



State of Idaho

DEPARTMENT OF WATER RESOURCES

322 East Front Street • P.O. Box 83720 • Boise, Idaho 83720-0098

Phone: (208) 287-4800 • Fax: (208) 287-6700 • Website: www.idwr.idaho.gov

C.L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Director

August 27, 2019

SPF WATER ENGINEERING LLC
C/O SCOTT KING
300 E MALLARD DR STE 350
BOISE ID 83706-6660

PROOF DEFICIENCY LETTER

RE: Permit No. 63-33401

Dear Permit Holder(s):

The Department received the proof of beneficial use (proof) form you submitted for the above referenced permit.

I am returning the form to you because information provided is incomplete. Please address the following items on the form:

- Item no. 7 of the proof form indicates that a measuring device is installed, however permit condition no. 16 of this permit states:

"...A report with no less than 4 years of diversion measurement and aquifer level water monitoring data shall be submitted in connection with filing proof of beneficial use. Submittal of a proof of beneficial use statement without the required report will not be accepted by the Department and may result in cancellation of the permit."

I recommend that condition No. 16 of this permit be complied with immediately. Enclosed is a copy of this permit for your reference.

Please resubmit the proof form and the additional information required under this permit. I will hold this matter for (15) days from the date of this letter. If the Department does not receive all of the information required under this permit in connection with filing proof of beneficial use, the Department may be forced to cancel your permit.

If you have any questions concerning this matter, please contact me at (208) 287-4945.

Sincerely,

Darla Block
Technical Records Specialist

Enclosure(s)

c: LAYNE THORNTON AND/OR LORI THORNTON (without enclosures)

RECEIVED

JUL 01 2019

DEPARTMENT OF
WATER RESOURCESSTATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
STATEMENT OF COMPLETION
FOR SUBMITTING PROOF OF BENEFICIAL USE

FOR OFFICE USE ONLY

Amt. of Fee \$ _____

Receipt No. _____

Received By _____

Date Received _____

The Idaho Department of Water Resources considers this form a statement by the permit holder(s) that development of a water right has been **completed** and that water has been applied to beneficial use to the extent described below. **This form must be accompanied by an examination fee, when necessary, or by a completed Beneficial Use Field Report prepared by a certified water right examiner.** Please refer to the instructions and fee schedule for this form. If ownership of the permit has changed, contact any Department office or visit the Department's website at idwr.idaho.gov for an *Assignment of Permit* form. If you wish to relinquish your permit because you have not established the authorized use of the water and are not applying for an extension, please notify the Department in writing.

1. Permit No. 63-33401 Telephone No. 208-631-69982. Name of Permit Holder(s) Layne and/or Lori Thornton3. Mailing Address 3224 Swan Falls Rd City KunaState ID Zip 83634 Email _____4. Source of Water Ground Water If **GROUND WATER** (well), Date Drilled mo. _____ / yr. _____Well Driller _____ Drilling Permit Number see BUFE5. Extent of use(s) completed **as authorized by the water right permit:**

Domestic (No. of households) _____ Stockwater (No. and type of stock) _____

Irrigation (No. of acres) 106 Other _____6. Total rate of diversion or storage volume for which proof is submitted 0.84 cfs OR _____ acre-feet.7. Compliance with a measuring device requirement, lockable controlling device requirement, and/or other conditions of permit:
Refer to the approval conditions on your permit and respond accordingly.**The Department will not issue a license if permit conditions are not met.**

Measuring Device	Is a measuring device required?	Yes ☒	No ☐
	If yes, has the measuring device been installed?	Yes ☒	No ☐
Lockable Controlling Device	Is a lockable device required to control the diversion?	Yes ☐	No ☒
	If yes, has the lockable device been installed?	Yes ☐	No ☐
Fish Screen	Is a fish screen required?	Yes ☐	No ☒
	If yes, has the fish screen been installed?	Yes ☐	No ☐

Other Conditions of Permit

Do the approval conditions on your permit require you to submit additional information in connection with your proof of beneficial use? If yes, list the conditions below and attach documents with the required information.

Water level measurements, flow measurements, conduit pipe Completed? Yes ☒ No ☐

8. Fee Enclosed \$ n/a or not applicable ☐. See fee schedule on page 2 of the instructions.
Proof statements filed without an appropriate fee, will be considered incomplete.

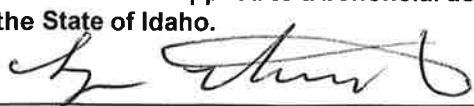
9. Person to contact to accompany the Department representative during field examination of the water system.

Name _____ Telephone Number _____

Mailing Address _____ City _____

State _____ Zip _____ Email _____

The information given on this form is my true statement of the extent to which the above numbered permit has been developed and water has been diverted and applied to a beneficial use. I understand that any undeveloped portion of the permit is relinquished to the State of Idaho.

Signature of Permit Holder  Date June 21, 2019
(Include your title, if on behalf of company or organization)

Mail to: Idaho Department of Water Resources, PO Box 83720, Boise, ID 83720-0098

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A Beneficial Use Field Report is prepared by a water right examiner as the result of an examination to clearly confirm and establish the extent of the beneficial use of water established in connection with a permit during the development period authorized by the permit and any extensions of time previously approved.

A. GENERAL INFORMATIONPermit No. 63-334011. Owner Layne Thornton and/or Lori ThorntonPhone No. 208-922-5779Current address 3224 Swan Falls Rd, Kuna, ID 83634-17322. Examiner's name Scott KingEXAM DATE 6/21/20193. Accompanied by Lavar Thornton

Email _____

Address 2800 Forrey Rd, Kuna, ID 83634Relationship to permit holder Father and business partnerPhone No. 208 631-47434. Source Ground Water

tributary to _____

B. OVERLAP REVIEW1. Other water rights with the same place of use 63-32112, 63-33399, , 63-33397, BKID, City of Kuna Municipal.2. Other water rights with the same source and point of diversion 63-2986, 63-31951, 63-31953, 63-32112, 63-33399 and 63-33074**C. DIVERSION AND DELIVERY SYSTEM**

1. Point(s) of Diversion:

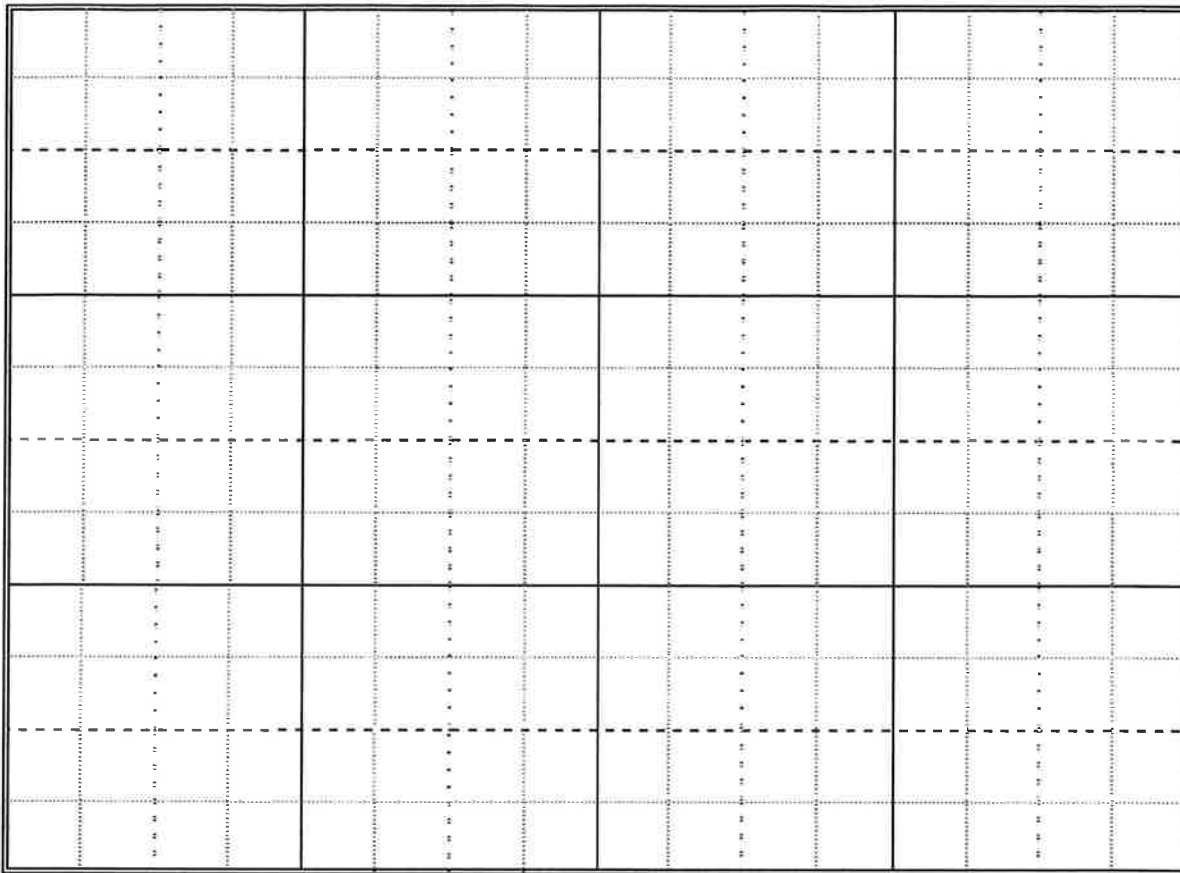
Ident. No.	Gov't Lot	¼	¼	¼	Sec	Twp	Rge	County	Method of Determination/Remarks
1			SW	SW	34	2N	1E	ADA	GPS and on-site inspection
2	1		NE	NE	3	1N	1E	ADA	GPS and on-site inspection
3			SE	NE	3	1N	1E	ADA	GPS and on-site inspection
4			NE	SE	3	1N	1E	ADA	GPS and on-site inspection

2. Place(s) of Use:

Method of determination On-site inspection, 2015 & 2017 NAIP imagery

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
2N	1E	34									24	12	31	39					106
																			106

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe diameter (inside), as applicable. Use the space provided or ☐ see attached.



Scale: 1" = _____

- ☒ Copy of USGS Quadrangle attached showing location(s) of point(s) of diversion and place(s) of use (**required**)
☒ 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
1	US Electric	75	3493108	Johnston	JT3184, 8-inch
2	GE	200	GMJ728117	Layne & Bowler	45856
3	US Electric	200	E05-AA68-M A1	Unknown	10-inch

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

D. **FLOW MEASUREMENTS** 4 || US Electric || 150 hp || 1281477 || Johnston || 1638

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
GE TransPort PT878	Ultrasonic	GE	PT878	7140	variable	April 5, 2019

2. **Measurements:** _____

Well 1 measured at 1.56 cfs during licensing of 63-7982. Well 4 measured at 5.0 cfs during licensing of 63-7474. Well 2 measured at 3.09 cfs, and well 3 measured at 3.81 cfs during this field exam.

E. NARRATIVE/REMARKS/COMMENTS

Four wells serve an interconnected system irrigating 530 acres.

Water rights 63-2986, 63-31951, 63-31953 combined authorize 5.62 cfs for the irrigation of 296 acres. Permit 63-33074 adds 126 acres, bringing the total to 422 acres. Permit 63-33074 also provides additional diversion rate and annual volume to the acres authorized by the decreed water rights.

The Section 34 SWSW point of diversion also serves water rights 63-32112, 63-33399. All four points of diversion serve permit 63-33401. Water rights 63-32112 and 63-33399 together authorize 1.28 cfs for irrigation of 106 acres. Permit 63-33401 provides additional diversion rate for the 106 acres.

Right 63-33397 authorizes the diversion of 0.3 cfs from North Indian Creek for irrigation of 25 acres within the 106-acre place of use. The authorized point of diversion from North Indian Creek is not owned by Thornton. North Indian Creek rarely flows now and this examiner suspects the primary supply to North Indian Creek during the irrigation season was wastewater from upstream gravity-flood irrigation practices. Conversions from flood to sprinkler irrigation have eliminated the supply during the irrigation season.

Boise-Kuna Irrigation District assesses the property for 12.4 acres. BKID stated to SPF in 2010 that the property is located on high ground and cannot receive surface water shares. The permit owner is unaware of BKID water being used on this property. The 1976 licensing exam for 63-7982 (parent right of 63-32112) does not indicate use of BKID water. Examiner recommends removing condition requiring use of surface water as it is unavailable.

All rights combined are recommended to authorize 10.56 cfs for irrigation of 528 acres.

Alfalfa seed is the primary crop this year. Alfalfa seed has a low irrigation water demand. The owner has not needed to turn on well #4 and requested that prior measurements be used as to not incur power company demand charges for a well that will not be used this year. Prior flow measurement was 5.0 cfs with a 125-hp motor and open discharge. The system now has 150-hp motor and pressure discharges. Flow capacity was calculated with a theoretical equation based on 150-hp motor, pump efficiency, 185-ft pumping water level, and 65 psi discharge pressure.

The owner has installed flowmeters on Well 1 and on the pipeline crossing Kuna-Mora Road conveying water from Wells 2, 3, & 4 to the permitted place of use.

Has the permit holder met all conditions of permit approval, including any mitigation requirements and/or measuring device installation requirements? ☐ Yes ☒ No If no, what must be done to meet the permit requirements?

Condition 8 requires the right holder to make full beneficial use of all surface water rights. North Indian Creek no longer provides a remotely reliable source of supply. Boise-Kuna Irrigation District water is unavailable and it is unknown if or when it was last used on this property.

The right holder has installed the required measuring devices and is collecting depth-to-water measurements.

F. FLOW CALCULATIONS☒ Additional computation sheets attached

Measured Method:

Well 1 measured at 1.56 cfs with a McCrometer propeller meter for 63-7982.

Well 2 measured at 3.08 cfs with an ultrasonic meter.

Well 3 measured at 3.81 cfs with an ultrasonic meter.

Well 4 measured at 5 cfs but had a theoretical capacity of 4.16 cfs with 125 hp motor and open discharge. It currently has 150 hp motor and pressure discharges. $150 \times 8.8 \times 0.7 / (185 + 65 \times 2.31) = 2.76$ cfs**G. VOLUME CALCULATIONS**

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 106 \times 4.5 = 477$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = 0.84 \times 260 \times 1.9835 = 433$$

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

2. Volume Calculations for Other Uses:

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion Q (cfs)	Annual Volume V (afa)
	From	To		
Irrigation	3/1	11/15	0.84	433
Totals:			0.84	433*

*When combined with 63-32112 and 63-33399, total annual volume limited to 477 af.

2. Recommended Amendments

- ☐ Change P.D. as reflected on page 1 ☐ Add P.D. as reflected on page 1 ☒ None
☐ Change P.U. as reflected on page 1 ☐ Add P.U. as reflected on page 1 ☐ Other

I. AUTHENTICATION

Field Examiner's Signature

Scott M. King

Date

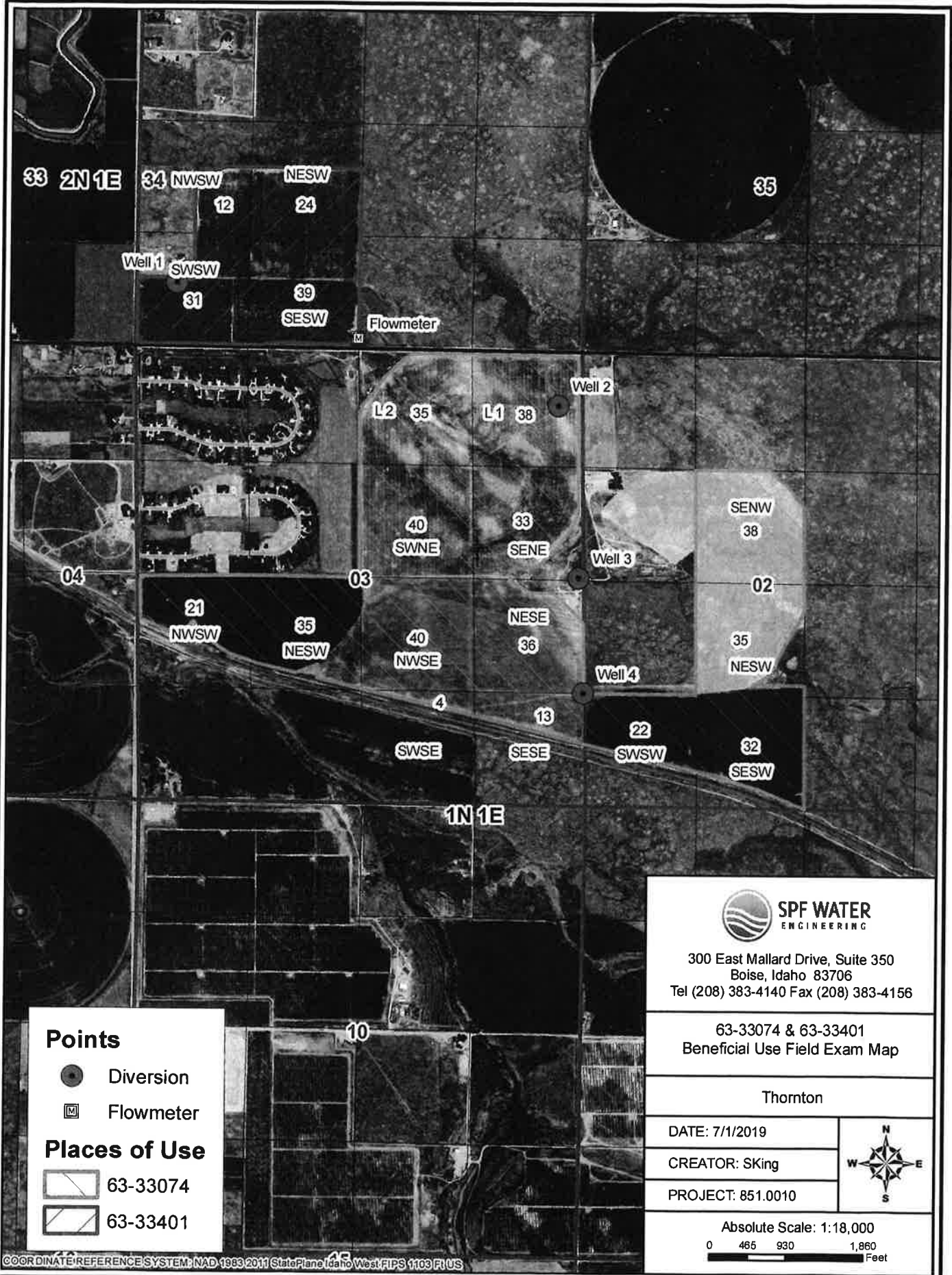
July 1, 2019

Reviewer

Date



Attachment A
Field Exam Map



Points

-  Diversion
-  Flowmeter

Places of Use

-  63-33074
-  63-33401



SPF WATER
ENGINEERING

300 East Mallard Drive, Suite 350
Boise, Idaho 83706
Tel (208) 383-4140 Fax (208) 383-4156

63-33074 & 63-33401
Beneficial Use Field Exam Map

Thornton

DATE: 7/1/2019

CREATOR: SKing

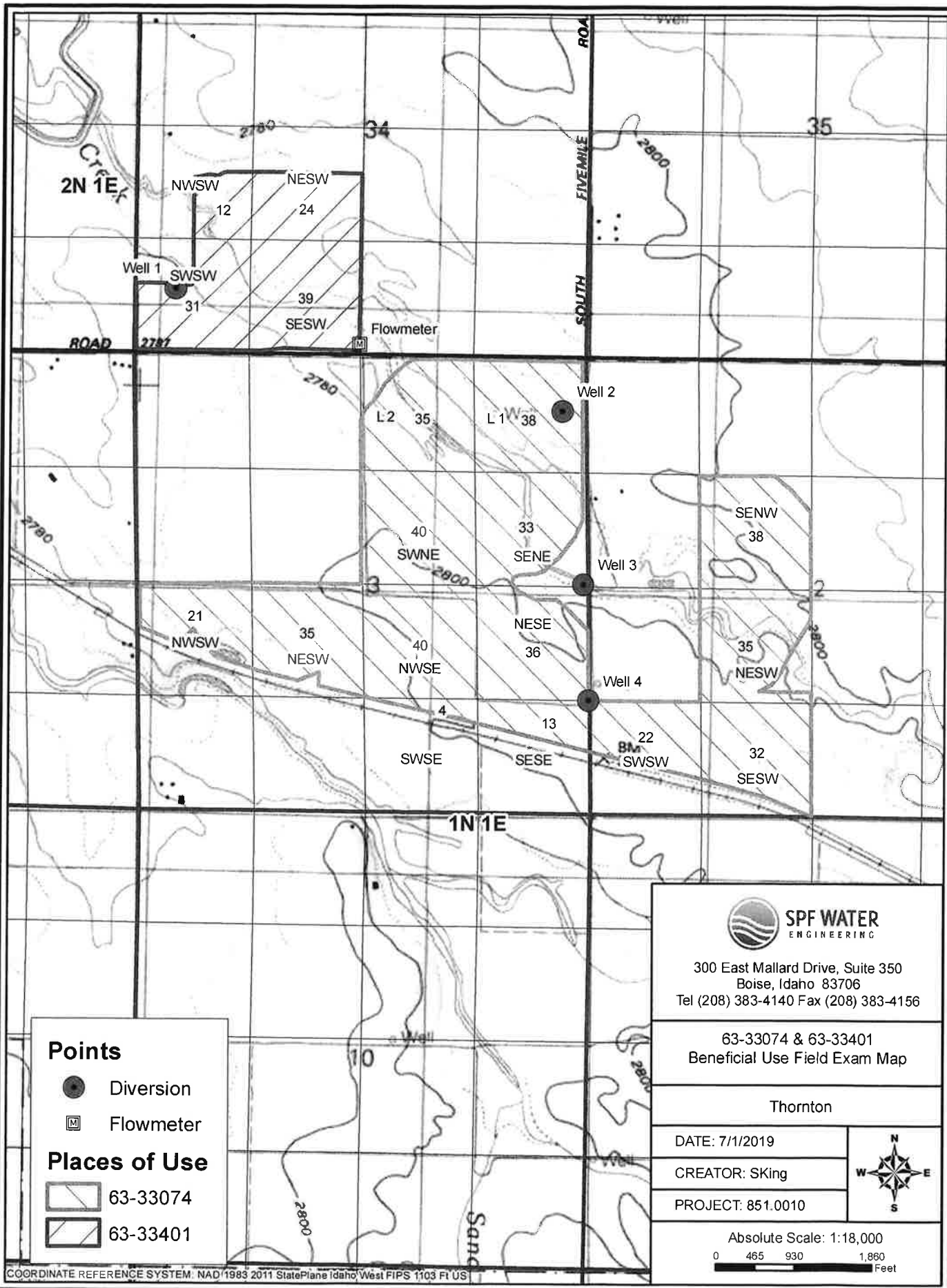
PROJECT: 851.0010



Absolute Scale: 1:18,000

0 465 930 1,860
Feet

COORDINATE REFERENCE SYSTEM: NAD 1983 2011 StatePlane Idaho West FIPS 1103 FI US



Attachment B
Flow Rate and Volume Calculations

Permit: 63-33074 & 63-33401
 Owner: Thornton
 Site Name: Well 2 (aka Miller North)
 POD Location: 1N 1E 3 NeNE (lt 1)
 Tag No: D0057946
 Meter: GE TransPort PT878
 Type: Portable Ultrasonic Time Flight Liquid Flow Meter
 Serial Number: 7140
 Calibration Date: April 5, 2019
 Operator: Scott King

Date/Time	Volume (gal/m)	(+)Total (gal)	(-)Total (gal)	Error #
6/21/2018 12:14	1377	26399	0	0
6/21/2018 12:15	1382	27785	0	0
6/21/2018 12:16	1386	29194	0	0
6/21/2018 12:17	1379	30519	0	0
6/21/2018 12:18	1385	31927	0	0
6/21/2018 12:19	1383	33331	0	0
6/21/2018 12:20	1386	34719	0	0
6/21/2018 12:21	1386	36067	0	0
6/21/2018 12:22	1388	37461	0	0
6/21/2018 12:23	1386	38875	0	0
6/21/2018 12:24	1378	40281	0	0

Time	10 minutes
Volume	13882 gallons
Rate	1386 gpm
Rate	3.09 cfs

Permit: 63-33074 & 63-33401
 Owner: Thornton
 Site Name: Well 3 (aka Miller Middle)
 POD Location: 1N 1E 3 SENE
 Tag No: D0064612
 Meter: GE TransPort PT878
 Type: Portable Ultrasonic Time Flight Liquid Flow Meter
 Serial Number: 7140
 Calibration Date: April 5, 2019
 Operator: Scott King

Date/Time	Volume (gal/m)	(+)Total (gal)	(-)Total (gal)	Error #
6/21/2018 11:10	1703	34134	0	0
6/21/2018 11:11	1703	35862	0	0
6/21/2018 11:12	1705	37578	0	0
6/21/2018 11:13	1709	39236	0	0
6/21/2018 11:14	1709	40949	0	0
6/21/2018 11:15	1698	42682	0	0
6/21/2018 11:16	1705	44418	0	0
6/21/2018 11:17	1700	46121	0	0
6/21/2018 11:18	1698	47776	0	0
6/21/2018 11:19	1702	49483	0	0
6/21/2018 11:20	1715	51223	0	0

Time	10 minutes
Volume	17089 gallons
Rate	1709 gpm
Rate	3.81 cfs

DATE OF EXAM 7/6/76

ACREAGE

Found 109
Recommended 109Irrigation Requirement 4.5 Ac Ft/Ac

USE

Irrigation Q = 1.56 c.f.s. V = 992.5 AF/Ann. from 4/1 to 10/31
Domestic Q = c.f.s. V = AF/Ann. from to
Livestock Q = c.f.s. V = AF/Ann. from to Is water co-mingled? yes no XName source: Twp. N/S, Rge E/W, B.M., Sec , Sub 1/4 1/4 County Exchange? yes no XName source exchanged with: Twp. N/S, Rge E/W, B.M., Sec , Sub 1/4 1/4 County Point of injection: Twp. N/S, Rge E/W, B.M., Sec , Sub 1/4 1/4 County Point of exchange: Twp. N/S, Rge E/W, B.M., Sec , Sub 1/4 1/4 County Total Q measured 700 gal/min = 1.56 cfs Method of measurement in-line-meterTotal Q recommended 1.56 cfs Meter No 75-B-139 Type ACErometer Condition OperationalTotal V recommended 992.5 AF/Ann.Recommended Amendments: P.D. Place of Use Other None

MEASUREMENT CALCULATION:

McCrometer in-line-meter # 75-B-139 on 8" discharge at
700 gpm = 1.56 cfs

SYSTEM DESCRIPTION:

6F Pump Model 15K1405CR4, 50HP, serial # 6915686 on Johnston pump Serial
JT 318 on 19" well with booster pump Century Motor 25 HP # 6-373050-01
Serial # ZN on Berkley pump Serial # 77B2080 Model # B6-JP-BL
on 12" well.REMARKS: Examiner's Signature Y. J. JuraDate 7/12/76Checked by Date Approved by Date

CONVERSATION MEMORANDUM

DATE 10-28

FILE 63-7474

NAME OF PARTY J. Evan Merrell, PE

EMPLOYEE Cindy Hodge S.

RE: Mr. Merrell was farm manager when proof
was submitted in 1977. He performed measurements
on these 2 wells:

North well ^(#1, NENE) - A concrete ditch runs west of the well & turns south. In the south ditch, there are flashboard slots into which a plywood weir was placed for the measurement = 1.4 cfs

South well ^(#2, NESE) - This well discharges into a basin then down concrete ditch to the west. A cross sectional area was measured, then velocity was measured with a depth-integrated float. These 2 measurements then used to compute flow. Total $6.4 - 1.4 = 5.0$ cfs assumed
(see original proof, Rec'd 10-28-1977)

Mr Merrell is satisfied with the accuracy of these measurements at the time he took them. The proof form is signed by him & is in the file.

MINUTED

FEB 01 1993

Attachment C
Exam Photos



Figure 1: Well 1 75-hp vertical turbine.

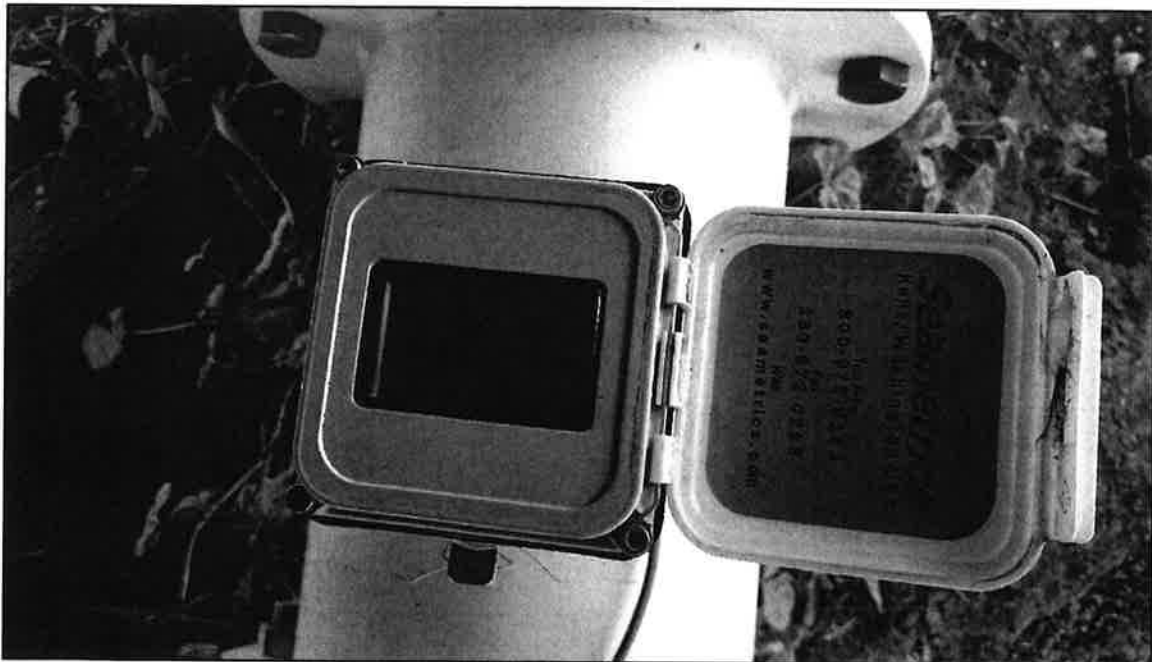


Figure 2: Flowmeter installed on Well 1.



Figure 3: Discharge pipe of Well 1 showing flowmeter location.

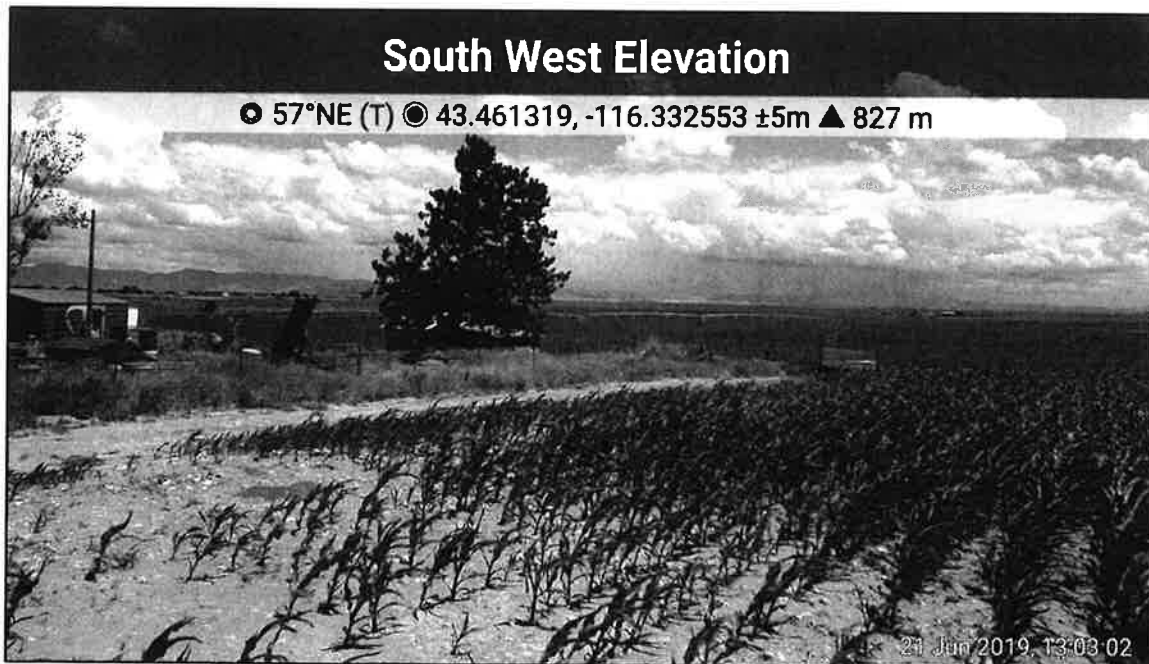


Figure 4: Place of use photo taken near well.



Figure 5: Flowmeter installed north of Kuna-Mora road on pipeline serving 63-33401 place of use.

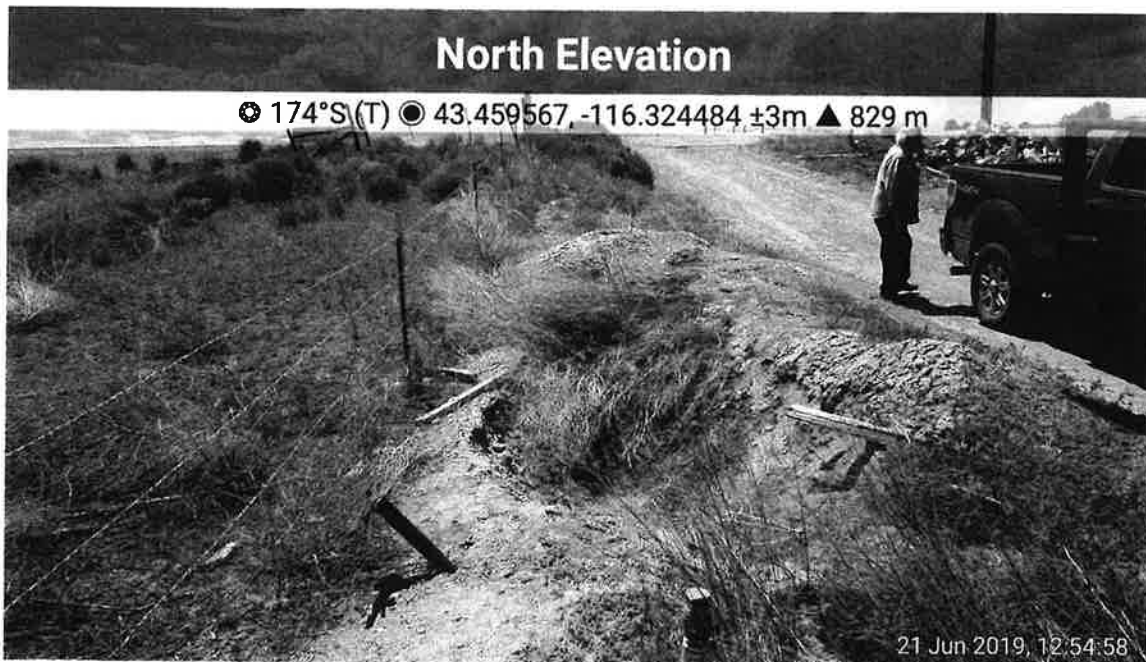


Figure 6: Figure 5 flowmeter installed in pit north of Kuna-Mora Road.

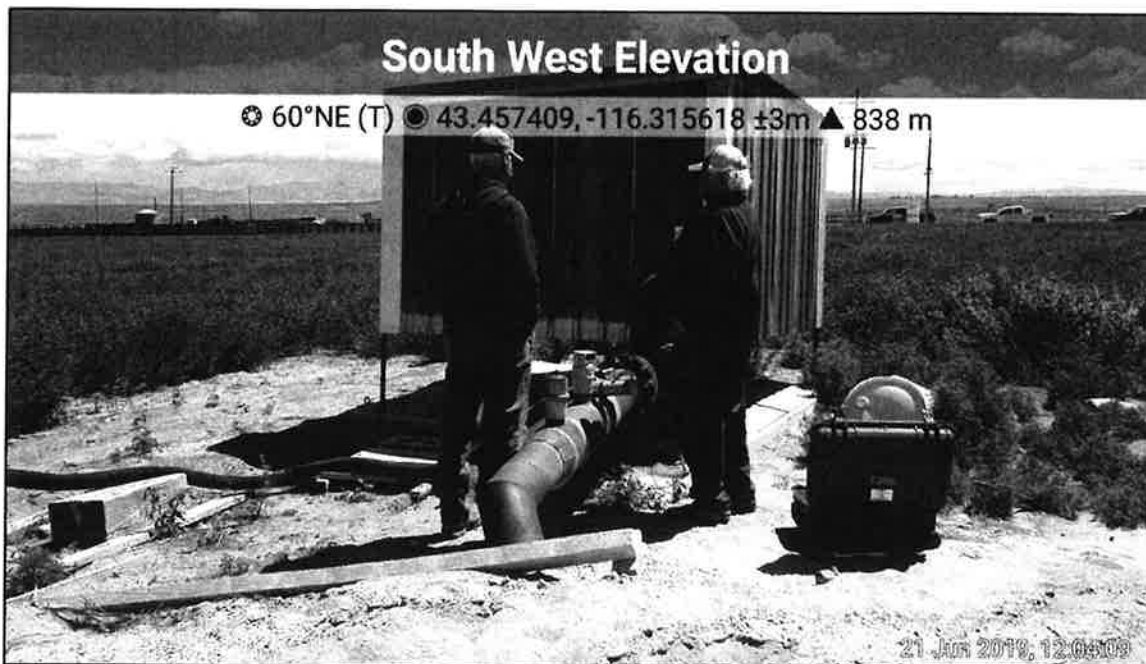


Figure 7: Well 2 equipped with 200 hp motor and vertical turbine pump.

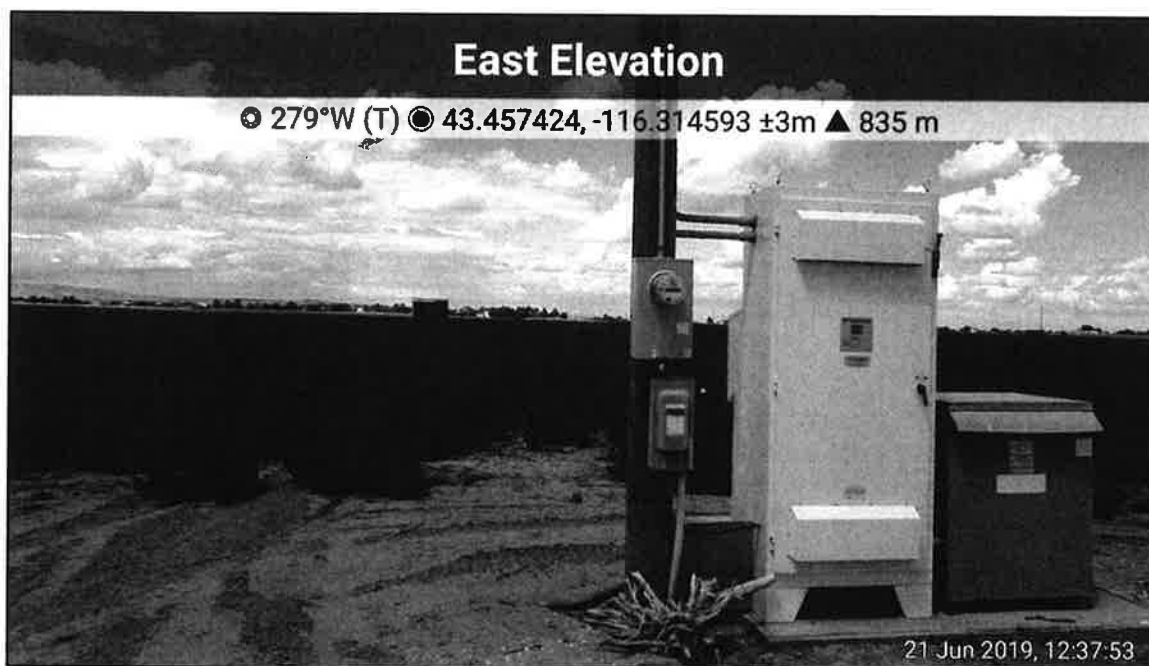


Figure 8: Variable speed drive controls for Well 2 with well house in background.

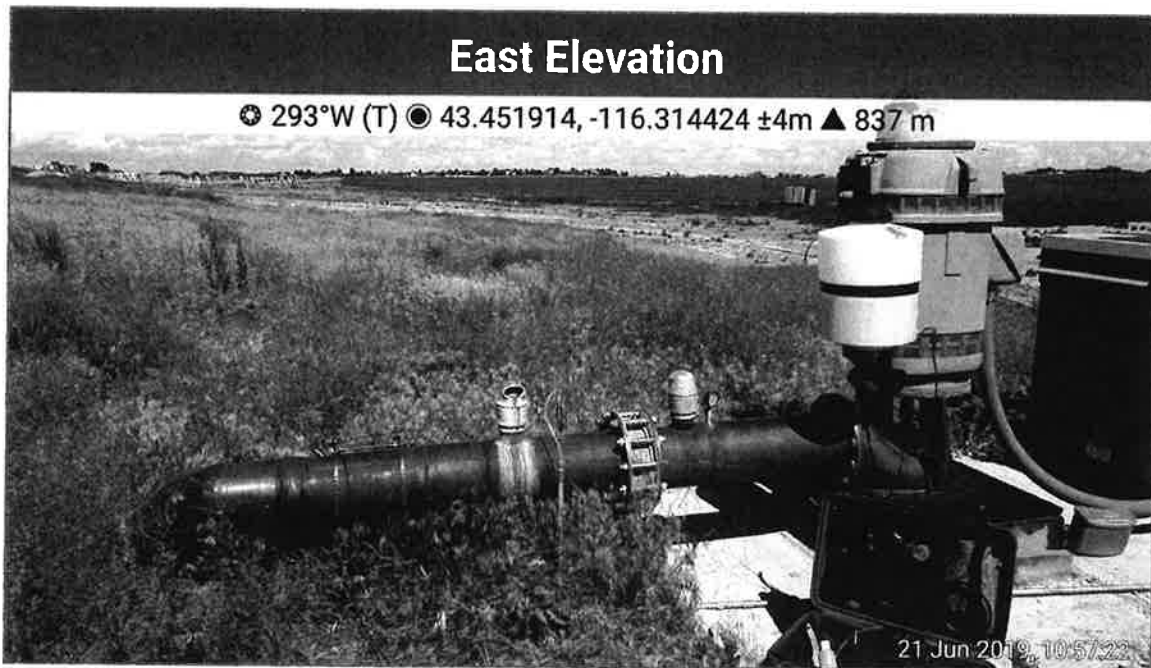


Figure 9: Well 3 equipped with 200-hp motor and vertical turbine pump.

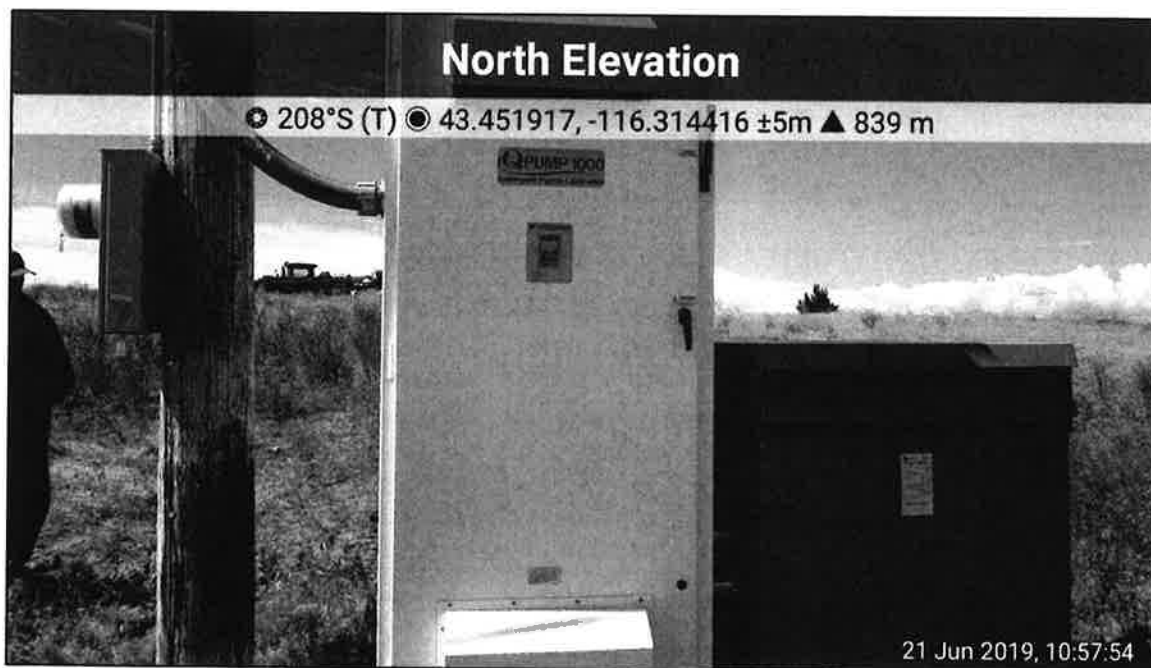


Figure 10: Well 3 variable speed drive controls.

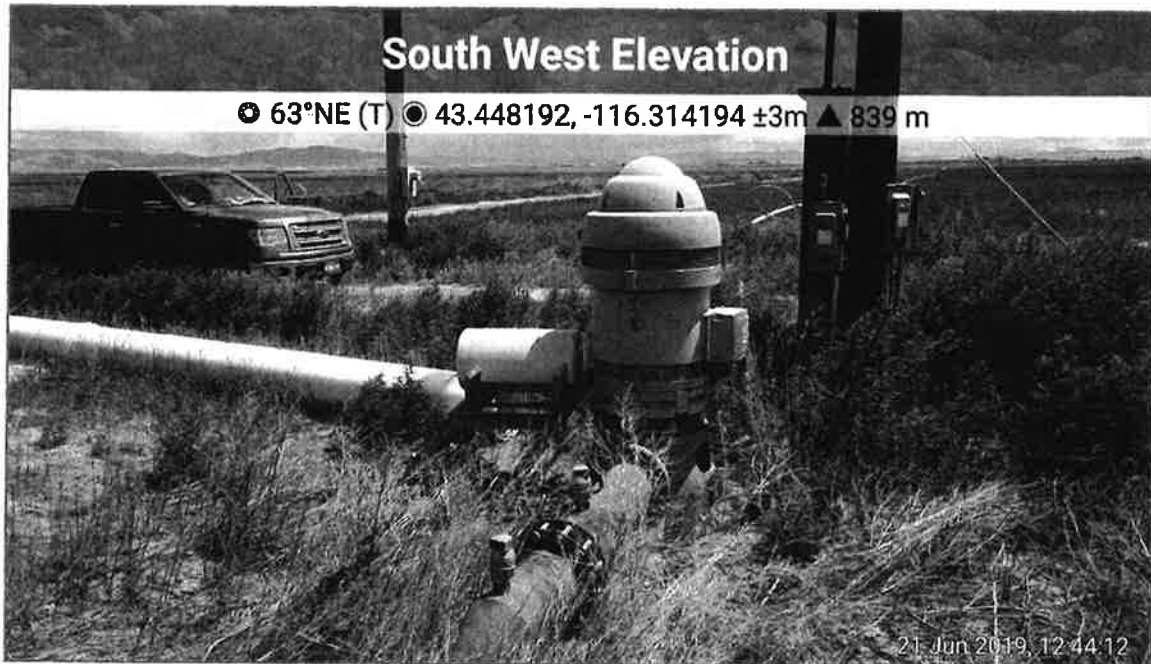


Figure 11: Well 4 equipped with 150 hp motor and vertical turbine pump.