

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 95-15010
Exam Date: 06/24/2015

1. Current Owner:
DON INGERSOLL 211 STRIFE LN PLUMMER ID 83851-5001 AND/OR
MARY INGERSOLL 211 STRIFE LN PLUMMER ID 83851-5001
2. Accompanied by: Don & Mary Ingersoll
Phone No: 775-771-1523
Address: Same as above
Relationship to permit Holder: Permit holders

3. **SOURCE:**
SPRING

Tributary
LITTLE PLUMMER CREEK

Method of Determination: Arcmap and DRG.

B. OVERLAP REVIEW

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

C. DIVERSION AND DELIVERY SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:**
SPRING NE¼ NW¼ SE¼, Sec. 33, Twp 46N, Rge 04W, B.M. BENEWAH County

Method of Determination: GPS. POD is located at -116°50.391, 47°17.104

PLACE OF USE: IRRIGATION STORAGE, STOCKWATER STORAGE, FIRE PROTECTION STORAGE, RECREATION STORAGE, & WILDLIFE 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	33														X			

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	33														4.6			4.6

Total Acres: 4.6

Method of Determination: beneficial use field examination and Arcmap aerial imagery.

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
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:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 4.6 \text{ ac} \times 3.0 \text{ afa} = 13.8 \text{ af}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = \text{N/A no diversion rate associated with WR.}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 13.8 \text{ af}$$

2. Volume Calculations for Other Uses: Stockwater Storage annual volume = 75 head cattle x 12 gpd x 365 day = 3,285,000 gal per year / 325,850 gal per af = 1.0 af considering department rounding standards.

- See attached Pond Analysis Worksheet

PARENT RIGHT 95-15010 & SPLIT RIGHT(S) RECOMMENDED DIVERSION RATE/VOLUME DATA					
Permit 95-15010 approved value(s)		WR 95-15010 License Recommended Value	WR 95-18309 License Recommended Value	WR 95-18310 License Recommended Value	Enlarged (Y/N)
Diversion to Storage	0.20 cfs	diversion to storage beneficial use not developed, instream ponds only; removed from permit during licensing review - L.Bates			N/A
Irrigation	0.15 cfs	irrigation direct flow beneficial use not developed; removed from permit during licensing review - L.Bates			N/A
Irrigation Storage	22.5 af	13.8 af	-	-	N
Irrigation from Storage	15.0 af	13.8 af	-	-	N
Stockwater	0.03 cfs	-	-	0.02 cfs / 1.0 af	N
Stockwater Storage	9.2 af	1.0 af	1.0 af	-	N
Stockwater from Storage	1.0 af	stockwater from storage beneficial use not developed; removed from permit during licensing review - L.Bates			N/A
Fire Protection Storage	8.2 af	3.3 af	0.5 af	-	N
Recreation Storage	8.2 af	3.3 af	0.5 af	-	N
Wildlife Storage	8.2 af	3.3 af	0.5 af	-	N
MAXIMUM DIVERSION RATE / VOLUME		18.1 af	1.5 af	0.02 cfs / 1.0 af	

G. NARRATIVE/REMARKS/COMMENTS

Admin Note: Permit 95-15010 (parent right) was split into three (3) water rights including 95-18309 & 95-18310 due to each spring source(s) being independent with water flow from each not co-mingling in a common water system. This right accounts for the large pond from the Permit used for multiple storage uses & irrigation from storage use.

An initial field exam was performed by department staff on 8/19/2016 but inadequate data was collected to finalize the Permit for licensing purposes. A follow-up exam was conducted on 5/19/2022 with the applicant(s), Don & Mary Ingersoll, which showed water from a spring source being used for Stockwater Storage, Wildlife Storage, Recreation Storage, Fire Protection Storage, Irrigation Storage, & Irrigation from Storage use(s). At the POD, a pond with earthen dam was excavated with the spring source near the pond bank. There isn't a diversion rate associated with this right, and diversion to storage was removed from the permit during licensing review. The pond incorporates an earthen overflow channel that allows overflow discharge to route down grade into a historic intermittent stream channel.

At time of initial exam, department staff took photographs of active irrigation from the pond as well as water transfer pumps used by the applicant during the development period of the Permit. At time of follow up exam in 2022 irrigation was not occurring due to the region receiving above normal rainfall for that time of year. During licensing review Arcmap aerial imagery was used to accurately trace out the pond's surface area which equals 0.4 ac. The pond's maximum depth = 18 ft, average depth = 7.2 ft, pond volume capacity = 2.5 af, seepage and evaporation rate loss = 0.8 af, stockwater storage multiple fill volume = 1.0 af, irrigation multiple fill volume = 13.8 af, and total volume required annually = **18.1 af** which is recommended as the maximum diversion volume for licensing purposes. The stockwater storage annual volume of 1.0 af is based on 75 head of stock drinking directly from the pond. The wildlife storage, recreation storage, & fire protection storage components annual diversion volume equals 2.5 af (pond capacity) + 0.8 af (seepage/evaporation loss rate) = 3.3 af respectively, but not additive toward the maximum diversion volume for licensing purposes.

The irrigation from storage POU was sketched out on field maps, and during licensing review Arcmap aerial imagery was used to trace out the POU equal to 4.6 ac. The annual volume for irrigation storage/from storage beneficial uses equals 4.6 acres x 3.0 afa = 13.8 af. The applicant uses a 5.5 Hp Briggs & Stratton water transfer pump with 2-inch inlet/outlet and fire hose to flood irrigate acreage below the pond; additional hose and sprinklers route to a small orchard tree plot where sprinklers attached to the fence are used to irrigation. Additional hose and sprinklers are used to irrigate hay pasture for stock feed around the pond.

The applicant does have a decreed WR 95-15090 that uses a groundwater well for Domestic & Stockwater purposes with an overlapping POU designated by adjudication staff when making their recommendations. The irrigation occurring from the well is restricted to the fenced in yard area around the home, and the applicant doesn't use the groundwater well for additional irrigation. Based on this any overlap concerns are mitigated between the two rights. The applicants have an existing water right license No. 95-9262 which uses a separate pond for irrigation that does not overlap this rights POU. Between 95-9262 & this right 95-15010, irrigation storage is used by the applicant for stock feed by watering sloped land, with each watering the western slope and eastern slope of a small drainage respectively.

Referencing the table above, out of the three WRs 95-15010 includes a portion of storage component beneficial use(s) recommended for licensing. There are no concerns for enlargement by diversion volume for licensing any of the three associated water rights. The following are a list of beneficial uses removed from the Permit during licensing review for WR 95-18309: Irrigation, Stockwater, Stockwater from Storage, & Diversion to Storage. The beneficial uses removed were not developed by the applicant in the development window of the Permit.

Conditions 082, 26A, X02, & R66 were removed during licensing review. Conditions 219 was replaced with 259 based on multiple fill use related to the pond. Condition 220 was revised to reflect post field exam pond analysis worksheet size & volume metrics. Condition X35 was added describing combined stockwater storage use between rights 95-15010, 95-18309, & 95-18310 for 75 head of cattle. Condition 004 was carried forward to licensing. Aside from stockwater combined use there are no concerns for overlap with 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>Annual Volume</u>
IRRIGATION STORAGE	01/01 to 12/31	13.8 AF
IRRIGATION FROM STORAGE	04/01 to 10/31	13.8 AF
STOCKWATER STORAGE	01/01 to 12/31	1.0 AF
FIRE PROTECTION STORAGE	01/01 to 12/31	3.3 AF
RECREATION STORAGE	01/01 to 12/31	3.3 AF
WILDLIFE STORAGE	01/01 to 12/31	3.3 AF

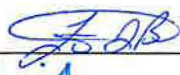
Totals: 18.1 AF

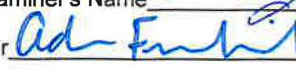
2. Recommended Amendments

☐ 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

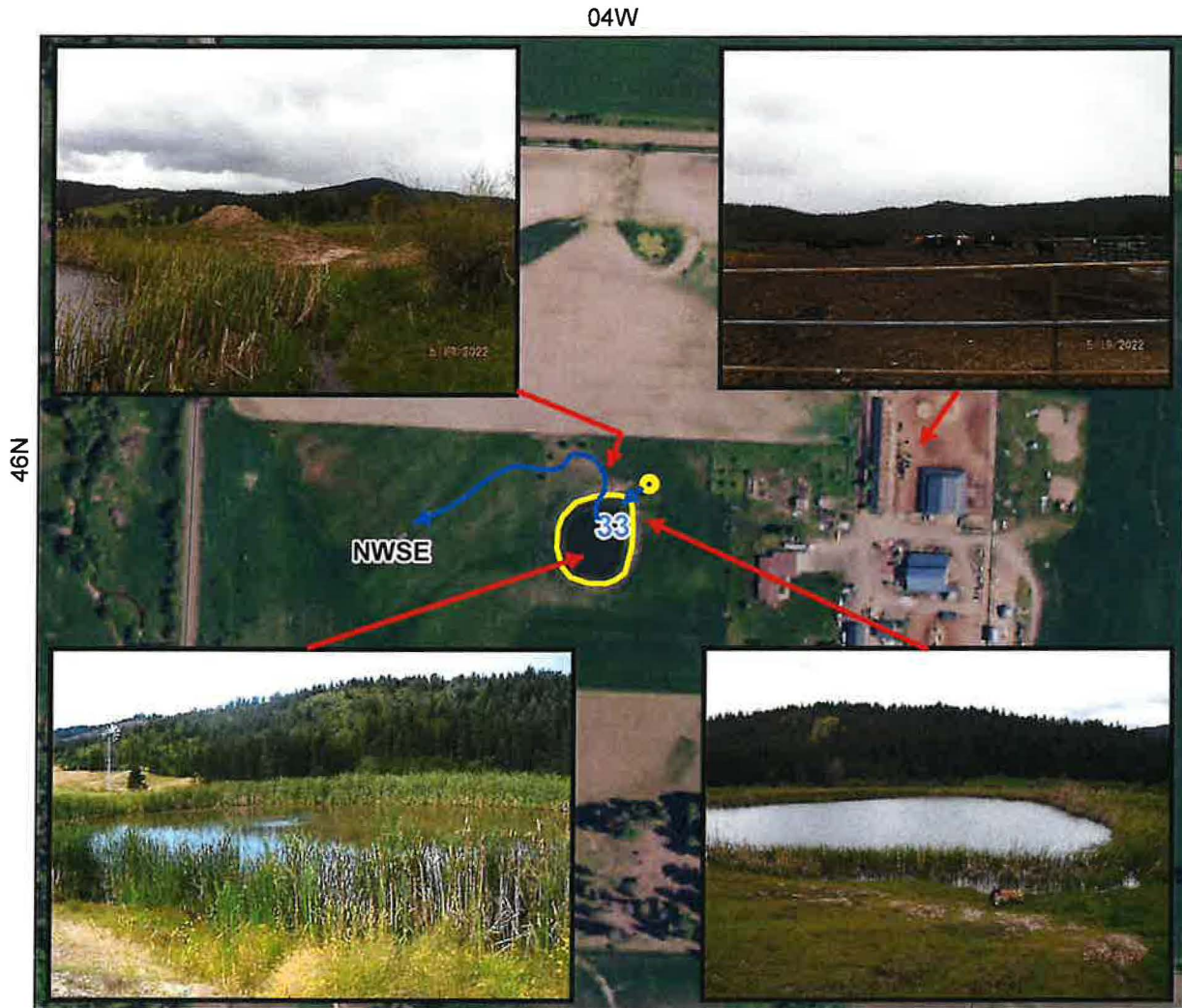
I. AUTHENTICATION Luke Bates -

Field Examiner's Name  Date 6/16/2022

Reviewer  Date 7/21/2022

State of Idaho
Department of Water Resources
Attachment to Field Exam
95-15010

IRRIGATION STORAGE, STOCKWATER STORAGE, FIRE PROTECTION STORAGE,
RECREATION STORAGE, & WILDLIFE STORAGE system diagram.



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

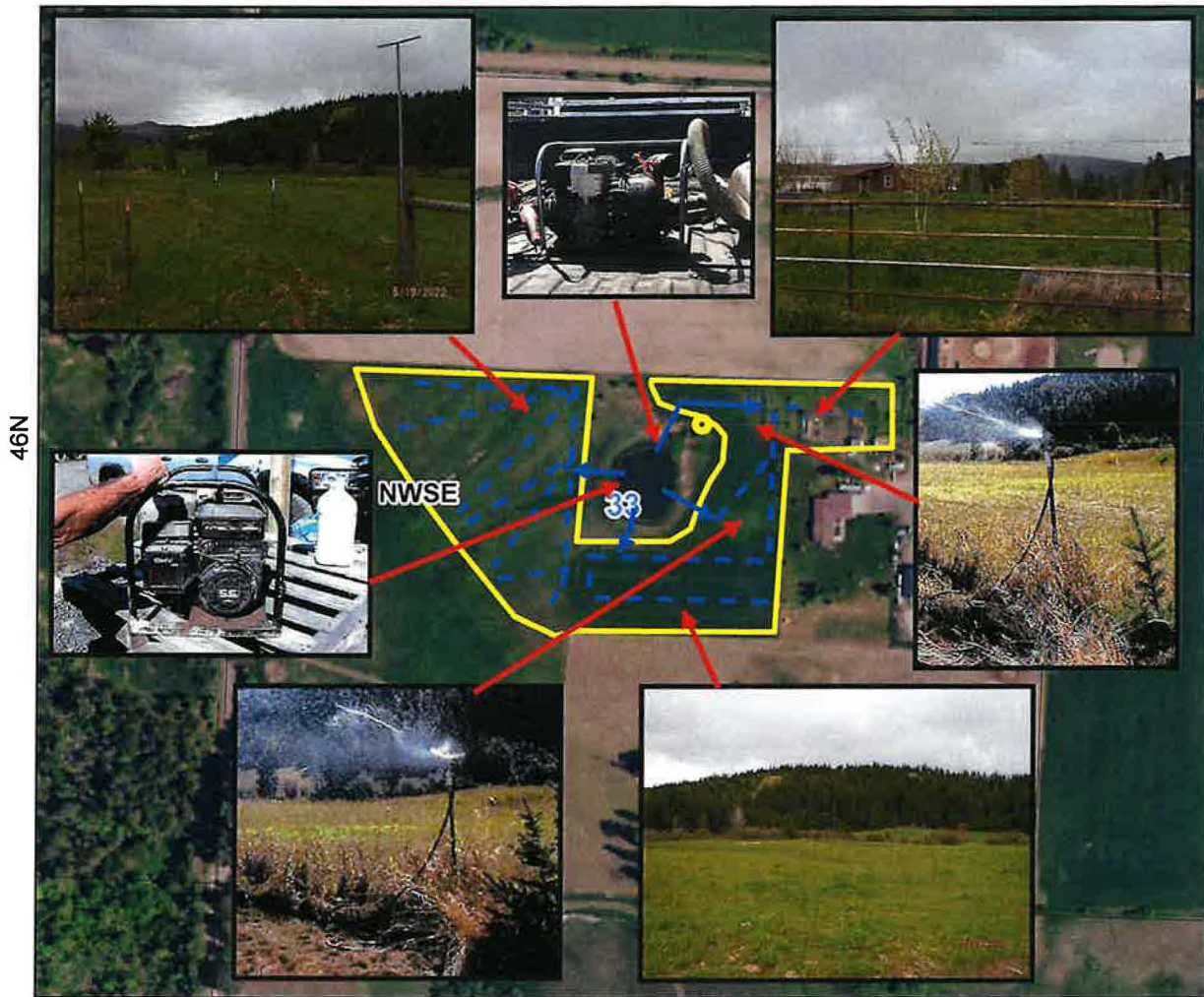
0 0.035 0.07 0.14 Miles



State of Idaho
Department of Water Resources
Attachment to Field Exam
95-15010

This map depicts the IRRIGATION FROM STORAGE place of use boundary for this water right at the time of this approval and is attached to the approval document solely for illustrative purposes.

04W



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

0 0.035 0.07 0.14 Miles



Total Storage Calculations

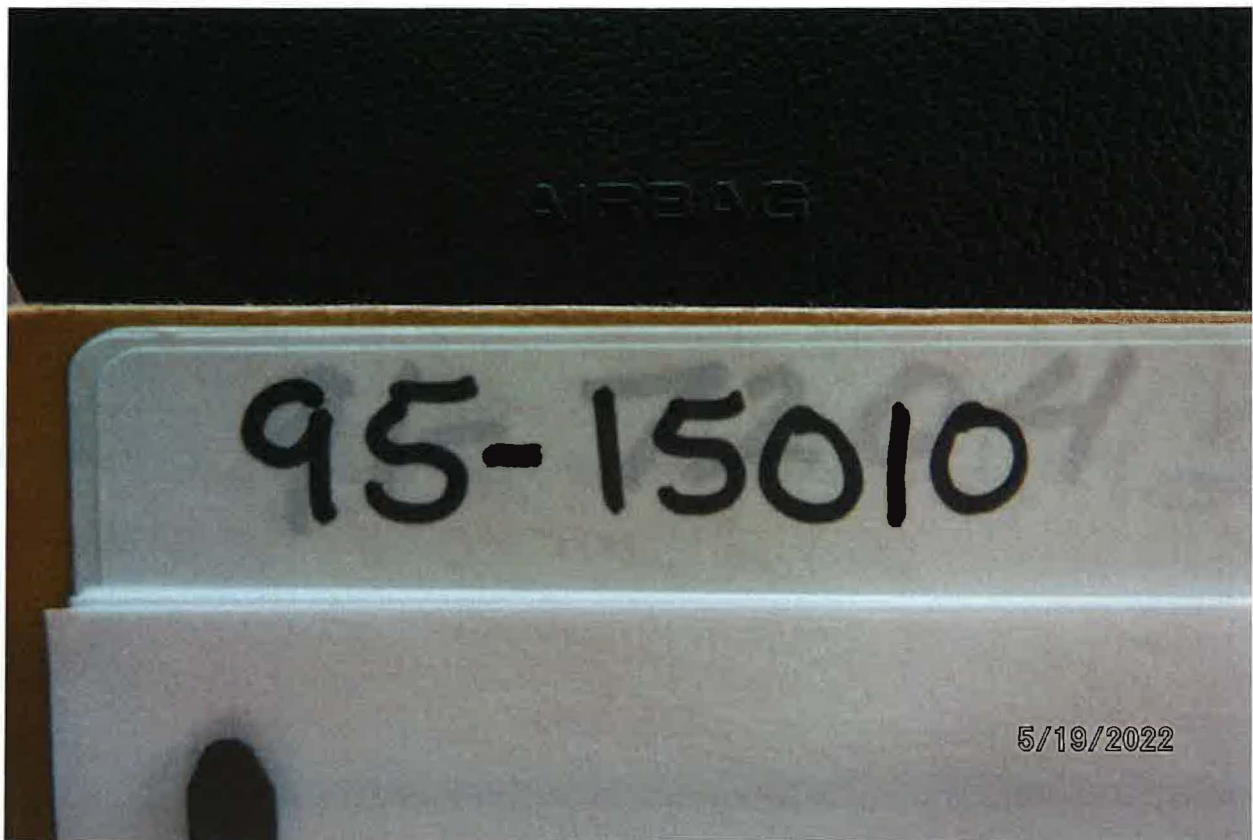
FILE NUMBER	95-15010
REVIEWER	luke bates
DATE	5/23/2022

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.)	0.35	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	7.2	"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)	2.5	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)	14.8	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)	0.4	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.

$$\begin{aligned}
 \text{Multiple Fill} &= 1.0 \text{ af (Stockwater Storage)} \\
 &+ 13.8 \text{ af (Irrigation Storage and from storage) non-additive in nature} \\
 \hline
 &14.8 \text{ af.}
 \end{aligned}$$



INITIAL FIELD EXAM DATE 8/19/2016; FOLLOW-UP SITE VISIT 5/19/2022



POD – SPRING CO-LOCATED WITH POND



OVERFLOW CHANNEL LOCATED ON NORTHERN SIDE OF POND





POU – IRRIGATION STORAGE, STOCKWATER STORAGE, FIRE PROTECTION STORAGE, RECREATION STORAGE, & WILDLIFE STORAGE





IRRIGATION FROM STORAGE POU – FLOOD IRRIGATION USING PUMP AND PIPE TO FIELD BELOW POND





IRRIGATION FROM STORAGE POU – FIELD AND SMALL TREED PASTURE





OLD WATER TRANSFER PUMP USED FOR IRRIGATION FROM STORAGE USE



CATTLE ON PROPERTY WHICH USE POND FOR STOCKWATER STORAGE PURPOSES

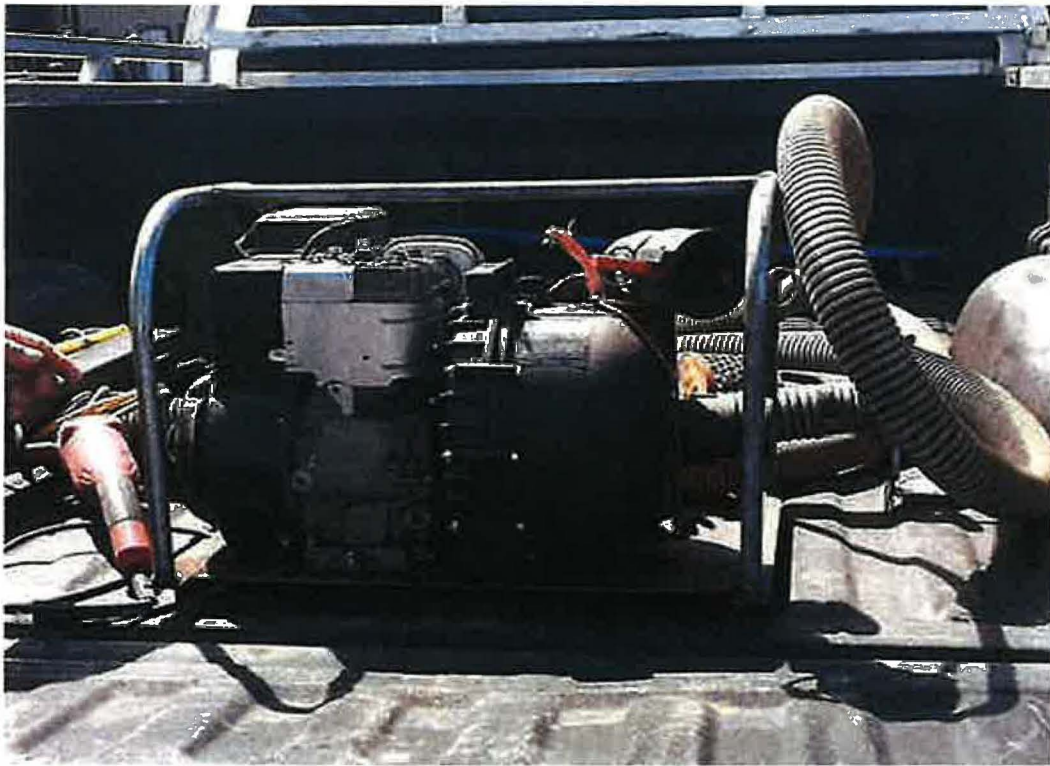


CATTLE ON PROPERTY USING POND FOR STOCKWATER STORAGE PURPOSES





POU - LARGE MULTI- USE STORAGE POND (FROM INTIAL EXAM 8/19/2016)



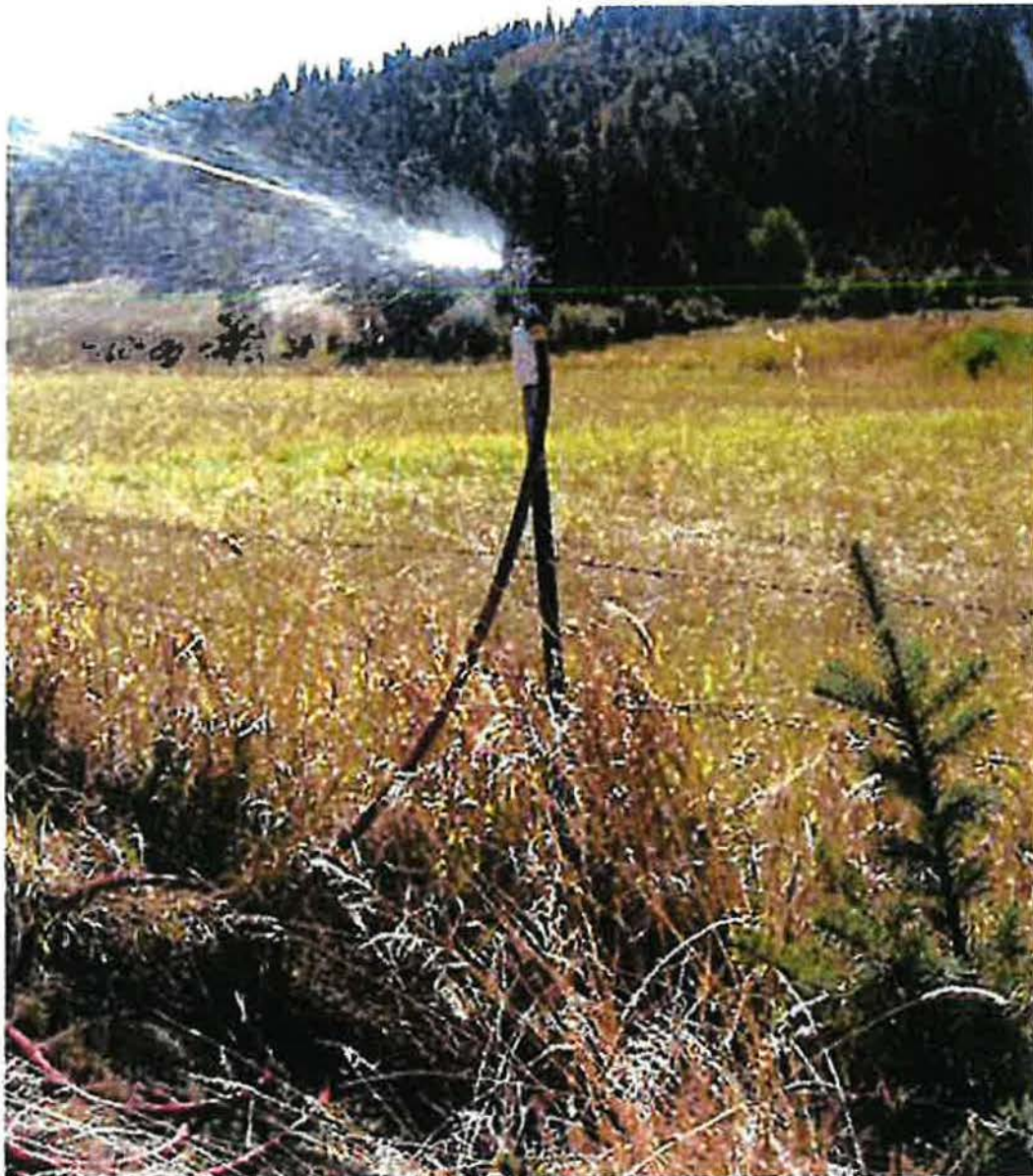
IRRIGATION FROM STORAGE – GENERATOR WATER TRANSFER PUMP (FIELD EXAM DATE 8/19/2016)



IRRIGATION FROM STORAGE WATER TRANSFER PUMP (FIELD EXAM DATE 8/19/2016)



IRRIGATION FROM STORAGE POU (FIELD EXAM DATE 8/19/2016)



IRRIGATION FROM STORAGE POU (FIELD EXAM DATE 8/19/2016)