

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 95-10082

Exam Date: 06/30/2015

1. Current Owner:
BENNIE LOWRY 640 RENLOW RD PLUMMER ID 83851-9634 AND/OR
ROBERT N LOWRY 640 RENLOW RD PLUMMER ID 83851-9634
2. Accompanied by: Robert Lowry
Phone No: 208-686-1197
Address: Same as above
Relationship to permit Holder: Permit holder

3. SOURCE:
UNNAMED STREAM

Tributary
PLUMMER CREEK

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
95-10083	UNNAMED STREAM	Stockwater storage/from storage	BENEFICIAL USE CLAIM, RECOMMENDED ACTIVE STATUS
95-4665	GROUNDWATER	DOMESTIC	DECREED
95-18029	SPRING	IRRIGATION	PERMIT SPLIT FROM THIS RIGHT, IN PROCESS FOR LICENSING

Comments: Right 95-10083 is a beneficial use claim (recommended active status) that is associated with the same pond as this right, uses water for stockwater storage and stockwater from storage that overlaps this rights storage POU, and accounts for the pond capacity, seepage, and evaporation volumes associated with the storage pond. Right 95-4665 is a beneficial use claim (recommended active status) that uses groundwater for domestic purposes that overlap the irrigation from storage POU of this right. Condition X35 was added to this right to mitigate the overlap concern between rights 95-4665, 95-18029, and this right irrigating the same 1.1 acres at the irrigation from storage POU for this right.

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 SYSTEM

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

UNNAMED STREAM SW¼ NE¼, Sec. 10, Twp 46N, Rge 04W, B.M. BENEWAH County

Method of Determination: GPS; POD is an earthen dam for pond located at -116°49.192, 47°20.719.

PLACE OF USE: IRRIGATION STORAGE

[illegible]

PLACE OF USE: IRRIGATION FROM STORAGE

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
46N	04W	10			0.6	0.5													1.1

Total Acres: 1.1

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
NONE					

D. FLOW MEASUREMENTS

1.

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

2. Measurements: N/A

E. FLOW CALCULATIONS

Measured Method: N/A

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 1.1 \text{ acres} \times 3.0 \text{ afa} = \mathbf{3.3 \text{ af}}$$

$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = \text{N/A}$, there is no diversion rate applied to this license
 $V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 3.3 \text{ af}$

2. Volume Calculations for Other Uses:

See Attached pond analysis sheet.

Maximum diversion volume = **3.3 af**; multiple fill volume for irrigation from storage use.

G. NARRATIVE/REMARKS/COMMENTS

Administrative note: permit 95-10082 was approved with a spring source POD and unnamed stream POD; during field exam, the two sources were identified as not interconnected, and the water conveyance systems were separate. This right was split with subsequent right 95-18029 accounting for the spring source and irrigation as direct flow beneficial use. This right accounts the unnamed stream and pond storage for irrigation and irrigation from storage beneficial uses.

A prior field exam was performed by department staff on 6/30/2015, but the documentation collected did not adequately describe the applicant's water source interaction nor usage required to license the permit. During the time lapse between field exams, the applicant, Robert Lowry, has worked through some serious illnesses and knee surgeries that have since limited his mobility and current irrigation practices. At the time of licensing review, the permit development period of 3/24/2009 to 3/17/2014 will primarily be used when identifying credit for irrigation toward licensing this right.

A follow-up field exam was conducted on 7/13/2020 with the applicant, Mr. Lowry, which showed a pond receiving water from an unnamed stream used for irrigation storage & irrigation from storage uses. The applicant stated the pond was developed on his property in 1960. Mr. Lowry's irrigation from storage system consists of a 1 inch buried poly pipe from pond to a hose bib located in his lawn. An electric line is co-located with the hose bib, and electric is ran to the pond in the same trench as the water line, allowing power to the 1 hp pump in pond to receive power from the house during irrigation periods.

The irrigation storage (POU) pond has a surface area of 0.4 acres. The pond has a maximum depth of 8 feet, an average depth of 3.2 feet, a pond capacity of 1.3 af. The pond volumes associated with initial filling of the pond, seepage loss, and evaporation loss are not accounted for in the licensing of this permit; these volumes are captured and covered under right 95-10083. This permit is being recommended for licensing the multiple fill component for irrigation storage and from storage volume of 3.3 af annually. The Maximum diversion volume for this water right will be licensed at **3.3 af**.

At the irrigation from storage POU, the applicant used hoses, hose splitters, and portable sprinklers to irrigation around his home. Gravity flood irrigation is also used on the downhill slope of his lawn area. During field exam, the irrigated acreage was sketched on field maps. During licensing review, Arcmap aerial imagery and field notes were used to trace out the irrigation from storage POU equaling 1.1 af. The annual volume for the irrigated acreage equals $1.1 \text{ ac} \times 3.0 \text{ afa} = \mathbf{3.3 \text{ af}}$, which will be applied as the irrigation from storage annual volume and accounts for the multiple fill component on the pond analysis sheet. Mr. Lowry stated that while he can't physically walk to the pond after his last surgery, he has not had an issue using the pump system to date during the irrigation season.

Condition 26A was removed from the permit during licensing review. Condition R66 was replaced with R58, as there is no diversion rate applied to this right after the split. Condition 259 was added to describe the multiple fill volume associated with irrigation storage and from storage uses, and condition 220 was added to describe the pond capacity and size in acres, but does not count toward volume for licensing purposes. Condition X35 was added to describe the limitations for irrigation of 1.1 acres between this right, 95-4665, and 95-18029 (read below). All other conditions on permit shall remain on the license.

POU Overlap Concerns:

- Right 95-10083 is a beneficial use claim (recommended active status) that is associated with the same pond as this right, uses water for stockwater storage and stockwater from storage that overlaps this rights storage POU, and accounts for the pond capacity, seepage, and evaporation volumes associated with the storage pond. It is not a concern for overlap regarding this irrigation beneficial use right.
- Right 95-4665 is a decreed right that uses groundwater for domestic purposes that overlap the irrigation from storage POU of this right.
- Condition X35 was added to this right to mitigate the overlap concern between rights 95-4665, 95-18029, and this right irrigating the same 1.1 acres at the irrigation from storage POU for this right.

There are no additional overlap concerns for this 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>Annual Volume</u>
IRRIGATION STORAGE	01/01 to 12/31	3.3 AF
IRRIGATION FROM STORAGE	04/01 to 10/31	3.3 AF
<u>Totals:</u>		3.3 AF

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 - Water Resource Agent

Field Examiner's Name ASB Date 12/15/2020
 Reviewer Adm. Fink Date 12/15/2020

State of Idaho
Department of Water Resources
Attachment to Field Exam
95-10082

IRRIGATION STORAGE system diagram.



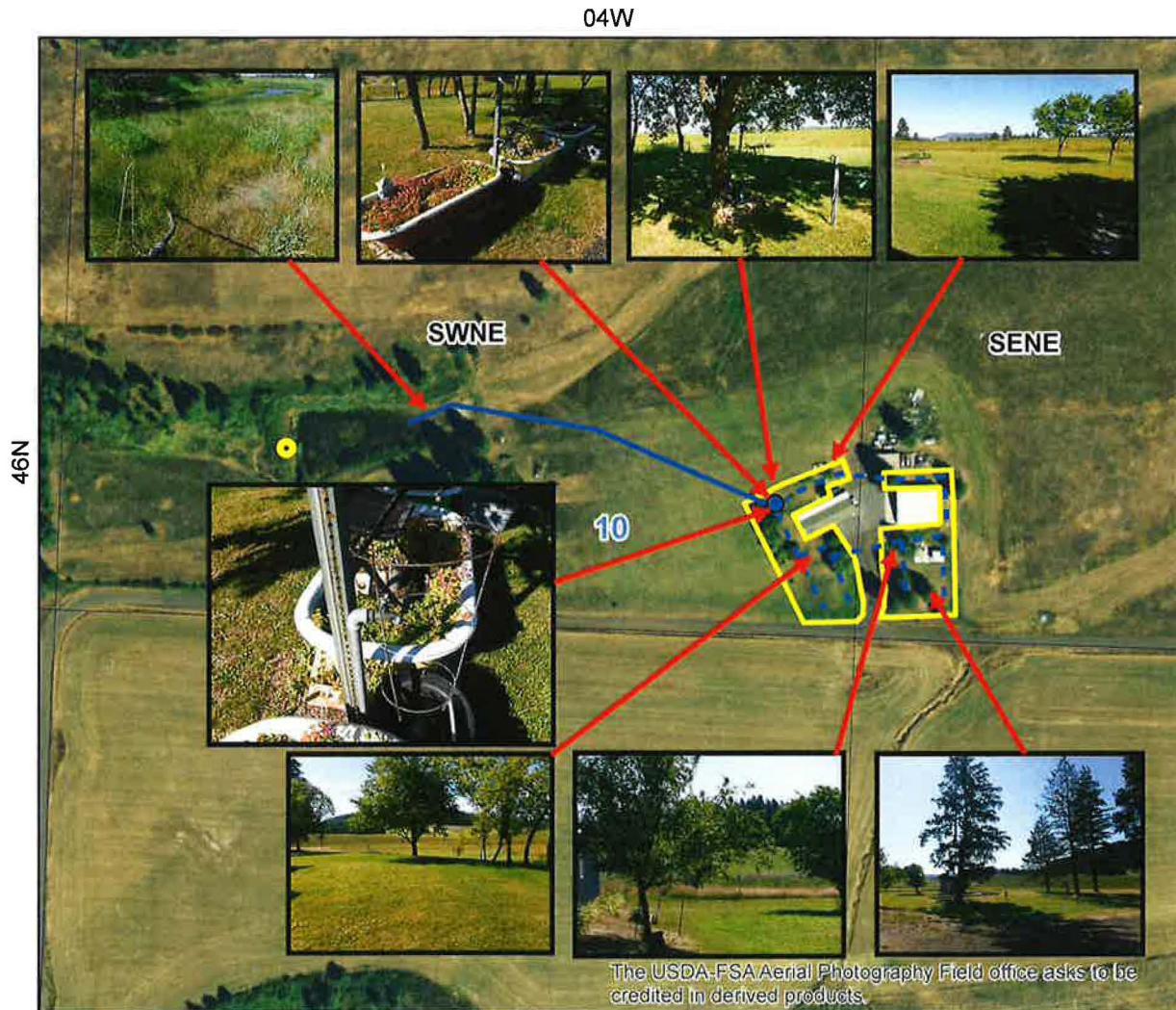
-  Point of Diversion
-  Place Of Use Boundary
-  Townships
-  PLS Sections
-  Quarter Quarters

0 0.035 0.07 0.14 Miles



State of Idaho
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IRRIGATION FROM STORAGE system diagram.



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

0 0.035 0.07 0.14 Miles



Total Storage Calculations

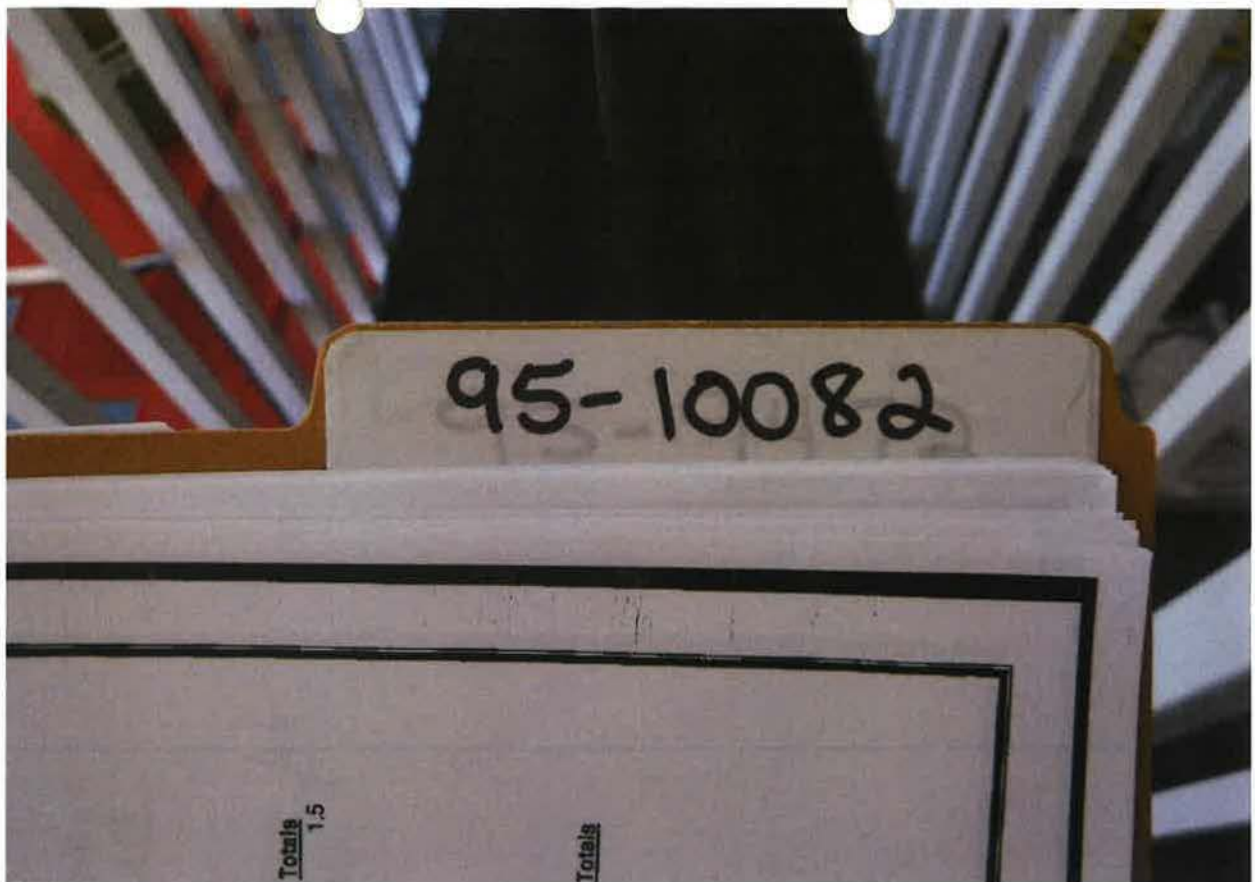
FILE NUMBER	95-10082
REVIEWER	Luke Bates
DATE	10/22/2020

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the total seepage, evaporation and fill capacity required for a pond.

User Input
Calculated value
Formula Explanations

Surface Area (AC.)	0.4	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	3.2	"Average Pond Depth" depicts the actual depth of the pond either measured or estimated. Note: If you know the maximum depth and not the average depth, the Field Examiner's Handbook suggests multiplying the maximum depth by 0.4 to get the average depth, or you can use any method that seems reasonable to attain average depth.
Pond Capacity (AF)	1.3	Pond Capacity is calculated by multiplying the Pond Surface Area by the Average Pond Depth. If you know the capacity, divide the capacity by surface area and enter the average pond depth in the space above. Note: If pond capacity is determined using a method shown on the "Pond Capacity" sheet, the user may need to modify the value of "Pond Capacity" (cell B9) manually. Note that if the value is modified manually, the formula will be altered for future use.

Multiple Fill Volume Above Initial Fill to Fulfill From Storage Needs- "Multiple Fills" (AF)	3.3	The "Multiple Fill Volume Above Initial Fill" is the acre-feet of water required to meet a <i>from storage</i> component if the <i>from storage</i> component exceeds a one time fill. This section should not include the amount of water needed to fill the pond initially or the amount of water needed to maintain the pond level due to evaporation or seepage. For example: if a pond has a capacity of 5 acre feet and 2.5 acre feet of seepage and evaporation, but the pond is used for irrigation that requires 10 acre feet of from storage for the irrigation use, then you would insert 5 acre feet into this location (10 acre feet needed - 5 acre feet from the initial fill = 5 acre feet of additional storage needed). Note: You must have a "From Storage" component exceeding the initial fill on the permit to include a volume in this space.
Estimated Seepage Loss (AF)	0.4	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	0.6	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	5.6	The "Total Volume Required" is calculated by adding the Pond Capacity, Multiple Fills, Seepage Loss, and Evaporation Loss amounts to determine the total amount of storage required.



POD – POND EARTHEN DAM



POU – IRRIGATION STORAGE

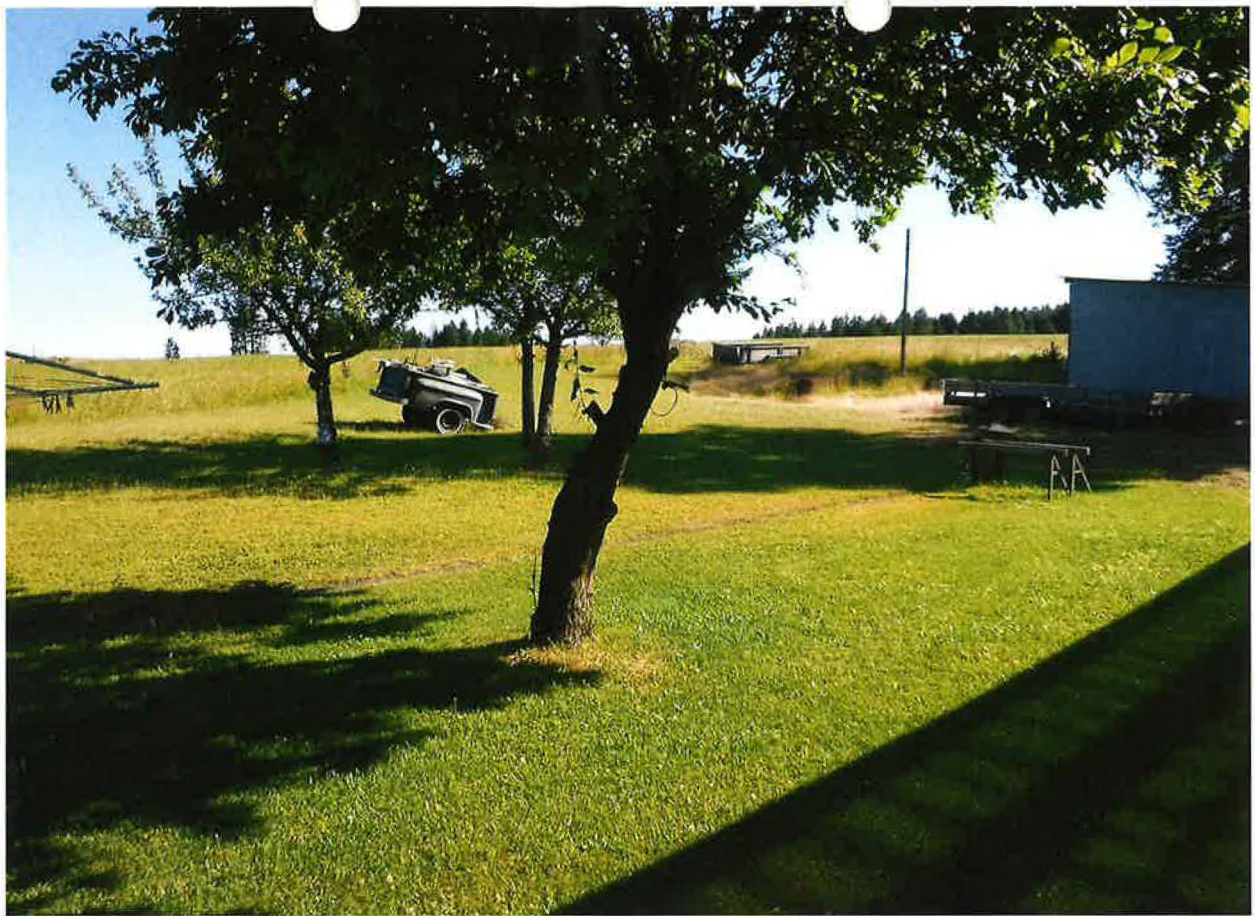




BLACK POLY PIPE WATER CONVEYANCE FROM POND TO IRRIGATED POU



FAUCET RECEIVING WATER FROM POND BLACK POLY PIPE FOR IRRIGATION



IRRIGATION AND IRRIGATION FROM STORAGE POU's



ELECTRICAL STUB FOR GENERATOR TO RUN PUMP FROM POND



IRRIGATION AND IRRIGATION FROM STORAGE POU_s





IRRIGATION AND IRRIGATION FROM STORAGE POU's





IRRIGATION AND IRRIGATION FROM STORAGE POU's



IRRIGATION BY HOSE AND SPRINKLERS/WAND TO WATER POTTED PLANTS