

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 95-16234
Exam Date: 06/30/2015

1. Current Owner:
DON HUMPHREY 3013 BENEWAH CREEK RD SAINT MARIES ID 83861
2. Accompanied by: Don Humphrey
Phone No: 208-245-3247
Address: Same as above
Relationship to permit Holder: Permit holder.

3. **SOURCE:**
SPRING

Tributary
SINKS

Method of Determination: Field examination, Arcmap, and DRG.

B. OVERLAP REVIEW

1. Other water rights with the same place of use: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
95-18191 & 95-18192	UNNAMED STREAM(S)	IRRIGATION, STOCKWATER	PERMIT – in process licensing review (split from this permit)

Comments: WRs 95-18191 & 95-18192 have both been split from this permit and have the same stockwater POU as permit 95-16234. The two rights were split from 95-16234 due to water source/water system(s) being separate, but they all share the same pastureland used by the applicant for their stock. Condition X35 was added during licensing review to each of the three rights designating stockwater volume limitations and mitigating overlap concerns between 95-16234, 95-18191, & 95-18192.

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

C. DIVERSION AND DELIVERY SYSTEM1. **LOCATION OF POINT(S) OF DIVERSION:**

SPRING NE¼ SW¼ SE¼, Sec. 22, Twp 46N, Rge 03W, B.M. BENEWAH County

Method of Determination: GPS. POD is a spring source & cistern located at -116°42.042, 47°18.836.

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	
46N	03W	22															0.3		0.3

Total Acres: 0.3

PLACE OF USE: STOCKWATER and 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	
46N	03W	22															X		

Method of Determination: 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
4 CUP MEASUREMENT						

2. Measurements: A 4 CUP flow measurement was completed from an overflow discharge pipe routing from the spring's concrete cistern, with the resulting flow rate of 4 cups in 3.0 seconds or 16 cups per 12 seconds = 5 gal per minute or 0.01 cfs considering department rounding standards.

E. FLOW CALCULATIONS

Measured Method: 4 CUP measurement = 4 cups per 3.0 seconds = 16 cups per 12.0 seconds = 1 gal per approximate 1/5 minutes = 5 gal per minute or 0.01 cfs considering department rounding standards

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 0.3 \text{ ac} \times 3.0 \text{ afa} = 0.9 \text{ af}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.01 \text{ cfs} \times 231\text{-day} \times 1.9835 = 4.6 \text{ af}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = \mathbf{0.9 \text{ af}}$$

2. Volume Calculations for Other Uses:

- Stockwater annual volume = 4 cows x 12 gpd x 365 day = 17,500 gal a year / 325,850 gal per af = 0.05 af or **0.1 af** considering department rounding standards.
- Domestic annual volume = 1 home and shop sink x 0.6 af = **0.6 af** for in-home use only.
- Due to the spring source and irrigation component, no maximum diversion volume will be applied to the face of the license; irrigation volume is accounted for in the conditions for approval.

G. NARRATIVE/REMARKS/COMMENTS

Admin Notes: Permit 95-16234 was issued with 3 spring source PODs that are in different geographic locations and do not co-mingle in the same water system. An additional 'pond' source and POD was also approved on the same permit and does not co-mingle with the other water sources. As such, this permit was split adding 3 new water rights to this permit as listed below:

- 95-16234 – spring source, domestic, irrigation (0.3 ac), and stockwater uses.
- 95-18191 – clarified source to state Unnamed Stream, for irrigation (0.3 ac) and stockwater uses.
- 95-18192 – clarified source to state Unnamed Stream, for irrigation (0.4 ac) and stockwater uses.
- 95-18193 – clarified source to state Unnamed Stream, for stockwater storage pond use.

95-16234, 95-18191, & 95-18192 have the same stockwater POU, but the irrigation beneficial use was split into separate non-overlapping POUs with the total acreage equaling 1.0 ac which was permit approved for development under the original permit 95-16234.

An initial field exam was performed by the department on 6/30/2015, but inadequate documentation was collected to license this permit. The original field exam date will be kept on file, but a follow-up exam was performed on 6/22/2021 with the applicant, Don Humphrey, to collect additional water system information needed to finalize this permit for licensing purposes. At the POD, the applicant has developed a spring source using a concrete cistern installed vertically in the ground to collect spring water for domestic, stockwater, & irrigation uses. A 4 CUP flow measurement was taken from an overflow discharge pipe routing from the spring's cistern, resulting in a flow rate of 4 cups per 3.0 seconds = 16 cups per 12.0 seconds = 5 gal per minute or **0.01 cfs** considering department rounding standards that is recommended as the maximum diversion rate for licensing purposes. 0.01 cfs is less than the permit approved diversion rates for each the three beneficial uses, but the applicant is limited by spring production into the system which equals overflow out of the cistern when full. Irrigation, stockwater, & domestic diversion rate(s) are not additive toward the maximum diversion rate.

The irrigation POU was observed during the exam and sketched out on field maps. Water is gravity fed from the cistern down to the home using a 2-inch pipe to a pressure tank prior to distribution for beneficial uses. Frost free hydrants are incorporated into the system as well as hose bibs from the house. Irrigation of lawn space around the home and a small area of pastureland for stock feed is done by hose and sprinkler & flood irrigation by hose. During licensing review Arcmap aerial imagery was used to trace out the irrigation POU which equals 0.3 acres. The annual volume associated with the irrigation component equals $0.3 \text{ ac} \times 3.0 \text{ afa} = \mathbf{0.9 \text{ af}}$, but as this water right uses a spring no volume metrics will be used on the face of the license for irrigation annual volume. Additionally, no maximum diversion volume will be applied to the face of the license; irrigation volume is accounted for in the conditions for approval using condition X31. Condition X35 was added describing right(s) 95-16234, 95-18191, & 95-18192 when combined shall not exceed 0.03 cfs for the irrigation of 1.0 acres as developed on the applicant's property.

The domestic POU consists of the applicant's primary residence and a shop with utility sink. The domestic POU was traced out during licensing review using Arcmap aerial imagery. The domestic beneficial use annual volume equals **0.6 af**, recommended for licensing purposes. The applicant states they have adequate gravity flow from the spring source for domestic use and to irrigate the lawn.

The stockwater POU was identified as pastureland on both sides of a driveway running through the applicant's property used for 4 head cattle. Arcmap aerial imagery was used to designate the stockwater POU during licensing review. The stockwater POU is a common shape to this permit as well as two rights, 95-18191 & 95-18192, which are split from this right. The stockwater annual volume equals $4 \text{ cows} \times 12 \text{ gpd} \times 365 \text{ day per year} = 17,500 \text{ gal per year} / 325,850 \text{ gal per af} = \mathbf{0.1 \text{ af}}$ considering department rounding standards.

Conditions X02, 082, 219, & 220 were removed from the permit during licensing review. 219 & 220 will be applied to split right 95-18193. Condition X31 was added to describe irrigation of less than 1 acre with diversion rate & diversion volume annual limitations for licensing purposes. All other conditions on the permit shall be carried to licensing. Overlap concerns: water rights 95-18191 & 95-18192 have both been split from this permit and have the same stockwater POU as permit 95-16234. The two rights were split from 95-16234 due to water source/water system(s) being separate, but they all share the same pastureland used by the applicant for their stock. Two (2) Condition X35s were added during licensing review to each of the three rights designating irrigation diversion rate limitations (as described in an above paragraph) and stockwater diversion rate and diversion volume limitations that mitigate overlap concerns between 95-16234, 95-18191, and 95-18192. There are no additional overlap concerns for this right.

Have conditions of permit approval been met? X 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	03/15 to 10/31	0.01 CFS	
STOCKWATER	01/01 to 12/31	0.01 CFS	0.1 AF
DOMESTIC	01/01 to 12/31	0.01 CFS	0.6 AF

Totals: 0.01 CFS

2. Recommended Amendments

 Change P.D. as reflected above Add P.D. as reflected above X None

 Change P.U. as reflected above Add P.U. as reflected above X None

I. AUTHENTICATION

Luke Bates -

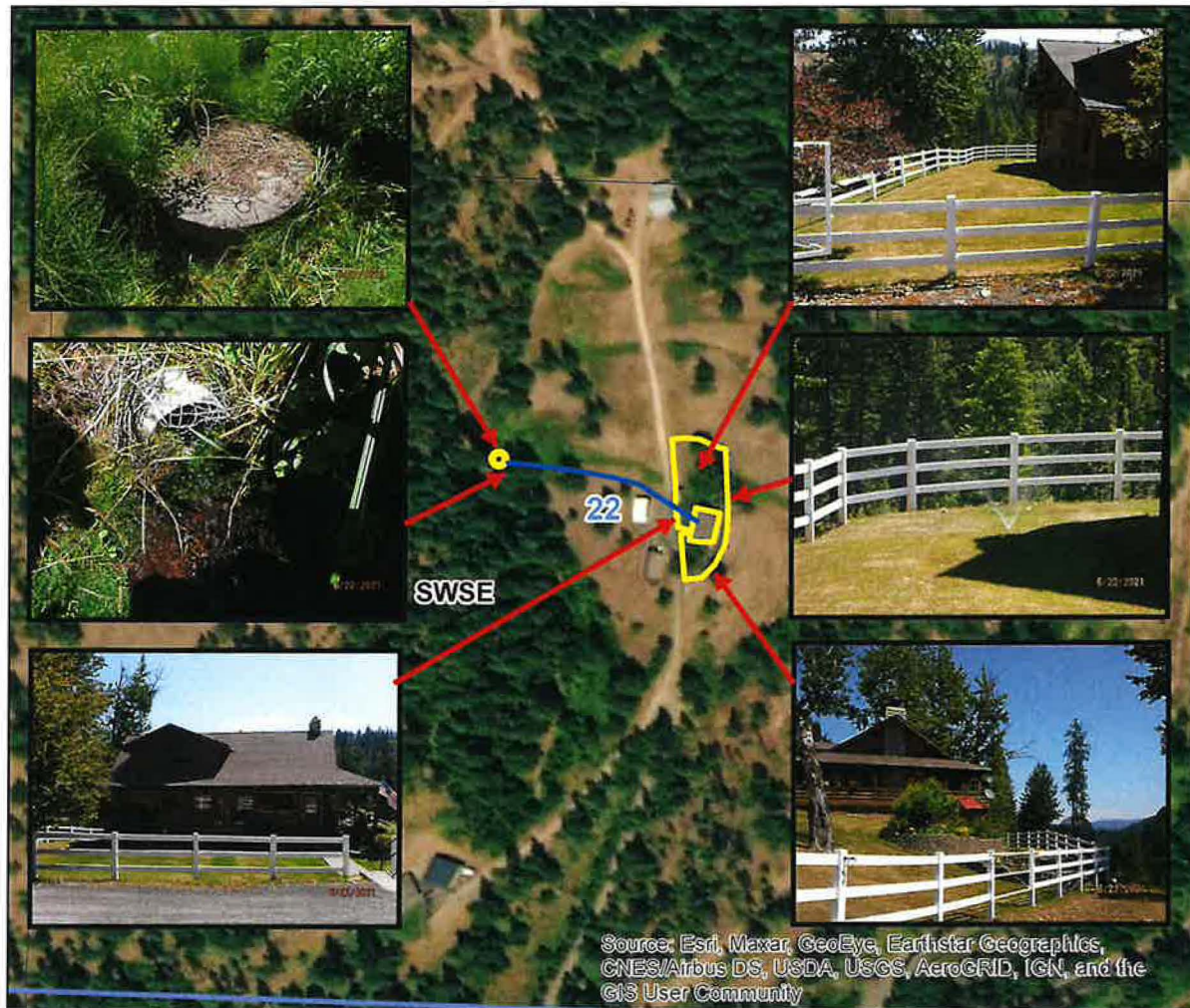
Field Examiner's Name JLB Date 2/14/2022
Reviewer Ad. Fink Date 2/14/2022

State of Idaho
Department of Water Resources
Attachment to Field Exam
95-16234

IRRIGATION system diagram.

03W

46N



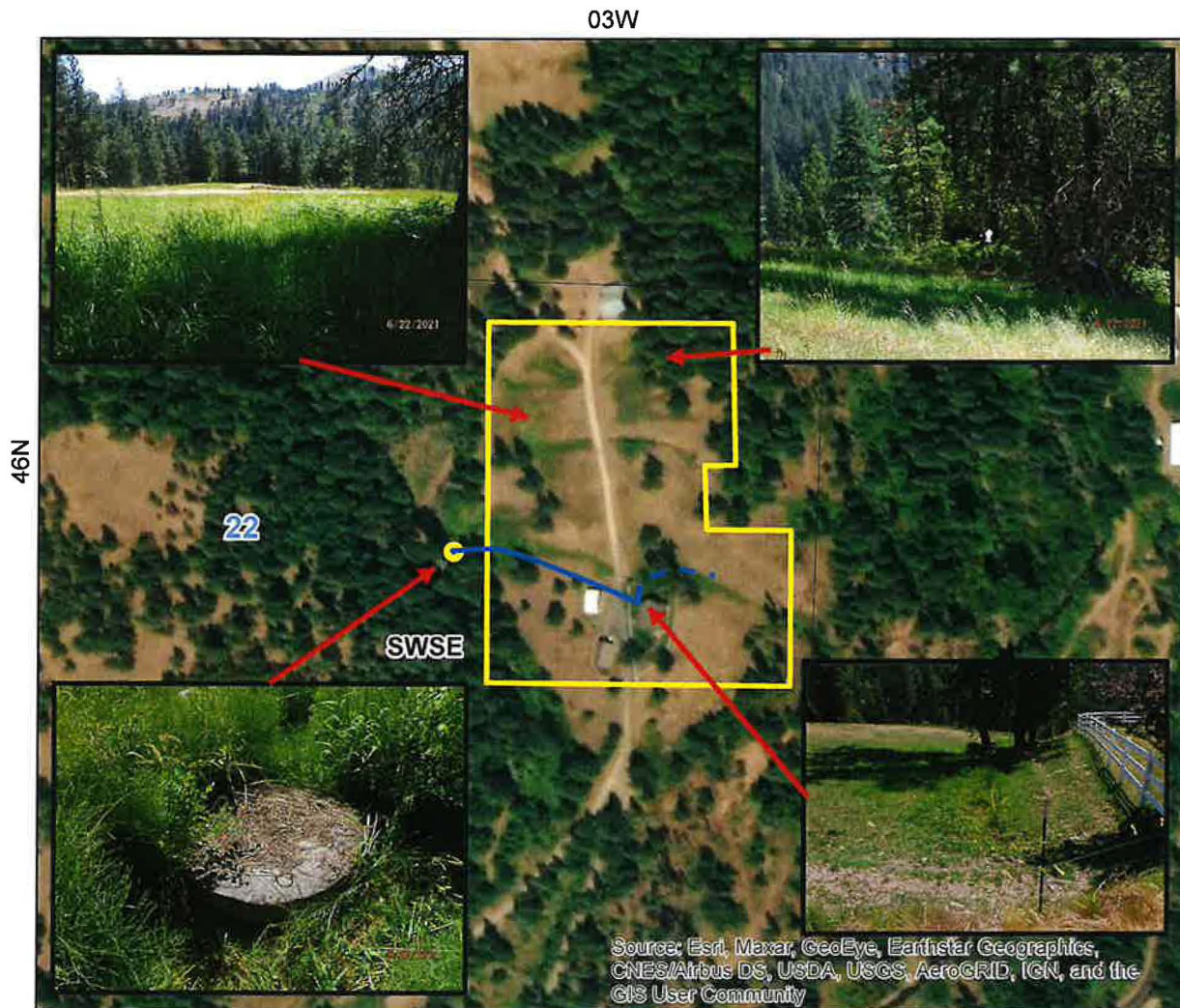
-  Point of Diversion
-  Place Of Use Boundary
-  Townships
-  PLS Sections
-  Quarter Quarters

0 0.035 0.07 0.14 Miles



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STOCKWATER system diagram.



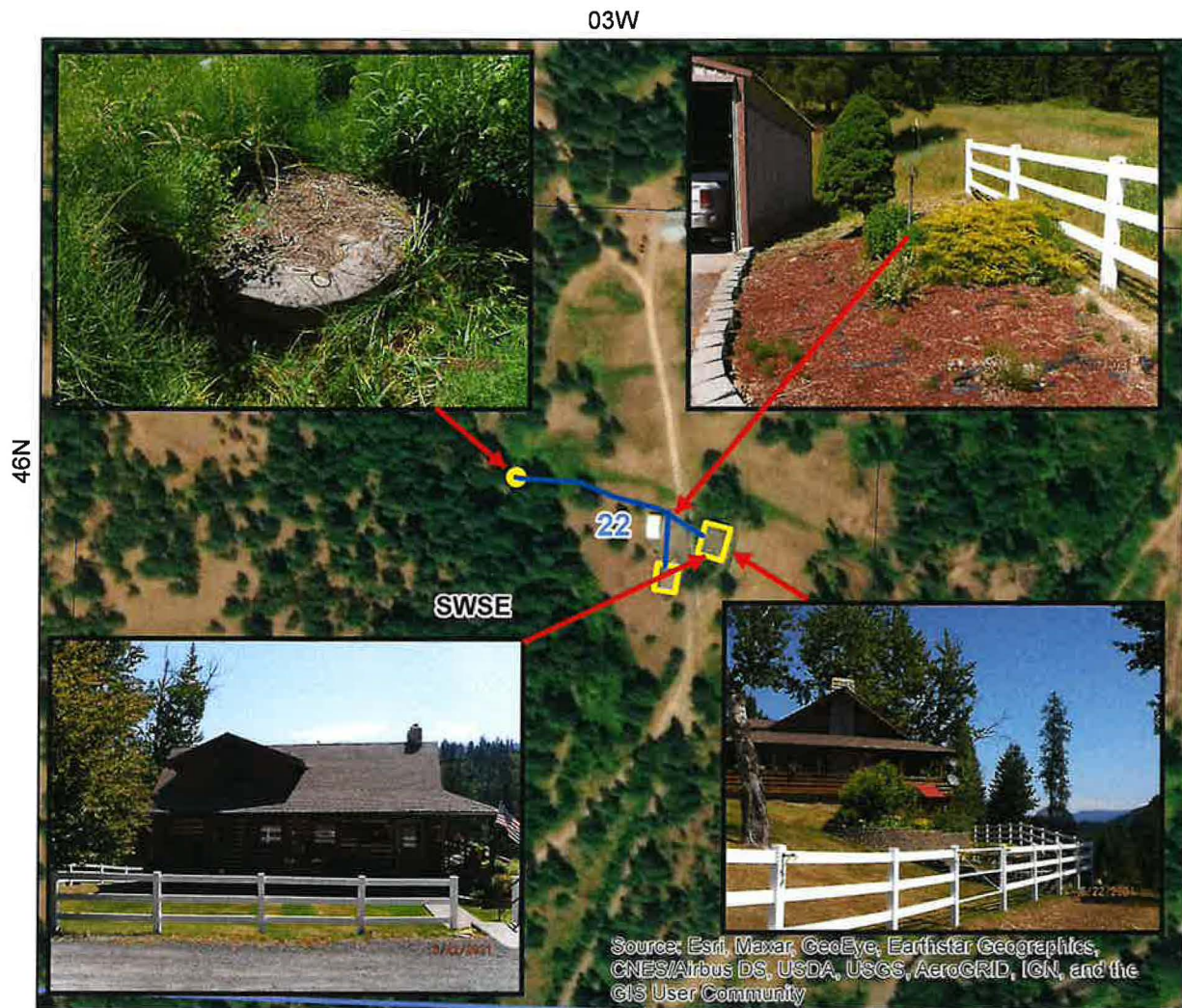
- Point of Diversion
- Place Of Use Boundary
- Townships
- PLS Sections
- Quarter Quarters

0 0.035 0.07 0.14 Miles



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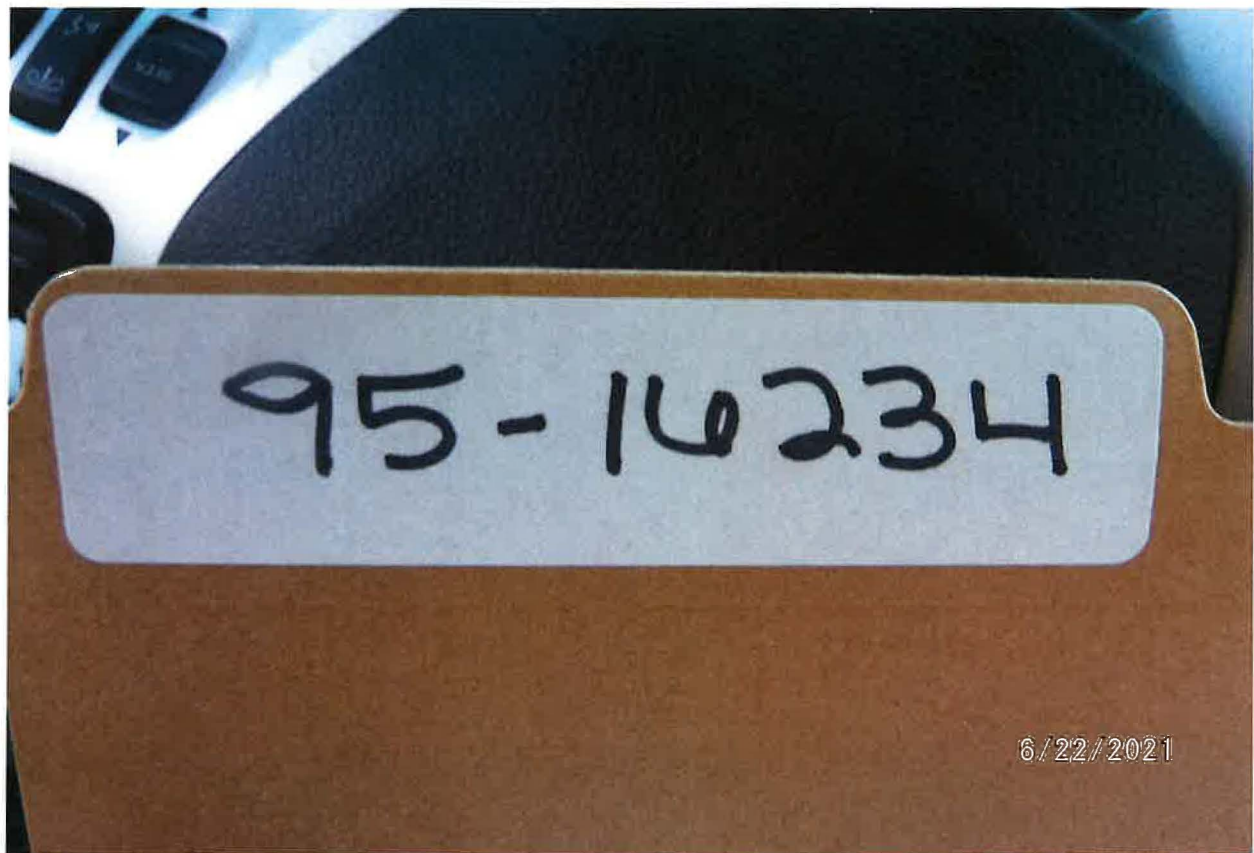
DOMESTIC system diagram.



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

0 0.035 0.07 0.14 Miles





FIELD EXAM DATE 6/22/2021



POD – SPRING WITH CONCRETE CISTERN



OVERFLOW PIPE FROM SPRING'S CONCRETE CISTERN (FLOW MEASUREMENT TAKEN HERE)





DOMESTIC POU



STOCKWATER POU



IRRIGATION POU





IRRIGATION POU





IRRIGATION POU

