

SEP - 8 2009

Department of Water Resources
Adjudication BureauSTATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT**A. GENERAL INFORMATION**

Permit No. 75-7067

1. Owner: Martin W Halpern Phone No. 214 957 6189Current Address: Po Box 32 Argyle TX 762262. Accompanied by: N/A EXAM DATE: 8/28/09

Address: _____ Phone No _____

Relationship to Permit Holder:

3. Source: South Gulch Creek tributary to Hat Creek**B. OVERLAP REVIEW**1. Other water rights with the same place of use: 75-40432. Other water rights with the same point of diversion: 75-4043**C. DIVERSION AND DELIVERY SYSTEM**

1. Point(s) of Diversion:

Ident No.	Gov't Lot	1/4	1/4	1/4	Sec.	Twp.	Rge.	County	Method of Determination/Remarks
		NW	SE	SW	11	17N	20E	Lemhi	on-site visit USBS quad

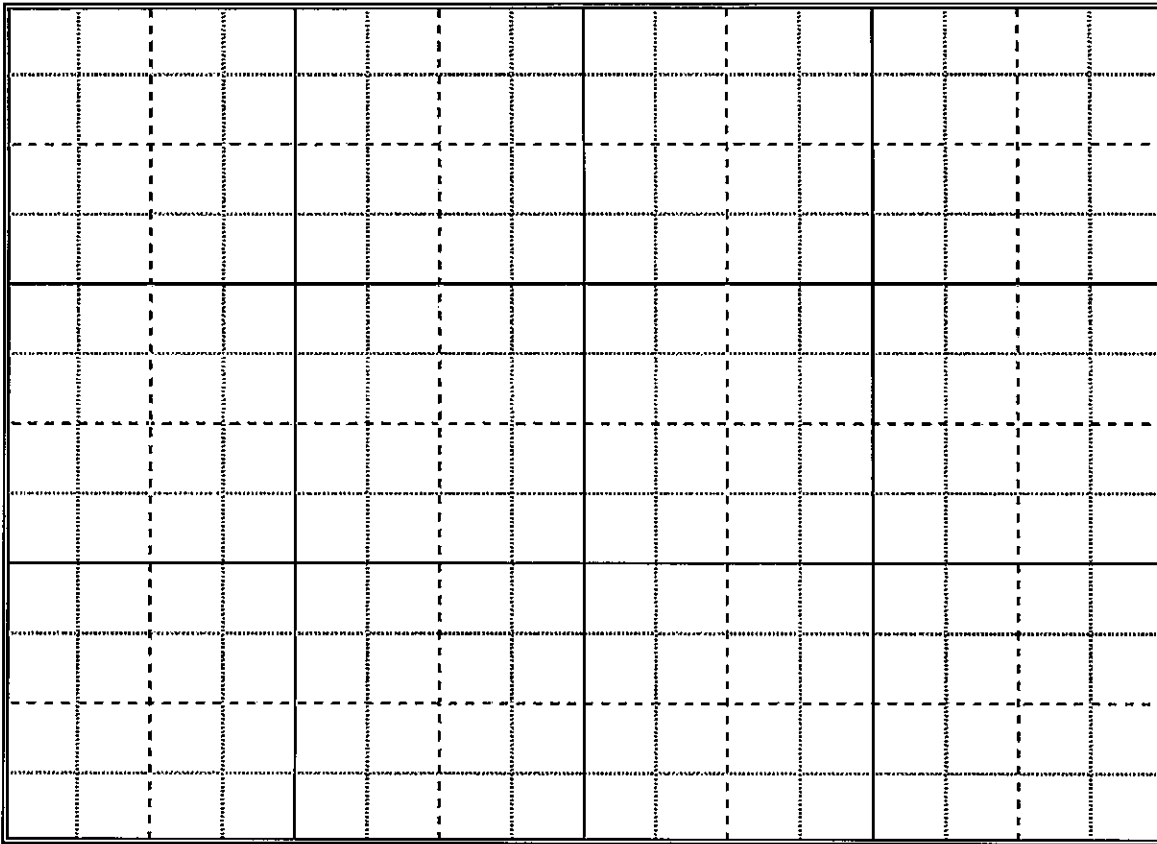
2. Place(s) of Use:

Indicate Method of Determination on-site visit

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	20E	14					2.25	1.75	1.75	7.75	.50								8.1
							1.3	1.2	1.4	4.2									10.5
																			8.1

* Property owned by BLM was removed from total acreage + POU.

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe i.d. as applicable. *See attached*



Scale: 1" = _____

☐ Copy of USGS Quadrangle Attached Showing location(s) of point(s) of diversion and place(s) of use (required).

☒ 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

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

D. FLOW MEASUREMENTS

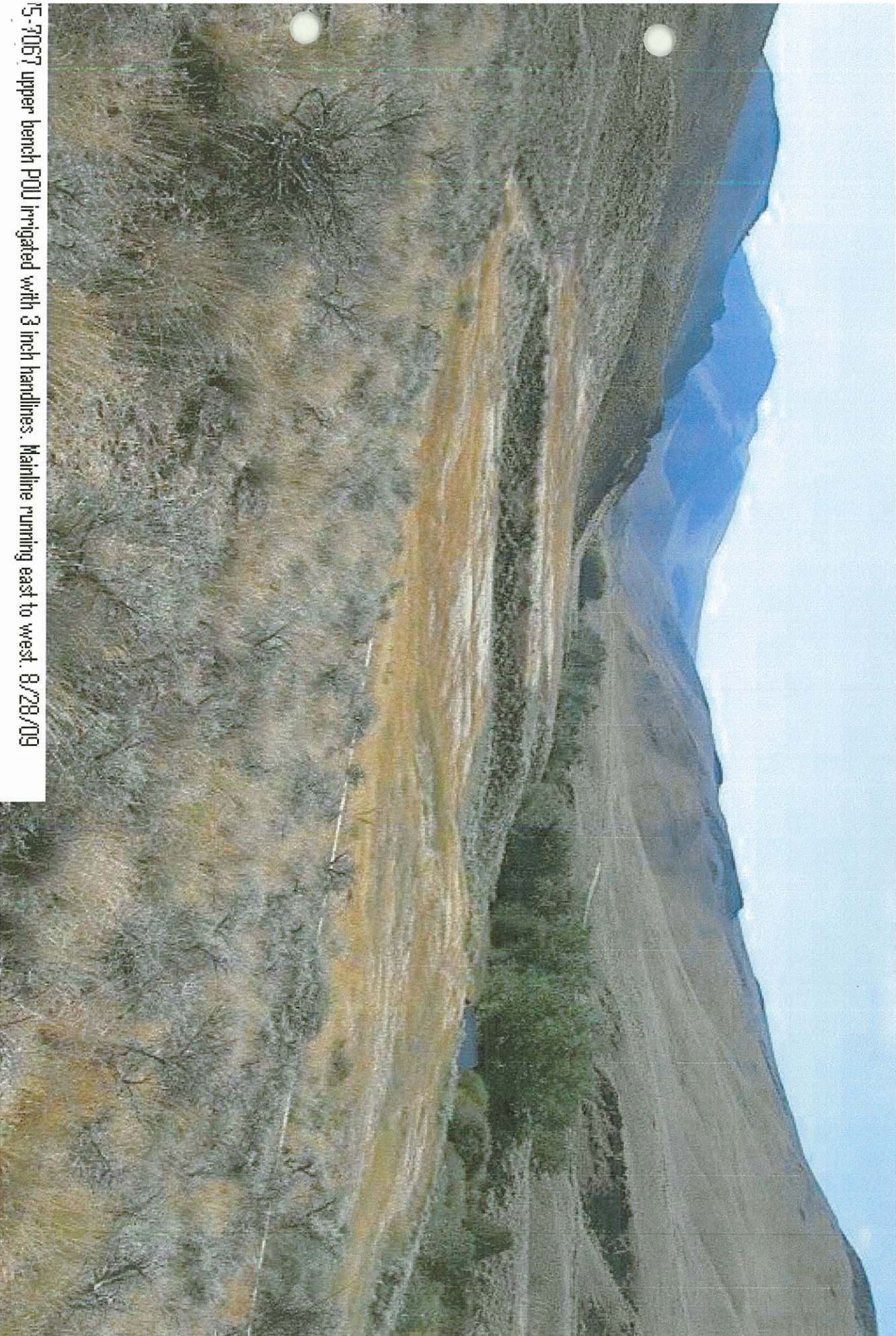
1.

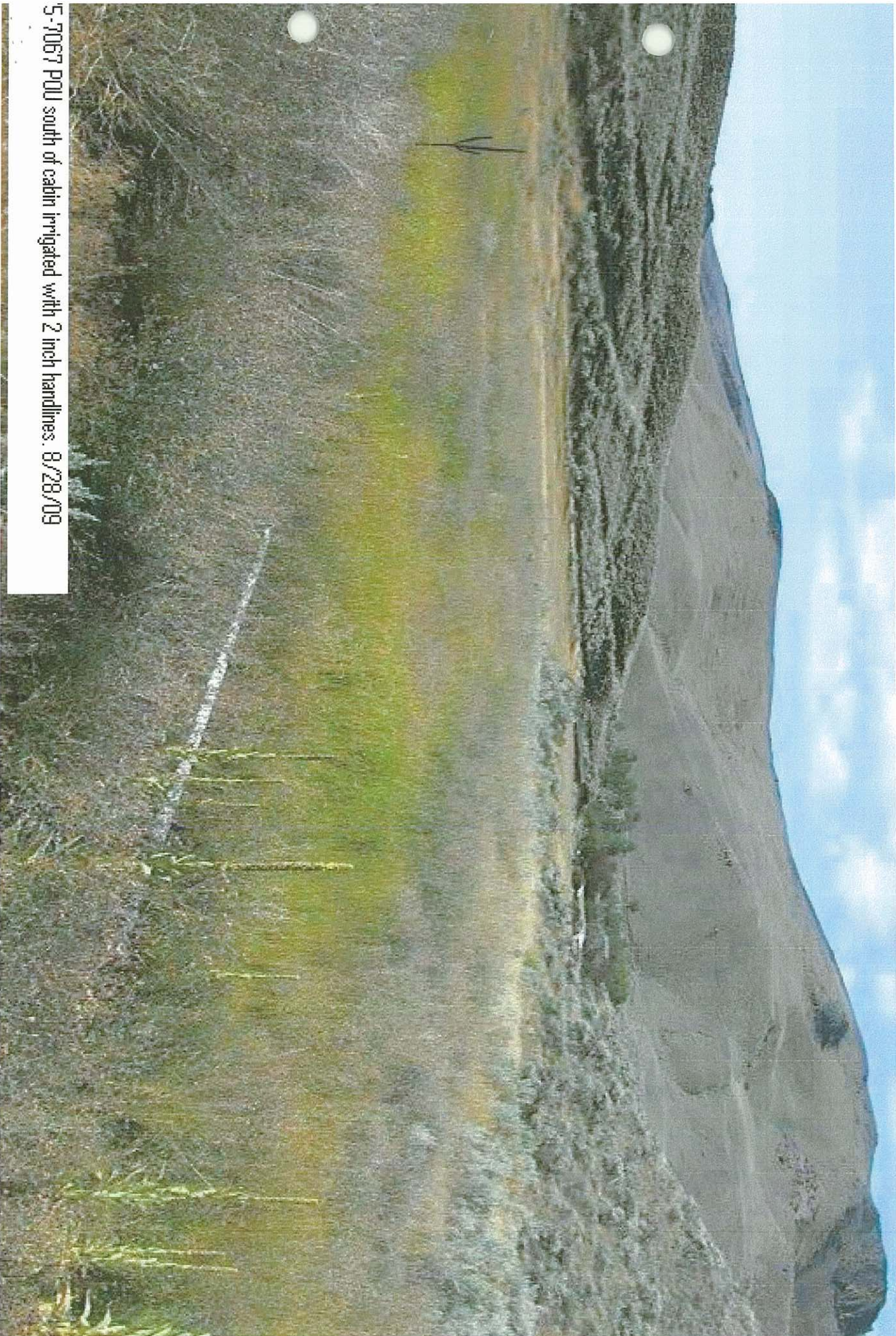
Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date

2.

Measurements:

15-3067 upper bench POU irrigated with 3 inch handlines. Mainline running east to west. 8/28/09

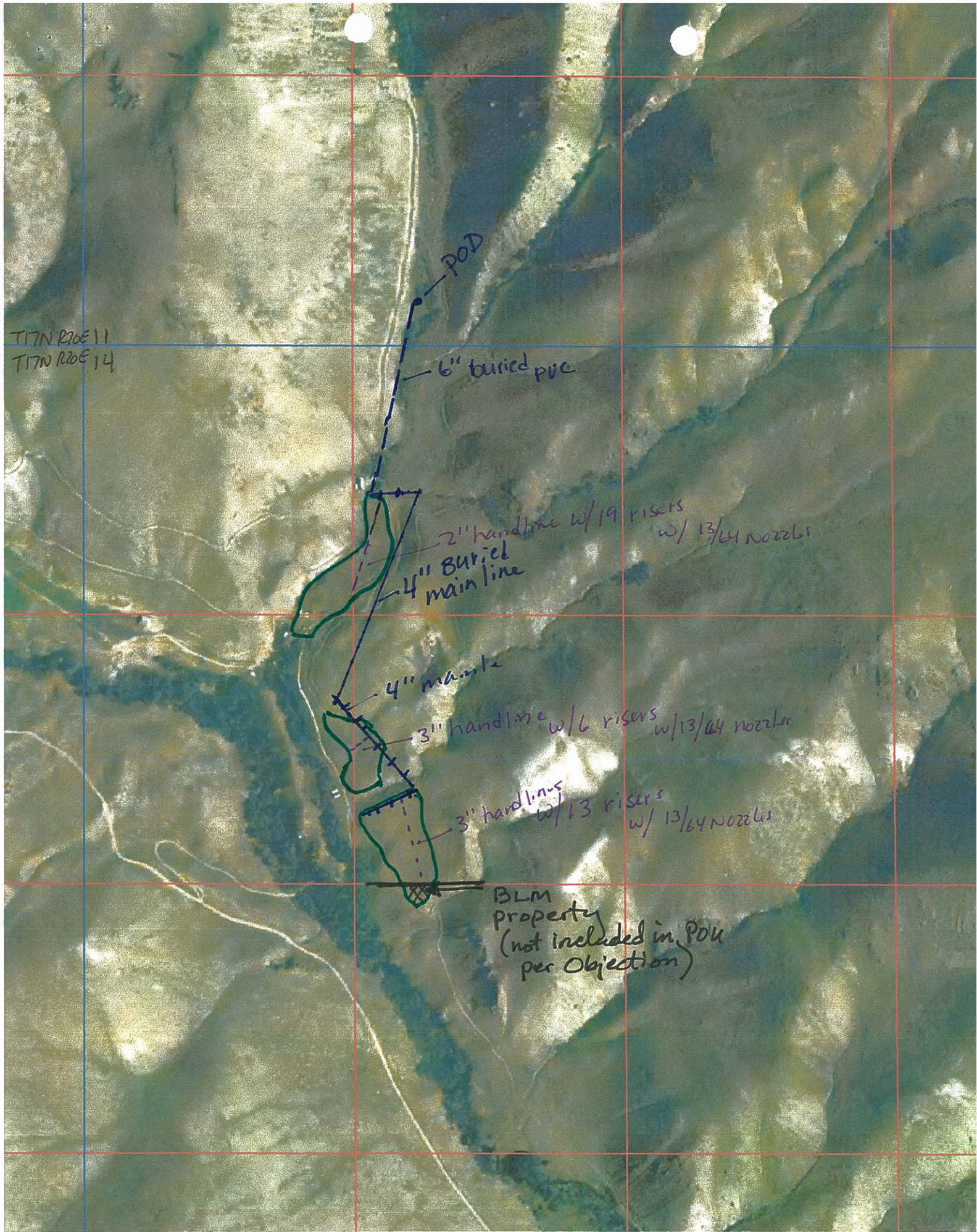




5-7067 POU south of cabin irrigated with 2 inch handlines. 8/28/09

15-7067 P00, 8/28/09





T17N R20E 11
T17N R20E 14

POD

6" buried pvc

2" handline w/ 19 risers
w/ 13/64 nozzle

4" buried
main line

4" mainline

3" handline w/ 6 risers
w/ 13/64 nozzle

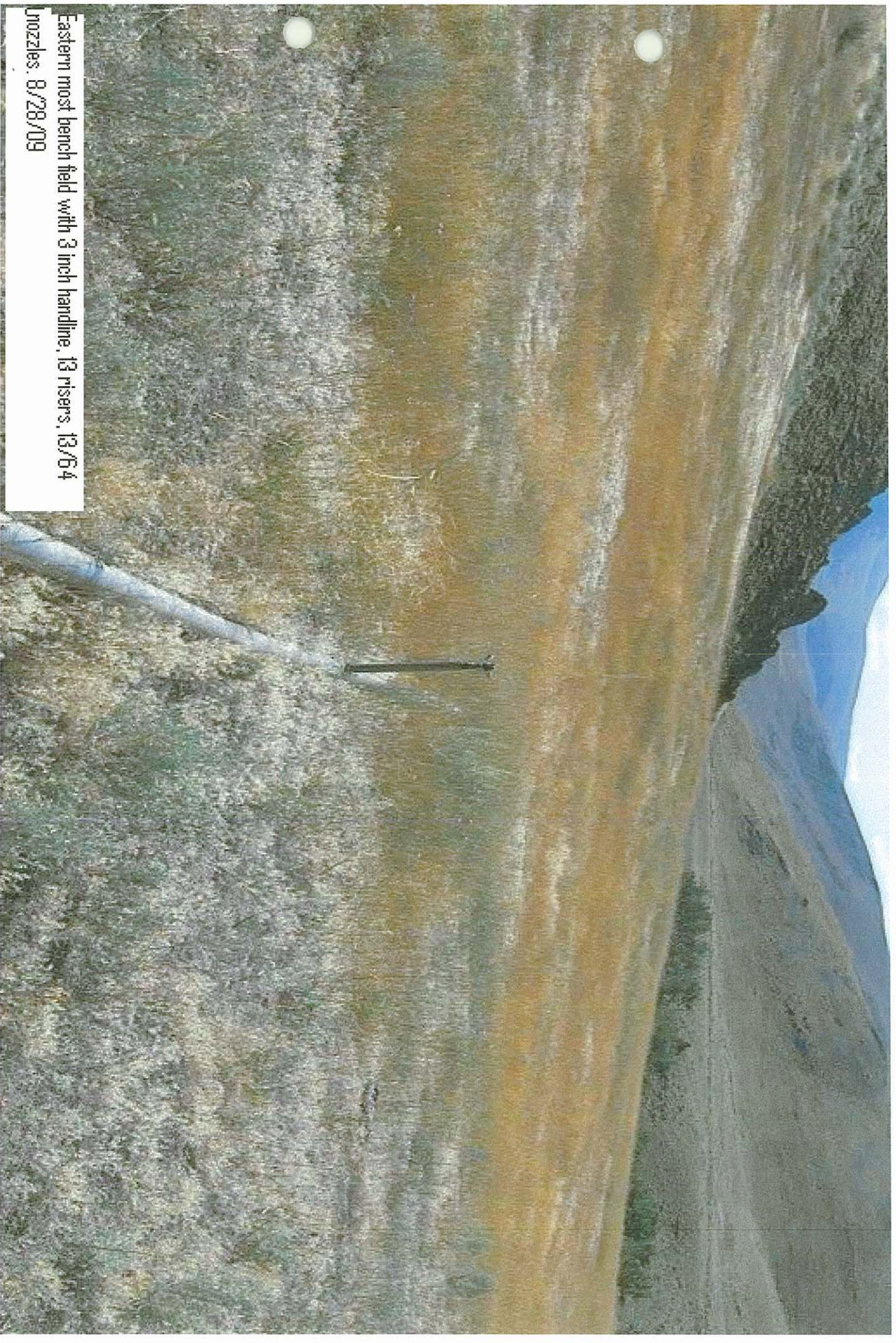
3" handline
w/ 13 risers
w/ 13/64 nozzle

BLM
Property
(not included in POA
per Objection)

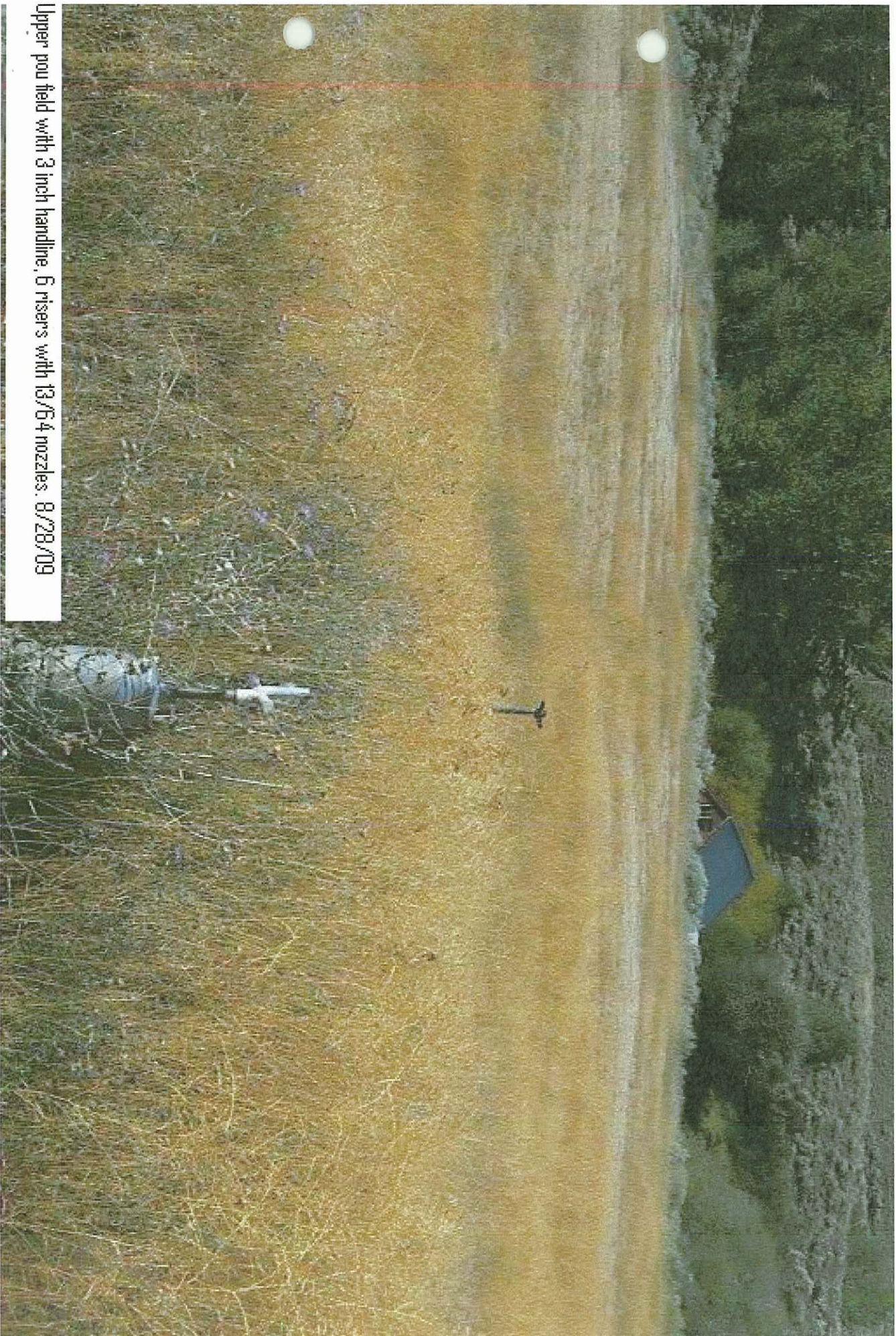
2004 Photo 1 mile = 8 inches



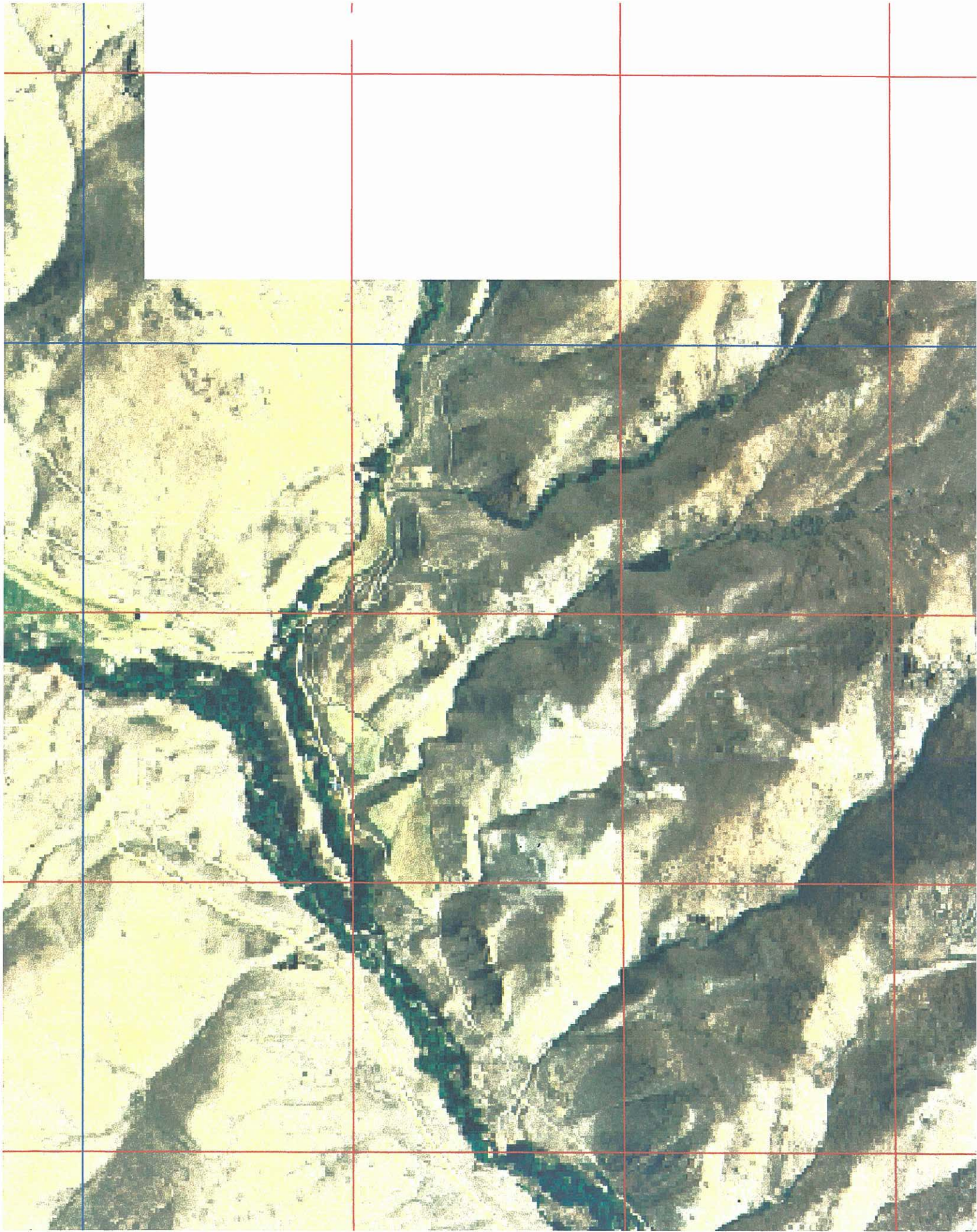
75-7067 Eastern most upper bench POU. 3 inch handline, 13 risers, 13/64
nozzles. 8/28/09.



Eastern most bench field with 3 inch handline, 13 risers, 13/64
Unozles. 8/28/09



Upper pou field with 3 inch handline, 6 risers with 13/64 nozzles. 8/28/09



1987 photo 1 mile = 8 inches

E. NARRATIVE/REMARKS/COMMENTS

- 1) system consists of approx 1600' feet of buried 6" PVC pipe to a four inch mainline. This four inch mainline then services 19 $1\frac{3}{4}$ nozzles on a two inch handline on the upper POU directly south of the cabin. The four inch mainline continues south to service 19 $1\frac{3}{4}$ nozzles on two three inch handlines 6 and 13 uses respectively. ^(30 ft section) ^(30 ft sections)
- 2) no evidence of hydroponics use was found at time of exam
- 3) only 10.5 acres of irrigation found at time of exam. The system does not appear to have been used recently as it is in need of repair to handline and mainline
- 4) POU needs to be modified to reflect actual POU.
- 5) Theoretical diversion rate exceeds .02 A/c per acre.
- 6) no water was being diverted at time of exam

Have conditions of permit approval been met? yes ___ no

SPRINKLER SYSTEM DISCHARGE

NOZZLE DISCHARGE – GALLONS PER MINUTE							
psi	3/32	1/8	9/64	5/32	11/64	3/16	13/64
20	1.17	2.09	2.65	3.26	3.92	4.69	5.51
25	1.31	2.34	2.96	3.64	4.38	5.25	6.16
30	1.44	2.56	3.26	4.01	4.83	5.75	6.80
35	1.55	2.77	3.50	4.31	5.18	6.21	7.30
40	1.66	2.96	3.74	4.61	5.54	6.64	7.80
45	1.76	3.13	3.99	4.91	5.91	7.03	8.30
50	1.85	3.30	4.18	5.15	6.19	7.41	8.71
55	1.94	3.46	4.37	5.39	6.48	7.77	9.12
60	2.03	3.62	4.50	5.65	6.80	8.12	9.56
65	2.11	3.77	4.76	5.87	7.06	8.45	9.92
70	2.19	3.91	4.96	6.10	7.34	8.78	10.32
75	2.27	4.05	5.12	6.30	7.58	9.08	10.66
80	2.35	4.18	5.29	6.52	7.84	9.39	11.02
85	2.42	4.31	5.45	6.71	8.07	9.67	11.35
90	2.49	4.43	5.61	6.91	8.31	9.95	11.69
95	2.56	4.56	5.76	7.09	8.53	10.20	11.99
100	2.63	4.67	5.91	7.29	8.76	10.50	12.32

AVERAGE APPLICATION RATE – INCHES PER HOUR

Spacing in Feet	Discharge From Each Sprinkler						
	2 gpm	3 gpm	4 gpm	5 gpm	6 gpm	7 gpm	8 gpm
20x20	0.48	0.72	0.96	1.20	1.44	1.70	1.95
20x30	0.32	0.48	0.64	0.80	0.96	1.12	1.28
20x40	0.24	0.36	0.48	0.60	0.72	0.84	0.96
30x30	0.21	0.32	0.43	0.54	0.64	0.75	0.88
30x40	0.16	0.24	0.32	0.40	0.48	0.56	0.64
30x50	0.13	0.19	0.25	0.32	0.38	0.45	0.51
40x40	0.12	0.18	0.24	0.30	0.36	0.42	0.48
40x50	0.1	0.14	0.19	0.24	0.29	0.34	0.38
40x60		0.12	0.12	0.20	0.24	0.28	0.32

F. FLOW CALCULATIONS

Additional Computation Sheets Attached

Measured Method:

Capacity of system:

38 1 3/4 nozzles

1 3/4 nozzle @ 40 psi (est) = 7.80 gpm x 38 nozzles = 296.4 gpm ÷ 450 gpm (1 cfs)

= .658 cfs

6" buried line = 0.98 cfs maximum capacity $Q = 5\pi R^2$ (diameter in inches)

4" mainline = 0.44 cfs

(per Arc Map shapefile, w/o BLM property)

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 8.1 \times 3.5 = 28.35 \text{ AF}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = .658 \times 214 = 140.8$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 28.35 = 28.3 \text{ AF}$$

2. Volume Calculations for Other Uses:

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use

irrigation

Period of Use
From To

4/1 10/31

Rate of Diversion
Q (cfs)

.658 cfs

Annual Volume
V (afa)

0.16 cfs

28.3 AF

4/1 - 10/31 current IDWR standard

Totals:

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

* removed BLM property from POU

I. AUTHENTICATION

Field Examiner's Name Bob Foster Date 8/30/09

Reviewer Janet Hemminger Date 9/14/2009

SEAL

PIPE FLOWS -- PUMPING SYSTEMS

[properly designed @ 5 ft. / sec.]

$$Q = 5 \pi r^2 \text{ (r in ft.)} \quad Q = 5 \pi R^2 \text{ (R in ft.)}$$

$$R = (\text{diameter}/12) / 2 \quad \left(\frac{\text{dia}}{12} \right) \div 2$$

$$\pi = 3.1416$$

<u>PIPE DIAMETER(")</u>	<u>CFS (1/100)</u>	^(1/10) <u>MINER INCH</u>	^(1/10) <u>GALLONS/ MINUTE</u>
1	.03	1.5	13.5
2	.11	5.5	49.4
3	.25	12.5	112.2
4	.44	22.0	197.5
6	.98	49.0	439.8
8	1.74	87.0	780.9
10	2.73	136.5	1225.2
12	3.93	196.5	1763.8
14	5.34	267.0	2396.6
16	6.98	349.0	3132.6
18	8.83	441.5	3962.9
20	10.90	545.0	4891.9
22	13.19	659.5	5919.7
24	15.70	785.0	7046.2

THEORETICAL PSI's

Internal domestic	- 20 psi
Internal/external domestic	- 30 psi
Domestic w/ 5-10 acres	- 40 psi
Medium systems (up to 50 acres)	- 40 psi
Large pivots	- 60 psi