STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 85-15729
Exam Date: 06/17/2021

1. Current Owner:
   MARY J MASTRO 39055 HILLTOP LN LEWISTON ID 83501-7830

2. Accompanied by: Mary Mastro
   Phone No: 208-791-7367
   Address: Same as above
   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

Water Right No.	Source	Purpose of Use	Basis
MULTIPLE WRs	GROUNDWATER	DOMESTIC(S), STOCKWATER(S), IRRIGATION(S)	LICENSE & DECREE AS APPICABLE – READ BELOW

Comments: The following rights are diverted through the point of diversion described above: 85-7317A, 85-7317B, 85-15413, 85-15725, 85-15727, this permit 85-15729, and 85-15740. Condition F06 was added to describe the shared well between right(s). Additionally, while there is no POU overlap for this right, condition X35 was recommended for right(s) 85-15727 & 85-15740 coupled with all WRs using the shared well infrastructure; as such, condition X35 was included during licensing review designating a combined diversion rate for the seven WRs listed above that shall not exceed 0.03 cfs.

C. DIVERSION AND DELIVERY SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:**
GROUND WATER SE¼ SE¼, Sec. 4, Twp 33N, Rge 04W, B.M. NEZ PERCE County

Method of Determination: GPS. POD is located at -116°50.0956, 46°13.5029 (+/- 8 ft GPS confidence level)

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	
33N	04W	9	X L6																

Method of Determination: Field exam and Arcmap aerial imagery.

3.

Delivery System Diagram Attached (required). Indicate all major components and distances between components.
X 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
X 1:24,000 or greater.

X Aerial Photo Attached (required for irrigation of 10+ acres).

X 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
85-82-N-9		**3**			

D. FLOW MEASUREMENTS

1.

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

2. Measurements: Unable to perform flow measurements due to inadequate pipe requirements. Main water lines from the well routed direct to Tee stub lines-to-pressure tank installed prior to distribution to water uses.

E. FLOW CALCULATIONS

X Additional Computation Sheets Attached

Measured Method: Theoretic pumping equation estimate flow as follows:

- Well 85-82-N-9 – 3 hp pump at 845 ft with 45 PSI operating pressure equals 10.0 gpm or **0.02 cfs** considering department rounding standards.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: N/A
2. Volume Calculations for Other Uses:
   - Stockwater annual volume = 4 horses x 12 GPD x 365 days = 17,520 gal per year / 325,850 gal per af = **0.1 af** considering department rounding standards.
   - Maximum diversion volume = 1.2 af (domestic with ½ acre irrigation included) + 0.1 af (stockwater) = **1.3 af**.

G. NARRATIVE/REMARKS/COMMENTS

Field exam performed on 6/17/2021 with the applicant, Mary Mastro, showed a groundwater well being used for stockwater and domestic uses. At the POD, an old well 85-82-N-9 was GPS located in the center of a field, with main pipeline to a vaulted water system stub line manual valve connections located along side the main drive. The well has a 3 HP pump installed, and due to inadequate pipe requirements, a theoretic pump equation was used to derive the flow rate, with pump at 845 ft with 45 PSI operating pressure equals 10 gpm or 0.02 cfs considering department rounding standards.

The following rights are diverted through the point of diversion described above: 85-7317A, 85-7317B, 85-15413, 85-15725, 85-15727, this permit 85-15729, and 85-15740. Condition F06 was added to describe the shared well between right(s). Additionally, while there is no POU overlap for this right, condition X35 was recommended for right(s) 85-15727 & 85-15740 coupled with all WRs using the shared well infrastructure; as such, condition X35 was included during licensing review for 85-15729 designating a combined diversion rate for the seven WRs listed above that shall not exceed 0.03 cfs.

Review of the water rights recommended during the SRBA, it appears a theoretic pump equation was developed using a pump depth correlating to the last value on page 1 of the 2 page well driller report (640 ft) that provides a 0.03 cfs pump capacity. Followign the field exam, I developed a theoretic pump equation using the pump depth of 845 ft which is 15 feet less than the final value on page 2 of the well driller report. This resulted in a diversion rate of **0.02 cfs** which is recommended as the maximum diversion rate for licensing this right. This pump capacity also limits the domestic beneficial use diversion rate to 0.02 cfs vice the department standard that was permit approved. The stockwater beneficial use diversion rate shall remain 0.02 cfs for licensing purposes.

During the exam, the stockwater and domestic POU were observed and sketched out using field maps. During licensing review, Arcmap aerial imagery was used to trace out the POU(s) which consist of the applicant's parcel No. RP33N04W090002. No house has been constructed, but the applicant provided proof of a stub-in and a frost-free hydrant is positioned on within the parcel; credit for domestic use 1 home with the ½ acre irrigation is being recommended for licensing purposes equal to **1.2 af**.

The applicant had horses on the property during time of field exam, with 2 separate stock tanks (one dry, one filled) which the applicant alternated use of to keep water fresh throughout the summer months. Photographs of the horses were taken during the exam, and the annual volume for stockwater equals 4 horses x 12 GPD x 365 day per year = 17,520 gal per year. This value equates to **0.1 af** annual volume considering department rounding standards. The maximum diversion volume recommended for licensing purposes equals the sum of domestic & stockwater use = **1.3 af**.

Conditions 046 and X02 were removed from the permit during licensing review. Conditions F06 and X35 were added as described above. Aside from the seven service connections currently using the shared well and discussed previously, there are no additional overlap concerns for this water right. When assigning the POD in Arcmap, it is noted the GPS location is in the center of the field whereas previous SRBA POD location is designated alongside the main drive. The site visit and GPS is more accurate, and it is recommended the afore mentioned 6 WRs in addition to this permit POD be shifted to the GPS location. Photographs illustrate the well's location and the vault with water main line fittings.

Have conditions of permit approval been met? _X_ Yes ____ No

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use	Rate of Diversion	Annual Volume
STOCKWATER	01/01 to 12/31	0.02 CFS	0.1 AF
DOMESTIC	01/01 to 12/31	0.02 CFS	1.2 AF
	Totals:	0.02 CFS	1.3 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

I. AUTHENTICATION

Luke Bates - Water Resource Agent

Field Examiner's Name LB Date 10/4/2021

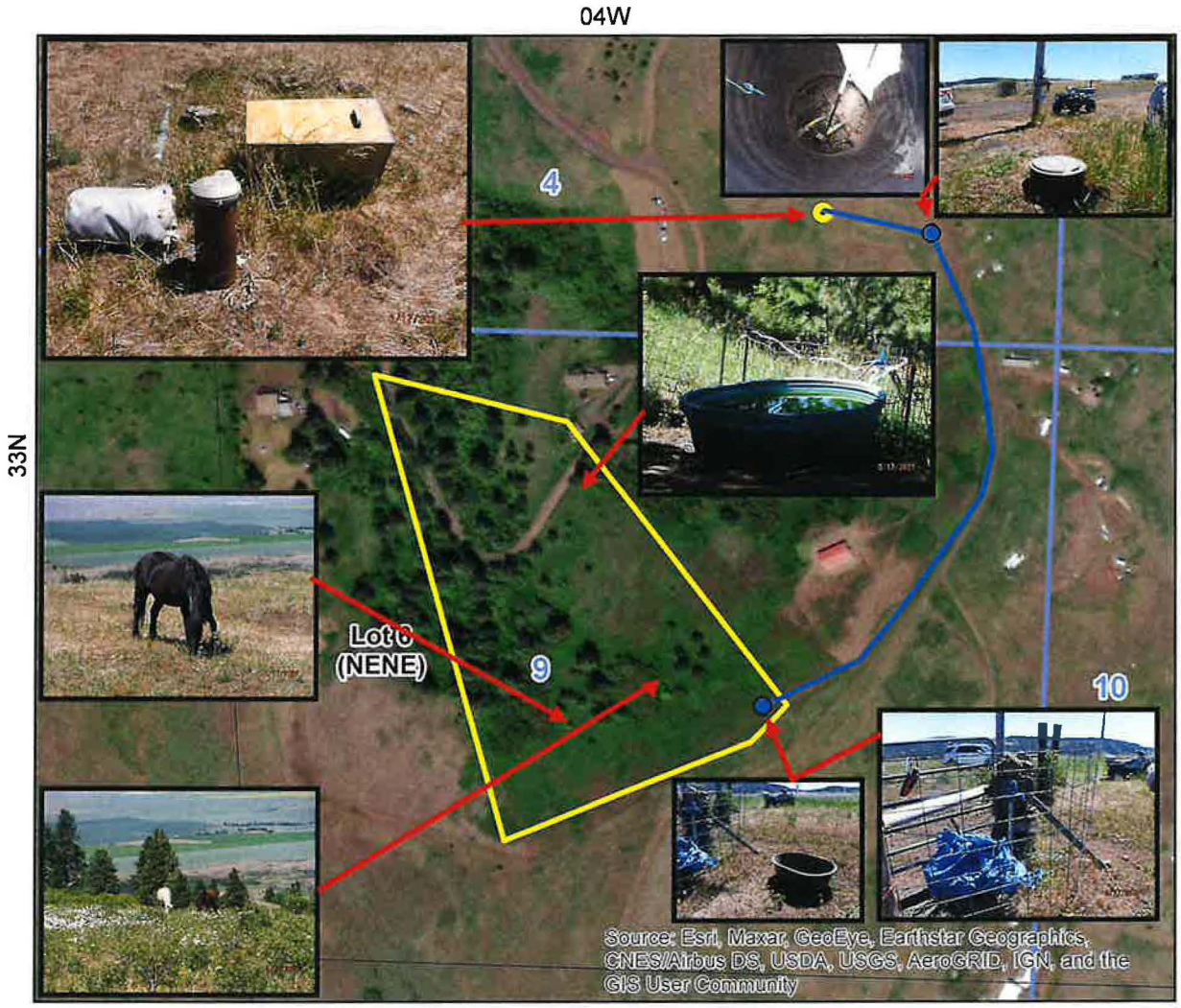
Reviewer Adam Fenn Date 10/21/2021

State of Idaho
Department of Water Resources

Attachment to Field Exam

85-15729

STOCKWATER and DOMESTIC system diagram.



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

0 0.045 0.09 0.18 Miles

N

THEORETICAL PUMPING EQUATION(S) FOR WR# 85-15729

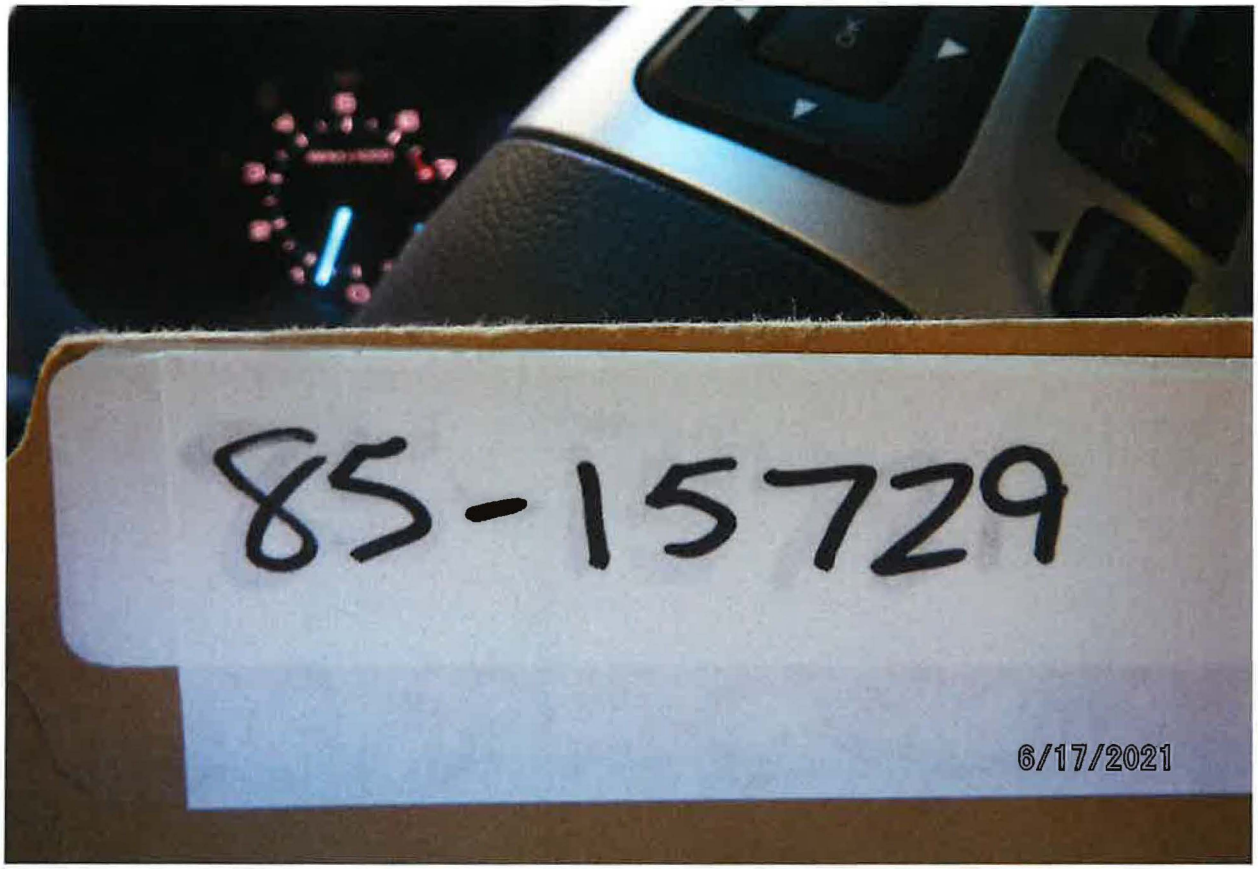
Theoretical Pumping Equation is required because system did not allow for a proper measurement. Pump is estimated to lift 845 ft, and running at 45 psi.

PUMP EQUATIONS

WATER RIGHT No. 85-15729

85-82-N-9		HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q =	HP*8.8*Eff/H	3	949.0816	0.8	845	45

Q = **0.022 cfs** **10.0 gpm**



FIELD EXAM DATE 6/17/2021



POD – GROUNDWATER WELL 85-82-N-9



3 HP WELL PUMP MOTOR CONTROL PANEL





LOCKABLE ACCESS PIPE TO SYSTEM WATER MAIN LINE



WELL MAIN SERVICE LINE TO TEE VALVE SERVICE LINES



DOMESTIC POU – STUB IN INSTALLED TO PARCEL PROPERTY BOUNDARY ON SE CORNER



GPS DATA POINT FOR STUB-IN SERVICE LINE +/- 10 FT DEVIATION



STOCKWATER POU – PORTABLE STOCK TANK(S)





STOCKWATER POU





Working Water line on Property



New Pipe Line off main line to property