# STATE OF IDAHO DEPARTMENT OF WATER RESOURCES BENEFICIAL USE FIELD REPORT

#### A. GENERAL INFORMATION

Permit No: 95-17525 Exam Date: 06/08/2020

Current Owner:

SUSAN J CONLEY 3959 N JONQUIL CT COEUR DALENE ID 83815 AND/OR SANDRA L LANGSTON 3959 N JONQUIL CT COEUR DALENE ID 83815

2. Accompanied by: Sandra Langston

Phone No: 208-765-1103 Address: Same as above

Relationship to permit Holder: Permit Holder

3. SOURCE:

Comments:

COEUR D ALENE LAKE

**Tributary** 

SPOKANE RIVER

Method of Determination: 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	
MULTIPLE	GROUND WATER	MUNICIPAL	DECREED	
95-8652	GROUND WATER	IRRIGATION	DECREED	

Comments: Multiple WRs associated with North Kootenai Water District overlap this WRs POU, but are not a concern for overlap. WR 95-8652 is for irrigation from ground water associated with the Arrow Point Community Assn, but as it is a separate water source is not a concern for overlap.

2. Other water rights with the same point-of-diversion:

NO Overlap

Water Right No.	Source	Purpose of Use	Basis	

C.	DIVERSION	AND	<b>DELIVERY</b>	SYSTEM

#### 1. LOCATION OF POINT(S) OF DIVERSION:

COEUR D ALENE LAKE NE¼ NE¼, Sec. 6, Twp 49N, Rge 03W, B,M. KOOTENAI County

Method of Determination: GPS; POD is a submersible pump in lake at location -116°46.237, 47°37.603.

PLACE OF USE: DOMESTIC

Tum	Two Png Soc		NE		NW		SW		SE			Totals							
Twp Rng Sec	Sec	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE		
49N	03W	6	X L1																

Method of Determination: Field exam and Arcmap.

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3.	
X	Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.
Х	Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.
Χ_	Aerial Photo Attached (required for irrigation of 10+ acres).
Х	Photo of Diversion and System Attached

Well or Diversion ID No.*	Motor Make	Нр	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
PUMP IN LAKE	GRUNDFOS	0.5	UNKOWN		

#### D. FLOW MEASUREMENTS

1.

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

2. Measurements: Unable to perform flow measurement because system pumped directly into pressure tank

#### E. FLOW CALCULATIONS

X Additional Computation Sheets Attached

Measured Method: Theoretical pumping equation estimates flow at **0.03 cfs**, with pump lifting 25 feet from lake to crawlspace under house, with the system operating at 40 psi. See attached theoretical pumping equation worksheet.

#### F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: N/A

V<sub>LR</sub> = (Acres Irrigated) x (Irrigation Requirement) =

V<sub>D.R</sub> = [Diversion Rate (cfs)] x (Days in Irrigation season) x 1.9835 =

 $V = Smaller of V_{LR}$  and  $V_{DR} =$ 

2. Volume Calculations for Other Uses:

Annual Volume / Maximum Diversion Volume = Domestic use with up to ½ acre irrigation = 1.2 af.

#### G. NARRATIVE/REMARKS/COMMENTS

Field exam performed on 6/8/2020 with the applicant, Sandra Langston, showed a submersible pump in lake diverting water fo domestic purposes. The system has a 0.5 HP pump which diverted water into a pressure tank. I was unable to perform a flow measurement because water was diverted directly into a pressure tank with no proper place to perform measurement. Theoretical pumping equation was used to estimate a flow rate of 0.03 cfs. The pump was estimated to be 25 feet down and the system running at 40 psi (equation attached). The theoretical pumping equation value of 0.03 cfs is less than the

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department standard for domestic 1 home use of 0.04 cfs, but applicant is limited to pumping performance, and the **0.03 cfs** will be carried forward to licensing as the maximum diversion rate.

One home was identified during field exam, and applicant irrigated using an automatic sprinkler system around the house to irrigate landscaped terraces. Irrigated acreage was traced out during licensing review, and equaled 0.1 acres. As a result, the permitted irrigation component was removed during licensing review, and domestic with up to ½ acre irrigation was applied as the only beneficial use on license.

Condition X31 and X35 were removed from license. Condition 187 was added to describe domestic use for 1 home with up to ½ acre irrigation. All other conditions remain on license, There are multiple WRs associated with North Kootenai Water District, for municipal use that overlap this WR's POU, but are not a concern for overlap. WR 95-8652 is for irrigation from ground water associated with the Arrow Point Community Assn, but as it is a separate water source is not a concern for overlap.

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					
DOMESTIC	01/01 to 12/31	0.03 CFS	1.2 AF					
	Totals:	0,03 CFS	1.2 AF					
2. Recommended Amendments								
Change P.D. as reflected abov	e Add P.D.	as reflected above X	None					
Change P.U. as reflected abov	e Add P.U.	as reflected above X	None					
I. AUTHENTICATION Luke Bates - Water Resource Agent								
Field Examiner's Name	76	Date	6/22/2020					
Reviewer ad Full		Date	(30/2020					

# State of Idaho Department of Water Resources

## **Attachment to Field Exam**

95-17525

DOMESTIC system diagram.

03W EIXEIXI) The USDA-FSA Aerial Photography Field office exts to be credited in derived products. 03W Point of Diversion 0.035 0.07 0.14 Miles Place Of Use Boundary Townships **PLS Sections** Quarter Quarters



### THEORETICAL PUMPING EQUATION FOR WR# 95-17525

Theoretical Pumping Equation is required because system did not allow for a proper measurement. Pump is estimated to be at 25 ft, and running at 40 psi.

PUMP EQUATIONS									
WATER RIGHT No. 95-17525									
		НР	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI			
Q =	HP*8.8*Eff/H	0.5	117.517	0.8	25	40			
Q =	Q = 0.030 cfs			gpm					





POD - PIPE IN LAKE



POD – PIPE IN LAKE



WATER CONVEYANCE SYSTEM – IN CRAWLSPACE BENEATH HOUSE



**GRUNDFOS ½ HP PUMP** 





**DOMESTIC POU** 



IRRIGATION SYSTEM AUTOMATIC SPRINKLER CONTROL



IRRIGATION POU





IRRIGATION POU

