

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

A. GENERAL INFORMATIONPermit No: 96-9710

Exam Date: 10/10/19

1. Does this qualify for an in-office field exam (IDAPA 035.02.r)? X Y N
- Irrigation of 5 acres or less
 - Storage of up to 14.6 AF for stockwater purposes only
 - Any use other than irrigation or storage, if the combined diversion rate is 0.24 cfs or less
 - Other < >

2. Current Owner: Name: Kevin and Wendy Morse
 Owner of Record Correct? X Y N
 Address of Record Correct? X Y N
 If No: Address

3. Fees have been paid: X Y N Receipt No: C107737

4. SOURCE**TRIBUTARY**

Clark Fork River

Lake Pend Oreille

Method of Determination: GIS Examination

Change in Source:

 Y X N**B. OVERLAP REVIEW**

1. Other water rights with the same place of use: X NONE

Water Right No.	Source	Purpose of Use	Basis

Comments: No overlap

2. Other water rights with the same point of diversion: X NONE

Water Right No.	Source	Purpose of Use	Basis

Comments: No overlap

C. DIVERSION AND DELIVERY SYSTEM**1. LOCATION OF POINT(S) OF DIVERSION:**

Source	Govt. Lot	¼	¼	¼	Sec.	Twp.	Rge.		County
Clark Fork River			NE	SE	11	55N	02E	B.M.	Bonner
								B.M.	
								B.M.	

Method of Determination: GIS examination

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

2. **PLACE OF USE:** Use: Irrigation and Fire Protection

TWP	RGE	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
55N	02E														0.4				
															FP				
		Lot #													6				
Total Acres =																		0.4	

Method of Determination: GIS examination

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

3. X Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.
 X Aerial Photo Attached (required for irrigation of 10+ acres).
 Photo of Diversion and System Attached

4. Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
		3			

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

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

2. Measurements: None taken

E. FLOW CALCULATIONS

 X Additional Computation Sheets Attached

Measured Method: Theoretical based on info provided on the permit application

Measurement = 0.18 cfs
 Permit allowed = 0.18 cfs

License recommend for 0.18 cfs.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 0.4 \times 3 = 1.2 \text{ af}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.02 \times 214 \times 1.9835 = 8.5 \text{ af}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 1.2 \text{ af}$$

2. Volume Calculations for Other Uses: None required on Fire Protection per IDAPA 37.03.02.035.01(j)(iv).

G. PURPOSE OF USEIrrigation ☒ Y ☐ N # Stock _____ Domestic # of Homes _____

Other: Fire Protection

Change in Purpose of Use? ☐ Y ☒ X ☐ N

Method of Determination: Statement of Completion and GIS examination

If Yes: From Use _____ To Use _____ Amount _____ CFS _____ AFA _____

H. NARRATIVE/REMARKS/COMMENTS

The permit was for 0.02 cfs for irrigation on 0.4 acres and 0.18 cfs for fire protection. The 0.18 cfs for fire protection was what the permit holders asked for on the permit application, based on theoretical flow rates of their pump. The application stated a 3 hp pump, with 35 psi at 20ft of lift and 70% efficiency. I cross checked the flow rate using the Department's Theoretical Flow Calculator and also came up with 0.18 cfs (attached). This is the flow rate I recommend for Fire Protection. No volume is required for Fire protection per IDAPA 37.03.02.035.01(j)(iv).

The permit was for 0.02 cfs on 0.4 acres. The permit was issued on April 19, 2019, and proof of beneficial use was submitted September 17, 2019. Since there was no aerial imagery available for 2019 (the development period) I used 2017 NAIP imagery, 2019 Sentinel data, and the sprinkler design diagrams found in the file, dated May 9, 2017, to determine irrigated area. This resulted in an irrigated area of 0.4 acres. Using this acreage and the headgate requirement of 3 afa, the annual volume equaled 1.2 af per year. During the application review, the reviewing agent, Douglas Jones, emailed the permit holders to ask about a well drilled on the property in 2010 and whether or not that well would be used for irrigation. Although there was no formal response found in the file, there was a note written on the email stating "house only". Since the well is only for in-house use, I recommend the irrigation use for this permit be licensed for the full 0.4 acre, 0.02 cfs and 1.2 afa per year.

Conditions 004, U45, X14, 077, 227 referencing WR 96-8718, 277 referencing WR 96-8730, X31, X60, and special condition No. 3 on the permit, should all be carried over for licensing. Condition R62 should be removed. R62 would typically be replaced by X31 on irrigation rights for less than 1 acre, however X31 was already on the permit.

Have conditions of permit approval been met? ☒ X Yes ☐ No**I. RECOMMENDATIONS**

1. Recommended Amounts

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
Irrigation	4/01 to 10/31	0.02 CFS	1.2 AF
Fire Protection	01/01 to 12/31	0.18 CFS	
<u>Totals:</u>		0.18 CFS	1.2 AF

2. Recommended Amendments

☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☒ None

☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☒ None

Other: None

J. AUTHENTICATION Scott Storms - Water Resource Agent, Senior

Field Examiner's Name  Date _____

Reviewer _____ Date _____

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 96-9710
 Reviewer: Scott Storms
 Date of Review: 10/10/2019

P/D No.:		Morse
PUMP HORSEPOWER		3
BOOSTER HORSEPOWER		0
PUMPING LEVEL		20
DISCHARGE PRESSURE		35
RATE OF FLOW (cfs)		0.18
		82

The above calculates the formula =

$$Q = \frac{8.8 * (\text{Efficiency}) * \text{hp}}{\text{depth to water} + 2.31 * (\text{psi}) + \text{friction}}$$

Assumptions: %70 efficiency,
 No Friction

Examiners Notes:

Calculations provided by Thunder Mountain resources are considered more accurate and will be used for the flow rate recommendation.

Mors 96-9710 2017 NAIP Imagery



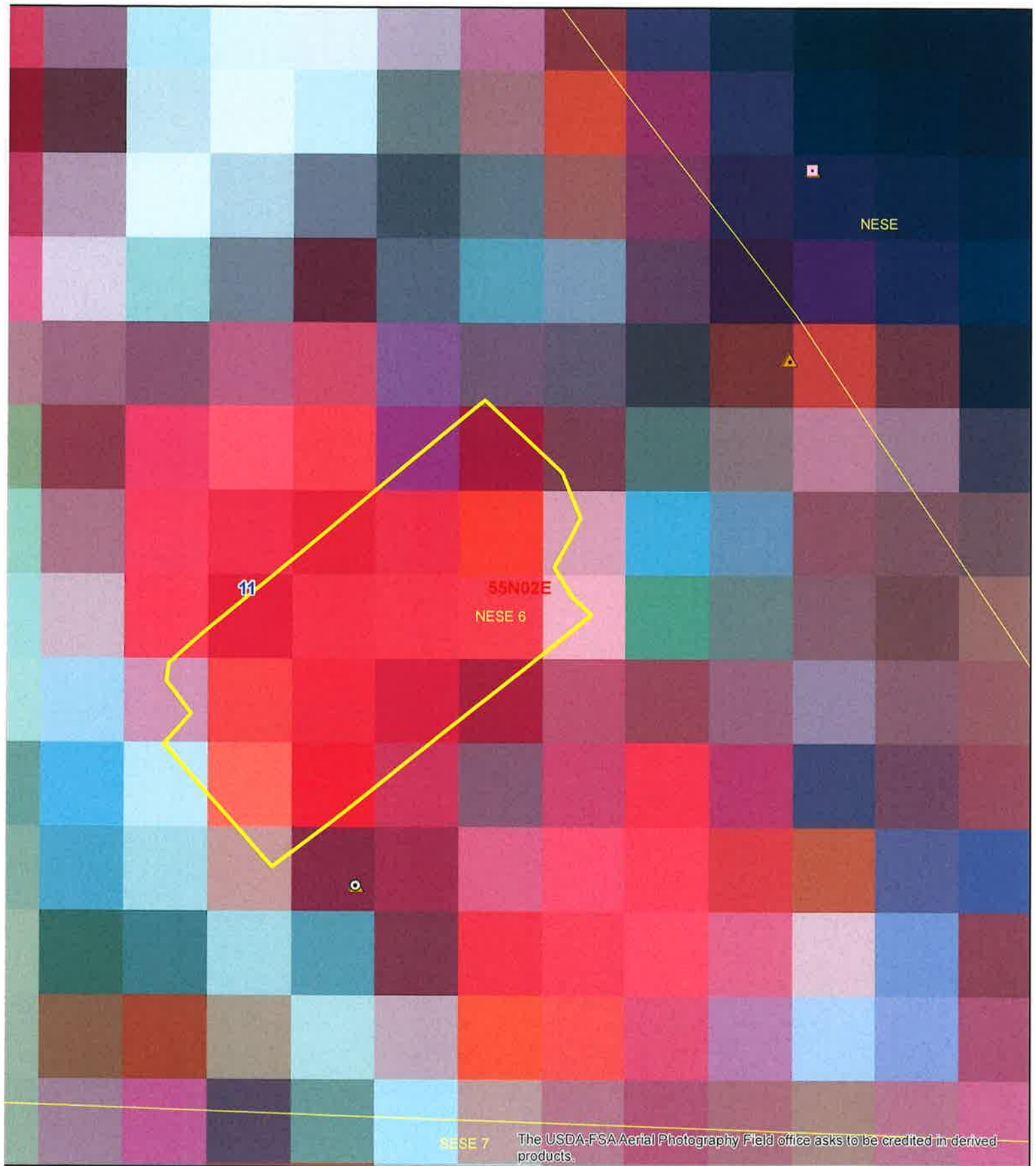
SESE 7

The USDA-FSA Aerial Photography Field office asks to be credited in derived products.

0 25 50 100 Feet



Mors 96-9710 Sentinel 8/18/2019



0 25 50 100 Feet

