

**Idaho Dept of Water Resources
ESPA Spring Diversion Inventory**

District 36A Date 7/12/04
 Basin _____ Ditch or users association _____
 Diversion Name Barlosi POD Number 410001
 Spring Name _____ Tributary to _____
 GPS site ID 40041853 Inventory Examiner C. Knowles
 Owner _____ Operator _____

Measuring Device Data	
Type of Device or Method	<u>4.0' Montena</u> <input checked="" type="radio"/> Standard <input checked="" type="radio"/> Non-standard
If non-standard describe: <u>Montena - Cutthroat flume</u>	

Discharge and Measurement Method	
How Measurement was taken: (Staff gauge, current meter, polysonic meter)	
Staff gauge Head Reading <u>.39</u> <u>0.41</u>	Current Meter/or poly-sonic measurement: <u>7/14 @ 8:00 AM</u> <u>3.23 cfs</u>
Time of Day <u>16.45</u> <u>7/14 @ 8:00 AM</u>	
Table used for Q <u>CSU Bulletin 120</u>	Meter Measurement Confidence 2% 5% 10% <input checked="" type="radio"/> 10%
Total Flow = <u>7/14 @ 8:00 AM</u> <u>3.61 cfs</u> - <u>3.23 cfs</u>	Does device meet IDWR standards? YES <input checked="" type="radio"/> NO
Discharge notes attached? <input checked="" type="radio"/> YES NO	Measurement Taken by: <u>T. Luke</u>
Calculations Attached? <input checked="" type="radio"/> YES NO	Is follow-up Needed? YES NO

Concerns about measuring device:

IF brush is cleared and a second staff gage installed
to evaluate for partial submergence, performance
might be w/in range.

Current meter measurement

Site: Barlogi Ditch
 Date: 7/14/2004
 WMIS ID: 410001
 Source: Billingsley Creek

Staff gage readings: 0.41 feet @ 7:50 AM
 0.41 feet @ 8:30 AM

Meter type: Cutthroat flume, 48 inch x 9 ft
 Rating curve: CSU Experiment Station, Bulletin 120, "Selection and Installation of Cutthroat Flumes for Measuring Irrigation and Drainage Water"
 Meter discharge: 3.61 ft³/s

Measured from bridge board at flume throat, 2 feet downstream of staff gage.

	Distance feet	Depth feet	Obs Depth	Velocity ft/sec	Width feet	Area ft ²	Discharge ft ³ /s
LEW	1.0	0.37	calc	1.43	0.045	0.01665	0.02381
	1.09	0.37	calc	1.98	0.095	0.03515	0.069597
	1.19	0.37	calc	2.09	0.08	0.0296	0.061864
	1.25	0.37	0.6	2.20	0.155	0.05735	0.12617
	1.5	0.37	0.6	2.23	0.375	0.13875	0.309413
	2.0	0.37	0.6	2.17	0.375	0.13875	0.301088
	2.25	0.37	0.6	2.32	0.25	0.0925	0.2146
	2.5	0.37	0.6	2.38	0.25	0.0925	0.22015
	2.75	0.37	0.6	2.14	0.25	0.0925	0.19795
	3	0.37	0.6	2.24	0.25	0.0925	0.2072
	3.25	0.37	0.6	2.20	0.25	0.0925	0.2035
	3.5	0.37	0.6	2.26	0.25	0.0925	0.20905
	3.75	0.37	0.6	2.18	0.25	0.0925	0.20165
	4.0	0.37	0.6	2.18	0.25	0.0925	0.20165
	4.25	0.37	0.6	2.16	0.25	0.0925	0.1998
	4.5	0.37	0.6	2.15	0.25	0.0925	0.198875
	4.75	0.37	0.6	2.20	0.155	0.05735	0.12617
	4.81	0.37	calc	2.09	0.08	0.0296	0.061864
	4.91	0.37	calc	1.98	0.095	0.03515	0.069597
REW	5.0	0.37	calc	1.43	0.045	0.01665	0.02381
Total					4.00	1.48	3.23
Error							11.7%

Average Velocity = 2.18 ft/sec

For the example shown in figure 41, q_1 is zero because the depth at observation point 1 is zero. However, when the cross-section boundary is a vertical line at the edge of the water as at vertical n , the depth is not zero and velocity at the end vertical may or may not be zero. The formula for q_1 or q_n is used whenever there is water only on one side of an observation vertical such as at piers, abutments, and islands. It is necessary to estimate the velocity at an end vertical, usually as some percentage of the adjacent vertical, because it is impossible to measure the velocity accurately with the current meter close to a boundary. There is also the possibility of damage to the equipment if the flow is turbulent. Laboratory data suggest that the mean vertical velocity in the vicinity of a smooth sidewall of a rectangular channel can be related to the mean vertical velocity at a distance from the wall equal to the depth. The tabulation below gives values that define the relation.

<i>Distance from wall, as a ratio of the depth</i>	<i>Mean vertical velocity, as related to V_n</i>
0.00	$0.65V_n$
.25	$.90V_n$
.50	$.95V_n$
1.00	$1.00V_n$

NOTE— V_n is the mean vertical velocity at a distance from the vertical wall equal to the depth.

The summation of the discharges for all the subsections—usually 25 to 30 in number—is the total discharge of the stream. An example of the measurement notes used by the U.S. Geological Survey is shown in figure 42.

The mean-section method, used by the U.S. Geological Survey prior to 1950, differs from the midsection method, described above, in computation procedure. In the older method discharges are computed for subsections between successive observation verticals. The velocities and depths at successive verticals are each averaged, and each subsection extends laterally from one observation vertical to the next. Subsection discharge is the product of the average of two mean velocities, the average of two depths, and the distance between observation verticals. In both methods total discharge is the sum of the subsection discharges. A study by Young (1950) concluded that the midsection method is simpler to compute and is a slightly more accurate procedure than the mean-section method.

Current-meter measurements are usually classified in terms of the means used to cross the stream during the measurement, such as wading, cableway, bridge, boat, or ice cover.

INSTRUMENTS AND EQUIPMENT

Current meters, timers, and a means of counting meter revolutions are needed for the measurement of discharge, along with additional

River at -

Angle coef- ficient	Dist. from initial point	Width	Depth	Observa- tion depth	Rev- olu- tions	Time in sec- onds	VELOCITY		Adjusted for hor. angle or -----	Area	Discharge
							At point	Mean in ver- tical			
LEW	1.0	0.37	0.37	-							
	1.25	0.37 0.155	0.37	0.6		2.25			0.057 0.093	0.126 0.20	
	1.5	0.375	0.37	0.6		2.23			0.14	0.31	
	2.0	0.375	0.37	0.6		2.17			0.14	0.30	
	2.25	0.25	0.37	0.6		2.32			0.093	0.21	
	2.5	0.25	0.37	0.6		2.38			0.093	0.22	
	2.75	0.25	0.37	0.6		2.14			0.093	0.20	
	3.0	0.25	0.37	0.6		2.24			0.093	0.21	
	3.25	0.25	0.37	0.6		2.20			0.093	0.20	
	3.5	0.25	0.37	0.6		2.26			0.093	0.21	
	3.75	0.25	0.37	0.6		2.18			0.093	0.20	
	4.0	0.25	0.37	0.6		2.18			0.093	0.20	
	4.25	0.25	0.37	0.6		2.16			0.093	0.20	
	4.56	0.25	0.37	0.6		2.15			0.093	0.20	
0	4.75	0.37 0.155	0.37	0.6		2.20			0.093 0.057	0.20 0.126	
REW	5.0		0.37	-						2.91 3.06	

From 1.0 to 1.25

velocity @ 1.0 = (0.65)(2.2) = 1.43
 @ 1.09 = (0.90)(2.2) = 1.98
 @ 1.19 = (0.95)(2.2) = 2.09

discharge = (0.045)(1.43) = 0.064 (.37)
 + (0.095)(1.98) = 0.188 (.37)
 + (0.08)(2.09) = 0.167 (.37)
 0.419 cfs (.37) = 0.155

same for other wall

3.06
~~+ 2.09~~
 3.144

2.91
 + 2(0.155)
 3.22 cfs

IDAHO DEPARTMENT OF WATER RESOURCES

Water Right Report 36-8

07S 13E 11									21.0									21.0
Total Acres: 21																		
WILDLIFE																		

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE													
07S	13E	11																	
													X						

Conditions of Approval:

1. THE SUBORDINATED PORTIONS OF THIS WATER RIGHT SHALL NOT BE ASSERTED, DELIVERED, HONORED, USED, ENFORCED, EFFECTIVE OR OTHERWISE RECOGNIZED AS VALID IF IT WOULD CAUSE OR REQUIRE, EITHER DIRECTLY OR INDIRECTLY, CURTAILMENT OF, INJURY TO, OR MITIGATION FROM ANY WATER RIGHTS WITH PRIORITY DATES EARLIER THAN DECEMBER 31, 1999. THE SUBORDINATIONS SHALL RUN WITH AND BE PERPETUAL SERVITUDES UPON THIS WATER RIGHT AND THE ASSOCIATED LANDS, INCLUDING ANY NEW LANDS TO WHICH ALL OR ANY PORTIONS OF THIS WATER RIGHT IS TRANSFERRED.
2. THE PORTION OF THIS RIGHT FOR WILDLIFE USE IS SUBORDINATED TO ALL WATER RIGHTS WITH PRIORITY DATES EARLIER THAN DECEMBER 31, 1999.
3. THE PORTION OF THIS RIGHT IN EXCESS OF 0.90 CFS FOR IRRIGATION IS SUBORDINATED TO ALL WATER RIGHTS WITH PRIORITY DATES EARLIER THAN DECEMBER 31, 1999.
4. THE WILDLIFE USE UNDER THIS RIGHT IS SUBORDINATED TO ALL WATER RIGHTS WITH PRIORITY DATES EARLIER THAN DECEMBER 31, 1999.
5. THE IRRIGATION USE UNDER THIS RIGHT IN EXCESS OF 0.90 CFS IS SUBORDINATED TO ALL WATER RIGHTS WITH PRIORITY DATES EARLIER THAN DECEMBER 31, 1999.
6. 0.08 CFS OF THE UNSUBORDINATED IRRIGATION PORTION OF THIS RIGHT IS LIMITED TO USE FOR CONVEYANCE LOSSES IN THE DELIVERY OF THIS RIGHT.
7. C18 THIS PARTIAL DECREE IS SUBJECT TO SUCH GENERAL PROVISIONS NECESSARY FOR THE DEFINITION OF THE RIGHTS OR FOR THE EFFICIENT ADMINISTRATION OF THE WATER RIGHTS AS MAY BE ULTIMATELY DETERMINED BY THE COURT AT A POINT IN TIME NO LATER THAN THE ENTRY OF A FINAL UNIFIED DECREE. SECTION 42-1412(6), IDAHO CODE.
8. N05 THE QUANTITY OF WATER UNDER THIS RIGHT FOR STOCKWATER USE SHALL NOT EXCEED 13,000 GALLONS PER DAY.
9. N08 THE QUANTITY OF WATER DECREED FOR THIS WATER RIGHT FOR STOCKWATER USE IS NOT A DETERMINATION OF HISTORICAL BENEFICIAL USE.

Remarks:

1. Explanatory WATER IS DELIVERED THROUGH THE BARLOGI DITCH. STOCKWATER, 75 RANGE CATTLE

IDAHO DEPARTMENT OF WATER RESOURCES

Water Right Report 36-8

Comments:

1. WORSTELL 8/3/1992 COPIED FROM REMARKS

Comment: LAND CLAIMED IS ALL THE LAND I OWN NORTH OF THE BARLOGI DITCH. STOCK DRINK FROM IRRIGATION DITCHES.

2. SCHULTZ 9/9/1992 NOTICE OF ERROR (NOE)

Comment: RECEIVED NOE 9/9/92. CHANGED NOE FLAG FROM BLANK TO A. CLAIM VERIFIED 8/11/92. DID NOT REVERIFY ANY PART OF CLAIM.

3. CHRISTEN 10/17/1992 RESPONSE TO NOE

Comment: PROPOSED RECOMMENDATION BASED UPON ANALYSIS OF MULTIPLE RIGHTS FOR THE SAME USE. PORTIONS OF THE CLAIMS WERE EITHER DECREASED OR DISALLOWED. NO CHANGES RECOMMENDED. KKC 10-17-92.

4. CHRISTEN 10/20/1992 CHANGE IN CLAIM 10-20-92

Comment: ADDED CONDITION CODES N01 AND N02. KKC.

5. SCHULTZ 2/19/1993 ADDED NEW ATTORNEY

Comment: RECEIVED NOTICE OF APPEARANCE FROM HEPWORTH NUNGESTER LEZAMIZ 2/10/93. CLAIM VERIFIED 10/20/92. DID NOT REVERIFY CLAIM.

6. SCLELLAN 1/28/1998 REFORMAT UPDATE PER EXAM

Comment: EXAM BY SCC ON 1/14/98 VIA AMENDED CLAIM. PONDS NOT RECOMMENDED BUT SIZES HERE FOR INFO: NORTH 0.2, SOUTH 0.3 AC. COPIED FROM REMARKS A DIVERSION RATE OF 0.56 CFS AT THE FIELD HEADGATE IS RECOMMENDED FOR THE PLACE OF USE DESCRIBED ABOVE. 0.08 CFS OF THIS RIGHT IS LIMITED TO USE FOR CONVEYANCE LOSSES IN DELIVERY OF THIS RIGHT. WATER IS DELIVERED THROUGH THE BARLOGI DITCH. STOCKWATER, 75 RANGE CATTLE

7. SSHERMAN 4/24/1998 SUBSTITUTION OF COUNSEL

Comment: SUBSTITUTION OF COUNSEL RECD 4/16/1998, PATRICK D BROWN OF PARKER WARR & BROWN LLP REPRESENTING WILLIAM STRANGE.

8. SSHERMAN 8/18/1999 ADDRESS CHANGE

Comment: ADDRESS CHANGE BY CLAIMANT LETTER(S).

9. SSHERMAN 10/22/1999 SUBSTITUTION OF COUNSEL

Comment: PATRICK D BROWN, PC, SUBSTITUTING FOR PARKER WARR AND BROWN LLP.

10. TFAWCETT 1/19/2000 OWNER CHANGE

Comment: OWNER CHANGED WILLIAM AND LOUISE (DECEASED) STRANGE TO PENELOPE TURNER PER 1409(6) AND WARRANTY DEED RECD 1/7/2000.

11. vhancock 3/28/2002 B36 2002 REVIEW

Comment: RECOMMENDATION UPDATED PURSUANT TO SF5 SIGNED MAY 23, 2000 AND SRBA DECREE ISSUED MAY 9, 2001. WILDLIFE USE AND SUBORDINATION LANGUAGE ADDED.

IDAHO DEPARTMENT OF WATER RESOURCES

Water Right Report 36-8

SubCase:

SubCase Number: 36-8

Class: 2

SF5 Filed Date: 8/30/2000

Special Master Recm Signed Date: 9/7/2000

Attorney Assigned: NICHOLAS B SPENCER

Adjudication Agent:

Basis of Claim:

Date Filed: 4/29/1993 Objection Status: Active

Date Filed: 7/31/1998 Objection Status: Active

IDAHO DEPARTMENT OF WATER RESOURCES
Water Right Report 36-106

WATER RIGHT NUMBER: 36-106

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	RIVER GROVE, INC C/O PETER L STURDIVANT PO BOX 606 HAILEY, ID 83333-0606 (208)788-9845
Attorney	PATRICK D BROWN C/O HUTCHINSON & BROWN LLP 104 LINCOLN ST PO BOX 207 TWIN FALLS, ID 83303-0207 (208)733-9300
Directors Report Owner	PAUL E WATKINS 924 PIONEER RD HAGERMAN, ID 83332 (208)837-6283
Directors Report Owner	INEZ S WATKINS 924 PIONEER RD HAGERMAN, ID 83332 (208)837-6283

Priority Date: 04/01/1880

Basis: Decreed

Status: Active

<u>Source</u>	<u>Tributary</u>
BILLINGSLEY CREEK	SNAKE RIVER

<u>Beneficial Use</u>	<u>From</u>	<u>To</u>	<u>Diversion Rate</u>	<u>Annual Volume</u>
AESTHETIC	01/01 to	12/31	2.000 CFS	
STOCKWATER	01/01 to	12/31	0.040 CFS	
IRRIGATION	02/15 to	11/30	2.000 CFS	
	<u>Total Diversion:</u>		2.000 CFS	

Location of Point(s) of Diversion

BILLINGSLEY CREEK SE1/4SE1/4NW1/4 Sec. 11, Twp 07S, Rge 13E, B.M.
GOODING County

Place of Use

AESTHETIC

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE													
07S	13E	11																	
											X								

STOCKWATER

IDAHO DEPARTMENT OF WATER RESOURCES
Water Right Report 36-106

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE													
07S	13E	11										X							

IRRIGATION

Twp	Rge	Sec	NE				NW				SW				SE				Totals	
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE		
07S	13E	11										10.0								10.0

Total Acres: 10

Conditions of Approval:

1. THE PORTION OF THIS RIGHT IN EXCESS OF 0.50 CFS FOR IRRIGATION IS SUBORDINATED TO ALL WATER RIGHTS WITH PRIORITY DATES EARLIER THAN DECEMBER 31, 1999.
2. THE PORTION OF THIS RIGHT FOR AESTHETIC USE IS SUBORDINATED TO ALL WATER RIGHTS WITH PRIORITY DATES EARLIER THAN DECEMBER 31, 1999.
3. THE AESTHETIC USE UNDER THIS RIGHT IS SUBORDINATED TO ALL WATER RIGHTS WITH PRIORITY DATES EARLIER THAN DECEMBER 31, 1999.
4. THE IRRIGATION USE UNDER THIS RIGHT IN EXCESS OF .050 CFS IS SUBORDINATED TO ALL WATER RIGHTS WITH PRIORITY DATES EARLIER THAN DECEMBER 31, 1999.
5. 0.24 CFS OF THE UNSUBORDINATED IRRIGATION PORTION OF THIS RIGHT IS LIMITED TO USE FOR CONVEYANCE LOSSES IN THE DELIVERY OF THIS RIGHT.
6. THE SUBORDINATED PORTIONS OF THIS WATER RIGHT SHALL NOT BE ASSERTED, DELIVERED, HONORED, USED, ENFORCED, EFFECTIVE OR OTHERWISE RECOGNIZED AS VALID IF IT WOULD CAUSE OR REQUIRE, EITHER DIRECTLY OR INDIRECTLY, CURTAILMENT OF, INJURY TO, OR MITIGATION FROM ANY WATER RIGHTS WITH PRIORITY DATES EARLIER THAN DECEMBER 31, 1999. THE SUBORDINATIONS SHALL RUN WITH AND BE PERPETUAL SERVITUDES UPON THIS WATER RIGHT AND THE ASSOCIATED LANDS, INCLUDING ANY NEW LANDS TO WHICH ALL OR ANY PORTIONS OF THIS WATER RIGHT IS TRANSFERRED.
7. N05 THE QUANTITY OF WATER UNDER THIS RIGHT FOR STOCKWATER USE SHALL NOT EXCEED 13,000 GALLONS PER DAY.
8. N08 THE QUANTITY OF WATER DECREED FOR THIS WATER RIGHT FOR STOCKWATER USE IS NOT A DETERMINATION OF HISTORICAL BENEFICIAL USE.

Remarks:

1. Explanatory WATER IS DIVERED THROUGH THE BARLOGI DITCH. STOCKWATER, 50 RANGE CATTLE

IDAHO DEPARTMENT OF WATER RESOURCES

Water Right Report 36-106

Comments:

1. WORSTELL 8/3/1992 COPIED FROM REMARKS

Comment: ABSTRACT OF TITLE, 1-2-1935, AND WARRANTY DEED LIST PRIORITY DATE AS 04-01-1889. THIS MUST BE IN ERROR SINCE THE DECREE LISTS ACTUAL DATE AS 04-01-1880. ALL RECORDS ON FILE WITH IDWR SUPPORT THE EARLIER DATE.

2. SCHULTZ 9/9/1992 NOTICE OF ERROR (NOE)

Comment: RECEIVED NOE 9/8/92. CHANGED NOE FLAG FROM BLANK TO A. CLAIM VERIFIED 8/17/92. DID NOT REVERIFY ANY PART OF CLAIM.

3. WORSTELL 10/14/1992 NOTICE OF ERROR RECORD

Comment: PERIOD OF USE CHANGED TO 3/15 TO 11/15

4. SCHULTZ 2/19/1993 ADDED NEW ATTORNEY

Comment: RECEIVED NOTICE OF APPEARANCE FROM HEPWORTH NUNGESTER LEZAMIZ 2/10/93. CLAIM VERIFIED 10/14/92--DID NOT REVERIFY ANY PART OF CLAIM.

5. TFAWCETT 2/2/1996 ADDRESS CHANGE

Comment: ADDRESS CHANGED PER SF3 RECD 12/11/95.

6. CFRITSCH 6/29/1996 COPIED FROM REMARKS

Comment: 0.24 CFS OF THIS RIGHT IS LIMITED TO USE FOR CONVEYANCE LOSSES IN DELIVERY OF THIS RIGHT AND RIGHT NO. 36-08099.

7. SCLELLAN 1/29/1998 COPIED FROM REMARKS

Comment: 0.24 CFS OF THIS RIGHT IS LIMITED TO USE FOR CONVEYANCE LOSSES IN DELIVERY OF THIS RIGHT AND RIGHT NO. 36-08099. WATER IS DIVERED THROUGH THE BARLOGI DITCH. REFORMAT PER EXAM EXAM ON 1/14/98 BY SCC VIA AMENDED CLAIM.

8. SSHERMAN 4/24/1998 SUBSTITUTION OF COUNSEL

Comment: SUBSTITUTION OF COUNSEL RECD 4/16/1998, PATRICK D BROWN OF PARKER WARR & BROWN LLP, REPRESENTING PAUL E WATKINS.

9. TFAWCETT 9/29/1998 OWNERSHIP CHANGE

Comment: OWNERSHIP CHANGED WATKINS TO RIVER GROVE FARMS PER 1409(6) AND WARRANTY DEED RECD 9/4/98. PAT BROWN TO CONTINUE TO REPRESENT NEW OWNERS.

10. SSHERMAN 8/19/1999 ADRESS CHANGE

Comment: ADDRESS CHANGE BY CLAIMANT LETTER.

11. vhancock 4/4/2002 B36 2002 REVOEW

Comment: UPDATED RECOMMENDATION TO AGREE WITH SF5 SIGNED 8/2000 AND SRBA DECREE ISSUED 11/27/2000. DIVERSION RATE INCREASED, USE ADDED, SUBORDINATION REMARKS.

IDAHO DEPARTMENT OF WATER RESOURCES
Water Right Report 36-106

SubCase:

SubCase Number: 36-106
Class: 2
SF5 Filed Date: 8/30/2000
Special Master Recm Signed Date: 9/7/2000
Attorney Assigned: NICHOLAS B SPENCER
Adjudication Agent:
Basis of Claim:
Date Filed: 4/29/1993 Objection Status: Active
Date Filed: 7/31/1998 Objection Status: Active