

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 96-9882
Exam Date: 07/20/2021

1. Current Owner:
RYAN BENNETT 764 GEENEN RD COCOLALLA ID 83813-9705
2. Accompanied by: Ryan Bennett
Phone No: 208-255-2160
Address: Same as above
Relationship to permit Holder: Permit Holder

3. **SOURCE:**
UNNAMED STREAM

Tributary
COCOLALLA LAKE

Method of Determination: Arcmap and DRG.

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
96-9360	GROUNDWATER	IRRIGATION, STOCKWATER	Permit, in-process licensing review

Comments: 96-9360 is the parent water right permit from which this right was split from during licensing review. 96-9360 uses a groundwater source for the same irrigation POU as this right & stockwater use. Condition X35 has been added during licensing review to account for combined irrigation use of 1.0 acres at the overlapping POU between 96-9360 & 96-9882. The stockwater POU for 96-9360 is not an overlap concern between the two rights, as only groundwater is used by the applicant for stockwater purposes.

2. Other water rights with the same point-of-diversion: NO Overlap

C. DIVERSION AND DELIVERY SYSTEM1. LOCATION OF POINT(S) OF DIVERSION:

UNNAMED STREAM SW¼ NW¼ SE¼, Sec. 12, Twp 55N, Rge 03W, B.M. BONNER County

Method of Determination: GPS; POD located at -116°38.4545, 48°7.5355

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	
55N	03W	12														1.0			1.0

Total Acres: 1.0

Method of Determination: Field examination and Arcmap aerial imagery.

3. Delivery System Diagram Attached (required). Indicate all major components and distances between components.
☒ X 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
☒ X 1:24,000 or greater.
☒ X Aerial Photo Attached (required for irrigation of 10+ acres).
☒ X Photo of Diversion and System Attached

4.

Well or Diversion ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
STREAM DIVERSION		1		FLOWTEC	

D. FLOW MEASUREMENTS

1.

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

2. Measurements: Unable to perform flow measurements due to inadequate pipe requirements. Field exam was performed during a dry year & in drought conditions in which the seasonal creek had run dry by mid-summer. Manufacturer specifications of pump were used to derive a flow rate, and the 1 HP Flowtec jet pumping capacity is designated at 20.7 GPM.

E. FLOW CALCULATIONS

☒ X Additional Computation Sheets Attached

Measured Method: manufacturer specifications – 1 HP flowtec pump capacity rated at 20.7 GPM or 0.05 cfs considering department rounding standards. Department standard diversion rate for 1.0 acres irrigation = 13.5 to 15.7 GPM (high side of rounding range) or **0.03 cfs**.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 1.0 \text{ ac} \times 3.0 \text{ afa} = 3.0 \text{ af}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.03 \text{ cfs} \times 214 \text{ day} \times 1.9835 = 12.7 \text{ af}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = \mathbf{3.0 \text{ af}}$$

2. Volume Calculations for Other Uses: This water right uses a surface water source, and no volume metrics are applied to the face of the license rather volume limitations are detailed in conditions of approval.

G. NARRATIVE/REMARKS/COMMENTS

Parent water right 96-9360 has been split & incorporates 96-9882 due the respective groundwater source & unnamed stream source water systems not co-mingling in use(s). Right 96-9882 accounts for the unnamed stream source use for the irrigation of 1.0 acres.

Field exam performed on 7/20/2021 with the applicant, Ryan Bennett, showed the unnamed stream source being used for irrigation purposes. At the POD, the applicant has a perforated barrel placed in an eddy formed by the unnamed stream where he uses a screened intake pipe to divert water using a 1 HP Flowtec jet pump. Year 2021 was a very low water year in the region resulting the seasonal stream being dry at time of field examination. The applicant had already put the portable pump into storage, which is typically done annually when the stream no longer supports drafting of water for use.

Due to the inability to take flow measurements, the manufacturer specifications for the pump were researched to derive a flow rate. Internet data for the 1 HP Flowtec pump identify a Gallons Per Minute rating of 20.7 gpm which equates to 0.05 cfs considering department rounding standards. The irrigation POU consists of 1.0 acres, and the department diversion rate for 1.0 acre which equals **0.03 cfs**, is being recommended to license this water right. From the POD, the applicant drafts water up-hill via a 1-inch poly pipe to the irrigation POU where the main line is connected to irrigation riser "T" splitter(s) before use. Micro emitters, soaker hoses, and hose-to-sprinklers are used to water row crops, trees, and small lawn spaces. Based on the applicant's water system, it is reasonable to conclude the 20.7 gpm manufacturer pump capacity is not achieved and the slight overage in theoretic diversion rate mitigated to what is distributed for irrigation by the applicant. Based on the historic use of stream water by the applicant during parent right 96-9360's development period, the irrigation beneficial use of water occurring under 96-9882 is recommended for licensing.

The irrigation POU was observed during the exam and sketched out on field maps. During licensing review, Arcmap aerial imagery was used to trace out the POU which consists of 1.0 acres. The annual volume associated with irrigation of 1.0 acres equals 3.0 af, but as this right uses a surface water source no volume metrics will be applied to the face of the license. The applicant stated the unnamed stream had blown out of channel this spring, and due to low recharge year ran dry earlier than normal in the season. The applicant stated he generally uses the stream source to irrigate early in the year to conserve his groundwater well source, which is a low producing well. The applicant asserts that each year when the stream flow drops below levels needed to divert, he disconnects the jet pump for storage and drains the main service line, switching over to the well source to continue irrigating for the remainder of the season of use. As stream flow is variable, the full season of use is recommended to license this irrigation beneficial use.

Conditions 26A, 01M, and X02 were removed from the permit during licensing review. Condition R62 was replaced with R66 to describe the 0.03 cfs diversion rate and 3.0 afa per acre diversion volume authorized for the irrigation beneficial use. Condition 004 is being carried to licensing. Overlap concerns: 96-9360 is the parent water right permit from which this right was split from during licensing review. 96-9360 uses a groundwater source for the same irrigation POU as this right & stockwater use. Condition X35 has been added during licensing review to account for combined irrigation use of 1.0 acres at the overlapping POU between 96-9360 & 96-9882. The stockwater POU for 96-9360 is not an overlap concern between the two rights, as only groundwater is used by the applicant for stockwater purposes. There are no further overlap concerns for this water right.

Have conditions of permit approval been met? X Yes No

H. RECOMMENDATIONS

1. Recommended Amounts

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Rate of Diversion</u>
IRRIGATION	04/01 to 10/31	0.03 CFS

Totals: 0.03 CFS

2. Recommended Amendments

 Change P.D. as reflected above Add P.D. as reflected above X None

 Change P.U. as reflected above Add P.U. as reflected above X None

I. AUTHENTICATION

Luke Bates -

Field Examiner's Name

L. Bates

Date

12/14/2021

Reviewer

Adm. Fink

Date

12/30/2021

State of Idaho
Department of Water Resources
Attachment to Field Exam
96-9882

IRRIGATION system diagram.

03W

55N



-  Point of Diversion
-  Place Of Use Boundary
-  Townships
-  PLS Sections
-  Quarter Quarters

0 0.035 0.07 0.14 Miles





Flotec Thermoplastic Convertible Jet Pump 1 HP

Item #: WRB2224932

★★★★★ (5)

Ships in One Business Day ?

Enter zip code for delivery date estimate



Product Information

Customer Review

Product Q&A

Accessories

Flotec Thermoplastic Convertible Jet Pump 1 HP

Corrosion resistant convertible jet pumps are constructed of rugged fiberglass-reinforced thermoplastic, and assure years of dependable service.

Key Features:

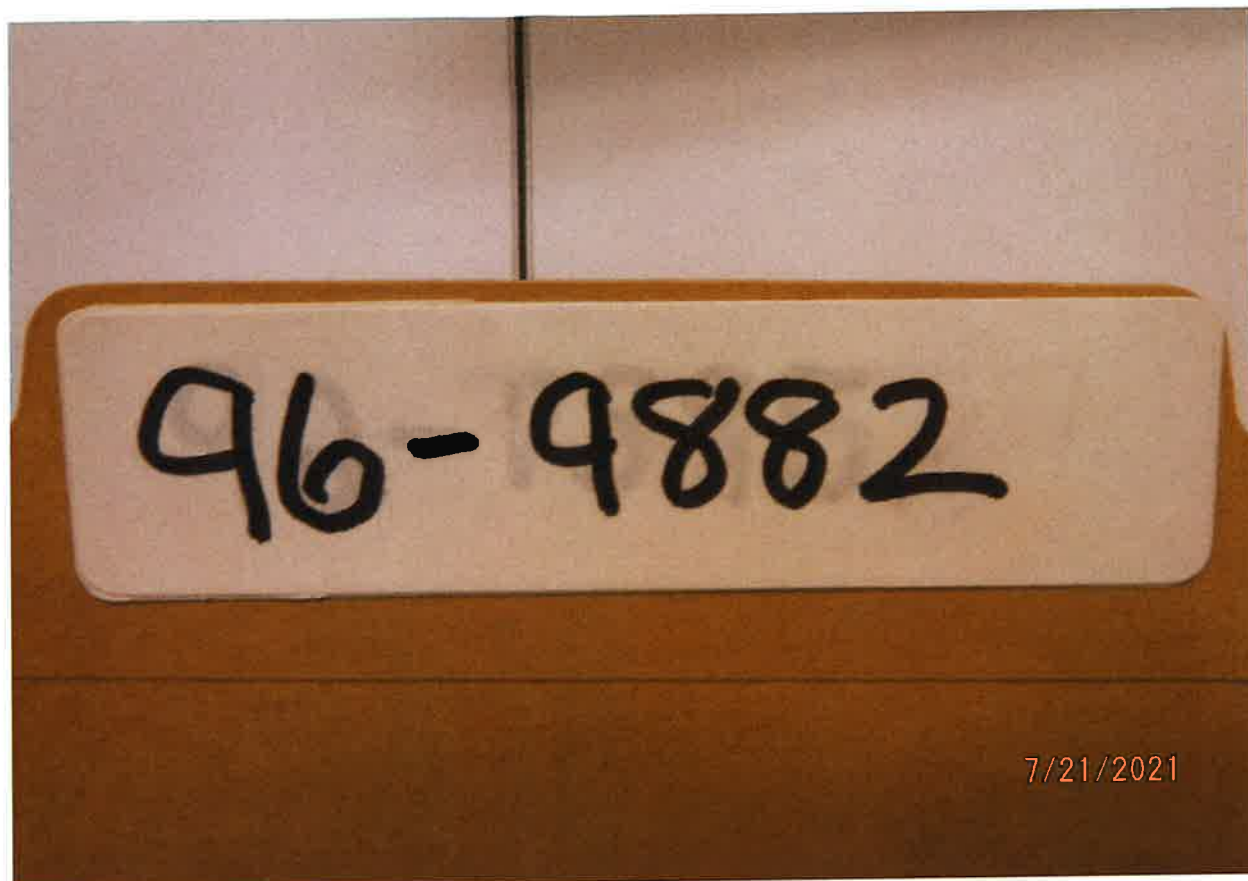
- Superior performance at depths to water of 100' or less
- Fiberglass-reinforced thermoplastic pump housing for the highest corrosion resistance
- Ready-to-install 230 volt motor - see manual for 115 volt conversion

BRAND	Flotec
MANUFACTURER'S PART NUMBER	FP4332.00
LENGTH INCHES	21.963
WIDTH INCHES	12.313
HEIGHT INCHES	12.375
WEIGHT LBS	27.96
COLOR FINISH	Black
CONSTRUCTION	Thermoplastic
SHAFT SEAL CONSTRUCTION	Silicone Carbide
AMPS	15.00
HERTZ	60
PHASE	1
VOLTAGE	230/115
HORSEPOWER	1
GALLONS PER MINUTE	20.7
SUCTION/DRAW HEAD FEET	25/90
CORD LENGTH FEET	8
DISCHARGE CONNECTION TYPE	NPT
SWITCH TYPE	30/50 Preset Pressure
DISCHARGE CONNECTION SIZE INCHES	1
WARRANTY	1 Year Limited

20.7 GPM

FLOWTECH 1 HP PUMP INSTALLED ON PRESSURE TANK

MANUFACTURER SPECIFICATION PUMP CAPACITY = 20.7 GPM



FIELD EXAM DATE 7/20/2021



POD – UNNAMED CREEK (IMAGE TAKEN DURING EXTREME LOW WATER YEAR)



POD – LOCATION FOR JET PUMP



JET PUMP USED IN IRRIGATION SYSTEM FROM CREEK



1.5 INCH POLY PIPE FROM POD TO POU





IRRIGATION POU





IRRIGATION POU

