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 A0001558 **Inventory Examiner** _____

Owner _____ **Operator** _____

Measuring Device Data			
Type of Device or Method	RATED Section	Standard	(Non-standard)
If non-standard describe:	RATED Section		

Discharge and Measurement Method	
How Measurement was taken: (Staff gauge, current meter, polysonic meter)	STAFF
Staff gauge Head Reading 1.02	Current Meter/or poly-sonic measurement:
Time of Day 17:00	
Table used for Q Rating table By CE Brockway - Not Dated.	Meter Measurement Confidence 2% 5% 10% +10%
Total Flow = 0	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

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*H^0.5+22.35*H^1.5 for 0.7<H<2.4
Meter discharge: 8.73 ft^3/s

Measured inside tunnel, approximately 1/3 from entrance

	Distance feet	Depth feet	Obs Depth	Velocity ft/sec	Width feet	Area ft^2	Discharge ft^3/s
REW	0.6	1.2	est @ wall	~~2.35~~ 2.15	0.1	0.12	~~0.2820~~ 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	~~0.39~~ 0.34	0.15	0.15	~~0.0585~~ 0.0510
Total					6.2	6.92	~~17.37~~ 17.34
Error							-49.7%

Average Velocity = 2.51 ft/sec

STATE OF IDAHO

Meas. No. _____

DEPARTMENT OF WATER RESOURCES

Water District 36-A Comp. by IL

DISCHARGE MEASUREMENT NOTES Checked by JB

Sta. No. _____

SANDS DITCH

Date 7-13-04 Party I. Like

Width 6.2' Area 6.37ft² Vel. 2.73 G. H. 1.09' Disch. 17.39 cfs

Method .6 No. secs. 15 G. H. change 0 in _____ hrs. Susp. _____

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

Type of meter Swoffer 2100 (Swoffer)

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 _____

GAGE READINGS

Time		Recorder	Inside	Outside
4:28 pm				1.09'
				1.09 weak
Weighted M. G. H.				
G. H. correction				
Correct M. G. H.				

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 & eddying Weather sunny / hot

Other due to H. G. flow control Air ≈100 °F@ _____

Gage _____ Water _____ °F@ _____

_____ Record removed _____ Intake flushed U

Observer _____

_____

Control _____

_____

Remarks: Below H.G. - flow under gate / submerged.

No moss @ this location

Spoke w/ Mr. Gunter - ditch recently cleaned, H.G. lowered

G. H. of zero flow _____ ft. was very high due to moss.

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
	1:30 pm						~~2.15~~				~~0.26~~
REW	0.6'	0.1	1.2				~~2.35~~	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				2.42			.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~~	~~0.06~~
LEW	5:02 pm						0.34			6.37	~~17.39~~ 17.36

REW → ~~0.25d = 0.30~~

~~V @ 0.25d = 3.2 = 0.9 Vn → Vn = 3.6~~

~~Vw =~~

$V_n = 3.3$

$V_w = 0.65(3.3) = 2.15$

LEW → V @ 0.25 d = 0.52 = 0.95 Vn → $V_n = 0.526$

$V_w = 0.65(0.526) = 0.34$