

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 79-14264
Exam Date: 06/30/2023

1. Current Owner:
MARLIN DEWITT 618 N COLLEGE ST GRANGEVILLE ID 83530-1602
2. Accompanied by:
Phone No:
Address:
Relationship to permit Holder:

3. **SOURCE:**
SALMON RIVER

Tributary
SNAKE RIVER

Method of Determination: GIS and field observation

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
79-14300	Bracket Gulch Creek	Irrigation	Decreed
79-7159	Bracket Gulch Creek	Irrigation	Decreed

Comments: Permit and decreed rights have overlap and a combined use limit is recommended

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

Water Right No.	Source	Purpose of Use	Basis
N/A			

Comments: No overlap for POD

C. DIVERSION AND DELIVERY SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:**

SALMON RIVER L4 (SE¼ NW¼), Sec. 27, Twp 28N, Rge 01E, B.M. IDAHO County

Method of Determination: GPS (N45.73842N, W116.31846)

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	
28N	01E	27								1.3 L4									1.3

Total Acres: 1.3

Method of Determination: GIS and field observation

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
993792		1.5		Red Lion	97101502

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
N/A						

2. Measurements: No measurement performed (not required)

E. FLOW CALCULATIONS x Additional Computation Sheets Attached

Measured Method: Brake Horsepower Equation

Permitted Flow Rate: 0.16 cfs

Proof submitted rate: 0.16 cfs

Recommended rate: 0.04 cfs

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: N/A (Irrigation from natural stream flow)

G. NARRATIVE/REMARKS/COMMENTS

Permit 79-14264 authorized the diversion of 0.16 cfs from the Salmon River for the irrigation of 8 acres in White Bird, Idaho County, Idaho. Proof was submitted alongside a change in ownership form on June 30, 2022, which transferred ownership of the water right from the original owner, Evelyn DeWitt, deceased, to her son, Marlin DeWitt. A field exam was performed on June 30, 2023 with Marlin and his sister, Verna Lowe, present.

After the permit was signed, the POU was split in two, with half of the land owned by Marlin and half owned by Verna. The POD is on land owned by Marlin, so ownership is not a concern. The POD was confirmed to be in L4 (SE¼ NW¼), Sec. 27, Twp 28N, Rge 01E via GPS. GIS shows the POD to be outside of the government lot, but since the government lot represents the land portion of a QQ interrupted by a meandering water body, the POD will be recorded as within Lot 4. Water is diverted from the Salmon River by a 1.5 horsepower pump and two Rainbird 30H sprinklers are used to irrigate the POU. Of the 8 acres permitted for irrigation, approximately 1.3 acres were irrigated.

I am recommending a rate of 0.04 cfs, which is determined by multiplying the maximum allowable rate per acre (0.03 cfs/acre for less than 5 acres) by the developed acreage. The duty per acre can be changed as long as it does not allow an exceedance of the permitted rate. The conveyance system is capable of diverting at this rate, as shown in the attached computation sheet. No volume limit is needed.

The place of use for permit 79-14264 is also irrigated by water rights 79-7159 and 79-14300, which divert water from Bracket Gulch Creek until the stream dries up in late summer. Those rights are gravity fed, so it is likely more economical to use those rights prior to pumping water out of the Salmon River. To prevent enlargement of these rights, a combined use limit should be applied to the three water rights, limiting the diversion rate to 0.04 cfs and the area to 1.8 acres, which are the largest quantities.

Water Right	Rate	Volume	Total Acres	Acre Limit
79-14264	0.04		1.3	
79-14300	0.04	7.2	1.8	
79-7159	0.01	0.8	0.2	

Condition X35 should be added to explain the combined use limit. Condition 004 should be added to address potential future ownership issues. While a fish screen was never required by Idaho Fish & Game, a fish screen was confirmed during the field exam and the condition can be dropped. 26A can also be dropped as development had occurred during the beneficial use period. Condition R64 should be changed to R68 to represent the acreage developed being less than 5 acres.

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	03/15 to 10/31	0.04 CFS	

Totals: 0.04 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 Blake Burkard -

Field Examiner's Name _____ Date _____

Reviewer PB _____ Date 7/9/25 _____

FLOW CALCULATION SHEET

PERMITTED FLOW (CFS):	0.04
(GPM):	17.9544

TOTAL DYNAMIC HEAD	
Elevation of water surface (ft):	1440
Elevation of highest sprinkler location (ft):	1458
STATIC HEAD (ft):	18
Sprinkler Pressure (psi):	45
PRESSURE HEAD (ft):	103.95
Linear distance between pump and furthest sprinkler head (ft):	225
Assume friction loss: (psi/100 ft)	2.4
FRICION HEAD (ft):	5.4
SUM (ft):	127.35

EFFICIENCY(%):	70
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BRAKE HORSEPOWER REQUIRED (PUMP):	0.82
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REARRANGE FOR FLOW:	
Pump HP:	1.5

Q (cfs):	0.073
gpm	32.65018

This worksheet shows that the maximum allowable rate for 1.3 acres of irrigation is possible with a 0.82 HP pump, and that Dewitt's 1.5 HP pump is more than capable of delivering that rate. Static head was determined with elevation difference while pressure head and friction head were assumed given standard operating conditions and information given during the field exam.



Figure 1: Permit Diagram. Only 2 of 3 hose lines are used at once.



Figure 2: Sprinkler system with associated flow rates. Two sprinklers max are used at once

Brass Straight Bore Nozzle (SBN-3) with Spreader (LAN-1) Performance*						
psi@ Nozzle	NOZZLE SIZE (Stream Height: 9 ft.)					Rad. Flow (ft.) (gpm)
	9/64" x 3/32-7"	5/32" x 3/32-7"	11/64" x 3/32-7"	3/16" x 3/32-7"	3/16" x 1/8-20"	
	Rad. Flow (ft.) (gpm)	Rad. Flow (ft.) (gpm)	Rad. Flow (ft.) (gpm)	Rad. Flow (ft.) (gpm)	Rad. Flow (ft.) (gpm)	
25	40 4.20	41 4.80	41 5.60	42 6.40	42 7.40	
30	40 4.60	42 5.30	44 6.10	45 7.00	45 8.10	
35	41 4.90	43 5.70	45 6.60	47 7.50	47 8.70	
40	41 5.20	44 6.10	46 7.00	48 8.10	48 9.30	
45	42 5.60	44 6.50	46 7.40	49 8.50	49 9.90	
50	42 5.90	45 6.80	47 7.90	50 9.00	50 10.40	
55	43 6.10	45 7.10	48 8.20	50 9.40	50 10.90	
60	43 6.40	46 7.40	48 8.60	51 9.90	51 11.40	
65	44 6.70	46 7.80	49 8.90	51 10.20	51 11.80	
70	44 6.90	47 8.10	49 9.30	52 10.70	52 12.30	
75	45 7.20	47 8.30	50 9.60	52 11.00	52 12.70	
80	45 7.50	48 8.70	50 10.00	53 11.50	53 13.10	



Figure 3: Pump specifications



Figure 4: Point of Diversion GPS



Figure 5: Pipes conveying water from POD to uphill POU



Figure 6: POU being irrigated