

[illegible]

Method of Determination:

3. aerial Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.
- x 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 Aerial Photo Attached (required for irrigation of 10+ acres).
- x Photo of Diversion and System Attached

4. Well or Diversion
- | <u>ID No.*</u> | <u>Motor Make</u> | <u>Hp</u> | <u>Motor Serial No.</u> | <u>Pump Serial No. or Discharge</u> | <u>Pump Make</u> | <u>Size</u> |
|----------------|-------------------|-----------|-------------------------|-------------------------------------|------------------|-------------|
| POD | | | | | | |

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

D. FLOW MEASUREMENTS

1. Measurement
- | <u>Equipment</u> | <u>Type</u> | <u>Make</u> | <u>Model No.</u> | <u>Serial No.</u> | <u>Size</u> | <u>Calib. Date</u> |
|------------------|-------------|-------------|------------------|-------------------|-------------|--------------------|
|------------------|-------------|-------------|------------------|-------------------|-------------|--------------------|

2. Measurements: none taken

E. FLOW CALCULATIONS - not applicable

 Additional Computation Sheets Attached

Measured Method:

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation: **not applicable**

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

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

$$V = \text{Smaller of } \begin{matrix} V \\ \text{I.R.} \end{matrix} \text{ and } \begin{matrix} V \\ \text{D.R.} \end{matrix} =$$

2. Volume Calculations for Other Uses: pond is approximately 100' wide x 200' long x 10' deep at the maximum. I used the IDWR standard equation for a pond with sloping sides: surface area x average depth x 0.4 = volume. The 10' for an average depth is generous.

$$\frac{100 \times 200}{43,560} = 0.459 = 0.46 \text{ ac surface area}$$

$$0.46 \times 10 \times 0.4 = 1.84 \text{ af}$$

G. NARRATIVE/REMARKS/COMMENTS

The exam was performed in-house. I met with the applicant, Mr. Nelson, in the office twice, and had phone conversations with him wherein he fully explained the system. He provided a photograph of the pond during construction, a photograph taken in April [he was unsure of the year], and in the summer of the same year. I labeled the photographs, and a layout, while Mr. Nelson was in the office. The proof and correct fee were timely paid. The permit was issued for fire protection storage, instream stockwater and stockwater storage.

Mr. Nelson said that the unnamed stream bed was not well defined in the area of the pond before it was excavated. It was a wide spot in the stream and was very braided with about 3 main channels. The area was excavated to create a pond approximately 200 feet x 100 feet and about 10 feet deep. An eight foot high rock retaining wall was built at the downstream end of the pond. In the spring, the applicant removes some of the rock and leaves a 12 foot wide swale for overflow to Canyon Creek. The overflow is clearly seen in the spring and summer photographs. The unnamed stream flows into Canyon Creek about 0.75 miles to the northeast.

Mr. Nelson does not own any stock that uses the pond and he had no information about the other residents of the subdivision. He states that people riding in the area water their horses from the pond and this is the only stockwater use. There are no troughs and no pumps for the uses. The stockwater and stockwater storage uses will be deleted. The pond is the only source of fire protection water for the subdivision. Other private entities and government agency helicopters dip out of it for fire- fighting as well.

There are no POD overlaps. Mr. Nelson has a water right 63-4776B for 0.28 cfs from the same unnamed stream that supplies the pond water, for the irrigation of 13 acres and stockwater. The application backfile notes states that about 5 acres will be retired to mitigate for this pond but no mitigation plan was required or submitted. Retiring 5 acres is excessive for this small pond. There are no conditions that address mitigation.

No flow measurements are available for the unnamed stream. When calculating a storage volume, I used the IDWR standard equation of surface area x average depth x 0.4 for a result of 1.84 af. I recommend licensing the permitted volume of 2 af.

The pond is small and the water is flowing through during the irrigation season, so the evaporation is negligible.

The permit has a condition requiring a measuring device so that the pond inflow and outflow could be measured, and a condition stating that the outflow must equal or exceed the inflow from June 15 to Nov 1. I checked with the Watermaster as to whether the measuring device condition could be changed to being installed upon request for this small pond and he thought it would be fine.

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

Condition no. 18A – replace with 18C but modify to: Upon specific notification by the department, the right holder shall provide a means acceptable to the department to measure the amount of water entering the reservoir and the amount of water released from the reservoir, and the right holder shall install controlling works that allow the Watermaster to release water from the reservoir.

Delete condition no. 8 regarding stockwater.

H. RECOMMENDATIONS

1) Permit amount	<u>0.02</u> cfs	&/or	<u>2</u> af storage
2) Beneficial use limit	<u>0.02</u> cfs	&/or	<u>n/a</u> af storage
3) System measurement	<u>n/a</u> cfs	&/or	<u>1.8</u> af storage
4) Proof fee amount	<u>0.20</u> cfs	&/or	<u>20</u> af storage

1. Recommended Amounts

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
FIRE PROTECTION STORAGE	01/01 to 12/31		2.00 AF
	<u>Totals:</u>		2.00 AF

2. Recommended Amendments

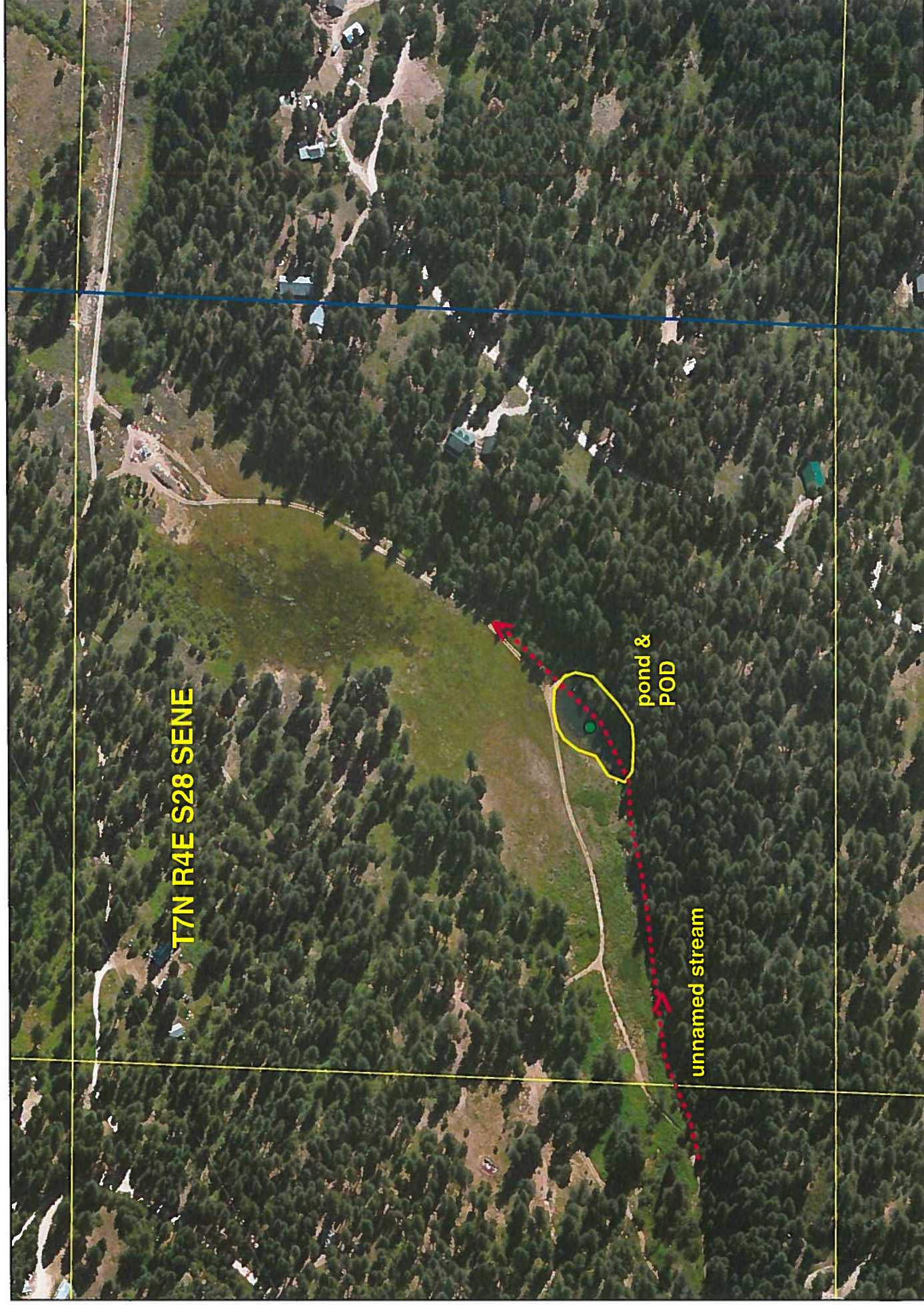
☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☒ None

☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other

I. AUTHENTICATION

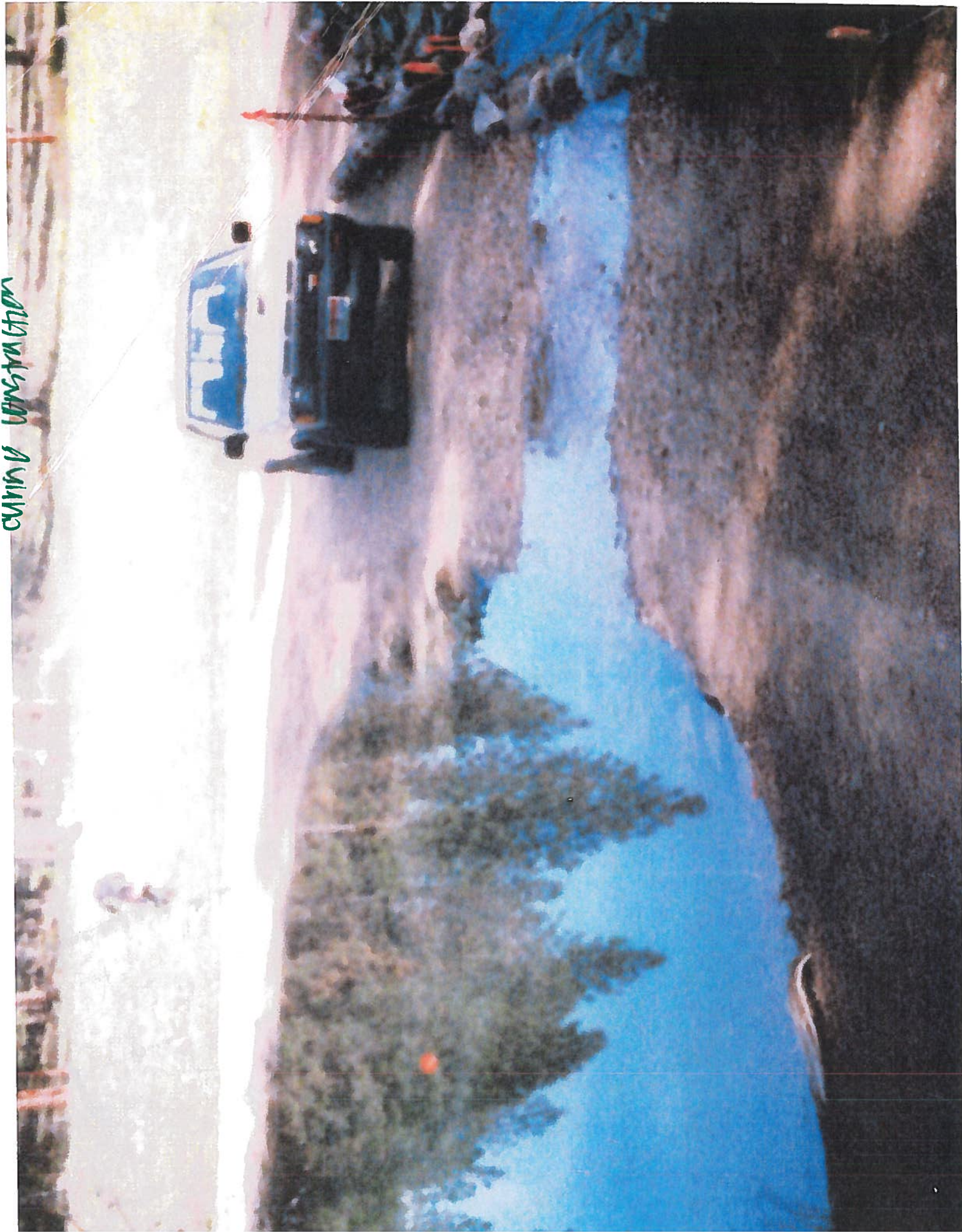
Field Examiner's Name Wendy W. CO Date 10-22-12

Reviewer _____ Date _____



T7N R4E S28 SENE - 63- 12315 - 2011 Bing photography. Shown are the POD in pond, POU - pond, and the unnamed stream which is the source.

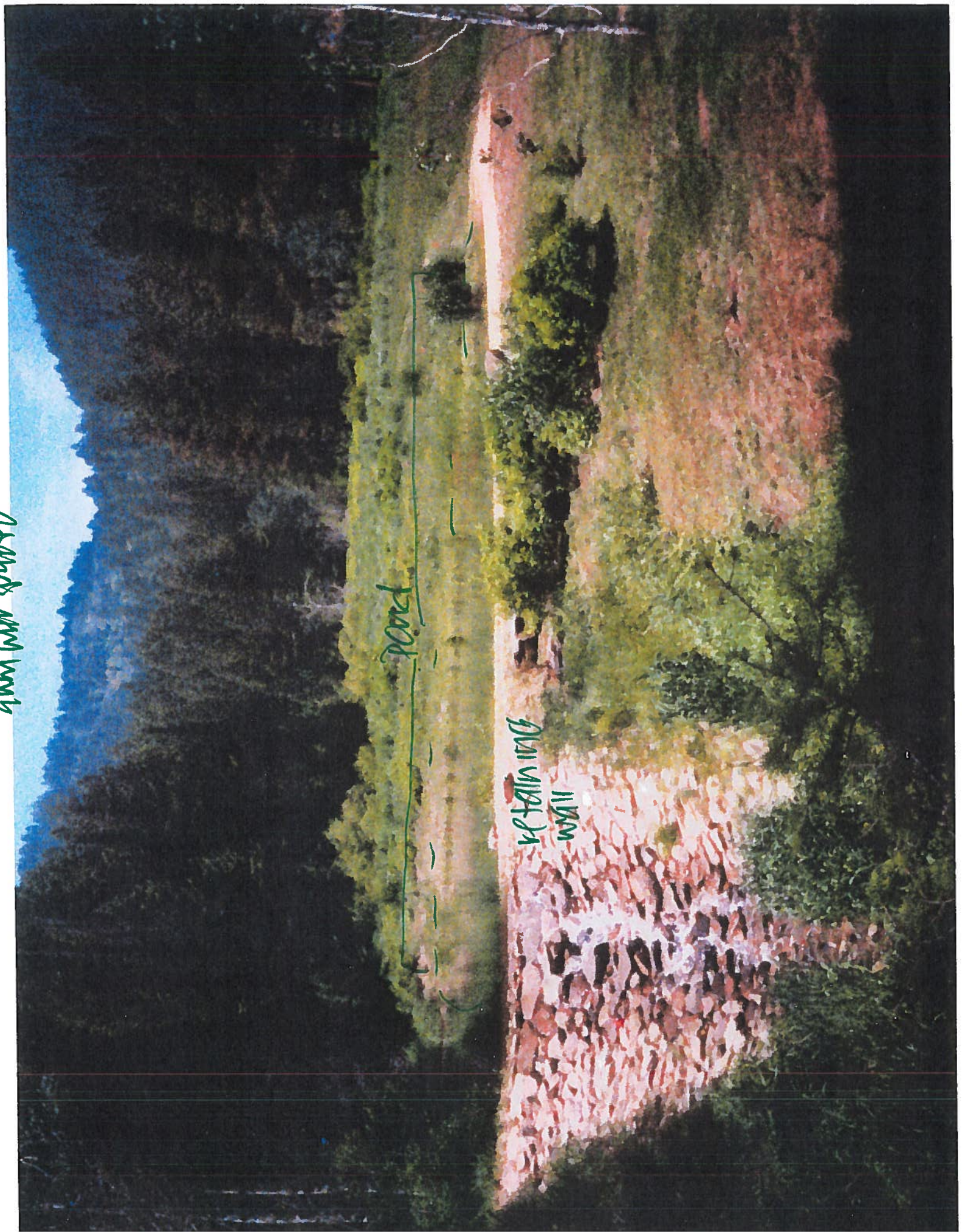
WALL VALLEY A VARIOUS



18 miles NW Wm

road

11 mi
Wm





11/24/2011 - 25.11M OML/2011