12-4-2009

Ex. 280-US-450

Mike Gagner
R2 Resource Consultants

May 12, 2004
Survey

1442.01

CONTENTS

PAGE	REFERENCE	DATE

SP- 8 Trout Cr.

05/12/04

	In	Out
Time	10:30	3:30
S.G.	0.43	0.43

Crew: M. Gagner
M. Appy

Equipment:
Swoffer #3602
Prop 3A
Cal 181 ✓

Directions: From Chiloquin travel east on Sprague R. road for ~13 miles and turn right onto Saddle Mt. Pit Rd. Follow for ~1½ mi & stay left at Y in road (FS Rd 5850). Follow Rd 5850 for ~3.5 miles to Trout Cr. Cross North & South Forks (ford). ~¼ mile after crossing S. Fk look for large Juniper pine of left side of Rd. Park here and hike overland to Trout Cr. (~¼ mile). Site is located ~30' d/s from Trout Cr. flow gage.

SP-8 Habitat Mapping 05/12/04

Unit #	Type	Length	X width	
1	Riffle	34'	8.5'	
2	Pool	28'	11.0'	
3	riffle	62'	12.0'	
4	pool	27'	11.0'	
* 5	riffle	89'	11.0'	
* 6	pool/run	48'	12.0'	
7	riffle	128'	13.0'	
8	pool	24'	10.0'	
9	run	25'	7.0'	
10	riffle	55'	13.0'	under LWD/P-line
11	pool	41'	12.0'	
12	riffle	34'	11.0'	
		595'	$\bar{x}$ = 11.'	

Habitat Types

	# of Units	Total Length	% of Total
Riffle:	6	402'	67.6% - sample
Run:	1	25'	4.2% - falls out
Pool:	5	168'	28.2% - sample
			100.0%

SP-8 05/12/04

Unit Selection

Random # 3, 4

riffle: 0.3 X 595 = 178.5'

pool: 0.4 X 595 = 238.0'

measured u/s 178.5' is the first riffle was unit # 5, measured u/s 238' from start and unit # 6 was selected for sampling

Transect selection

Random #s Riffle: 5, 7, 9

Pool: 5, 2, 9

Riffle Unit # 5 = 89'

89 X .5 = 44.5' > 17.8

" X .7 = 62.3' > 17.8 124

" X .9 = 80.1 238

Pool Unit # 6 = 48

48 X .2 = 9.6' > 14.4

" X .5 = 24.0' > 19.2

" X .9 = 43.2'

SP-8 Photo Log 05/12/04

Photo #	Description
#14	looking Lt→Rt TR-1 R.P.
#13	" u/s from below
12	TR2 Riff Rt → Lt
11	TR3 Riff Rt → left
10	HC Lt → Rt
9	TR-1 Pool Rt → left
8	TR-2 Pool Rt → Lt
7	TR-3 Pool Rt → Lt
6	u/s TR3 Looking d/s

Micro habitat observations

	Depth		Vel.		
	Nose	Mean	Nose	Mean	Sub.
Adult Rdb 1.6' Holding	.30 ~~.54~~	1.5	.59	.86	Silt/Lg gravel
	.30	1.35	.85	.90	sand/sm gravel

* same fish holding in two diff. locations during seperate observations

14°C water temp.

SP-8 Sample Unit Map 05/12/04

SP-8 + WSE + 05/12/04

Ripple & Pool Unit ~~truck loop~~

STA	BS	HI	FS	Elevat	Rod
BM-1		104.16	4.16	100.00	
42' d/s of TR-1 R.F.			9.21	95.68	0.73
R.F. TR-1					
Rws			8.36	96.18	0.38
Lws			8.29	96.23	0.36
R.F. TR-2					
Rws			7.91	96.70	0.45
Lws			7.87	96.76	0.47
R.F. TR-1					
Lws			6.96	97.71	0.51
Rws			6.80	97.71	0.35
Pool HC					
Lws	7.67 middle -1.40 (97.89)		6.79	97.89	0.52
Rws			6.87 77	97.85	0.86
Pool TR-1					
Lws			7.79	97.90	1.53
Rws			7.75	97.90	1.49
Pool TR-2					
Lws			6.88	97.92	0.64
Rws			6.65	97.90	0.39
Pool TR-3					
Lws			6.95	97.93	0.72
Rws			6.98	97.93	0.75
BM-2			2.00	102.16 ✓	

SP-8

Ripple & Pool Unit ~~WSE~~ Level Loop 05/12/04

STA	BS	HI	FS	Elevat	Rod
BM-1	4.36			100.00	
		104.36			
R.F. HP TR-1			5.24	99.12	
R.F. TR-2 HP			4.23	100.13 ✓	
R.F. TR-3 HP			4.54	98.82	
Pool TR-1 HP			3.92	100.44	
Pool TR-2 HP			2.41	~~100~~ 101.95	
Pool TR-3 HP			2.87	101.49	
BM-2			2.20	102.16	
(TP) BM-2	2.00	104.16		102.16 ✓	
Pool TR-3			2.67	101.49	
" TR-2			2.21	101.95	
↓ TR-1			3.72	100.44	
TR-3			4.34	98.82	
TR-2			4.04	100.12 ✓	
Ripple TR-1		5.04	~~5.03~~	99.12	
BM-1			4.16	100.00	

SP-8 Riffle TR-1 05/12/04

STA	Depth	Vel.	Notes
RWP	1.0		
RWE	4.1	0	0
	5.5	.3	.05 vel est.
	6.0	.4	.37
	6.5	.4	.61
	7	.45	2.29
	7.5	.35	2.82
	8.0	.4	3.17
	8.5	.4	.76 u/s vel shelter
	9.0	.4	2.54
	9.5	.37	3.37
	10	.4	.32 u/s vel shelter
	10.5	.4	1.16
	11	.4	.96
	11.5	.15	1.02 Side Bld
	12	out/.05	Top Bld
	12.3	.25	1.32 Side Bld
	13	.2	1.68
	13.5	.1	.87
	14.0	.05	N/m Side Bld
	14.5	0.0	0
	15.4	out	.35 Top Bld-.35 out
	15.7	.2	.41 Side Bld

Rif TR-1 05/12/04

STA	Depth	Vel	Notes
16.0	~~.35~~	.05	est vel
16.7	0	0	
LWP	23.0		

Riffle TR-2 5/11/04 5/12

STA	Depth	vel	Notes
1.0 Rmp			
RWE 5.4	0	0	
6	.05	0	
6.6	0	0	
8.6	out/.9	–	Top Bld
9.6	0	–	
10	.15	.25	est vel.
10.5	.27	.25	est vel
11	.4	.76	
11.5	.5	.78	
12	.4	.34	Design Bld, vel shelter
12.5	.05	.36	Top Bld
13.0	.5	.07	Design Bld, vel shelter
13.5	.47	.30	vel shelter
14	.5	.28	vel shelter
14.5	.5	.02	vel shelter
15	.5	.1	Total vel Shelter
15.5	.5	.94	
16	.45	2.5	
16.5	.5	2.4	
17	.65	1.54	
17.5	.5	.79	

Riffle TR-2 5/11/04 5/12 11/2/04

STA	Depth	Vel	Notes
18	.4	.03	Behind Bld
18.5	.4	.54	
19	.1	.1	est vel
LWE 19.6	0	0	
LWP 24.3			

checked comm with field schedule. 11/2/04

Riffle TR-3 5/12/04 5/11/04

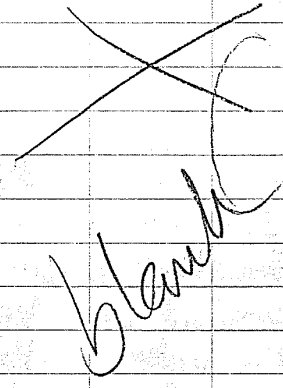
STA	Depth	Vel	Notes
Bkup 1.0			
RWE 2.60	0	0	
3	.35	.44	
3.5	.47	2.03	
4	.55	1.44	
4.5	.45	1.91	
5	.3	.1	u/s vel shelter
5.5	.4	.27	"
6	.3	.76	
6.5	.35	.31	
7	.20	1.23	
7.5	.3	.82	
8	.3	1.05	
8.5	.3	1.63	
9	.3	.85	
9.5	.5	~~.37~~ .73	
10	.6	1.01	
10.5	.65	1.02	
11	.8	.56	
11.5	.7	.30	
12	.6	.26	
12.5	.5	.32	

Riffle TR-3 5/10/04 5/11/04 .1

STA	Depth	Vel	Notes
13	.35	.28	
13.5	.3	.2	est vel – veg
14.5	.1	.1	est vel – veg.
DWE 15.2	0	0	
LWP 21.1			

HC Pool 5/12/04 5/11/04

STA	Depth	~~Vel~~	Notes
RWP 1.0			
RWE 4.2	0		
4.5	.35		
5.2	.6		
5.7	.75		
6.5	.85		
7	1.0		
7.5	1.1		
8	1.0		
8.5	.6		
9.	.6		
9.5	.7		
10	.6		
10.5	.4		
11	.35		
11.5	.35		
12	.2		
LWE 12.6	0		
LWP 13.4			



Pool TR-1 5/11/04 5/12/04

STA	Depth	Vel	Notes
RWP 1.0			
RWE 10.5	0	0	
11	1.22	.05	veg, est vel
11.5	1.6750	.05	est vel
12	1.77	.06	
12.5	1.85	.04	
13	1.85	.08	
13.5	1.65	.45	
14	1.6	.73	
14.5	1.6	.66	
15	1.7	.42	woody debris
15.5	~~1.28~~ 1.85	.5	"
16	1.7	.23	"
16.5	1.65	.17	Beside LWD
17.0 LWE	1.5	0	under LWD
	1.5'	0	VCB
LWP 20.4			

Pool TR-2 05/11/04 5/12/04

STA	Depth	Vel	Notes
RWP 1.0			
RWE 12.9	0	0	
13.5	.4	.1	est vel → veg
14.0	.5	.1	" "
~~14.5~~	.5	.15	" "
15	.5	.2	" "
15.5	.8	.2	" "
16	1.0	.84	
16.5	1.1	1.08	
17	1.2	1.22	
17.5	1.2	1.20	
18	.95	.89	
18.5	1.1	.65	
19	.8	0	on BH, vel shelter
19.5	.4	.39	on cobble, vel shelter
20	.4	.69	
20.5	.5	.07	
21.0	.05	.05	on BH, est vel, Aq veg
21.5	.2	.05	Aq Veg
LWE 21.9	0	0	
LWP 24.6			

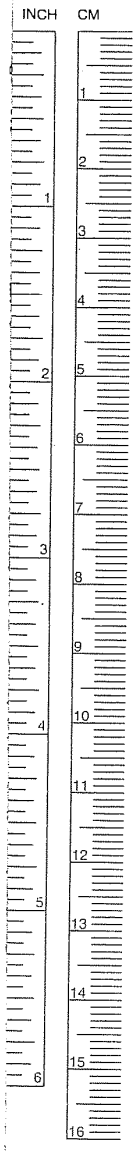
Pool TR-3 5/11/04
5/12/04

S:	STA	Depth		Notes
RWP	1.0			
LWP	22.7			
RWE	10.5			
	11.5	.2	0	Adj Veg
	12.5	.2	0	"
	13	.42	.05	est vel, veg
	13.5	.85	.26	veg
	14	.97	.55	
	14.5	1.0	.89	
	15	1.15	1.01	
	15.5	1.2	1.05	
	16	.9	1.15	on a cobble
	16.5	1.0	.87	
	17	1.05	.55	
	17.5	1.20	.26	vel shelter
	17.8	1.3	.08	side Bld
	18.5	.1	.03	Top Bld
	19.0	.8	.08	Side Bld
	19.5	.5	-.01	
	20	.4	0	
LWE	21	.2	0	
	veg .4	0	0	
LWP	22.7			

SP-8

"Rite in the Rain"
ALL-WEATHER
LEVEL BOOK
No. 310

6/25/04



MEASUREMENT CONVERSIONS

IF YOU KNOW	MULTIPLY BY	TO FIND
LENGTH		
inches	2.540	centimeters
feet	30.480	centimeters
yards	0.914	meters
miles	1.609	kilometers
millimeters	0.039	inches
centimeters	0.393	inches
meters	3.280	feet
meters	1.093	yards
kilometers	0.621	miles
WEIGHT		
ounces	28.350	grams
pounds	0.453	kilograms
grams	0.035	ounces
kilograms	2.204	pounds
VOLUME		
fluid ounces	29.573	milliliters
pints	0.473	liters
quarts	0.946	liters
gallons (U.S.)	3.785	liters
milliliters	0.033	fluid ounces
liters	1.056	quarts
liters	0.264	gallons (U.S.)
TEMPERATURE		

°C = (°F - 32) x .555
°F = (°C x 1.8) + 32

Inches	Decimals of foot	Milli-meters
1/16	.0052	1.5875
1/8	.0104	3.1750
3/16	.0156	4.7625
1/4	.0208	6.3500
5/16	.0260	7.9350
3/8	.0313	9.5250
1/2	.0417	12.700
5/8	.0521	15.875
3/4	.0625	19.050
7/8	.0729	22.225
1"	.0833	25.400
2"	.1667	50.800
3"	.2500	76.200
4"	.3333	101.60
5"	.4167	127.00
6"	.5000	152.40
7"	.5833	177.80
8"	.6667	203.20
9"	.7500	228.60
10"	.8333	254.00
11"	.9167	279.40
1 foot	1.0000	304.80

"Rite in the Rain" ®
ALL-WEATHER WRITING PAPER

Name Mike Gagner
R2 Resource Consultants
Address 15250 ~~NW~~ NE 95 St
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Phone 425/556-1288

Project 1442.01 PHABSIM Data

"Rite in the Rain" - a unique all-weather writing surface created to shed water and to enhance the written image. Makes it possible to write sharp, legible field data in any kind of weather.

a product of

J. L. DARLING CORPORATION
TACOMA, WA 98424-1017 USA
www.riteintherain.com

SP-8 Trout Cr 6/25/04

	In	Out
Time	8:30	12:10
S.G	0.31	.30

Crew: M. Gagner
C. Morella

equipment: Lietz B1
8918
swoffer: 5750
prop: 2A
Cal: 186

	LWE	RWE	LWS	RWS
TR-1	16.7	5.0	96.03	96.01
TR-2	19.0	7.6	96.69	96.67
TR-3	14.9	2.6	97.69	97.63
HC	12.1	4.5	97.71	97.70
TR-1	18.1	10.4	97.73	97.74
TR-2	21.4	13.2	97.72	97.73
TR-3	20.3	12.5	97.75	97.74

Photo Log SP-8

Photo #	Description
10	TR-1 R-L
11	U/S THRU RIFFLE
12	TR-2 R-L
13	TR-3 R-L
14 BLANK	U/S THRU RIFFLE TR-3
15 15½	TR-1 POOL
16	TR-2 L-R POOL
17	TR-3 POOL
18	D/S THRU POOL

Transect staining

Pool TR-3 - 0.0
16.4
TR-2 - 16.4
13.4
TR-1 - 29.8
HC - 40.5
↓
R. Riffle TR-3 - 47.5
18.5
TR-2 - 66.0
14.6
TR-1 - 80.6

Distances measured Between transects or cumulative distance? Ask Mike.

Next Trip get left and right bank distances on.

Riffle

SP-8 Level loop 06/25/04

STA	BS	HI	FS	Elevation
BM	5.14			100.00
BM-1		105.14		
cmb 1/18/05				
TR-1			6.00	99.14
TR-2			5.00	100.14
TR-3			5.30	99.84
TP				
TR-3	5.19			99.84
		105.03		
TR-2			4.89	100.14
TR-1			5.89	99.14
BM			5.03	100.00
BM-1				
cmb 1/18/05				

Riffle

SP-8 TR-1 & 2 Bank Survey & WSE 06/25/04

	STA	HI	FS	Substrate	% Dam
TR-1	+3.0	105.03	5.83	duff / bld	70
	23.0 wp		6.70	duff / bld	60
	19.5		8.00	veg / bld	60
	17.0		8.86	"	60
	16.7 LWS/LWE		9.00	(96.03)	
	5.0 RWS/RWE		9.02	(96.01)	
	3.5		8.38	veg / duff	70
	2.0		6.03	"	70
	1.0 wp		6.12	"	
TR-2 bank survey & WSE					
		105.03			
	1.0 wp		6.16	& veg / duff	70
	4.0		7.40	veg / silt	70
	6.5		8.39	silt / veg	60
TR-2	8.5		7.57	bld / veg	60
	9.6 RWE/RWS		8.44 (96.59)	silt / veg	60
	19.0 LWE/LWS		8.39 (96.64)	silt / cob	70
	20.0		8.10	bld / silt	60
	21.5		6.52	dirt / veg	60
	24.3 wp		5.36	duff / bld	55

Riffle

SP-8 TR-1 06/25/04

STA	Depth	Vel	Substrate	% Dom
4.1	—	—		
RWE 5.0	∅	∅		
5.5	0.20	∅	SILT/VEG	60
6.0	0.25	∅	LG/SLT	60
6.5	0.26	0.10	CB/LG	60
7	0.10	2.50	LG/CB	70
7.5	0.30	2.56	CB/LG	60
8	0.30	2.24	CB/LG	60
8.5	0.30	1.58	CB/LG	70
9	0.30	2.37	CB/LG	70
9.5	0.30	2.25	CB/LG	70
10.0	0.35	0.29	CB/LG - OBJ	60
10.5	0.25	0.29	LG/CB - OBJ	60
11	0.35	1.14	LG/CB	60
11.5	0.00	∅	BLD/SG SIDE OF BLD	60
12	+.25	∅	BLD/SG TOP OF BLD	60
12.3	0.10	0.10	BLD/SG	70
13	0.28	0.76	BLD/LG	70
13.5	0.20	0.32	BLD/LG	70
14	0.00	∅	CB/BLD SIDE OF BLD	80
14.5	+.25	∅	CB/BLD " "	80
15.4	+.45	∅	CB/BLD TOP BLD	80
15.7	0.10	∅	BLD/SLT	60
16.2	0.10	∅	ST/BLD	80
LWE 16.7	∅	∅	ST/VEG	

RIFFLE

SP-8 TR-2 6/25/04

STA	D	V	SUB	COVER	% Dom
RWE 9.6	∅	∅	VEG/SLT		70
10.0	0.05	∅	"		"
10.5	0.12	0.05 (EST)	"		70
11.0	0.24	0.45	VEG/SG		90
11.5	0.35	0.92	SG/BLD		60
12.0	0.30	0.17	BLD/SG - OBJ		70
12.5	+.10	—	BLD/SG TOP OF BLD		80
13.0	0.40	0.10	" - OBJ		80
13.5	0.42	0.05	" - OBJ		"
14.0	0.37	0.72	SG/BLD		60
14.5	0.40	0.58	LG/BLD △45°		80
15.0	0.38	0.05	LG/BLD - OBJ		80
15.5	0.48	0.82	CB/LG		60
16.0	0.30	1.90	CB/LG		70
16.5	0.50	1.66	CB/LG		70
17.0	0.55	1.28	LG/BLD		80
17.5	0.42	0.74	LG/BLD		70
18.0	0.25	0.14	CB/BLD - OBJ		60
18.5	0.30	0.65	CB/BLD		"
LWE 19.0	∅	∅	CB/SLT		60

TR-3 Riffle & Pool HC

SP-8 Beadle survey & WSE

STA	HI	FS	Substrate	% Dom
	105.03	TR-3 Riffle		
21.1 LWP		5.84	veg / duff	70
16.0		6.69	veg / "	60
14.8 LWE/LWS		7.39 (97.60)	veg / silt	70
≈ 2.9 RWE/RWS		7.57 (97.73) (.16 rod)		
2.5		6.80	veg / duff	70
1.0 RWP		6.28	"	80
	105.03			
		HC Pool Beadle Survey		
1.0 RWP		6.48	veg / duff	80
4.0		6.95	veg / silt	80
4.5 RWE/RWS		7.51 (97.30) (.18 rod)	veg / silt	80
12.1 LWE/LWS		7.39 (97.37) (.07)	"	"
12.9		6.53	veg / silt	80
13.4 LWP		6.26	veg / duff	70
+5.0		6.10	" "	70

SP-8 HC Pool 6/25/01

STA	D	NOTES
4.3	∅	
RWE 4.5	0.18	
5.2	0.55	
5.7	0.72	
6.5	0.82	
7.0	0.94	
7.5	1.09	
8.0	1.00	
8.5	0.43	
9.0	0.50	
9.5	0.42	
10.0	0.42	
10.5	0.23	
11.0	0.17	
11.5	0.18	
12.0	0.05	
LWE 12.1	∅	

SP-8 RIFFLE TR-3 6/25/04

STA	D	V	SUB	COVER	% DOM
14.8 WE	ϕ	ϕ	SLT/VEG		60
14.5	0.05	ϕ	"		60
13.5	0.2	~0.05	"		"
13.0	0.27	~.07	VEG/SG		70
12.5	0.31	0.08	SG/SLT		70
12.0	0.50	0.18	"		70
11.5	0.60	0.32	SG/BLD		80
11.0	0.66	0.51	" "		60
10.5	0.55	0.74	BLD/SG		60
10.0	0.44	0.89	BLD/CB		70
9.5	0.38	0.63	CB/BLD		70
9.0	0.16	0.62	CB/BLD	ON COBBLE	80
8.5	0.17	0.94	CB/BLD		90
8.0	0.20	1.25	"	△ 45°	90
7.5	0.20	1.06	CB/LG	△ 45°	70
7.0	1.50	0.69	CB/LG	△ 90°	70
6.5	0.25	0.61	LG/CB		60
6.0	0.20	0.90	" "		60
5.5	0.32	0.00	CB/SG	-OBS	90
5.0	0.20	0.00	"		"
4.5	0.38	0.83	CB/LG		70
4.0	0.41	0.97	"		"
3.5	0.34	1.03	LG/CB		60
RME 2.9	0.10	0.00	CB/ST		70
2.6	ϕ	ϕ		UCB	

Pool

SP-8 TR-1 bank survey 6/25/04

STA	MI	FS	SUB	% DOM
	105.03			
20.4 LWP		5.16	veg / duff	
17.5		5.52	" "	
16.9 LWS		8.76 (97.73)		(1.46 Rod)
10.8 RWS		8.06 (97.74)		(0.77 Rod)
10.3		6.73	veg / silt	
1.0 RWP		5.82	veg / duff	

negative, or an estimate? (- vs ~)?

Ask Mike.

Pool

SP-8 Level loop 06/25/04

STA	BS	HI	FS	Elevation
~~BM~~	4.13			102.16
BM-2		106.29		
TR-3 cmh 7/18/05			4.80	101.49
TR-2			4.34	101.95
TR-1			5.86	100.43
(TP)				
TR-1	5.95			100.43
		106.38		
TR-2			4.43	101.95
TR-3			4.89	101.49
~~BM~~			4.22	102.16
BM-2 cmh 7/18/05				

Pool

SP-8 TR-2 Bank Survey 06/25/04

STA	HI	FS	Substrate	
	106.38			
24.6 Lwp		5.09	veg/duff	70
23.8		5.38	veg/duff	"
22.5		7.84	cob/dirt	60
21.4 LWE/LWS		8.66 (97.72)	silt/cob	60
13.4 RWE/RWS		8.75 (97.63)	" /veg	60 (.10 rod)
12.5		8.08	veg/duff	80
3.0		6.68	"	60
1.0 Rwp		5.95		

TR-3 Bank Survey

	106.38			
1.0 Rwp		5.60	veg/duff	60
3.0		6.98	"	60
9.7		8.14	"	"
10.8		7.59	veg/silt	(.10 rod)
12.6 RWS		8.73 (97.65)		
20.3 LWS		8.69 (97.74)		(.05)
20.4		8.63	silt/veg	70
21.1		5.41	veg/dirt	80
22.7 Lwp		5.15	veg/duff	60
49' u/s of TR-3		7.50		(0.48 rod)

SP-8 POOL TR-2 6/25/04

STA	D	V	SUB	COVER	%DOM
13.2 RWE	ø	ø	VEG/ST		70
13.4	0.10	ø	"		"
13.5	0.10	ø	"		"
14.0	0.20	~0.05	VEG/ST		"
14.5	0.40	~0.05	"		"
15.0	0.40	"	"		"
15.5	0.51	"	"		"
16.0	0.82	-0.10	ST/LG		80
16.5	0.92	0.56	SD/LG		80
17.0	1.01	0.90	SG/SD		60
17.5	0.90	0.97	BLD/SG		60
18.0	0.82	0.28	"		"
18.5	0.88	0.36	BLD/SD		80
19.0	0.30	0.02	BLD/ST	ON BLD	90
19.5	0.20	0.25	"	BLD	"
20.0	0.25	~0.05	"	BLD	80
20.5	0.21	0.39	ST/BLD		70
21.0	0.05	0.00	"		90
21.4 LWE	ø	ø	ST/CB		80

SP-8 POOL TR-1 6/25/04

STA	D	V	SUB	COVER	%DOM
~~RWE 10.7~~	~~0.36~~	~~0.00~~		~~0.2 WB~~	
RWE 10.4	ø	ø	ST/VEG		80
10.7	0.36	ø	ST/VEG	0.2 WB	80
11.0	1.10	ø	ST/VEG		90
11.5	1.52	~0.05	ST/SD		70
12.0	1.64	~0.05	"		"
12.5	1.62	~0.05	ST/SD		70
13.0	1.66	0.01	"		"
13.5	1.49	0.30	ST/SD		80
14.0	1.42	0.43	"	LWD	"
14.5	1.40	0.43	ST/SD	LWD	80
15.0	1.50	0.40	"	"	"
15.5	1.55	0.29	"	"	"
16.0	1.50	0.19	"	"	90
16.5	1.37	0.05	"	"	90
17.0	1.15	0.00	"	UNDER LWD	"
17.1	1.05	0.00	"	BANK EDGE	"
	(1.00	0.00		UCB)	
LWE 18.1	ø	ø	"		"

ALL SUB-DOM IS SAND

SP-8 POOL TR-3 6/25/04

STA	D	V	SUB	COVER	% DOM
RWE 12.5	ϕ	ϕ	ST/VEG		60
13.0	0.38	ϕ	VG/ST		60
13.5	0.70	0.21	CB/ST	VEG	60
19.0	0.80	0.44	LG/CB		70
14.5	0.80	0.50	"		"
15.0	0.96	0.48	"		"
15.5	1.00	0.56	SD/SG		70
16.0	0.71	0.60	BLD/SD		90
16.5	0.71	0.48	"		"
17.0	0.82	0.34	BLD/ST		80
17.5	1.0	0.20	"		"
17.8	0.60	0.08	"	SIDE BLD	"
18.5	+0.10	—	"	TOP BLD	70
19.0	0.20	0.00	"	SIDE BLD	60
19.5	0.42	0.00	ST/BLD		90
20.0	0.22	0.00	ST/VEG		80
LWE 20.3	ϕ	ϕ	"		"

SD-8

"Put on the Map."

ALL-WEATHER
LEVEL BOOK
No. 320

8/18/04

1442.01

SP-8 Trout Creek 8/18/04

	IN	OUT
TIME	9 am	12:15 pm
S G	0.19	0.19

Crew. C. Yoder
A Weybright

WEATHER: Sunny, few clouds, light wind

EQUIPMENT
Swoffer 4099 Prop. 1A (Riffle)
Prop 1B (Pool)

PHOTO LOG: CY ROLL #2

(19) Trout Crk Staff Gage
(18) SP-8 TR1 Riffle RB to LB
(17) SP-8 TR1 Riffle Downstream
(16) SP-8 TR1 Riffle upstream
(15) SP-8 TR2 Riffle LB to RB
(14) SP-8 TR2 Riffle upstream
(13) SP-8 TR3 Riffle RB to LB
(12) SP-8 TR3 Riffle downstream
(11) Hydraulic Control LB to RB
(10) HC - upstream
(9) Overall Site photo - burn
(8) SP-8 TR1 Pool RB to LB
(7) SP-8 TR1 Pool Upstream
(6) SP-8 TR2 Pool Downstream
(5) SP-8 TR2 Pool RB to LB
(4) SP-8 TR3 Pool RB to LB
(3) SP-8 TR3 Pool Upstream

LEVEL LOOP 9/18/04

STA	BS	HI	FS	ELV	ROD
BM1-Rif	4.69	104.69		100.00	
TR1-Rif			5.56	99.13	
TR2-Rif			4.57	100.12	
TR3-Rif			4.87	99.82	
TR1-Pool			4.25	100.44	
TR2-Pool			2.74	101.95	
TR3-Pool			3.20	101.49	
BM2-Pool			2.53	102.16	
(TP)					
BM-2 Pool	2.70	104.86		102.16	
TR-3 Pool			3.37	101.49	

STA	BS	HI	FS	ELV	ROD
		104.86			
TR2-Pool			2.91	101.95	
TR1-Pool			4.42	100.44	
TR3-Rif			5.04	99.82	
TR2-Rif			4.74	100.12	
TR1-Rif			5.73	99.13	
BM1-Rif			4.86	100.00	

WSE SURVEY 8/18/04

STA	BS	HI	FS	ELV	ROD
		106.86			
TR1-Rif (L)			8.88	97.98	
TR1-Rif (R)		104.86	8.88	97.98	
TR2-Rif (L)			8.38	98.48	
TR2-Rif (R)			8.40	98.46	
TR3-Rif (L)			~~8.36~~ 7.37	~~98.48~~ 99.49	ok
TR3-Rif (R)			7.48	99.38	ok
		side-channel that is lower			
TR1-Pool (L)			7.36	99.50	
TR1-Pool (R)			7.35	99.51	
TR2-Pool (L)			7.35	99.51	
TR2-Pool (R)			7.35	99.51	

STA	BS	HI	FS	ELV	ROD
TR3-Pool (L)			7.35	99.51	
TR3-Pool (R)			7.35	99.51	
downstream TR1-R ~ 75'			5.55	101.79	0.48
upstream TR3-P ~ 75'			10.38	94.86	0.38
HC-R			7.36	99.50	
HC-L			7.36	99.50	

PROP 1A

RIFFLE TR1 DISCHARGE 8/16/04

STA	DEPTH	VEL	COMMENTS
5.0	0	0	RWE
5.5	0.13	*-0.05	*EST
6.0	0.20	*-0.01	
6.65	0.22	0.33	
7.0	0.22	1.24	
7.5	0.22	0.74	
8.0	0.22	0.76	
8.5	0.27	~~0.04~~ 0.11	behind lrg Gravel
9.0	0.22	1.32	
9.5	0.30	0.63	
10.0	0.3	-0.03	backeddy
10.5	0.2	0.39	
11.0	0.3	0.94	
11.5	0	0	side of boulder
12.0	+0.2	0	top of boulder
12.3	0.05	0.01	
13.0	0.05	0.01	
13.5	0.17	0.03	
~~14.0~~ 13.9	0	0	side of rock
15.6	0	0	H=0.2
15.7	0.05	*0.01	
16.2	0	0	LWE

PROP 1A

RIFFLE TR2 DISCHARGE 8/16/04

STA	DEPTH	VEL	COMMENTS
10.7	0	0	RWE
11.0	0.05	*0.03	*EST
11.5	0.17	0.45	
12.0	0.17	*-0.01	Rock at 12.1 H=0.2' to 13.1
12.5	+0.2	—	
13.0		—	
13.5	0.3	*-0.02	
14.0	0.3	0.35	
14.5	0.25	0.34	
15.0	0.27	0.52	∢15°
15.5	0.37	0.59	
16.0	0.28	0.24	
16.5	0.3	1.21	
17.0	0.32	1.13	
17.5	0.25	0.18	
18.0	0.15	*-0.01	
18.5	0.12	0	
18.9	0	0	LWE

NOT GOOD DISCHARGE PROP 1A

RIFFLE TR3 DISCHARGE 8/18/04

STA	DEPTH	VEL	COMMENTS
2.9	0	0	RWE
3.5	0.15	*0.05	
4.0	0.23	0.75	
4.5	0.20	*0.05	
5.0	0.02	*0.05	
5.5	0.17	0.23	
6.0	0.05	*0.15	
6.5	0.12	*0.2	~~45°~~ ∢60°
7.0	0.1	*0.2	flow is ⊥ to transect
7.5	0.1	0.56	∢45°
8.0	0.08	*0.2	∢45°
8.5	0.1	0.43	∢30°
9.0	0.05	*0.1	
9.5	0.25	0.06	
10.0	0.4	0.22	
10.5	0.42	0.22	
11.0	0.57	0.43	
11.5	0.47	0.36	
12.0	0.4	0.28	
12.5	0.32	0.21	
13.0	0.15	*0.05	Grass
13.5	0.05	*0.03	
14.1	0	0	LWE

(Not a good discharge)

HYDRAULIC CONTROL POOL 8/18/04

STA	DEPTH	COMMENTS
4.3	0	RWE
4.5	0.02	
5.2	~~2.5~~ 0.25	
5.7	~~4.8~~ 0.48	
6.5	0.62	
7.0	0.73	
7.5	0.87	
8.0	1.0	
8.5	0.68	
8.6	0.20	
9.0	0.27	
9.5	0.25	
10.0	0.35	
10.5	0	LWE
11.0		
11.5		
12.0		

Changed Prop. PROP 1B

POOL TR 1 DISCHARGE 8/10/04

STA	DEPTH	VEL	COMMENTS
10.6	0.2	ø	RWE
10.7	0.3	*-0.01	*EST.
11.0	0.92~~0.85~~	*-0.01	
11.5	1.23	*0.01	
12.0	1.45	*0.08	
12.5	1.40	*0.08	
13.0	1.50	*0.08	
13.5	1.35	*0.08	
14.0	1.3	*0.03	
14.5	1.22	0.1	
15.0	1.22	*0.1	
15.5	1.35	~~0.05~~ 0.07	
16.0			LWD
16.5	1.3	*0.03	15.6' to 16.4' LWD
17.0	0.93	*0.03	
17.1	0.93	*0.03	Bank edge UCB H=1.9'
18.0	0	0	LWE

Prop. 1B

POOL TR2 DISCHARGE 8/18/04

STA	DEPTH	VEL	COMMENTS
14.4	0	0	RWE
15.0	0.2	0	
15.5	0.4	*-0.01	*EST.
16.0	0.52	*0.01	
16.5	0.75	0.9	
17.0	0.39	0.49	
17.5	0.87	0.49	
18.0	0.55	0.12	
18.5	0.75	0	
19.0	~~0.7~~ 0.6	*0.01	
19.5	0.25	*0.01	Boulder 19.6' to 19.9 H=0.05'
20.0	0.05	0	
20.5	0.1	0	
20.9	ø	ø	LWE

Prop. 1B

POOL TR3 DISCHARGE 9/18/04

STA	DEPTH	VEL	COMMENTS
12.9	Ø	Ø	RWE
13.0	0.05	0	
13.5	0.45	*0.03	*EST.
14.0	0.53	*0.07	
14.5	0.6	0.22	
15.0	0.75	0.34	
15.5	0.8	0.29	
16.0	0.52	0.2	
16.5	0.62	0.13	
17.0	0.72	0.14	
17.5	0.8	*0.07	ROCK 17.9' to 19.0 H=0.3'
18.0		Ø	
18.5		Ø	
19.0	~~0.38~~ 0	*0.03	EDGE OF BOULDER
19.5	0.22	*0.03	
20.0	Ø	Ø	LWE

Ask field crew - if ~~0~~ depth, can't have vel
Is depth ~~0~~ ?