

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 57-11807
Exam Date: 08/14/2019

1. Current Owner:
SHENK LIVESTOCK 3993 MARKET RD HOMEDALE ID 83628
2. Accompanied by: Dave Shenk
Phone No: 208-249-1718
Address: 3993 Market Rd Homedale, ID 83628
Relationship to permit Holder: Member of Shenk Ag Enterprises/ Co-owner of Shenk Livestock

3. **SOURCE:**
UNNAMED DRAIN

Tributary
JUMP CREEK

Method of Determination: Field Exam

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
2-10416	Snake River	Irrigation	GIS
2-64	Snake River	Irrigation	GIS
2-65	Snake River	Irrigation	GIS

Comments: All overlapping rights at the POU are owned by Gem Irrigation District. None of these rights use the same diversion system or are applied to the POU. No combined conditions are necessary.

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

Water Right No.	Source	Purpose of Use	Basis
NONE			

Comments: No overlapping water rights at the POD.

C. DIVERSION AND DELIVERY SYSTEM

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

UNNAMED DRAIN SE¼ SW¼, Sec. 14, Twp 03N, Rge 05W, B.M. OWYHEE County

Method of Determination: GIS

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	
03N	05W	14									14.0								14.0

Total Acres: 14.0

Method of Determination: GIS

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
A0017549	Teco Westinghouse	15.0		Fisher Pumps	EXP6125026014

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
Tyme Flyte	Flow Meter	Ploysonics				4/2/19

2. Measurements:

Tyme Flyte was used to measure the flow rate in the pipe. 11 measurements were recorded with an average flow of 685.65 gallons per minute.

The pipe was constructed from steel with an average thickness of .14 inches.

The average outside diameter measurement of the steel pipe was 10.04 inches.

The transducers were spaced at 7.606 inches apart.

*See attached print out sheet from Tyme Flyte showing recorded flow rates and pipe information.

E. FLOW CALCULATIONS

Additional Computation Sheets Attached

Measured Method: Tyme Flyte Transducer measurement on pipe during field exam

$$\frac{1 \text{ cfs}}{448.83 \text{ GPM}} = \frac{? \text{ cfs}}{685.65 \text{ GPM}}$$

685.68 GPM converts to 1.53 CFS

Measured rate during field exam: 1.53 CFS
 Permitted rate: 1.02 CFS (.06 CFSX17 acres)

Analysis of area based on soil type authorizes .06 cfs/acre. At 14 acres X .06 = .84 cfs

Recommended Rate: 0.84 CFS

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 14.0 \times 4.5 = 63.0 \text{ AF}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 1.02 \times 1.9835 \times 260 = 526.02 \text{ AF}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 63.0 \text{ AF}$$

SPF Water Engineering determined that the soil in the area is highly permeable. Thus, a higher diversion volume of 9.8 AF/acre is necessary at the POU.

Idaho Administrative Code (IDAPA) 37.03.02 discusses exemptions for volume requirements including irrigation using natural stream flow diverted from a stream or spring. The diversion under this permit is from an unnamed drain. Irrigation use from an unnamed drain is not exempt from a volume requirement.

$$14 \text{ acres} \times 9.8 \text{ AF} = 137.2 \text{ AF/acre}$$

Recommended volume: 137.2 AF

2. Volume Calculations for Other Uses: N/A

G. NARRATIVE/REMARKS/COMMENTS

When Shenk Livestock filed the application for permit in 2012, a higher diversion rate of 1.02 cfs was requested. 1.02 cfs over 17 acres equates to .06 cfs/acre, which is much higher than the standard .02cfs/acre. Vicki Music, a senior water resource agent processed the application for permit. In January 2013, she requested sufficient evidence/documentation that the excessive diversion rate of .06 cfs/acre was justified. Lori Graves a water rights specialist at SPF Water Engineering requested an extension on advertising the application in order to supply evidence that a higher diversion rate was necessary.

In February of 2013, SPF Water Engineering provided Vicki with a field irrigation requirement analysis for Shenk Livestock. The analysis described the soil characteristics at the place of use (POU) as being highly permeable, sandy and having higher PH values (6.6-9.6). According to the analysis, soils with higher PH have values in soil limit the infiltration rate. Ultimately, the analysis demonstrated that a diversion rate of .06 cfs/acre was justified. The analysis also warranted a higher volume of 9.8 acre feet/acre, as opposed to standard 4.5 acre feet/acre for the area. In April 2013, the application was permitted at the requested rate of .06 cfs/acre (1.02 cfs).

The water diverted under this permit is wastewater from an unnamed drain. According to the applicant, water use at the requested POU is under control of the South Board of Control via the Gem Irrigation District. A questionnaire filled out and signed by Ron Kiestler, manager of the South Board of Control, was included with the application. This questionnaire authorized the use of water from the unnamed drain. It also recognized the higher diversion rate of .06 cfs/acre.

Looking at aerial imagery over the last few year, I could not find more than 14 acres of irrigation. Also, the sandy soils at the POU were confirmed at the time of the field exam. The point of diversion (POD) is along E. Market Rd outside of Homedale, ID. At this location, a 15.0 Hp pump pulls water 5.5 feet up from the unnamed drain into a steel pipe. Once in the steel pipe, water flows up through a small "bubbler". The bubbler has a screen on top to help remove unwanted debris and help clean the water from the unnamed drain. Any excess water in the bubbler flows back into the unnamed drain through a separate metal pipe. Once water flows through the bubbler, it is pumped approximately .25 miles along the drain towards the POU. At the SE corner of the POU, the steel pipe transfers water to a gated metal pipe. Water flows out of the gated pipe and gravity carries water through furrows at the POU. The POU also has 3 10' "bubblers" that help regulate the flow of water and help prevent over irrigating. Water flows in the gated pipe and fills the bubbler. Inside the bubbler, a separate vertical pipe catches excess water and carries it back to the unnamed drain by a separate pipe than the gated pipe. On each side of the bubblers is a valve on the gated pipe. The valves allow different sections of the POU to be watered at different times.

The diversion rate and volume determined for licensing were consistent with the analysis done by SPF in 2013. The rate was kept at .6 cfs/acre. At 14 acres, this equates to .84 cfs. The licensed volume was determined by using the higher

volume of 9.8 acre feet/acre determined in the SPF analysis. 14 acres visibly irrigated over the last number of years multiplied by 9.8 acre feet is 137.2 AF/acre.

I contacted Dave Shenk on 8/26/19 and requested an agreement between the landowners at the POD. According to the application for permit and Department records, Ronald and Lucy Cammack own the land at the POD. The agreement between Mr. Shenk and Ron Cammack was received by email on 8/27/19.

Overlap:

This right does not overlap with any water rights at POD. The POU overlaps with irrigation rights 2-10416, 2-64 and 2-65. All are sourced from the Snake River and owned by Gem Irrigation District. None of these rights use the same diversion system. No combined conditions are necessary.

Conditions:

Conditions 1, was carried over to the license since it was still pertinent. Condition 2 (004) was carried to the license since the POD is on land owned by another person than the permit holder. Condition 3 ((26A) was removed per Department standards. Condition 4 (121) was changed to condition 103 per licensing standards. Condition 5 (176) regarding wastewater was relevant to the license so it was carried over from the permit.

Condition 6 (01J) was changed to condition 01M. Condition 01J on the permit read "upon notification the right holder shall install and maintain a measuring device and lockable controlling works of a type acceptable to the Department as part of the diverting works". Condition 01J actually reads "Prior to diversion of water under this right, the right holder shall install and maintain a measuring device and lockable controlling works of a type acceptable to the Department as part of the diverting works".

Condition 01M reads "After specific notification by the Department, the right holder shall install a suitable measuring device or shall enter into an agreement with the Department to use power records to determine the amount of water diverted and shall annually report the information to the Department". I changed condition 6 (01J) to 01M to read similar to what was on the permit.

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	0.84 CFS	137.2 AF

Totals: 0.84 CFS 137.2 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

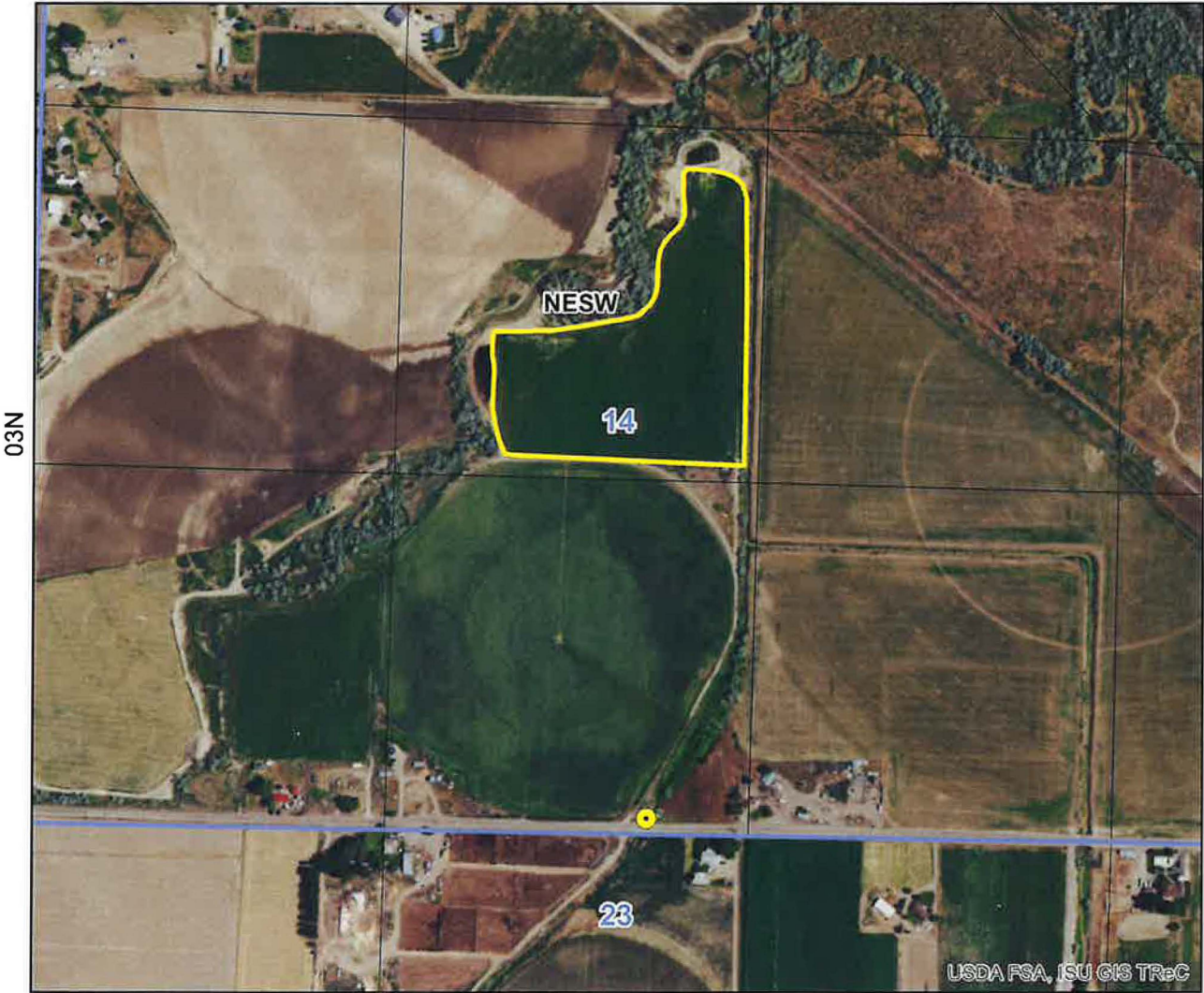
Alex Dalglish - Water Resource Agent

Field Examiner's Name Alex Dalglish Date 10/9/19
 Reviewer Phumma Date 12/11/25

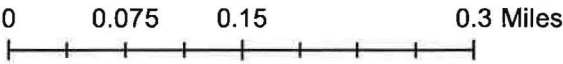
State of Idaho
Department of Water Resources
Field Exam
57-11807

This map depicts the IRRIGATION place of use boundary for this water right at the time of this approval and is attached to the approval document solely for illustrative purposes.

05W



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



Flow Rate sheets from
Tyme Flyte for permit
57-11807 Field Exam.

SPACING
7.676 IN U

OUTER DIAMETER
10.6482 IN

PIPE MATERIAL
CS.58

WALL THICKNESS
0.190 IN

KIND OF FLUID
WATER

SENSOR MOUNTING
U

SPACING
7.606 IN U

08-14 11:0800 *R
+002.70 % AI2

0368.1 MMSEC
100.93 % T0

ZERO MODE
AUT ZERO

PRT PERIOD
NO

11:16+692.923E 0GPM 00R
+ 2.972E 0FPS 00R
+00000 *10 G 00R
-00000 *10 G 00R

11:17+693.677E 0GPM 00R
+ 2.933E 0FPS 00R
+00068 *10 G 00R
-00000 *10 G 00R

11:18+696.885E 0GPM 00R
+ 2.988E 0FPS 00R
+00137 *10 G 00R
-00000 *10 G 00R

11:19+698.545E 0GPM 00R
+ 2.962E 0FPS 00R
+00206 *10 G 00R
-00000 *10 G 00R

11:20+671.525E 0GPM 00R
+ 2.880E 0FPS 00R
+00274 *10 G 00R
-00000 *10 G 00R

11:21+692.923E 0GPM 00R
+ 2.972E 0FPS 00R
+00343 *10 G 00R
-00000 *10 G 00R

11:22+679.978E 0GPM 00R
+ 2.916E 0FPS 00R
+00410 *10 G 00R
-00000 *10 G 00R

11:23+711.415E 0GPM 00R
+ 3.051E 0FPS 00R
+00480 *10 G 00R
-00000 *10 G 00R

11:24+678.393E 0GPM 00R
+ 2.910E 0FPS 00R
+00540 *10 G 00R
-00000 *10 G 00R

11:25+667.827E 0GPM 00R
+ 2.864E 0FPS 00R
+00614 *10 G 00R
-00000 *10 G 00R

11:26+688.954E 0GPM 00R
+ 2.942E 0FPS 00R
+00700 *10 G 00R
-00000 *10 G 00R

11:27+687.071E 0GPM 00R
+ 2.944E 0FPS 00R
+00700 *10 G 00R
-00000 *10 G 00R

08-14 11:0800 *R
+002.70 % AI2

11:28+671.525E 0GPM 00R
+ 2.880E 0FPS 00R
+00274 *10 G 00R
-00000 *10 G 00R

PHOTOGRAPHER AND DATE OF PHOTOS ALEX DALGLEISH 8/22/19

FILE NUMBER 57-11807



The above photos depict the place of use. The left photo was taken at the SE corner of the POU, looking north. The right photo is also taken at the SE corner, looking west.



The above photos show the diversion works at the POU. The left photo shows one of the 10' bubblers. The right photo shows the metal gated pipe that runs along the south end of the POU.

PHOTOGRAPHER AND DATE OF PHOTOS ALEX DALGLEISH 8/22/19

FILE NUMBER 57-11807



Bubbler with water flowing through screen on top.



Overflow bubbler drain pipe.

The above photos show the point of diversion. Water is pumped approximately 5.5 feet up from the unnamed drain, through a bubbler and into a 10" steel pipe.



The above left photo shows the metal tag that was attached at the point of diversion during the field exam. It reads GPS site ID No. A0017549. The photo on the right is of the POD showing the bubbler with a screen on top. The electrical box on the right edge of the photo is where the GPS site ID plate was attached.

Dalgleish, Alex

From: Dalgleish, Alex
Sent: Tuesday, August 27, 2019 1:51 PM
To: 'Dave Shenk'
Subject: RE: POD Easement Agreement

Dave,

I received the easement. That should be all the additional documentation we need.

Thank you,

Alex Dalgleish
Water Resource Agent
Phone (208) 287-4913
alex.dalgleish@idwr.idaho.gov

From: Dave Shenk [mailto:d.shenk60@gmail.com]
Sent: Tuesday, August 27, 2019 1:30 PM
To: Dalgleish, Alex <Alex.Dalgleish@idwr.idaho.gov>
Subject: Re: POD Easement Agreement

Hey Alex, let me know please that this came through and takes care of your needed documentation. Thanks again Alex , Dave S.

On Mon, Aug 26, 2019 at 11:19 AM Dalgleish, Alex <Alex.Dalgleish@idwr.idaho.gov> wrote:

Hey Dave,

The point of diversion for your permit 57-11807 is on land owned by Ron and Lucy Cammack. The Department needs an easement/agreement between the Cammacks and you.

Thank you,

Alex Dalgleish
Water Resource Agent

Pipeline Installation & Maintenance Easement

This agreement by and between Ron and Kathy Cammack (property owners) and David and Shelley Shenk (desiring and utilizing easement).

PROPERTY DESCRIPTION: Location of easement desired is located on or as near to, as is reasonable to an "OPERATING AND MAINTENANCE EASEMENT" belonging to the "Gem Irrigation District" for an unnamed drainage ditch on the Eastern most edge of a field with a center pivot belonging to Ron and Kathy Cammack. Location of this field is as follows: South East $\frac{1}{4}$ of the South West $\frac{1}{4}$ of section 14, Township 3 North, Range 5 West.

PURPOSE: Easement will be for the sole purpose of installation and maintenance of a buried lateral (pipeline) and cannot be encroached or expanded upon. Pipeline will be constructed of and by, materials and standards currently being used by "Gem Irrigation District".

ACCOUNTABILITY ASSIGNED: It is the responsibility of the owner(s) of the property being serviced by the buried lateral to construct and maintain lateral in a manner that does not cause injury to the current owner(s) where easement is located. If maintenance or repairs are required (leaking pipeline) the owner(s) of the lateral/property being serviced must repair in manner that is agreeable to all affected and must be done so within one year of discovery of leak. Affected parties will discuss a repair schedule that will be least intrusive while staying within the one year deadline.

SIGNATORY PORTION

OWNERS OF PROPERTY: Ronald T. Cammack .Date 3/9/12

Kathy Cammack .Date 03/09/12

PARTIES DESIRING EASEMENT: David Shenk .Date 03/01/12

Shelley Shenk .Date 3/1/12