

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 67-15097
Exam Date: 05/14/2019

1. Current Owner:
DENNIS HOLMES 2184 HWY 95 MIDVALE ID 83645 AND/OR
TONYA HOLMES 2184 HWY 95 MIDVALE ID 83645
2. Accompanied by: DENNIS HOLMES
Phone No:
Address:
Relationship to permit Holder: SAME

3. **SOURCE:**
GROUND WATER

Method of Determination: Site visit

B. OVERLAP REVIEW

1. Other water rights with the same place of use: NONE
2. Other water rights with the same point-of-diversion: NONE

C. DIVERSION AND DELIVERY SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:**
GROUND WATER SW¼ NE¼, Sec. 18, Twp 13N, Rge 03W, B.M. WASHINGTON County

Method of Determination: GPS, digital PLS map

PLACE OF USE: STOCKWATER

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
13N	03W	18			X	X													

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	
13N	03W	18			11.0	1.5													12.5

Total Acres: 12.5

Method of Determination: Site visit

3. ☒ 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

4.

Well or Diversion ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
D0066034		10		Submersible	

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
Ultrasonic		GE	PT878	GAA1620004		

2. Measurements:

0.18 cfs measured at pivot center (see attached table)**E. FLOW CALCULATIONS**

Additional Computation Sheets Attached

IRRIGATION**0.18 cfs** measured at pivot center (see attached table, NOT representative of max diversion rate)

Nelson R33 sprinklers @ 55 psi (assuming average 10 psi loss) = 4.27 gpm per sprinkler
 30 sprinklers x 4.27 gpm/sprinkler = 128.1 gpm = **0.29 cfs**

Permit irrigation rate: **0.26 cfs**BU Standard = 0.02 cfs/acre x 12.5 acres = **0.25 cfs**Exam Fee = \$100 = **1.0 cfs** limit**RECOMMENDED IRRIGATION RATE: 0.25 cfs****STOCKWATER**45 head livestock = **0.02 cfs** per Admin AP Memo No. 3Permit stockwater rate: **0.02 cfs**Exam Fee = \$100 = **1.0 cfs** limit**RECOMMENDED STOCKWATER RATE: 0.02 cfs****F. VOLUME CALCULATIONS**

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 12.5 \text{ acres} \times 4.0 \text{ afa/acre} = 50.0 \text{ afa}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.26 \text{ cfs} \times 231 \text{ days} \times 1.9835 = 119.1 \text{ afa}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 50.0 \text{ afa}$$

2. Volume Calculations for Other Uses:

0.7 afa for stockwater per Admin AP Memo No. 3

G. NARRATIVE/REMARKS/COMMENTS

This permit authorizes the diversion of 0.28 cfs from groundwater for stockwater and irrigation use. Proof of Beneficial Use was submitted September 19, 2018. I completed this field exam on May 13, 2019.

The point of diversion is an 8-inch well that was completed to a depth of 183 feet. A 10-hp submersible pump is set at around 120 ft BGS and diverts water from the well to a 6-inch line. Pressure at the well head is 65 psi. The 6-inch line forks after the well. One line runs to the pivot center, the other runs along the northern edge of the field to a series of risers. K-Line is attached to the risers and a series of Nelson R33 rotator sprinklers connected to the K-Line water the field around the margins of the pivot. Approximately 10-15 sprinklers are attached to a single riser. The owner can run up to 30 of the sprinklers at one time OR he can run the pivot, not both. The owner can also fill movable tanks for stockwater from the risers.

The owner has developed a total of 12.5 acres of irrigation which consists primarily of orchard grass. I measured the diversion rate directly while the pivot was running (0.18 cfs). However, the owner says that, when he is not running the pivot, he can irrigate using up to 30 of the Nelson R33 sprinklers. According to the R33 brochure, the flow rate for these sprinklers with yellow nozzles ranges from 3.64 to 4.65 gpm (40 to 65 psi), or 0.24 to 0.31 cfs total. For water traveling through 6-inch steel pipe at less than 200 gpm, we should not expect significant pressure losses due to friction even for the great distances that the water has to travel (estimate around 0.147 psi loss/100 ft). Therefore, the actual diversion rate from 30 sprinklers is probably closer to 0.31 cfs. At around 5 psi loss on average, the total flow rate is 0.30 cfs. Therefore I am recommending the irrigation standard of 0.25 cfs for the license.

Stockwater use includes up to 20 cows, 10 horses, and 15 sheep. The stock are watered from tanks filled from the same risers used by the K-Line. The tanks are movable and can be located anywhere within the same place of use as the irrigated area. The recommended rate and volume for stockwater come from Admin AP Memo No 3.

There are no overlapping irrigation or stockwater rights, nor are there any other uses of the point of diversion.

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>	<u>Annual Volume</u>
STOCKWATER	01/01 to 12/31	0.02 CFS	0.7 AF
IRRIGATION	03/15 to 10/31	0.25 CFS	50.0 AF

Totals: 0.27 CFS 50.7 AF

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

Cody Parker - Water Resource Agent, Senior

Field Examiner's Name Cody Parker Date 5-17-19

Reviewer Patricia Kelly Date 5-17-2019

State of Idaho
Department of Water Resources
Beneficial Use Field Report
67-15097

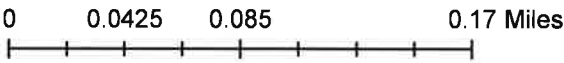
IRRIGATION and STOCKWATER

03W

13N



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

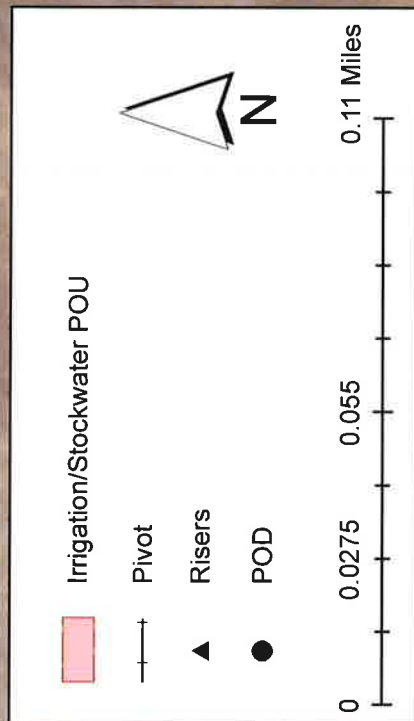


Right No. 67-15097

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Cody Parker

USDA FSA, ISU GIS Trac



Tag No. D0066034
10-hp pump set at 120 ft BGS
65 psi at pump head

US Hwy 95

K-Line Pods

K-Line Pods

12.9 acres

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The metal tag welded to the casing of the well. Tag no. D006034



A 10-hp submersible pump diverts water to a 6-inch mainline at 65 psi operating pressure.

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The 12.5 acre place of use which consists primarily of orchard grass to feed livestock. Picture from the well head looking northeast.



Nelson R33 sprinklers in K-Line pods. The sprinklers have gold nozzles. 30 such sprinklers can be operated at once.

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13N03W18

Basin/Seq	Owner	Source	Use	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW	SENW	NESW	NWSW	SWSW	SESW	NESE	NWSE	SWSE	SESE	Total Acres
67-10075	FAIRCHIL	GROUND	DOMESTIC															X		
67-10075	FAIRCHIL	GROUND	STOCKWATER															X		
67-11028	HORNING	GROUND	DOMESTIC							X										
67-11029	HORNING	DRY CRE	DOMESTIC							X										
67-11029	HORNING	DRY CRE	STOCKWATER							X										
67-14566	LOST VAL	LOST CRE	IRRIGATION FROM ST									X	X		X			X	X	
67-14567	LOST VAL	LOST CRE	IRRIGATION FROM ST									X	X		X			X	X	
67-14568	LOST VAL	LOST CRE	IRRIGATION FROM ST									X	X		X			X	X	
67-14703	CRANE C	CRANE C	IRRIGATION FROM ST									X	X		X			X	X	
67-14704	CRANE C	CRANE C	IRRIGATION FROM ST									X	X		X			X	X	
67-14705	CRANE C	CRANE C	IRRIGATION FROM ST									X	X		X			X	X	
67-15097	HOLMES	GROUND	IRRIGATION			11	15													12.5
67-15097	HOLMES	GROUND	STOCKWATER			X	X													
67-2232	CITY OF	GROUND	MUNICIPAL	X		X	X													
67-2233	BATTERS	WASTE W	IRRIGATION	6																6
67-2250	BOYLE, B	SLOUGH	IRRIGATION				19													19
67-2250	BOYLE, B	SPRINGS	IRRIGATION				19													19
67-2287	HOLMES,	GROUND	IRRIGATION	3																3
67-23	MIDDLE	WEISER F	IRRIGATION																X	
67-2319	FAIRCHIL	UNNAME	IRRIGATION									15			10					25
67-2333	FAIRCHIL	GROUND	IRRIGATION															25.1	25.2	50.3
67-2369	CITY OF	GROUND	MUNICIPAL	X		X	X													
67-24	MIDDLE	WEISER F	IRRIGATION																X	
67-25	MIDDLE	WEISER F	IRRIGATION																X	
67-4434	MIDDLE	WEISER F	IRRIGATION																X	
67-7102	FAIRCHIL	WEISER F	IRRIGATION									29	11		36			30	25	131
67-7678	CITY OF	GROUND	MUNICIPAL	X		X	X													
67-7765	FAIRCHIL	UNNAME	IRRIGATION									7			21			3		31

Municipal rights, no overlap
POU to the east, no overlap

BasinSeq	Owner	Source
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67-2319 FAIRCHIL UNNAMED STREAM

NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW	SENW	NESW	NWSW	SWSW	SESW	NESE	NWSE	SWSE	SESE
														X	
							X								
							X								
		X													
			X												
								X							

