

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 65-23707
Exam Date: 06/04/2021

1. Current Owner:
NESBITT RANCH AND CATTLE CO LLC C/O QUENTIN NESBITT
7435 MOON VALLEY RD EAGLE ID 83616

2. Accompanied by: Quentin Nesbitt
Phone No: (208) 484-9532 (c).
Address: 7435 Moon Valley Rd, Eagle, ID 83616
Relationship to permit Holder: Same

3. **SOURCE:** SECOND FORK SQUAW CREEK **Tributary** SQUAW CREEK

Method of Determination: Permit application, IDWR records, USGS Quadrangle-Dodson Pass, and field examination.

B. OVERLAP REVIEW

1. Other water rights with the same place of use: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
65-3089A	SECOND FORK SQUAW CREEK	Irrigation	Decreed
65-3089D	SECOND FORK SQUAW CREEK	Irrigation	Decreed
65-3089E	SECOND FORK SQUAW CREEK	Irrigation	Decreed
65-3089G	SECOND FORK SQUAW CREEK	Irrigation	Decreed
65-3090	SECOND FORK SQUAW CREEK	Irrigation	Decreed
65-11248	SECOND FORK SQUAW CREEK	Irrigation	Decreed
65-11257B	SECOND FORK SQUAW CREEK	Irrigation	Decreed
65-11257C	SECOND FORK SQUAW CREEK	Irrigation	Decreed
65-13144	SECOND FORK SQUAW CREEK	Irrigation	License

Comments: Apparent overlapping due to POU's crossing over quarter-quarter boundaries (see map for clarification).

2. Other water rights with the same point-of-diversion: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
65-3089A	SECOND FORK SQUAW CREEK	Irrigation	Decreed
65-3089D	SECOND FORK SQUAW CREEK	Irrigation	Decreed
65-3089E	SECOND FORK SQUAW CREEK	Irrigation	Decreed
65-3089G	SECOND FORK SQUAW CREEK	Irrigation	Decreed
65-3090	SECOND FORK SQUAW CREEK	Irrigation	Decreed
65-11248	SECOND FORK SQUAW CREEK	Irrigation	Decreed
65-11257B	SECOND FORK SQUAW CREEK	Irrigation	Decreed
65-11257C	SECOND FORK SQUAW CREEK	Irrigation	Decreed
65-13144	SECOND FORK SQUAW CREEK	Irrigation	License

Comments: All are diverted at the same point of diversion

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

SECOND FORK SQUAW CREEK NW¼ SW¼, Sec. 1, Twp 11N, Rge 01E, B.M. GEM County

Method of Determination: Permit application, IDWR records, gps point, and observation during field examination.**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	
11N	01E	2									1.2	1.7	3.6	22.0	2.3		1.3		32.1
11N	01E	11					2.4												2.4

Total Acres: 34.5

Method of Determination: Aerial Imagery, ArcMap Tools, and observation during 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 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

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
Flume	Broad-Crested Weir Flume	Powlus			Rectangular 15"	

2. Measurements:

Measured Method: Rectangular Broad-Crested Weir FlumeWeir width: 15 inchesRange: 0.1 -2.5 cfsInitial ditch flow, gage reading: 15 cm $\approx$ 1.49 cfsAfter 5 turns on valve, gage reading: 20.6 cm $\approx$ 2.49 cfs**E. FLOW CALCULATIONS** Additional Computation Sheets Attached

Beneficial Use Standard Rate = 34.5 acres x 0.02 cfs/acre = 0.69 cfs

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = (34.5 \text{ acres}) \times (3.0 \text{ af}) = 103.5 \text{ af}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.69 \text{ cfs} \times 231 \text{ days} \times 1.9835 = 316.2 \text{ af}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 103.5 \text{ af}$$

2. Volume Calculations for Other Uses:

G. NARRATIVE/REMARKS/COMMENTS

Nesbitt Ranch and Cattle Co LLC is the owner of water permit 65-23707 for irrigation, 11.5 miles north of Ola, ID. The proof of beneficial use was submitted on February 8, 2021 with an examination fee of \$100.00. An exam was conducted on June 4, 2021 by water resource agent Allen Bradbury. Quentin Nesbitt accompanied the agent on the field exam. Current Gem County tax parcel data lists Nesbitt Ranch and Cattle Co LLC as the current owner of the property pertinent to the place of use (POU) and Quentin Nesbitt as a member. No ownership change is required.

The original application for permit proposed to 31.6 acres which were reportedly irrigated since the original construction of the ditch, but apparently missed in the adjudication process, and added about 3 acres to cover new pivot irrigation. The permit was approved on March 14, 2018 approving a 34.5 acre place of use (POU) utilizing a 0.69 cfs diversion rate from Second Fork Squaw Creek. The POU consisted of several small parcels of land which completes existing irrigated fields making it possible to run sprinkler irrigation systems. Each of these places of use were documented during the field exam with a photo.

The point of diversion from Second Fork Squaw Creek is shared by ten other water rights, seven of which belong to Nesbitt Ranch and Cattle Co or Nesbitt family members while the remaining three belong to subdivided parcels. The actual diversion point is located approximately 1.1 miles east of the bridge across Squaw Creek on Nesbitt Lane. The original shapefile POD was located approximately 180 feet southeast of the actual location on the creek, though still located in the correct quarter-quarter of NWSW Section 1. The diversion structure is composed of an infiltration system/fish screen into an 18-inch culvert. The flow is transported for about 900 feet before entering in to a 4-foot diameter vertical culvert structure which splits the flow into two separate pipelines, one to irrigate land north of the creek and one to irrigate land south of the creek. The north side splits into an open ditch and travels approximately 0.80 miles before entering into a 10-inch pipeline as it crosses under Nesbitt Lane. The pipeline travels for another 0.25 miles before passing through a 10 hp booster pump for each pivot. The south side is splits directly into a pipeline and then crosses the creek and travels approximately 0.5 miles before arriving at a pump station. The northside is irrigated by a combination of two 4-tower pivots, multiple pod systems, and flood irrigation. The south side is irrigated by pod systems and valves along the pipeline which divert into short hoses for flood irrigation along the hillside and creek bottom. There are four valves upstream of the pump and five valves downstream from the pump.

Total authorized acres were tabulated from water rights from Second Fork Squaw Creek being diverted from the POD in the NWSW Section 1, T11N R01E. The total authorized acres were calculated at 119.5 acres from that POD. Further GIS analysis, estimated that 75 acres were irrigated on the north side of the creek and 44.5 acres were irrigated on the south side of the creek (see attached maps). Therefore, by multiplying the standard rate of irrigation by these acres it was determined that 44.5 acres x 0.02 cfs/acre = 0.89 cfs should be diverted to the south and 75 acres x 0.02 cfs/acre = 1.5 cfs should be diverted to the north.

A measurement was selected about 45 yards downstream from the splitter on the north side ditch. Two measurements were taken with a 15-inch rectangular broad-crested weir flume. The initial measurement was taken while enough water was diverted to run both pivots and pod systems on the north side. The gage on the weir read 15 cm or approximately 1.49 cfs as per the discharge tables. A second measurement was taken after Mr. Nesbitt cranked the valve five complete turns. The gage on the weir read 20.6 cm or approximately 2.49 cfs as per the discharge tables. There was not sufficient exposed pipe to measure the south side pipeline flow. The second measurement was intended to demonstrate the total capacity of the system to deliver the full amount of all water rights including the 0.69 cfs required for water right 65-23707. It was clearly demonstrated that the system was capable of diverting the full amount to the permitted acres. I am recommending a license for the beneficial use rate of 0.69 cfs

Area for each place of use was determine by measuring the gaps in the existing water right shapefiles as overlaid by the proposed places of use on the permit shapefiles. A shapefile was created for the actual irrigation within the gap areas and each area calculated to determine the acres within the QQ. Even though the shapes for the actual irrigation changed the number of acres permitted and the actual acres irrigated remained consistent (see attached map). Therefore, I recommend that the legal acres remain the same for each QQ and the total place of use remain at 34.5 acres but that the ArcMap shapefiles be modified to reflect the actual irrigation.

Overlapping water rights include 65-2925 and 65-2974 which are irrigation from storage in Sage Hen Reservoir managed by the Squaw Creek Irrigation District. Mr. Nesbitt thought that Nesbitt Ranch and Cattle Co. owned 136 shares.

Condition 26A was removed as per department licensing standards. Condition 121 was updated to 103. As per Permit Processing Memo #3, the permit holder is requesting a waiver for condition 01J which requires a measuring device. A letter requesting the waiver and a letter from WD 65A water master, Eric Herr were provided at the time of the field exam. Therefore, condition 01M will replace condition 01J.

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

H. RECOMMENDATIONS**1. Recommended Amounts**

Beneficial Use	Period of Use	Rate of Diversion	
IRRIGATION	03/15 to 10/31	0.69 CFS	

Totals: 0.69 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 Allen Bradbury - Water Resource Agent, Senior

Field Examiner's Name Allen Bradbury Date 7/14/2021

Reviewer [Signature] Date 7/27/2021

To: State of Idaho Department of Water Resources

Western Regional Office

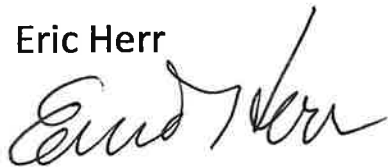
2735 Airport Way

Boise, ID 83705

Re: Permit # 65-23707 Requirement for measuring device

I am not requiring the installation of a measuring device for this permit to divert water.

Eric Herr

A handwritten signature in black ink, appearing to read "Eric Herr", written over the printed name.

Water Master District 65A

8917 Butte Rd.

Sweet, ID 83670

208-365-8583

TO: STATE OF IDAHO DEPARTMENT OF WATER
RESOURCES

WESTERN REGIONAL OFFICE
2735 AIRPORT WAY
BOISE, ID. 83705

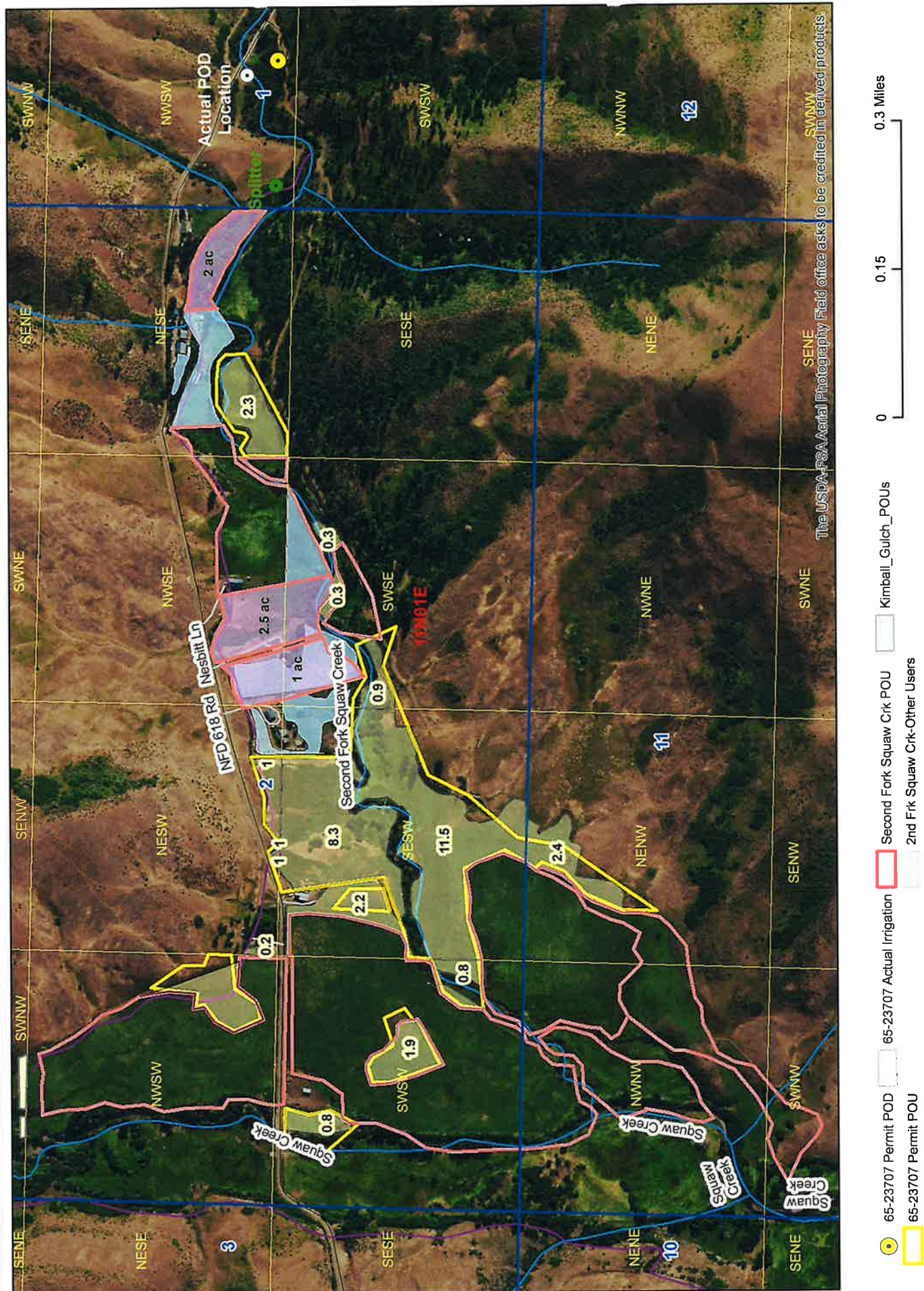
I AM REQUESTING THAT THE REQUIREMENT FOR A MEASURING DEVICE BE WAIVED FOR PERMIT 65-23707, THE WATER DIVERTED AND LAND IRRIGATED UNDER THIS PERMIT COMES FROM A DIVERSION THAT HAS NEVER HAD A MEASURING DEVICE AND HAS BEEN IN PLACE FOR OVER 100 YEARS AND THE LAND INCLUDED IN THIS PERMIT HAS ALWAYS BEEN COVERED BY STORAGE RIGHTS OUT OF SAGEHEN RESERVOIR SINCE IT WAS BUILT. HOWEVER, THE LAND UNDER THIS PERMIT WAS DETERMINED TO HAVE NOT BEEN INCLUDED IN THE NATURAL FLOW RIGHTS WE HAVE FROM SQUAW CREEK. THE WAY THE DIVERSION IS BUILT WOULD REQUIRE MAJOR RECONSTRUCTION OF FISH SCREEN AND DIVERSION WORKS TO INSTALL A MEASURING DEVICE.

THIS PERMIT IS IN WATER DISTRICT 65A AND FALLS UNDER THE JURISDICTION OF THE WATERMASTER ERIC HERR. I HAVE ENCLOSED A LETTER FROM ERIC WHERE IS STATING HE DOES NOT REQUIRE A MEASURING DEVICE FOR THIS PERMIT.

THANKYOU FOR YOUR CONSIDERATION

Quentin Nesbitt

0.69 cfs for irrigation of 34.5 acres from Second Fork Squaw Creek trib. to Squaw Creek



Legend

65-23707

0.69 cfs for irrigation of 34.5 acres from Second Fork Squaw Creek trib. to Squaw Creek

Google Earth

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© 2021 Google

1000 ft

BENEFICIAL USE FIELD REPORT CALCULATIONS

65-23707 Nesbitt_BUFR Calcs

Yrs

Permit #: 65-23707
 Permit Name: Nesbitt Ranch & Cattle
 c/o Quentin Nesbitt

Priority Date 6/28/2017
 Permit Approved: 3/14/2018

Proof Due: 3/1/2021 2.97
 Proof Made: 2/8/2021 2.91
 Exam Date: 6/4/2021

Permit Rate 0.69
 Fee Rate 0.69
 Exam Fee \$100.00

0.00 to 0.20	\$50.00	0.00 to 20.0	\$50.00
0.21 to 1.00	\$100.00	20.1 to 100.0	\$100.00
1.01 to 2.00	\$125.00	100.1 to 200.0	\$125.00

Source SECOND FORK SQUAW CREEK
 Source

Tributary SQUAW CREEK
 Tributary

Permitted Uses:	Proposed	Permitted	Measured/Recommended
	Rate of Diversion (cfs)	Rate of Diversion	Rate of Diversion
	Annual Volume (af)	Annual Volume	Annual Volume
IRRIGATION	0.69	0.69	0.69
	Acres Proposed: 34.5	Acres Permitted: 34.5	Acres Developed: 34.5

FLOW MEASUREMENTS:

Measurement Method: Rectangular Broad-Crested Weir Flume

Weir width (in): 15
 Weir range: 0.1-2.5 cfs

Gage Reading (cm)	Flowrate (cfs)	Notes
15	1.49	Initial ditch flow gage reading
20.6	2.49	After 5 turns on valve

FLOW CALCULATIONS:**Theoretical Method**

$$Q = \frac{(8.8) \times (HP) \times E}{TDH}$$

Est. Pump Set	minus 10' =				
HP =	E =	H =	PSI =	Q =	Q =
	70.0%			#DIV/0!	#DIV/0!
				cfs	gpm

$$TDH = [(LIFT) + (PSI \times 2.31)]$$

TDH =	Lift =	PSI =	2.31
0.0			2.31

$$TDH = \text{Total dynamic head} = [(LIFT) + (PSI \times 2.31)] \quad \text{PSI (if open discharge assume [0])}$$

Recommended Flow Rate: 0.69

VOLUME CALCULATIONS:

Max Rate Per Acre: 0.02
 Max Volume Per Acre: 3.00

Consumptive Use	3	Headgate Requirement	3		
Season of Use	3/15	10/31	=	231	days
Volume (VIR)	34.5	X	3	=	103.5 af
Volume (DR)	0.690	X	231	X	1.9835 = 316.15 af
BU Standard Rate	34.5	X	0.02	=	0.69 cfs
Rate/acre	0.690	/	34.5	=	0.020 cfs/ac

$$V.I.R. = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement})$$

$$V.D.R. = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835$$

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

Recommendation Standards for diversion rate (choose most restrictive)

0.69 Permit Rate – the rate applied for

0.69 Fee Rate – the maximum rated paid for on the fee schedule.

0.69 Beneficial Use (BU) standard = $x \cdot x \cdot ac \cdot 0.020 \text{ cfs/acre}$

0.69 Measured Value – the value measured in the field

#DIV/0! Theoretical Rate - the rate calculated

Tabulated POU Acres from Second Fork Squaw Diverted to north & south

Legal Acres-South Side													Total	Acres	CFS
NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW	SESW	NESE	NWSE	SWSE	SESE				
11N 01E 2						2	14.5	3	0.5	3.5			23.5		
11N 01E 11				8.3	10.8	1.8							20.9	44.4	0.89

Legal Acres-North Side													Total	Acres	CFS
NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW	SESW	NESE	NWSE	SWSE	SESE				
11N 01E 2						25.6	14.5	1.3	5	4.3			71.6		
11N 01E 11					3.5								3.5	75.1	1.5
TOTAL Acres North & South:													119.5	119.5	2.39

65-23707 Overlap Analysis

Basin Seq	Owner	Source	POD	Use	NENE	NWNE	SWNE	SENE	NE NW	NW NW	SW NW	SE NW	NESW	NWSW	SWSW	SESW	NESE	NWSE	SWSE	SESE	Total Acres	WR#	CFS	ac
65-23707	NESBITT RANCH AND CATTLE CO LLC	SQUAW CREEK	POU	IRRIGATION									1.2	1.7	3.6	2.2	2.3		1.3		32.1	65-23707	0.69	34.5 11N01E2
65-23707	NESBITT RANCH AND CATTLE CO LLC	SQUAW CREEK	POU	IRRIGATION				2.4													2.4			11N01E11
65-3090	NESBITT RANCH & CATTLE CO LLC; NESBITT, HOMER R	SQUAW CREEK	POU	IRRIGATION											2	3					5	65-3090	0.24	12 11N01E2
65-3090	NESBITT RANCH & CATTLE CO LLC; NESBITT, HOMER R	SQUAW CREEK	POU	IRRIGATION				4	3												7			11N01E11
65-3089G	NESBITT, DALE; NESBITT, HOMER R	SQUAW CREEK	POU	IRRIGATION														3.5			3.5	65-3089G	0.07	3.5 11N01E2
65-3089A	NESBITT RANCH & CATTLE CO LLC; NESBITT, HOMER R; NESBITT	SQUAW CREEK	POU	IRRIGATION										18	22	4					44	65-3089A	0.94	47 11N01E2
65-3089A	NESBITT RANCH & CATTLE CO LLC; NESBITT, HOMER R; NESBITT	SQUAW CREEK	POU	IRRIGATION						3											3			11N01E11
65-13144	NESBITT, HOMER R; NESBITT, LOUISE E	SQUAW CREEK	POU	IRRIGATION					1.9	4.3	1.8										8	65-13144	0.16	8 11N01E11
65-11257B	NESBITT, DALE; NESBITT, HOMER R	SQUAW CREEK	POU	IRRIGATION															2		2	65-11257B	0.04	2 11N01E2
65-11248	NESBITT RANCH & CATTLE CO LLC; NESBITT, HOMER R	SQUAW CREEK	POU	IRRIGATION														1	2		3	65-11248	0.14	7 11N01E2
65-11248	NESBITT RANCH & CATTLE CO LLC; NESBITT, HOMER R	SQUAW CREEK	POU	IRRIGATION						4											4			11N01E11
65-11257C	HOWELL, SUZANNE; MYERS, DALE E; NESBITT, HOMER R; NESBITT	SQUAW CREEK	POU	IRRIGATION															1		1	65-11257C	0.02	1 11N01E11
65-3089E	CLOSE, KENNETH; CLOSE, ROBIN; HYDE, NORMA J; HYDE, NORRI	SQUAW CREEK	POU	IRRIGATION																	2	65-3089E	0.04	2 11N01E2
65-3089D	CLIFFORD MICHAEL FUNSTON REVOCABLE TRUST; MARX, JERRY	SQUAW CREEK	POU	IRRIGATION														2			2	65-3089D	0.05	2.5 11N01E2
									8.3	14.3	1.8	0	1.2	19.7	27.6	29	4.3	5.5	7.8	0	119.5		2.39	119.5
									0	0	0	0	0	0	0	0	2	1	2.5	0	5.5			
									8.3	14.3	1.8	0	1.2	19.7	27.6	29	2.3	4.5	5.3	0	114.0			

TOTAL ACRES

OTHER ACRES

NESBITT ACRES



Figure 1. Point of diversion from Second Fork Squaw Creek into 18" culvert



Figure 2. Double gate valves at splitter which diverts water to either north side of creek or south side of creek.



Figure 3.
Upstream
conditions for
broad-crested weir
flume
measurement in
north side ditch.



Figure 4. Initial
broad-crested weir
flume
measurement with
gage reading 15
cm or 1.49 cfs.

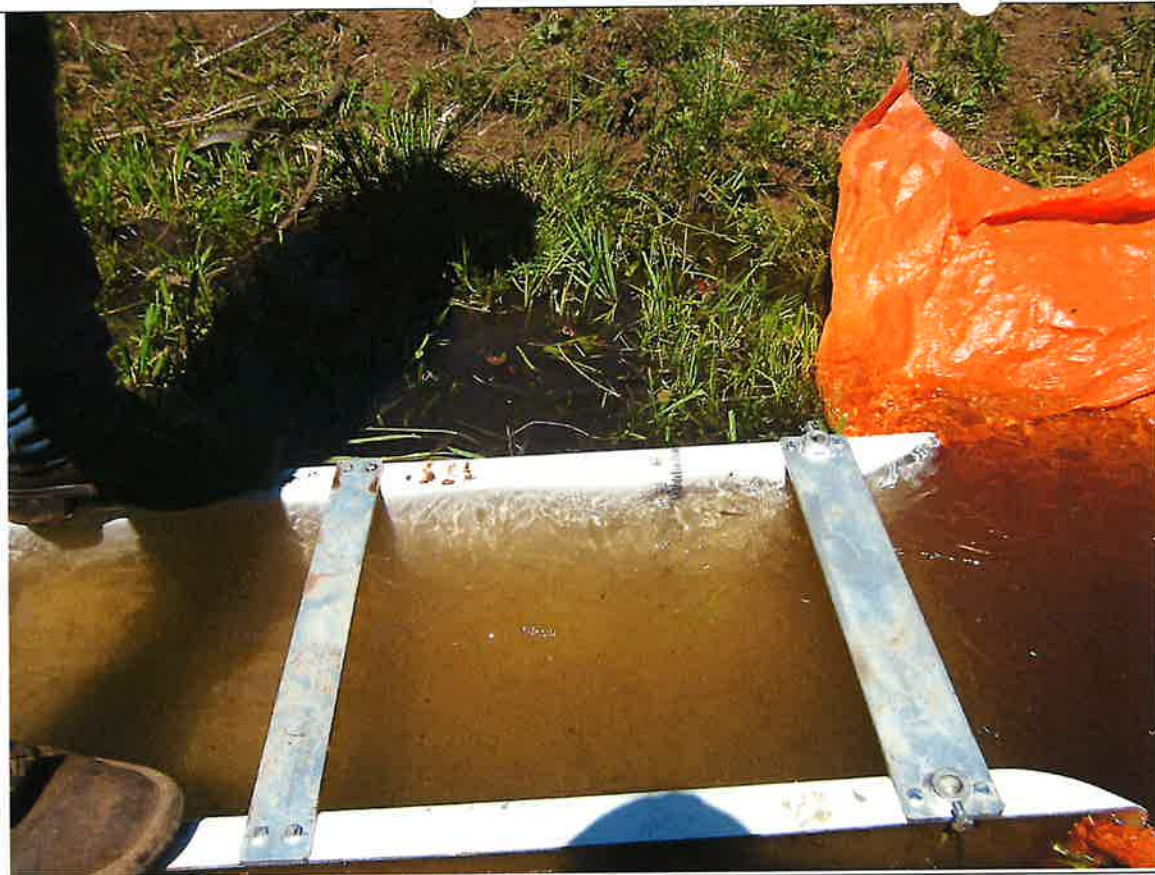


Figure 5. Broad-crested weir flume measurement with gage reading 20.6 cm or 2.49 cfs after 5 turns on the gate valve.



Figure 6. Pod irrigation in field north of Nesbitt Ln. irrigating SW corner.



Figure 7. Pivot irrigation of field north of Nesbitt Ln. shown irrigating area of this water right.



Figure 8. Pivot irrigation of field south of Nesbitt Ln.



Figure 9. Pod system covering acres in T11N R01 Sec. 2 SWSW near creek bottom.



Figure 10. More Pod systems covering pivot corner acres in T11N R01 Sec. 2 SWSW.



Figure 11. Pod systems covering acres on south side of 2nd Fork Squaw Creek in T11N R01 Sec. 2 SESW and Sec. 11 NENW.



Figure 12. Flood irrigation released from pipeline on south side of 2nd Fork irrigates bottoms near creek in section 2 SESW, SWSE and NESE.



Figure 13. One of the nine valves used to flood irrigate hillside and creek side meadows on south side of 2nd Fork.



Figure 14. Pipeline route on south side of 2nd Fork.



Figure 15.
Looking north at
large meadow in
section 2 SESW
showing irrigation
on both sides of
creek.



Figure 16.
Looking east
upstream showing
irrigation
extending up the
creek in section 2
SESW on both
sides of creek.



Figure 17.
Looking south
from Nesbitt Lane
at irrigation in
section 2 SESW
on both sides of
2nd Fork.



Figure 18.
Looking from
Nesbitt Lane to the
southwest at flood
irrigation from
ditch along
hillside.



Figure 19. Looking from Nesbitt Lane to the southwest at flood irrigation from ditch along hillside.



Figure 20. Pod coverage of pivot corner south of Nesbitt Lane.