a local public library, the closest regional or field office, posted on our website).
- Offers to provide the documents in an alternate format to accommodate special needs.
- Asks people to tell us how well the draft permit would protect the receiving water.
- Invites people to suggest fairer conditions, limits, and requirements for the permit.
- Invites comments on DEQ's determination of compliance with antidegradation rules.
- Urges people to submit their comments, in writing, before the end of the comment period.
- Tells how to request a public hearing about the draft IPDES permit.
- Explains the next step(s) in the permitting process.

DEQ SEEKS COMMENT ON DRAFT IDAHO POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT FOR HENGGELER PACKING COMPANY, INC.

PROPOSED ACTION: Henggeler Packing Company, Inc. applied to the Department of Environmental Quality (DEQ) for an Idaho Pollutant Discharge Elimination System (IPDES) wastewater discharge permit for its industrial wastewater treatment facility located 3730 Elmore Road, Fruitland, ID 83619. The DEQ is seeking public comment on the draft IPDES permit, associated fact sheet, and application for the Henggeler Packing Company, Inc. wastewater treatment facility. This proposed permit authorizes the discharge of treated industrial wastewater year round to Drain S-14, a tributary of the Lower Payette
River, for five years. The permit identifies the pollutants of concern and specifies associated discharge limits. Additionally, the permit specifies monitoring and reporting requirements necessary to ensure compliance, protect human health, and assure the integrity of Idaho's environment.

PUBLIC COMMENT PERIOD: Notice is given that DEQ has scheduled a period to receive public comments. Written comments on the draft permit and fact sheet will be accepted through June 4, 2021, at 5 p.m. MDT. A public meeting may be held if requested in writing by May 19, 2021. The draft permit and fact sheet are available for public review at DEQ's state office (1410 N. Hilton St., Boise, ID), Boise Regional Office (1445 N. Orchard, Boise, ID 83706), and on DEQ's website. https://www.deq.idaho.gov/public-information/news-room/

SUBMISSION OF WRITTEN COMMENTS-ASSISTANCE ON TECHNICAL QUESTIONS: Anyone may submit written comments regarding the proposed permit. To be most effective, comments should address water quality considerations and include supporting materials where available. Comments, requests, and questions regarding the public comment process should be directed to Rakael Pope at the address below, or to the DEQ Web site at https://www.deq.idaho.gov/public-information/newsroom/. Please reference Henggeler Packing Company, Inc. and permit number (ID0027901) when sending comments or questions. All information regarding this matter, including the issuance of the final permit, will be available on DEQ's Web site.
Submit requests for a public meeting on the draft permit and fact sheet electronically on DEQ's website, by mail, or email to Lori Flook.

Lori Flook
Idaho Department of Environmental Quality
Surface & Wastewater Division
1410 N. Hilton St.
Boise, ID 83706
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Rakael Pope
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Email: Rakael.Pope@deq.idaho.gov

Legal 393644
May 5, 2021

AFFIDAVIT OF PUBLICATION

STATE OF IDAHO }
County of Payette }

M. Brooke Watkins
Of Payette, Payette County, Idaho, being
First duly sworn, deposes and says:

1) That I am a citizen of the United States, and at all times hereinafter mentioned was over the age of eighteen years, and not party to the above entitled action.
2) That I am the representative of the Argus Observer, a daily newspaper published in the County of Payette and State of Idaho; that the said newspaper is in general circulation in the said County of Payette, and has been uninteruptedly published in said County during a period of seventy-eight consecutive weeks prior to the first publication of this notice, a copy of which is hereto attached.
3) That the notice, of which the annexed is a printed copy, was published in said newspaper 1 time(s) in the regular and entire issue of said paper and was printed in the newspaper proper, and not in a supplement.

That said notice was published the following:
05/05/2021

Legal # 393644
DEQ SEEKS COMMENT ON DRAF
L-393644

State of Idaho }
County of Payette }

On this 5th day of May in the year 2021
Before me a Notary Public personally appeared.
M. Brooke Watkins
known or identified to me to be
the person whose name is subscribed to the within instrument, and being by me first duly sworn, declared that the statements therein are true, and acknowledge to me that he/she executed the same.

Yvonne Lee
Notary Public for Idaho
Residing at Payette County
My Commission expires *
November 4, 2025

YVONNE DEE LEE
Notary Public - State of Idaho
Commission Number 62548
My Commission Expires Nov 4, 2025

DEQ SEEKS COMMENT ON DRAFT IDAHO POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT FOR HENGGELER PACKING COMPANY, INC.

PROPOSED ACTION: Henggeler Packing Company, Inc. applied to the Department of Environmental Quality (DEQ) for an Idaho Pollutant Discharge Elimination System (IPDES) wastewater discharge permit for its industrial wastewater treatment facility located 3730 Elmore Road, Fruitland, ID 83619. The DEQ is seeking public comment on the draft IPDES permit, associated fact sheet, and application for the Henggeler Packing Company, Inc. wastewater treatment facility. This proposed permit authorizes the discharge of treated industrial wastewater year round to Drain S-14, a tributary of the Lower Payette River, for five years. The permit identifies the pollutants of concern and specifies associated discharge limits. Additionally, the permit specifies monitoring and reporting requirements necessary to ensure compliance, protect human health, and assure the integrity of Idaho's environment.

PUBLIC COMMENT PERIOD: Notice is given that DEQ has scheduled a period to receive public comments. Written comments on the draft permit and fact sheet will be accepted through June 4, 2021, at 5 p.m. MDT. A public meeting may be held if requested in writing by May 19, 2021. The draft permit and fact sheet are available for public review at DEQ's state office (1410 N. Hilton St., Boise, ID), Boise Regional Office (1445 N. Orchard, Boise, ID 83706), and on DEQ's website. https://www.deq.idaho.gov/public-information/newsroom/

SUBMISSION OF WRITTEN COMMENTS–ASSISTANCE ON TECHNICAL QUESTIONS: Anyone may submit written comments regarding the proposed permit. To be most effective, comments should address water quality considerations and include supporting materials where available. Comments, requests, and questions regarding the public comment process should be directed to Rakael Pope at the address below, or to the DEQ Web site at https://www.deq.idaho.gov/public-information/newsroom/. Please reference Henggeler Packing Company, Inc. and permit number (ID0027901) when sending comments or questions. All information regarding this matter, including the issuance of the final permit, will be available on DEQ's Web site.

Submit requests for a public meeting on the draft permit and fact sheet electronically on DEQ's website, by mail, or email to Lori Flook.

Lori Flook
Idaho Department of Environmental Quality
Surface & Wastewater Division
1410 N. Hilton St.
Boise, ID 83706
Email: Lori.Flook@deq.idaho.gov

Rakael Pope
Idaho Department of Environmental Quality
Surface & Wastewater Division
1410 N. Hilton St.
Boise, ID 83706
Email: Rakael.Pope@deq.idaho.gov

Appendix F. Your Right to Appeal

Persons aggrieved, as specified in IDAPA 58.01.25.204.01.a., have a right to appeal the final permit decision to the Board of Environmental Quality. A Petition for Review must be filed with the Department's Hearing Coordinator within twenty eight (28) days after the Department serves notice of the final permit decision under IDAPA 58.01.25.107 (Decision Process).
All documents concerning actions governed by these rules must be filed with the Hearing Coordinator at the following address: Hearing Coordinator, Department of Environmental Quality, 1410 N. Hilton, Boise, ID 83706-1255. Documents may also be filed by FAX at FAX No. (208) 373-0481 or may be filed electronically. The originating party is responsible for retaining proof of filing by FAX. The documents are deemed to be filed on the date received by the Hearing Coordinator. Upon receipt of the filed document, the Hearing Coordinator will provide a conformed copy to the originating party. Additional requirements for appeals of IPDES final permit decisions can be found in IDAPA 58.01.25.

Appendix G. Public Comments and Response to Comments

Idaho Pollutant Discharge Elimination System Discharge Permit No. ID0027901

Response to Comments on Draft Henggeler Packing Company, Inc. Facility IPDES Permit

June 3, 2021 comment deadline

Henggeler Packing Company, Inc., June 3, 2021 Letter

Permit Comments

Comment 1: 1.1 (p. 6) - I am writing regarding IPDES permit ID0027901. I am requesting clarification if we were considered for an agricultural exemption. Last year, 95% of the volume of fruit processed and packaged was owned by Henggeler Packing Co., Inc. We own or rent the land, we are responsible for all the growing costs, and we manage those crops. When we first started this application process many years ago company-owned fruit represented 40% of the volume packed and processed. This changed due to growers aging out, reduced land and water available in Payette and Emmett Valleys for orchard production and fruit industry economics. We do not look for this trend to change.

Response 1: *In accordance with IDAPA 58.01.25.102.05, any person who discharges or proposes to discharge a pollutant from any point source into waters of the United States must obtain a permit. The discharge from the facility is not irrigated agriculture or agriculture storm water runoff and is not exempt under IDAPA 58.01.25.010.65.*

Changes to the permit: None.

Comment 2: 1.2 (p. 6), 2.1 (p. 12) - We would request to start the monitoring process with lower frequencies based upon the fact that previous sampling has not shown a polluting level of any discharges. If issues are discovered and more frequent sampling is required that can be done later after starting collection of data.

Response 2: *DEQ has determined the permit monitoring and sample frequency are appropriate for this facility to demonstrate compliance with Idaho Water Quality Standards.*

Changes to the permit: None.

Comment 3: We would request that the incoming water sampling be reduced to two times per year as opposed to four times per year due to cost and minimal pollutants.

Response 3: *Table 8 (p.16) - There are no intake monitoring requirements. Biannual receiving water monitoring for dissolved oxygen, ammonia, nitrate + nitrite, phosphorus, and hardness (as $CaCO_3$) in Table 8 will provide sufficient data for DEQ to assess assimilative capacity for the next permit cycle.*

Quarterly measurements of pH and temperature are still required because DEQ did not have adequate information to determine whether they have a reasonable potential to cause, or contribute to, a violation of Idaho Water Quality Standards.

In addition to effluent monitoring, the permittee must monitor receiving water at quarterly intervals specified in Table 8 of the permit. DEQ has determined the permit monitoring and sample frequency are appropriate for this facility

Changes to the permit: A footnote has been added to the table requiring the 2/year sampling for the receiving water parameters to be done once during December 1 to June 30 and once during July 1 to November 31, and data from the biannual monitoring is required to be reported biannually in December DMRs, which are due in January.

Fact Sheet Comments

Comment 4: 3.3.3.8, 3.3.3.9, 3.3.3.10 (p.25-27) - Additionally, several of the requested chemicals in Table 6 of the draft permit are not used by our processing facility or for the fruit crop grown and we would request to have the permit required testing removed as they do not appear relevant to our operation. Section 3.3.3.10 from the fact sheet states that none of these chemicals will need to be monitored due to drainage S-14 not having residues of these chemicals. They include:
Selenium
Arsenic
4,4-DDD
4,4-DDE
4,4DDT
Dieldrin
Heptachlor
Heptachlor epoxide

Response 4: Data provided by the permittee indicated the presence of selenium in the discharge at a level above the human health criterion in Idaho Water Quality Standards (WQS), found at IDAPA 58.01.02.210.01.b.

The facility's well water analysis data provided by the permittee (February 8, 2019 lab report) indicated the presence of arsenic at a level above the WQS human health criterion. Since the permittee does not use an arsenic removal process for the process water, it is unlikely the discharge will contain a reduction in arsenic. Therefore, monitoring the amount of arsenic being discharged is appropriate during this permitting cycle.

The additional effluent pollutants (4,4-DDD, 4,4-DDE, 4,4-DDT, dieldrin, heptachlor and heptachlor epoxide) have been found at other facilities during packing season. If the permittee demonstrates that none of these parameters are present in their effluent at levels that exceed Idaho WQS, DEQ will consider removing these monitoring requirements during the next permit cycle.

Changes to the permit: None.

Comment 5: 3.3.3.11 (p. 27) – Would the grower chemicals used as shown in section 3.3.3.11 in the fact sheet still apply to an agricultural fruit and vegetable processing facility processing over 90% of their own fruit from their own agricultural growing operation?

Response 5: *Whether the facility processes over 90% its own fruit does not affect its duty to obtain permit coverage or comply with Idaho Water Quality Standards (please see* Response 1*). If the permittee wishes to provide additional data for consideration by DEQ during the next permitting cycle, please submit either as an annual report or with a permit renewal application using DEQ's E-Permitting System.*

Changes to the permit: None.

Comment 6: 2.2 (p. 10) – We also have concerns regarding the classification of salmonid spawning for rainbow trout and whitefish in the man-made agricultural draining ditch "S-14". This location did not exist naturally until it was installed in the early 1900's and mechanical structures would prevent spawning fish from entering the drainage ditch. The flow from the facility is clearly such a small portion of the total flow to downstream locations we would like to have further consideration, study, and determinations regarding this section of the permit.

Response 6: *This facility discharges to Drain S-14, a tributary to the Payette River, which is part of the assessment unit ID17050122SW001_02. The designated uses include salmonid spawning and cold water aquatic life. According to the 2019-2024 Fisheries Management Plan (IDFG 2019), the Payette River mouth to Black Canyon Dam identifies the presence of Mountain Whitefish and Rainbow Trout. Since discharge reaches the Payette River which has fishery uses and management plans, it is appropriate for the permit to address these beneficial uses.*

Changes to the permit: None.

Comment 7: 2.2.1 (p. 12) – Also, please note that in section 2.2.1 the facilities waste is discharged through a Southwest District Health approved, permitted septic system, not to the City of Fruitland sewer system as stated with the DRAFT permit.

Response 7: *Noted. DEQ updated the fact sheet with this information, as follows:*
Since the permittee's domestic waste is discharged to ~~the City of Fruitland's sewer system~~ an Idaho Southwest District Health approved and permitted septic system, bacteria are not a suspected pollutant of concern for Henggeler Packing, and therefore are not included in this permit.

Changes to the permit: None.

Comment 8: 3.3.3.5 (p. 23) – We request that the monitoring requirement for Chlorine should be removed as the facility has modified processing practices to eliminate the use of Chlorine from their facility.

Response 8: *The permittee reported that chlorine dioxide (ClO_2) is used at the facility; therefore, total recoverable chlorine (TRC) was added as a conditional monitoring requirement. DEQ reviewed this change with Ryan Henggeler on July 19, 2021, who requested DEQ keep the optional TRC in the permit in case the facility returns to using chlorinated sterilization processing. DEQ will leave the conditional TRC monitor and the TRC compliance schedules in the permit and fact sheet.*

Changes to the permit: None.

Comment 9: Appendix D (p. 55) – The flow rates associated with the water flow to the drainage ditch are shown as 0.108 million gallons per day. We believe this number should be validated.

Response 9: *The flow rates DEQ used to calculate mass loading for the permit were provided by the permittee in the application. DEQ will review flow measurement data collected by the permittee during this permit cycle for the next permit cycle*

Changes to the permit: None.

Comment 10: Appendix D (p. 55) – We would request to start the monitoring process with lower frequencies based upon the fact that previous sampling has not shown a polluting level of any discharges. If issues are discovered and more frequent sampling has not shown a polluting level of any discharges. If issues are discovered and more frequent sampling is required that can be done later after starting collection of data.

Response 10: *The flow rates DEQ used to calculate mass loading for the permit were provided by the permittee and are the basis for monitoring and sampling requirements.*

Changes to the permit: None.

Additional DEQ update: Section 2.2.7 (p. 21) – The following change (highlighted in red) was added to the permit by DEQ to add flexibility for the permittee in case of 24-hour notice of noncompliance reporting by allowing the permittee to speak to compliance officers.

Changes to the permit:
The permittee must report these occurrences to DEQ at 1-833-IPDES24 (473-3724) or speak directly with the regional IPDES compliance officer.

Packers and Shippers *Fortress Brand* *Apples Prunes Plums*

Henggeler Packing Co., Inc.

Phone (208) 452-4212 - Fax (208) 452-5416
P.O. Box 313 - Fruitland, Idaho 83619

6/3/2021

Lori Flook
Rakael Pope
IDEQ
Surface and Wastewater Division
1410 N. Hilton St.
Boise, ID 83706

Ms. Flook and Ms. Pope,

I am writing regarding IPDES permit ID0027901. I am requesting clarification if we were considered for an agricultural exemption. Last year, 95% of the volume of fruit processed and packaged was owned by Henggeler Packing Co., Inc. We own or rent the land, we are responsible for all the growing costs, and we manage those crops. When we first started this application process many years ago company-owned fruit represented 40% of the volume packed and processed. This changed due to growers aging out, reduced land and water available in the Payette and Emmett Valleys for orchard production and fruit industry economics. We do not look for this trend to change.

Additionally, several of the requested chemicals in Table 6 of the draft permit are not used by our processing facility or for the fruit crop grown and we would request to have the permit required testing removed as they do not appear relevant to our operation. Section 3.3.3.10 from the fact sheet states that none of these chemicals will need to be monitored due to drainage S-14 not having residues of these chemicals. They include:

Selenium
Arsenic
4,4-DDD
4,4-DDE
4,4DDT
Dieldrin
Heptachlor
Heptachlor epoxide

Would the grower chemicals used as shown in section 3.3.3.11 in the fact sheet still apply to an agricultural fruit and vegetable processing facility processing over 90% of their own fruit from their own agricultural growing operation?

We also have concerns regarding the classification of salmonid spawning for rainbow trout and whitefish in the man-made agricultural draining ditch "S-14". This location did not exist naturally until it was installed in the early 1900's and mechanical structures would prevent spawning fish from entering the drainage ditch. The flow from the facility is clearly such a small portion of the total flow to downstream locations we would like to have further consideration, study, and determinations regarding this section of the permit.

Also, please note that in section 2.2.1 the facilities waste is discharged through a Southwest District Health approved, permitted septic system, not to the City of Fruitland sewer system as stated with the DRAFT permit.

1

Packers and Shippers *Fortress Brand* *Apples Prunes Plums*

Henggeler Packing Co., Inc.

Phone (208) 452-4212 - Fax (208) 452-5416
P.O. Box 313 - Fruitland, Idaho 83619

- We request that the monitoring requirement for Chlorine should be removed as the facility has modified processing practices to eliminate the use of Chlorine from their facility.
- The flow rates associated with the water flow to the drainage ditch are shown as 0.108 million gallons per day. We believe this number should be validated.
- We would request to start the monitoring process with lower frequencies based upon the fact that previous sampling has not shown a polluting level of any discharges. If issues are discovered and more frequent sampling is required that can be done later after starting collection of data.
- We would request that the incoming water sampling be reduced to two times per year as opposed to four time per year due to cost and minimal pollutants.
- Natural arsenic exists within the ground water in this area. Where it is a natural substance in the water already, we would request that it be eliminated from monitoring as it is not part of a pollutant being introduced by the facility.

Thank you for the opportunity to provide feedback on this permit. We are in hopes that you will review our classification and that the current practice of storing and packaging 90% of our own produce will be considered. We believe that we need to focus our testing and frequency on those chemicals that are pertinent to this operation. And that salmon or other fishes have not used this man-made drain ditch as spawning because of the mechanical structures in place.

Sincerely,

Kelly R Henggeler

Kelly R Henggeler
President Henggeler Packing Company, Inc.

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Appendix H. Permit Rating Worksheet

Idaho Department of Environmental Quality IPDES Program

NPDES/IPDES No.: ID0027901

IPDES Permit Rating Worksheet

- [x] Regular addition
- [ ] Discretionary addition
- [ ] Score change, but no status change
- [ ] Deletion

Facility Name: Henggeler Packing Co., Inc. City: Fruitland

Receiving Water: Drain S-14 Assessment Unit: ID17050122SW001_02

Is this facility a steam electric power plant (SIC = 4911) with one or more of the following characteristics?
1. Power output 500 MW or greater (not using a cooling pond/lake)
2. A nuclear power plant
3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rate

( ) Yes; score is 600 **(stop here)**
(•) No (continue)

Is this permit for a municipal separate storm sewer serving a population greater than 100,000?

( ) Yes; score is 700 **(stop here)**
(•) No (continue)

Factor 1: Toxic Pollutant Potential

Primary SIC Code: 0723 Other SIC Codes: 0175

Industrial Subcategory Code: 000 (Code 000 if no subcategory)

Determine the toxicity potential from Appendix A. (Be sure to use the TOTAL toxicity potential column and **check one**.)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
[ ] No process waste streams	0	0	[ ] 3	3	15	[ ] 7	7	35
[x] 1	1	5	[ ] 4	4	20	[ ] 8	8	40
[ ] 2	2	10	[ ] 5	5	25	[ ] 9	9	45
			[ ] 6	6	30	[ ] 10	10	50

Code: 1

Total Points Factor 1: 5

Factor 2: Flow/Streamflow Volume (Complete *either* Section A or Section B; **check only one**.)

Section A - Wastewater Flow Only Considered

Wastewater Type (see instructions)			Code	Points
Type I:	Flow < 5 MGD	[x]	11	0
	Flow 5-10 MGD	[ ]	12	10
	Flow >10 to 50 MGD	[ ]	13	20
	Flow >50 MGD	[ ]	14	30
Type II:	Flow < 1 MGD	[ ]	21	10
	Flow 1-5 MGD	[ ]	22	20
	Flow >5 to 10 MGD	[ ]	23	30
	Flow >10 MGD	[ ]	24	50
Type III:	Flow < 1 MGD	[ ]	31	0
	Flow 1-5 MGD	[ ]	32	10
	Flow >5 to 10 MGD	[ ]	33	20
	Flow >10 MGD	[ ]	34	30

Section B - Wastewater and Streamflow Considered

Wastewater Type (see instructions)	% of Instream Wastewater Concentration at Receiving Stream Low Flow		Code	Points
Type I/III:	<10%	[ ]	41	0
	≥10% to <50%	[ ]	42	10
	≥50%	[ ]	43	20
Type II:	<10%	[ ]	51	0
	≥10% to <50%	[ ]	52	20
	≥50%	[ ]	53	30

Code: 11

Total Points Factor 2: 0

IPDES Permit Rating Worksheet Page 1 of 3

Idaho Department of Environmental Quality IPDES Program

NPDES/IPDES No.: ID0027901

Factor 3: Conventional Pollutants (only when limited by the permit)

Are conventional pollutants limited by the permit? (•) Yes ( ) No

A. Oxygen-Demanding Pollutants (check one) (•) BOD ( ) COD ( ) TOC ( ) Other

Permit Limits **(check one)**	Code	Points
[X] <100 lb/day	1	0
[ ] 100-1,000 lb/day	2	5
[ ] >1,000 to 3,000 lb/day	3	15
[ ] >3,000 lb/day	4	20

Code: 1

Points Scored: 0

B. Total Suspended Solids

Permit Limits **(check one)**	Code	Points
[X] <100 lb/day	1	0
[ ] 100-1,000 lb/day	2	5
[ ] >1,000 to 5,000 lb/day	3	15
[ ] >5,000 lb/day	4	20

Code: 1

Points Scored: 0

C. Nitrogen Pollutants (check one) ( ) Ammonia ( ) Other:

Permit Limits **(check one)**	Code	Points
[X] <300 lb/day	1	0
[ ] 300-1,000 lb/day	2	5
[ ] >1,000 to 3,000 lb/day	3	15
[ ] >3,000 lb/day	4	20

Code: 1

Points Scored: 0

Total Points Factor 3: 0

Factor 4: Public Health Impact

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this includes any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above referenced supply.

( ) Yes (if yes, check **toxicity potential number below)**

( ) No (if no, go to **Factor 5**)

Factor 5: Water Quality Factors

A. Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-based federal effluent guidelines, or technology-based state effluent guidelines), or has a wasteload allocation been assigned to the discharge?

	Code	Points
[ ] Yes	1	10
[X] No	2	0

IPDES Permit Rating Worksheet Page 2 of 3

Idaho Department of Environmental Quality IPDES Program

NPDES/IPDES No.: ID0027901

B. Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?

	Code	Points
☐ Yes	1	0
☒ No	2	5

C. Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?

	Code	Points
☐ Yes	1	10
☒ No	2	0

Codes: A. 2 B. 2 C. 2

Total Points Factor 5: A. 0 + B. 5 + C. 0 = 5

Score Summary

Factor and Description	Total Points
1. Toxic Pollutant Potential	5
2. Flow/Streamflow Volume	0
3. Conventional Pollutants	0
4. Public Health Impacts	0
5. Water Quality Factors	5
Total (Factors 1-5)	10

S1. Is the total score equal to or greater than 80? ○ Yes (facility is a major) ◉ No

S2. If the answer to the above question is no, would you like this facility to be discretionary major? ○ Yes (add 500 points to the above score and provide reason below) ◉ No

Reason

New Score: 10 Old Score:

Rakael Pope
Permit Reviewer's Name

208/373-0502
Phone Number

4/2/2020
Date

IPDES Permit Rating Worksheet Page 3 of 3