

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
IN-OFFICE REVIEW/BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 84-12304

Exam Date: 07/24/2024

1. Does this qualify for an in-office field exam (IDAPA 37.03.02.035.01.r)? X Y N
- N/A Irrigation of 5 acres or less
 - N/A Storage of up to 14.6 AF for stockwater purposes only
 - X Any use other than irrigation or storage, if the combined diversion rate is 0.24 cfs or less.
 - N/A Other < >
2. Current Owner: GEORGE E DUNCAN AND/OR MARLA C DUNCAN
- Owner of Record Correct? X Y N
- Address of Record Correct? X Y N
- If No Explain:
- Clearwater County tax parcel information designates Duncan, George E & Marla C as the owners of parcel(s) RP36N03E184800, RP36N03E188401, RP36N03E188410, and RP36N03E181645. There is apparent shift/drift in the ESRI GIS ArcMap aerial imagery which illustrates the POD is located just west of the applicant's property, but the spring is located entirely on the applicant's property as observed during the field exam. I don't see any issues with the ownership of this permit or proposed license.
3. Beneficial Use Fees have been paid: X Y N Receipt No: C118318
4. **SOURCE:** Spring **TRIBUTARY:** Orofino Creek

Method of Determination: ArcMap GIS and Tax Parcel Data.
Change in Source: Y X N

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:

Source	Govt. Lot	¼	¼	¼	Sec.	Twp.	Rge.		County
SPRING			NE	SW	18	36N	03E	B.M.	CLEARWATER

Method of Determination: Beneficial use field exam, ArcMap aerial imagery, Google Earth imagery, and Clearwater County GIS tax parcel maps.

Change in POD? Y X N Amendment Required? Y X N

2. Place of Use: DOMESTIC

TWP	RGE	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
36N	03E	18									X					X	X		

Method of Determination: GIS and tax parcel data.

Change in POU? X N Amendment Required? X N

3. Diversion System Information:

Description: Screened intake pipe with pump diverting from the lake to domestic water system.

 X Delivery System Diagram Attached. (mark all major components and distances between components) X Aerial Photo Attached (required) X Photo of Diversion and System Attached

3. Diversion Id No.*	Motor Make	HP	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
SPRING	N/A	NA	N/A	N/A	1 ½ INCH POLYPIPE GRAVITY FLOWS IN FROM SPRING TO RESERVOIRS

D. FLOW MEASUREMENTS

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

2. Measurement Comments: No measurement required for an in-office exam.

E. FLOW CALCULATIONS

Domestic:

Measurement = 4 homes authorized a diversion rate of 0.10 cfs based on Administrator's Memorandum, Application Processing No. 22: Definition of "Domestic".

Permit allowed = 0.02 cfs

License Recommendation = **0.02 cfs**

Comments:

I was unable to obtain a flow measurement; the water system collects spring water in drain tiles and flows via buried poly pipe into a vaulted concrete 2,400-gal reservoir. The applicant asserts the spring provides around 8-gpm in the spring and reduces in late summer and fall months to around 5-gpm. Based on this information and the permit authorized diversion rate I'm recommending 0.02 cfs considering department rounding standards.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation: N/A

2. Volume Calculations for Other Uses: Maximum Diversion Volume = 4 homes with ½ acre irrigation per home equal 4 x 1.2 af = **4.8 af**.

G. PURPOSE OF USE

Irrigation N/A N # Stock N/A Domestic # of Homes: 4

Other: < N/A >

Change in Purpose of Use? X N

Method of Determination: Beneficial use exam, tax lot data, and information assessed on the Statement of Completion form.

H. NARRATIVE/REMARKS/COMMENTS

This permit qualifies for an in-house examination. There are no overlapping water right concerns toward this Permit. I elected to complete a beneficial use exam in order to validate the spring source was on the Permit Holder's parcel. During the exam I GPS located the spring which is at minimum 40 ft within the parcel's western boundary line as noted by survey pins. ESRI GIS ArcMap aerial imagery has apparent shift/drift that shows the GPS located POD on a neighboring property, but the physical location is within the Permit Holder's property. I elected to assign the POD centroid using the GPS designated point that doesn't account for shift/drift in aerial imagery.

During licensing review, I noted the 10-acre spring source legal description (QQQ) is incorrect assigned the SW ¼ whereas field exam shows the POD in the SE ¼ (QQQ). Department Allocation rules were updated as of 7/1/2024 which eliminates the 10-acre legal description requirement for spring source filings. I have removed the 10-acre legal description from the POD during licensing review and no amendment to the Permit is recommended for licensing purposes.

I used the ArcMap to assign the License POD based on GPS located information. The Permit Holders diversion works includes a spring source that was excavated to 12-ft and lined with rock and drain tiles followed by filter fabric, rock cover and dirt cover to protect the purity of the spring water collected in the earthen pool. A concrete wall approximately 7-ft tall was constructed to block spring water and funnel water into collection pipes that gravity flow to a nearby storage reservoir. A small pump station was constructed atop a 2,400-gal reservoir, which when full overflows to fill a 2nd 1,200-gal reservoir for water uses.

The Permit Holder uses a 2-HP Goulds centrifugal pump to distribute water in a 1.5-inch main service poly pipeline to four (4) homes for domestic water use. I was unable to capture a flow measurement based on how the system was installed and the two reservoirs being full at time of exam, but a measurement is not required as this Permit qualifies for an in-office exam. Mr. Duncan asserts the spring produces up to 8-gpm in the spring months but does reduce to around 5-gpm in the summer months. 8-gpm aligns with the permit approved diversion rate of **0.02 cfs** which I recommend for licensing purposes.

From the reservoirs water is pumped via 1.5-inch poly pipe to 1-inch lateral service stubs that incorporate manual shutoff valves leading to each of 4 residences. The domestic POU includes 4 homes and minor irrigation for lawn and garden on each of four parcels owned by the Permit Holders. From the individual lateral pipelines, a 3/4-inch service line routes to each home for in-home use and there are multiple frost-free hydrants situated around each residence for external domestic water use. I used ArcMap aerial imagery to assign a 0.8-acre polygon shape around each residence that accounts for the home footprint and ½ acre irrigation included under domestic use. I've recommended the annual volume = **4.8 af** for licensing purposes.

I removed condition 26A from the Permit during licensing review. I removed condition WB9 from the Permit that described minimum stream flow requirements for Right 84-12216; review of the proof report for 84-12216 illustrates that the Orofino Creek MSF Right is subordinate to future DCMI uses and is subordinated by this Permits domestic water use. All other conditions shall be carried to license approval.

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

I. RECOMMENDATIONS**1. Recommended Amounts**

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Rate of Diversion</u>	<u>Annual Volume</u>
DOMESTIC	01/01 to 12/31	0.02 CFS	4.8 AF
<u>Totals:</u>		0.02 CFS	4.8 AF

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

Other: < N/A >

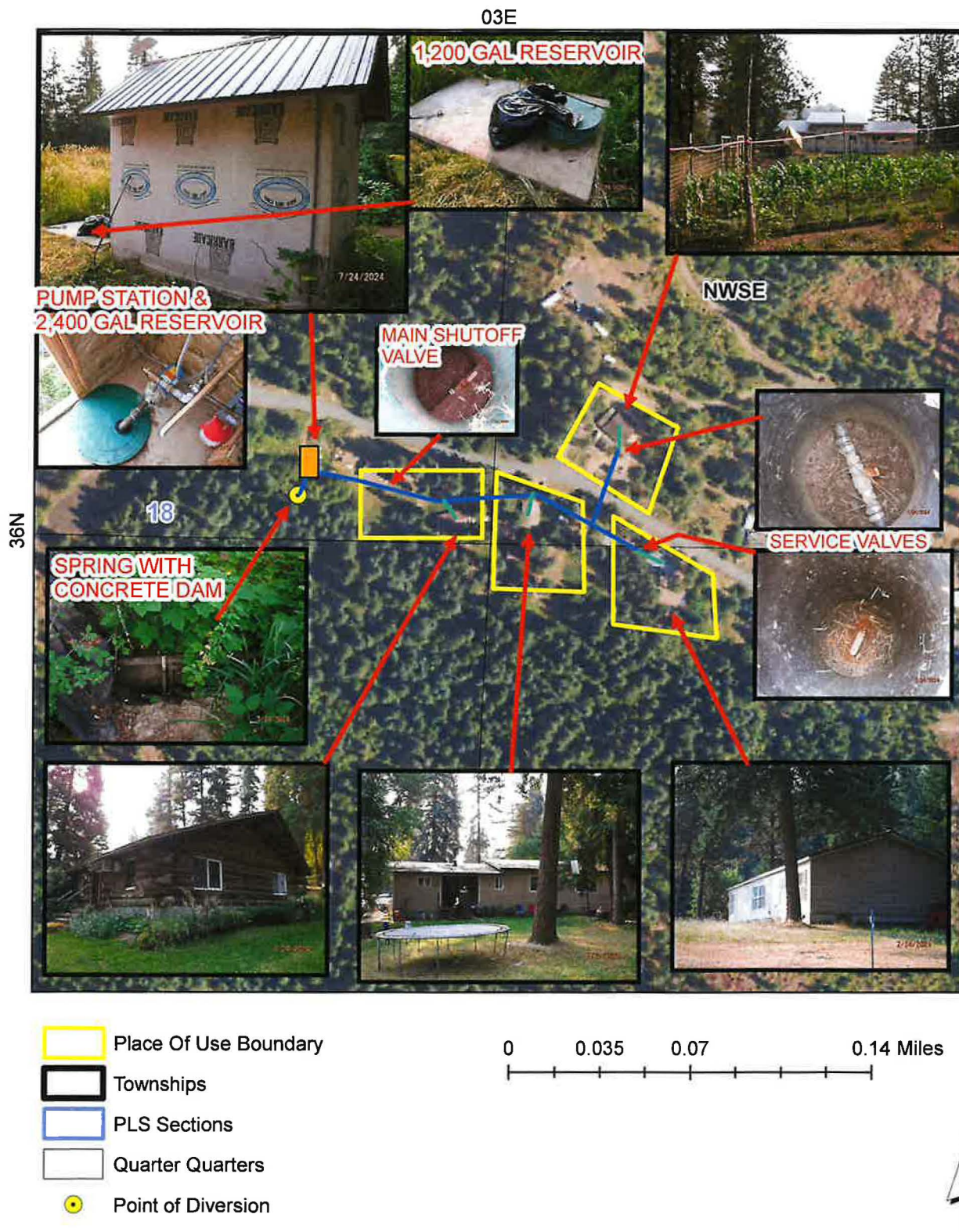
J. AUTHENTICATION Luke Bates – Sr Water Resource Agent

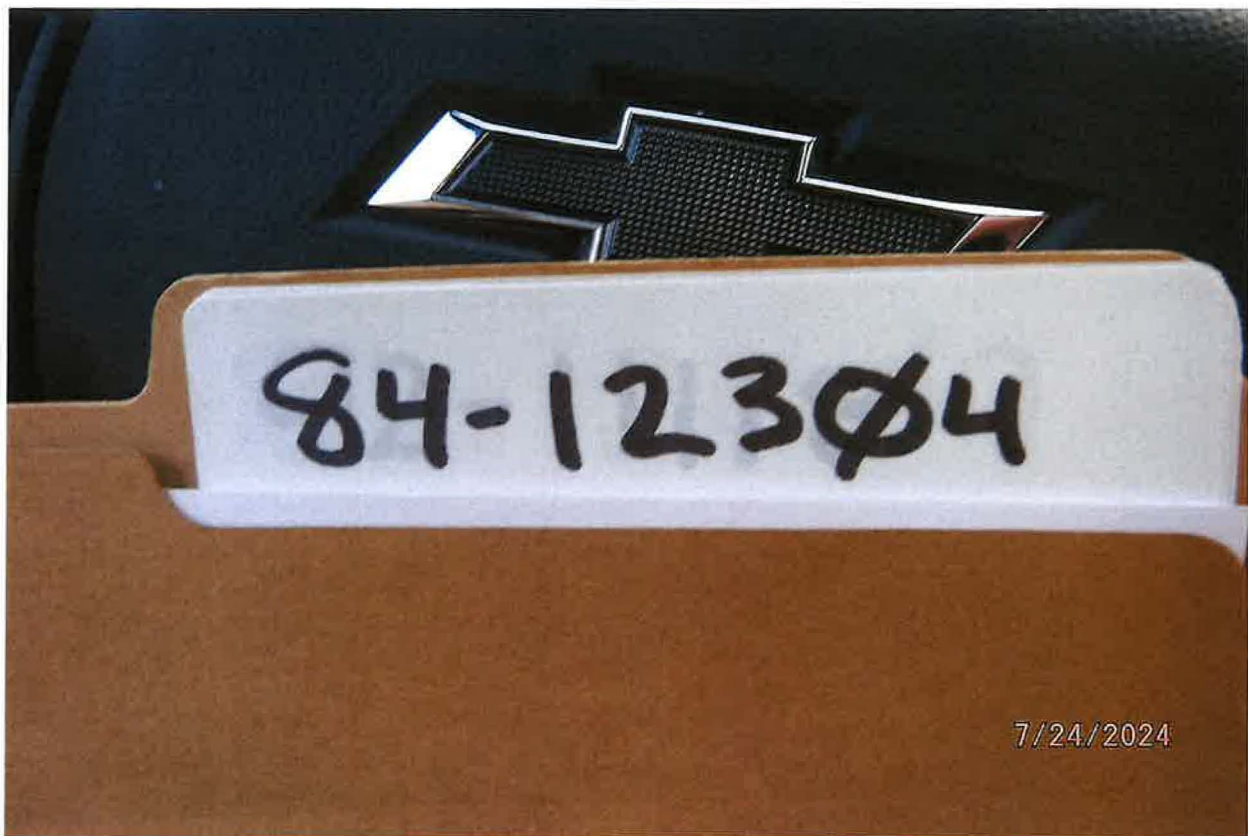
Field Examiner's  Date 7/26/2024

Reviewer  Date 1/16/2025

State of Idaho
Department of Water Resources
Attachment to Field Exam
84-12304

This map depicts the DOMESTIC system diagram.





BENEFICIAL USE FIELD EXAM CONDUCTED ON 7/24/2024



POD – SPRING SOURCE EXCAVATED TO 12 FT BEFORE DRAIN TILES WERE INSTALLED, COVERED WITH FILTER FABRIC & ROCK PRIOR TO EARTHEN OVERLAY TO PROTECT SPRING FLOWS FROM CONTAMINATION



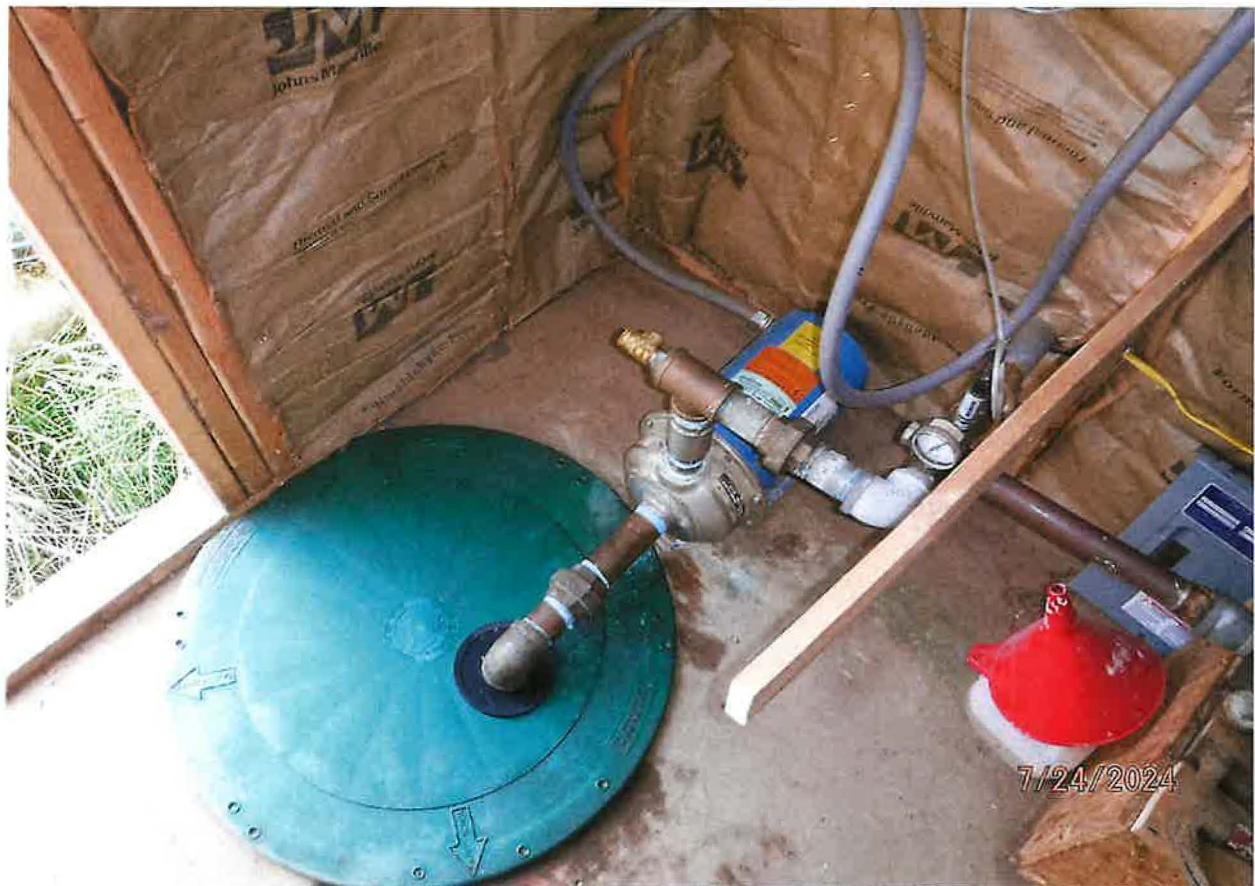
CONCRETE DAM 7 FT TALL IN SPRING EXCAVATION CONTAINS SPRING FLOW ADDING HEAD PRESSURE TO GRAVITY FLOW PIPE FROM DRAIN TILES



SPRING GRAVITY FLOWS IN 1 ½ INCH POLY PIPE TO 2,400 GALLON VAULTED RESERVOIR



OVERFLOW WATER FROM 2,400 GALLON RESERVOIR FILLS SECOND 1,200 GALLON VAULTED RESERVOIR



2,400-GAL RESERVOIR WITH TRANSFER PUMP TO DOMESTIC USES



7/24/2024

CENTRIPRO AQUAVAR PUMP MOTOR CONTROLLER



7/24/2024

GOULDS 2 HP PUMP



GOULDS PUMP MODEL 2MS1G2D2BP



SEPARATE POWER SYSTEM SERVES THE SPRING SOURCE WATER SYSTEM THAN REST OF 4 EA HOME(S)
POWER ELECTRICAL GRID



MAIN WATER LINE SHUTOFF VALVE LOCATED BETWEEN PUMP HOUSE AND 1ST RESIDENCE ON SYSTEM



DOMESTIC POU – 1ST HOME WITH LAWN & GARDEN WATERING. PARCEL RP36N03E184800



DOMESTIC POU – 2ND HOME WITH LAWN AND GARDEN WATERING. PARCEL RP36N03E188401



DOMESTIC POU – 3RD HOME WITH LAWN AND GARDEN WATERING. PARCEL RP36N03E188410



MANUAL SHUTOFF VALVE FOR 3RD HOME SERVICE CONNECTED TO WATER SYSTEM





DOMESTIC POU – 4TH HOME WITH LAWN AND GARDEN WATERING. PARCEL RP36N03E181645



MANUAL SHUTOFF VALVE FOR 4TH HOME – HOME IS CURRENTLY IN CONSTRUCTION BUT WATER IS SERVICE CONNECTED TO RESIDENCE AND IN USE ON THE PARCEL



LARGE GARDEN ASSOCIATED WITH 4TH HOME ON WATER SYSTEM



ALL LAWN AND GARDEN ASSOCIATED WITH WATER SYSTEM USE FROST FREE HYDRANTS TO HOSE AND SPRINKLERS