

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 96-11003
Exam Date: 09/22/2022

1. Current Owner:
GREGORY TAYLOR PO BOX 1753 SANDPOINT ID 83864-0901 AND/OR
LAUREL L TAYLOR PO BOX 1753 SANDPOINT ID 83864-0901
2. Accompanied by: Gregory Taylor
Phone No: 208-610-3513
Address: Same as above
Relationship to permit Holder: Right holder.

3. **SOURCE:**
SYRINGA CREEK

Tributary
CHUCK SLOUGH

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

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

SYRINGA CREEK SE¼ NW¼, Sec. 21, Twp 57N, Rge 02W, B.M. BONNER County

Method of Determination: GPS; POD is located at -116°34.9811, 48°16.5474

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	
57N	02W	21							1.9	1.3									3.2

Total Acres: 3.2

Method of Determination: Beneficial use field examination & 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
WATER TRANSFER PUMP	HONDA	4-STROKE	WH20X / GX160 4-STROKE, OPEN FRAME MOUNTED	HONDA	2 INCH REDUCING TO 1.5 INCH FLEX FIRE HOSE(S).

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
5-GAL BUCKET						

2. Measurements: Three 5-gallon bucket tests were completed from a 1.5-inch flexible fire hose, with an average of three measurements resulting in a diversion rate of 49.3 gpm = 0.11 cfs, considering department rounding standards.

E. FLOW CALCULATIONS

Measured Method: 5-GAL Bucket Test = (5 gal / 6.09 sec) x 60 sec/min = 49.3 gpm
 = (5 gal / 6.16 sec) x 60 sec/min = 48.7 gpm
 = (5 gal / 6.01 sec) x 60 sec/min = 49.9 gpm

Average of 3ea 5-GAL Bucket Tests = (49.3 gpm + 48.7 gpm + 49.9) / 3 = 49.3 gpm = 0.11 cfs considering department rounding standards. I'm recommending 0.10 cfs based on observed active irrigation acreage and department standard irrigation rates, where 3.2 acres irrigation x 0.03 cfs per acre = **0.10 cfs** considering department rounding standards.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 3.2 \text{ ac} \times 3.0 \text{ afa} = 9.6 \text{ af}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.03 \text{ cfs} \times 214\text{-day} \times 1.9835 = 12.7 \text{ af}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 9.6 \text{ af}$$

2. Volume Calculations for Other Uses: This right uses as surface water creek source and does not receive an irrigation annual diversion volume nor maximum diversion volume assigned to the face of the water right license.

G. NARRATIVE/REMARKS/COMMENTS

Beneficial use field exam conducted on 9/22/2022 with the applicant, Gregory Taylor, showed Syringa Creek water being diverted for irrigation purposes. At the POD, a screened intake has been installed to a Honda generator - water transfer pump Model WH20X. Discharge from the pump's 2" diameter orifice reduces down to several 1.5-inch fire hose(s) and a trailer mounted impact sprinkler. Three 5-gallon bucket tests were taken with an average of the measurements resulting in a diversion rate of 49.3 gpm = 0.11 cfs, considering department rounding standards. The applicant is limited to the department standard irrigation diversion rate of **0.10 cfs**, associated with the 3.2 acres irrigation observed, which I'm recommending for licensing of this right. the 0.11 cfs as measured likely sees minor reduction as it is necked down to a 1 ¼ inch irrigation riser to a ¾ inch Nelson impact sprinkler, which effectively negates any concerns for enlargement by over-diverting for the applicant's system.

The applicant uses a 4-wheeler to tow the wheeled hitch mountable irrigation riser to different locations throughout the irrigation POU. During the exam I used field maps to sketch out the irrigation POU. During licensing review ArcMap aerial imagery was used to accurately trace out the POU consisting of 3.2 acres irrigation. The annual volume associated with irrigating 3.2 acres equals 9.6 af. The applicant's water system uses a surface water source, resulting in no annual or maximum diversion volume being applied to the face of the license. The applicant is limited to 0.03 cfs and 3.0 afa per acre for irrigation of the POU as designated by condition R66 on the license.

The applicant demonstrated the path the towable sprinkler system is moved to irrigate, which includes part of a large field west of the residence on the property. The applicant admits he doesn't irrigate very often for that portion of the POU but does periodically run the sprinkler as far as his collection of fire hose extensions allow him to keep grass seed alive and provide a fire break between the neighbors to the North of his property. I'm recommending credit for this irrigation portion of the POU based on this information and field observations of the water system components.

Condition 029 was removed from the permit during licensing review; the applicant has a screened foot valve on the intake pipe located in the creek, which is an interface of ponding between the creek & slough as designated by USGS quadrangle maps. All other conditions on the permit shall be carried forward to licensing. There are no overlapping WR concerns associated with licensing this water 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>
IRRIGATION	04/1 to 10/31	0.10 CFS

Totals: 0.10 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

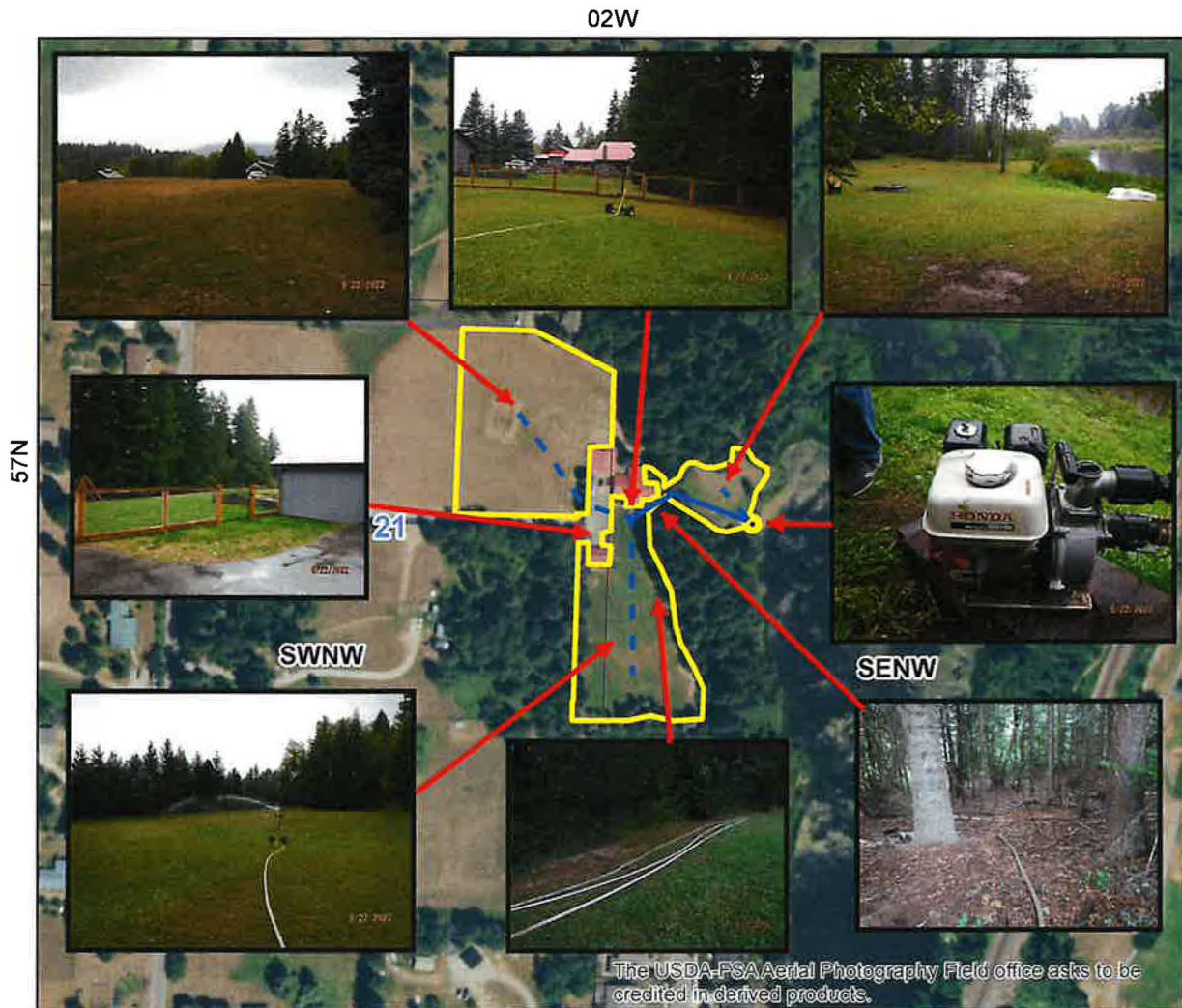
Luke Bates -

Field Examiner's Name *L. Bates* Date 11/3/2003

Reviewer *Chris Burt* Date 5/22/04

State of Idaho
Department of Water Resources
Attachment to Field Exam
96-11003

This map depicts the IRRIGATION system diagram.



0 0.035 0.07 0.14 Miles

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



HONDA

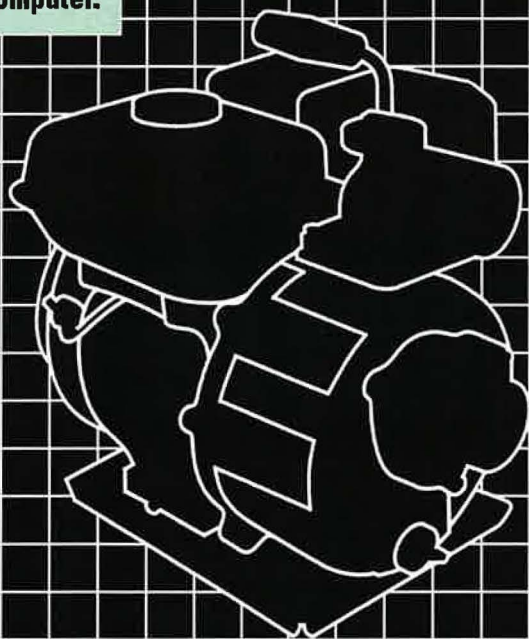
Power

Equipment

Owner's Manual **WATER PUMP**

~~WH15X~~ / **WH20X**

Click here to save this
manual to your computer.



WH20X

Dimensions and weight

Length	16.7 in (425 mm)
Width	14.8 in (375 mm)
Height	15.9 in (405 mm)
Dry mass [weight]	51.8 lbs (23.5 kg)

Engine design and performance

Model	GX160K1
Engine type	4-stroke, overhead valve, single cylinder
Displacement [bore × stroke]	9.9 cu-in (163 cc) [2.7 × 1.8 in (68.0 × 45.0 mm)]
Cooling system	Forced air
Ignition system	Transistor magneto
PTO shaft rotation	Counterclockwise

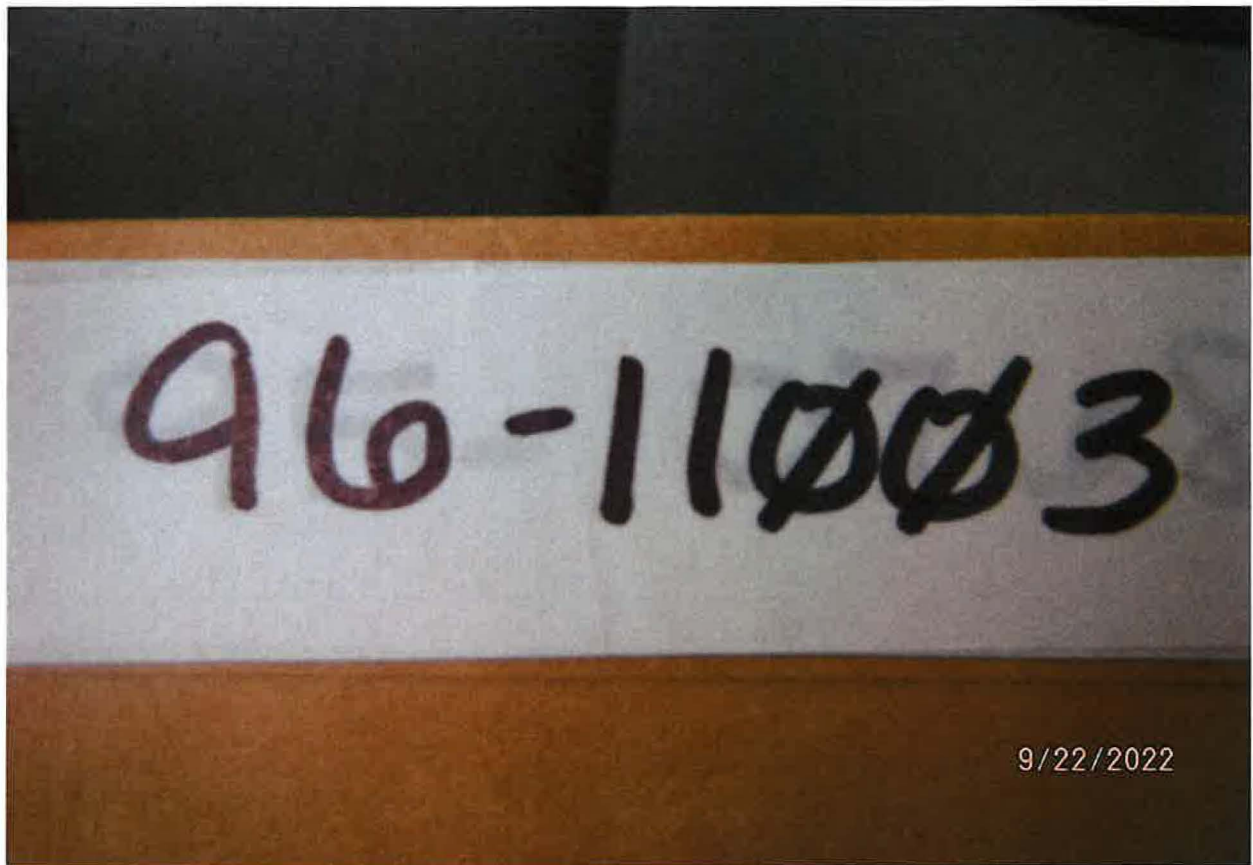
Tune up

Spark plug gap	0.028 – 0.031 in (0.70 – 0.80 mm)	See page 35.
Idle speed	1,400 $\pm$ 200 150 rpm	See page 37.
Valve clearance (cold)	Intake: 0.15 ± 0.02 mm Exhaust: 0.20 ± 0.02 mm	See shop manual.
Other specifications	No other adjustments needed.	

WH20X (continued)

Pump

Suction port diameter	2 in (50 mm)
Discharge port diameter	2 in (50 mm)
Total head (maximum)	164 ft (50 m)
Suction head (maximum)	26.2 ft (8 m)
Discharge capacity (maximum)	132.1 US gal (500 l) per minute
Self-priming time	60 seconds at 16.4 ft (5 m)



BENEFICIAL USE FIELD EXAM DATE 9/22/2022



POD – WATER TRANSFER PUMP



INTAKE PIPE TO SCREENED 5 GAL BUCKET WITH, LOCATED BY FLOAT





HONDA WH20X WATER TRANSFER PUMP





2 INCH DISCHARGE FROM PUMP TO 1.5 INCH FLEX FIRE HOSE ROUTING TO IRRIGATION POU





IRIGATION POU – 4 WHEELER TOWABLE SPRINKLER



SINGLE NESLON SPRINKLER WITH SINGLE 1 INCH NOZZLE



IRRIGATION POU





IRRIGATION POU





IRRIGATION POU





IRRIGATION POU

