

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 95-18055

Exam Date:

1. Current Owner:

SAM TOROLOPOULOS 23835 N RIMROCK RD HAYDEN ID 83835-7870 AND
CAROLYN TOROLOPOULOS 23835 N RIMROCK RD HAYDEN ID 83835-7870

2. Accompanied by: Sam and Carolyn Torolopoulos

Phone No: 817-881-2323

Address: Same as above

Relationship to permit Holder: Permit holders

3. SOURCE:

SPRING

Tributary

SINKS

Method of Determination: Arcmap and DRG.

B. OVERLAP REVIEW

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

NO Overlap

Water Right No.	Source	Purpose of Use	Basis

Comments: _____

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

NO Overlap

Water Right No.	Source	Purpose of Use	Basis

Comments: _____

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

SPRING L7 (NW¼ SW¼ SW¼), Sec. 4, Twp 52N, Rge 03W, B.M. KOOTENAI County

Method of Determination: GPS. POD is a buried spring box to 3 inch pipe located at -116°43.110, 47°52.657.

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	
52N	03W	4											0.3 L7						0.3

Total Acres: 0.3

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	
52N	03W	4											X L7						

Method of Determination: Field exam 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 1:24,000 or greater.

X

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

X

X Photo of Diversion and System Attached

X

4.

Well or Diversion ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
SPRING BOX					

D. FLOW MEASUREMENTS

1.

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

2. Measurements: Diverting pipe from a buried spring box discharged into a small subsurface storage tank without minimum piping requirements to complete a flow measurement.

E. FLOW CALCULATIONS

X Additional Computation Sheets Attached

Measured Method: Water from a buried spring box flows from the POD to a small less than 500 gallon sub-surface storage tank prior to distribution for beneficial uses. I was unable to gain a flow measurement as water discharged into the tank below the surface at a level I was unable to access. The permit holder used a 1 hp STA-RITE pump to draw water from the tank for irrigation and stockwater uses. Stockwater diversion rate shall equal 0.02 cfs, which is the minimum allowance department standard. Irrigation diversion rate shall equal 0.3 ac x 0.03 cfs per acre = 0.01 cfs. The combined diversion rate equals **0.03 cfs**.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 0.3 \text{ acres} \times 3.0 \text{ afa} = 0.9 \text{ af}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.01 \text{ cfs} \times 214 \text{ days} \times 1.9835 = 4.2$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = \mathbf{0.9 \text{ af}}$$

2. Volume Calculations for Other Uses:

- Stockwater annual volume = 25 chickens x 2.5 gpd x 365 days = 22,813 gal per year / 325,850 gal per af = **0.1 af** considering department rounding standards.
- Maximum diversion volume for licensing purposes equals 0.9 af (irrigation beneficial use) + 0.1 af (stockwater beneficial use) = **1.0 af**.

G. NARRATIVE/REMARKS/COMMENTS

Administrative note: this right was split from 95-11878, and accounts for a spring source that provides water for stockwater and irrigation beneficial uses. There is no overlap between water rights on the permit holder's property.

An initial field exam was performed on 8/25/2016 with the current permit holder(s), Sam and Carolyn Torolopoulos that showed spring water being used for irrigation and stockwater purposes. A follow-up exam was performed on 5/26/2017 to validate that the originally permitted water sources from permit 95-11878 were not inter-connected.

Water from a buried spring box flows from the POD to a small, less than 500 gallon sub-surface storage tank, prior to distribution for beneficial uses. I was unable to gain a flow measurement as water discharged into the tank below the surface at a level I was unable to access. The permit holder used a 1 hp STA-RITE pump to draw water from the tank for irrigation and stockwater uses. Stockwater diversion rate shall equal 0.02 cfs, which is the minimum allowance department standard. Irrigation diversion rate shall equal $0.3 \text{ ac} \times 0.03 \text{ cfs per acre} = 0.01 \text{ cfs}$. The combined diversion rate equals **0.03 cfs**, which will be applied to the license.

During the exam, the irrigation POU was observed as two small areas of grass and trees the applicants watered using a tripod sprinkler. When matched with the applicant's 1 hp pump operating at the pumps' maximum technical specification rating of 50 psi, the sprinkler nozzle produces at a 4.4 gpm flow capacity. The pump is capable of diverting more than 4.4 gpm, but is also used for stockwater purposes. When a second tripod sprinkler is used the PSI reduces and the flow rate falls between 3.5 and 4.4 gpm; it is reasonable to assume that the minor overage in diversion is negligible with regard to any over-diversion considerations. The small pump likely doesn't achieve the maximum technical specification values due to head pressure loss over piping distance from the storage tank to the POU. The irrigation area was sketched out on field maps, and during licensing review Arcmap aerial imagery was used to trace out the irrigation POU, which equals 0.3 acres. The annual volume for irrigation use equals $0.3 \text{ ac} \times 3.0 \text{ afa} = \mathbf{0.9 \text{ af}}$, which will be applied to the license.

A small barn was observed during the exam that was used as a chicken coup. The annual volume associated with stockwater use equals $25 \text{ chickens} \times 2.5 \text{ gpd} \times 365 \text{ days} = 22,813 \text{ gal per year} / 325,850 \text{ gal per af} = \mathbf{0.1 \text{ af}}$ considering department rounding standards that will be carried forward to the license. The maximum diversion volume for licensing purposes equals $0.9 \text{ af (irrigation beneficial use)} + 0.1 \text{ af (stockwater beneficial use)} = \mathbf{1.0 \text{ af}}$. The stockwater POU was identified as a fenced area south of the home on the property, and Arcmap aerial imagery was used to trace out the POU during licensing review. The permit holders also own right No. 95-13215 which is a groundwater decreed right that is present on the same parcel, but does not overlap this right's stockwater POU. The sources between the two are different and are not being recommended for overlap concerns.

Conditions 219, 220, X02, 111, and 26A were removed from the permit during licensing review. R66 was replaced with X31 to assign irrigation diversion and volume limitations associated with irrigated acreage less than 1 acre in size. Condition 004 will remain on the license. There are no overlap concerns for this water right.

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

H. RECOMMENDATIONS

1. Recommended Amounts

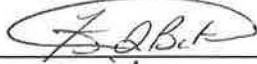
<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Rate of Diversion</u>	<u>Annual Volume</u>
IRRIGATION	03/15 to 11/15	0.01 CFS	0.9 AF
STOCKWATER	01/01 to 12/31	0.02 CFS	0.1 AF
<u>Totals:</u>		0.03 CFS	1.0 AF

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 Luke Bates - Water Resource Agent

Field Examiner's Name  Date 12/30/2020

Reviewer  Date 1/11/2021

State of Idaho
Department of Water Resources
Attachment to Field Exam
95-18055

IRRIGATION system diagram.



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

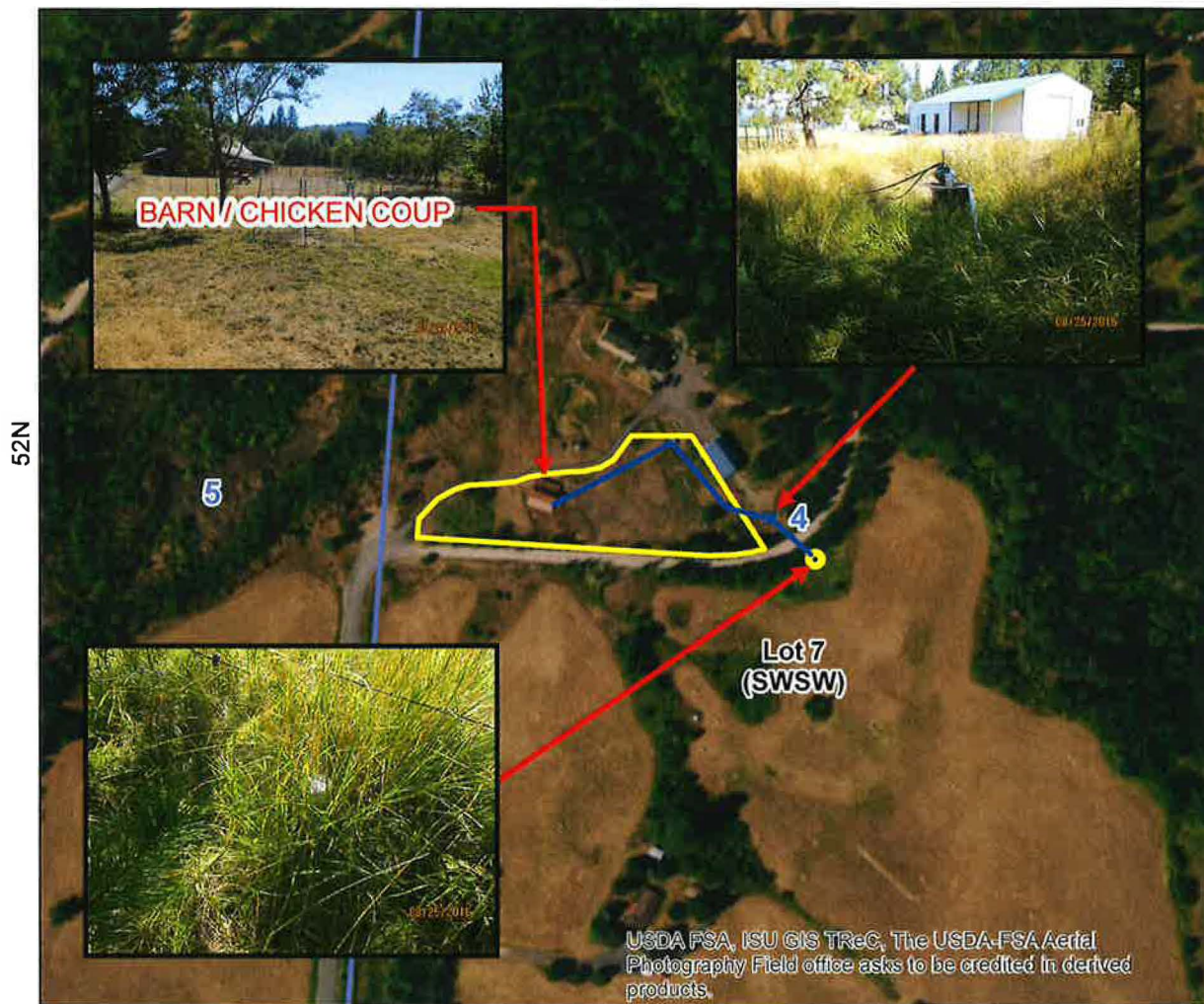
0 0.035 0.07 0.14 Miles



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STOCKWATER system diagram.

03W



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

0 0.035 0.07 0.14 Miles





\$72.00

Title:
Telescoping
Tripod with
3/4" Base PC
Brass Impulse
Sprinkler

Add to cart



Description

Specifications

Features and Benefits

Primary Applications

Product Video

Specifications:

- **Flow Range:** 3-10 gal/min.
- **Construction:** Complete Brass Body, Drive Arm, & Lower Turning Union
- **Inlet Size:** 3/4" Male Pipe Thread with 3/4" Female Adapter, Adjustable Jet Stream Breaker Included
- **Trajectory:** 23°

- **Nozzle Sizes Included:** 4 mm & 5 mm

KOALA (23° Trajectory) 0.75" MNPT				
PSI	Nozzle 4mm (.16")		Nozzle 5mm (.20")	
	GPM	Diameter	GPM	Diameter
22	3.1	65.2	-	-
29	3.5	78.6	5.7	85.2
44	4.4	88.4	7	95
56	5.3	95	8.5	101.6
70	-	-	9.2	107.6

50
PSI
=
4.85 GPM

****These calculations are theoretical test numbers under perfect conditions and do not take into consideration wind, terrain, or other natural acts of nature.**

Related Products



Sime Koala 3/4" Brass Sprinkler



750K Wheeled Sprinkler Cart



3/4" 6

Frequently Asked Questions

What is GPM?



SPRING POD – BURIED SPRING BOX WITH VENT PIPE



WATER SYSTEM PIPE ROUTED BENEATH ROAD TO SMALL STORAGE TANK



SUB-SURFACE STORAGE TANK, LESS THAN 500 GALLON CAPACITY



1 HP STA-RITE PUMP FROM STORAGE TANK TO IRRIGATION AND STOCKWATER USE(S)





IRRIGATION POU



IRRIGATION POU – HOSE AND TRIPOD SRINKLER SYSTEM



STOCKWATER POU – BARN INCLUDING CHICKEN COUP