Fact Sheet

**The U.S. Environmental Protection Agency (EPA)
Proposes to Issue a National Pollutant Discharge Elimination System (NPDES) Permit to Discharge Pollutants Pursuant to the Provisions of the Clean Water Act (CWA) to:**

Henggeler Packing Company, Inc.

Public Comment Start Date: December 3, 2018
Public Comment Expiration Date: January 2, 2019

Technical Contact: Brian Nickel
206-553-6251
800-424-4372, ext. 6251(within Alaska, Idaho, Oregon and Washington)
Nickel.Brian@epa.gov

The EPA Proposes to Issue NPDES Permit
The EPA proposes to issue the NPDES permit for the facility referenced above. The draft 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:
- information on public comment, public hearing, and appeal procedures
- a listing of proposed effluent limitations and other conditions for the facility
- a map and description of the discharge location
- technical material supporting the conditions in the permit

State Certification
Upon the EPA's request, the Idaho Department of Environmental Quality (IDEQ) has provided a draft certification of the permit for this facility under Section 401 of the Clean Water Act. Comments regarding the certification should be directed to:

Idaho Department of Environmental Quality
1445 N. Orchard St.
Boise, ID 83706
(208) 373-0550

Public Comment
Persons wishing to comment on, or request a Public Hearing for the draft permit for this facility may do so in writing by the expiration date of the Public Comment period. A request for a Public Hearing must state the nature of the issues to be raised as well as the requester's name, address and telephone number. All comments and requests for Public Hearings must be in writing and should be submitted to the EPA as described in the Public Comments Section of the attached Public Notice.

After the Public Notice expires, and all comments have been considered, the EPA's regional Director for the Office of Water and Watersheds will make a final decision regarding permit issuance. If no substantive comments are received, the tentative conditions in the draft permit will become final, and the permit will become effective upon issuance. If substantive comments are received, the EPA will address the comments and issue the permit. The permit will become effective no less than 30 days after the issuance date, unless an appeal is submitted to the Environmental Appeals Board within 30 days pursuant to 40 CFR 124.19.

Documents are Available for Review
The draft NPDES permit and related documents can be reviewed or obtained by visiting or contacting the EPA's Regional Office in Seattle between 8:30 a.m. and 4:00 p.m., Monday through Friday at the address below. The draft permits, fact sheet, and other information can also be found by visiting the Region 10 NPDES website at:
https://www.epa.gov/npdes-permits/idaho-npdes-permits

US EPA Region 10
Suite 155
1200 Sixth Avenue, OWW-191
Seattle, Washington 98101
(206) 553-0523 or
Toll Free 1-800-424-4372 (within Alaska, Idaho, Oregon and Washington)

The fact sheet and draft permits are also available at:

Idaho Department of Environmental Quality
1445 N. Orchard St.
Boise, ID 83706
(208) 373-0550

US EPA Idaho Operations Office
950 West Bannock, Suite 900
Boise, ID 83702
208-378-5746

Table of Contents

Acronyms

1Q10	1 day, 10 year low flow
7Q10	7 day, 10 year low flow
30B3	Biologically-based design flow intended to ensure an excursion frequency of less than once every three years, for a 30-day average flow.
30Q10	30 day, 10 year low flow
AML	Average Monthly Limit
BAT	Best Available Technology economically achievable
BCT	Best Conventional pollutant control Technology
BOD_5	Biochemical oxygen demand, five-day
BMP	Best Management Practices
BPT	Best Practicable
°C	Degrees Celsius
$CBOD_5$	Carbonaceous Biochemical Oxygen Demand
CFR	Code of Federal Regulations
CFS	Cubic Feet per Second
COD	Chemical Oxygen Demand
CV	Coefficient of Variation
CWA	Clean Water Act
DMR	Discharge Monitoring Report
DO	Dissolved oxygen
EFH	Essential Fish Habitat
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FR	Federal Register
gpd	Gallons per day
HUC	Hydrologic Unit Code
ICIS	Integrated Compliance Information System
IDEQ	Idaho Department of Environmental Quality
LA	Load Allocation
lbs/day	Pounds per day
LOAEC	Least observable adverse effect concentration

LTA	Long Term Average
mg/L	Milligrams per liter
ml	Milliliters
ML	Minimum Level
µg/L	Micrograms per liter
mgd	Million gallons per day
MDL	Maximum Daily Limit or Method Detection Limit
MF	Membrane Filtration
MPN	Most Probable Number
N	Nitrogen
ng/L	Nanograms/L (1 microgram = 1,000 nanograms)
NOAA	National Oceanic and Atmospheric Administration
NOAEC	No observable adverse effect concentration
NPDES	National Pollutant Discharge Elimination System
OWW	Office of Water and Watersheds
POTW	Publicly Owned Treatment Works
QAP	Quality assurance plan
RP	Reasonable Potential
RPM	Reasonable Potential Multiplier
RWC	Receiving Water Concentration
SIC	Standard Industrial Classification
SPCC	Spill Prevention and Control and Countermeasure
SS	Suspended Solids
s.u.	Standard Units
TKN	Total Kjeldahl Nitrogen
TMDL	Total Maximum Daily Load
TOC	Total Organic Carbon
TRC	Total Residual Chlorine
TSD	Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001)
TSS	Total suspended solids
USFWS	U.S. Fish and Wildlife Service

USGS	United States Geological Survey
WLA	Wasteload allocation
WQBEL	Water quality-based effluent limit
WQS	Water Quality Standards
WWTP	Wastewater treatment plant

I. Background Information

A. General Information

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

Table 1. General Facility Information

NPDES Permit #:	ID0027901
Applicant:	Henggeler Packing Company, Inc.
Type of Ownership	Private
Physical Address:	6730 Elmore Road Fruitland, ID 83619
Mailing Address:	P.O. Box 313 Fruitland, ID 83619
Facility Contact:	Ryan Henggeler
E-mail Address	henggelerpkg@fmtc.com
Facility Location:	43.98845 north latitude 116.89365 west longitude
Receiving Water	Drain S-14 (tributary to the Payette River)
Facility Outfall	43.988881 north latitude -116.890244 west longitude

B. Permit History

Henggeler Packing Company, Inc. (Henggeler Packing) was founded in 1943[1] and began operating and discharging pollutants at its current site in 1959 (personal communication with Ryan Henggeler, October 16, 2018). The facility is visible in a USGS aerial photo taken on August 3, 1974 (see Appendix A).

Henggeler Packing applied for an NPDES permit from the EPA on September 30, 1997. At the EPA's request, Henggeler Packing submitted an updated application, which the EPA received on August 9, 2018. A permit has not been previously issued to this facility.

II. Idaho NPDES Authorization

In 2014, the Idaho Legislature revised the Idaho Code to direct the Idaho Department of Environmental Quality (IDEQ) to seek authorization from the EPA to administer the NPDES permit program for the State of Idaho. On August 31, 2016, IDEQ submitted a program package pursuant to CWA Section 402(b) and 40 CFR 123.21.

The EPA has approved IDEQ's request for authorization, and IDEQ will obtain permitting for individual industrial permits on July 1, 2019. At that point in time, all documentation required by the permit will be sent to IDEQ rather than to the EPA and any decision under the permit stated to be made by the EPA or jointly between the EPA and IDEQ will be made solely by IDEQ. Permittees will be notified by IDEQ when this transition occurs.

[1] https://www.henggelerpacking.com/about

III. Facility Information

A. Nature of Business

Henggeler Packing is a fresh fruit packing plant. Generally, the facility packs apples, plums and peaches. Some cherries and prunes are packed on a very limited basis.

B. Discharge Description

Waste Streams

According to the permit application received August 9, 2018, Henggeler Packing discharges the following waste streams:

- Process and cooling water (50 gpm). This is a seasonal discharge, when fruit packing is occurring. Fruit is generally packed between August 1st and November 30th (communication with Ryan Henggeler, August 15, 2018). This waste stream would contain heat, material that is washed off the fruit and not removed by screening, residual cleaning agents including chlorine, and residual coatings (e.g., food grade wax) applied to the fruit.
- Overflow well water (25 gpm). This discharge occurs year-round.
- Stormwater runoff. This discharge has a variable flow rate and can occur at any time, due to precipitation.

A diagram showing the sources of wastewater and discharge points is included in Appendix A.

Treatment Process

Process wastewater is screened twice prior to discharge. Other waste streams are untreated.

Outfall Description

This facility discharges to a drainage ditch which is tributary to the Payette River. The Idaho State Department of Agriculture (ISDA) refers to this drain as "S-14." The discharge location is near the northeast corner of the facility, between Northwest 1st Avenue and Northwest 2nd Avenue and just south of Noble Canal.

Effluent Characterization

Some effluent data were provided on the 1997 and 2018 application forms. The effluent quality is summarized in Table 2. Data are provided in Appendix B.

Table 2 Effluent Characterization

Parameter	Maximum	Minimum	Number of Measurements	Notes
Ammonia as N (mg/L)	0.02	0.01	2	
BOD (mg/L)	25	24	2	
Boron (µg/L)	120	60	5	
Calcium (ppm)	51	31	5	

Parameter	Maximum	Minimum	Number of Measurements	Notes
Cobalt (µg/L)	16	6	5	
Conductivity (µmhos/cm)	640	350	5	
Copper (µg/L)	9	1	5	
Hardness (mg/L as CaCO3)	201	114	5	Calculated from reported calcium and magnesium concentrations.
Iron (µg/L)	860	2	5	
Magnesium (ppm)	19	9	5	
Manganese (µg/L)	19	< 5	5	
Molybdenum (µg/L)	200	8	5	
Nitrate (ppm)	4.3	2.6	5	
Phosphorus (ppm)	0.6	0.07	5	
Potassium (ppm)	7	2	5	
Selenium (µg/L)	70	40	5	
Sodium (ppm)	83	39	5	
Sulfate (ppm)	13	10	5	
TSS (mg/L)	80	3	7	
Zinc (µg/L)	10	1	5	

Source: Permit applications.

Compliance History

Since this is the first NPDES permit issued to this facility, there is no NPDES compliance history.[2]

IV. Receiving Water

In drafting permit conditions, the EPA must analyze the effect of the facility's discharge on the receiving water. The details of that analysis are provided later in this Fact Sheet. This section summarizes characteristics of the receiving water that impact that analysis.

A. Receiving Water

This facility discharges to Drain S-14, which is a tributary to the Payette River. The interactive map for IDEQ's 2014 Integrated Report indicates that the receiving water is a perennial stream. This is supported by ISDA's flow data, which show a minimum flow of 1.54 CFS at the "S-14 Up" sampling station, with measurements taken every month of the year.

[2] General compliance and enforcement information for this facility can be found on the EPA's Enforcement and Compliance History Online (ECHO) website, here: https://echo.epa.gov/detailed-facility-report?fid=ID0027901&sys=ICP

B. Designated Beneficial Uses

The receiving water is part of assessment unit ID17050122SW001_02. This assessment unit has the same designated uses as the Payette River from the Black Canyon Reservoir Dam to the mouth. These designated uses are:

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

In addition, Water Quality Standards 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 Idaho Water Quality Standards specify criteria for dissolved oxygen (DO) and temperature, which 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.[3] The EPA 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 (personal communication with Kati Carberry, IDEQ, October 30, 2018). Thus, the salmonid spawning criteria apply for most of the year, except from July 16 through October 14.

C. Water Quality

ISDA collected water quality data in the receiving water during 2000 – 2002, and 2008. Locations of the sampling stations are shown in Figure 1. The "S-14 Up" station is upstream of the discharge, and the "S-14" station is located downstream of the discharge. The water quality for the receiving water (stations S-14 and S-14 Up) is summarized in Table 3.

[3] https://idfg.idaho.gov/ifwis/fishingplanner/water/?id=20012

Figure 1: ISDA S-Drain Sampling Locations

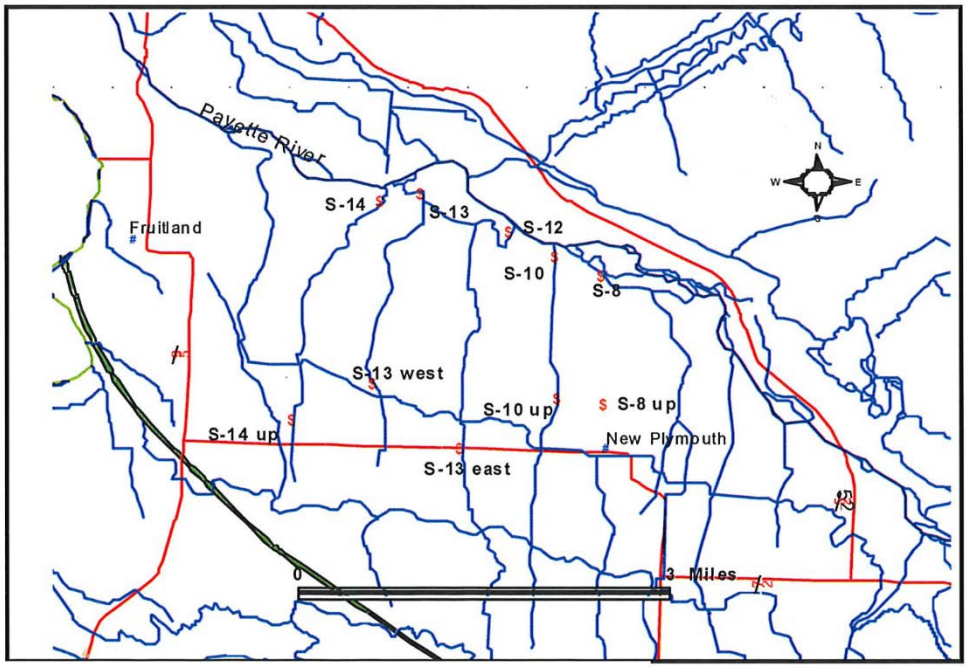


Table 3. Receiving Water Quality Data

Parameter	Units	Percentile	Value(s)
Station S-14 Up (2000 – 2002)			
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 – 162
pH	Standard units	5th – 95th	7.65 – 8.43
Temperature	°C	5th – 95th	8.8 – 18.4
Total Phosphorus	µg/L	5th – 95th	100 – 232
TSS	mg/L	5th – 95th	10 – 96
Station S-14 (2000 – 2002, 2008)			
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
pH	Standard units	5th – 95th	7.66 – 8.31
Temperature	°C	5th – 95th	5.8 – 18.1
Total Phosphorus	µg/L	5th – 95th	86 - 558
TSS	mg/L	5th – 95th	11 - 240
Source: ISDA			

D. Water Quality Limited Waters

The State of Idaho's 2014 Integrated Report lists the receiving water as "not assessed" (category 3).

In December 1999, IDEQ published the Lower Payette River Subbasin Assessment and Total Maximum Daily Load (Lower Payette TMDL) for the Payette River, downstream from the facility. It was approved by EPA in May of 2000. This TMDL includes load and wasteload allocations for bacteria, including a load allocation for drain S-14. However, bacteria is not a pollutant of concern for Henggeler Packing.

E. Low Flow Conditions

Critical low flows for the receiving water are summarized in Table 4.

Table 4. Critical Flows in Receiving Water

Flows	Annual Flow (cfs)	Seasonal Flows: August 1 – November 30	Seasonal Flows: December 1 – July 31
1Q10	1.54	3.86	1.07
7Q10	2.05	5.40	1.39
30Q5	2.25	5.95	1.53
Harmonic Mean	5.16	9.05	4.10
Source: ISDA			

Low flows are defined in Appendix E, Part C.

F. Applicability of Regulations Concerning New Sources and New Dischargers

NPDES regulations at 40 CFR 122.4(i) prohibit the issuance of a permit to a "new source" or for a "new discharger" if it will "cause or contribute to the violation of water quality standards," and 40 CFR 122.47(a)(2) 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 years before commencement of the relevant discharge."

Henggeler Packing is not a "new source" as defined in 40 CFR 122.2 since 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 40 CFR 122.2, because a 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.

V. Effluent Limitations and Monitoring

Table 5, below, presents the proposed effluent limits and monitoring requirements in the draft permit.

Table 5. Draft Permit - Effluent Limits and Monitoring Requirements

Parameter	Units	Effluent Limitations			Monitoring Requirements	
		Average Monthly Limit	Maximum Daily Limit	Instantaneous Maximum Limit	Sample Frequency	Sample Type
Flow	mgd	Report	Report	—	Daily	Measurement
Five-day biochemical oxygen demand (BOD_5)	mg/L	30	60	—	1/month	Grab
Total suspended solids (TSS)	mg/L	30	60	—	1/month	Grab
pH	s.u.	Within the range of 6.5 – 9.0			1/week	Grab
Chlorine, total residual (August 1 – November 30 and monthly average effluent flow > 0.062 mgd)[1]	µg/L	64	129[2]	—	1/week[6]	Grab
Chlorine, total residual (August 1 – November 30 and monthly average effluent flow ≤ 0.062 mgd)[1]	µg/L	105	210[2]	—	1/week[6]	Grab
Chlorine, total residual (December 1 – July 31 and monthly average effluent flow > 0.062 mgd)[1,7]	µg/L	25	49[2]	—	1/week[6]	Grab
Chlorine, total residual (December 1 – July 31 and monthly average effluent flow ≤ 0.062 mgd)[1,7]	µg/L	36	72[2]	—	1/week[6]	Grab
Selenium (August 1 – November 30 and monthly average effluent flow > 0.062 mgd)[1]	µg/L	37	75[2]	—	1/month	Grab
Selenium (August 1 – November 30 and monthly average effluent flow ≤ 0.062 mgd)[1]	µg/L	62	124[2]	—	1/month	Grab
Selenium (December 1 – July 31 and monthly average effluent flow > 0.062 mgd)[1]	µg/L	13	25[2]	—	1/month	Grab
Selenium (December 1 – July 31 and monthly average effluent flow ≤ 0.062 mgd)[1]	µg/L	19	38[2]	—	1/month	Grab
Floating, suspended or submerged matter	—	See Part I.B.3.			1/month	Visual observation
Total phosphorus as P (May 1 – September 30)[1]	µg/L	70	Report	—	1/month	Grab
Temperature (year-round until 1 year after the effective date of the final permit)	°C	Report	Report	—	1/week	Grab
Temperature (year-round from 1 year after the effective date of the final permit until 7 years after the effective date of the final permit)	°C	See Notes 3 and 4.			Continuous[3]	Recording[4]

Parameter	Units	Effluent Limitations			Monitoring Requirements	
		Average Monthly Limit	Maximum Daily Limit	Instantaneous Maximum Limit	Sample Frequency	Sample Type
Temperature (July 16 – October 14 and monthly average effluent flow > 0.062 mgd after 7 years after the effective date of the final permit)[1]	°C	Report	21.4	Report	Continuous[3]	Recording[4]
Temperature (July 16 – October 14 and monthly average effluent flow ≤ 0.062 mgd after 7 years after the effective date of the final permit) [1]	°C	Report	23.2	Report	Continuous[3]	Recording[4]
Temperature (October 15 – July 15, after 7 years after the effective date of the final permit) [1]	°C	Report	9	13	Continuous[3]	Recording[4]
Nitrate + nitrite as N	mg/L	—	Report	—	4/year[5]	Grab
Total ammonia as N	mg/L	—	Report	—	4/year[5]	Grab
Total Kjeldahl nitrogen	mg/L	—	Report	—	4/year[5]	Grab
4,4'-DDD	ng/L	—	Report	—	1/year[8]	Grab
4,4'-DDE	ng/L	—	Report	—	1/year[8]	Grab
4,4'-DDT	ng/L	—	Report	—	1/year[8]	Grab
Dieldrin	ng/L	—	Report	—	1/year[8]	Grab
Heptachlor	ng/L	—	Report	—	1/year[8]	Grab
Heptachlor epoxide	ng/L	—	Report	—	1/year[8]	Grab

Notes:
1. These effluent limits are subject to a compliance schedule. See the draft permit at Part II.B.
2. Reporting is required within 24 hours of a maximum daily limit violation. See Parts I.B.2. and III.G.
3. Temperature data must be recorded using micro-recording temperature devices known as thermistors. Set the recording device to record at one-hour intervals. Report the following temperature monitoring data on the DMR: monthly instantaneous maximum, maximum daily average, seven-day running average of the daily instantaneous maximum.
4. Use the temperature device manufacturer's software to generate (export) a Microsoft Excel or ASCII text file. The file must be submitted annually to the EPA and IDEQ by January 31 for the previous monitoring year along with the placement log. The placement logs should include the following information for both thermistor deployment and retrieval: date, time, temperature device manufacturer ID, location, depth, whether it measured air or water temperature, and any other details that may explain data anomalies. The permittee may submit the file as an electronic attachment to NetDMR. The file name of the electronic attachment must be as follows: YYYY_MM_DD_ID0027901_temperature_43599, where YYYY_MM_DD is the date that the permittee submits the file.
5. Two samples must be taken when packing is occurring and two samples must be taken when packing is not occurring.
6. The permittee must monitor the effluent for chlorine when chemicals containing chlorine are added to the process and cooling water or well water overflow discharges.
7. Some of the effluent limits for total residual chlorine are not quantifiable using EPA approved analytical methods. EPA will use 50 µg/L (the Minimum Level) as the compliance evaluation level for this parameter.
8. The annual sample must be taken when packing is occurring.

A. Basis for Effluent Limits

In general, the CWA requires that the effluent limits for a particular pollutant be the more stringent of either technology-based limits or water quality-based limits. Technology-based limits are set according to the level of treatment that is achievable using available technology. A water quality-based effluent limit is designed to ensure that the water quality standards applicable to a waterbody are being met and may be more stringent than technology-based effluent limits.

B. Pollutants of Concern

Pollutants of concern are those that either have technology-based limits or may need water quality-based limits. The EPA identifies pollutants of concern for the discharge based on those which:

- Have a technology-based limit.
- Have an assigned wasteload allocation (WLA) from a TMDL.
- Had an effluent limit in the previous permit.
- Are present in the effluent monitoring. Monitoring data are reported in the application and DMR and any special studies.
- Are expected to be in the discharge based on the nature of the discharge.

The pollutants of concern based on the type of technology are: BOD_5, TSS, pH, temperature, chlorine, pesticides and fungicides, and coatings (wax). The pollutants of concern based on the effluent monitoring data as reported in the application are: ammonia, phosphorus, boron, residues, selenium, metals (copper, iron, manganese and zinc), and nitrate.

C. Technology-Based Effluent Limits

Statutory and Regulatory Basis

For dischargers other than publicly owned treatment works (POTWs), the CWA requires effluent limitations based on the best practicable control technology currently available (BPT). 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)).

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 limitations), or through a combination of these methods (40 CFR 125.3(c)).

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, the EPA must establish effluent limitations using BPJ.

Facility-Specific Technology-Based Effluent Limits

The State of Washington Department of Ecology issued a general NPDES permit for fresh fruit packing facilities in Washington State in July 2016 (permit number WAG435000, "Washington Fresh Fruit GP"). This permit covers discharges of wastewater from existing or new fresh fruit packing facilities which receive, pack, store, and/or ship either hard or soft fresh fruit and discharge wastewater, except for discharges of only domestic wastewater or discharges only to a POTW with a pretreatment program.

The Washington Fresh Fruit GP 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, containing only chlorine-based products, non-chlorine based sanitizers, or containing 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, dangerous wastes or toxics in toxic amounts.

The effluent limits for BOD_5, pH, and TSS in the Washington Fresh Fruit GP are technology-based effluent limits (Ecology 2016b). The BOD_5 and TSS limits are maximum daily limits of 30 mg/L, and the pH limit is a range of 6.0 to 9.0 standard units. The economic impact analysis for the Washington Fresh Fruit GP (Ecology 2016a) indicates that a sedimentation device may be necessary to meet the effluent limits for surface water discharge (Section 3.2.6).

Page 6 of the *Fact Sheet for the Fresh Fruit Packing General Permit* (Ecology 2016b) explains that Washington State's technology-based effluent standard is "All Known, Available and Reasonable Methods of Prevention, Control, and Treatment" or AKART. The *Fact Sheet for the Fresh Fruit Packing General Permit* states that AKART is equivalent to a BPJ technology-based effluent limit for a federal permit. As such, the EPA proposes technology-based effluent limits for BOD, TSS, and pH which are similar to those in the Washington Fresh Fruit GP.

The technology-based limits for pH are identical to those in the Washington Fresh Fruit GP. The *Fact Sheet for the Fresh Fruit Packing General Permit* states on Pages 47 and 48 that the 30 mg/L maximum daily limits for BOD and TSS are based on secondary treatment standards for municipal wastewater (Ecology 2016b). However, secondary treatment standards limit BOD and TSS to 30 mg/L on an average monthly basis, not a maximum daily basis (40 CFR 133.102). Therefore, in the draft permit, the EPA has expressed the 30 mg/L limit for BOD and TSS as an average monthly limit instead of a maximum daily limit.

Federal regulations state that effluent limitations for dischargers other than POTWs shall unless impracticable be stated as maximum daily and average monthly discharge limitations (40 CFR 122.45(d)(1)). Therefore, in addition to the 30 mg/L average monthly limit, the EPA has established a maximum daily limit of 60 mg/L. A 2:1 ratio between the maximum daily and average monthly limits is typical for NPDES permits when facility-specific effluent data are not available to characterize effluent variability.

The technology-based effluent limits for BOD and TSS are also similar to those in a permit issued by the Pennsylvania Department of Environmental Protection for a fruit packing facility (NPDES permit number PA0088455).[4] However, that permit has limits for oxygen demanding material expressed as five-day carbonaceous biochemical oxygen demand ($CBOD_5$). The concentration limits for $CBOD_5$ in permit number PA0088455 are 17% lower than the BOD_5 effluent limits proposed in this permit, since the BOD_5 parameter includes both carbonaceous and nitrogenous oxygen demand. The fact sheet for permit number

[4] The permit is available at:
http://files.dep.state.pa.us/Water/Wastewater%20Management/eDMRPortalFiles/Permits/PA0088455.3.Final.7-10-2013_42363_v2.pdf

PA0088455 indicates that the $CBOD_5$ and TSS effluent limits are based on the performance of secondary treatment (PDEP 2013).

Technology-based effluent limits for this facility are summarized in Table 6.

Table 6. 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 6.0 - 9.0 s.u.	
Source: Best professional judgment.			

D. Water Quality-Based Effluent Limits

Statutory and Regulatory Basis

Section 301(b)(1)(C) of the CWA requires the development of limitations in permits necessary to meet water quality standards. Discharges to state or tribal waters must also comply with limitations imposed by the state or tribe as part of its certification of NPDES permits under section 401 of the CWA. The NPDES regulation 40 CFR 122.44(d)(1) 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 state or tribal water quality standard, 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 which account for existing controls on point and nonpoint 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 water quality standards are met, and must be consistent with any available wasteload allocation for the discharge in an approved TMDL. If there are no approved TMDLs that specify wasteload allocations for this discharge, all of the water quality-based effluent limits are calculated directly from the applicable water quality standards.

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

The EPA uses the process described in the *Technical Support Document for Water Quality-based Toxics Control* (*TSD*) to determine reasonable potential. To determine if there is reasonable potential for the discharge to cause or contribute to an exceedance of water quality criteria for a given pollutant, the EPA compares the maximum projected receiving water concentration to the water quality criteria 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 (EPA 2014). While the criteria may be exceeded within the mixing zone, the use and size of the mixing zone must be limited such that the waterbody as a whole will not be impaired, all designated uses are maintained and acutely toxic conditions are prevented.

The Idaho Water Quality Standards at IDAPA 58.01.02.060 provide Idaho's mixing zone policy for point source discharges. In the State 401 Certification, the IDEQ proposes to authorize mixing zones for chlorine, copper, iron, selenium, and, for July 16 – October 14, temperature. Mixing zones are not proposed for ammonia, manganese, nitrate + nitrite, zinc, or boron, since the discharge meets criteria for those pollutants at the end-of-pipe. The proposed mixing zones are summarized in Table 7.

In general, the mixing zones are based on year-round critical conditions. However, since the facility had reasonable potential to cause or contribute to excursions above water quality criteria for chlorine and selenium under year-round critical conditions, seasonal mixing zones were authorized for chlorine and selenium. This allows for less stringent effluent limits for selenium during August – November, when stream flows are higher. A mixing zone for temperature is only authorized for July 16 – October 14, when the more stringent salmonid spawning temperature criteria do not apply.

To account for the fact that effluent flow rates are higher when the facility is packing fruit, dilution factors for aquatic life criteria are calculated using tiered effluent flow rates. The high effluent flow tier is for monthly average effluent flows greater than 0.062 mgd, and dilution factors for the high flow tier 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. The low effluent flow tier is set at monthly average effluent flows less than or equal to 0.062 million gallons per day (mgd), which is the geometric mean of the combined flow rate of 0.108 mgd and the flow rate of the overflow well water discharge (25 gpm or 0.036 mgd).

Table 7. Mixing Zones

Criteria Type	Critical Low Flow (cfs)	Mixing Zone (% of Critical Low Flow)	Dilution Factor
Year-Round (high effluent flow)			
Acute Aquatic Life	1.54	25%	3.30
Chronic Aquatic Life	2.05	25%	4.07
Human Health Noncarcinogen	2.25	25%	4.37
Human Health Carcinogen	5.16	25%	8.72
Year-Round (low effluent flow)			
Acute Aquatic Life	1.54	25%	5.01
Chronic Aquatic Life	2.05	25%	6.34
Human Health Noncarcinogen	2.25	25%	6.86
Human Health Carcinogen	5.16	25%	14.4
August 1 – November 30 (high effluent flow)			
Acute Aquatic Life	3.86	25%	6.78
Chronic Aquatic Life	5.40	25%	9.08
December 1 – July 31 (high effluent flow)			
Acute Aquatic Life	1.07	25%	2.60
Chronic Aquatic Life	1.39	25%	3.08

Criteria Type	Critical Low Flow (cfs)	Mixing Zone (% of Critical Low Flow)	Dilution Factor
August 1 – November 30 (low effluent flow)			
Acute Aquatic Life	3.86	25%	11.1
Chronic Aquatic Life	5.40	25%	15.1
December 1 – July 31 (low effluent flow)			
Acute Aquatic Life	1.07	25%	3.79
Chronic Aquatic Life	1.39	25%	4.62
July 16 – October 14 (high effluent flow)			
Temperature (1Q10)	5.31	25%	8.94
July 16 – October 14 (low effluent flow)			
Temperature (1Q10)	5.31	25%	14.8

The reasonable potential analysis and water quality-based effluent limit calculations were based on mixing zones shown in Table 7. If IDEQ revises the allowable mixing zones 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 E.

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 E.

Ammonia

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 8. Ammonia Criteria

Total ammonia nitrogen criteria (mg N/L):
Annual Basis
Based on IDAPA 58.01.02

INPUT	
1. Receiving Water Temperature (deg C):	18.1
2. Receiving Water pH:	8.31
3. Is the receiving water a cold water designated use?	Yes
4. Are non-salmonid early life stages present or absent'	Present
OUTPUT	
Total ammonia nitrogen criteria (mg N/L):	
Acute Criterion (CMC)	**3.09**
Chronic Criterion (CCC)	**1.19**

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

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

A reasonable potential calculation showed that the Henggeler Packing discharge does not have the reasonable potential to cause or contribute to a violation of the water quality criteria for ammonia. Therefore, no ammonia effluent limits are proposed. The draft permit requires that the permittee monitor the receiving water for ammonia, pH and temperature in order to

determine the applicable ammonia criteria for the next permit reissuance. See Appendices D and F for reasonable potential and effluent limit calculations for ammonia.

pH

The Idaho water quality standards at IDAPA 58.01.02.250.01.a require pH values of the river 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.

Dissolved Oxygen (DO) and BOD_5

Natural decomposition of organic material in wastewater effluent impacts dissolved oxygen 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 the discharge is unlikely to contribute to a violation of DO criteria. An estimated worst case was used for input data into the model based on best available information.

Phosphorus

The Payette River is not impaired for nutrients. However, there is a TMDL for the Hells Canyon reach of the Snake River. 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). 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 draft permit establishes an effluent limitation of 0.070 mg/L during the months of May through September. Total phosphorus is a long term effect, therefore, only an average monthly limit is proposed.

Chlorine

The permit application indicates that apples and peaches are rinsed in a chlorine dioxide solution prior to being rinsed in water. The EPA does not have any effluent data for chlorine, 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. Therefore, the draft permit proposes water quality-based effluent limits for chlorine. The chlorine effluent limits have the same seasons and flow tiers as the selenium effluent limits.

Residues

The Idaho water quality standards 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 draft permit contains a narrative limitation prohibiting the discharge of such materials.

Temperature

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

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

The maximum temperatures measured 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)

The EPA 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 water quality standards for temperature, the EPA compiled effluent temperature data for facilities covered under the Washington Fresh Fruit GP for the period of 2013 – 2018. There were 50 fruit packing facilities covered under the Washington Fresh Fruit GP with effluent temperature data, and the maximum effluent temperatures reported by these facilities ranged from 14.1 to 71.4°C, with an average of 26.4°C. In the reasonable potential analysis, the EPA assumed that Henggeler Packing's maximum effluent temperature is the same as the average facility covered under the Washington Fresh Fruit GP (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 reasonable potential analysis 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 limit" (which is defined as the maximum allowable average temperature over a day) is proposed 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 effluent data from facilities covered by the Washington Fresh Fruit GP, 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 water quality standards 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.

Metals

Effluent data were available for copper, iron, manganese, and zinc. Idaho has water quality criteria for copper and zinc. For iron and manganese, the EPA interpreted Idaho's narrative criterion for toxic substances (IDAPA 58.01.02.200.02) using the EPA's Clean Water Act Section 304(a) recommended criteria. For iron, the most stringent recommended criterion is the freshwater aquatic life criterion, which is 1,000 µg/L (EPA 1986). For manganese, the most stringent recommended criterion is a human health criterion for the consumption of water and organisms, which is 50 µg/L (EPA 1993). The reasonable potential analysis found that the discharge does not have the reasonable potential to cause or contribute to excursions above water quality standards for any of these metals. Therefore, no effluent limits or monitoring requirements are proposed in the draft permit for these metals.

Boron

Effluent data were available for boron, which is a metalloid. The maximum effluent concentration was 120 µg/L. Idaho does not have any water quality criteria for boron, nor does EPA have any Clean Water Act Section 304(a) criteria for boron.

Boron can be toxic to aquatic organisms, but only at concentrations orders of magnitude higher than those observed in the effluent. One study found that the maximum allowable toxicant concentration (MATC), which is the geometric mean of the no observable adverse effects concentration (NOAEC) and the least observable adverse effect concentration (LOAEC), for the most sensitive of eight species tested, was 9.3 mg/L, or 9,300 µg/L (Soucek et al. 2011). Using the MATC of 9.3 mg/L to interpret Idaho's narrative criterion for toxic substances (IDAPA 58.01.02.200.02), the EPA finds that there is no reasonable potential for the discharge of boron to cause or contribute to a violation of water quality standards. Therefore, no effluent limits or monitoring requirements are proposed for boron.

Selenium

IDEQ adopted new water quality criteria for selenium in March 2018, but the new criteria have not yet been approved by the EPA. Therefore, the EPA has used the prior selenium criteria, which remain in effect for Clean Water Act purposes. These are an acute criterion of 20 µg/L and a chronic criterion of 5 µg/L (IDAPA 58.01.02.210.01.a). The reasonable potential analysis found that the discharge has the reasonable potential to cause or contribute to excursions above Idaho's water quality standards for selenium, during both the high and low receiving water flow seasons and whether or not packing is occurring. Therefore, the draft permit proposes water quality-based effluent limits (WQBELs) for selenium.

Nitrate

The Idaho Water Quality Standards do not include numeric water quality criteria for nitrate. Since the receiving water is designated for domestic water supply, the EPA performed a

reasonable potential analysis for nitrate, using the EPA's Clean Water Act Section 304(a) recommended criterion of 10 mg/L for nitrate for the consumption of water and organisms (EPA 1986) to interpret Idaho's narrative criterion for toxic pollutants (IDAPA 58.01.02.200.02). The reasonable potential analysis showed that the discharge does not have the reasonable potential to cause or contribute to excursions above water quality standards for nitrate. Therefore, no effluent limits are proposed.

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 draft permit proposes a requirement that the permittee not use pesticides or fungicides in the process and cooling water discharge or 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 dishcharged in the effluent.

In 2007 and 2008, the Washington Department of 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 most stringent 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, 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 at concentrations above Idaho's water quality criteria, the draft permit proposes annual effluent monitoring, during packing, of the following pesticides and breakdown products:

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

Appendix A to the draft permit specifies analytical minimum levels for these pesticides which are equal to those published in EPA Method 625.1 (40 CFR 136 Appendix A).

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 9.

Table 9. 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 9).

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 proposed in the draft permit.

Coatings (Wax)

The 2018 permit application indicates that the permittee uses food-grade waxes on peaches and apples. Material safety data sheets (MSDSs) for the waxes were provided in the application, and the MSDSs did not indicate any hazardous ingredients.[5,6] 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.[7] These are minor contributors to the wastewater and will not cause or contribute to water quality standards violations if properly applied (Ecology 2016b).

Fruit Cleaner

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

VI. Monitoring Requirements

A. Basis for Effluent and Surface Water Monitoring

Section 308 of the CWA and federal regulation 40 CFR 122.44(i) require monitoring in permits to determine compliance with effluent limitations. Monitoring may also be required to gather effluent and surface water data to determine if additional effluent limitations are required and/or to monitor effluent impacts on receiving water quality.

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

B. 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.

Table 10: Effluent Monitoring Requirements

Parameter	Units	Sample Frequency	Sample Type
Flow	mgd	Daily	Measurement
Five-day biochemical oxygen demand (BOD_5)	mg/L	1/month	Grab
Total suspended solids (TSS)	mg/L	1/month	Grab
pH	s.u.	1/week	Grab
Chlorine	µg/L	1/week[2]	Grab
Selenium	µg/L	Monthly	Grab

[5] MSDS for US Syntec Phase 3 Carnauba Plus: http://ussyntec.net/data/MSDS/Phase%203%20Carnauba%20Plus.pdf
[6] MSDS for US Syntec Phase 3 Peaché: http://ussyntec.net/data/MSDS/Phase%203%20Peache.pdf
[7] Label for US Syntec Phase 3 Carnauba Plus: http://ussyntec.net/data/labels/Phase%203%20Carnauba%20Plus%2055.pdf
[8] MSDS for US Syntec Phase 1&2 Nu-Q: http://ussyntec.net/data/MSDS/Phase%201%20&%202%20Nu-Q.pdf

Parameter	Units	Sample Frequency	Sample Type
Temperature (until 1 year after the effective date of the final permit)	°C	1/week	Grab
Temperature (after 1 year after the effective date of the final permit)	°C	Continuous	Recording
Nitrate + nitrite as N	mg/L	4/year[1]	Grab
Total ammonia as N	mg/L	4/year[1]	Grab
Total Kjeldahl nitrogen	mg/L	4/year[1]	Grab
Total phosphorus as P	µg/L	4/year[1]	Grab
4,4'-DDD	ng/L	1/year[3]	Grab
4,4'-DDE	ng/L	1/year[3]	Grab
4,4'-DDT	ng/L	1/year[3]	Grab
Dieldrin	µg/L	1/year[3]	Grab
Heptachlor	µg/L	1/year[3]	Grab
Heptachlor epoxide	µg/L	1/year[3]	Grab

Notes:
1. Two samples must be taken when packing is occurring and two samples must be taken when packing is not occurring.
2. The permittee must monitor the effluent for chlorine when chemicals containing chlorine are added to the process and cooling water or well water overflow discharges.
3. The annual sample must be taken when packing is occurring.

C. Surface Water Monitoring

In general, surface water monitoring may be required for pollutants of concern to assess the assimilative capacity of the receiving water for the pollutant. In addition, surface 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 11 presents the proposed surface water monitoring requirements for the draft permit. Samples must be taken from 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. Surface water monitoring results must be submitted with the DMR.

Table 11. Surface Water Monitoring in Draft Permit

Parameter	Units	Frequency	Sample Type
Dissolved Oxygen	mg/L	4/year	Grab
Dissolved Oxygen (beginning 1 year after the effective date of the final permit)	% Saturation	4/year	Calculation
Nitrate + nitrite	mg/L	4/year	Grab
pH	standard units	4/year	Grab
Selenium	µg/L	4/year	Grab
Temperature (beginning 1 year after the effective date of the final permit)	°C	Continuous	Recording
Total ammonia as N	mg/L	4/year	Grab
Total Kjeldahl nitrogen	mg/L	4/year	Grab
Total phosphorus	µg/L	4/year	Grab

D. Electronic Submission of Discharge Monitoring Reports

The draft 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.

VII. Other Permit Conditions

A. Compliance Schedules

Compliance schedules are authorized by federal NPDES regulations at 40 CFR 122.47 and Idaho Water Quality Standards at IDAPA 58.01.02.400.03. Compliance schedules allow a discharger to phase in, over time, compliance with water quality-based effluent limitations when limitations are in the permit for the first time.

The permittee cannot comply with the WQBELs for phosphorus, selenium, or temperature immediately upon the effective date of the final permit. Therefore the draft permit proposes a compliance schedule for the phosphorus, selenium, and temperature effluent limits. Refer to the *U.S. Environmental Protection Agency NPDES Permit Writers' Manual* (Section 9.1.3, "Compliance Schedules").

Federal regulations state that schedules of compliance shall require compliance as soon as possible (40 CFR 122.47(a)(1), and also state that an NPDES permittee may chose to terminate direct discharge to waters of the United States rather than continuing to operate and meeting permit requirements (40 CFR 122.47(b)). Since the permittee has not yet decided whether to terminate direct discharge to waters of the United States, the permit contains two schedules as described in 40 CFR 122.47(b)(3). The permit requires a decision on whether to terminate the discharge within 1 year of the effective date of the final permit.

Both schedules require compliance (either by meeting the effluent limits for phosphorus, selenium, and temperature or by terminating the discharge) within seven years of the effective date of the final permit. The exact steps that the permittee will need to take to comply with the effluent limits for phosphorus, selenium, and temperature or terminate the discharge are not known. Therefore, both schedules require submission of reports of progress, as described in 40 CFR 122.47(a)(3)(ii). This will allow the permitting authority to track the permittee's progress toward compliance while allowing the permitee the greatest possible flexibility. However, the EPA believes that the proposed schedules of compliance require compliance as soon as possible. A possible timeline following the effective date of the permit is as follows:

- Decide whether to continue discharging within one year.
- Complete preliminary design for necessary improvements within two years.
- Complete final design of necessary improvements within three years.
- Award bids for construction of necessary improvements within three years and six months.
- Begin construction of necessary improvements within four years.
- Complete construction of necessary improvements within six years
- Achieve compliance within seven years.

B. Quality Assurance Plan

Henggeler Packing is required to complete a Quality Assurance Plan within one year of the effective date of the final permit. The Quality Assurance Plan must include standard operating procedures the permittee must follow for collecting, handling, storing and shipping samples, laboratory analysis, and data reporting. The plan must be retained on site and be made available to the EPA and the IDEQ upon request.

C. Best Management Practices Plan

Federal regulations at 40 CFR 122.44(k) require 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. According to the *U.S. Environmental Protection Agency NPDES Permit Writers' Manual* (section 9.1.2), permits can either require specific BMPs in the permit, or require the permittee to develop a BMP plan. The draft permit requires that the permittee develop a BMP plan that is consistent with certain objectives and with applicable EPA guidance.

The Environmental Compliance Plan template developed by the Washington State Department of Ecology for fresh fruit packing facilities in Washington State[9] may be useful in completing a BMP plan for this facility.

D. Environmental Justice

As part of the permit development process, the EPA Region 10 conducted a screening analysis to determine whether this permit action could affect overburdened communities. "Overburdened" communities can include minority, low-income, tribal, and indigenous populations or communities that potentially experience disproportionate environmental harms and risks. The EPA used a nationally consistent geospatial tool that contains demographic and environmental data for the United States at the Census block group level. This tool is used to identify permits for which enhanced outreach may be warranted.

The facility is not located within or near a Census block group that is potentially overburdened. The draft permit does not include any additional conditions to address environmental justice.

Regardless of whether a facility is located near a potentially overburdened community, the EPA encourages permittees to review (and to consider adopting, where appropriate) Promising Practices for Permit Applicants Seeking EPA-Issued Permits: Ways To Engage Neighboring Communities (see https://www.federalregister.gov/d/2013-10945/p-94). Examples of promising practices include: thinking ahead about community's characteristics and the effects of the permit on the community, engaging the right community leaders, providing progress or status reports, inviting members of the community for tours of the facility, providing informational materials translated into different languages, setting up a hotline for community members to voice concerns or request information, follow up, etc.

[9] Available at: https://fortress.wa.gov/ecy/publications/SummaryPages/ECY070515.html

For more information, please visit https://www.epa.gov/environmentaljustice and see Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*.

E. Standard Permit Provisions

Sections III, IV and V of the draft permit contain standard regulatory language that must be included in all NPDES permits. The standard regulatory language covers requirements such as monitoring, recording, and reporting requirements, compliance responsibilities, and other general requirements.

VIII. Other Legal Requirements

A. Endangered Species Act

The Endangered Species Act requires federal agencies to consult with National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries) and the U.S. Fish and Wildlife Service (USFWS) if their actions could beneficially or adversely affect any threatened or endangered species.

The EPA requested a species list from the USFWS using the Service's Information for Planning and Consultation (IPaC) system. The species list states that the threatened slickspot peppergrass is present near the discharge. The range of this small, rare plant is the sagebrush-steppe habitats of southwestern Idaho. The plant occurs in specialized habitats called slickspots, which are mini-playas or natric (high sodium soil) sites with distinct clay layers.[10]

There is no pathway for exposure of slickspot peppergrass to the pollutants discharged by Henggeler Packing. Therefore, the issuance of this permit will have no effect on slickspot peppergrass.

There are no threatened or endangered species under the jurisdiction of NOAA Fisheries in the vicinity of the discharge, since there is no fish passage at the Hells Canyon Dam on the Snake River.

Therefore, the issuance of this permit will have no effect on threatened or endangered species and consultation is not required.

B. Essential Fish Habitat

Essential fish habitat (EFH) is the waters and substrate (sediments, etc.) necessary for fish to spawn, breed, feed, or grow to maturity. The Magnuson-Stevens Fishery Conservation and Management Act (January 21, 1999) requires the EPA to consult with NOAA Fisheries when a proposed discharge has the potential to adversely affect EFH (i.e., reduce quality and/or quantity of EFH).

[10] https://www.fws.gov/idaho/promo.cfm?id=177175828

There is no EFH in the vicinity of the discharge. Neither the immediate receiving water nor the Payette River downstream are designated as EFH. Therefore, the EPA has determined that issuance of this permit will have no effect upon EFH.

C. State Certification

Section 401 of the CWA requires the EPA to seek State certification before issuing a final permit. As a result of the certification, the State may require more stringent permit conditions or additional monitoring requirements to ensure that the permit complies with water quality standards, or treatment standards established pursuant to any State law or regulation. A copy of the draft 401 certification is provided in Appendix F.

D. Antidegradation

The IDEQ has completed an antidegradation review which is included in the draft 401 certification for this permit. (*See* Appendix F) The EPA has reviewed this antidegradation analysis and finds that it is consistent with the State's water quality standards and the State's antidegradation implementation procedures. Comments on the 401 certification including the antidegradation review can be submitted to the IDEQ as set forth above (see State Certification on Page 1 of this Fact Sheet).

E. Permit Expiration

The permit will expire five years from the effective date.

IX. References

Ecology. 2010. *Yakima River Pesticides and PCBs Total Maximum Daily Load: Volume 1. Water Quality Study Findings.* April 2010. Publication No. 10-03-018. https://fortress.wa.gov/ecy/publications/documents/1003018.pdf

Ecology. 2016a. *Economic Impact Analysis: National Pollution Discharge Elimination System (NPDES) Wastewater Discharge General Permit: Fresh Fruit Packing Industry*. May 2016. Publication no. 16-140-014. https://fortress.wa.gov/ecy/publications/documents/1610014.pdf

Ecology. 2016b. *Fact Sheet for the Fresh Fruit Packing General Permit*. State of Washington Department of Ecology. May 4, 2016. https://ecology.wa.gov/Asset-Collections/Doc-Assets/Water-quality/Water-Quality-Permits/Fresh-fruit-packing-general-permit/FFPGPFactSheet2016

EPA. 1986. *Quality Criteria for Water 1986*. Environmental Protection Agency. Office of Water. Regulations and Standards. Washington, DC. May 1, 1986. EPA-440-5-86-001. https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=00001MGA.txt

EPA. 1991. *Technical Support Document for Water Quality-based Toxics Control.* US Environmental Protection Agency, Office of Water, EPA/505/2-90-001. https://www3.epa.gov/npdes/pubs/owm0264.pdf

EPA. 1993. *Drinking Water Criteria Document for Manganese*. ECAO-CIN-D008. September 1993. https://nepis.epa.gov/Exe/ZyPDF.cgi/P1004SQZ.PDF?Dockey=P1004SQZ.PDF

EPA. 2010. *NPDES Permit Writers' Manual.* Environmental Protection Agency, Office of Wastewater Management, EPA-833-K-10-001. September 2010. https://www3.epa.gov/npdes/pubs/pwm_2010.pdf

EPA. 2014. Water Quality Standards Handbook Chapter 5: General Policies. Environmental Protection Agency. Office of Water. EPA 820-B-14-004. September 2014. https://www.epa.gov/sites/production/files/2014-09/documents/handbook-chapter5.pdf

IDEQ and ODEQ. 2004. *Snake River - Hells Canyon Total Maximum Daily Load (TMDL).* Idaho Department of Environmental Quality and Oregon Department of Environmental Quality. Revised June 2004. http://www.deq.idaho.gov/media/454498-snake_river_hells_canyon_entire.pdf

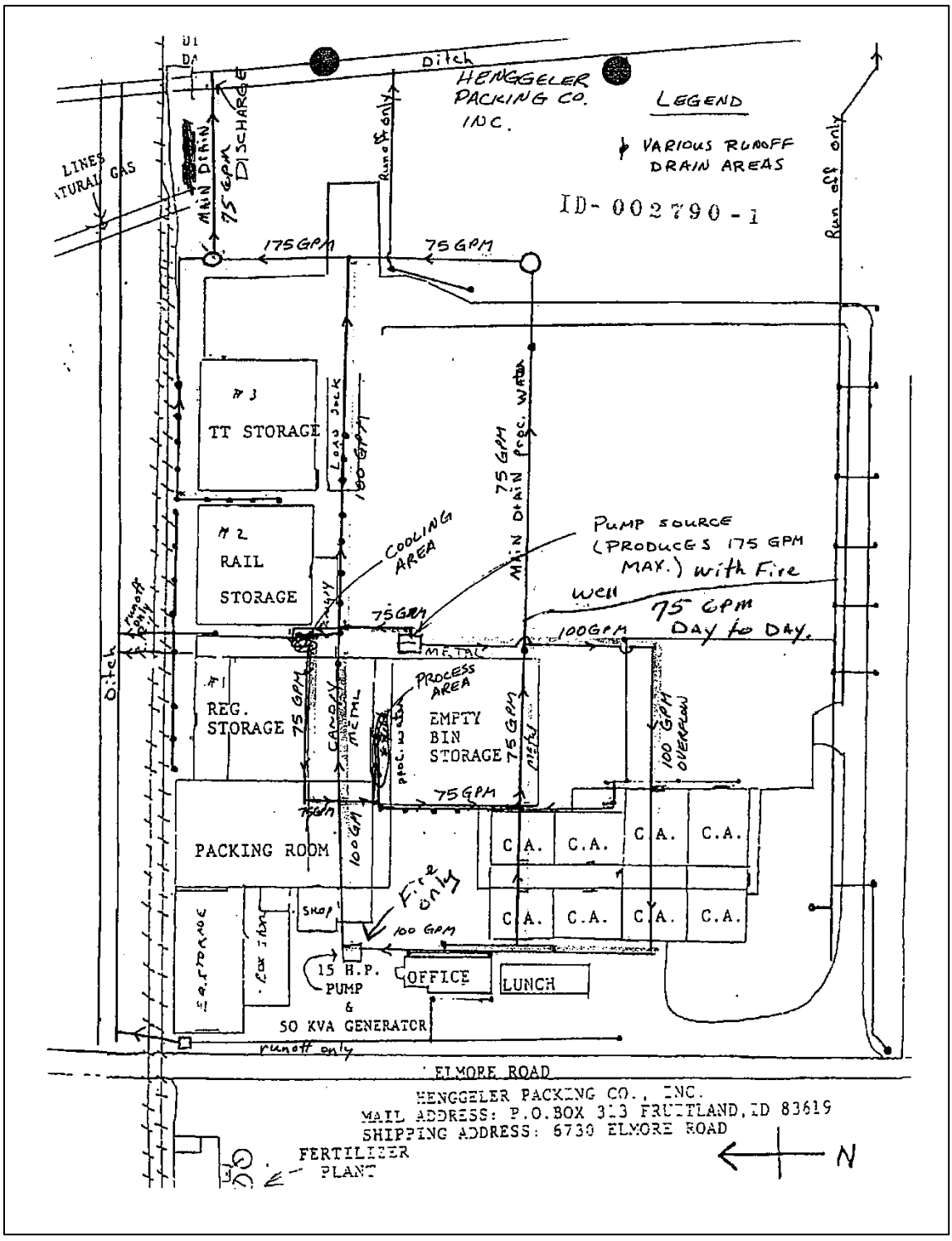
ISDA. 2008. *Pesticide Residue Water Quality Report: Lower Payette River Buckingham Sub-watershed S-Series Drains*. ISDA Technical Report Summary W-26. November 2008.

PDEP. 2013. *NPDES Permit Fact Sheet: Individual Industrial Waste (IW) and IW Stormwater: Rice Fruit Company WWTP*. Application No. PA0088455. Pennsylvania Department of Environmental Protection. July 1, 2013.

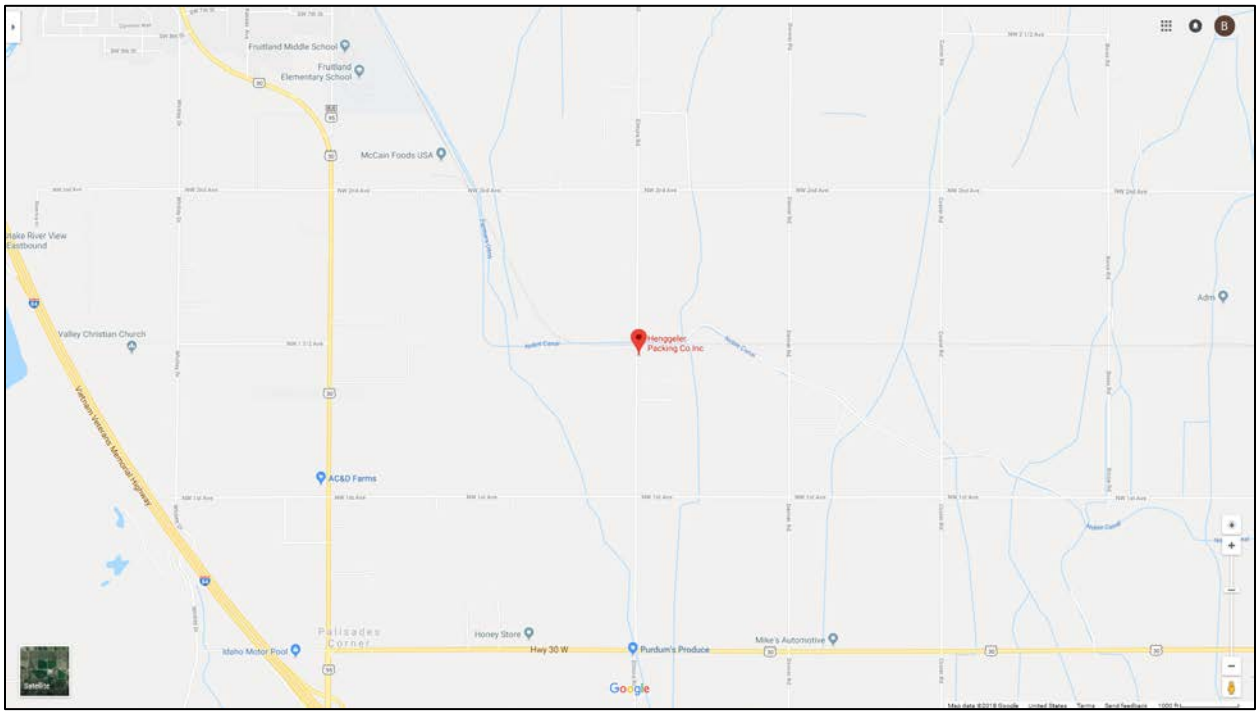
Soucek, D.J., A. Dickinson, and B.T. Koch. 2011. "Acute and Chronic Toxicity of Boron to a Variety of Freshwater Organisms." *Environmental Toxicology and Chemistry*. Vol. 30, No. 8, pp. 1906–1914. https://setac.onlinelibrary.wiley.com/doi/10.1002/etc.578

Appendix A. Facility Information

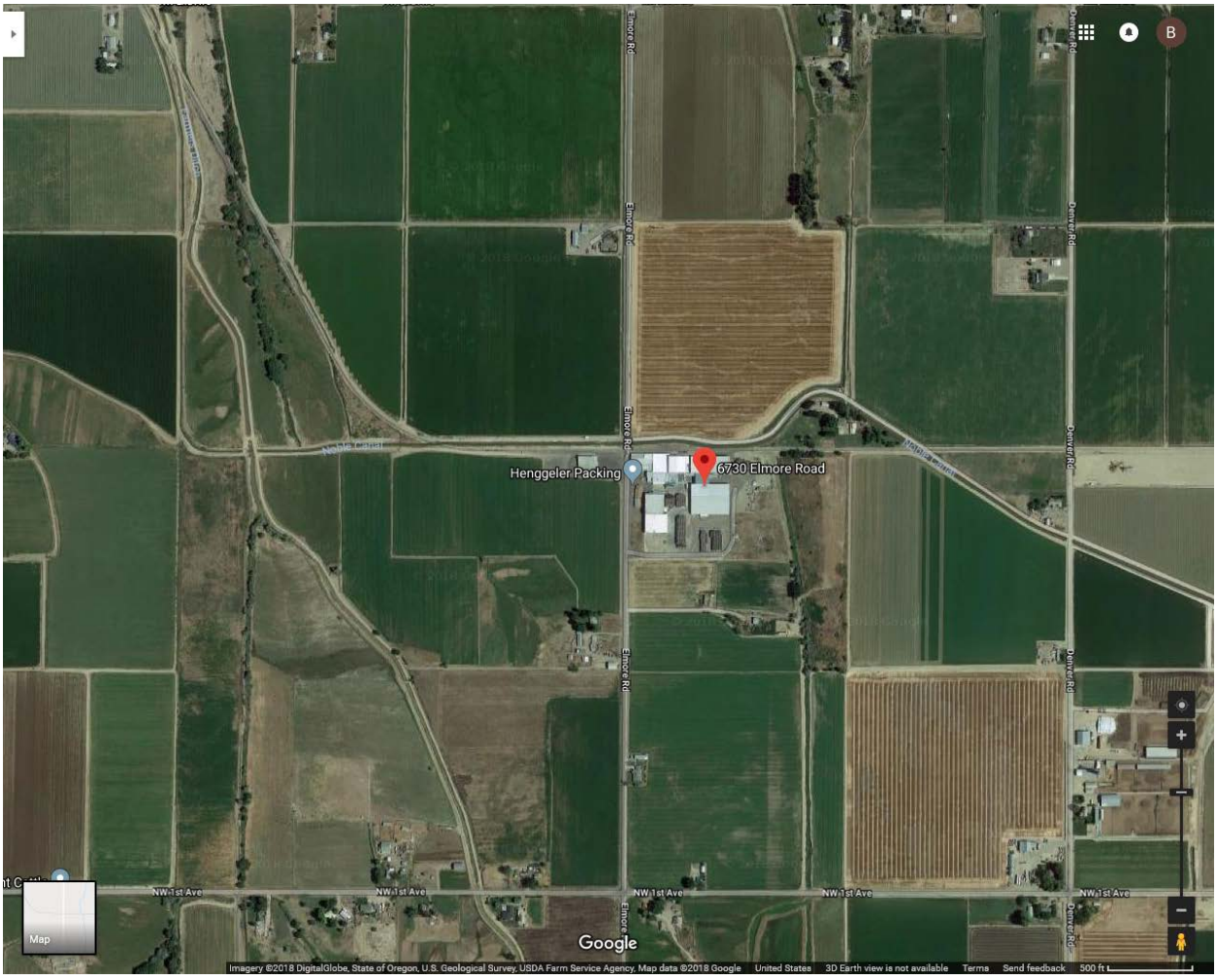
A. Flow Diagram



B. Map


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

C. Current Satellite Image



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

Appendix B. Water Quality Data

A. Effluent Data

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

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 ml)
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 Percentile	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 Mean	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 Percentile	10.59	17.8	96.2	774	385	8.35	17.9	6.04	0.22		0.12	77		10		2540		1570
95th Percentile	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 ml)	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 Percentile	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 Mean	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 Percentile	10.78	17.6	95.5	727.7	361	8.22	36.19	167	0.39	0.14		1090	6.66
95th Percentile	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 Conditions

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). The EPA has used the 30Q5 flow rate in this case.

ISDA collected flow data for Drain S-14 at a location upstream from the discharge. The EPA 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

Table C-2: Flow Data for Station S-14 Up	
Date	Stream Flow (CFS)
10/19/2000	9.78
11/15/2000	3.86
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, the EPA 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, the EPA 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, the EPA 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, the EPA also estimated seasonal low flows. The packing season generally lasts from August through November (communication with Ryan Henggeler, August 15, 2018). Thus, the EPA estimated

critical low flows for August 1 – November 30 and December 1 – July 31, as shown in Table C-3 and C-4. The flows for August – November are generally higher than from December – July. The EPA also estimated critical flows for the season of July 16 – October 14, when salmonid spawning water quality criteria do not apply. The flows for this season are similar to the August – November flows.

Table C-3 Summary of Estimated Critical Low Flows for August – November	
Statistic	**Flow (CFS)**
Minimum	3.86
Harmonic Mean	9.05
Arithmetic Mean	10.09
1Q10	3.86
7Q10	5.40
30Q5	5.95

Table C-4 Summary of Estimated Critical Low Flows for December – July	
Statistic	**Flow (CFS)**
Minimum	1.54
Harmonic Mean	4.10
Arithmetic Mean	9.22
1Q10	1.07
7Q10	1.39
30Q5	1.53

Table C-4 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. Reasonable Potential and Water Quality-Based Effluent Limit Formulae

A. Reasonable Potential Analysis

The EPA uses the process described in the *Technical Support Document for Water Quality-based Toxics Control* (EPA, 1991) to determine reasonable potential. To determine if there is reasonable potential for the discharge to cause or contribute to an exceedance of water quality criteria for a given pollutant, the EPA compares the maximum projected receiving water concentration to the water quality criteria 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.

Mass Balance

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

$$C_d Q_d = C_e Q_e + C_u Q_u \qquad \text{Equation 1}$$

where,

C_d = Receiving water concentration downstream of the effluent discharge (that is, the concentration at the edge of the mixing zone)
C_e = Maximum projected effluent concentration
C_u = 95th percentile measured receiving water upstream concentration
Q_d = Receiving water flow rate downstream of the effluent discharge = Q_e+Q_u
Q_e = Effluent flow rate (set equal to the design flow of the WWTP)
Q_u = Receiving water low flow rate upstream of the discharge (e.g., 1Q10, 7Q10 etc.)

When the mass balance equation is solved for C_d, it becomes:

$$C_d = \frac{C_e \times Q_e + C_u \times Q_u}{Q_e + Q_u} \qquad \text{Equation 2}$$

The above form of the equation is based on the assumption that the discharge is rapidly and completely mixed with 100% of the receiving stream.

If the mixing zone is based on less than complete mixing with the receiving water, the equation becomes:

$$C_d = \frac{C_e \times Q_e + C_u \times (Q_u \times \%MZ)}{Q_e + (Q_u \times \%MZ)} \qquad \text{Equation 3}$$

Where:

% MZ = the percentage of the receiving water flow available for mixing.

If a mixing zone is not allowed, dilution is not considered when projecting the receiving water concentration and,

$$C_d = C_e \qquad \text{Equation 4}$$

A dilution factor (D) can be introduced to describe the allowable mixing. Where the dilution factor is expressed as:

$$D = \frac{Q_e + Q_u \times \%MZ}{Q_e} \qquad \text{Equation 5}$$

After the dilution factor simplification, the mass balance equation becomes:

$$C_d = \frac{C_e - C_u}{D} + C_u \qquad \text{Equation 6}$$

If the criterion is expressed as dissolved metal, the effluent concentrations are measured in total recoverable metal and must be converted to dissolved metal as follows:

$$C_d = \frac{CF \times C_e - C_u}{D} + C_u \qquad \text{Equation 7}$$

Where C_e is expressed as total recoverable metal, C_u and C_d are expressed as dissolved metal, and CF is a conversion factor used to convert between dissolved and total recoverable metal.

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

Maximum Projected Effluent Concentration

When determining the projected receiving water concentration downstream of the effluent discharge, the EPA's Technical Support Document for Water Quality-based Toxics Controls (TSD, 1991) recommends using the maximum projected effluent concentration (Ce) in the mass balance calculation (see equation 3, page C-5). To determine the maximum projected effluent concentration (Ce) the EPA has developed a statistical approach to better characterize the effects of effluent variability. The approach combines knowledge of effluent variability as estimated by a coefficient of variation (CV) with the uncertainty due to a limited number of data to project an estimated maximum concentration for the effluent. Once the CV for each pollutant parameter has been calculated, the reasonable potential multiplier (RPM) used to derive the maximum projected effluent concentration (Ce) can be calculated using the following equations:

First, the percentile represented by the highest reported concentration is calculated.

$$p_n = (1 - \text{confidence level})^{1/n} \qquad \text{Equation 8}$$

where,

p_n = the percentile represented by the highest reported concentration
n = the number of samples
confidence level = 99% = 0.99

and

$$RPM = \frac{C_{99}}{C_{P_n}} = \frac{e^{Z_{99} \times \sigma - 0.5 \times \sigma^2}}{e^{Z_{P_n} \times \sigma - 0.5 \times \sigma^2}} \qquad \text{Equation 9}$$

Where,

σ^2 = $\ln(CV^2 + 1)$
Z_{99} = 2.326 (z-score for the 99th percentile)
Z_{Pn} = z-score for the P_n percentile (inverse of the normal cumulative distribution function at a given percentile)

CV = coefficient of variation (standard deviation ÷ mean)

The maximum projected effluent concentration is determined by simply multiplying the maximum reported effluent concentration by the RPM:

$$C_e = (RPM)(MRC) \qquad \text{Equation 10}$$

where MRC = Maximum Reported Concentration

Maximum Projected Effluent Concentration at the Edge of the Mixing Zone

Once the maximum projected effluent concentration is calculated, the maximum projected effluent concentration at the edge of the acute and chronic mixing zones is calculated using the mass balance equations presented previously.

Reasonable Potential

The discharge has reasonable potential to cause or contribute to an exceedance of water quality criteria if the maximum projected concentration of the pollutant at the edge of the mixing zone exceeds the most stringent criterion for that pollutant.

B. WQBEL Calculations

Calculate the Wasteload Allocations (WLAs)

Wasteload allocations (WLAs) are calculated using the same mass balance equations used to calculate the concentration of the pollutant at the edge of the mixing zone in the reasonable potential analysis. To calculate the wasteload allocations, C_d is set equal to the acute or chronic criterion and the equation is solved for C_e. The calculated C_e is the acute or chronic WLA. Equation 6 is rearranged to solve for the WLA, becoming:

$$C_e = WLA = D \times (C_d - C_u) + C_u \qquad \text{Equation 11}$$

Idaho's water quality criteria for some metals are expressed as the dissolved fraction, but the Federal regulation at 40 CFR 122.45(c) requires that effluent limits be expressed as total recoverable metal. Therefore, the EPA must calculate a wasteload allocation 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 shown in equation __. As discussed in Appendix ___, the criteria translator (CT) is equal to the conversion factor, because site-specific translators are not available for this discharge.

$$C_e = WLA = \frac{D \times (C_d - C_u) + C_u}{CT} \qquad \text{Equation 12}$$

The next step is to compute the "long term average" concentrations which will be protective of the WLAs. This is done using the following equations from the EPA's *Technical Support Document for Water Quality-based Toxics Control* (TSD):

$$LTA_a = WLA_a \times e^{(0.5\sigma^2 - z\,\sigma)} \qquad \text{Equation 13}$$

$$LTA_c = WLA_c \times e^{(0.5\sigma_4^2 - z\sigma_4)} \qquad \text{Equation 14}$$

where,

σ^2 = $\ln(CV^2 + 1)$

Z_{99} = 2.326 (z-score for the 99th percentile probability basis)
CV = coefficient of variation (standard deviation ÷ mean)
σ_4^2 = $\ln(CV^2/4 + 1)$

For ammonia, because the chronic criterion is based on a 30-day averaging period, the Chronic Long Term Average (LTAc) is calculated as follows:

$$LTA_c = WLA_c \times e^{(0.5\sigma_{30}^2 - z\sigma_{30})} \quad \text{Equation 15}$$

where,

σ_{30}^2 = $\ln(CV^2/30 + 1)$

The LTAs are compared and the more stringent is used to develop the daily maximum and monthly average permit limits as shown below.

Derive the maximum daily and average monthly effluent limits

Using the TSD equations, the MDL and AML effluent limits are calculated as follows:

$$MDL = LTA \times e^{(z_m\sigma - 0.5\sigma^2)} \quad \text{Equation 16}$$

$$AML = LTA \times e^{(z_a\sigma_n - 0.5\sigma_n^2)} \quad \text{Equation 17}$$

where σ, and σ^2 are defined as they are for the LTA equations above, and,

σ_n^2 = $\ln(CV^2/n + 1$
z_a = 1.645 (z-score for the 95th percentile probability basis)
z_m = 2.326 (z-score for the 99th percentile probability basis)
n = number of sampling events required per month. With the exception of ammonia, if the AML is based on the LTA_c, i.e., $LTA_{minimum} = LTA_c$), the value of ''n'' should is set at a minimum of 4. For ammonia, In the case of ammonia, if the AML is based on the LTA_c, i.e., $LTA_{minimum} = LTA_c$), the value of ''n'' should is set at a minimum of 30.

C. Critical Low Flow Conditions

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:

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
Ammonia	30B3 or 30Q10
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.	

6. The 30Q10 represents the lowest average 30 consecutive day flow with an average recurrence frequency of once in 10 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.

Appendix E. Reasonable Potential and Water Quality-Based Effluent Limit Calculations

A. High Effluent Flow

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

Facility Name	Henggeler Packing Company
Facility Flow (mgd)	0.11
Facility Flow (cfs)	0.17

Receiving Water Data		Notes:	Annual
Hardness, as mg/L $CaCO_3$	= 114 mg/L	5th % at critical flows	Crit. Flows
Temperature, °C		Temperature, °C 95th percentile	18.1
pH, S.U.		pH, S.U. 95th percentile	8.31

Pollutants of Concern			AMMONIA, default: cold water, fish early life stages	CHLORINE (Total Residual)	CHLORINE (Total Residual)	COPPER - SEE Toxic BiOp	IRON	MANGANESE	NITRATE/NITRITE (N)	ZINC - SEE Toxic BiOp	SELENIUM (as total recoverable) - SEE Toxic BiOp	SELENIUM (as total recoverable) - SEE Toxic BiOp	BORON
			Annual	Low Flow	High Flow	Annual	Annual	Annual	Annual	Annual	Low Flow	High Flow	Annual
Effluent Data	**Number of Samples in Data Set (n)**		2	1	1	5	5	5	5	5	5	5	5
	Coefficient of Variation (CV) = Std. Dev./Mean (default CV = 0.6)		0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	Effluent Concentration, µg/L (Max. or 95th Percentile) - (C_e)		20	500	500	9	860	19	4300	10	70	70	120
	Calculated 50th % Effluent Conc. (when n>10), Human Health Only												
Receiving Water Data	**90th Percentile Conc., µg/L - (C_u)**												
	Geometric Mean, µg/L, Human Health Criteria Only								2710				
Applicable Water Quality Criteria	Aquatic Life Criteria, µg/L	Acute	3,088	19.	19.	19.252	--	--	--	130.939	20.	20.	9,300.
	Aquatic Life Criteria, µg/L	Chronic	1,190	11.	11.	12.696	1,000.	--	--	132.011	5.	5.	9,300.
	Human Health Water and Organism, µg/L		--	--	--	--	--	50.	10,000.	7,400.	170.	170.	#N/A
	Human Health, Organism Only, µg/L		--	--	--	--	--	--	--	26,000.	4,200.	4,200.	#N/A
	Metals Criteria Translator, decimal (or default use	Acute		--	--	.96	--	--	--	.978	--	--	1.
	Conversion Factor)	Chronic		--	--	.96	--	--	--	.986	--	--	1.
	Carcinogen (Y/N), Human Health Criteria Only		--	--	--	N	N	N	N	N	N	N	--
Percent River Flow Default Value = **25%**	**Aquatic Life - Acute**	**1Q10**	0%	25%	25%	25%	25%	0%	0%	0%	25%	25%	0%
	Aquatic Life - Chronic	7Q10 or 4B3		25%	25%	25%	25%	0%	0%	0%	25%	25%	0%
		30B3 or 30Q10		25%	25%	25%	25%	0%	0%	0%	25%	25%	0%
	Human Health - Non-Carcinogen and Chronic Ammonia	30Q5	0%	25%	25%	25%	25%	0%	0%	0%	25%	25%	0%
	Human Health - Carcinogen	Harmonic Mean		25%	25%	25%	25%	0%	0%	0%	25%	25%	0%
Calculated Dilution Factors (DF) (or enter Modeled DFs)	Aquatic Life - Acute	1Q10	1.0	2.6	6.8	3.3	3.3	1.0	1.0	1.0	2.6	6.8	1.0
	Aquatic Life - Chronic	7Q10 or 4B3		3.1	9.1	4.1	4.1	1.0	1.0	1.0	3.1	9.1	1.0
		30B3 or 30Q10		3.3	9.9	4.4	4.4	1.0	1.0	1.0	3.3	9.9	1.0
	Human Health - Non-Carcinogen and Chronic Ammonia	30Q5	1.0	3.3	9.9	4.4	4.4	1.0	1.0	1.0	3.3	9.9	1.0
	Human Health - Carcinogen	Harmonic Mean		7.1	14.5	8.7	8.7	1.0	1.0	1.0	7.1	14.5	1.0

Aquatic Life Reasonable Potential Analysis

σ	$\sigma^2=\ln(CV^2+1)$		0.555	N/A	N/A	0.555	0.555	0.555	0.555	0.555	0.555	0.555
P_n	$=(1\text{-confidence level})^{1/n}$, where confidence level =	99%	0.100	N/A	N/A	0.398	0.398	0.398	0.398	0.398	0.398	0.398
Multiplier (TSD p. 57)	$=\exp(z\sigma\text{-}0.5\sigma^2)/\exp[\text{normsinv}(P_n)\sigma\text{-}0.5\sigma^2]$, where	99%	7.4	1.0	1.0	4.2	4.2	4.2	4.2	4.2	4.2	4.2
Statistically projected critical discharge concentration (C_d)			148	500.00	500.00	37.73	3605.17	79.65	18025.87	41.92	293.44	293.44	503.05
Predicted max. conc.(ug/L) at Edge-of-Mixing Zone		Acute	148	192.23	73.79	10.96	1091.04	79.65	18025.87	41.00	112.82	43.31	503.05
(note: for metals, concentration as dissolved using conversion factor as translator)		Chronic	148	162.34	55.07	8.90	886.34	79.65	18025.87	41.33	95.28	32.32	503.05
Reasonable Potential to exceed Aquatic Life Criteria			NO	YES	YES	NO	NO	NA	NA	NO	YES	YES	NO

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	--	--	--	--	--	4	4	--
LTA Coeff. Var. (CV), decimal	(Use CV of data set or default = 0.6)		--	0.600	0.600	--	--	--	--	--	0.600	0.600	--
Permit Limit Coeff. Var. (CV), decimal	(Use CV from data set or default = 0.6)		--	0.600	0.600	--	--	--	--	--	0.600	0.600	--
Acute WLA, ug/L	C_d = (Acute Criteria x MZ_a) - C_u x (MZ_a-1)	Acute	--	49.4	128.7	--	--	--	--	--	52.0	135.5	--
Chronic WLA, ug/L	C_d = (Chronic Criteria x MZ_c) - C_u x (MZ_c-1)	Chronic	--	33.9	99.9	--	--	--	--	--	15.4	45.4	--
Long Term Ave (LTA), ug/L	WLAc x exp(0.5σ^2-zσ), Acute	99%	--	15.9	41.3	--	--	--	--	--	16.7	43.5	--
(99th % occurrence prob.)	WLAa x exp(0.5σ^2-zσ); ammonia n=30, Chronic	99%	--	17.9	52.7	--	--	--	--	--	8.1	23.9	--
Limiting LTA, ug/L	used as basis for limits calculation		--	15.9	41.3	--	--	--	--	--	8.1	23.9	--
Applicable Metals Criteria Translator (metals limits as total recoverable)				--	--	--	--	--	--	--	--	--	--
Average Monthly Limit (AML), ug/L	where % occurrence prob =	95%	--	25	64	--	--	--	--	--	13	37	--
Maximum Daily Limit (MDL), ug/L	where % occurrence prob =	99%	--	49	129	--	--	--	--	--	25	75	--
Average Monthly Limit (AML), mg/L			--	0.025	0.064	--	--	--	--	--	0.013	0.037	--
Maximum Daily Limit (MDL), mg/L			--	0.049	0.129	--	--	--	--	--	0.025	0.075	--
Average Monthly Limit (AML), lb/day			--	0.0	0.1	--	--	--	--	--	0.0	0.0	--
Maximum Daily Limit (MDL), lb/day			--	0.0	0.1	--	--	--	--	--	0.0	0.1	--

Human Health Reasonable Potential Analysis

σ	$\sigma^2=\ln(CV^2+1)$					0.555	0.555	0.555	0.555	0.555	0.555	0.555
P_n	$=(1\text{-confidence level})^{1/n}$ where confidence level =	95%				0.549	0.549	0.549	0.549	0.549	0.549	0.549
Multiplier	$=\exp(2.326\sigma\text{-}0.5\sigma^2)/\exp[\text{invnorm}(P_N)\sigma\text{-}0.5\sigma^2]$, prob. =	50%				0.934	0.934	0.934	0.934	0.934	0.934	0.934
Dilution Factor (for Human Health Criteria)						4.4	4.4	1.0	1.0	1.0	3.3	9.9	1.0
Max Conc. at edge of Chronic Zone, ug/L (C_e)						1.924	183.873	17.739	4,014.619	9.336	19.868	6.599	112.036
Reasonable Potential to exceed HH Water & Organism						NO	NO	NO	NO	NO	NO	NO	#N/A
Reasonable Potential to exceed HH Organism Only						NO	NO	NO	NO	NO	NO	NO	#N/A

B. Low Effluent Flow

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

Facility Name	Henggeler Packing Company
Facility Flow (mgd)	0.062
Facility Flow (cfs)	0.096

Receiving Water Data
Hardness, as mg/L $CaCO_3$ = 114 mg/L
Temperature, °C
pH, S.U.

Notes:
Temperature, °C: 5th % at critical flows; 95th percentile
pH, S.U.: 95th percentile

	Annual Crit. Flows
Temperature, °C	18.1
pH, S.U.	8.31

Pollutants of Concern			AMMONIA, default: cold water, fish early life stages	CHLORINE (Total Residual)	CHLORINE (Total Residual)	COPPER - SEE Toxic BiOp	IRON	MANGANESE	NITRATE/NITRITE (N)	ZINC - SEE Toxic BiOp	SELENIUM (as total recoverable) - SEE Toxic BiOp	SELENIUM (as total recoverable) - SEE Toxic BiOp	BORON
Effluent Data	**Number of Samples in Data Set (n)**		2	1	1	5	5	5	5	5	5	5	5
	Coefficient of Variation (CV) = Std. Dev./Mean (default CV = 0.6)		0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	Effluent Concentration, µg/L (Max. or 95th Percentile) - (C_e)		20	500	500	9	860	19	4300	10	70	70	120
	Calculated 50th % Effluent Conc. (when n>10), Human Health Only												
Receiving Water Data	**90th Percentile Conc., µg/L - (C_u)**												
	Geometric Mean, µg/L, Human Health Criteria Only								2710				
Applicable Water Quality Criteria	Aquatic Life Criteria, µg/L	Acute	3,088	19.	19.	19.252	--	--	--	130.939	20.	20.	9,300.
	Aquatic Life Criteria, µg/L	Chronic	1,190	11.	11.	12.696	1,000.	--	--	132.011	5.	5.	9,300.
	Human Health Water and Organism, µg/L		--	--	--	--	--	50.	10,000.	7,400.	170.	170.	#N/A
	Human Health, Organism Only, µg/L		--	--	--	--	--	--	--	26,000.	4,200.	4,200.	#N/A
	Metals Criteria Translator, decimal (or default use	Acute		--	--	.96	--	--	--	.978	--	--	1.
	Conversion Factor)	Chronic		--	--	.96	--	--	--	.986	--	--	1.
	Carcinogen (Y/N), Human Health Criteria Only		--	--	--	N	N	N	N	N	N	N	--
Percent River Flow Default Value = **25%**	**Aquatic Life - Acute**	**1Q10**	0%	25%	25%	25%	25%	0%	0%	0%	25%	25%	0%
	Aquatic Life - Chronic	7Q10 or 4B3		25%	25%	25%	25%	0%	0%	0%	25%	25%	0%
		30B3 or 30Q10		25%	25%	25%	25%	0%	0%	0%	25%	25%	0%
	Human Health - Non-Carcinogen and Chronic Ammonia	30Q5	0%	25%	25%	25%	25%	0%	0%	0%	25%	25%	0%
	Human Health - Carcinogen	Harmonic Mean		25%	25%	25%	25%	0%	0%	0%	25%	25%	0%
Calculated Dilution Factors (DF) (or enter Modeled DFs)	Aquatic Life - Acute	1Q10	1.0	3.8	11.1	5.0	5.0	1.0	1.0	1.0	3.8	11.1	1.0
	Aquatic Life - Chronic	7Q10 or 4B3		4.6	15.1	6.3	6.3	1.0	1.0	1.0	4.6	15.1	1.0
		30B3 or 30Q10		5.0	16.5	6.9	6.9	1.0	1.0	1.0	5.0	16.5	1.0
	Human Health - Non-Carcinogen and Chronic Ammonia	30Q5	1.0	5.0	16.5	6.9	6.9	1.0	1.0	1.0	5.0	16.5	1.0
	Human Health - Carcinogen	Harmonic Mean		11.7	24.6	14.4	14.4	1.0	1.0	1.0	11.7	24.6	1.0
Aquatic Life Reasonable Potential Analysis													
σ	$\sigma^2=\ln(CV^2+1)$		0.555	N/A	N/A	0.555	0.555	0.555	0.555	0.555	0.555	0.555	0.555
P_n	=(1-confidence level)$^{1/n}$, where confidence level =	**99%**	0.100	N/A	N/A	0.398	0.398	0.398	0.398	0.398	0.398	0.398	0.398
Multiplier (TSD p. 57)	=exp(zσ-0.5σ^2)/exp[normsinv(P_n)σ-0.5σ^2], where	**99%**	7.4	1.0	1.0	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
Statistically projected critical discharge concentration (C_e)			148	500.00	500.00	37.73	3605.17	79.65	18025.87	41.92	293.44	293.44	503.05
Predicted max. conc.(ug/L) at Edge-of-Mixing Zone		Acute	148	131.96	45.20	7.22	719.02	79.65	18025.87	41.00	77.45	26.53	503.05
(note: for metals, concentration as dissolved using conversion factor as translator)		Chronic	148	108.15	33.17	5.71	568.34	79.65	18025.87	41.33	63.47	19.47	503.05
Reasonable Potential to exceed Aquatic Life Criteria			**NO**	**YES**	**YES**	**NO**	**NO**	**NA**	**NA**	**NO**	**YES**	**YES**	**NO**
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	--	--	--	--	--	4	4	--
LTA Coeff. Var. (CV), decimal	(Use CV of data set or default = 0.6)		--	0.600	0.600	--	--	--	--	--	0.600	0.600	--
Permit Limit Coeff. Var. (CV), decimal	(Use CV from data set or default = 0.6)		--	0.600	0.600	--	--	--	--	--	0.600	0.600	--
Acute WLA, ug/L	C_d = (Acute Criteria x MZ_a) - C_u x (MZ_a-1)	Acute	--	72.0	210.2	--	--	--	--	--	75.8	221.2	--
Chronic WLA, ug/L	C_d = (Chronic Criteria x MZ_c) - C_u x (MZ_c-1)	Chronic	--	50.9	165.8	--	--	--	--	--	23.1	75.4	--
Long Term Ave (LTA), ug/L	WLAc x exp(0.5σ^2-zσ), Acute	**99%**	--	23.1	67.5	--	--	--	--	--	24.3	71.0	--
(99th % occurrence prob.)	WLAa x exp(0.5σ^2-zσ); ammonia n=30, Chronic	**99%**	--	26.8	87.5	--	--	--	--	--	12.2	39.8	--
Limiting LTA, ug/L	used as basis for limits calculation		--	23.1	67.5	--	--	--	--	--	12.2	39.8	--
Applicable Metals Criteria Translator (metals limits as total recoverable)				--	--	--	--	--	--	--	--	--	--
Average Monthly Limit (AML), ug/L	, where % occurrence prob =	**95%**	**--**	**36**	**105**	**--**	**--**	**--**	**--**	**--**	**19**	**62**	**--**
Maximum Daily Limit (MDL), ug/L	, where % occurrence prob =	**99%**	**--**	**72**	**210**	**--**	**--**	**--**	**--**	**--**	**38**	**124**	**--**
Average Monthly Limit (AML), mg/L			**--**	**0.036**	**0.105**	**--**	**--**	**--**	**--**	**--**	**0.019**	**0.062**	**--**
Maximum Daily Limit (MDL), mg/L			**--**	**0.072**	**0.210**	**--**	**--**	**--**	**--**	**--**	**0.038**	**0.124**	**--**
Average Monthly Limit (AML), lb/day			**--**	**0.0**	**0.1**	**--**	**--**	**--**	**--**	**--**	**0.0**	**0.0**	**--**
Maximum Daily Limit (MDL), lb/day			**--**	**0.0**	**0.1**	**--**	**--**	**--**	**--**	**--**	**0.0**	**0.1**	**--**
Human Health Reasonable Potential Analysis													
σ	$\sigma^2=\ln(CV^2+1)$					0.555	0.555	0.555	0.555	0.555	0.555	0.555	0.555
P_n	=(1-confidence level)$^{1/n}$ where confidence level =	**95%**				0.549	0.549	0.549	0.549	0.549	0.549	0.549	0.549
Multiplier	=exp(2.326σ-0.5σ^2)/exp[invnorm(P_N)σ-0.5σ^2], prob. =	**50%**				0.934	0.934	0.934	0.934	0.934	0.934	0.934	0.934
Dilution Factor (for Human Health Criteria)						6.9	6.9	1.0	1.0	1.0	5.0	16.5	1.0
Max Conc. at edge of Chronic Zone, ug/L (C_d)						1.224	116.965	17.739	4,014.619	9.336	13.102	3.959	112.036
Reasonable Potential to exceed HH Water & Organism						**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**#N/A**
Reasonable Potential to exceed HH Organism Only						**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**#N/A**

C. Temperature

Reasonable Potential

Design Flow (mgd)	0.11						
Design Flow (CFS)	0.17						
Mixing Zone	25%						
Season	**Criterion (C)**	**Critical Stream Flow (CFS)**	**Dilution Factor**	**Max. Stream Temp**	**Max Eff. Temp (C)**	**Downstream Temp**	**Above Criterion?**
July 16 - October 14	22	5.31	8.94	18.70	26.4	19.6	NO
July 16 - October 14	19	5.31	8.94	18.70	26.4	19.6	YES

Limits

Temperature Limit: High Effluent Flow					
Design Flow (mgd)	0.11				
Design Flow (CFS)	0.17				
Mixing Zone	25%				
Season	**1Q10 (CFS)**	**Dilution Factor**	**Max. Upstream Temp (C)**	**Criterion (C)**	**Max Daily Limit (C)**
July 16 - October 14	5.31	8.94	18.70	19.0	21.4

Temperature Limit: Low Effluent Flow					
Design Flow (mgd)	0.062				
Design Flow (CFS)	0.096				
Mixing Zone	25%				
Season	**1Q10 (CFS)**	**Dilution Factor**	**Max. Upstream Temp (C)**	**Criterion (C)**	**Max Daily Limit (C)**
July 16 - October 14	5.31	14.84	18.70	19.0	23.2

D. References

EPA. 1986. *Quality Criteria for Water 1986*. Environmental Protection Agency. Office of Water. Regulations and Standards. Washington, DC. May 1, 1986. EPA-440-5-86-001. https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=00001MGA.txt

EPA. 1991. *Technical Support Document for Water Quality-based Toxics Control.* US Environmental Protection Agency, Office of Water, EPA/505/2-90-001. https://www3.epa.gov/npdes/pubs/owm0264.pdf

EPA. 1993. *Drinking Water Criteria Document for Manganese*. ECAO-CIN-D008. September 1993. https://nepis.epa.gov/Exe/ZyPDF.cgi/P1004SQZ.PDF?Dockey=P1004SQZ.PDF

Soucek, D.J., A. Dickinson, and B.T. Koch. 2011. "Acute and Chronic Toxicity of Boron to a Variety of Freshwater Organisms." *Environmental Toxicology and Chemistry*. Vol. 30, No. 8, pp. 1906–1914. https://setac.onlinelibrary.wiley.com/doi/10.1002/etc.578

Appendix F. CWA 401 State Certification

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1445 North Orchard • Boise, Idaho 83706 • (208) 373-0550
www.deq.idaho.gov

C.L. "Butch" Otter, Governor
John H. Tippets, Director

November 26, 2018

Michael Lidgard
Manager, NPDES Permits Unit
EPA Region 10
1200 Sixth Avenue, Suite 155
Seattle, Washington 98101-3140

Subject: Draft 401 Water Quality Certification for Henggeler Packing Company, Inc., ID-0027901

Dear Mr. Lidgard:

The Boise Regional Office of the Department of Environmental Quality (DEQ) has reviewed the above-referenced proposed draft permit for Henggeler Packing Company, Inc. Section 401 of the Clean Water Act requires that states issue certifications for activities which are authorized by a federal permit and which may result in a discharge to surface waters. In Idaho, DEQ is responsible for reviewing these activities and evaluating whether the activity will comply with Idaho's Water Quality Standards, including any applicable water quality management plans (e.g., total maximum daily loads). A federal discharge permit cannot be issued until DEQ has provided certification or waived certification either expressively, or by taking no action.

This letter is to inform you that DEQ is issuing the attached draft 401 certification subject to the terms and conditions contained therein.

Please contact me directly at (208) 373-0420 or via email at aaron.scheff@deq.idaho.gov to discuss any questions or concerns regarding the content of this draft certification.

Sincerely,

Aaron Scheff
Regional Administrator
Boise Regional Office

c: Brian Nickel, US EPA
ec: Loren Moore, DEQ State Office
2018AKF162

Idaho Department of Environmental Quality

Draft §401 Water Quality Certification

November 26, 2018

NPDES Permit Number(s): ID-0027901, Henggeler Packing Company, Inc.

Receiving Water Body: Drain S-14 (Payette River)

Pursuant to the provisions of Section 401(a)(1) of the Federal Water Pollution Control Act (Clean Water Act), as amended; 33 U.S.C. Section 1341(a)(1); and Idaho Code §§ 39-101 et seq. and 39-3601 et seq., the Idaho Department of Environmental Quality (DEQ) has authority to review National Pollutant Discharge Elimination System (NPDES) permits and issue water quality certification decisions.

Based upon its review of the above-referenced permit and associated fact sheet, DEQ certifies that if the permittee complies with the terms and conditions imposed by the permit along with the conditions set forth in this water quality certification, then there is reasonable assurance the discharge will comply with the applicable requirements of Sections 301, 302, 303, 306, and 307 of the Clean Water Act, the Idaho Water Quality Standards (WQS) (IDAPA 58.01.02), and other appropriate water quality requirements of state law.

This certification does not constitute authorization of the permitted activities by any other state or federal agency or private person or entity. This certification does not excuse the permit holder from the obligation to obtain any other necessary approvals, authorizations, or permits.

Antidegradation Review

The WQS contain an antidegradation policy providing three levels of protection to water bodies in Idaho (IDAPA 58.01.02.051).

- Tier I Protection. The first level of protection applies to all water bodies subject to Clean Water Act jurisdiction and ensures that existing uses of a water body and the level of water quality necessary to protect those existing uses will be maintained and protected (IDAPA 58.01.02.051.01; 58.01.02.052.01). Additionally, a Tier I review is performed for all new or reissued permits or licenses (IDAPA 58.01.02.052.07).
- Tier II Protection. The second level of protection applies to those water bodies considered high quality and ensures that no lowering of water quality will be allowed unless deemed necessary to accommodate important economic or social development (IDAPA 58.01.02.051.02; 58.01.02.052.08).
- Tier III Protection. The third level of protection applies to water bodies that have been designated outstanding resource waters and requires that activities not cause a lowering of water quality (IDAPA 58.01.02.051.03; 58.01.02.052.09).

DEQ is employing 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).

Pollutants of Concern

The Henggeler Packing Company, Inc. discharges the following pollutants of concern: BOD_5, TSS, pH, temperature, chlorine, ammonia, phosphorus, boron, residues, selenium, copper, iron, manganese, zinc nitrate, pesticides, fungicides, and coatings (wax). Effluent limits have been developed for BOD_5, TSS, pH, temperature, chlorine, selenium, and phosphorus. No effluent limits are proposed for ammonia, boron, residues, copper, iron, manganese, zinc, nitrate, pesticides fungicides and coatings.

Receiving Water Body Level of Protection

The Henggeler Packing Company, Inc. discharges to the Drain S-14 within the Payette Subbasin assessment unit (AU) 17050122SW001_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 58.01.02.100).

This AU is included in Category 3 (Unassessed Waters) of the **(2014)** 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.

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 such as Section 055, which addresses water quality limited waters. The numeric and narrative criteria in the WQS are set at levels that ensure protection of existing and designated beneficial uses. The effluent limitations and associated requirements contained in the Henggeler Packing Company, Inc. 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 limitations 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* (June 2004) of .07 mg/L to be measured at the mouth from May through September. Because the Snake River Hells Canyon TMDL did not include a wasteload allocation for Henggeler, and there is no reserve for growth or assimilative capacity in the Payette River, the effluent limitations for total phosphorus contained in the draft permit are set at levels that comply with the .07 mg/L wasteload allocation for the Payette River that was developed in the *Snake River Hells Canyon TMDL* (June 2004). The *Lower Payette River Subbasin Assessment and TMDL* (December 1999) identified temperature, nutrients and bacteria as pollutants of concern for HUC 17050122. Henggeler Packing Company is not a suspected source of *E. coli*, which is the only constituent that included a wastelaod reduction in the watershed for this TMDL. This TMDL did not include wasteload allocations for temperature or total phosphorus.

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

In sum, the effluent limitations and associated requirements contained in the Henggeler Packing Company, Inc. 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).

Conditions Necessary to Ensure Compliance with Water Quality Standards or Other Appropriate Water Quality Requirements of State Law

Compliance Schedule

Pursuant to IDAPA 58.01.02.400.03, DEQ may authorize compliance schedules for water quality–based effluent limits issued in a permit for the first time. Henggeler Packing Company, Inc. cannot immediately achieve compliance with the effluent limits for phosphorus, selenium, and temperature; therefore, DEQ authorizes a compliance schedule and interim requirements as set forth in the Draft Permit. This compliance schedule provides the permittee a reasonable amount of time to achieve the final effluent limits as specified in the permit. At the same time, the schedule ensures that compliance with the final effluent limits is accomplished as soon as possible.

Mixing Zones

Pursuant to IDAPA 58.01.02.060, DEQ authorizes a mixing zone that utilizes 25% of the critical flow volumes of Drain S-14 for chlorine, copper, iron, and selenium; and for temperature during July 16-October 14.

Other Conditions

This certification is conditioned upon the requirement that any material modification of the permit or the permitted activities—including without limitation, any modifications of the permit to reflect new or modified TMDLs, wasteload allocations, site-specific criteria, variances, or other new information—shall first be provided to DEQ for review to determine compliance with Idaho WQS and to provide additional certification pursuant to Section 401.

Right to Appeal Final Certification

The final Section 401 Water Quality Certification may be appealed by submitting a petition to initiate a contested case, pursuant to Idaho Code § 39-107(5) and the "Rules of Administrative Procedure before the Board of Environmental Quality" (IDAPA 58.01.23), within 35 days of the date of the final certification.

Questions or comments regarding the actions taken in this certification should be directed to Kati Carberry, Boise Regional Office, 208-373-0434, kati.carberry@deq.idaho.gov.

Draft

Aaron Scheff
Boise Regional Administrator
Boise Regional Office