

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 94-7514

Exam Date: 06/08/2020

1. Current Owner:
CDA HORSE RANCH LLC 22456 S ANDERSON LAKE RD HARRISON ID 83833
2. Accompanied by: Andrew Osmundson
Phone No: 208-755-0755
Address: Same as above
Relationship to permit Holder: Permit holder's representative

3. **SOURCE:**
ANDERSON LAKE

Tributary
COEUR D'ALENE 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
94-7515	GROUNDWATER	DOMESTIC, STOCKWATER	PERMIT – INPROCESS LICENSING REVIEW

Comments: Permit 94-7515 uses groundwater for domestic and stockwater beneficial uses that overlap this right's POU. The water systems between this irrigation right and 94-7515 are separate, and homes covered under domestic use have irrigation occurring that are serviced by this permit. There is no overlap concern between the two rights.

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:**

ANDERSON LAKE SW¼ NE¼, Sec. 32, Twp 48N, Rge 03W, B.M. KOOTENAI County

Method of Determination: GPS; POD is an intake pipe and conduit pipe for pump in lake, located at -116°44.716, 47°27.858.

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	
47N	03W	4					0.6 L3	24.0 L4	2.2										26.8
48N	03W	32			2.5 L4	11.0 L5													13.5
48N	03W	33							18.0 L4										18.0

Total Acres: 58.3

Method of Determination: Field exam and 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
SUBMERSIBLE PUMP IN LAKE	FRANKLIN	15	S6140		

D. FLOW MEASUREMENTS

1.

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

2. Measurements: System intake pipe routed underground from Anderson Lake to a wet well prior to a second booster pump being used to push water up-hill to the POU. Due to inadequate pipe requirements, no flow measurement was able to be performed.

E. FLOW CALCULATIONS☒ Additional Computation Sheets Attached

Measured Method: Applicant contracted with United Crown Pump and Drilling to install their diverting system. Mr. Richard Agueros provided documentation of a pump performance test completed on 7-2-2007 for the 15hp submersible pump, along with a the pump performance curve data that illustrates a tested flow rate equal to 151 gpm, or **0.34 cfs** considering department rounding standards.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 58.3 \text{ acres} \times 3.0 \text{ afa} = 174.9 \text{ af}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.34 \text{ cfs} \times 231 \text{ days} \times 1.9835 = 155.8 \text{ af}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 155.8 \text{ af}$$

2. Volume Calculations for Other Uses:

This is a surface source water right, and no volume metrics will be applied to the license.

G. NARRATIVE/REMARKS/COMMENTS

Field exam performed on 6/8/2020 with the applicant's representative, Andrew Osmundson (Andy), showed water being diverted from Anderson Lake for irrigation purposes at the applicant's horse ranch. At the POD, United Crown Pump and Drilling has installed a 15hp submersible pump in the lake; this consists of an intake pipe and accompanying conduit pipe. Photographs show two separate intake systems, but one is an old system not in use, which has been scrapped over time. Water is pumped from the lake up-grade to a first stage wet well, where a booster pump is then used to direct flow up-hill to a shallow 24hr impoundment pond prior to irrigation use. A pump performance test was completed in 2007. Mr. Richard Agueros, United Crown Pump and Drilling, provided the pump curve that demonstrates the 15hp pump's flow rate equals 151 gpm, or 0.34 cfs considering department rounding standards. **0.34 cfs** is recommended as the maximum diversion rate for licensing purposes. The applicant is limited in diversion rate to the pump performance limitations identified at time of field exam.

At the POU, the irrigation system includes both pressurized rainbird pop-up sprinklers around domestic dwellings, and larger reel and big gun sprinkler units for surrounding fenced pastures. During the development period, Andy converted the sprinkler systems that were around the domestic dwellings from groundwater well sources to the irrigation system using lake water. As a result, all irrigation occurring within the POU is completed using the Anderson Lake water source. Viewing the irrigation POU using Arcmap aerial imagery does not accurately illustrate the irrigation practices at the horse ranch. Lawn areas around the domestic dwellings are very lush/green and well-manicured. Additionally, lawn strips on either side of the main drive are very lush/green. Irrigation in the pastures is primarily for grass feed growth, and horses kept the pastures eaten down on a regular basis.

During the field exam, irrigated acreage was observed and sketched out on field maps. During licensing review, Arcmap aerial imagery was used to accurately trace out the irrigation POU equal to 58.3 acres. The annual volume for irrigation would equal $V_{D.R.} = 0.34 \text{ cfs (diversion rate)} \times 231 \text{ days (season of use)} \times 1.9835 \text{ (factor)} = 158.8 \text{ af}$, but as this is a surface water source right no volume metrics will be applied to the license. Andy identified there is acreage that may be considered for irrigation in the future that is not credited in the licensing of this permit. It was discussed that a new application for permit will be required prior to developing the additional irrigation use. Andy stated they are currently irrigating all they can with the equipment available to them for use.

During licensing review, government lot (4) associated with the permit POD was removed, and the POD is reflected as being in the SW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 32, Twp 48 North, Rge 03 West, B.M. The stockwater beneficial use was removed from the permit during licensing review. Andy stated the lake water associated with this permit was to warm and of lower quality, resulting in the applicant only using groundwater associated with right 94-7515 for their stockwater use. Conditions 26A and X02 were removed from the permit during licensing review. All other conditions on permit will remain on the license.

Overlap concerns: Permit 94-7515 uses groundwater for domestic and stockwater beneficial uses that overlap this right's POU. The water systems between this irrigation right and 94-7515 are separate, and homes covered under domestic use have irrigation occurring that are serviced by this permit. There is no overlap concern between the two rights. There are no other overlap concerns with this right.

Have conditions of permit approval been met? ☒ Yes ☐ No

H. RECOMMENDATIONS

1. Recommended Amounts

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Rate of Diversion</u>
IRRIGATION	03/15 to 10/31	0.34 CFS

Totals: 0.34 CFS

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

I. AUTHENTICATION

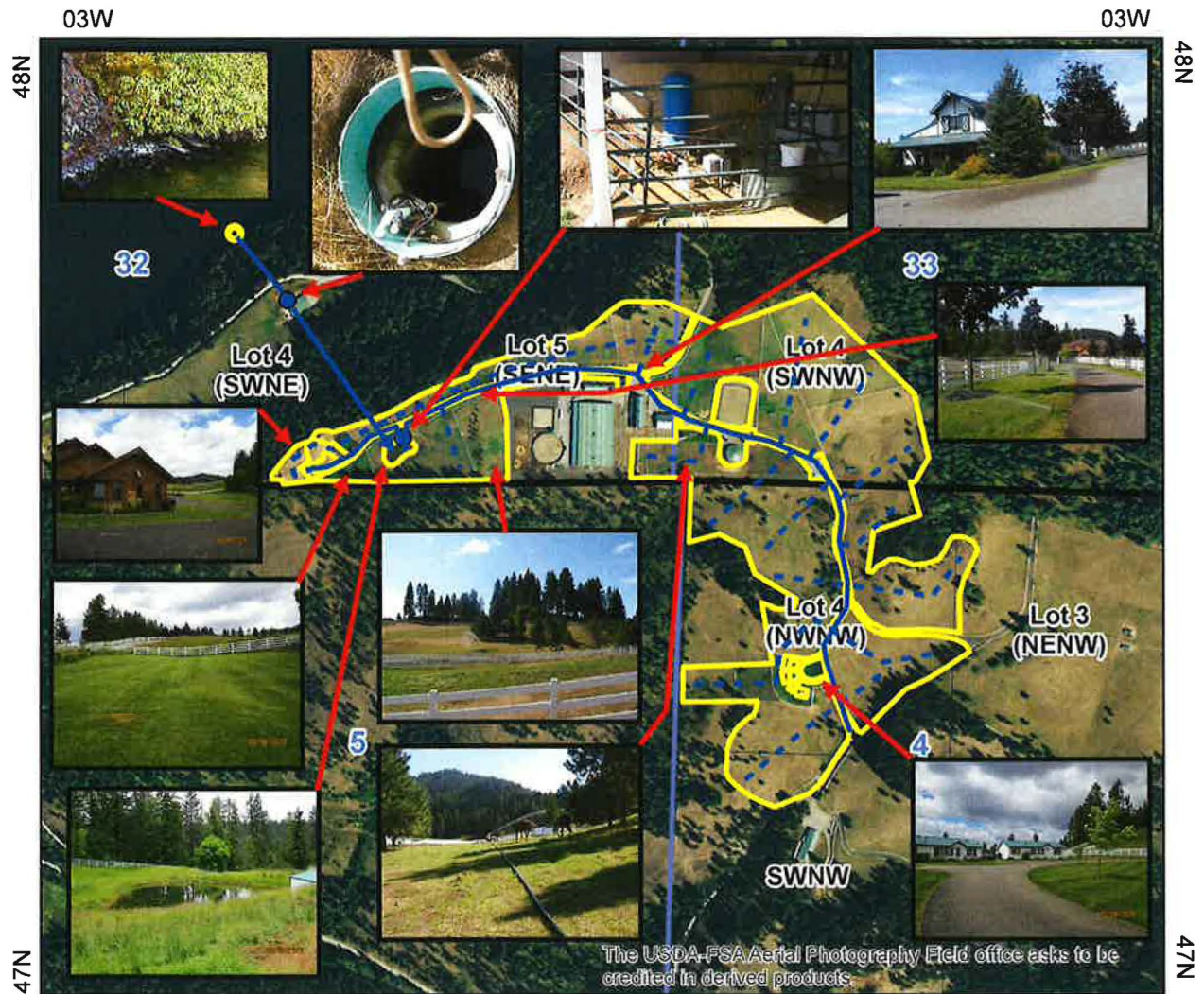
Luke Bates - Water Resource Agent

Field Examiner's Name  Date 1/21/2021

Reviewer  Date 2/1/2021

State of Idaho
Department of Water Resources
Attachment to Field Exam
94-7514

IRRIGATION system diagram.



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

0 0.1 0.2 0.4 Miles



07/05/2007 THU 17:12 FAX

002/00

07/02/07 MON 15:47 FAX 208772-7229

UNITED PUMP & DRILLING INC.

001



Sales • Service • Installation
Well Drilling • Pump Systems
Residential • Commercial • Municipal

July 2, 2007

Kyle Capps
Black Rock Development
PO Box 3070
Coeur d'Alene ID 83814

SUBJECT: HARRISON RANCH IRRIGATION SYSTEM

RE: VERIFICATION OF FLOW FROM ANDERSON LAKE

Kyle:

As you are aware, we were able to verify the flow from the Lake Pumping System today at **151 GPM**. We are faxing you a copy of the Irrigation Pump Curve, with notes. Please contact our office if you have any further questions.

United Pump & Drilling

By:  **Richard A. Agueros, President**



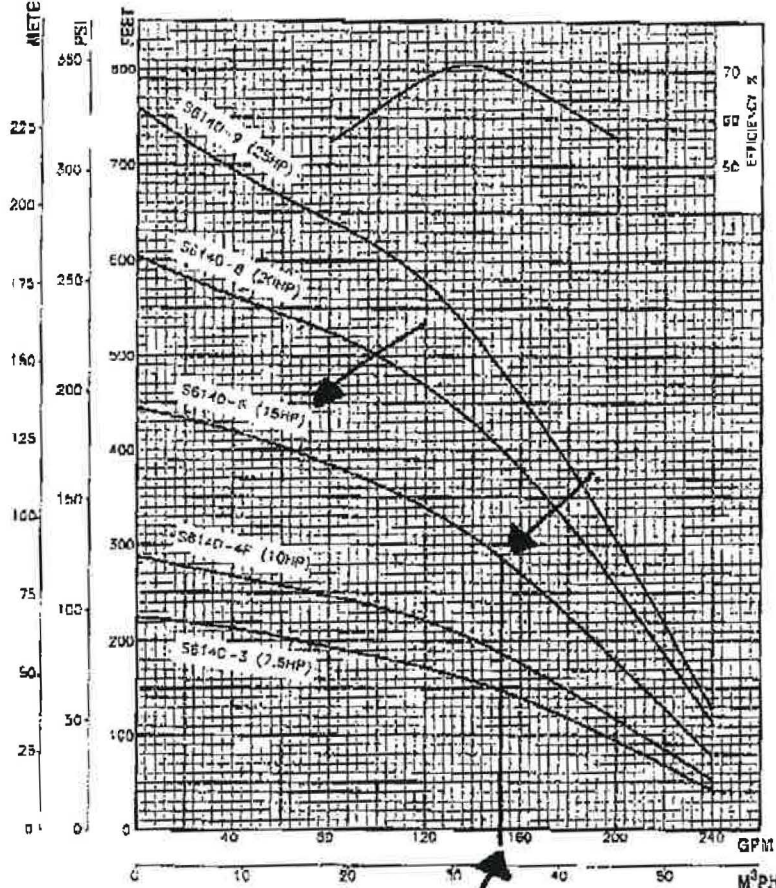
Franklin Pump Systems

Submersibles

S6140 Performance

BLACKROCK HARRISON BRANCH - LAKE PUMP

7-2-07



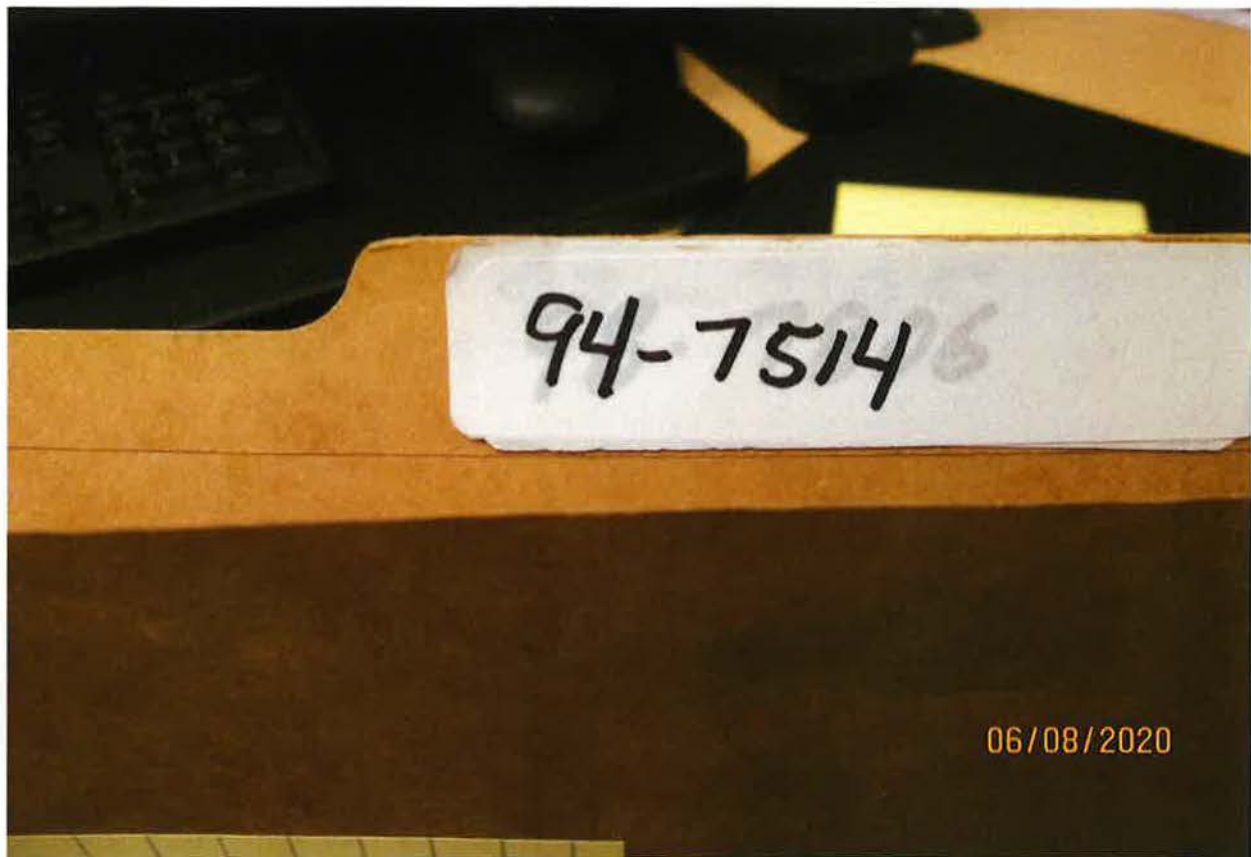
7-2-07 VERIFIED FLOW FROM LAKE PUMP

BY: ARON BENNETT - UNITED PUMP & DRILLING

Pump Model Number	HP	TOTAL HEAD IN FEET																				S.O. Head in Ft.								
		40	50	60	70	80	90	100	125	150	175	200	225	250	275	300	325	350	375	400	450		500	550	600	650	700	800	900	1000
		CAPACITIES IN GPM																												
S6140-3	7-1/2		234	228	218	210	203	195	175	152	118	80																		228
S6140-4F	10			235	228	222	216	210	195	180	164	145	120	74																288
S6140-6	15				238	234	230	221	211	202	193	183	172	160	147	132	113	90	54											444
S6140-8	20								230	223	218	210	203	195	188	181	173	165	150	134	103	58								600
S6140-9XP	25													235	230	224	218	210	205	190	175	158	135	100						760

Note: Performance also for former NS6M models.

APPROX.



POD – INTAKE PIPE & CONDUIT PIPE FOR PUMP IN ANDERSON LAKE



WET WELL AT FIRST STAGE PUMP HOUSE – INCLUDES BOOSTER PUMP TO ROUTE WATER UP-HILL TO POU



FIRST STAGE PUMP HOUSE FOR WATER SYSTEM



FLOW METER INSTALLED ON IRRIGATION SYSTEM



PUMP SYSTEM FOR IRRIGATING FROM 24HR IMPOUNDMENT POND



24 HR IMPOUNDMENT POND FOR IRRIGATION USE



IRRIGATION SYSTEM – WATER REEL AND BIG GUN SPRINKLERS





IRRIGATION POU





IRRIGATION POU





IRRIGATION POU





IRRIGATION POU – AROUND EQUESTRIAN CENTER



PRESSURIZED SPRINKLER SYSTEM IRRIGATION POU



PRESSURIZED SPRINKLER IRRIGATION POU – MAIN RESIDENCE





IRRIGATION POU



IRRIGATION POU – BUNK HOUSES



IRRIGATION POU

