

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 65-23068

Exam Date: 8/14/2017

1. Current Owner:
SOULEN LIVESTOCK CO 1760 FAIRMONT DR WEISER ID 83672 (208) 549-8212

2. Accompanied by: Phill Soulen
Phone No: 208-880-9078, 208-634-5837
Address: 119 e Lake St. McCall, ID
Relationship to Permit Holder: Father of current owner, former owner

3. **SOURCE:**
MILL CREEK

TRIBUTARY:
HARTSELL CREEK

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 65-11005
2. Other water rights with the same point-of-diversion: 65-11005

C. DIVERSION AND DELIVERY SYSTEM**1. LOCATION OF POINT(S) OF DIVERSION:**

MILL CREEK SE¼SW¼ Sec. 11, Twp 17N, Rge 02E, B.M. VALLEY County

Method of Determination: Handheld GPS

2.

PLACE OF USE: IRRIGATION FROM STORAGE

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
17N	02E	14			15.5										28.0	33.0	3.0	7.0	87.0

Total Acres: 87

PLACE OF USE: IRRIGATION STORAGE

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
17N	02E	11									X			X					

Method of Determination: Field observation, Aerial Imagery, and ArcMap GIS tools.

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
NA	NA	NA	NA	NA	NA

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
NA	NA	NA	NA	NA	NA	NA

2. Measurements: No flow component to measure.

E. FLOW CALCULATIONS

Measured Method: N/A

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation: N/A because Irrigation from Storage

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$$

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

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

2. Volume Calculations for Other Uses:

$$\text{Irrigation Storage Capacity} = (\text{Surface Area}) \times (\text{Max Depth}) (0.4) = (9.3 \text{ ac}) \times (17.5) \times (0.4) = 65.1 \text{ AF}$$

$$87 \text{ ac} \times 5 \text{ af/ac} = 435 \text{ af}$$

*see attached pond analysis

Permit	100 af
B.U. Standard Allowance	435 af
B.U. Proof Fee	\$100 → 20.1 to 100 af
License Recommendation	100 af

G. NARRATIVE/REMARKS/COMMENTS

Field exam was completed by agent Justin Shearer on August 14, 2017 and was accompanied by Phill Soulen, former owner of Soulen Livestock, father of current owner. Soulen Livestock is the active permit owner and original applicant. The application for permit was submitted on August 8, 2007 and proof of beneficial use was made October 22, 2013.

The applicant has a 9.3 acre reservoir impounded by a an earthen dam 22 feet in height that stores water from Mill Creek and another Unnamed Stream for irrigation of 87 acres of open pasture to the south. Upon field exam, it was observed that the reservoir had been developed in a slightly different geographic location than what was permitted as Irrigation Storage was permitted within 17N, 02E, Sec. 14 NW ¼ NE ¼, however the reservoir actually exists within the NE ¼ SW ¼ and SE ¼ SW ¼ of 17N, 02E, Sec. 11. The development vs permitted discrepancy goes for the Point of Diversion (POD) location as well, as it lies at the base of the dam within 17N, 02E, Sec. 11 SE ¼ SW ¼ rather than within 17N, 02E, Sec. 14. Aerial imagery and field observation was used to determine irrigated acres. ArcMap tools were used to calculate an area of 87.0 acres being irrigated. The Irrigation from Storage POU acreage was found to be slightly different than permitted as well. I am recommending amendments to clarify all POD and POU locations.

Pond capacity was determined using satellite imagery, ArcMap tools, IDWR dam safety reports, and information

found during the field exam. Surface area of the pond was determined to be 9.3 acres, with an average depth of 7 ft. giving a total pond capacity of 65.1 af. with an estimated seepage loss of 10.2 af, and an estimated evaporation loss of 1.3 af. This totaling only 76.6 af. Though the user is only periodically coming out to the dam to open the valve and irrigate as needed, it is likely that the permit holder is fully utilizing the 100 AF authorized under this right and more. Can store 5.0 af/ac pursuant to 42-202(3). For 87 ac of irrigation, can store 435 af.

It should be noted that Soulen Livestock Co. also have natural flow rights for the same land in WR 65-11005. The system is capable of diverting and delivering the volume for both rights from the outlet. The permit holder operates the irrigation system for the two rights by periodically coming out to the dam, opening the outlet at the base of the dam, and flood irrigating the pasture beneath the dam. At the rate that the outlet is capable of delivering the water (16 cfs), the permit holder could fulfill water right volume of 100 af for WR 65-23068 in just over 3 days irrigating. Acknowledging that the rate of 1.74 cfs from WR 65-11005 delivers 3.4 af/day when available, and the fact that natural flow right 65-11005 isn't available for delivery usually after mid-August, it is reasonable to assume that the permit holder utilizes his irrigation from storage more than 7 days a year and requires a minimum 23.4 af for refill.

Condition 18C requiring the applicant to provide a measuring device to measure water entering the reservoir, and a device to measure water released from the reservoir has been waived at this time by WD 65 Water Master Ron Shurtleff, so a modified version of the condition was added to address future needs. Condition 220 was added to describe reservoir capacity and surface area limits. Condition 121 was modified to 103 as per licensing standards. Condition X35 was added to account for the POU overlap between 65-23068 & 65-11005. Condition R70 was added to address the max storage duty of water for irrigation from storage of 5.0 af per acre. Condition R40 was added to replace 18B as per licensing standards. Condition 01H was amended to R02 as per licensing standards.

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

H. RECOMMENDATIONS

1. Recommended Amounts

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
IRRIGATION FROM STORAGE	04/15 to 10/31		100.0 AF
IRRIGATION STORAGE	01/01 to 12/31		100.0 AF
<u>Totals:</u>			100.00 AF

2. Recommended Amendments

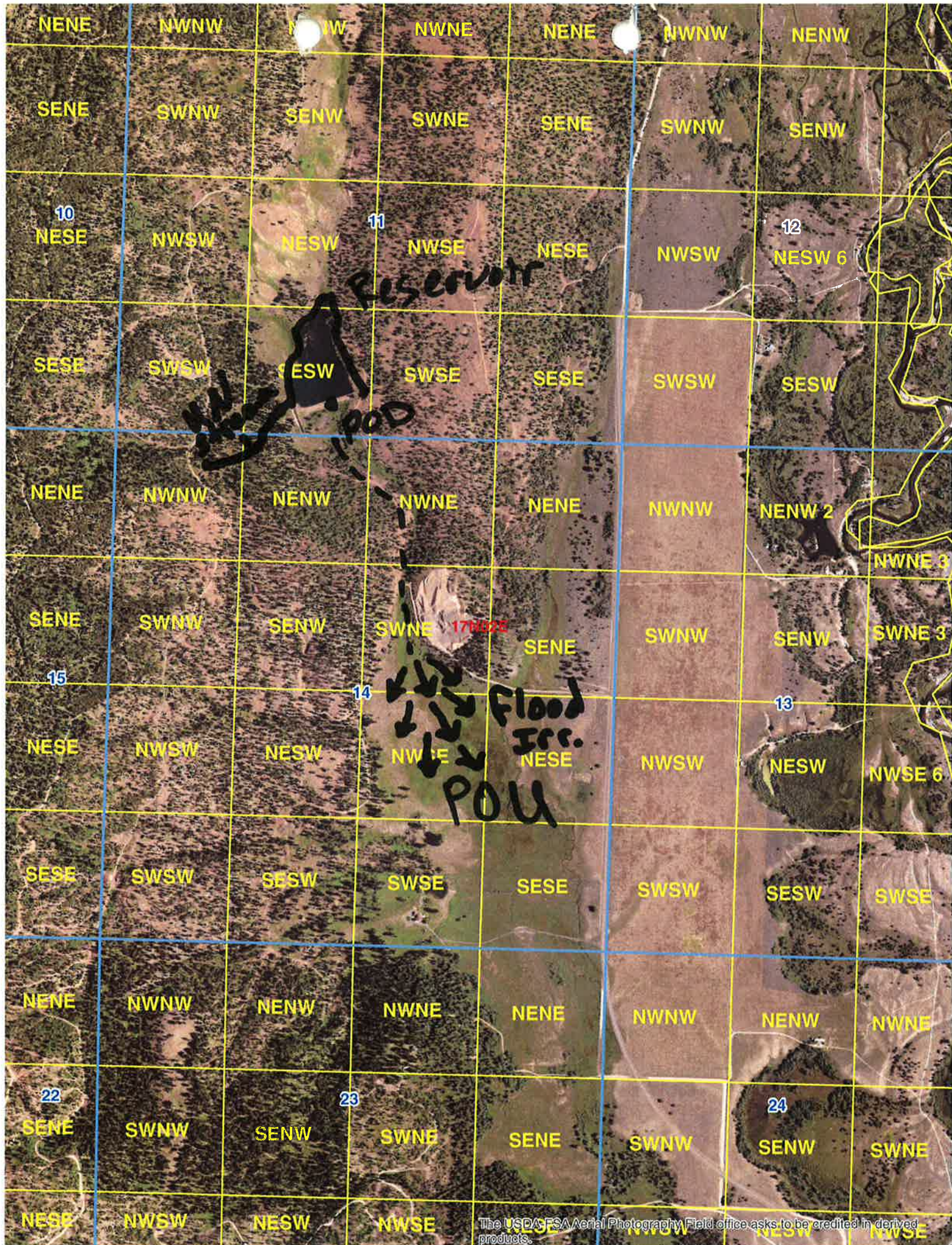
☒ Change P.D. as reflected above ☐ Add P.D. as reflected above ☐ None

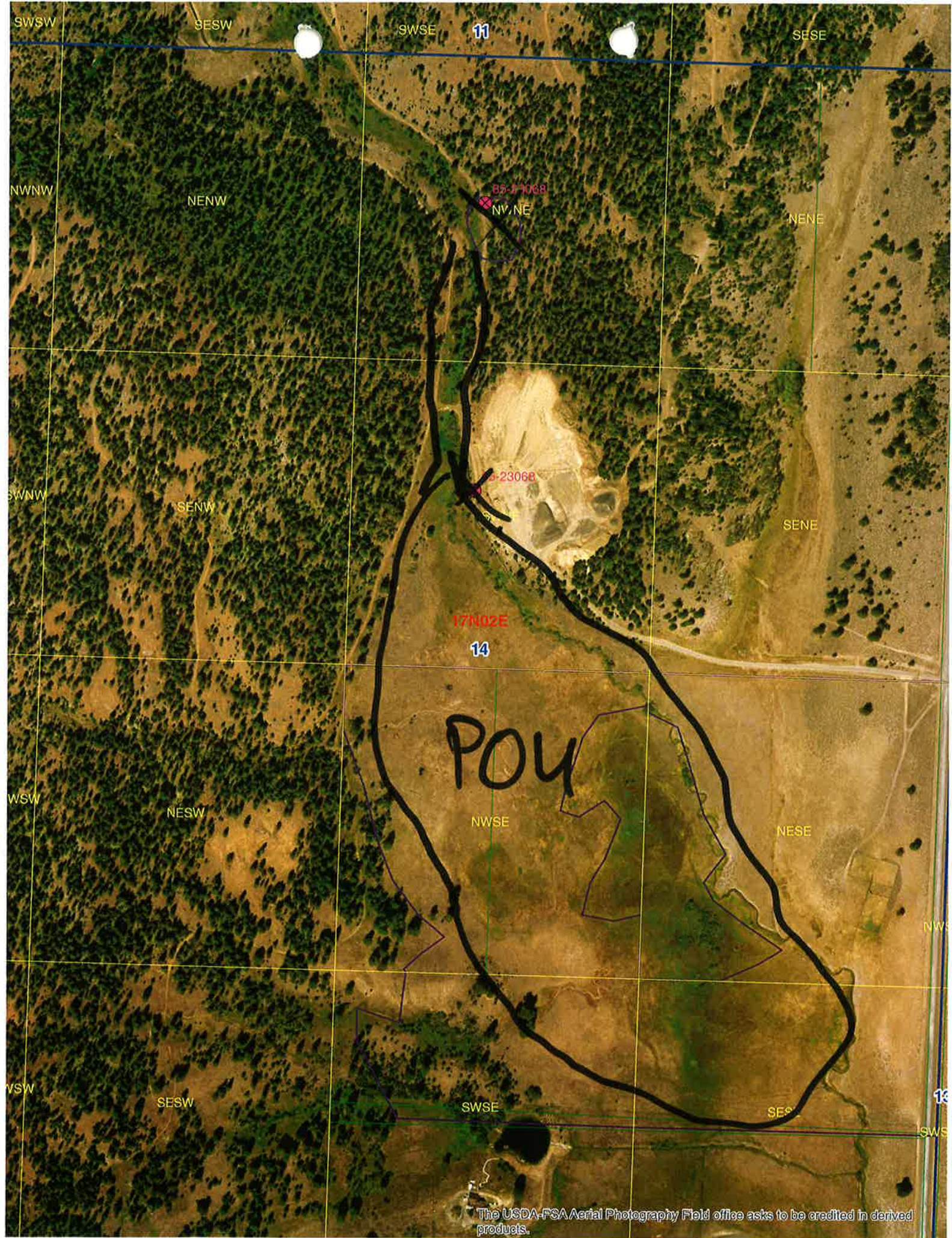
☒ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ None

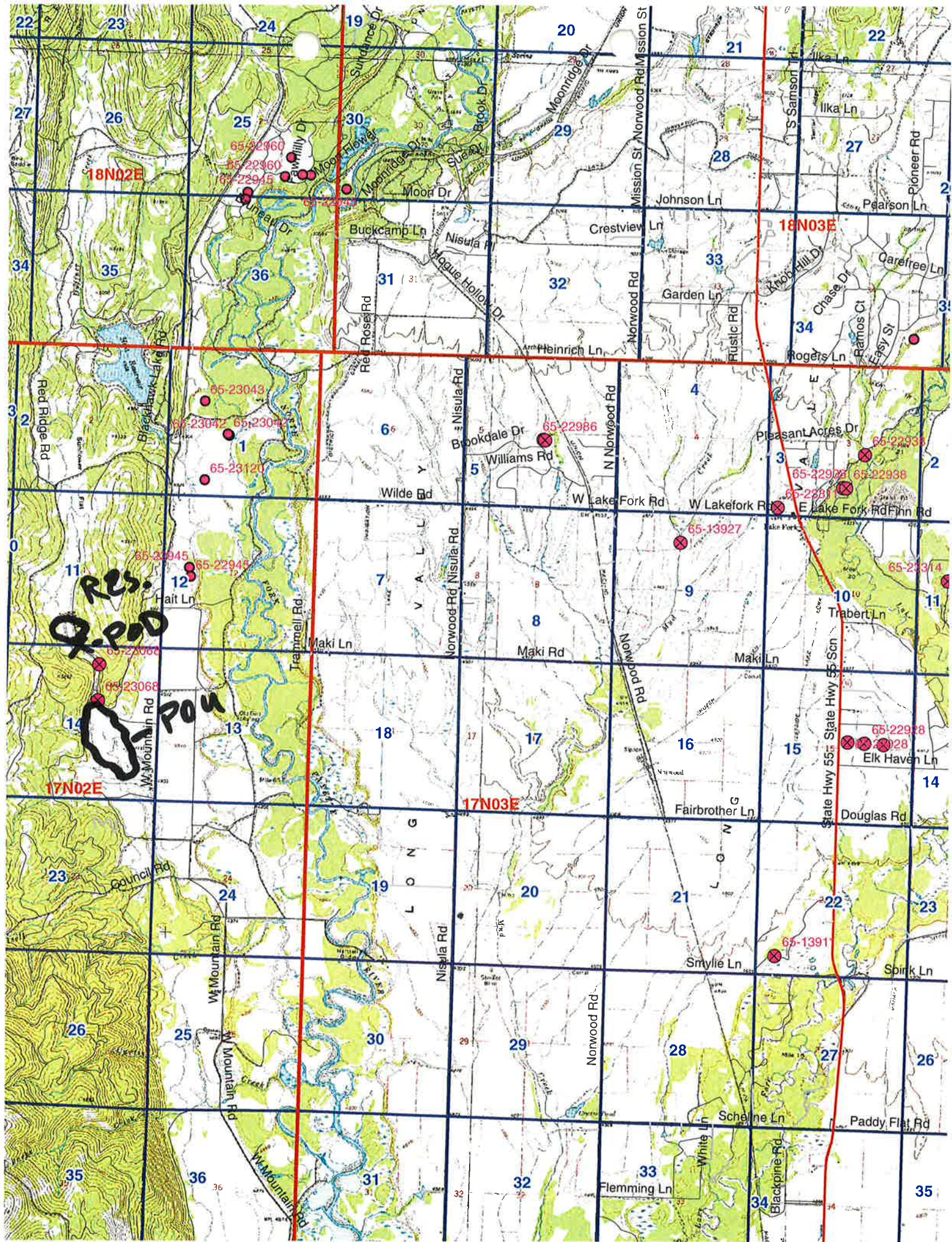
I. AUTHENTICATION

Field Examiner's Name *Justin Shearer* Date *3/28/2019*

Reviewer *David Wiley* Date *4-3-2019*







Payette River Basin, State of Idaho
State, Water District No. 65

Watermaster,
Ron Shurtleff

102 N. Main
Payette, ID 83661

Phone: 208-642-4465
Fax: 208-642-1042
E-mail: wd65@srvinet.com

October 15, 2018

Justin Shearer
Western Region
Idaho Department of Water Resources
2735 Airport Road
Boise, ID 83705-5082

Re: Water Right Application 65-23068

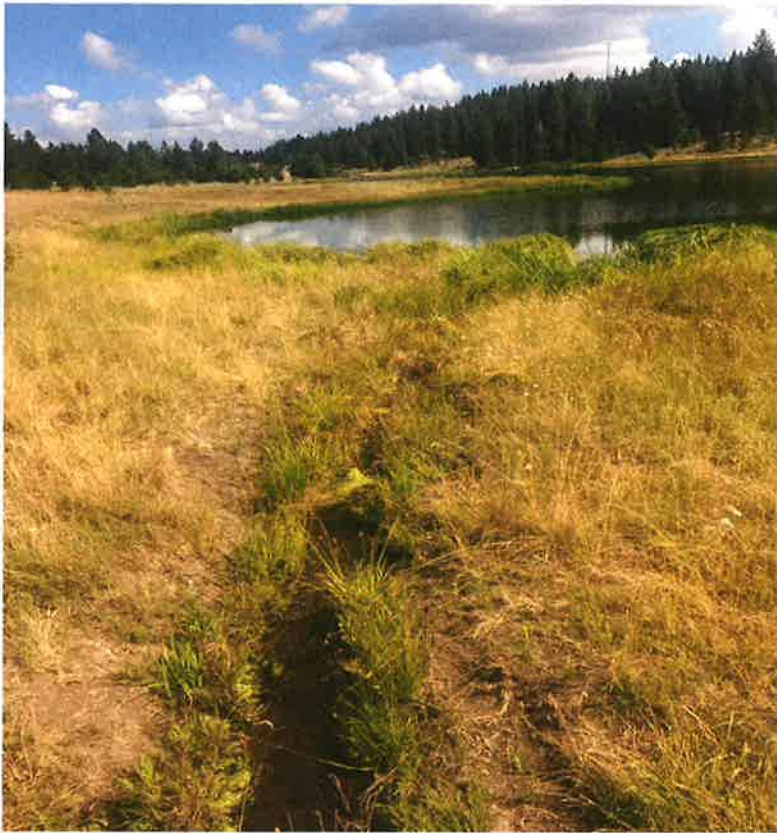
Justin,

In regard to Water Right Application 65-23068 where condition 18C requires the applicant to provide a measuring device to measure water entering the reservoir, and a device to measure water released from the reservoir. After consideration of the stream and the possible affect to downstream water rights, I consider it acceptable to waive at this time the condition requiring the measuring devices as stated in condition 18C.

Respectfully submitted,



Ron Shurtleff



Pic of reservoir
with unnamed
creek flowing into
it.



Pic of the reservoir
from the SE corner
looking North.



Pic of outlet valve control.



Dam outlet valve.



Looking South
toward pasture.



Pasture with
evidence of flood
irrigation.

Total Storage Calculations

FILE NUMBER	65-23068
REVIEWER	Justin Shearer
DATE	10/10/2018

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.)	9.3	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	7	"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)	65.1	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)	23.4	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)	10.2	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	1.3	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	100.0	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.

Seepage Loss Calculations

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the total annual seepage losses from a pond.

FILE NUMBER	65-23068
REVIEWER	Justin Shearer
DATE	10/10/2018

User Input
Calculated value
Formula Explanations

INPUTS

Pond Surface Area (AC.)	9.3	AC.
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Pond Surface Area (SQ. FT.)	405108	SQ. FT.
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I used the following method to obtain my Soil Classification information:	NRCS Web Soil Survey	
My Soil Classification is	CL	
Suggested Seepage Rate (FT./DAY)	0.0030	FT./DAY

Formula: (Surface Area X Seepage Rate) X 7.48 = Gallons Per Day Loss
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Convert to GPD	9091	GPD
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Total Seepage Loss (AFA)	10.2	AFA
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Though sand and gravel seepage rates may actually be higher, the maximum allowable rate is 0.2 ft/day, pursuant to Administrative Memo "Seepage Loss Standards for Ponds and Reservoirs."

Suggested Seepage Rates for Different Soil Types:

GW, GP, GM, GC, SW, SP and SM (silty sand, sand silt mixtures and gravel mixtures) = **0.2 ft per day**

OL and ML (inorganic silts - very fine sands, silty, or clayey fine sands) = **0.02 ft per day**

SC (clayey sands, sand clay mixtures) = **0.007 ft per day**

CL (Low to medium plasticity clays) = **0.003 ft per day**

MH, OH, PT and CH (high plasticity clays) = **0.0003 ft per day**

LINED PONDS (liners can be chemical, fabric, or bentonite) = **0 ft per day**

Ponds Intercepting Groundwater (excavated ponds filled by ground water) = **0 ft per day**

PLEASE NOTE: The initial basis for the Suggested Seepage Rates in the table above is found on Page 16 of Seepage from Fish Ponds, Bulletin 599, August 1989 Alabama Agricultural experiment Station, Auburn University, Auburn University Alabama. If you don't know the soil type, please refer to the map provided at the NRCS Web Soil Survey (Tab #1), an ArcMap Soil Classification Map (Tab #1.1), or published NRCS Soil Survey (Tab #1.2). Use "0" if the pond fill relies on the water table.

Evaporation Loss Calculations

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the annual evaporation losses from a pond.

FILE NUMBER	65-23068
REVIEWER	Justin Shearer
DATE	10/10/2018

User Input
Calculated value
Formula Explanations

The acronyms used on the Kimberly Research Center website are defined below:

P = Precipitation
ET= Evapotranspiration
P _d = Precipitation deficit
P _d =ET-P

USING THIS SPREADSHEET

Use the link below to access the Kimberly Research Center website. This website provides the Precipitation Deficit for a station most representative of the pond under examination. The Precipitation Deficit is the total amount of free water surface evaporation minus the precipitation for a given area, which gives the total amount of evaporative losses incurred by the pond. There are several weather sites that are used throughout the state. IDWR staff can find the nearest site using Arc Map. The shape file containing the sites can be found at <X:/Spatial/Climate/ETIdahostations.shp>.

Instructions:

1. Use the link below to navigate to ET Idaho 2012.
2. Select the station which is most representative to your pond location.
3. Click Submit Query.
4. Under "Land Covers with Evapotranspiration Estimates," select "Open Water - Shallow Systems (ponds, streams)" or "Open Water - small stock ponds" depending on the pond size.
5. Click the link to "Precipitation Deficit."
6. Reference and copy (ctrl + C) the first subheading "Mean" values.
7. Click the "Paste Values from ET Idaho" button. The table will automatically enter a zero (0) for any negative precipitation deficit values.

Found at: <http://data.kimberly.uidaho.edu/ETIdaho/>

Precipitation Deficit

Station: McCall (NWS -- 105708)

Month	mm/day ¹	Days per month	mm/Month
Jan	-2.01	31	0.00
Feb	-1.84	28	0.00
March	-1.64	31	0.00
April	-1.02	30	0.00
May	-1.04	31	0.00
June	-0.58	30	0.00
July	0.73	31	22.63
August	0.61	31	18.91
September	-0.01	30	0.00
October	-0.37	31	0.00
November	-2.12	30	0.00
December	-2.51	31	0.00

PLEASE NOTE: The seasonal average for precipitation deficit should not be used for calculations because precipitation often exceeds evaporation during wetter months of the year. If the pond is kept full, excess precipitation during wetter months does not serve to refill the pond during drier months.

For example, see Sandpoint KSPT (NWS -- 108137), the annual precipitation deficit is -106 mm. However, April through September have positive precipitation deficit values. To properly estimate the annual volume of water necessary to refill a pond due to evaporation losses, the table will automatically enter a zero (0) for each month that the precipitation value is reported as a negative value.

As described above, precipitation offsets evaporation in winter months, so the net effect is that wintertime precipitation deficit is usually zero.

Total mm/year = 41.54

$$[(41.54) \div (\text{convert to feet})] \times (\text{Surface area of pond, in acres}) = \text{Evaporation Loss in Acre Feet}$$

$$(41.54 \div 304.8) \times 9.30 = 1.3 \text{ AFA}$$

Process	Basin/sequr	Owner	Source	Use	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW	SESW	NESW	NWSW	SWSW	NENE	NWSE	SWSE	SESE	TotalAcres
Water Permit	65-23068	SOUTLEN LIVESTOCK CO.; WATTS, DON	MILL CREEK	IRRIGATION FROM STORAGE												30	25	12	20	87
Water Permit	65-23068	SOUTLEN LIVESTOCK CO.; WATTS, DON	MILL CREEK	IRRIGATION STORAGE																
Water Right	65-11005	SOUTLEN LIVESTOCK CO	MILL CREEK	IRRIGATION												30	25	12	20	87
Water Right	65-2301	SKY RANCH CO	UNNAMED STREAM	IRRIGATION														5	12	17

17N02E14
SWNE, NWNE

Process	Basin Sequence	Draft	Owner	Source	POD/ POU	NWNE	SWNE	Total Acres
Water Right	65-11005	N	SOULEN LIVESTOCK CO	MILL CREEK	POD		X	0
Water Permit	65-23068	N	SOULEN LIVESTOCK CO	MILL CREEK	POD	X	X	0
Water Right	65-2553	N	TWIN PINES RIVER RANCH	MILL CREEK	POD	X		0
Water Permit	65-23068	N	SOULEN LIVESTOCK CO	MILL CREEK	POU	X		0



State of Idaho

DEPARTMENT OF WATER RESOURCES

Western Region • 2735 W Airport Way • Boise ID 83705-5082

Phone: (208) 334-2190 • Fax: (208) 334-2348

Website: idwr.idaho.gov • Email: westerninfo@idwr.idaho.gov

BRAD LITTLE
Governor

GARY SPACKMAN
Director

February 19, 2019

COPY

SOULEN LIVESTOCK CO
1760 FAIRMONT DR
WEISER ID 83672

RE: WATER RIGHT 65-23068

Dear Soulen Livestock:

The Department of Water Resources is reviewing the permit referenced above prior to issuing water right licenses. By issuing licenses, the Department confirms that water rights have been established in compliance with the terms of the permits. The examiner who verified your water use reported that the point(s) of diversion and place(s) of use developed are in locations other than what was described on your permits. Therefore, before licenses can be issued, your permits must be amended to depict your water rights as they were actually developed.

The enclosed Application for Amendment forms depict the point(s) of diversion and place(s) of use and other information as they will appear on the licenses when they are issued. Please review the amendment forms carefully. If you concur with the information presented, please sign the forms and return them with the \$100.00 (\$100.00 each) filing fee within 14 days.

Also, please note that some of the proposed conditions of approval and remarks may be modified upon further administrative review.

If you do not concur, or if you have any questions about this information, please contact me as soon as possible. My telephone number is 208-334-2190.

Sincerely,

Justin Shearer
Water Resource Agent, Senior

Enclosures:

Application for Amendment (For Licensing Purposes) Water Right No. 65-23068
Map (Irrigation Storage), Map (Irrigation From Storage)



State of Idaho

DEPARTMENT OF WATER RESOURCES

Western Region • 2735 Airport Way • Boise, Idaho 83705-5082

Phone: (208) 334-2190 • Fax: (208) 334-2348 • Website: www.idwr.idaho.gov

C.L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Director

June 23, 2017

COPY

SOULEN LIVESTOCK CO
1760 FAIRMONT DR
WEISER, ID 83672

RE: Scheduling Field Exam for Water Right Permit No. 65-23068

Dear Permit Holder:

We are planning to conduct water right examinations in the vicinity of the above-referenced permit **this season**. An examination is needed to verify the water use in order to issue a water right license.

The above-referenced permit authorizes **100.0** Acre Feet from **MILL CREEK** tributary to **HARTSELL CREEK** for **IRRIGATION STORAGE & IRRIGATION FROM STORAGE** uses. If you have developed a beneficial use and still own the place of use property, please contact me at your earliest convenience to schedule an examination.

If you did not develop a beneficial use of water under the permit during the beneficial use period, a license cannot be issued and the permit should be relinquished. If that use was developed, but have ceased using the water and you currently carry no interest in it, please relinquish the permit by submitting the enclosed Relinquishment of Permit form (no fee required).

If you did develop a beneficial use of water under the permit, but you no longer own the place of use property identified in the permit, please submit the enclosed Assignment of Permit form with the applicable \$25 processing fee.

Please contact me within the next thirty (30) days at (208) 334-2190 to either schedule an examination or submit a relinquishment or assignment form. If you no longer own the place of use property and/or do not respond to this letter, the department will work with the current property owner to issue a license or void the permit.

Sincerely,

Justin Shearer
Water Resource Agent

Enclosures: Relinquishment of Permit form
Assignment of Permit form
Water Permit Report and Map