

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 65-13161
Exam Date: 08/28/2019

1. Current Owner:
HAW CREEK RANCH INC PO BOX 785 EMMETT ID 83617
2. Accompanied by: Judy Hinman
Phone No: 208-739-0726
Address: 5758 Van Duesen Rd, Emmett, ID 83617
Relationship to permit Holder: President

3. **SOURCE:**
HAW CREEK

Tributary
PAYETTE RIVER

Method of Determination: USGS Quad

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
65-13160	Spring	Domestic, Stockwater	License
65-13159	Groundwater	Irrigation	License

Comments: Both rights also owned by Haw Creek Ranch. 65-13159 is for 1 acre of irrigation of yard and garden from groundwater and is used around the house located adjacent to the southwest corner of this applications place of use. 65-13160 is a domestic use for the same house and stockwater throughout the property. As 65-13160 has no irrigation component, it should not conflict with this permit.

Not mentioned in the table above, 65-21997 overlaps in the IDWR database and is likely an error. The use is domestic for a house that does not appear to exist in any aerial imagery from 1980 to present. There are also no parcels nearby owned by the owner of 65-21997.

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

C. DIVERSION AND DELIVERY SYSTEM

1. LOCATION OF POINT(S) OF DIVERSION:
HAW CREEK NE¼ NE¼, Sec. 8, Twp 07N, Rge 01W, B.M. GEM County

Method of Determination:

PLACE OF USE: IRRIGATION FROM STORAGE

[illegible]

Total Acres: 33.9

PLACE OF USE: IRRIGATION STORAGE, STOCKWATER STORAGE

[illegible]

Method of Determination: Handheld GPS, aerial imagery

3.

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

Y Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.

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

N 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
936241	GM		7682462	Berkeley Centrifugal	

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
Estimate	-	-	-	-	-	-

2. Measurements:

Haw Creek visually estimated to be flowing at 0.5 cfs at time of exam. Flow was too low to measure with a FlowTracker.

E. FLOW CALCULATIONS

Y Additional Computation Sheets Attached

Measured Method:

Irrigation – Standard allowance x irrigated acres = 0.02 cfs x 33.9 = 0.68 cfs

No diversion works were present at the time of the exam and horsepower information on the pump that had been present was lacking. Evapotranspiration demands from the crops appeared to be met by seepage from the stream.

License Recommendation = 0 cfs

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 33.9 \text{ Acre} \times 3.5 \text{ AF/Acre} = 119 \text{ AF}$

$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.68 \text{ cfs} \times 260 \text{ days} \times 1.9835 = 350.7 \text{ AF}$

$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 119 \text{ AF}$

License Recommendation = 0 AF

2. Volume Calculations for Other Uses:

Irrigation storage + Irrigation from storage:

Pond shape: Gentle slope

Pond volume 2.6 ac surface area x 10 ft max depth x 2/5 = 10.4 AF

Evaporation = 4.8 AF

Seepage = 2.8 AF

Capacity plus losses = 17.7 AF

Permitted volume = 10 AF

License Recommendation = 10 af

Stockwater and stockwater storage

200 head range cattle @ 12 gpd for 12 months = 2.7 AF

License Recommendation = 2.7 AF stockwater storage

Total combined storage limited = 10.0 AF

G. NARRATIVE/REMARKS/COMMENTS

The permit is for irrigation on 80 acres at 1.6 cfs, irrigation storage/from storage from a 2.6 acre pond on Haw Creek, and stockwater/stockwater storage from the same pond. This permit has a long history. According to a memo written by Steve Lester on April 24th, 2007, the original filing was a result of SRBA claims taking. Delays occurred due to senior protested applications and coincident moratorium issues. The original application is from February 9th, 1990 based on existing use, which was then followed by delays at the department and no communication from the applicant after a February 2nd, 1998 mailing. Following a letter on March 12th, 2007, the applicants submitted an original and revised application on April 12th, 2007. A permit was issued May 7th, 2007 and proof of beneficial use was submitted April 21st, 2008. Rick Collingwood conducted a field exam after a few years on May 8th, 2014. No measurements could be taken as the pump was out of order and no field exam was written. I conducted another field exam on August 18th, 2019.

The place of use (POU) for irrigation and irrigation from storage is a 33.9 acre field west of the pond. During the field exam, Ms. Hinman stated that the POU was planted in a drought-tolerant alfalfa that they can cut once or twice a season. The field at the POU extends into the SW¼ NE¼ of Section Sec. 8, Twp 07N, Rge 01W, which was not included in the legal description at the time of permitting. An amendment will be required for this reason.

The point of diversion was a diesel pump, non-functioning and not present during the exam, that diverted directly from the pond on Haw Creek. Prior examiner's notes from May 8th, 2014, mention a diesel GM Motor with a Berkeley centrifugal pump model BJRB or B4J of unknown horsepower, serial number 7682462. Ms. Hinman noted that the cost of replacing or repairing the pump has been and continues to be too expensive. No headgates existed below the pond to divert into the field and the pump was not placed in Haw Creek below the pond for direct irrigation from the creek.

A few lines of evidence suggest crop irrigation by some means.

- The second picture in the attached photographs shows the POU past the berm of the pond. On the left of the photograph, green crops are evident as is a gentle slope to the north. The lower portions of the POU are apparently receiving sub-irrigation via seepage from Haw Creek.
- Satellite imagery from September 2006 (attachment a, figure 1) shows the entire POU as green, though this imagery occurs before IDWR submitted the request for proof of beneficial use.
- False color imagery and LANDSAT NDVI (attachment a, figure 1) suggest irrigated crops between 1990 and 2008, the years of the original application and proof of beneficial use, respectively. An analysis of average NDVI performed on Climate Engine shows that the POU has a higher NDVI than surrounding grassland (attachment a, figure 2).

No hand lines for irrigation of the POU were present at the exam. There were also no troughs to divert into for stock nor did the applicant mention stockwater directly from Haw Creek. Cows appear to drink directly from the pond based on evident hoof prints in the pond bottom.

The reservoir area is about 2.6 acres when full. I was able to confirm the existence of the back to 1981 with aerial imagery. Max depth at the earthen dam is about 10 ft and fills once at peak runoff according to the applicant. When irrigation water is needed, the depth is around 3 feet. A spillway at an elevation just below the top of the dam allows excess flows to be routed downstream of a larger downstream reservoir on Haw Creek and provides flood protection. The license will reflect the one-time fill. Based on seepage and evaporative losses, the total volume required is 18.1 acre-feet while the permitted volume is 10 acre-feet, therefore 10 acre-feet will be licensed.

Method of irrigation is "onstream storage with off-stream diversion," where the off-stream diversion occurred through pumping directly from the pond. Because diversions for irrigation and stock do not appear to be directly from the stream, I recommend that the direct irrigation and stockwater use not be licensed, while all storage components remain on the license.

No lockable control device or measurement devices were installed per the conditions on the permit – R43 and 18C. A review of downstream rights shows four rights (65-1393-A, 65-10542, 65-21763, and 65-1393-B) totaling 2.58 cfs and showed no known complaints. The applicant provided a request to waive the requirements for a measurement and lockable control device at the POD. The watermaster provided a recommendation to waive these requirements (Attachment B).

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 STORAGE	01/01 to 12/31	0 cfs	10.0 AF
IRRIGATION FROM STORAGE	03/01 to 11/15	0 cfs	10.0 AF
STOCKWATER STORAGE	01/01 to 12/31	0 cfs	2.7 AF

Totals:

0.0 CFS

10.0 AF

2. Recommended Amendments

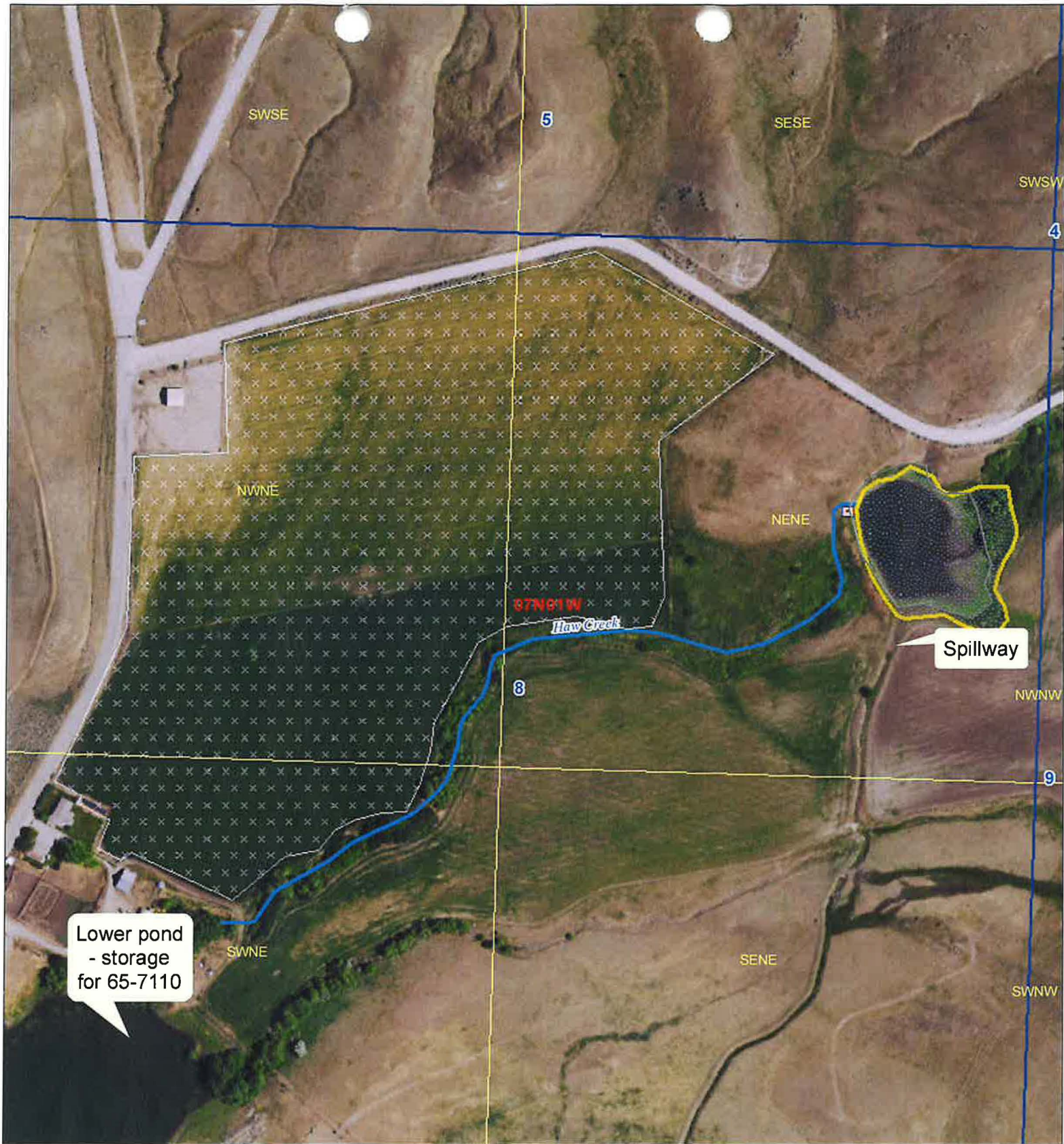
_____ Change P.D. as reflected above _____ Add P.D. as reflected above x None

_____ Change P.U. as reflected above x Add P.U. as reflected above _____ None

I. AUTHENTICATION Alex Moody - Hydrogeologist, Staff

Field Examiner's Name Alex Moody Date 6/15/2023

Reviewer H. H. H. H. H. Date 3/26/25



System Diagram 65-13161

250 125 0 250 Feet



□ Water Right POD

Water Right POU

65-13161 , IRRIGATION FROM STORAGE

65-13161 , IRRIGATION STORAGE

65-13161 , STOCKWATER STORAGE

Attachment A: Satellite Imagery and NDVI graphs

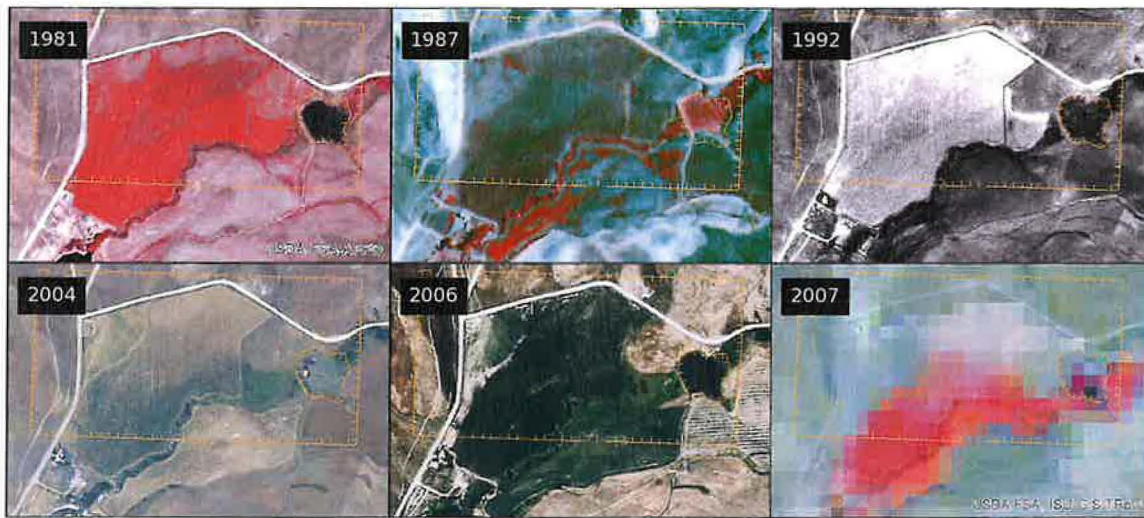


Fig. 1. Satellite imagery on the POU. Red in false color indicates plant transpiration.

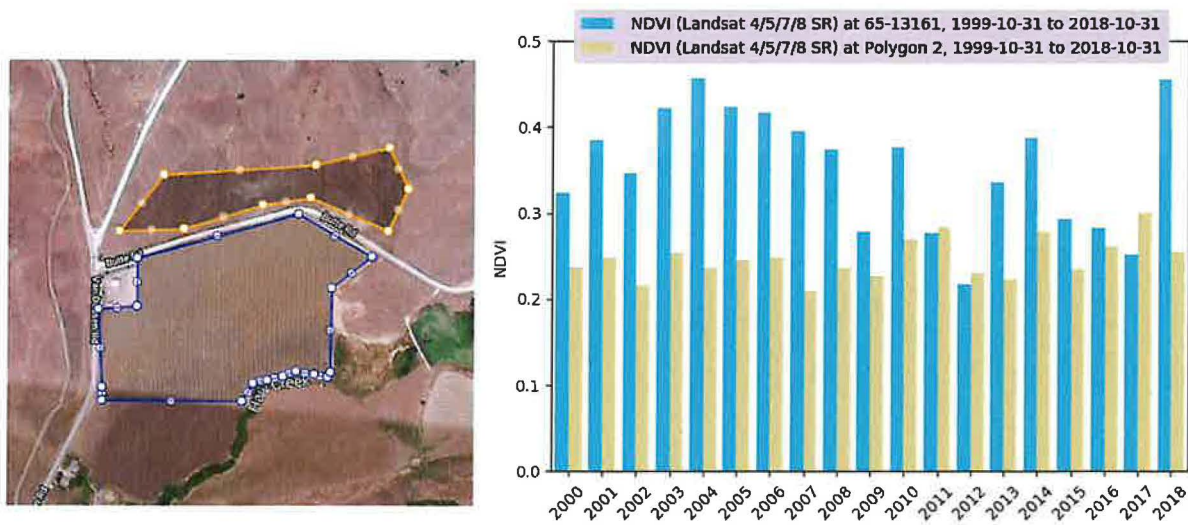


Fig. 2. NDVI Analysis. Left - Polygons for place of use (blue) and reference grassland (orange). Right - Average NDVI in polygons. The POU consistently has higher NDVI except in 2011 and 2016.

Attachment B: Watermaster waiver recommendation

**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

March 5, 2020

Idaho Department of Water Resources
Alex Moody
322 E. Front Street
Boise, ID 83720

Re: Water Right No. 65-13161

Dear Mr. Moody,

In regard to Water Right No. 65-13161 and the condition to install and maintain a measuring devise and a lockable control devise, I have reviewed this water right and the other water rights on Haw Creek. I conclude that at this time it would be appropriate to waive the condition requiring a measuring devise and lockable control devise. I also conclude there may come a time when it will be necessary to require these devised to properly administer the water rights on Haw Creek. Thus I recommend the Department of Water Resources reserve the right to reinstate these conditions when it becomes necessary.

Respectfully Submitted,



Ron Shurtleff
Watermaster

Attachment C: Pond loss calculations, evaporation and seepage**Total Storage Calculations**

FILE NUMBER	65-13161
REVIEWER	Alex Moody
DATE	8/28/2019

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.)	2.6	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	4	"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)	10.4	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)	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). 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)	2.8	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	4.8	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	18.1	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.



Place of use, looking south. Currently growing drought-resistant alfalfa.



Place of use and pond. View is looking west.



Pond panorama, looking south. Haw Creek enters to the left and POU is to the right. An overflow ditch is dug in the center of the frame near a tree.



Downstream side of the pond showing the maximum depth of 9 feet.



Hoof marks near the water flowing into the pond.