STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 98-7907
Exam Date: 09/19/2019

1. Current Owner:
CAROL NICHOLS 606 N CORBIN RD POST FALLS ID 83854

2. Accompanied by: Steve Sheard
Phone No: (208) 660-4763
Address: Same as above
Relationship to permit Holder: Applicant's Spouse

3. **SOURCE:** MOYIE RIVER

Tributary KOOTENAI 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
98-7163	MOYIE RIVER	DOMESTIC	LICENSE

Comments: WR 98-7163 is for domestic purposes, but is not a concern from overlap.

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

Water Right No.	Source	Purpose of Use	Basis

Comments: _____

C. DIVERSION AND DELIVERY SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:**
MOYIE RIVER SW¼ NE¼, Sec. 3, Twp 64N, Rge 02E, B.M. BOUNDARY County

Method of Determination: Arcmap and GPS. POD is a pump in river located at -116°11.163, 48°55.740.

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	
64N	02E	3			4.1	1.3													5.4

Total Acres: 5.4

Method of Determination: Arcmap and Field Exam.

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
RIVER PUMP	GOULDS	1.5			

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date

2. Measurements: unable to perform flow measurement, as intake pipe from river at POD was to small in diameter. Using pressure gage, 3 separate readings were taken from applicants sprinkler pipe, 30psi / 30psi / 29 psi, from which the average irrigation system operating psi of 30 psi was determined. Referencing research of Gould 1.5 HP pump on the internet provided a pump performance data worksheet (see attached Shallow Well Performance Rating Worksheet) from which 26.6 gpm was identified (highlighted yellow). 26 gpm equals a diversion rate of 0.06 cfs.

E. FLOW CALCULATIONS

X Additional Computation Sheets Attached

Measured Method: See attached Shallow Well Performance Rating Worksheet, identifying diversion rate of 0.06 cfs.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$V_{I.R}$ = (Acres Irrigated) x (Irrigation Requirement) = 5.4 acres x 3 af = 16.2 af

$V_{D.R}$ = [Diversion Rate (cfs)] x (Days in Irrigation season) x 1.9835 = 0.06 cfs x 214 days x 1.9835 = 25.47 af

V = Smaller of $V_{I.R}$ and $V_{D.R}$ = 16.2 af

This is a surface water right, so no volume will be included on the water right license.

2. Volume Calculations for Other Uses: N/A

G. NARRATIVE/REMARKS/COMMENTS

The field exam conducted with the applicant's spouse, Steve Sheard, showed water pumped from the Moyie River being used for irrigation purposes. At POD, applicant used a 1.5 HP pump to serve a sprinkler system irrigating at POU. Flow measurements were not obtainable due to size of intake pipe. A shallow well performance rating for this series of pump derived the diversion flow at 30 psi to be 26.6 gpm or a diversion rate of 0.06 cfs, which will be carried forward to licensing.

Irrigation acreage was traced out using arcmap and equals 5.4 acres. At POU, applicant had installed a main line along the entire northern property line, and added perpendicular lines south across his parcel, rotating irrigation using above ground sprinklers. Applicant irrigated to keep understory wet and green to protect property from fires. As the applicant uses the Moyie River as his water source, this is a surface water right, and no volume diversion will be included on the water right license.

The permit requires a fish screen, and field exam verified a fish screen was attached to intake pipe.

Condition 26A was removed from license. Condition X15 was edited to show ¼ in text. Condition WB9 was replaced with condition 227, to provide an accurate description of stream flow and monitoring requirements. Condition X60 was added to describe applicant's parcel located in Welcome Ranch Subdivision. WR 98-7163 overlaps this water right and is used for domestic purposes out of the Moyie River, but is not a concern.

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

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use	Rate of Diversion
IRRIGATION	04/15 to 10/31	0.06 CFS

Totals: 0.06 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 - Water Resource Agent

Field Examiner's Name _____ Date 4/16/2020

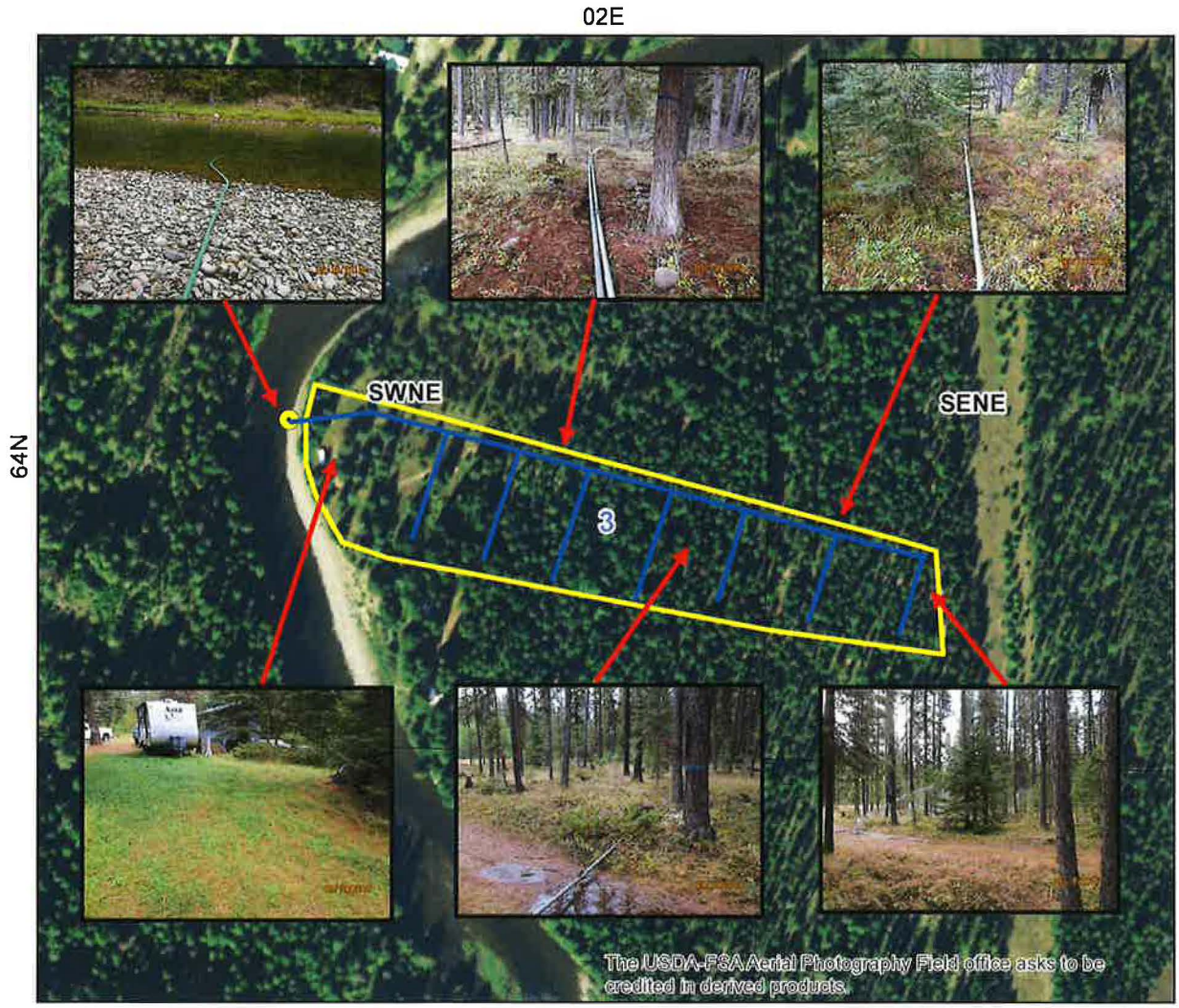
Reviewer _____ Date 4/15/2020

State of Idaho
Department of Water Resources

Attachment to Field Exam

98-7907

IRRIGATION system diagram.



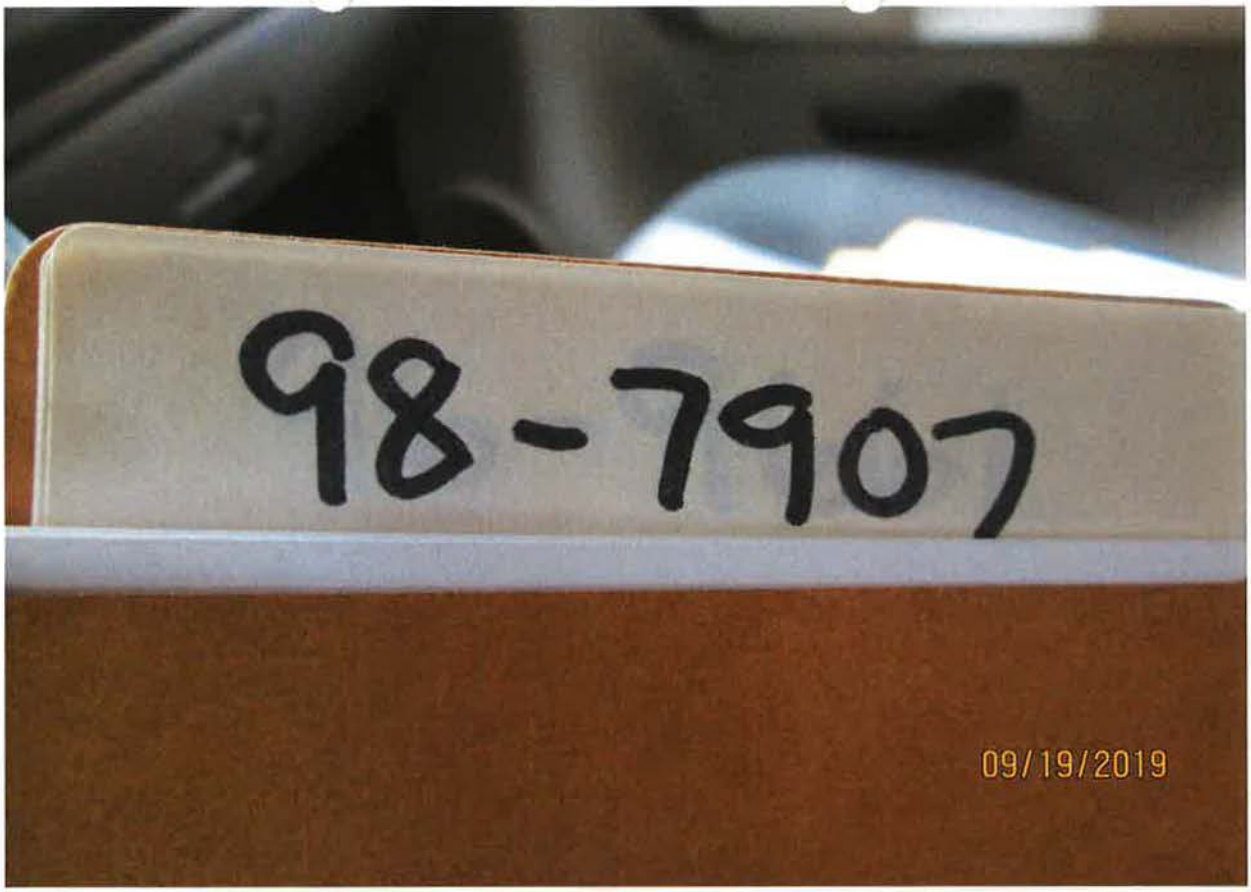
Point of Diversion
Place Of Use Boundary
Townships
PLS Sections
Quarter Quarters

0 0.035 0.07 0.14 Miles

N

SHALLOW WELL PERFORMANCE RATINGS

HP/Model	½ HP - J5S					½ HP - J5SH						¾ HP - J7S					1 HP - J10S					1½ HP - J15S				
Nozzle	AN017					AN019						AN018					AN018					AN022				
Venturi	AD3332					AD3328						AD3336					AD3339					AD3342				
	Discharge Pressure - PSI					Discharge Pressure - PSI						Discharge Pressure - PSI					Discharge Pressure - PSI					Discharge Pressure - PSI				
Total Suction Lift (feet)	20	30	40	50	Max. Shut off (PSI)	20	30	40	50	60	Max. Shut off (PSI)	30	40	50	60	Max. Shut off (PSI)	30	40	50	60	Max. Shut off (PSI)	30	40	50	60	Max. Shut off (PSI)
	Gallons per minute					Gallons per minute						Gallons per minute					Gallons per minute					Gallons per minute				
5	17.5	16.5	10.2	5.0	63	11.5	11.3	11.0	7.7	4.8	83	21.3	18.3	12.5	6.6	70	24.8	24.4	16.6	9.9	74	26.6	26.3	25.0	15.6	80
10	15.7	14.4	9.2	4.3	61	10.3	10.0	9.6	7.0	4.2	81	18.8	17.3	11.3	5.0	68	22.9	22.2	15.8	8.6	72	24.7	24.3	22.6	13.9	77
15	13.7	12.5	8.0	3.6	59	8.8	8.6	8.3	6.3	3.7	79	16.4	15.5	9.6	3.7	66	19.8	19.5	13.8	6.9	70	21.6	21.5	20.4	12.9	75
20	11.5	10.4	7.1	2.3	57	7.0	7.0	6.8	5.8	3.2	76	13.6	13.2	8.3	2.0	63	16.6	16.6	12.2	5.6	67	18.1	18.0	17.6	12.0	73
25	8.7	8.6	6.2	1.3	54	5.3	5.2	5.2	5.0	2.8	73	10.0	9.9	6.4	1.0	59	12.5	12.4	10.4	3.6	65	14.0	14.0	14.0	10.1	71



POD HOSE WITH FISH SCREEN

GOULDS 1 ½ HP PUMP

IRRIGATION POU SPRINKLER PIPE

POU SPRINKLER PIPE / PRESSURE GAGE INSTALLED HERE TO DETERMINE OPERATING PSI

IRRIGAITON POU

IRRIGATION POU

IRRIGATION POU

IRRIGATION POU