

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 96-9692
Exam Date: 05/24/2022

1. Current Owner:
BETTY SUE CARTER PO BOX 67 KARNES CITY TX 78118-0067
2. Accompanied by: Betty Sue Carter
Phone No: 208-610-9692
Address: 88 Kirpals Way Sagle ID 83860
Relationship to permit Holder: Permit holder

3. **SOURCE:**
GROUND WATER

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:**
GROUND WATER NE¼ NW¼, Sec. 8, Twp 55N, Rge 03W, B.M. BONNER County

Method of Determination: GPS; POD is an old GW well (no tag information) located at -116°43.963, 48°07.978.

PLACE OF USE: STOCKWATER, COMMERCIAL, & DOMESTIC

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
55N	03W	8					X												

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
GW well (old)		2			

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
NONE						

2. Measurements: Unable to perform flow measurement due to inadequate pipe requirements. Main service line from well routes directly to a pressure tank prior to distribution for use. As a result, a theoretic pump equation was used to derive the diversion rate. The old well without information is estimated to be 300 ft deep by the applicant, with 2 hp pump installed lifting 285 ft at 45 PSI results in 16.3 gpm or 0.04 cfs considering department rounding standards.

E. FLOW CALCULATIONS X Additional Computation Sheets Attached

Measured Method: Theoretic Pump Equation: 2 hp pump, 285 ft lift, 45 PSI operating pressure = 16.3 gpm, or 0.04 cfs considering department rounding standards.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: N/A

2. Volume Calculations for Other Uses:

- Domestic annual volume – 1 home with ½ acre irrigation = **1.2 af**
- Commercial annual volume –
 - 4-bed B&B = 8 people x 365 days x 50 GPD = 146,000 GPY
 - 2-bed rental cabin = 4 people x 275 days x 50 GPD = 55,000 GPY
 - Retreat functions = 8ea events x 50 people per group x 50 GPD x 4 days per function = 80,000 GPY
 - Wedding events = 6ea events x 50 people per event x 50 GPD x 4 days per event = 60,000 GPY
 - Total annual volume = (146,000 gal + 55,000 gal + 80,000 gal + 60,000 gal) / 325,850 gal per af = **1.0 af** considering department rounding standards.
- Stockwater annual volume –
 - (# head stock x GPD x day/year) = GPY & combined total annual volume / 325,850 gal per af = **0.1 af** considering rounding standards.

WR 96-9692 STOCKWATER ANNUAL VOLUME CALCULATIONS				
STOCK ANIMALS	# HEAD	GPD	DAYS/YR	GPY
GOATS	10	2	365	7300
COWS	2	12	365	8760
HORSES	2	12	365	8760
SHEEP	3	2	365	2190
CHICKENS/DUCK	70	10	365	3650
GAL PER YEAR				30660
ACRE-FEET PER YEAR				0.09409

G. NARRATIVE/REMARKS/COMMENTS

CFPRBA adjudication note: the applicant submitted the Statement of Completion form for this Permit on 1/14/2021 prior to the 6/15/2021 adjudication process commencement date. The applicants are required to file an adjudication claim based on Permit/License 96-9692. During the exam I provided adjudication staff contact information with my recommendation they pursue filing based on the Permit or subsequent License.

Field exam performed on 5/24/2022 with the applicant, Betty Sue Carter, showed a groundwater well being used for commercial, domestic, & stockwater use(s). At the POD, an old well that doesn't have support documents on file uses a 2 HP pump and main service pipe to beneficial uses. The applicant asserts on the initial application that the well is approximately 300 ft deep. I was unable to perform a flow measurement as the main service line routes direct to a pressure tank before distribution to water uses. The applicant has installed a manual pump component on the well head, to ensure water use from the well during times of power outage.

A theoretic pump equation (T.P.E.) was used to calculate a flow rate resulting in 2 HP pump @ depth of 285 ft operating at 45 PSI = 16.3 GPM or 0.04 cfs considering department rounding standards. Based on the applicant's beneficial uses associated with Department standard diversion rates, the applicant's knowledge of the well system, and the T.P.E. calculation I am recommending a maximum diversion rate of **0.04 cfs** for licensing, and each beneficial use component retaining their respective diversion rate, non-additive, for licensing.

The Domestic POU & Commercial POU are the same and were walked with the applicant during the exam and sketched out on exam maps. During licensing review Arcmap aerial imagery was used to trace out both POUs which consist of a large primary residence, cabin, and oversized garage repurposed to event facility. Both the residence & cabin are service connected to the GW well with full-service utilities; both serve as rentals for a Bed & Breakfast use. The residence is available for rent year-round, and the applicant asserts the cabin is rented from 1 March – 1 December annually (limited by heating requirements in winter months). The applicant primarily stays in the main residence which has 4 bedrooms but relocates to either the 2-bedroom cabin or a dry use yurt located on the property when lodging reaches max capacity. The cabin doubles as a therapy office by appointment. The therapy use occurs congruent with other commercial uses throughout the year and doesn't add additional water usage volume calculated in commercial volume below.

Arcmap aerial imagery was used to trace out the commercial & domestic POU during licensing review and includes up to ½ acre irrigation associated with domestic use. The annual volume for domestic use equals **1.2 af** for licensing purposes and is used by 2-3 full time residences with pets. Irrigation up to ½ acre was observed as small, fenced garden, and green space around the home.

The commercial component and POU incorporates room and board for renters at the B&B, several large group retreats/arts & craft events throughout the year, and several wedding events which take place on the property throughout the year. The commercial use annual volume was calculated as follows:

- 4-bed B&B = 8 people x 365 days x 50 GPD = 146,000 GPY
- 2-bed rental cabin = 4 people x 275 days x 50 GPD = 55,000 GPY
- Retreat functions = 8ea events x 50 people per group x 50 GPD x 4 days per function = 80,000 GPY
- Wedding events = 6ea events x 50 people per event x 50 GPD x 4 days per event = 60,000 GPY
 - Total annual volume = (146,000 gal + 55,000 gal + 80,000 gal + 60,000 gal) / 325,850 gal per af = **1.0 af** considering department rounding standards.

The applicant admits year 2020 & 2021 usage was impacted by COVID restrictions, and the annual volume was calculated using the highest years use in the development period which occurred in 2018 & 2019 respectively. Due to the applicant's property in relation to several small lakes and the Pend Oreille River, the applicant maintains near max capacity for renters throughout the year. I assessed volume based on max capacity when considering the 4-bedroom residence & 2-bedroom cabin.

The stockwater POU was walked with the applicant during the exam and sketched out on field maps. The applicants maintain cows, horses, goats, chickens, ducks, & sheep throughout the year and evidence of stock usage with stock tanks of varying size were present at time of exam. Arcmap aerial imagery was used to trace out the Stockwater POU which consists of a small barn, several coups, multiple fenced in pens, and a covered area for stock use on the property. The annual volume recommended is illustrated above and equals **0.1 af** considering department rounding standards. The maximum diversion volume recommended for licensing this right equals 1.2 af (Domestic) + 1.0 af (Commercial) + 0.1 af (Stockwater) = **2.3 af**.

Conditions 26A, 046, and X02 were removed from the permit during licensing review. Condition X04 was replaced with X01 after determining only one residence will receive domestic use credit toward licensing, as the small rental cabin is accounted for under commercial use; the applicants identified 1 home for domestic use under step 8 of the application. All other conditions on the permit are being carried to licensing. There are no overlap concerns for 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>Rate of Diversion</u>	<u>Annual Volume</u>
STOCKWATER	01/01 to 12/31	0.02 CFS	0.1 AF
COMMERCIAL	01/01 to 12/31	0.04 CFS	1.0 AF
DOMESTIC	01/01 to 12/31	0.04 CFS	1.2 AF

Totals: 0.04 CFS 2.3 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

Reviewer

Date

[Signature]

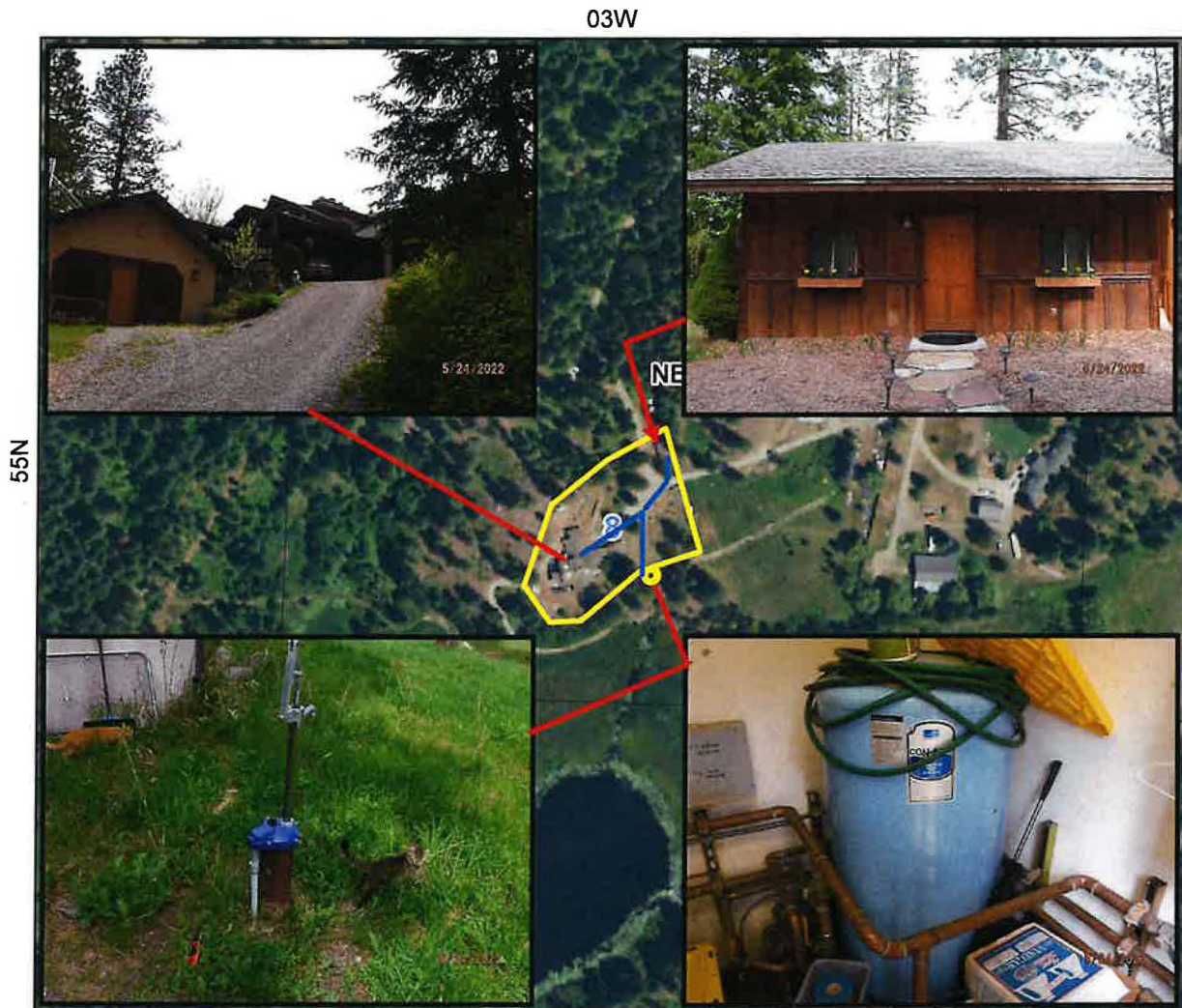
6/29/2022

Aden Fink

7/21/2022

State of Idaho
Department of Water Resources
Attachment to Field Exam
96-9692

DOMESTIC & COMMERCIAL system diagram.



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

0 0.035 0.07 0.14 Miles



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STOCKWATER system diagram.



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

0 0.035 0.07 0.14 Miles



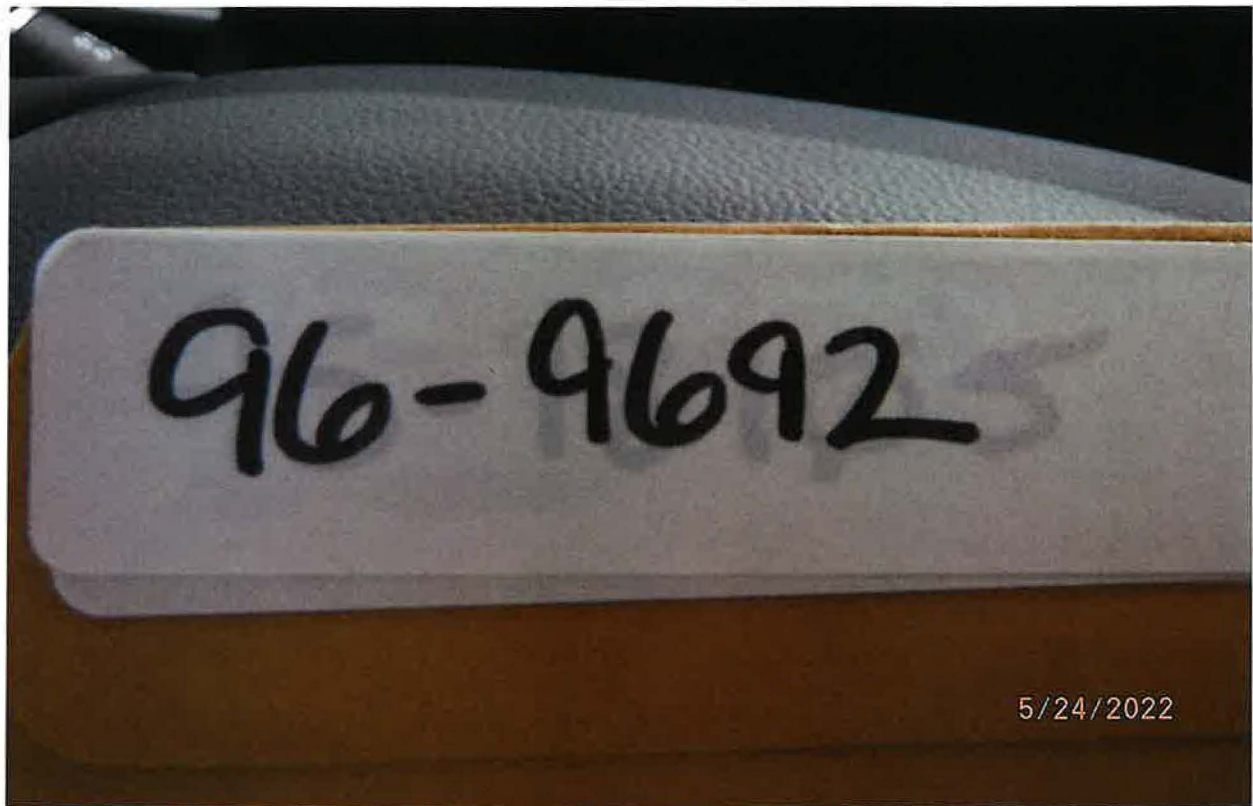
THEORETICAL PUMPING EQUATION(S) FOR WR# 96-9692

Theoretical Pumping Equation is required because system did not allow for a proper measurement. Pump is estimated to lift 285 ft, and running at 45 psi.

PUMP EQUATION

WATER RIGHT No. 96-9692

1985 YEAR WELL DRILLED TO 300 FT	HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q = $HP \cdot 8.8 \cdot \text{Eff} / H$	2	389.0816	0.8	285	45
Q = 0.036 cfs 16.3 gpm					



BENEFICIAL USE FIELD EXAMINATION DATE 5/24/2022



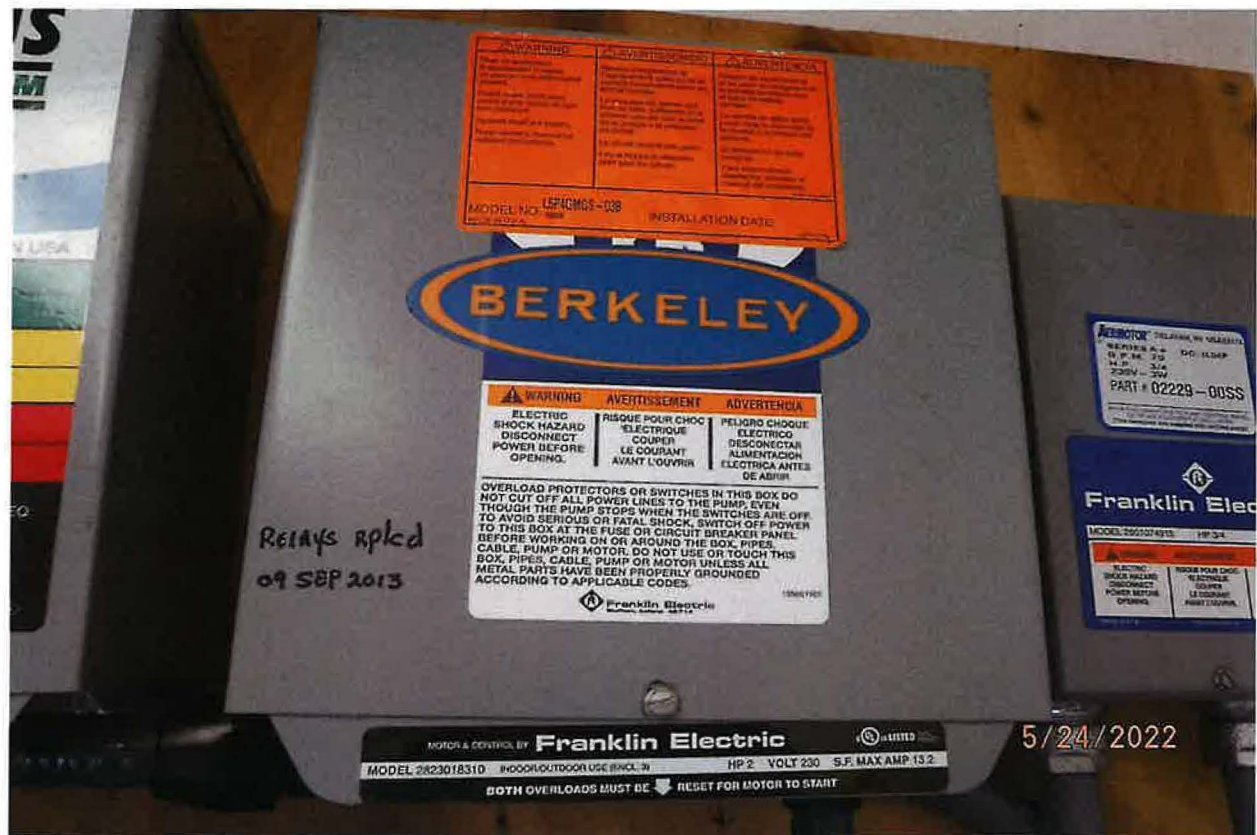
POD – GW WELL DRILLED IN 1985



PUMP CONTROL PANEL IN SMALL PUMP STATION CO-LOCATED WITH WELL



WATER CONVEYANCE SYSTEM



2 HP PUMP MOTOR INSTALLED IN WELL



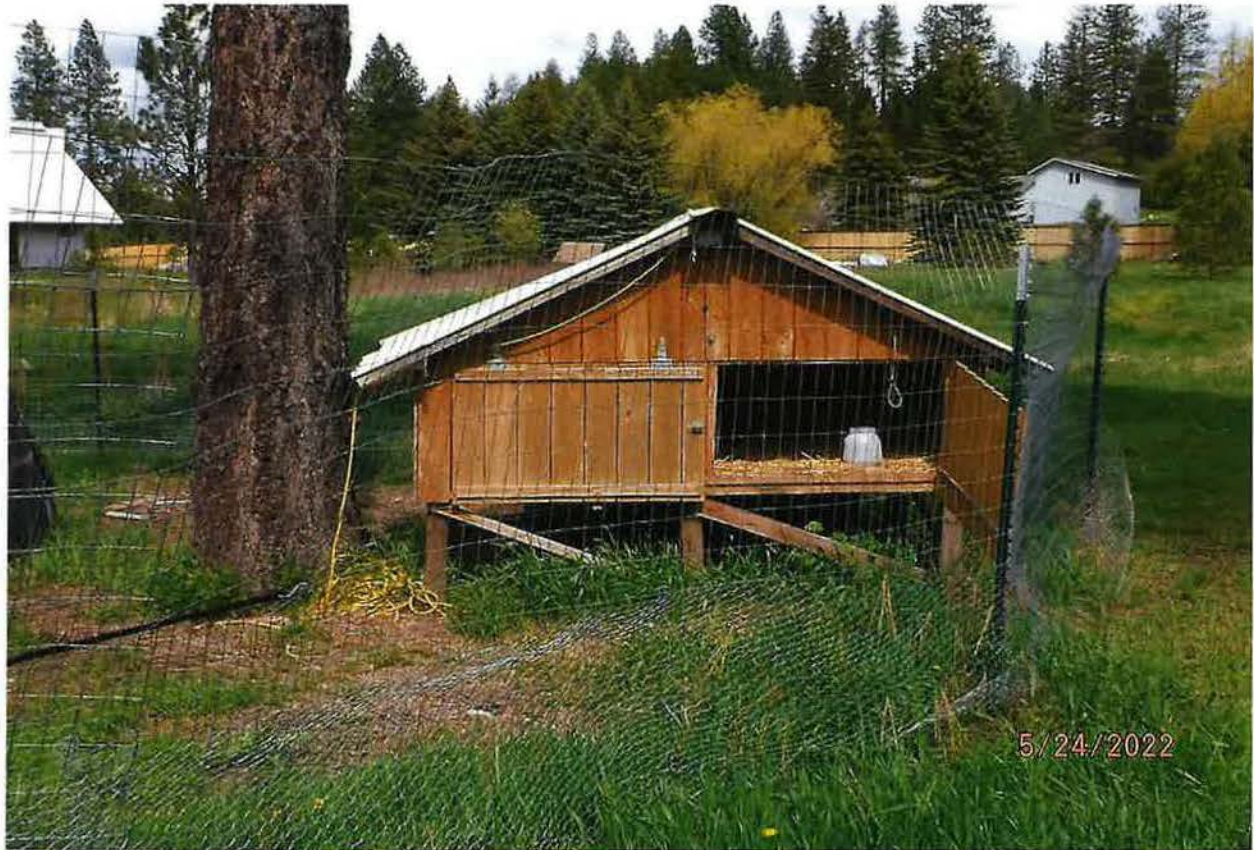
DOMESTIC POU & COMMERCIAL POU – RESIDENCE IN BACKGROUND OF PHOTO, SHOP CONVERTED INTO COMMERCIAL USE FACILITY FOR GROUP ACTIVITIES



COMMERCIAL POU – RENTAL CABIN, WHICH SERVES AS THERAPY SESSION BUILDING; FULL-SERVICE BATHROOM/SHOWER UNIT ATTACHED



DRY USE YURT USED BY APPLICANT WHEN MAIN RESIDENCE IS RENTED OUT

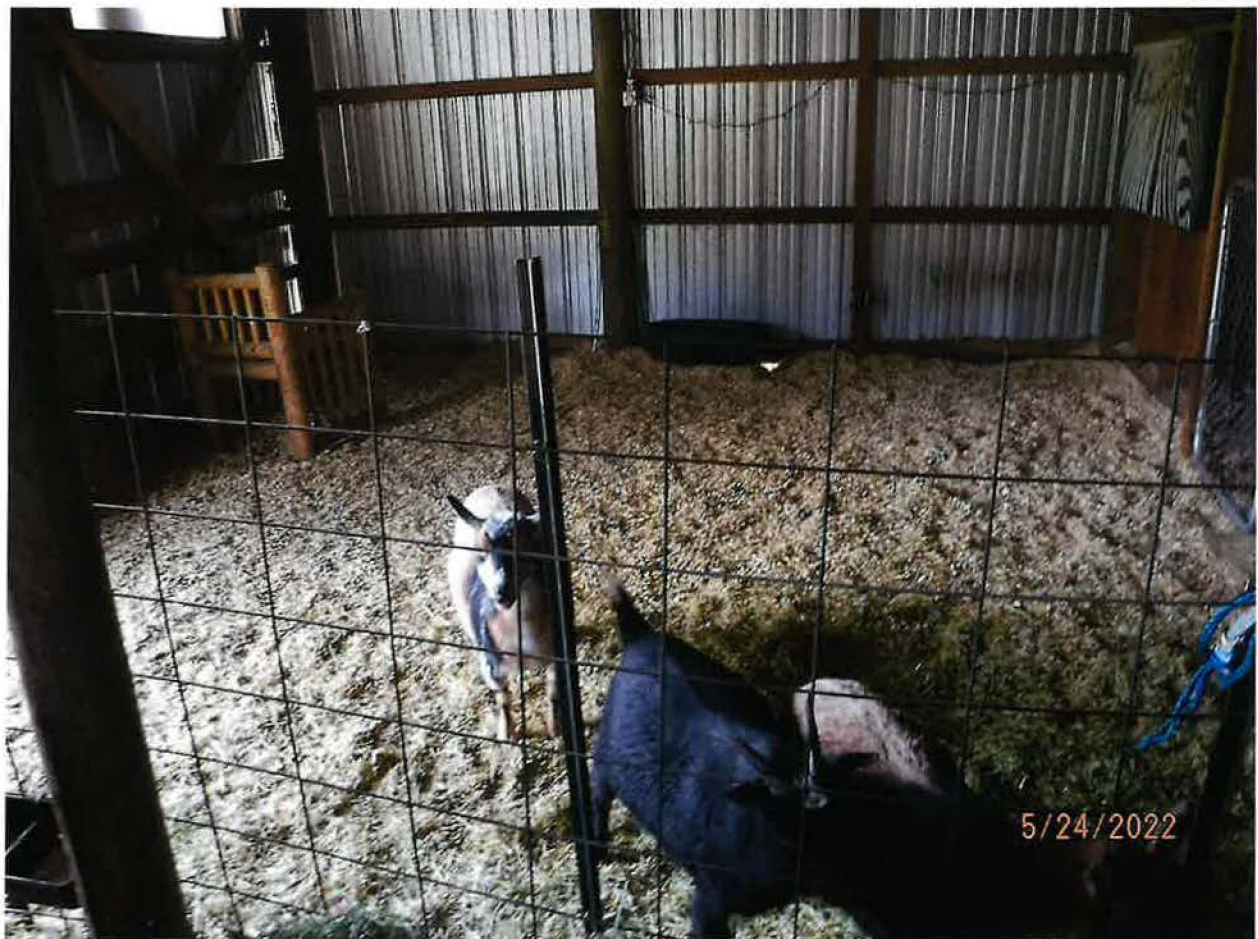


STOCKWATER POU



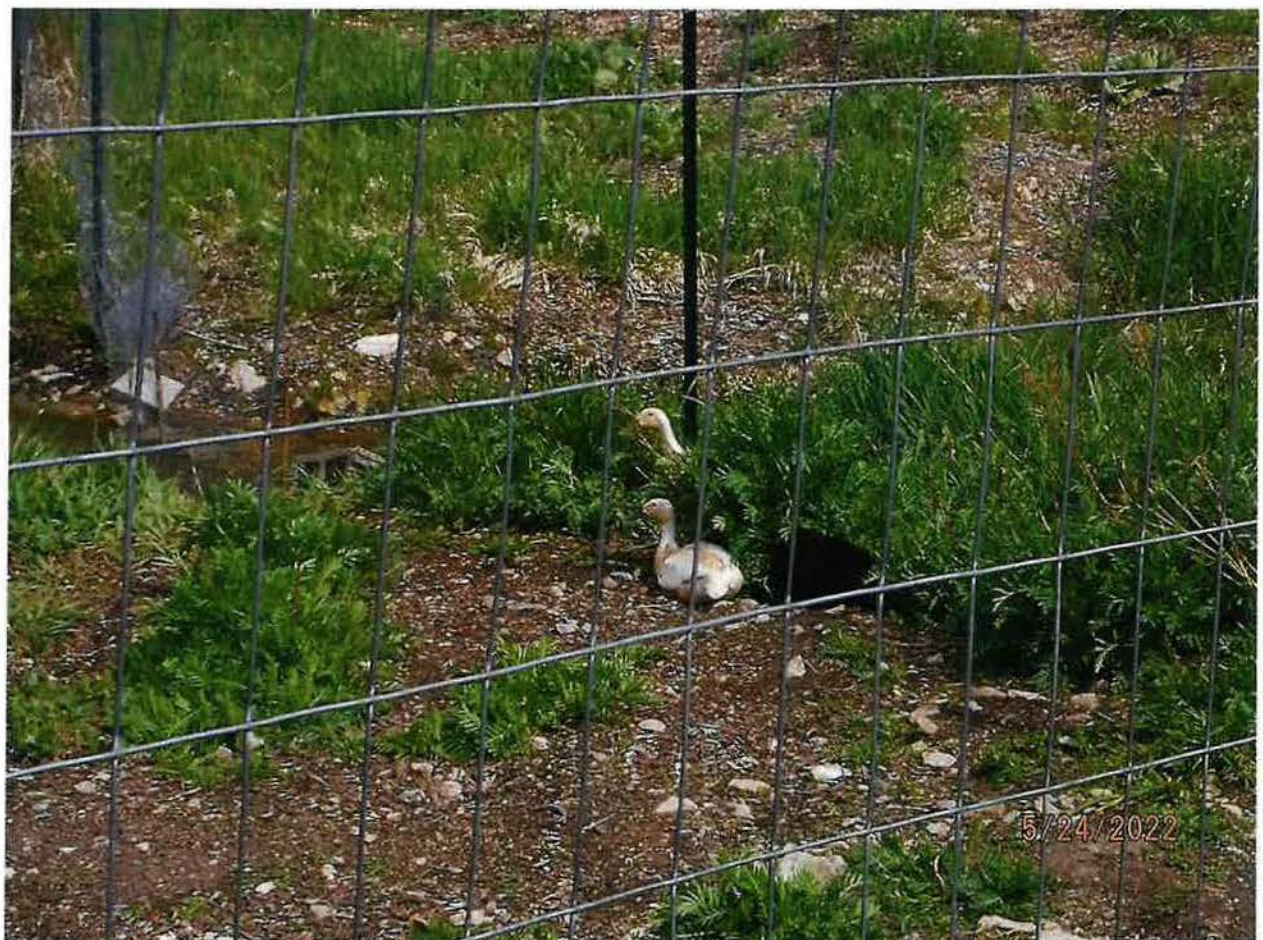


STOCKWATER POU





STOCKWATER POU





STOCKWATER POU

