

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 63-34554
Exam Date: 07/29/2019

1. Current Owner:
NUNHEMS USA INC 1200 ANDERSON CORNER RD PARMA ID 83660
2. Accompanied by: Shane Roe
Phone No: 208-674-4079
Address: 1200 ANDERSON CORNER RD PARMA ID 83660
Relationship to permit Holder: Site Manager

3. SOURCE:
GROUND WATER

Method of Determination: Visual Inspection

B. OVERLAP REVIEW

1. Other water rights with the same place of use: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
Various Farmers Cooperative Ditch Co. water rights	Varies	Irrigation	Decreed
63-30069	Groundwater	Domestic	Decreed
63-30202	Groundwater	Domestic	Decreed
63-32892	Groundwater	Domestic	Decreed
63-33336	Groundwater	INDUSTRIAL STORAGE, INDUSTRIAL FROM STORAGE, COMMERCIAL STORAGE, FIRE PROTECTION, FIRE PROTECTION STORAGE, FIRE PROTECTION FROM STORAGE, DIVERSION TO STORAGE	License

Comments: Owner uses their surface water shares with Farmers Cooperative Ditch Co. to irrigate their acreage. The groundwater is only used as a supplemental source. The remaining water rights are not applicable because they have different purposes of use. These additional water rights are not used in the irrigation system.

2. Other water rights with the same point-of-diversion: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
63-32892	Groundwater	Domestic	Decreed

Comments: There is one domestic water right with the same POD. The domestic use does not appear to have been used for some time.

C. DIVERSION AND DELIVERY SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:**
GROUND WATER SW¼ NW¼, Sec. 9, Twp 06N, Rge 05W, B.M. PAYETTE County

Method of Determination: GIS Analysis

PLACE OF USE: IRRIGATION

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
06N	05W	9							3.7										3.7

Total Acres: 3.7

Method of Determination: GIS Analysis

3. See Appendix A for site maps.

Delivery System Diagram Attached (required). Indicate all major components and distances between components.
☒ Indicate weir size/pipe as applicable.

Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be
☒ 1:24,000 or greater.

☒ Aerial Photo Attached (required for irrigation of 10+ acres).

☒ Photo of Diversion and System Attached (See Appendix B for system photos.)

4.

Well or Diversion ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
No Tag #	Grundfos	1	Model # 98315253	Grundfos	79453104

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
None						

2. Measurements: Pipe was buried. Therefore, a flow measurement could not be taken.

E. FLOW CALCULATIONS☒ Additional Computation Sheets Attached

Measured Method:

See theoretical pump calculation = 0.03 cfs

Permit = 0.15 cfs

I am recommending 0.03 cfs since that appears to be the capacity of the pump.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = (3.7 \text{ acres}) \times (4.5 \text{ afa/acre}) = 16.65 \text{ afa}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = (0.03 \text{ cfs}) \times (260 \text{ days}) \times 1.9835 = 15.47 \text{ afa} \approx 15 \text{ afa}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} =$$

*Please note that a volume isn't required for supplemental uses.

2. Volume Calculations for Other Uses: - Not Applicable

G. NARRATIVE/REMARKS/COMMENTS

Nunhems, USA Inc. (Nunhems) is an agricultural seed processing facility in Parma, Idaho. The facility is located at 1200 Anderson Corner Road, Parma, ID 83660. Nunhems has completed multiple upgrades and expansions to their operations, water system, and water treatment systems. The primary water supply for facility operations is a groundwater well with water right no. 63-33336 for 0.66 cfs.

Nunhems has two irrigable areas on their property for a total of approximately 22 acres. The first area is the agricultural land located on the west portion of the property which is approximately 13 acres (currently leased to Pace-Nielsen Farms, Inc.). The agricultural land is irrigated with water from the fire retention pond that has blended industrial reuse water generated from facilities operations and canal water during the irrigation season. The second area is the landscape area located on the east portion of the property which is approximately 9 acres. For irrigation purposes, the landscape area is separated into 2 sub-areas which includes a 4-acre and 5-acre portion. Due to IDEQ requirements regarding irrigation with industrial wastewater near existing domestic wells, Nunhems want to utilize the permitted well to irrigate a portion of the 5-acre buffer zone near the existing domestic wells to provide the necessary on-site well buffering. The remaining 4 acres will be irrigated with the blended industrial reuse water and canal water during the irrigation season.

Nunhems currently has Farmer's Cooperative Ditch Company Stock Certificate #3748 and #3867 totaling 16.0 shares or 32 irrigable acres of irrigation rights. This water source meets the 22-acre water need. The canal water is piped to the site from the southeast section of the property. The pipe goes to a manhole south of the industrial use pump house. The water user can divert canal water to the pump house or the pond. When the water user is irrigating with the canal water, the water is pumped from the industrial use pump house northwest to the irrigation mainline. The water permit is conditioned as a supplemental water right which can only be used when surface water is not available.

After the field exam was completed, it was determined that approximately 3.7 acres are actually being irrigated from this well in the 5-acre buffer zone. Therefore, the acreage number was updated. Based on the theoretical pump calculations, the flow rate was updated to 0.03 cfs.

Have conditions of permit approval been met? ☒ Yes ☐ No

H. RECOMMENDATIONS

1. Recommended Amounts

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Rate of Diversion</u>	
IRRIGATION	03/01 to 11/15	0.03 CFS	

Totals: 0.03 CFS

2. Recommended Amendments

☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☒ None
☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☒ None

I. **AUTHENTICATION** Emily Skoro - Engineer, Staff

Field Examiner's Name Emily Skoro Date 8/26/19

Reviewer Daniel A. Nelson Date 8/26/19

Appendix A

Site Maps



63-34554 POD

63-34554 POU

63-34554

Nunhems USA, Inc.

POD
Pump House

9516 U.S. Hwy 26

Google Earth

© 2018 Google

Anderson Corner Rd

400 ft



63-34554

Nunhems USA, Inc.

POD Pump
House

Industrial Use
Pump House

Manhole
Water user can divert canal
water to the pond or the
pump house

Approx. Canal Pipe Location

Google Earth

© 2018 Google

Anderson Corner Rd

400 ft

1 OF 1
 EFF DATE: 07/28/2011
 REV DATE: 07/28/2011
 OWNER: SHURTLEFF, BEN
 FAC.0002.0000.0031
 IRRIGATION DIAGRAM 1
 NUNHEMS USA, INC



NOTE: NO CHANGES ARE PERMITTED TO THE CONTENT
 WITHOUT APPROVAL OF THE PROCESS OWNER.

ORIGINATING CAD FILE:
 H:\FACILITIES\FACILITY DRAWINGS\PARMA\IRRIGATION DRAWINGS\IRRIGATION DIAGRAM 1

All P.O.C.
 2" action filter 32 mesh
 2" ball valve

Legend

- ▲ 2" Rainbird P&A Valve
- ▲ 1 1/2" Rainbird P&A Valve
- 12" Hunter P&P
- 4" Hunter P&P
- 4" pop up spray

highway

Existing

Existing

ANDERSON CORNER ROAD

Parking Lot

ACTUAL LOCATION
 OF ACCESS BOXES

PUMP HOUSE

2" PIPE SUPPLIED
 BY 6" IRRIGATION
 MAIN LINE

2" PIPE SUPPLIED
 BY 6" IRRIGATION
 MAIN LINE

SEE IRRIGATION
 DIAGRAM 2

SEE IRRIGATION
 DIAGRAM 2

POWER ENTERPRISES

SCALE: 1" = 30'	APPROVED BY	DRAWN BY
DATE: 8/20/2010		ATH
TEND & FRONTAGE		
		DRAWING NUMBER

Page 2 System Diagram
 Permit # 63-34554

Appendix B

Theoretical Horsepower Equation Worksheet

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 63-34554
 Reviewer: Emily Skoro
 Date of Review: 8/12/2019

P/D No.:

PUMP HORSEPOWER
 BOOSTER HORSEPOWER

PUMPING LEVEL

DISCHARGE PRESSURE

RATE OF FLOW (cfs)
 RATE OF FLOW (gpm)

Condition 1
1
0
80
40
0.04
16

Condition 2
1
0
80
50
0.03
14

Condition 3
1
0
80
60
0.03
13

Average
 0.03
 14.27

The above calculates the formula =

$$Q = \frac{8.8 * (\text{Efficiency}) * \text{hp}}{\text{depth to water} + 2.31 * (\text{psi}) + \text{friction}}$$

Assumptions:

%70 efficiency.
 No Friction

Examiners Notes:

The pressure was estimated based off a standard domestic pressure tank for 40-60 psi which they confirmed. The pumping level was received from the permit holder based on their recent pump repair. The HP was attained from the nameplate on the power panel. The average is approximately 14 GPM which is close to the standard of setting up irrigation zones of 12 GPM per zone. In reviewing the information that they submitted it is obvious that they combine multiple zones in operation which makes it impossible to use the sprinkler systems to confirm the flowrate. However, we did check one system of popups (zone 26) and the flow rate was consistent with our calculations.

Appendix C
Field Exam Site Photos



Photo #1 – Well Location



Photo #2 – Pump Nameplate



Photo #3 – Motor Nameplate



Photo #4 – Pump House and Irrigated Area



Photo #5 – Irrigated Area

From: [Shane Roe](#)
To: [Skoro, Emily](#)
Subject: RE: Water Permit 63-34554 Field Exam
Date: Friday, August 9, 2019 1:53:08 PM
Attachments: [image001.png](#)
[Irrigation System Data.xlsx](#)

Hi Emily,

The system is operated via Rainbird battery operated timers (TVOS). They are programmed to come on: Tues, Thurs, Sat. from 6pm to 6am, weekly. This is for all zones start to finish. Different zones vary in length of time on.

Attached is the other information you requested.

Thank you,

Best regards,

Shane Roe

Senior Manager Site Services, Vegetable Seeds

Phone: +1-208-674-4079 Mobile: +1-208-936-5726 Email: shane.roe@vegetableseeds.basf.com

Postal Address: 1200 Anderson Corner Road, Parma, Idaho, 83660, USA



From: Skoro, Emily <Emily.Skoro@idwr.idaho.gov>
Sent: Tuesday, August 06, 2019 2:55 PM
To: Shane Roe <shane.roe@vegetableseeds.basf.com>
Subject: Water Permit 63-34554 Field Exam

Shane,

Hi! Thanks for meeting with us last week. I need some additional information about your irrigation system to complete the calculations.

1. Can you please send me the sprinkler type, nozzle size, and nozzle color per zone? Please see the attached spreadsheet. To make it easier, you can enter the necessary information into the spreadsheet and send it back to me.
2. Can you please send me an explanation of how the system is operated. We know the time each zone runs for but how often is the system run? Do you irrigate every day, is there a delay between when the last zone finishes and the first zone gets turned on again?

Thanks!

Emily Skoro, PE

Staff Engineer

Idaho Department of Water Resources

Phone 208.287.4906

Fax 208.287.6700

Emily.Skoro@idwr.idaho.gov

Zone	Number of Sprinklers	Time (hr)	Time (min)	Flow Rate (gals/hr)	Comment	Sprinkler Brand/Type	Nozzle Size	Nozzle Color
1	3	1	60	8		PGP Ultra	8	Blue
2		1	60	??	Dripline	PGP Ultra	8	Blue
3	4	1	60	8		PGP Ultra	8	Blue
4	4	1	60	8		PGP Ultra	8	Blue
5	4	1	60	8		PGP Ultra	8	Blue
6	3	1	60	8		PGP Ultra	8	Blue
7	4	1	60	8		PGP Ultra	8	Blue
8	4	1	60	8		PGP Ultra	8	Blue
9	3	1	60	8		PGP Ultra	8	Blue
10	2	1	60	8		PGP Ultra	8	Blue
11	4	1	60	8		PGP Ultra	8	Blue
12	1	1	60	8		PGP Ultra	8	Blue
13	8	0.5	30	8		PGP Ultra	8	Blue
14	9	0.5	30	8		PGP Ultra	8	Blue
15	7	0.5	30	8		PGP Ultra	8	Blue
16	9	0.5	30	8		PGP Ultra	8	Blue
17	16	0.12	7	3		Hunter	15'	brown
18	14	0.12	7	3		Hunter	15'	brown
19	9	0.75	45	8		PGP Ultra	8	Blue
20	10	0.75	45	8		PGP Ultra	8	Blue
21	11	0.75	45	8		PGP Ultra	8	Blue
22	11	0.75	45	8		PGP Ultra	8	Blue
23	10	0.75	45	8		PGP Ultra	8	Blue
24	11	0.75	45	8		PGP Ultra	8	Blue
25	12	0.75	45	8		PGP Ultra	8	Blue
26	17	0.17	10	3	popups	Hunter	15'	brown
27	11	0.75	45	8		PGP Ultra	8	Blue
28	11	0.75	45	8		PGP Ultra	8	Blue
29	11	0.75	45	8		PGP Ultra	8	Blue
30	7	0.75	45	8		PGP Ultra	8	Blue
31	12	0.75	45	8		PGP Ultra	8	Blue
32	12	0.75	45	8		PGP Ultra	8	Blue

BASF Vegetable Seeds, Nunhems USA, Inc.

Visitors and Contractors Safety Orientation



Registering:

Please register with security at the Visitor Center each time you enter the site. When you leave, please return any/all visitor access badges or equipment to security at the Visitor Center.

Site Access:

Security will give you an identification badge to have access to the site. Place the badge where it is visible at all times while on site. You should **always** have your badge on your person while on the Nunhems VS campus. Leave the badge with security at the Visitor Center at the end of your work day.

Security:

Nunhems is a company of Administrative, Industrial and Laboratory operations. Below you will find a list of all types of operations and the possible hazards:

- **Operating Vehicles-** Parking is only permitted in the designated zones. Follow all traffic signs while on the facility. The maximum driving speed is **15mph**. Driving between buildings is prohibited unless your work requires it. It is your responsibility for the safe operation of your vehicle.
- **Pedestrians-** Be attentive to golf cart, vehicle and forklift traffic. Check to your left and right before crossing a road or path. Use the designated walking paths if walking around the site. Enter buildings through the man-doors, **NEVER** enter through a door that opens upward.
- **Processing Operations- Buildings D, E, F, G, H, K, L, P, Q-** The use of eye protection while around buildings D, E, F, G, H, K, L, P, Q is mandatory. The use of eye and foot protection is required inside these same buildings. Below is a list of possible dangers during the processing operations:
 - Respiratory Problems
 - The operation of equipment
 - Forklift Traffic
 - Compressed Air
 - Walking through a work area
 - Noise
 - Running Machinery

Your sponsor will give you the Personal Protective Equipment required for the area of the campus you will be visiting. Your sponsor will also give you all additional information specific to your visit.

Internal Management:

- Do not drop your trash on the ground. Place your trash in the available trash receptacles in or near each building.
- Do not dump your soda, Coffee, or other drinks on the grounds of the facility.

Photography:

Your sponsor will give you information about the rules of taking photos in the different areas of the site.

BASF Vegetable Seeds, Nunhems USA, Inc.

Visitors and Contractors Safety Orientation



Gymnasium Use:

The use of the Gym is limited exclusively for Nunhems employees.

Accidents, Injuries and Damages:

You need to inform your sponsor or Nunhems Administration if a visitor is hurt or sick when inside the facility. Visitors need to report each accident (even if it was a near accident), condition or event that is perceived to be unsafe.

Emergency Situations:

- **To report an incident or emergency:**
 - **Call 911 (with your personal phone)/9-911 (with a Site phone) and alert the Emergency Response Team of the site by dialing 5600.**
 - Keep calm and give this information
 - 1200 Anderson Corner Road (the address)
 - Enter through the main gate off Anderson Corner Rd.
 - Main phone number is (208) 674-4000
 - Stay on the line until told to hang up.
- **Automatic External Defibrillator (AED)-** There is a mobile Defibrillator and three stationary Defibrillators in these locations:
 - Building L next to the main door on the East side.
 - Building N in the back of the break room.
 - Building P by the South-East entrance, to your left as you enter.
- **Emergency Evacuation:**
 - Visitors and Contractors will leave their work immediately, shut off their equipment (if it is safe to do so), proceed to the designated assembly areas and report to the coordinator of that assembly area. Follow the instructions of your sponsor.
 - If you need help in the event of an evacuation, inform your sponsor.
 - Contractors will provide their assembly area coordinator a report of their experience during the emergency.
 - Do not interfere with the emergency responders!
- **Weather Alerts:**
 - If there is a weather alert in the area of the facility, your sponsor will inform the visitor of the alert and the procedures for the event.
- **Fire Prevention:**
 - Smoking is not allowed inside any of the buildings on site. Your sponsor will show you the designated smoking areas where smoking is allowed. Throw your cigarette butts in the cigarette bins and not in the trash cans. Throw trash in the trash bins and not in the cigarette bins.