

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 71-10980
Exam Date: 06/28/2019

1. Current Owner:
DENNIS THORNOCK PO BOX 1003 CHALLIS ID 83226-1003
2. Accompanied by: Dennis Thornock
Phone No: (208) 833-5200

3. **SOURCE:**
GROUND WATER

Method of Determination: On-Site observation

B. OVERLAP REVIEW

1. Other water rights with the same place of use: Domestic Ground Water Right 71-10157—Water Rights 71-10960, 71-10961, 71-10962, and 71-10963 are owned by Dennis Thornock and are leased into the Water Supply Bank until 12/30/20138.
2. Other water rights with the same point-of-diversion: **None**

C. DIVERSION AND DELIVERY SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:**
GROUND WATER NE¼ NW¼, Sec. 20, Twp 10N, Rge 13E, B.M. CUSTER County

Method of Determination: ArcMap and On-Site observation

PLACE OF USE: IRRIGATION

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
10N	13E	20					8.2												8.2

Total Acres: 8.2

PLACE OF USE: STOCKWATER

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
10N	13E	20					X												

Method of Determination:

- ☒ 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.*
D0075197

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
Electronic Flow Meter	Polysonic	GE	PT878	04031		April 2019

2. Measurements: **.20 cfs** (91.8 gallons per minute)

E. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = \mathbf{24.6 \text{ af}}$$

(8.2 acres x 3.0 afa)

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = \mathbf{62.0}$$

(0.17 x 184 days x 1.9835)

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = \mathbf{24.6 \text{ af}}$$

2. Volume Calculations for Other Uses: Stock water: **0.21 af** (25 cows/6 horses x 12 gallons/day x 184 days)

G. NARRATIVE/REMARKS/COMMENTS

Permit 71-10980 is for 0.19 cfs from ground water for irrigation and stock water uses. On June 28, 2019 I met with Dennis Thornock to perform the Field Exam for the permit. Mr. Thornock showed me the Point of Diversion (POD), Place of Use (POU), and the developed system. He gave me a copy of the "As Built" system provided by The Natural Resource Conservation Service (NRCS) that indicates the locations of the various components of the developed system.

The POD (D0075197) is located in the NE1/4 of the NW1/4 of Section 20, Township 10N, Range 13E. There is an approved flowmeter correctly installed near the well head. The well provides water for the irrigation of 8.2 acres and stock water for up to 25 cattle and 6 horses. Buried lines from the well supply irrigation water to 6 risers and a stock water trough. There is a locked well house near the well head that contains a pressure tank, valves, and electrical service (that is also lockable).

A flow rate measurement taken using a GE Panametrics polysonic flow meter indicates the developed system is capable of supplying the applied-for rate of 0.19 cfs. The permit conditions of lockable works and a measuring device with data logger have been met. I recommend licensing water permit 71-10980 for 0.18 cfs with an annual volume of 24.81 acre-feet (adjustments to the irrigated POU indicate a flow rate of 0.18 cfs for licensing).

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	05/01 to 10/31	0.17 CFS .16 cfs P.S.	24.6 AF
STOCKWATER	05/01 to 10/31	0.02 CFS	0.21AF

Totals: 0.19 CFS 24.81 AF
 .18 cfs P.S.

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

Kent Aasa - Water Resource Agent, Senior

Field Examiner's Name [Signature] Date 07-26-2019

Reviewer [Signature] Date 07/26/2019

71-10980 POD



71-10980 Flow Measurement



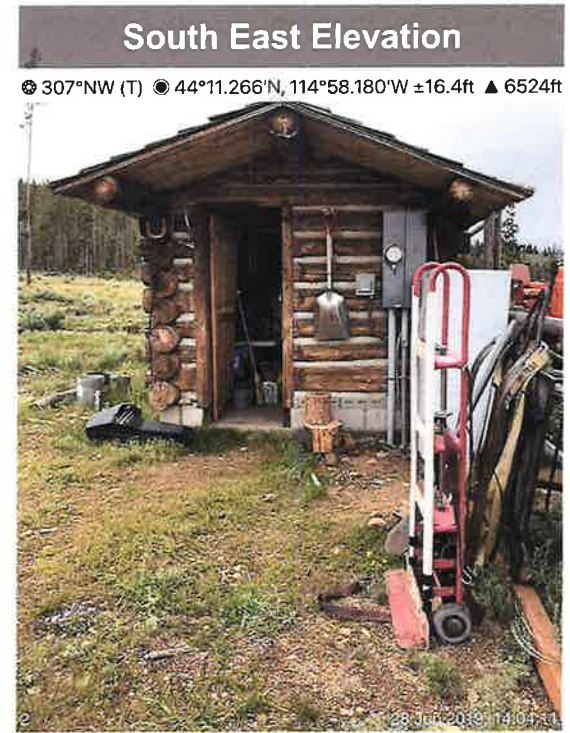
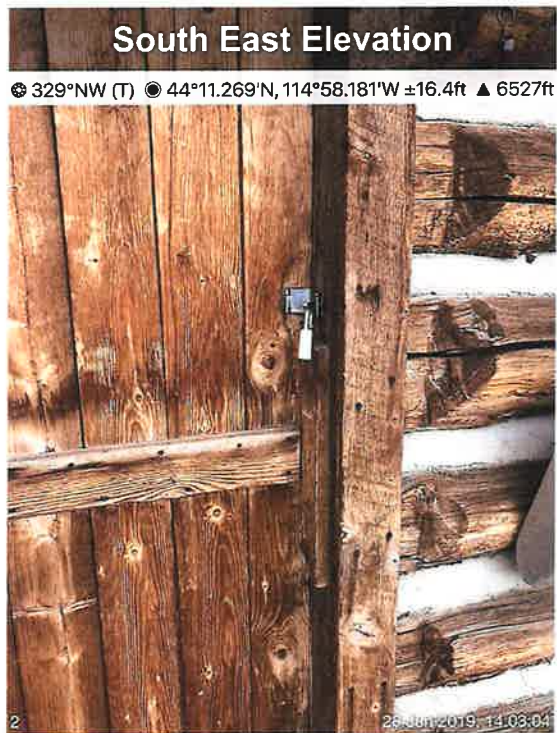
71-10980 Flow Measurement



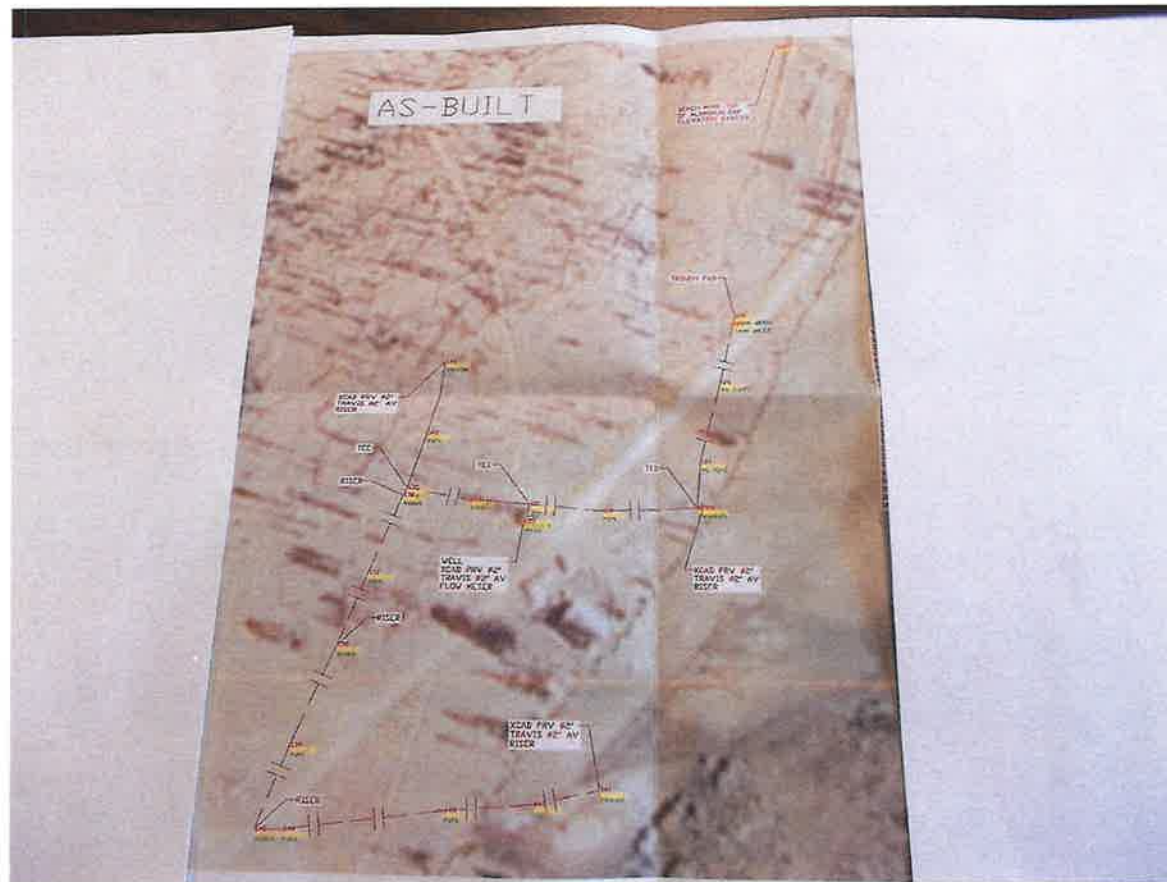
71-10980 POU



71-10980 Lockable Works



71-10980 System Diagram



71-10980 Volume Calculations

Irrigation

The smallest of A or B below

A. (acres irrigated x irrigation requirement)

$$8.2 \text{ acres} \times 3.0 \text{ afa} = \mathbf{24.6 \text{ AF}}$$

B. (CFS x Days in Irrigation Season)

$$.16 \text{ cfs} \times 184 \text{ days} \times 1.938 = 57.1 \text{ AF}$$

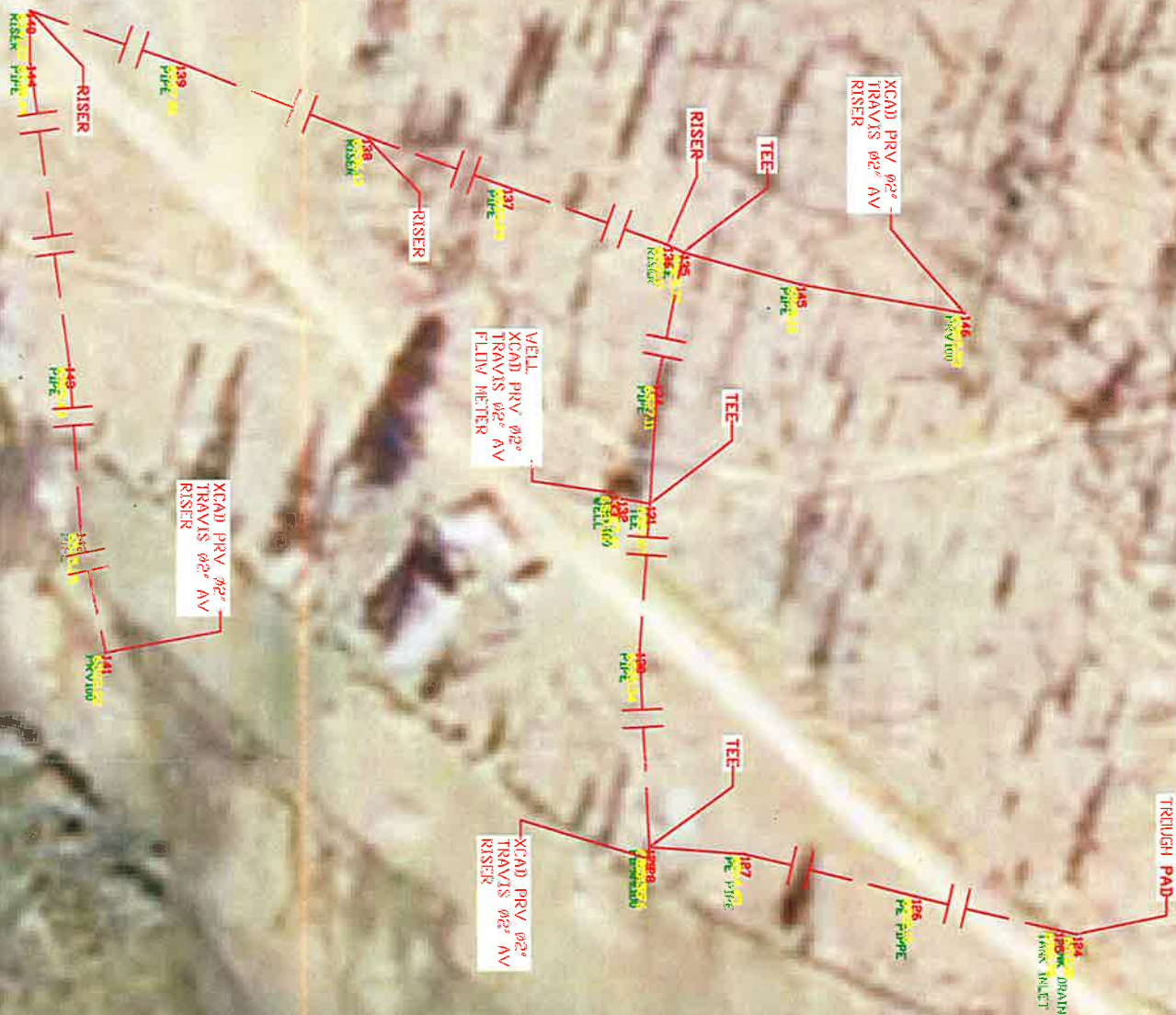
Domestic: N/A

Stockwater: 0.21 AF

$$25 \text{ cows} \times 12 \text{ gpd} \times 184 \text{ days} = 55,200 \text{ gal} / 325,850 = 0.17 \text{ AF}$$

$$6 \text{ horses} \times 12 \text{ gpd} \times 184 \text{ days} = 13,248 \text{ gal} / 325,850 = 0.04 \text{ AF}$$

BENCH MARK TOP
OF ALUMINUM CAP
ELEVATION 6497.29



9000.160774935	41.599781.97	6.5497.229	
124.160774680	59.9972.10	93.6531.10	TANK DIR
125.160776393	5.999721.93	65.312.10	TANK IN
126.160775684	3.997705.65	65.312.10	PIPPIN
127.160774072	4.2.999683.99	65.14.45	PE
128.16077434.74	5.998666.40	65.15.76	PRV100
129.16077434.682	5.998666.33	65.15.33	TE
130.16077430.00	5.995601.74	65.20.33	PIPE
131.16077435.10	5.995300.25	65.23.3.69	TEE
132.16077472.01	5.995305.72	65.627.27	PRV100
133.16077416.80	5.998258.68	65.27.16	VELL
134.16077436.86	3.999447.80	65.629.70	TEE
135.16077451.80	5.993882.42	65.629.70	TEE
136.16077443.77	5.999374.56	65.33.11	RISER
137.16077368.65	5.999349.56	65.33.21	PRV100
138.16077293.92	5.999242.45	65.33.61	RISER
139.16077200.19	5.999287.45	65.33.77	PIPE
140.16077124.71	5.999360.93	65.34.32	RISER
141.16077162.87	5.999382.25	65.35.22	PRV100
142.16077150.23	5.999382.04	65.35.22	PIPE
143.16077144.44	5.999382.22	65.35.23	PIPE
144.16077144.44	5.999387.41	65.34.31	PIPE
145.16077510.30	5.993938.97	75.6528.16	PIPE
146.16077592.67	5.994941.71	75.6528.16	PRV100

PRACTICE MEET MRS. STANDARDS AND SPECIFICATIONS. THERE IS 1,138 FEET OF BURIED 94" PVC PIPE IN THIS SYSTEM. THERE IS 220 FEET OF BURIED 41" PE PIPE IN THE SEWER/WATER SYSTEMS REFER TO SURVEY COORDINATES FOR LOCATION.