

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

District 36A Date 7/12/04
 Basin _____ Ditch or users association _____
 Diversion Name Sands Ditch POD Number _____
 Spring Name _____ Tributary to _____
 GPS site ID A000155B Inventory Examiner _____
 Owner _____ Operator _____

Measuring Device Data	
Type of Device or Method	<u>RATED section</u> Standard <u>Non-standard</u>
If non-standard describe: <u>RATED section</u>	

Discharge and Measurement Method	
How Measurement was taken: (Staff gauge, current meter, polysonic meter)	<u>STAFF</u>
Staff gauge Head Reading <u>1.02</u>	Current Meter/or poly-sonic measurement:
Time of Day <u>17:00</u>	
Table used for Q <u>RATING table By CE Broadway - Not Dated.</u>	Meter Measurement Confidence 2% 5% 10% +10%
Total Flow = <u>0</u>	Does device meet IDWR standards? YES NO
Discharge notes attached? YES NO	Measurement Taken by:
Calculations Attached? YES NO	Is follow-up Needed? <u>YES</u> NO

Needs current meas. done

Concerns about measuring device: _____

Current meter measurement

Site: Sands Ditch
 Date: 7/13/2004
 WMIS ID: 410007
 Source: Billingsley Creek

Staff gage readings: 1.09 feet @ 4:28 PM
 1.09 feet @

Meter type: Rated section
 Rating curve: Brockway, undated, $Q=10.63-26.18 \cdot H^{0.5}+22.35 \cdot H^{1.5}$ for $0.7 < H < 2.4$
 Meter discharge: 8.73 ft³/s

Measured inside tunnel, approximately 1/3 from entrance

REW	Distance feet	Depth feet	Obs Depth	Velocity ft/sec	Width feet	Area ft ²	Discharge ft ³ /s
	0.6	1.2	est @ wall	2.352 1.5	0.1	0.12	0.2620 0.2580
	0.8	1.2	0.6	3.13	0.3	0.36	1.1268
	1.2	1.15	0.6	3.31	0.4	0.46	1.5226
	1.6	1.15	0.6	3.3	0.4	0.46	1.5180
	2	1.1	0.6	3.13	0.45	0.495	1.5494
	2.5	1.1	0.6	2.44	0.5	0.55	1.3420
	3	1.1	0.6	2.4	0.5	0.55	1.3200
	3.5	1.1	0.6	2.7	0.5	0.55	1.4850
	4	1.15	0.6	2.77	0.5	0.575	1.5928
	4.5	1.15	0.6	3.32	0.5	0.575	1.9090
	5	1.15	0.6	3.94	0.5	0.575	2.2655
	5.5	1.1	0.6	1.65	0.5	0.55	0.9075
	6.0	1.1	0.6	0.52	0.5	0.55	0.2860
	6.5	1.0	0.6	0.52	0.4	0.4	0.2080
LEW	6.8	1.0	est @ wall	1.39 0.34	0.15	0.15	0.2585 0.0510
Total					6.2	6.92	17.37 17.34
Error							-49.7%

Average Velocity = 2.51 ft/sec

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
Water District 36-A
DISCHARGE MEASUREMENT NOTES

Meas. No. _____
Comp. by TK
Checked by JB

Sta. No. _____
SANDS DITCH
Date 7-13-2014 Party T. Wake
Width 6.2' Area 6.37 ft² Vel. 2.73 G. H. 1.09' Disch. 17.39 cfs
Method 16 No. secs. 15 G. H. change 0 in _____ hrs. Susp. _____
Method coef. _____ Hor. angle coef. _____ Susp. coef. _____ Meter No. _____

GAGE READINGS				
Time	Recorder	Inside	Outside	
<u>4:28 PM</u>			<u>1.09'</u>	
			<u>1.09'</u>	
			<u>weak</u>	
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

Type of meter SWANSON 2100 (S. H. Co.)
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 concrete box 6' Below headgate
Flow some swirling & eddies Weather sunny/hot
Other due to H.G. flow/control Air ~100 °F@ _____
Gage _____ Water _____ °F@ _____
Record removed _____ Intake flushed _____
Observer _____
Control _____

Remarks meas. below H.G. - flow under gate/submerged.
No moss @ this location
Spoke of MR. G. under - ditch recently cleaned, H.G. level
G. H. of zero flow _____ ft. WAS very high due to moss.

Angle coef. - friction	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY		Adjusted for hor. angle or	Area	Discharge
							At point	Mean in vertical			
	4:30 pm						2.15				0.26
	REW 0.6'	0.1'	1.2'				2.75	est @ wall		.12	0.28
	0.8	.3	1.2'				3.13			.36	1.13
	1.2	.4	1.15				3.31			.46	1.52
	1.6	.4	1.15				3.30			.46	1.52
	2.0	.45	1.10				3.13			.495	1.55
	2.5	.5	1.10				2.44			.55	1.34
	3.0	.5	1.10				2.40			.55	1.32
	3.5	.5	1.10				2.70			.55	1.49
	4.0	.5	1.15				2.77			.575	1.59
	4.5	.5	1.15				3.32			.575	1.91
	5.0	.5	1.15				3.94			.575	2.27
	5.5	.5	1.10				1.65			.55	0.91
	6.0	.5	1.10				0.52			.55	0.29
	6.5	.4	1.0				.52			.40	0.21
	6.8	.15	1.0				.39	est @ wall		0.15	0.26
	LEW 5:02 pm						0.34			6.37	17.39 cfs
											17.36

REW → $0.25d = 0.30$

$v @ 0.25d = 3.2 = 0.90 v_n \rightarrow v_n = 3.6$

$v_w =$

$v_n = 3.3$

$v_w = 0.65(3.3) = 2.15$

LEW → $v @ 0.25d = 0.52 = 0.95 v_n \rightarrow v_n = 0.526$

$v_w = 0.65(0.526) = 0.34$