

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
IN-OFFICE REVIEW/BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 37-22683

Exam Date: 6/20/2017

1. Does this qualify for an in-office field exam (IDAPA 035.02.r)? ☒ Yes ☐ No
- a. Irrigation of 5 acres or less
- b. **Storage of up to 14.6 AF for stockwater purposes only**
- c. Any use other than irrigation or storage, if the combined diversion rate is 0.24 cfs or less
- d. Other < >
2. Current Owner: Name: _____
- Owner-of-Record Correct? Roger W Crist, Roger F Crist, Robert P Dreyer ☒ Yes ☐ No
and Department of Lands
- Address-of-Record Correct? ☐ Yes ☒ No
If No: c/o Jim Speck, Speck & Aanestad, PO Box 987, Ketchum, ID 83340
3. Beneficial Use Fees have been paid: ☒ Yes ☐ No Receipt No: C103242
4. **SOURCE** **TRIBUTARY**
- Water Gulch Creek Siinks
- Method of Determination: A map identifying the POD was submitted with application.
- Change in Source: ☐ Yes ☒ No

B. OVERLAP REVIEW

Refer to the attached overlap analysis spreadsheet

1. Other water rights with the same place of use: Overlap? ☒ Yes ☐ No

Water Right No.	Source	Purpose of Use	Basis
37-22579	Water Gulch Creek	Instream Stockwater	SRBA Decree
37-22580	Water Gulch Creek	Instream Stockwater	SRBA Decree

Comments: POD is located on IDL property

2. Other water rights with the same point of diversion: Overlap? ☐ Yes ☒ No

Water Right No.	Source	Purpose of Use	Basis

Comments:

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

Source	Govt. Lot	¼	¼	¼	Sec.	TWP	RGE		County
Water Gulch Creek			SW	NW	24	02N	18E	B.M.	BLAINE

Method of Determination: The legal description in the permit is validated by PLS data and aerial photography.

Change in POD? ☐ Yes ☒ NoAmendment Required? ☐ Yes ☒ No

2. **LOCATION OF PLACE(S) OF USE:** Use: Stockwater 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	
02N	18E	23				X													

Method of Determination: The legal description in the permit is validated by PLS data. The storage pond is visible in aerial photography.

Change in POU? ☐ Yes ☒ No

Amendment Required? ☐ Yes ☒ No

3.

☐ Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable. Buried perforated pipe.

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

☐ Photo of Diversion and System Attached

4. Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
				NA gravity flow	

*Code to correspond with No. on map and aerial photo

D. **FLOW MEASUREMENTS**

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

2. Measurements: In-office field exam. No measurements taken

E. **FLOW CALCULATIONS**

☒ Additional Computation Sheet Attached

	Diversion to Storage	Stockwater Storage
Policy standard on actual acres	0.03 cfs x 0.8 ac = 0.02 cfs	
Permit allowed	0.02 cfs	0.2 af
License recommendation	0.02 cfs	0.2 af

F. **VOLUME CALCULATIONS**

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = \text{NA}$$

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

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

Volume Calculations for Other Uses: 0.1 acre surface area x 2 ft depth = 0.2 AF

Limited by permit but likely using more water than permitted. Refer to pond calculations.

License recommendation – 0.2 af total.

G. PURPOSE OF USEIrrigation ☐ Yes ☒ No # Stock 10 mixed headDomestic # of Homes N/A

Other: < >

Change in Purpose of Use? ☐ Yes ☒ No

Method of Determination: Information in the water right file is consistent with aerial photography of the property.

If Yes: From Use _____ To Use _____ Amount _____ CFS _____ AFA _____

H. NARRATIVE/REMARKS/COMMENTS

Permit 37-22683 authorized a diversion to storage of 0.02 cfs and stockwater storage for 0.2 af.. Based on the small permitted diversion rate, this permit qualifies for an in-office field exam.

The legal description of the POU was used to locate the property. Available Blaine County taxlot information shows that the owners of the property which contains the pond are Robert P Dreyer and Roger E Crist. A map identifying the POU was submitted with the application and the shape outlined on that map matches a pond seen on the property.

I created the POU shape based on aerial photography and the permit shape. Imagery shows that sufficient water is available in the Water Gulch to maintain a few shrubs although the water does not routinely flow above ground now. Both the DRG layer and the Hydrography layer show that the creek is intermittent.

The pond is part of a system which was inspected by IDWR personnel in 2007 for the SRBA. I referred to the 2007 adjudication field exam report for 37-14279 to confirm the size of this pond. It is identified as pond #2 in that report. Please see the attached photo page excerpt from that report.

The POD shape is based on the permit's POD shape and spatial data point and confirmed by Robert Dreyer, one of the permit holders.

The POD and POU are within the Trust Water Area so the right will conditioned to notify the right holder to expect a Trust Water review.

POU/POD overlap

I found that SRBA decree 37-22579 for stockwater overlapped the POU and POD. Based on a settlement between IDL and the permit holder, the recommendation for 37-14279 was split and decreed. The companion split, 37-22580, should also appear in an overlap review but it doesn't. The decreed shape appears to have been lost in the move to the water rights side.

Have conditions of permit approval been met? ☒ Yes ☐ No**I. RECOMMENDATIONS****1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
Diversion to Storage	01/01-12/31	0.02 cfs	
Stockwater Storage	01/01-12/31		0.2 af
<u>Totals</u>		0.02 cfs	0.2 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 ☐ Other**I. AUTHENTICATION**Field Examiner's Name Michele EdlDate June 22, 2017

Reviewer _____

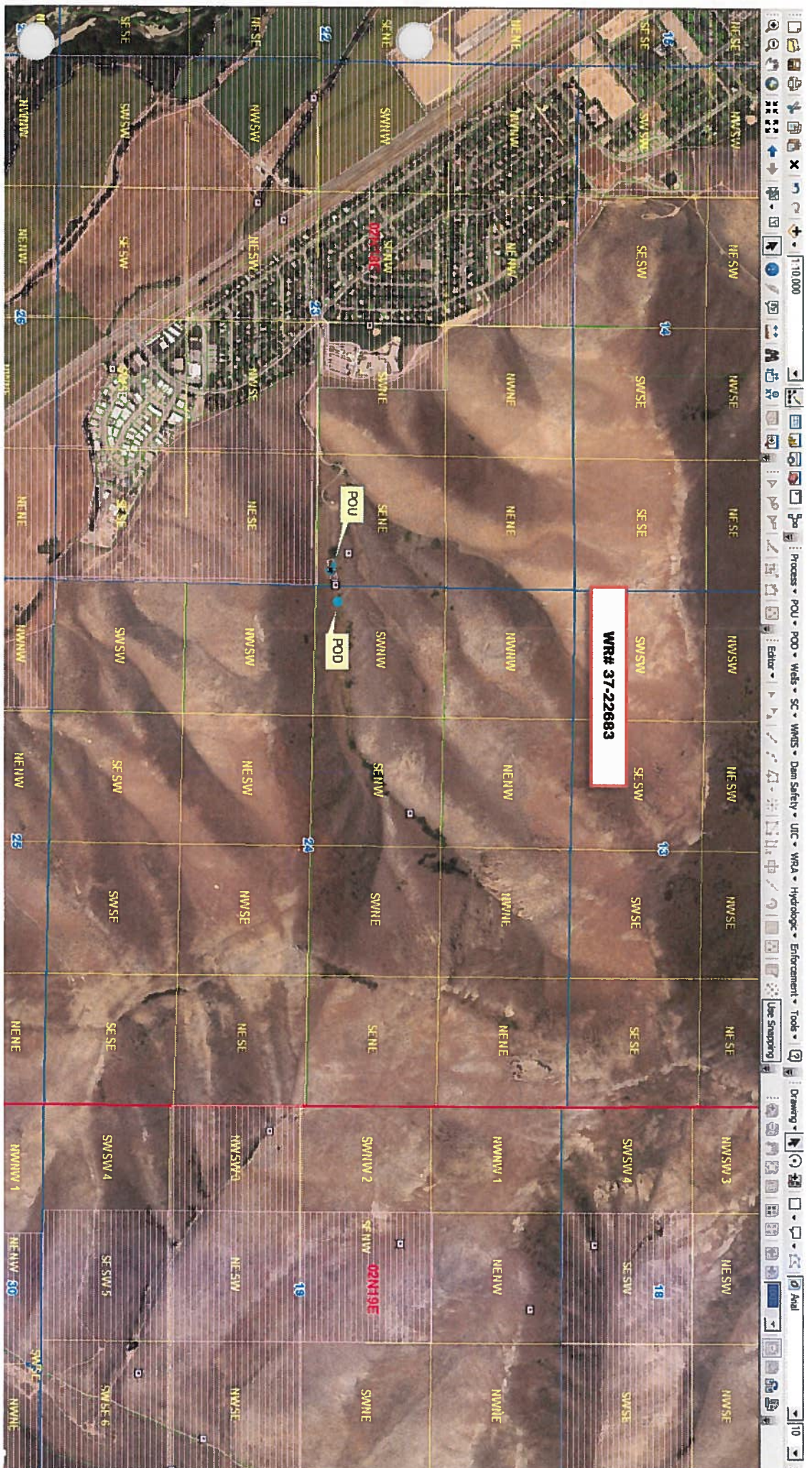
Date _____

Workflow

Exam Date Entered ☒
 POU/POD shapes ☒
 Combined Rights Entry ☐
 Wild & Scenic Entry ☐
 Draft License and Maps ☒

Supporting Documents

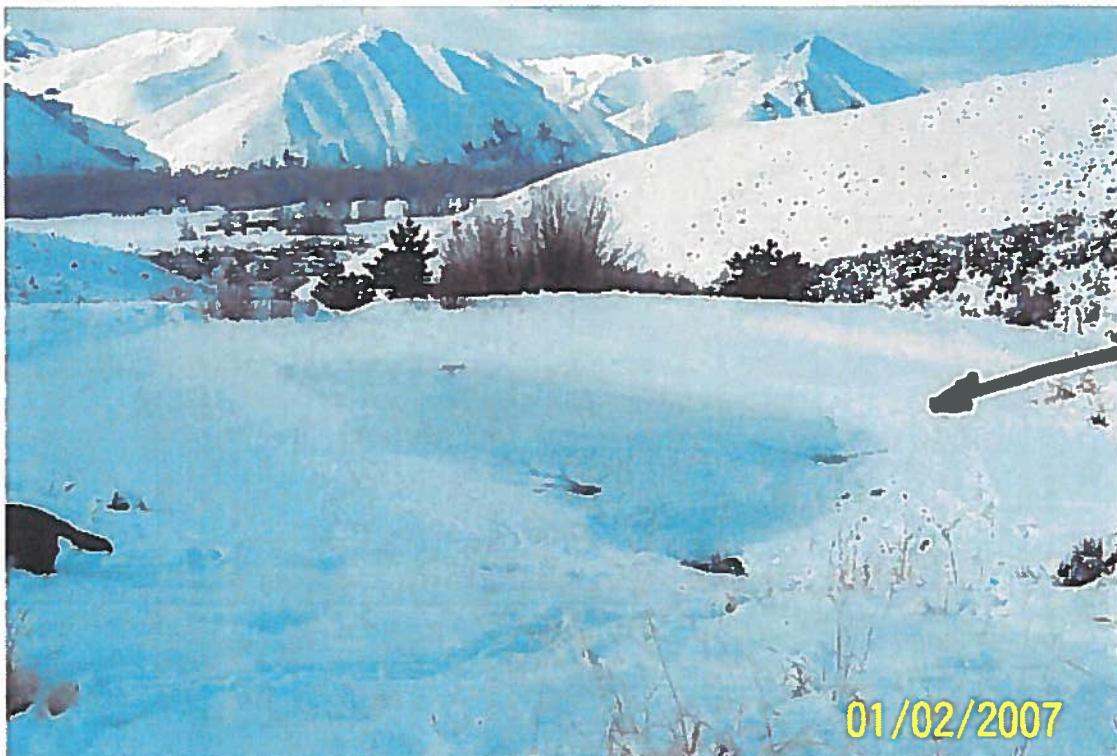
Historical Imagery ☐ Well Log ☐
 Photographs ☐ Diagrams ☐
 LandSat ☐ Theoretical ☒ pond calcs
Other: excerpt from inspection report for 37-14279



pond #1



pond #2
15'x15'x2'



pond #1
30'x20'x4'

37-14279 Dreyer/Crist
1/2/2007 SA



Area of Interest (AOI)

Soil Map

Soil Data Explorer

Download Soils Data

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View Soil Information By Use: [All Uses](#) ☒

Intro to Soils

Suitabilities and Limitations for Use

Soil Properties and Qualities

Ecological Site Assessment

Soil Reports

Printable Version

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AOI Inventory

Building Site Development

Construction Materials

Disaster Recovery Planning

Land Classifications

Land Management

Recreational Development

Sanitary Facilities

Soil Chemical Properties

Soil Erosion

Soil Health

Soil Physical Properties

Engineering Properties

[View Description](#) [View Soil Report](#)

Options

Include minor soils? ☐

[View Description](#) [View Soil Report](#)

Particle Size and Coarse Fragments

Physical Soil Properties

Soil Qualities and Features

Vegetative Productivity

Waste Management

Water Features

Hydrologic Soil Group and Surface Runoff

Water Features

Water Management

Soil Map

[Scale](#) (m to scale)



Identify

Layer

Attribute Name

Attribute Value

Location

Latitude, Longitude

43.49165°, -114.26730°

Area of Interest (AOI)

Area (acres in this part)

10.7

Soil Map Unit Polygons

AoID

2326121

Map Unit Name

Map Unit Symbol

95

Map Unit Key

Soil Survey Area Symbol

79386

National Map Unit Symbol

Date(s) Photographed

ID680

Aerial Photography

2n1v

Mar 18, 2010—May 23, 2010

Report — Engineering Properties

Absence of an entry indicates that the data were not estimated. The asterisk, *, denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007 (<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba>). Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Blaine County Area, Idaho

Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification	Pct Fragments >10 inches	Percentage passing sieve number—	Liquid limit	Plasticity index				
Unified	AASHTO	L-R-H	4	10	40	200	L-R-H	L-R-H	L-R-H				
95—Povey-Vitale association, 30 to 60 percent slopes													
Povey	50	B	0-14	Gravelly loam	GC-GM, SC A-6	0-0-0	5-8-10	60-73-85	55-68-80	40-55-70	35-43-50	25-31-37	6-9-13
			14-35	Very gravelly loam, very cobbly loam, extremely gravelly fine sandy loam	GC, GP-GC A-1, A-2	0-0-0	10-30-50	30-45-60	25-40-55	20-35-50	10-23-35	22-29-35	6-9-13
			35-60	Very cobbly loam, extremely cobbly sandy loam, extremely cobbly loam	GC, GC-GM A-1, A-2	0-5-10	40-55-70	50-55-60	45-50-55	30-38-45	20-28-35	20-25-31	4-7-10
Vitale													
			60-64	Bedrock	—	—	—	—	—	—	—	—	—
Vitale	30	C	0-6	Very gravelly loam	GC, GC-GM A-2	0-0-0	10-13-15	35-48-60	30-43-55	25-35-45	20-28-35	27-34-41	9-13-17
			6-15	Very gravelly clay loam, very cobbly clay loam	GC A-2, A-6, A-7	0-8-15	10-20-30	35-50-65	30-45-60	30-43-55	25-35-45	39-45-51	19-22-25
			15-23	Very gravelly loam, very cobbly loam	GC, GC-GM A-2	0-10-20	15-20-25	35-45-55	35-43-50	30-38-45	25-30-35	27-32-37	12-14-17
			23-33	Bedrock	—	—	—	—	—	—	—	—	—
109—Vitale-Povey association, 30 to 60 percent slopes													
Vitale	50	C	0-6	Very gravelly loam	GC, GC-GM A-2	0-0-0	10-13-15	35-48-60	30-43-55	25-35-45	20-28-35	27-34-41	9-13-17
			6-15	Very gravelly clay loam, very cobbly clay loam	GC A-2, A-6, A-7	0-8-15	10-20-30	35-50-65	30-45-60	30-43-55	25-35-45	39-45-51	19-22-25
			15-23	Very gravelly loam, very cobbly loam	GC, GC-GM A-2	0-10-20	15-20-25	35-45-55	35-43-50	30-38-45	25-30-35	27-32-37	12-14-17
			23-33	Bedrock	—	—	—	—	—	—	—	—	—
Povey													
			0-14	Gravelly loam	SC, GC-GM A-4, A-2, A-6	0-0-0	5-8-10	60-73-85	55-68-80	40-55-70	35-43-50	25-31-37	6-9-13
			14-35	Very gravelly loam, very cobbly loam, extremely gravelly fine sandy loam	GC, GP-GC A-1, A-2	0-0-0	10-30-50	30-45-60	25-40-55	20-35-50	10-23-35	22-29-35	6-9-13
			35-60	Very cobbly loam, extremely cobbly sandy loam, extremely cobbly loam	GC-GM, GC A-1, A-2	0-5-10	40-55-70	50-55-60	45-50-55	30-38-45	20-28-35	20-25-31	4-7-10
			60-64	Bedrock	—	—	—	—	—	—	—	—	—

Description — Engineering Properties

Engineering Properties

This table gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Hydrologic soil group is a group of soils having similar runoff potential under similar storm and cover conditions. The criteria for determining Hydrologic soil group is found in the National Engineering Handbook, Chapter 7 issued May 2007 (<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.mdb>). Listing HSGs by soil map unit component and not by soil series is a new concept for the engineers. Past engineering references contained lists of HSGs by soil series. Soil series are continually being defined and redefined, and the list of soil series names changes so frequently as to make the task of maintaining a single national list virtually impossible. Therefore, the criteria is now used to calculate the HSG using the component soil properties and no such national series lists will be maintained. All such references are obsolete and their use should be discontinued. Soil properties that influence runoff potential are those that influence the minimum rate of infiltration for a bare soil after prolonged wetting and when not frozen. These properties are depth to a seasonal high water table, saturated hydraulic conductivity after prolonged wetting, and depth to a layer with a very slow water transmission rate. Changes in soil properties caused by land management or climate changes also cause the hydrologic soil group to change. The influence of ground cover is treated independently. There are four hydrologic soil groups, A, B, C, and D, and three dual groups, A/D, B/D, and C/D. In the dual groups, the first letter is for drained areas and the second letter is for undrained areas.

The four hydrologic soil groups are described in the following paragraphs:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly."

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GC, SW, SP, SK, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as Pt. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-1, A-1-2, A-2-1, A-2-2, A-2-3, A-2-4, A-2-5, A-2-6, A-2-7, A-7-1, A-7-2, A-7-3, A-7-4, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Percentage of rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.75, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Liquid limit and plasticity index (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

References:

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

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	37-22683
REVIEWER	Michele Edl
DATE	6/20/2017

User Input
Calculated value
Formula Explanations

INPUTS

Pond Surface Area (AC.)	0.1	AC.
-------------------------	-----	-----

Pond Surface Area (SQ. FT.)	4356	SQ. FT.
-----------------------------	------	---------

I used the following method to obtain my Soil Classification information:	NRCS Web Soil Survey	
My Soil Classification is	GC	
Suggested Seepage Rate (FT./DAY)	0.2000	FT./DAY

Formula: (Surface Area X Seepage Rate) X 7.48 = Gallons Per Day Loss
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Convert to GPD	6517	GPD
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Total Seepage Loss (AFA)	7.3	AFA
--------------------------	-----	-----

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	37-22683
REVIEWER	Michele Edl
DATE	6/20/2017

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: Twin Falls 2 NNE (NWS -- 109294)

Month	mm/day ¹	Days per month	mm/Month
Jan	-1.35	31	0.00
Feb	-0.84	28	0.00
March	0.18	31	5.58
April	1.42	30	42.60
May	2.24	31	69.44
June	2.83	30	84.90
July	3.96	31	122.76
August	3.33	31	103.23
September	2.18	30	65.40
October	1.00	31	31.00
November	-0.56	30	0.00
December	-1.78	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 = 524.91

$$[(524.91 \text{ mm/yr}) \div (\text{convert to feet})] \times (\text{Surface area of pond, in acres}) = \text{Evaporation Loss in Acre Feet}$$

(524.91 ÷ 304.8) X 0.10 = 0.2 AFA

Total Storage Calculations

FILE NUMBER	37-22683
REVIEWER	Michele Edl
DATE	6/20/2017

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.)	0.1	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	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)	0.2	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. <i>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.</i>

Multiple Fill Volume Above Initial Fill to Fulfill From Storage Needs- "Multiple Fills" (AF)	0	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). <i>Note: You must have a "From Storage" component exceeding the initial fill on the permit to include a volume in this space.</i>
Estimated Seepage Loss (AF)	7.3	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	0.2	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	7.7	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.

Flow Rate into Pond (CFS)	0.02	The "Flow Rate into Pond" depicts the actual flow, either measured or estimated, into the pond. For offstream facilities, this will be equivalent to "diversion to storage" rate.
Highest Daily Evaporation Rate From Evaporation Tab. (mm/Day)	3.96	This number is carried over from the "Evaporation Loss" sheet. It is the highest recorded number in the "Precipitation Deficit Table".
Required Daily Maintenance Volume (AF/Day)	0.02	"Required Daily Maintenance Volume" is the maximum volume of water needed on any given day during the year to maintain pond volume. It is calculated by adding the highest daily evaporation loss to the average daily seepage loss in acre feet. The average daily seepage loss is calculated by dividing the "Estimated Seepage Loss" by 365 days. This is acceptable, since the seepage rate shouldn't vary throughout the season unless the pond completely freezes over during the winter months. The highest daily evaporation loss is calculated by dividing the Highest Daily Evaporation Rate by the 304.8 conversion factor and multiplying this number by the pond surface area to attain a combined daily acre feet requirement.
Minimum Maintenance Flow (CFS)	0.01	The "Minimum Maintenance Flow" is the minimum amount of flow required to maintain the level of the pond. This number is determined by dividing the "Maximum Required Daily Maintenance Volume" by 1.9835. This flow can be used to determine if the flow rate into the pond is adequate to maintain the pond level.
Days Required to Fill the Pond	11	The "Days Required to Fill the Pond" is calculated by dividing the "Pond Capacity" by the "Flow Rate" minus "Minimum Maintenance Flow" multiplied by 1.9835. This section will assist you in determining if the flow rate being diverted to the pond is adequate to fill the pond while maintaining the pond level. The length of time to fill the pond will help determine if the flow rate is adequate for the size of pond being proposed. If this number is approximately 6 months (180 days) or more, the reviewer should have a discussion with the applicant to make sure he/she understands that it will take a significant length of time to fill the pond.
Days Required to Fill the Pond at 13,000 Gallons per Day	11	Some water users may want to fill a pond under the 13,000 gallons per day domestic exemption. The "Days Required to Fill the Pond at 13,000 Gallons per Day" is calculated by converting the "Pond Capacity" and the "Required Daily Maintenance Volume" to gallons. The "Pond Capacity" is then divided by 13,000 gallons minus the "Required Daily Maintenance Volume" in gallons to determine the number of days to fill pond. If this number is approximately 6 months (180 days) or more, the reviewer should have a discussion with the applicant to make sure he/she understands that it will take a significant length of time to fill the pond. Negative values indicate that the supply of 13,000 gallons per day is not enough volume to overcome the required daily maintenance volume; the pond will never fill.

RTS	Process	Basin/Sequent/Draft Owner	Source	POD/POU	Use	NENE	INWNE	SWINE	SENE	NENW	INWNW	SWWNW	SEWNW	NESW	NWSW	SWSW	SESW	NESE	NWSE	SWSE	SESE	Totals/acre	RightID
02N18E23	Water Permit	37-21177	N	BLAINE COUNTY SCHOOL DISTRICT #61	GROUND WATER	POD																	
02N18E23	Water Permit	37-21177	N	BLAINE COUNTY SCHOOL DISTRICT #61	GROUND WATER	POU																	
02N18E23	Water Permit	37-22683	N	CRIST, ROGER E, CRIST, ROGER W, DRE WATER GLUTCH CRE	POU																		
02N18E23	Water Right	37-10717	N	BROWN, PATRICK D, CITY OF HAILEY	BIG WOOD RIVER	POU																	
02N18E23	Water Right	37-11804	N	ECCLES, SPENCER F	GROUND WATER	POD																	
02N18E23	Water Right	37-11804	N	ECCLES, SPENCER F	GROUND WATER	POU																	
02N18E23	Water Right	37-11804	N	ECCLES, SPENCER F	GROUND WATER	POU																	
02N18E23	Water Right	37-11975	N	DIVINE, MURIEL K, DIVINE, TED C, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-11975	N	DIVINE, MURIEL K, DIVINE, TED C, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-11976	N	DIVINE, MURIEL K, DIVINE, TED C, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-11977	N	DIVINE, MURIEL K, DIVINE, TED C, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-11978	N	DIVINE, MURIEL K, DIVINE, TED C, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-1216	N	CITY OF HAILEY, CREAMER, MICHAEL C,INDIAN CREEK SPR	POU																		
02N18E23	Water Right	37-21409	N	BLAINE COUNTY SCHOOL DISTRICT #61,GROUND WATER	POD																		
02N18E23	Water Right	37-21409	N	BLAINE COUNTY SCHOOL DISTRICT #61,GROUND WATER	POU																		
02N18E23	Water Right	37-22019	N	CITY OF HAILEY, HAILEY CEMETERY, MA,GROUND WATER	POU																		
02N18E23	Water Right	37-22579	N	CRIST, ROGER E, CRIST, ROGER W, DRE WATER GLUTCH CRE	POD																		
02N18E23	Water Right	37-22579	N	CRIST, ROGER E, CRIST, ROGER W, DRE WATER GLUTCH CRE	POU																		
02N18E23	Water Right	37-22579	N	CRIST, ROGER E, CRIST, ROGER W, DRE WATER GLUTCH CRE	POU																		
02N18E23	Water Right	37-22670	N	CITY OF HAILEY, CREAMER, MICHAEL C,GROUND WATER	POU																		
02N18E23	Water Right	37-22671	N	CITY OF HAILEY, CREAMER, MICHAEL C,GROUND WATER	POU																		
02N18E23	Water Right	37-2698	N	BROWN, PATRICK D, CITY OF HAILEY	GROUND WATER	POU																	
02N18E23	Water Right	37-2699	N	BROWN, PATRICK D, CITY OF HAILEY	GROUND WATER	POU																	
02N18E23	Water Right	37-2713	N	ECCLES FLYING HAT RANCH LLC	GROUND WATER	POD																	
02N18E23	Water Right	37-2713	N	ECCLES FLYING HAT RANCH LLC	GROUND WATER	POU																	
02N18E23	Water Right	37-2713	N	ECCLES FLYING HAT RANCH LLC	GROUND WATER	POU																	
02N18E23	Water Right	37-2964	N	ECCLES FLYING HAT RANCH LLC, MICHAEL C,INDIAN CREEK SPR	POU																		
02N18E23	Water Right	37-2964	N	ECCLES FLYING HAT RANCH LLC, MICHAEL C,INDIAN CREEK SPR	POU																		
02N18E23	Water Right	37-481D	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-482J	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-483D	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-577BP	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-577BP	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-577BP	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-711A	N	ALTUHAS WATER CO., CITY OF HAILEY, (INDIAN CREEK SPR	POU																		
02N18E23	Water Right	37-711A	N	ALTUHAS WATER CO., CITY OF HAILEY, (INDIAN CREEK SPR	POU																		
02N18E23	Water Right	37-717B	N	ALTUHAS WATER CO., CITY OF HAILEY, (INDIAN CREEK SPR	POU																		
02N18E23	Water Right	37-7305	N	BROWN, PATRICK D, CITY OF HAILEY	GROUND WATER	POD																	
02N18E23	Water Right	37-7305	N	BROWN, PATRICK D, CITY OF HAILEY	GROUND WATER	POU																	
02N18E23	Water Right	37-7356	N	ECCLES FLYING HAT RANCH LLC	GROUND WATER	POD																	
02N18E23	Water Right	37-7356	N	ECCLES FLYING HAT RANCH LLC	GROUND WATER	POU																	
02N18E23	Water Right	37-8837	N	CITY OF HAILEY	GROUND WATER	POU																	
02N18E23	Water Right	37-8837	N	CITY OF HAILEY	GROUND WATER	POU																	
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		
02N18E23	Water Right	37-917	N	ECCLES FLYING HAT RANCH LLC, ECCLEBIG WOOD RIVER	POU																		

Edl, Michele

From: Bob Dreyer <idaskabob@gmail.com>
Sent: Tuesday, June 20, 2017 9:00 AM
To: Edl, Michele
Subject: Re: 37-22683

Thanks, Michele.

Your POD is in the general vicinity of where I believe the underground collection pipe to be.

Thank you, and let me know if you need any additional info.

Bob

On Jun 19, 2017 4:53 PM, "Edl, Michele" <Michele.Edl@idwr.idaho.gov> wrote:

Thank you for agreeing to assist me in understanding this water use. As I stated in my phone call, this small use qualifies for a desk-top review rather than a dedicated visit to the site. Nonetheless, I need to confirm the key elements of the water use in order to issue a license for the use.

I have attached a jpg screen-shot of the pond and a potential location for the diversion point projected against 2013 aerial photography. (Photography from other years was not as legible.)

At your earliest convenience, please take a look at the attachment and let me know if the location for the beginning of the diversion pipe is correct.

Sincerely,

Michele Edl

Idaho Department of Water Resources

Water Rights Section

322 E Front St

Boise ID 83720

[208-287-4946](tel:208-287-4946)