Idaho Dept of Water Resources
ESPA Spring Diversion Inventory

District WD 36A **Date** 7/12/04

Basin 36 **Ditch or users association** John Bell

Diversion Name John Bell **POD Number** 410008

Spring Name _____ **Tributary to** _____

GPS site ID A0001541 **Inventory Examiner** _____

Owner _____ **Operator** _____

Measuring Device Data			
Type of Device or Method	Ramped BROAD CRESTED Weir	Standard	Non-standard
If non-standard describe:	See Concerns Below		

Discharge and Measurement Method	
How Measurement was taken: (Staff gauge, current meter, polysonic meter)	
Staff gauge Head Reading .58	Current Meter/or poly-sonic measurement:
Time of Day 13:45	
Table used for Q	Meter Measurement Confidence 2% 5% 10% +10%
Total Flow =	Does device meet IDWR standards? YES NO
Discharge notes attached? YES NO	Measurement Taken by:
Calculations Attached? YES NO	Is follow-up Needed? YES NO

Concerns about measuring device: turbulence at measuring point; needs to move Head GATE up Stream. Staff gage bounces/fluctuates up to 0.05'

Current meter measurement

Site: John Bell Ditch
Date: 7/12/2004
WMIS ID: 410008
Source: Billingsley Creek

Staff gage readings: 0.57 feet @ 6:48 PM
0.57 feet @ 7:26 PM

Meter type: RBCW
Rating curve: Brockway, 1987
Meter discharge: 5.45 ft^3/s

Measured on sill of ramped broad-crested weir

	Distance feet	Depth feet	Obs Depth	Velocity ft/sec	Width feet	Area ft^2	Discharge ft^3/s
REW	1.35	0.42	est @ wall	2.04	0.075	0.0315	0.0643
	1.5	0.42	0.6	2.92	0.225	0.0945	0.2759
	1.8	0.42	0.6	3.14	0.35	0.147	0.4616
	2.2	0.42	0.6	3.18	0.4	0.168	0.5342
	2.6	0.42	0.6	3.23	0.4	0.168	0.5426
	3.0	0.42	0.6	3.09	0.4	0.168	0.5191
	3.4	0.42	0.6	3.07	0.4	0.168	0.5158
	3.8	0.42	0.6	2.92	0.4	0.168	0.4906
	4.2	0.42	0.6	2.92	0.4	0.168	0.4906
	4.6	0.42	0.6	2.89	0.4	0.168	0.4855
	5.0	0.42	0.6	2.73	0.3	0.126	0.3440
	5.2	0.40	0.6	2.31	0.175	0.070	0.1617
LEW	5.35	0.40	est @ wall	1.77	0.075	0.030	0.0531
Total					4	1.675	4.94
Error							10.3%

Average Velocity = 2.95 ft/sec

STATE OF IDAHO

DEPARTMENT OF WATER RESOURCES

Water District 36A

DISCHARGE MEASUREMENT NOTES

Meas. No. _____

Comp. by TL

Checked by JB

Sta. No. _____

John Bell Ditch

Date 7-12-04 Party T. Luke

Width 4ft Area 1.67' Vel. 2.96 G. H. 0.57' Disch. 4.94cfs

Method wading No. secs. 13 G. H. change 0 in _____ hrs. Susp. _____

Method coef. _____ Hor. angle coef. _____ Susp. coef. _____ Meter No. _____

GAGE READINGS				
Time		Recorder	Inside	Outside
6 48	pm			0.57'
7 26	pm			0.57'
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter Swoffer 2100

Date rated _____ for rod, other.

Meter _____ ft. above bottom of weight.

Spin before meas. OK after OK

Meas. plots ____ % diff. from rating _____

Wading, cable, ice, boat, upstr., downstr., side bridge _____ feet, mile, above, below 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 MEAS. in ramped Board crested weir on sill

Flow good distribution Weather Hot, sunny

Other _____ Air _____°F@ _____

Gage _____ Water _____°F@ _____

_____ Record removed _____ Intake flushed U L

Observer _____

Control Ramped B Crest Weir

Remarks G.H. Bouncy from 0.55' to 0.59'

Flow oblique & swirling just above gage due to flow thru headgate.

G. H. of zero flow _____ ft.

.0 .10 .20 .30 .40 .50 .60 .70 .75

River at—

Angle coefficient	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	Velocity: At point	Velocity: Mean in vertical	Adjusted for hor. angle or	Area	Discharge	
	[illegible]55 pm											.80
REW	1.35'	.075	.42			2.04	~~2.19~~	est @ wall		0.03	~~0.07~~ 0.06	
	1.5'	.225	.42				2.92			0.0945	0.28	.85
	1.8	.35	.42				3.14			0.147	0.46	
	2.2	.40	.42				3.18			.168	0.53	.90
	2.6	.40	"				3.23			.168	0.54	
	3.0	.40	"				3.09			.168	0.52	.92
	3.4	.40	"				3.07			.168	0.52	.94
	3.8	.40	"				2.92			.168	0.49	
	4.2	.40	"				2.92			.168	0.49	.96
	4.6	.40	"				2.89			.168	0.49	.97
	5.0	.30	.42				2.73			.126	0.34	.98
	5.2	.175	0.40				2.31			0.07	0.16	.99
LEW	5.35	.075	0.40			1.77	~~1.73~~	est @ wall		.03	.05	
	~~7:38~~ pm									1.67	~~4.94~~ cfs	
⊙		4.00									4.93	1.00

Wall estimates per USGS

REW $V_n = 3.14$ .99

$V_w = 0.65(3.14) = 2.04$ .98

LEW $V_n = 2.73$ $V_w = 0.65(2.73) = 1.77$ .97

.96

.94

Branch Flowtk BypASS GH = 1.77' @ 7:55 pm .92

orifice Head diff U/S 0.41' .90

D/S 1.30

→

Height = 0.37' .85

.80

.0 .10 .20 .30 .40 .50 .60 .70 .75