

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

District 36A Date 7/14/2004  
 Basin 36 Ditch or users association \_\_\_\_\_  
 Diversion Name Upper Tucker Ditch POD Number \_\_\_\_\_  
 Spring Name Upper Tucker Tributary to Riley Creek  
 GPS site ID A0003580 Inventory Examiner \_\_\_\_\_  
 Owner \_\_\_\_\_ Operator \_\_\_\_\_

Measuring Device Data	
Type of Device or Method	<u>Cippoletti weir</u> <input checked="" type="radio"/> Standard <input type="radio"/> Non-standard
If non-standard describe:	

Discharge and Measurement Method	
How Measurement was taken: (Staff gauge, current meter, polysonic meter)	
<u>Staff gauge</u>	
Staff gauge Head Reading <u>0.69</u>	Current Meter/or poly-sonic measurement:
Time of Day <u>4:00pm</u>	<u>NA</u>
Table used for Q <u>standard Cippoletti weir</u>	Meter Measurement Confidence 2% 5% 10% +10% <u>NA</u>
<b>Total Flow =</b> <u>15.4</u>	Does device meet IDWR standards? YES NO
Discharge notes attached? YES <input checked="" type="radio"/> NO	Measurement Taken by: <u>J. Bertoy / C. Knowles</u>
Calculations Attached? YES <input checked="" type="radio"/> NO	Is follow-up Needed? YES NO

**Concerns about measuring device:**  
0.69 our measurement and installed staff gauge  
weir pool / approach not ideal, but this measurement  
is not critical to Frank.

Current meter measurement

Site: Big Bend Ditch below Lower Tucker Springs  
 Date: 7/14/2004  
 WMIS ID:  
 Source: Upper and Lower Tucker Springs

Staff gage readings:           feet @  
   feet @

Meter type:                    Get measurement from Leo Ray  
 Rating curve:  
 Meter discharge:             ft<sup>3</sup>/s

~~measured in concrete trapezoidal channel approximately 1/8 mile downstream of the tunnel~~  
 Measured ~ 75 ft d/s of flume

	Distance feet	Depth feet	Obs Depth	Velocity ft/sec	Obs Depth	Velocity ft/sec	Width feet	Area ft <sup>2</sup>	Discharge ft <sup>3</sup> /s
LEW	5.8	0					0.6		
	7	1.37	0.6	0			1.1	1.507	0
	8	2.4	0.2	0	0.8	0	1	2.4	0
	9.0	2.71	0.2	0	0.8	0	1	2.71	0
	10	3.05	0.2	0.27	0.8	0.13	1	3.05	0.61
	11	3.17	0.2	0.78	0.8	0.27	1	3.17	1.66425
	12	3.63	0.2	0.09	0.8	0.17	1	3.63	0.4719
	13	3.71	0.2	0.77	0.8	0.19	1	3.71	1.7808
	14	3.82	0.2	0.43	0.8	0.65	1	3.82	2.0628
	15	3.78	0.2	1.74	0.8	0.89	1	3.78	4.9707
	16	3.78	0.2	1.49	0.8	0.93	1	3.78	4.5738
	17	3.74	0.2	1.74	0.8	1.17	1	3.74	5.4417
	18	3.7	0.2	1.44	0.8	0.70	1	3.7	3.959
	19	3.62	0.2	1.25	0.8	0.70	1	3.62	3.5295
	20	3.58	0.2	1.34	0.8	0.64	1	3.58	3.5442
	21	3.45	0.2	1.00	0.8	0.82	1	3.45	3.1395
	22	3.41	0.2	1.05	0.8	0.77	1	3.41	3.1031
	23	3.3	0.2	1.01	0.8	0.70	1	3.3	2.8215
	24	3.27	0.2	1.45	0.8	0.75	1	3.27	3.597
	25	3.21	0.2	1.42	0.8	0.55	1	3.21	3.16185
	26	3.1	0.2	1.30	0.8	0.69	1	3.1	3.0845
	27	3.08	0.2	1.08	0.8	0.63	1	3.08	2.6334
	28	3.12	0.2	1.12	0.8	0.18	1	3.12	2.028
	29	3.23	0.2	0.29	0.8	0.02	1	3.23	0.50065
	30	3.31	0.2	0.46	0.8	0.35	1	3.31	1.34055
	31	3.25	0.2	0.56	0.8	0.09	1	3.25	1.05625
	32	3.01	0.2	0	0.8	0	3.3	9.933	0
REW	37.6	0					2.8		
Total								91.86	59.07
Error									
Average Velocity =				0.64	ft/sec				

STATE OF IDAHO  
 DEPARTMENT OF WATER RESOURCES  
 Water District  
 DISCHARGE MEASUREMENT NOTES

Meas. No. \_\_\_\_\_  
 Comp. by JB  
 Checked by JB

Sta. No. \_\_\_\_\_  
Big Bend Ditch below Lower Tucker Springs  
 Date 7/14/2004 Party J. Berkeley, C. Knowles, F. Erwin  
 Width 31.8 Area 91.86 Vel. 0.64 G. H. \_\_\_\_\_ Disch. 59.1  
 Method \_\_\_\_\_ No. secs. \_\_\_\_\_ G. H. change \_\_\_\_\_ in \_\_\_\_\_ hrs. Susp. \_\_\_\_\_  
 Method coef. \_\_\_\_\_ Hor. angle coef. \_\_\_\_\_ Susp. coef. \_\_\_\_\_ Meter No. \_\_\_\_\_

GAGE READINGS			
Time	Recorder	Inside	Outside

Type of meter Trapezoidal Flume  
 Date rated \_\_\_\_\_ for rod, other.  
 Meter \_\_\_\_\_ ft. above bottom of weight.  
 Spin before meas. 308 after 321  
 Meas. plots \_\_\_\_\_ % diff. from rating \_\_\_\_\_  
 Wading, cable, ice, boat, upstr., downstr., side  
 bridge 75 feet mile, above, below  
flume  
 gage, and \_\_\_\_\_  
 Check-bar, found \_\_\_\_\_  
 changed to \_\_\_\_\_ at \_\_\_\_\_  
 Correct \_\_\_\_\_  
 Levels obtained \_\_\_\_\_

Measurement rated excellent (2%), good (5%), fair (8%), poor (over 8%), based on following conditions: Cross section

Flow 59.1 cfs Weather \_\_\_\_\_  
 Other \_\_\_\_\_ Air \_\_\_\_\_ °F@ \_\_\_\_\_  
 Gage \_\_\_\_\_ Water \_\_\_\_\_ °F@ \_\_\_\_\_  
 \_\_\_\_\_ Record removed \_\_\_\_\_ Intake flushed <sup>u</sup>/<sub>L</sub> \_\_\_\_\_  
 Observer \_\_\_\_\_  
 Control \_\_\_\_\_  
 Remarks \_\_\_\_\_  
 \_\_\_\_\_  
 G. H. of zero flow \_\_\_\_\_ ft.

River at—

Angle coef- ficient	Dist. from initial point	Width	Depth	Observa- tion depth	Revolu- tions	Time in sec- onds	VELOCITY		Adjusted for hor. angle or -----	Area	Discharge 38.83
							At point	Mean in ver- tical			
	23.0	1.0	3.30	.2			1.01	0.86		3.30	2.82
	23.0		3.30	.8			0.70				
	24.0	1.0	3.27	.2			1.45	1.10		3.27	3.60
	24.0		3.27	.8			0.75				
	25.0	1.0	3.21	.2			1.42	0.99		3.21	3.16
	25.0		3.21	.8			0.55				
	26.0	1.0	3.10	.2			1.30	1.00		3.10	3.10
	26.0		3.10	.8			0.69				
	27.0	1.0	3.08	.2			1.29	1.08	0.86	3.08	2.63
	27.0		3.08	.8			0.63			<del>2.43</del>	<del>2.26</del>
	28.0	1.0	3.12	.2			1.12	0.65		3.12	2.03
	28.0		3.12	.8			0.18				
	29.0	1.0	3.23	.2			0.29	0.16		3.23	0.50
	29.0		3.23	.8			0.02				
0	30.0	1.0	3.31	.2			0.46	0.41		3.31	1.34
	30.0		3.31	.8			0.35				
	31.0	1.0	3.25	.2			0.56	0.33		3.25	1.06
	31.0		3.25	.8			0.09				
	32.0		3.01	.2			0				
	32.0		3.01	.8			0				
	37.6	REW									
										59.07	

River at—

Angle coef- ficient	Dist. from initial point	Width	Depth	Observa- tion depth	Revolu- tions	Time in sec- onds	VELOCITY		Adjusted for hor. angle or -----	Area	Discharge
							At point	Mean in ver- tical			
	5.8	LEW	0				—				
	7.0		1.37	.6			0				
	8.0		2.40	.2			0				
	8.0		2.40	.8			0				
	9.0		2.71	.2			0				
	9.0		2.71	.8			0				
	10.0	1.0	3.05	.2			0.27	0.20		3.05	0.61
	10.0		3.05	.8			0.13				
	11.0	1.0	3.17	.2			0.78	0.52		3.17	1.66
	11.0		3.17	.8			0.27				
	12.0	1.0	3.63	.2			0.09	0.13		3.63	0.472
	12.0		3.63	.8			0.17				
	13.0	1.0	3.71	.2			0.77	0.48		3.71	1.78
	13.0		3.71	.8			0.19				
0	14.0	1.0	3.82	.2			0.43	0.54		3.82	2.06
	14.0		3.82	.8			0.65				
	15.0	1.0	3.78	.2			1.74	1.31		3.78	4.97
	15.0		3.78	.8			0.89				
	16.0	1.0	3.78	.2			1.49	1.21		3.78	4.57
	16.0		3.78	.8			0.93				
	17.0	1.0	3.74	.2			1.74	1.45		3.74	5.44
	17.0		3.74	.8			1.17				
	18.0	1.0	3.70	.2			1.44	1.07		3.70	3.96
	18.0		3.70	.8			0.70				
	19.0	1.0	3.62	.2			1.25	0.98		3.62	3.53
	19.0		3.62	.8			0.70				
	20.0	1.0	3.58	.2			1.34	0.99		3.58	3.54
	20.0		3.58	.8			0.64				
	21.0	1.0	3.45	.2			1.00	0.91		3.45	3.14
	21.0		3.45	.8			0.82				
	22.0	1.0	3.41	.2			1.05	0.91		3.41	3.10
	22.0		3.41	.8			0.77				

38.83