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12-8-2009

Ex. 279-US-439

Mike Gagner
R2 Resource Consultants

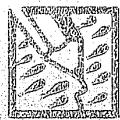
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SY-
S



ALL-WEATHER
LEATHER BOOK
No. 310

May 13, 2004

Sampling

1418.01

54-8 Long Cr. 05/13/04

CONTENTS

PAGE	REFERENCE	DATE

	<u>In</u>	<u>Out</u>
Time	8:50	4:30
S.G.	2.49	2.48

Crew: Mr. Gagner
A. Wiley, bright

Equipment: Marsh McBirney
Model 2000

SN: 2005D68

Directions: From Chiliqueue trail

east on Songue R. road for ~4.5 miles and turn left north onto W. Mission River Rd. Follow for ~2.2 miles to Head of River Campground Rd turns to gravel near headwaters of Mission River proceed straight & follow gravel rd for ~11 miles to T intersection with Fisher rd. Turn left and follow for ~10.5 miles to Lang Cr. Cross over long Cr. and turn right on dirt trail ~100' after crossing Lang Cr. Follow for ~150 yards and park. Look for transect flagging.

S4-8 Photo Log

Description

Photo #	Date
15 -	looking Lt. → RT across TR-1 Run
14 -	" 1/3 from below TR-1 "
13 -	" Lt. → RT across TR-2 "
12 -	TR-3 Lt. → R. Run S4-8
11 -	Looking down TR-3 Run

S4-8 05/13/04

S4-8 05/13/04

Unit Selection

$$\begin{aligned} \text{Random } & 8, 4, 2 \\ \text{Run } & 8 \times 2241 = 1793' \\ \text{Riffle } & 4 \times 2241 = 896' \\ \text{Pool } & 2 \times 2241 = 448' \end{aligned}$$

* first pool 448' 1/3 from start

pool # 7
Riffle # 1/3

* first riffle 896' 1/3 from start
Run # 25

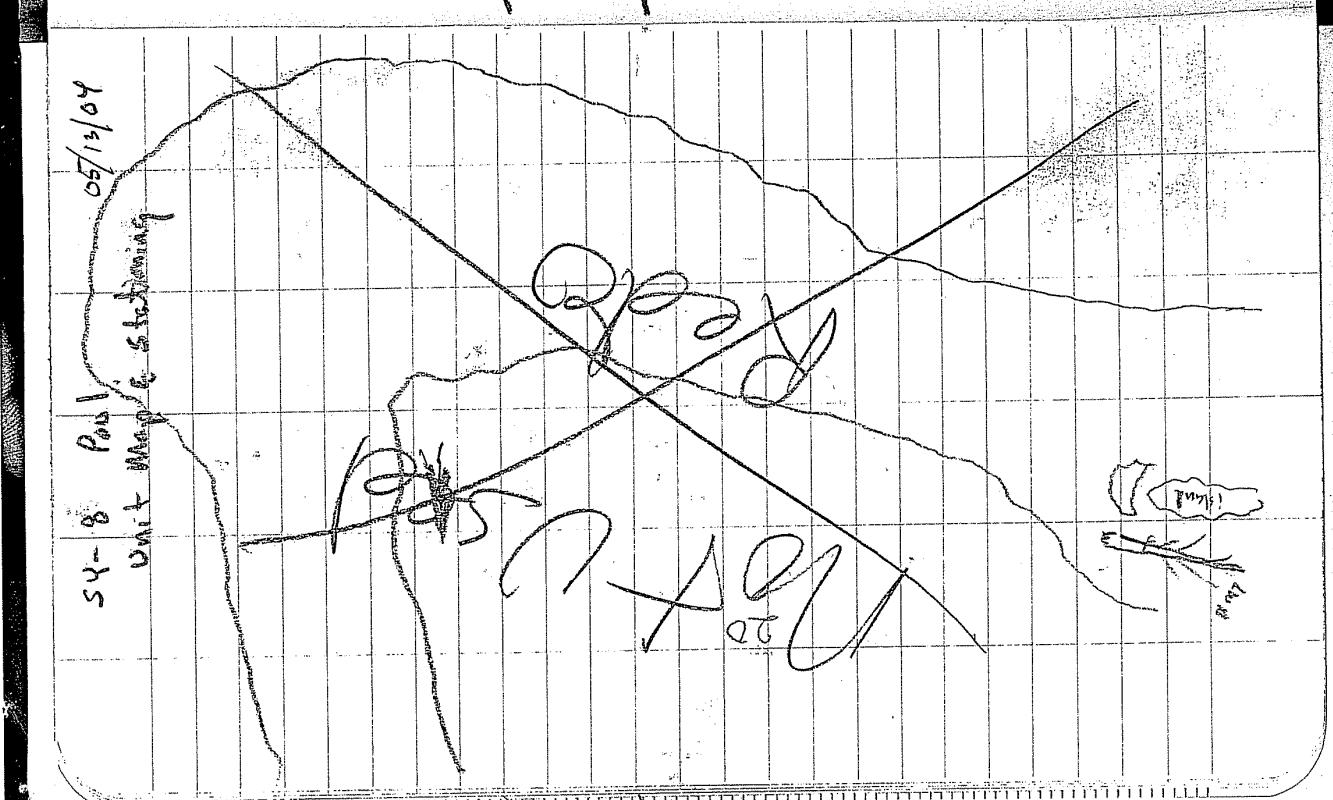
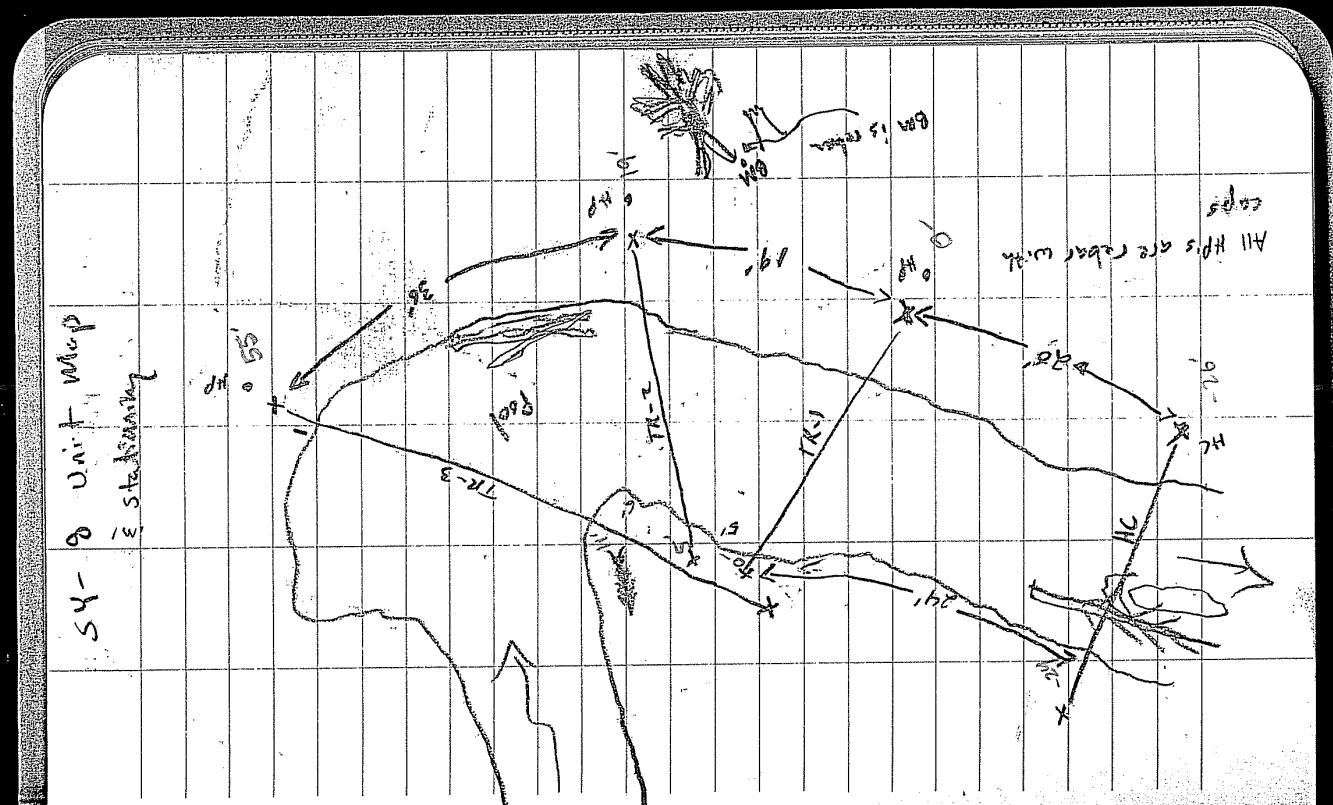
Transect Selection

$$\begin{aligned} \text{pool } & \text{Random } 8 - 2, 5 \\ \text{Run } & 191.0 \times 3.5 = 57.3' \\ & 61.0 \times .2 = 12' \\ & 61.0 \times .5 = 30.5' \\ & 61 \times .8 = 48.8' \end{aligned}$$

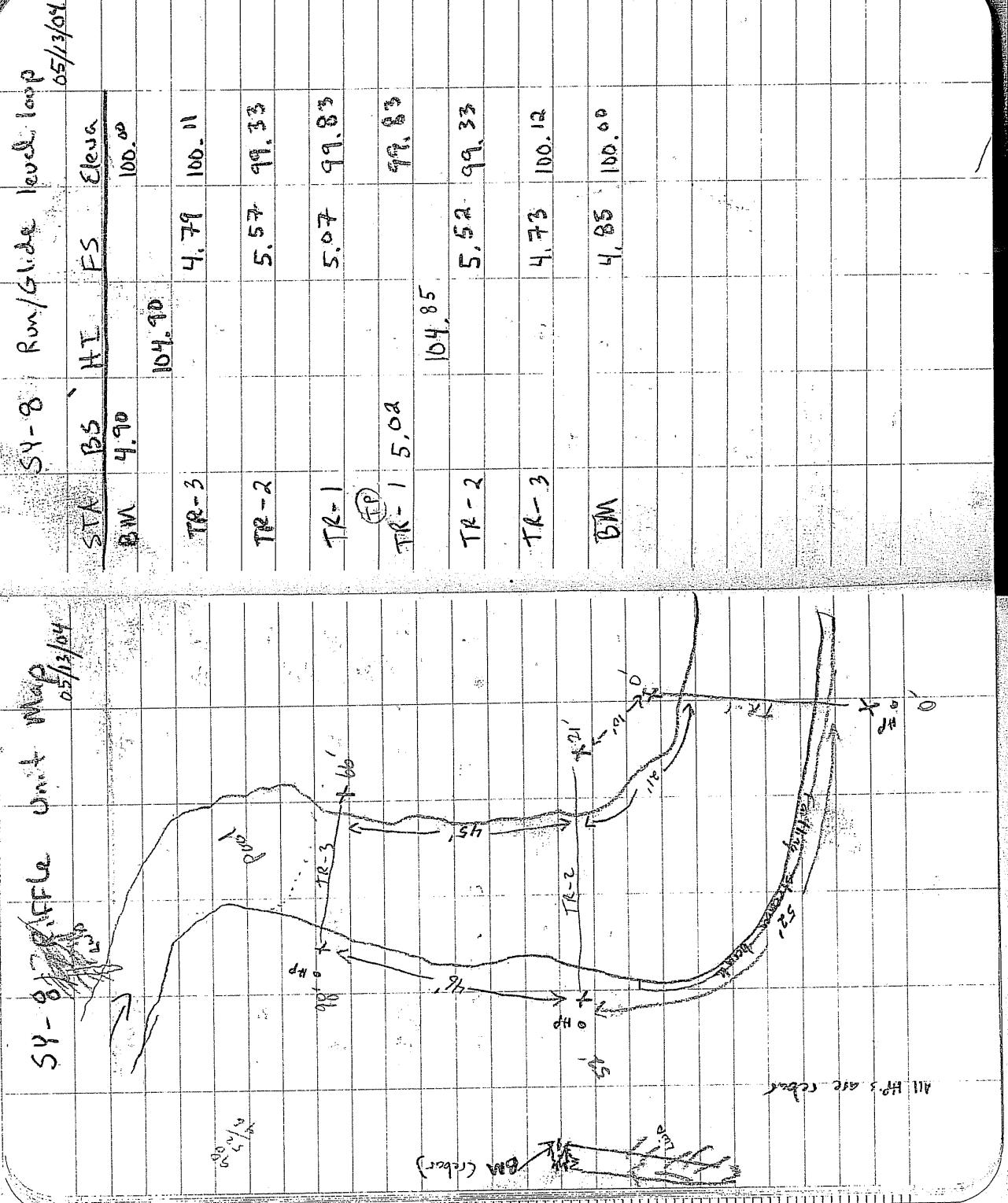
$$\begin{aligned} \text{Run } & \text{Random } 8 - 3, 6, 9 \\ & 191.0 \times 3.5 = 57.3' \\ & 191 \times .9 = 171.9' \end{aligned}$$

$$\begin{aligned} \text{Riffle } & \text{Random } 8 - 1, 5, 8 \\ \text{Run } & 155.0 \times 1 = 155' \\ & 155 \times .5 = 77.5' \\ & 155 \times .8 = 134' \end{aligned}$$

S4-8 Pool		S4-8 Pool WSE		S4-4 Pool	
STA	B.S.	H.T.	F.S.	STA	B.S.
B.M.	4.05			BM	104.16
TR-1 H.P.		4.48	99.57	LWS	7.59
TR-2 H.P.		4.83	99.22	RWS	7.68
TR-3 H.P.	(P)	5.23	98.83	LWS	7.39
TR-3	5.34	98.82		RWS	7.41
TR-2		104.16		LWS	7.28
		4.93	99.23	RWS	7.38
TR-1		4.59	99.57	LWS	7.35
B.M.		4.16	100.00	RWS	7.39
				• 70' H.P. of RC	9.72 bed/bottom
					7.98 WSE
					B.M. 4.16 100.00



54-8 Riffle			54-9 Riffle		
STK	BS	Elev.	STK	BS	Elev.
TR-1	4.13	100.00	BM	4.02	104.02
TR-1	4.13	104.13	BM	4.02	104.02
TR-2	5.32	98.81	BM	4.02	104.02
TR-3	5.70	98.43	BM	4.02	104.02
TR-3	5.59	98.43	BM	4.02	104.02
TR-2	5.20	98.82	BM	4.02	104.02
TR-1	5.21	98.81	BM	4.02	104.02
BM	4.02	100.00	BM	4.02	104.02
ds " 60' from TR-1			bottom surface		
TR-1	7.61	LWS	7.61	LWS	7.61
	7.51	RWS	7.51	RWS	7.51
	7.56	MWS	7.56	MWS	7.56
TR-2	7.49	LWS	7.49	LWS	7.49
	7.44	RWS	7.44	RWS	7.44
BM	4.02		BM	4.02	
bottom surface			bottom surface		
TR-3	7.36	LWS	7.36	LWS	7.36
	7.36	RWS	7.36	RWS	7.36
BM	4.02		BM	4.02	



S4-8 Run/Glide WSE 05/3/64

STA BS HI ES Elekt Rod

TR-3 HP 4.46

100.12

104.58

TR-3 LWS 6.73

RWS 6.81

97.77

MWS

(6.75)

97.83

TR-2 LWS

6.86

97.72

RWS

6.84

97.74

TR-1 LWS

4.99

104.38

RWS

7.21

TR-2 LWS 99.83

97.60

✓

TR-1 RWS

7.22

97.60

TR-2 RWS

7.21

97.60

~60' d/s of TR-1 8.60 bottom
7.37 97.45 surface

S4-8 Run Unit Map

Bottom elevation



S1-8 Run/Glide Unit

05/13/04 TR-1

Depths & Velocity

STA Depth Velocity

1.0 0.0 0.46

2.0 0.0 0.46

3.0 0.0 0.46

4.0 0.0 0.46

5.0 0.0 0.46

6.0 0.0 0.46

7.0 0.0 0.46

8.0 0.0 0.46

9.0 0.0 0.46

10.0 0.0 0.46

11.0 0.0 0.46

12.0 0.0 0.46

13.0 0.0 0.46

14.0 0.0 0.46

15.0 0.0 0.46

16.0 0.0 0.46

17.0 0.0 0.46

18.0 0.0 0.46

19.0 0.0 0.46

20.0 0.0 0.46

21.0 0.0 0.46

22.0 0.0 0.46

23.0 0.0 0.46

24.0 0.0 0.46

25.0 0.0 0.46

26.0 0.0 0.46

27.0 0.0 0.46

28.0 0.0 0.46

29.0 0.0 0.46

Run Depth

Velocity

Notes

30.0 1.1 - .11

30.5 2.0 .10 - 0.05

31.0 1.0 0.0 0.0

$\text{Run} = 42.9'$

Marsh McBroom Notes

SN: 3605068

Sta. #	Run	TR-2	Marsh Mc Birney meter	05/13/04
Sta.	Depth	Vel.	No. 5	
Lake: 1.0				
10.8	0.0	0.0		
11.5	.65	6.0	edge very	
12.5	1.10	1.1		
13.5	1.35	.35		
14.5	.55	.56		
15.5	1.217	.77		
16.5	1.80	1.1		
17.5	1.85	1.33		
18.5	1.90	1.88		
19.5	1.85	2.43		
20.5	1.90	2.57		
20.0	1.90	2.50		
21.0	1.85	2.54		
21.5	1.85	2.48		
22.0	1.80	2.35		
22.5	1.80	2.35		
23.0	1.75	2.45		
23.5	1.70	2.35		
24.0	1.70	2.17		
24.5	1.65	2.11		
25.0	1.60	1.79		0
25.5	1.5	1.81		

ST A Run TR-2 Run Comb.

Notes

10.8 0.0
11.5 .65 edge very
12.5 1.10 1.1
13.5 1.35 .35
14.5 .55 .56
15.5 1.217 .77
16.5 1.80 1.1
17.5 1.85 1.33
18.5 1.90 1.88
19.5 1.85 2.43
20.5 1.90 2.57
20.0 1.90 2.50
21.0 1.85 2.54
21.5 1.85 2.48
22.0 1.80 2.35
22.5 1.80 2.35
23.0 1.75 2.45
23.5 1.70 2.35
24.0 1.70 2.17
24.5 1.65 2.11
25.0 1.60 1.79
25.5 1.5 1.81

26.0 1.50 1.75
26.5 1.50 1.89
27.0 1.55 1.89
27.5 1.50 2.01
28.0 1.45 .07 grass/vech. shal. area

28.5 0.10 ~.05
28.6 0.0 0.0
28.8 0.20 ~0.05

RWL = 32.2'

* excellent discharge measurement

	SY-B	Rn	5/13/09	TR-3	Rn	5/13/09
Sta	Depth	Vel.	Notes	Station	Depth	Vel.
Lvlp = 1.0'				31.0	0.7	-0.08
Wels=2.0'	1.1	-0.35	-0.25	32.2	0.0	0.0
3.0	1.45	-0.75		2nd p = 42.5'		
4.0	1.46	-0.16	eddy			
10.0	1.75	-0.12	eddying			
11.0	2.05	-0.03	eddying			
13.0	1.90	0.21	out of eddy			
13.5	1.90	0.41				
17.0	1.80	1.03				
15.0	2.00	0.98				
16.0	1.85	1.23				
17.0	1.85	1.33				
18.0	2.05	1.46				
19.0	2.10	1.95				
20.0	2.05	1.82				
21.0	2.05	1.77				
22.0	2.20	1.92				
23.0	2.25	1.77				
24.0	2.25	1.81				
25.0	2.15	1.88				
26.0	2.00	1.39				
27.0	1.85	0.57	velocity shelter			
28.0	1.70	-0.08				
29.0	1.50	-0.07	weak eddy / vca			
30.0	1.00	-0.10	" " "			

STATION	TR-1	Pool	05/13/04	SY-8	TR-1	Pool	Comments
STA	Depth	Vol.	cu. ft.	STA	Depth	Vol.	
1.0	RWP			30.0	1.85	2.38	
19.4	0.0	0.0	RWE w/ veg.	30.5	1.85	2.36	
20.0	0.15	0.1		31.0	1.90	2.21	
20.5	0.35	0.07		31.5	1.95	2.36	
21.0	0.53	0.02		32.0	1.95	2.36	
21.5	0.53	1.09		32.5	1.95	2.38	
22.0	0.3	1.35		33.0	1.90	2.27	
22.5	0.93	1.43		33.5	1.85	1.97	Flow at $\approx 30^\circ$ to transect
23.0	.95	1.62		34.0	1.85	1.79	" "
23.5	.97	1.60		34.5	1.9	1.51	" "
24.0	1.03	1.76		34.7	1.8	1.42	" "
24.5	1.2	1.84		34.8			Bridge on bank
25.0	1.3	1.83		35.3	.20	0.34	Top of bank, flow through
25.5	1.35	1.79		36.4	0.0	0.0	W.E.
26.0	1.55	2.06		37.5			
26.5	1.65	1.96					
27.0	1.65	2.08					
27.5	1.85	2.13					
28.0	1.80	2.17					
28.5	1.85	2.16					
29.0	1.85	2.22					
29.5	1.85	2.35					

STA	Depths m	Vol. m³	RWP	Comments
1.0	0.0	0.0	RWE	
14.8	0.0	0.0	RWE	
15.7	0.3	0.0	est. vol.	
16.2	0.6	-0.09		
17.0	0.75	-0.08		
17.5	.92	-.04		
18.0	1.05	.25		
18.5	1.15	0.48		
19.0	1.33	.50		
19.5	1.35	.66		
20.5	1.73	0.95		
*21.0	2.0	1.21		
21.5	2.15	1.26		
22.0	2.15	1.39		
23.0	2.6	1.50		
24.0	2.05	1.51		
25.0	2.0	1.71		
26.0	2.0	1.66		
27.0	2.65	1.84		
28.0	2.0	1.94		
29.0	2.0	1.73		
30.0	2.05	1.67		

STA	Depth m	Vol.	Comments	Pool
31.0	1.95	1.44		TR-2 contour
32.0	1.90	1.35	Log 32.6 - 33.0	
	23.0	0.95	wetted bottom shallow	
	34.0	1.7	1.24 vel. shelter from cobbles	
	34.5	1.65	0.96 edge of beach	
	35.0	0.0	0.0 LWE / top of bank	
			* undercut by 1.6'	
	46.6		LWE	
	20	1.55	0.81	

S4-8 TR-3 Pool prop/A

SwO/HC-4099 prop/A
5/13/04

S4-8 TR-3 Pool TR-3 conti.

STA	Depth	Vel.	Comments	STA	Depth	Vel.	Comments
1.0	RWP			44	1.67	.80	flow looks negative
24.4	0.5	0.0	RWE	45	1.6	-1.16	
25	0.5	.23	grass, flow appears negative	46	1.35	-.94	
25.4	1.25	.16	"	47	1.40	-.99	
26.0	1.4	.68		47.8	1.0	-.44	edge of log.
27	1.6	.42		48.0	0.6	-1.25	top of log
28	1.9	.13		49	.40	-.84	edge of grass
29	2.2	1.18		49.5	.30	-.2	grass
30	2.35	1.84		50	.25	-.15	"
31	2.3	1.64		51	.20	-.01	"
32	2.3	1.8	flow appear 30° to transect	52.9	0.0	0.0	
33	2.25	2.22	"	53.1			
34	2.30	2.31	"				
35	2.3	2.02	"				
36	2.35	1.91	"				
37	2.25	1.71	"				
38	2.20	1.94	"				
39	1.95	2.08	"				
40	1.90	1.39	"				
41	1.9	0.84					
42	1.70	-.16	eddy from 42° to LWE				
43	1.70	-.44	flow looks negative				

6/26/04

<u>STA</u>	<u>Depth</u>	<u>Comments</u>	<u>05/13/04</u>
1.0	0	RWP	
13.0	.70	RWE	
13.5	.70		
14.0	.55		
14.5	.70		
15.5	.65		
16.5	.75		
17.0	.95		
17.5	0		
18.0	.65		
18.6	.65		
19.5	.65		
20.0	.50		
21.0	.50		
22.0	.50		
23.0	.55		
24.0	.80		
25.0	.90		
26.0	1.05		
27.0	1.15		
28.0	1.1		
29.1	1.25		

<u>STA</u>	<u>Depth</u>	<u>Comments</u>	<u>54-8 Pool</u>	<u>Hydraulic Control</u>
30	1.2			
31	1.25			
32	1.25			
32.2	1.4			
33	1.4			
33.5	1.3			
34	1.3			
34.3	0.7			
34.4	0.1			
34.6	0.0			
40.8	RWP			

STA	Depth	Comments	Riffler	TR-1	Date
1.0					05/13/04
6.3	0.0	0.0	RWP		
6.7	0.0	0.0	RWE		
7.2	0.0	0.0			
7.7	.7	.19			
8.3	.8	.53	vel. sltten + or - direction for turbulent		
9.0	.9	.41			
9.5	1.15	2.01			
10.0	1.25	3.74			
10.5	1.5	2.96			
11.0	1.55	2.65			
11.5	1.6	3.03			
12.0	1.6	3.12			
12.5	1.7	3.04			
13.0	1.75	2.73			
14.0	1.75	2.7			
15.0	1.6	2.81			
16	1.6	2.61			
17	1.6	2.67			
18	1.7	2.60			
19.0	1.77	2.5			
19.5	1.65	2.60			

Riffler TR-1: continue

STA Depth Vel Comments

STA	Depth	Vel	Comments
20	1.5	1.7	
20.5	1.43	1.6	
21	1.3	1.06	
21.5	1.3	0.45	
22	1.02	.01	
22.5	.93	-.01	
23	.73	-.05	
23.5	.45	-.16	grows / veg very
24	.22	-.14	
24.8	0.0	0.0	LWE
25.0			LWP
27.3			

STA	Depth	Vol.	Comments
1.0	0.0	0.0	RWP
10.3	.25	.25	3/5 veg, ag, veg
10.6	.82	.01	
11.0			
11.5	1.12	0.38	
12.0	1.15	1.06	
12.5	1.25	1.86	
13.0	1.20	2.45	
13.5	1.30	2.59	
14.0	1.35	2.77	
15	1.40	2.37	
16	1.5	2.54	
17	1.50	2.96	
18	1.45	3.11	
19	1.5	3.15	
20	1.45	2.82	
21	1.40	2.89	
22	1.25	2.70	
23	1.05	2.87	
24.0	.90	2.64	
24.5	.85	2.1	
25	.80	1.61	
25.4	.65	1.34	

54-8 TR-2 R:SP:le 05/13/04

Swath: 4099 pop. 1A

TR-2 Rifle Continue. 05/13/04

STA Depth Vol. Comments
RWP

25.5 0.15 0.1

26.1 0.0 0.0

LWE

27.4 LWP

SY-8	R: FPL	TR-2	05/13/04
STA	Depth	Vel.	Comments
1.0			
9.7	0.10	0.0	
10.0	.52	.16	
10.5	1.15	1.24	
11.0	1.25	1.92	
11.5	1.25	2.02	
12.0	1.25	2.11	
13.0	1.25	2.15	
14.0	1.25	2.29	
15.0	1.30	2.46	
16.0	1.35	2.73	
17.0	1.50	2.73	
18.0	1.65	2.84	
19.0	1.75	3.05	
19.5	1.95	2.96	
20	2.05	3.02	
21	2.05	2.56	
22	2.02	2.00	
23	2.02	1.20	
23.7	2.0	.86	
24.0	1.65	.35	
24.5	1.75	.29	

R:RFL TR-3 05/13/04

STA Depth Vel. Comments

25 1.55 .09

25.5 1.4 .08

26.0 1.2 -.15

26.5 .90 -.17

27.0 .75 -.11

27.5 .70 -.25

28 .60 -.12

28.3 .47 -.08 edge of bank

28.4 0.0 0.0 LWE undercut bank ~.50'

LWP

32.7

S4-8 Long Cr. 05/13/04

CONTENTS

PAGE	REFERENCE	DATE

	In	Out
Time	8:50	4:30
S.G.	2.49	2.48

Crew: Mr. Gragner
A. Weybright

Equipment: Marsh McBrown
Model 2000
SN: 2005068

Directions: From Chitoguin trail east on Spruce R. road for ~ 4.5 miles and turn left north onto Hwy 100 River Rd. Follow for ~ 2.2 miles to Head of River Campground Rd turns to gravel near headwaters of Willow R. Proceed straight & follow gravel rd for ~ 11 miles to T intersection with FSRd 27. Turn left and follow for ~ 10.5 miles to Long Cr. cross over Long Cr. and turn right on dirt rd ~ 50' after crossing Long Cr. Follow for ~ 1500' to and park. look for transect flagging.

05/13/04

54-8 Photo Log

<u>Photo #</u>	<u>Description</u>
15 -	looking Lt \rightarrow RT across TR-1 Run
14 -	" 1/3 from below TR-1 "
13 -	" Lt \rightarrow Lt across TR-2 "
12 -	TR-3 Lt \rightarrow Lt Run 54-8
11 -	looking downstream TR-3 Run

54-8

05/13/04

Unit Selection

Random # 8, 4, 2
Run .8 X 2241 = 1793'
Riffle .4 X 2241 = 896'
Pool .2 X 2241 = 448'

- * first pool 448' 1/5 from start
- Pool # 7
- * first riffle 896' 1/5 from start
- Riffle # 3
- * first run 1793' 1/5 from start
- Run # 25

Transect Selection

Pool Random #s - 2, 5, 1, 8
 $61.0 \times .2 = 12'$, $61.0 \times .5 = 30.5'$, $61 \times .8 = 48.8'$

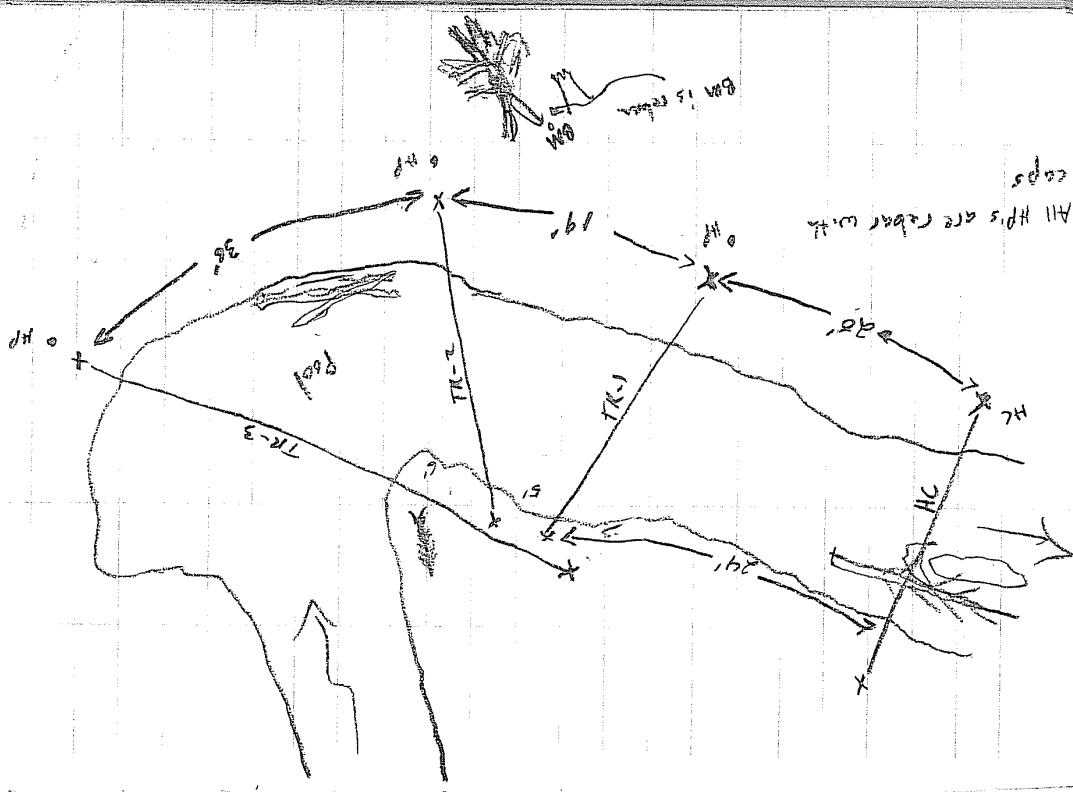
Run Random #s - 3, 6, 9
 $191.6 \times .3 = 57.3'$, $191 \times .6 = 114.6'$
 $191 \times .9 = 171.9'$

Riffle Random #s - 1, 5, 8
 $155.0 \times .1 = 15.5'$, $155 \times .5 = 77.5'$
 $155 \times .8 = 124'$

S4-8 Pool		S4-8		Pool WSE	
STA	B/S	HT	FS	STA	B/S
Bm	4.05	104.05	100.00	Bm	104.16
TR-1 NP	4.48	99.57		Lws	7.59
TR-2 NP	4.83	99.22		Lws	7.68
TR-3 NP	5.23	98.83		Lws	96.48
TR-3 NP (1)	5.34	98.82		Lws	7.39
			104.16		
TR-2	4.93	99.23		Lws	7.28
TR-1	4.59	99.57		Lws	7.38
Bm	4.16	100.00		Lws	96.78
~ 70° S of NC		7.35 96.81		7.39 96.77	
bed/bottom		7.72		7.98	
WSE					
4.16 100.00					

S4-8 P.M. 5/13/04
Unit 100% of Selection

05/13/04



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All files are saved with

54-8 Riffle
Level Long
STA BS HT FS
0M 4.13 100.00

54-8 Riffle
05/13/04
STA BS HT FS
BM 104.13 104.02

TR-1 HF
104.13 5.32 98.81
dis "60' from TR-1

TR-2 HF
5.32 98.81

TR-3 HF
5.70 98.43

TR-3 TP
5.54 98.43

TR-2
104.02 5.20 98.82

TR-1
5.21 98.81

TR-3

BM 4.02 100.00

54-8 Riffle
05/13/04
STA BS HT FS
BM 104.02

dis "60' from TR-1
7.69
bottom surface

BM

7.61

7.51
RWs

7.56

MWS
TR-2
7.49

7.44
RWs

96.58

7.61
RWs

96.51

7.56

7.49

96.58

4.02

54-8 Profile Unit Map
05/3/04

54-8 Run/Glide level loop
05/3/04

STA	BS	HT	FS	Eleva
BM	4.90			100.00

104.10

TR-3

4.79 100.11

TR-2

5.57 99.33

TR-1

5.07 99.83

(TP)
TR-1 5.02

99.83

104.85

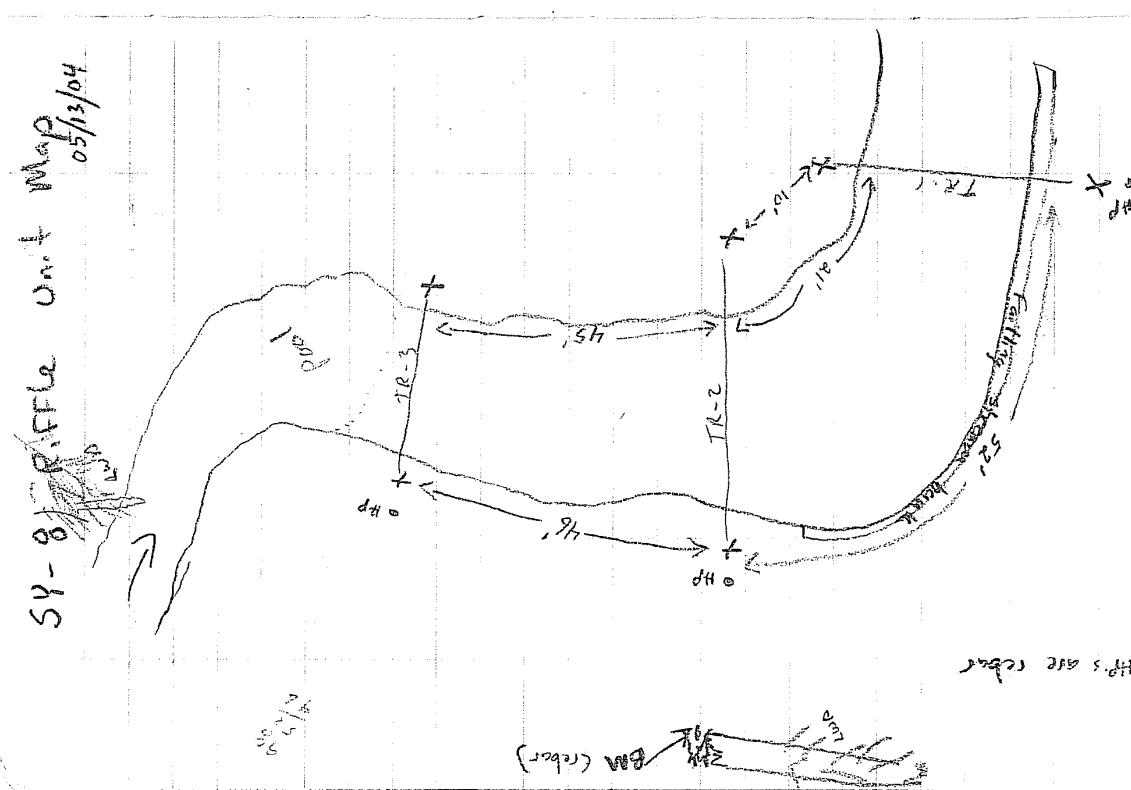
5.52 99.33

TR-3

4.73 100.12

BM

4.85 100.00



SV-8 Run/Gauge WSE 05/3/04

STA	BS	HT	FS	Elev.	Rod
TR-3 HP	4.46			109.58	

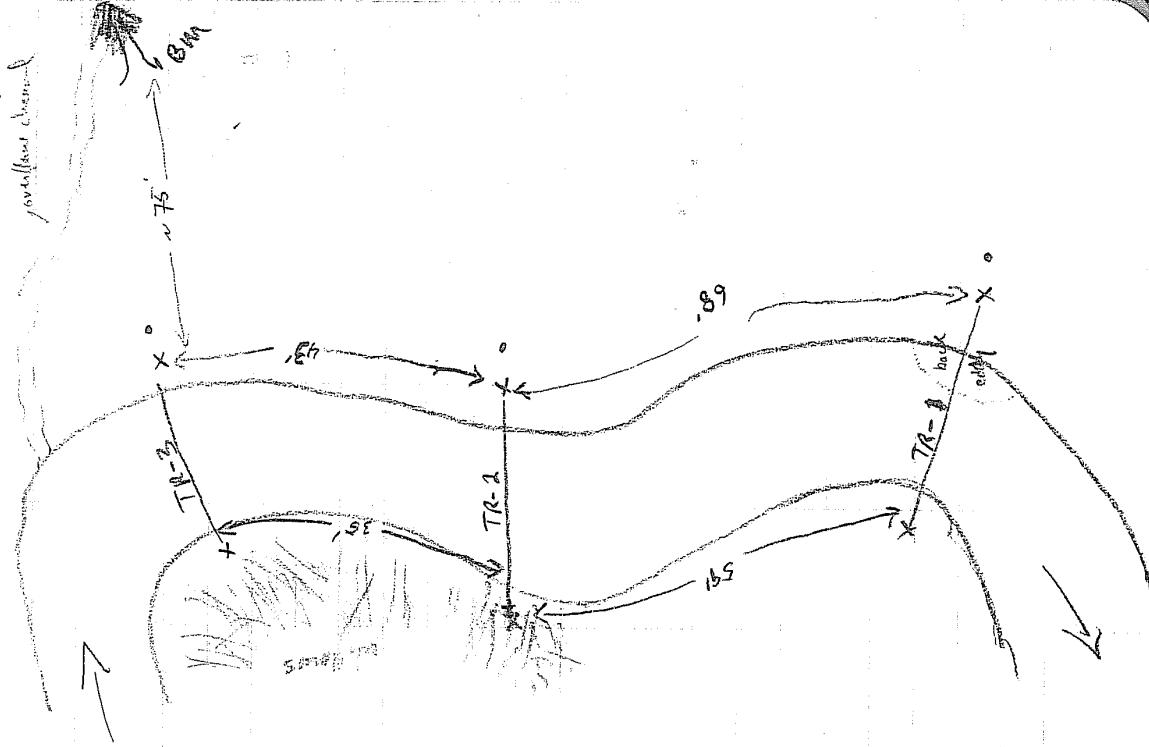
TR-3 LWS 6.73 97.77
RWS 6.81 97.83
MWSS 6.75

TR-2 LWS 6.86 97.72
RWS 6.84 97.74

TR-1 HP 4.99 104.83
LWS 7.21
RWS 7.22 97.60

" 60' d/s of TR-1
7.37 97.45 bottom
surface

SV-8 Run Unit Map 05/3/04



54-8 Gun/Glide Unit TR-1 Depths & Velocity

<u>STA</u>	<u>Depth</u>	<u>Veh.</u>	<u>Notes</u>
Lwp = 1.0	0.0	0.0	0.4' of acb
8.2	0.0		
9.0	1.8	-14	small object
10.0	1.85	-43	"
11.0	1.90	-18	
12.0	1.90	.25	
13.0	1.85	.20	
14.0	1.90	.29	
15.0	1.85	.32	
16.0	1.90	.47	
17.0	1.90	.87	
18.0	2.0	.87	
19.0	2.05	.82	
20.0	2.05	.79	
21.0	2.10	.76	
22.0	2.10	1.10	
23.0	2.20	2.19	
24.0	2.20	2.31	
25.0	2.20	2.08	
26.0	2.05	2.00	
27.0	2.10	1.39	
28.0	2.00	0.85	
29.0	1.80	0.34	

54-8 Gun/Glide Unit TR-1 Run No. V cont'd

<u>STA</u>	<u>Depth</u>	<u>Veh.</u>	<u>Notes</u>
30.0	1.1		
30.5	20.5	.10	- 0.05
31.1	0.0	0.0	
			RWP = 42.07

Marsh McBray Mater Model 2000
SN: 2005068

Run	Run	Marsh m. Boring meter	Notes	STA	Depth Vol.	Run	Notes
STA	Depth Vol.	Notes		STA	Depth Vol.	Run	Notes
LWP = 1.0				26.0	1.50	1.75	
10.0	0.0	0.0		26.5	1.50	1.89	
11.5	.65	0.0	edge veg.	27.0	1.55	1.89	
12.5	1.10	.11		27.5	1.50	2.01	
13.5	1.35	.35	Change to 1.55'	28.0	1.45	.07	gross vol. shal. ea.
14.5	1.55	.56		28.5	0.10	.05	
15.5	1.77	.77		28.6	0.0	0.0	
16.5	1.80	1.1		28.2	0.20	.005	
17.5	1.85	1.33					
18.5	1.90	1.88					
19.5	1.85	2.43					
20.5	1.90	2.57					
20.0	1.90	2.50					
21.0	1.85	2.54					
21.5	1.85	2.48					
22.0	1.80	2.35					
22.5	1.80	2.25					
23.0	1.75	2.45					
23.5	1.70	2.35					
24.0	1.70	2.17					
24.5	1.65	2.11					
25.0	1.60	1.79					
25.5	1.55	1.81					

* excellent discharge measurement *

SY-B Run

TR-3

5/13/04

Sta Depth Vol. Notes

$$LWP = 1.0'$$

W.E. 7.2'

4.1 -0.25 -0.25

under cut

bottom 0.5

earthen

alluvium

0.89

0.89

0.89

0.89

0.89

0.89

0.89

0.89

0.89

0.89

0.89

0.89

0.89

0.89

0.89

0.89

0.89

0.89

0.89

0.89

0.89

0.89

0.89

0.89

0.89

0.89

0.89

0.89

0.89

0.89

0.89

SY-B Run

TR-3

5/13/04

Station Depth Vol. Vel. Current

31.0 0.2 -0.08 back casting cover

32.0 0.0 0.0

RWP = 42.5'

#11 looking off

Marsh McBirney Marsh 2000

SPJ: 2005@68

velocity shelter

back casting cover

" " "

" " "

" " "

" " "

" " "

SY-8 TR-1 Pool
Sew. Afr. #4099 pop. 1A cal. 186

05/13/04

SY-8 TR-1 Pool continue
Comments

STA	Depth	Vel.	STA	Depth	Vel.
1.0	RWP		30.0	1.85	2.38
9.4	0.0	0.0	30.5	1.85	2.36
20.0	0.15	0.1	31.0	1.90	2.21
20.5	0.35	0.07	31.5	1.95	2.36
21.0	0.53	0.02	32.0	1.95	2.36
21.5	0.53	1.09	32.5	1.95	2.21
22.0	0.8	1.35	33.0	1.90	2.27
22.5	0.90	1.43	33.5	1.95	1.97 flow at 30° for forecast
23.0	.95	1.62	34.0	1.85	1.79
23.5	.97	1.60	34.5	1.9	1.51
24.0	1.03	1.78	34.7	1.8	1.42
24.5	1.2	1.81	34.8		edge of bank
25.0	1.3	1.83	35.3	2.0	0.34 top of bank, flow through
25.5	1.35	1.76	36.4	0.0	0.0 - R.W.E.
26.0	1.55	2.06	47.5		1.60?
26.5	1.65	1.96			
27.0	1.65	2.08			
27.5	1.85	2.13			
28.0	1.80	2.17			
28.5	1.85	2.36			
29.0	1.85	2.42			
29.5	1.85	2.35			

54-8 Pool TR-2

03/13/04

Swaffer #4099 prop. 1A

Comments

STA	Depth	Vol.
1.0	RWP	
14.8	0.0	0.0 RWE
15.7	0.3	0.0 est. vol.
16.2	0.6	-0.09
17.0	0.75	-0.18
17.5	.92	-.04
18.0	1.05	.25
18.5	1.15	0.48
19.0	1.33	.58
19.5	1.35	.66
20.5	1.73	0.95
*21.0	2.6	1.21
21.5	2.15	1.26
22.0	2.15	1.39
23.0	2.0	1.50
24.0	2.05	1.51
25.0	2.0	1.71
26.0	2.0	1.66
27.0	2.05	1.84
28.0	2.0	1.84
29.0	2.0	1.73
30.0	2.05	1.67

Pool

54-8 TR-2 continue

Comments

STA	Depth	Vol.	Comments
31.0	1.95	1.44	
32.0	1.90	1.35	top 32.6 - 33.0
33.0	1.95	0.95	wavy, diking shelf sea
34.0	1.7	1.24	vel. shelf in from cobble
34.5	1.65	0.96	edge of bank
35.0	(0.0)	(0.0)	LWE / top of bank
			* undercut by 1.6'
			LWP
			Did not change vel., but may change later.
			Entered 1.6 depth for notes.
			per: 6/25/04 notes.

54-8 TR-3 Pos 1

Swaffer-4099 prop. //A

05/13/04 54-8 Pool TR-3 contin.

STA	Depth	Vel.	Comments	STA	Depth	Vel.	Comments
1.0		RWP		44	1.67	-.80	flow looks negative
24.4	0.5	0.0	ROSE	45	1.6	-1.16	
25	0.5	.23	grass, fibres appear's negative	46	1.35	-.94	
25.4	1.25	.14	"	47	1.0	-.99	
26.0	1.4	.68	"	47.8	1.0	-.44	edge of log
27	1.6	.42	"	48.0	0.6	-1.25	top of log
28	1.9	.13	"	49	.40	-.84	edge of grass
29	2.2	1.18	"	49.5	.30	-.2	grass
30	2.35	1.84	"	50	.25	-.15	"
31	2.3	1.64	"	51	.20	-.01	"
32	2.3	1.8	flow approx 30° to transect	52.9	0.0	0.0	
33	2.25	2.22	"	59.1			
34	2.30	2.31	"				
35	2.3	2.02	"				
36	2.35	1.91	"				
37	2.25	1.71	"				
38	2.20	1.94	"				
39	1.95	2.08	"				
40	1.90	1.36	"				
41	1.9	0.84	only from 42' to bwe				
42	1.70	.16	flow looks negative				
43	1.70	.44	flow looks negative				

Entered as neg. per notes.

54-8 Pool Hydraulic Control

Comments

05/13/64

STA	Depth	RWP	RWE
1.0	0		
13.0	.70		
13.5	.55		
14.0	.70		
14.5	.65		
15.5	.75		
17.0	.95		
17.8	0		
18.0	.65		
18.6	.65		
19.5	.65		
20.0	.50		
21.0	.50		
22.0	.50		
23.0	.55		
24.0	.80		
25.0	.90		
26.0	1.05		
27.0	1.15		
28.0	1.1		
29.1	1.25		

54-8 Pool Hydraulic Control

Comments

Comments

STA	Depth	STA Depth	Comments
30	1.2		
31	1.25		
32	1.25		
32.2	1.4		
33	1.4		
33.5	1.3		
34	1.3		
34.3	0.7		
34.4	0.1		
34.6	0.0		
40.8			

Rocky bed
edge of bed

RWE - RWP

STA	Depth	Vel.	RWP	RWE	Comments
54-8	Ripple	0.0	0.0	-	swiffer: 4099 prop. 1A
6.3	0.0	0.0	-	-	
6.7	0.1, 9	-	-	-	
7.2	0.0	0.0	-	-	
7.7	7	1.9	2.1	2.1	Entered as positive
8.3	.8	.53	2.74	2.74	vel., station + or - direction turbulent
9.0	.9	.41	2.46	2.46	
9.5	1.15	2.1	2.46	2.46	
10.0	1.25	2.74	2.74	2.74	
10.5	1.15	2.46	2.46	2.46	
11.0	1.55	2.85	2.85	2.85	
11.5	1.6	3.03	3.03	3.03	
12.0	1.6	3.12	3.12	3.12	
12.5	1.7	3.04	3.04	3.04	
13.0	1.75	2.73	2.73	2.73	
14.0	1.75	2.7	2.7	2.7	
15.0	1.6	2.81	2.81	2.81	
16	1.6	2.61	2.61	2.61	
17	1.6	2.67	2.67	2.67	
18	1.7	2.60	2.60	2.60	
19.0	1.77	2.5	2.5	2.5	
19.5	1.65	2.00	2.00	2.00	

05/13/04
TR-1
3: PM

05/13/04 TR-1

Swaffer; 4099 Group 1 A
STA Depth Sled Comments

File TR-1 contd.

Comments

<u>STA</u>	<u>Depth</u>	<u>Vell</u>	<u>Comments</u>
20	1.5	1.7	
20.5	1.43	1.6	
21	1.3	1.06	
21.5	1.3	0.45	
22	1.03	-.01	
22.5	.93	-.01	
23	.73	-.05	
23.5	.45	-.16	LWE LWP
24	.22	-.14	
24.5	0.0	0.0	
27.3			

<u>STA</u>	<u>Depth</u>	<u>Vell</u>	<u>Comments</u>
20	1.5	1.7	
20.5	1.43	1.6	
21	1.3	1.06	
21.5	1.3	0.45	
22	1.03	-.01	
22.5	.93	-.01	
23	.73	-.05	
23.5	.45	-.16	LWE LWP
24	.22	-.14	
24.5	0.0	0.0	
27.3			

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STA	Depth	Vel.	Comments	STA	Depth	Vel.	Comments
1.0			RWP	25.5	.615	0.1	
10.3	0.0	0.0	RWE	26.1	0.0	0.0	LWF
10.6	.25	.25	3/9's veg, ag, veg	37.4			LWF
11.0	.82	.01					
11.5	1.12	0.38					
12.0	1.15	1.06					
12.5	1.25	1.86					
13.0	1.20	2.45					
13.5	1.30	2.59					
14.0	1.35	2.77					
15	1.40	2.37					
16	1.5	2.54					
17	1.56	2.96					
18	1.45	3.11					
19	1.5	3.15					
20	1.45	2.82					
21	1.40	2.89					
22	1.25	2.70					
23	1.05	2.87					
24.0	.90	2.64					
24.5	.85	2.1					
25	.80	1.61					
25.4	.65	1.34					

54-8 TR-2 Riffle 05/3/04

Swaffer; 4099 Proj. 1A

TR-2 Riffle Continue. 05/13/04

SY-8 R:FFP# TR-2 05/13/64
Swaffer #4099 prop. # 1A

STA Depth Vel. Comments

STA	Depth	Vel.	Comments
1.0			
9.7	0.0	0.0	
10.0	.52	.16	
10.5	1.15	1.24	
11.0	1.25	1.92	
11.5	1.25	2.02	
12.0	1.25	2.11	
13.0	1.25	2.15	
14.0	1.25	2.21	
15.0	1.30	2.47	
16.0	1.35	2.73	
17.0	1.50	2.73	
18.0	1.65	2.84	
19.0	1.75	3.05	
19.5	1.95	2.99	
20	2.05	3.02	
21	2.05	2.56	
22	2.02	2.00	
23	2.02	1.20	
23.7	2.0	.86	
24.0	1.65	.35	
24.5	1.75	.29	

R:scale STA Depth Vel. Comments
TR-3 05/13/64

STA	Depth	Vel.	Comments
25	1.55	.09	
25.5	1.4	.08	
26.0	1.2	-.15	
26.5	.90	-.17	
27.0	.75	-.11	
27.5	.70	-.25	
28	.60	-.12	
28.3	.47	-.08	edge of bank
28.4	0.0	0.0	LWE undercut bank @ .50'
32.7			LWP

Long.	Creek	Vel & Depths				
Sweeper: ≈ 400g						
prop. 1A						
calib = 186						
POOL TR. 1	DISCHARGE SURVEY					
STA	DEPTH VELOCITY	COMMENTS				
1.0	0	R.W.P.				
19.4	0	R.W.E. leg.				
20.0	0.15	0.1	estimated			
20.5	0.35	0.07	upstream vel. shelter			
21.0	0.53	0.02				
21.5	0.53	1.09				
22.0	0.8	1.35				
22.5	0.9	1.43				
23.0	0.95	1.62				
23.5	0.97	1.60				
24.0	1.03	1.70				
24.5	1.20	1.81				
25.0	1.30	1.63				
25.5	1.35	1.79				
26.0	1.55	2.06				
26.5	1.65	1.96				
27.0	1.65	2.08				

STA	DEPTH	VELOCITY	COMMENTS
27.5	1.85	2.13	
28.0	1.80	2.17	
28.5	1.85	2.26	
29.0	1.85	2.00	
29.5	1.85	2.35	
30.0	1.85	2.38	
30.5	1.85	2.36	
31.0	1.90	2.21	
31.5	1.95	2.36	
32.0	1.95	2.36	
32.5	1.95	2.29	
33.0	1.90	2.27	
33.5	1.85	1.97	flow at ~30° to transect
34.0	1.85	1.79	flow at ~30° to transect
34.5	1.80	1.51	flow at ~30° to transect
35.0	1.8	1.48	edge of bank
35.5	0.2	0.34	flow at ~30° to transect
36.4	0	0	top of bank, flow thru grass
47.5			L.W.P.

16 PHOTOD LOG

			SY 8 POOL TR2	SY 8 POOL TR2	TR2 DISCHARGE	
			STA	DEPTH	VELOCITY	COMMENTS
14.	SY-8	POOL TR2	LB to RB			RW10
16.	SY-8	POOL TR2	RB to LB	1.0		
15.	SY-8	POOL TR2	upstream	14.8	0	0
14.	SY-8	POOL TR2	downstream	15.7	0.3	0 *est
13.	SY-8	POOL TR2	downstream	16.2	0.60	-0.09 ?
12.	SY-8	POOL TR2	upstream	17.0	0.75	-0.18 { negative velocity
11.	SY-8	POOL TR2	upstream w/ traps	17.5	0.92	-0.04 }
13.	SY-8	POOL TR2	LB to RB			
19.	SY-8	POOL TR2	RB to LB	18.0	1.05	0.25
18.	SY-8	POOL TR3	RB to LB	18.5	1.15	0.4
17.	SY-8	POOL TR3	LB to RB	19.0	1.33	0.50
16.	SY-8	POOL TR3	Upstream	19.5	1.35	0.66
15.	SY-8	POOL TR3	Downstream	20.0	1.55	0.81
14.	SY-8	HC	LB to RB	20.5	1.73	0.95
13.	SY-8	HC	RB to LB	21.0	2.0	1.21
12.	SY-8	HC	Downstream	21.5	2.15	1.26
11.	SY-8	Riffle TR2	LB to RB	22.0	2.15	1.39
				23.0	2.0	1.50
				24.0	2.05	1.51
				25.0	2.0	1.71
25.	SY-8	Riffle TR1	LB to RB			
24.	SY-8	Riffle	Upstream TR1	26.0	2.0	1.66
23.	SY-8	Riffle TR2	Downstream	27.0	2.05	1.84
20.	SY-8	Riffle TR2	LB to RB	28.0	2.0	1.94
21.	SY-8	Riffle TR2	RB to LB	29.0	2.0	1.73

SY-8 TR2 POOL (Cont'd)

	STA	DEPTH	VELOCITY	Comments	STA	DEPTH	VELOCITY	Comments	STA	DEPTH	VELOCITY	Comments	STA	DEPTH	VELOCITY	Comments	
	SY-8	2.05	1.67'			1.0											
	30.0	1.95	1.44			24.4	0.5	0								RWP	- RNE
	32.0	1.90	1.35	log 32.6' to 33.0'		25.0	0.5	0.23	grass								
	33.0	1.95	0.95	Woolly debris vel. shelter?		25.4	1.25	0.14	veg								
	34.0	1.7	1.24	Vel. shelter from cobble?		26.0	1.4	0.68	flank appears negative								
	34.5	1.65	0.96	edge of bank		27.0	1.6	0.42									
	35.0	0	0	top of bank, LNE		28.0	1.9	0.13									
	35.0	*		undercut bank by 1.6'		29.0	2.20	1.18									
	46.6			LWP		30.0	2.35	1.84									
						31.0	2.30	1.64									
						32.0	2.30	1.8	flow appears 30° to bank								
						33.0	2.25	2.22	"								
						34.0	2.30	2.31	"								
						35.0	2.30	2.02	"								
						36.0	2.35	1.91	"								
						37.0	2.25	1.71	"								
						38.0	2.20	1.94	"								
						39.0	1.95	2.08	"								
						40.0	1.90	1.39									
						41.0	1.90	0.84									
						42.0	1.70	0.66	eddy from 42° to								
						43.0	1.70	0.44	flank looks negative								

S18 POOL TR3 Discharge

ST#	DEPTH	VELOCITY	COMMENTS	ST#	DEPTH	COMMENTS
44.0	1.67	-0.80	flow looks negative	1.0	13.0	RWP
45.0	1.6	-1.16	"	1.0	0	RWE
46.0	1.35	-0.94	"	1.5	0.40	
47.0	1.40	-0.99	"	1.0	0.55	
47.8	1.0	-0.44	edge of long l bank	14.5	0.70	
48.0	0.6	-1.25	top of long	15.5	0.65	
49.0	0.40	-0.84	edge of grass	16.5	0.75	
49.5	0.30	-0.2	grass	17.0	0.95	
50.0	0.25	-0.15	grass	18.0	0	LWD out = 0.6' height
51.0	0.2	-0.1	grass	17.8	0.65	Side LWD
52.9	0	0	LNE	19.6	0.65	Side LWD
59.1			LWP	19.5	0.65	
				20.0	0.50	
				21.0	0.50	
				22.0	0.50	
				23.0	0.55	
				24.0	0.8	
				25.0	0.9	
				26.0	1.05	
				27.0	1.15	
				28.0	1.10	
				29.0	1.25	

HYDRAULIC CONTROLS		
ST#	DEPTH	Comments
44.0	1.67	RWP
45.0	1.6	RWE
46.0	1.35	
47.0	1.40	
47.8	1.0	
48.0	0.6	
49.0	0.40	
49.5	0.30	
50.0	0.25	
51.0	0.2	
52.9	0	
59.1		

22 HYDRAULIC CONTROL SY8

STA	DEPTH	COMMENTS	SY8 RIFFLE	TR I	DISCHARGE	COMMENTS
30.0	1.20		1.0	0	0	RWPF
31.0	1.25		6.3	0	0	RWFE
32.0	1.25	rope	6.7	out/g	-	
32.2	1.4	edge of rock	7.7	0	0	
33.0	1.4		7.7	.7	.7	turbulent - fluctuate direction
33.5	1.3		8.3	0.8	0.53	
34.0	1.3		9.0	0.91	0.41	velocity shelter
34.3	0.7	edge of bank	9.5	1.15	2.1	
34.4	0.1		10.0	1.35	2.74	
34.6	0	RWE	10.5	1.50	2.46	
40.0	0	RWPF	11.0	1.55	2.85	
			11.5	1.6	3.03	
			12.0	1.6	3.12	
			12.5	1.70	3.04	
			13.0	1.75	3.73	
			14.0	1.75	2.70	
			15.0	1.60	3.81	
			16.0	1.60	2.61	
			17.0	1.60	2.67	
			18.0	1.70	2.60	
			19.0	1.77	250	
			19.5	1.65	2.00	
						Continued →

SY 8 RIFFLE TR2 DISCHARGE

STA	DEPTH	VELOCITY	COMMENTS	STA	DEPTH	VELOCITY	COMMENTS
20	1.50	1.70		2.0	2.0		RWD
20.5	0.93	1.85		10.3	0	0	RWE
21.0	0.90			10.6	0.25	0.25	Upstream grass
21.5	1.43	1.60		11.0	0.82	0.1	Very
22.0	1.30	1.06		11.5	1.12	0.38	grass on bank
22.5	1.30	0.45		12.0	1.15	1.06	
23.0	1.02	-0.01		12.5	1.22	1.81	
23.5	0.93	-0.01	Kick test, negative	13.0	1.20	2.45	
24.0	0.73	-0.05	Little bit of grass	13.5	1.30	2.59	
24.5	0.45	-0.16		14.0	1.35	2.77	
25.0	0.22	-0.14	"	15.0	1.40	2.37	
25.5	0.	0	NE	16.0	1.5	2.54	
26.0	0.		LWP	17.0	1.50	2.96	
26.5	0.			18.0	1.45	3.11	
27.0	0.			19.0	1.50	3.15	
27.5	0.			20.0	1.45	3.02	STA D V
28.0	0.			21.0	1.40	2.89	26.1 D O LWD
28.5	0.			22.0	1.25	2.70	37.4 RWD
29.0	0.			23.0	1.05	2.87	
29.5	0.			24.0	0.90	2.64	
30.0	0.			24.5	0.85	2.1	
30.5	0.			25.0	0.80	1.61	
31.0	0.			25.4	0.65	1.34	edge of sun bank
31.5	0.			25.5	0.15	0.1	

STA	DEPTH	R3	DISCHARGE	COMMENTS
2.0	0	0	0.00	RNP
9.7	0	0	0.00	RNE
10.0	0.52	0.16	0.00	veg
10.5	1.15	1.24	0.00	
11.0	1.25	1.92	0.00	
11.5	1.25	2.02	0.00	
12.0	1.25	2.11	0.00	
13.0	1.25	2.15	0.00	
14.0	1.25	2.29	0.00	
15.0	1.30	2.49	0.00	
16.0	1.35	2.73	0.00	
17.0	1.50	2.73	0.00	
18.0	1.65	2.84	0.00	
19.0	1.75	3.05	0.00	
19.5	1.95	3.99	0.00	
20.0	2.05	3.02	0.00	
21.0	2.05	2.56	0.00	
22.0	2.02	2.00	0.00	
23.0	2.02	1.20	0.00	side of cobble
23.7	2.0	0.86	0.00	on top cobble
24.0	1.65	0.35	0.00	down 24' to bank
24.5	1.75	0.24	0.00	velocity shallow
				CONT'D

PHOTO LOG:

- 1. STA 8 RIFFLE TKE UPSTREAM
- 2. STA 8 RIFFLE TKE Downstream
- 3. STA 8 RIFFLE TKE 3 LB → RB
- 4. STA 8 RIFFLE TKE 3 RB → LB
- 5. STA 8 RIFFLE TKE Upstream
- 6. STA 8 RIFFLE TKE Downstream

28 S/8 RIFFLE TR3 DISCHARGES

STA	DEPTH	VELOCITY	Comments
25.0	1.55	0.09	
25.5	1.40	0.06	
26.0	1.20	-0.15	
26.5	0.90	-0.17	
27.0	0.75	-0.11	
27.5	0.70	-0.25	
28.0	0.60	-0.12	
28.3	0.47	-0.08	edge of bank
28.4	0	0	LW = 0 undercut bank = 0.5' LWP
32.7			

GY - 88



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

6/25/64

MEASUREMENT CONVERSIONS

IF YOU KNOW LENGTH	MULTIPLY BY	TO FIND
1 inches	2.540	centimeters
feet	.30.480	centimeters
yards	.914	meters
miles	1.609	kilometers
millimeters	.039	inches
centimeters	.393	inches
meters	3.280	feet
feet	1.093	yards
miles	.621	miles
kilometers		
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	.0033	fluid ounces
liters	.0035	quarts
liters	.0264	gallons (U.S.)
TEMPERATURE		
$^{\circ}\text{C} = (\text{F} - 32) \times .555$		
$\text{F} = (\text{C} \times 1.8) + 32$		
8		
INCH	CM	
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		



Name Mike Gagnet

R3 Resource Consultants

Address 15250 NE 95 St.

Redmond, WA 98052

Phone 425/556-1238

Project 1418.01 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.

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

54-8 Long Creek 6/25/04

SY-8 Pool Level Loop 6/25/04

IN	OUT
9:50 am	5 pm
6.00	6.00

STA	BS	HT	FS	ELEV
BM	4.40	104.40		100.00

TR 1 4.82 99.58

Crew: Glen Anderson
Marcus Appy

TR 2 5.17 99.23

TR 3 5.57 98.83

Equip. Nikon AP-7
Prop. 3A (181)
Snuffer 3602

TR 3 5.71 104.54 98.83

Sunny & warm (High 85°F)

TR 2 5.30 99.24 ✓

TR 1 4.96 97.58 ✓

BM 4.53 100.01 ✓

STA	LWE	RWE	LWS	RWS
TH-1	35.2	20.5		96.50
TA-2	34.9	16.1		96.49
TH-3	42.6	24.7		96.48

SY - 8

6/23/04

Pool TR 1 Bank Survey

<u>STA</u>	<u>BS</u>	<u>HC</u>	<u>FS</u>	<u>Elev</u>	<u>D/S %</u>	<u>Sub.</u>	<u>Notes</u>
47.5	104.54	5.57		100		LWP	Grass
45.4		5.82		100			
44.0		6.44		100			
42.5		7.04		100			
39.0		7.27		100			
38.5		7.56		100			
36.5		7.64		100			
35.4		7.99		100			
35.2		8.03		100			
NA		8.04	96.50	WA		LWE	
20.5		8.04	96.50	Y1	90	WSE	
20		7.92		Y2	90	RWE	
18		7.69		100			Grass
16.2		7.59		100			
14.8		6.93		100			
11		7.02		100			
7		7.19		100			
4.2		7.34		100			
1.0		6.12		100		RWP	Grass

SY-8 Long cr.

Pool TR 1 Discharge

ST#	D	V	Sab dis %	Cover	Notes	Notes
			LWE			
35.2	0	-	-	-		
34.7	1.35	0.95	2/4	90	2	Large bug raft
34.5	1.52	1.30	3/4	90	2	pool TR 1 L-R
34.0	1.50	1.59	3/4	60	3	pool TR 2 L-R
33.5	1.58	1.75	4/4	90	4	TR 1 R-L
33	1.60	1.96	2/4	90	5	TR 2 R-L
32.5	1.70	2.06	2/4	95	6	pool U/S
32	1.62	1.96	2/5	80	7	pool HC L-R
31.5	1.70	1.95	2/5	80	8	pool U/S (w tape)
31	1.58	1.98	2/5	75	9	pool L-R
30.5	1.50	1.84	8/4	75	10	pool R-L
30	1.55	1.83	8/4	75	11	pool D/S
29.5	1.50	1.82	8/4	75	12	riffle TR 1 L-R
29	1.55	1.74	8/4	60	13	R-L
28.5	1.65	1.65	8/4	60	14	Riffle U/S
28	1.55	1.54	8/4	60	15	TR 2 L-R
27.5	1.50	1.54	4/2	75	16	R-L
27	1.35	1.43	4/2	90	17	Riffle a/s between TR 1 & 2
26.5	1.30	1.34	4/2	90	18	" D/S
26	1.20	1.29	4/3	80	19	TR 3 L-R
25.5	1.10	1.18	4/3	80		
25	1.0	1.14	4/2	80		

Photo Log

Roll #2

1	Large bug raft
2	pool TR 1 L-R
3	pool TR 2 L-R
4	TR 1 R-L
5	TR 2 R-L
6	pool U/S
7	pool HC L-R
8	pool U/S (w tape)
9	pool L-R
10	pool R-L
11	pool D/S
12	riffle TR 1 L-R
13	R-L
14	Riffle U/S
15	TR 2 L-R
16	R-L
17	Riffle a/s between TR 1 & 2
18	" D/S
19	TR 3 L-R

GO AHEAD 4 PAGES →

(continues)

SV-8 6/25/04
Pool TR 2 Bank Survey

STA	BS	HT	FS	ELFL	Sub	Notes	RWP
1.0		104.54	6.50	1	100		
3.0			7.09	1	100		
6.0			7.11	1	100		
9.0			7.00	1	100		
11.0			7.05	1	100		
13.5			7.64	1	100		
16.0			8.06	1/2	90		
16.1			8.06	1/2	70	RWE	
			8.05	96.49	NA	WSE	
34.9			8.02	6/5	80	LWE	
35.0			7.83	1	100	- mat of dead bugs.	
36.4			7.08	1	100	- small willow from [35'-45']	
38.5			7.31	1	100		
41			7.18	1	100		
			6.60	1	100		
			5.80	1	100		
			5.70	1	100	LWP	
			46.6				

SV-8 6/25/04
 Pool TR 2 Discharge

STA	D	V	%S	% Cover	Notes	R.W.E.
16.1	0	-	-	-		
16.2	0.05	0	9/2	60	2	
17.0	0.45	-0.33	9/2	60	2	
17.5	0.65	-0.31	9/2	60	2	
18	0.75	-0.42	2/3	90	4	
18.5	0.75	0.21	2/3	90	4	
19	0.85	0.20	2/3	90	4	
19.5	1.10	0.11	2/4	85	4	
20	1.20	0.23	2/4	85	4	
20.5	1.45	0.45	2/4	60	4	
21	1.55	0.49	4 1/2	60	4	
21.5	1.70	0.64	5 1/4	60	4	
22	1.75	0.72	5 1/8	75	4	
23	1.72	0.93	5 1/0	80	4	
24	1.75	1.03	5 1/8	70	4	
25	1.65	1.23	5 1/8	60	4	
26	1.70	1.23	8 1/5	60	4	
27	1.70	1.44	8 1/5	60	4	
28	1.60	1.46	5 1/3	80	4	
29	1.60	1.37	5 1/6	60	4	
30	1.70	1.45	5 1/6	70	4	
31	1.62	1.38	6 1/5	60	4	
32	1.55	1.16	6 1/5	70	1	

$\neq 45^\circ$ flow negative and to angle
 $\neq 60^\circ$ " " "
 $\neq 90^\circ$ Flow L to front select
 $\neq 70^\circ$ " "
 $\neq 45^\circ$ flow positive and to angle
 $\neq 45^\circ$ "

Pool TR 2 (continued) 6/25/04

<u>STA</u>	<u>0</u>	<u>V</u>	<u>D/S %</u>	<u>Cover</u>	<u>Notes</u>
33	1.55	0.96	6/5	70	1
34	1.40	0.54	6/5	90	Velocity shelter
34.8	1.30	0.78	9/5	80	2 Next to undercut bank (1.8' undercut)
34.9	—	—	—	—	L-Bank Edge

Velocity in Undercut area

$$\frac{V=0.4}{\rho g c_0} \frac{T}{L} = 0$$

$$1.8' \neq w$$

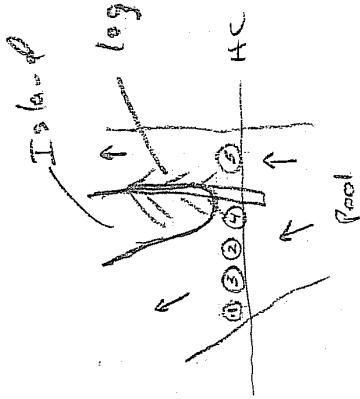
54-8 0/25/04
Pool TR 1 Discharge %
 (Continued) (Back 4 Pages)

<u>Size</u>	<u>D</u>	<u>V</u>	<u>D/s</u>	<u>%</u>	<u>Cover</u>
24.5	0.85	1.09	4/2	35	4
24	0.80	1.04	4/2	70	4
23.5	0.70	0.92	4/2	60	4
23	0.65	1.00	4/2	60	4
22.5	0.50	0.76	3/4	80	4
22	0.45	0.81	2/4	80	4
21.5	0.25	0.37	2/1	60	1
21	0.23	0.05*	2/1	60	1
20.5	0	0			

* Estimated

Pool HC Bank Survey

STA	BS	H.E	E.S	E.E	W.E	NOTES
40.8		104.54	6.90	6.90	6.90	LWP
38						7.39
35						7.92
34.3						8.29
						8.28
						96.26
						WSE ①
						(34.0)
						8.26
						WSE ②
						(25)
						8.18
						WSE ③
						(30)
						8.20
						WSE ④
						(21)
						8.14
						96.40
						WSE ⑤
						(17)
						RWE
						8.33
						7.90
						8.30
						7.90
						7.29
						6.81
						6.12
						RWP
						11.0
						4.5
						1.0



Pool	TR 3	Bank Survey	Sub J				
STA	BS	HS	ES	EL	D _S %	LWP	Grass
59.1		104.54	6.00		100		
55			6.65		100		
54.4			7.48		100		
49.5			8.06	96.48	1/2	70	LWE
			8.06				WSE (48')
			8.07				WSE (37')
			8.07	96.47			WSE (26')
24.7			8.07		1/2	70	RWE
24.4			7.40			100	Grass
			6.93			100	
			6.75			100	RWP
			5.94			100	RWP
			1.0				

~ 5.70

78 84 ✓ ok LWP (TR3) - Shot HWP to check level
because Pool WSE's going up (down stream).
Shot good.
Re-shot WSE's at other transects, and they were correct. WSE's increase over short distance going down stream.

STA	D	V	η_s	%	LIVE	
					Sub	Cover
49.5						Notes
49	0.20	-0.10	2/9	70	1	
48	0.20	-0.590	2/9	70	1	
47.8	0.70	-0.23	2/9	70	1	
47	1.10	-1.12	5/6	70	1	
46	1.25	-0.86	5/6	60	4	
45	1.25	-0.78	5/6	60	4	
44	1.25	-0.68	5/6	70	4	
43	1.35	-0.28	5/6	70	4	
42	1.42	0.08	5/6	60	4	
41	1.60	0.07	5/6	70	4	
40	1.60	0.16	5/6	70	4	
39	1.60	0.79	5/6	70	4	
38	1.70	1.20	5/6	70	4	
37	1.90	1.44	5/6	70	4	
36	1.90	1.57	5/6	60	4	
35	1.90	1.65	5/6	60	4	
34	1.95	1.55	5/6	60	4	
33	1.90	1.45	5/6	60	4	
32	1.95	1.55	5/6	70	4	
31	1.95	1.44	5/6	70	4	
30	2.00	0.72	5/6	60	4	
29	1.75	-0.11	5/6	60	4	

Top of Log (measured to top)
Edge of Log

SI-3

Pool TR 3 (continued)

	Sub	%	cover
28	0	✓	0/5
	1.5	-0.32	4/2 60
27	1.4	-0.73	7/4 90
26	1.0	-0.82	2/9 90
25.4	0.9	-0.10	2/9 70
24.7	0	-	-

* Estimated rel. (Ap. Veg.)

S1-8 Riffle Level Loop

6/25/04

<u>STA</u>	<u>BS</u>	<u>HT</u>	<u>FS</u>	<u>ELEV</u>
BM	4.26	104.26		100.00
TR 2			5.45	98.81
TR 1	5.26	104.04	5.45	98.81
TR 3			5.65	98.42
BM	4.375	104.375	4.07	100.00
TR 2			5.56	98.815
TR 1	5.09	103.905	5.56	98.815
TR 3			5.48	98.425 ✓

Riffle

<u>LINE</u>	<u>HT</u>	<u>WS</u>	<u>WS</u>	<u>WS</u>
TR-1	24.1	7.4	96.68	96.09
TR-2	25.5	10.9	96.14	96.12
TR-3	23.3	9.8	96.24	96.24

Riffle TR 1

SY-8

Bank Survey

Sub.

WHT

STA
-
5.09

BS
103.90

HT

ELEV.

5.30 1 100 RWP

5.34 1 100

7.39 2/3 90

6.72 1 100

7.15 1 100

7.77 2 100 RWE

7.81 - RWE

7.82 - LWE

7.82 2/1 90 LWE

7.74 1 80

24.01

24.9

25.1

27

37.3

7.17 1 100

6.84 1 100

6.31 1 100 LWP

TR 1

96.09

96.08

(7.5')

(22')

Riffle TR 1 Discharge

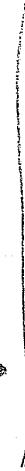
SV-8

6/25/04

STA	D	V	<u>Sub</u>	<u>0/8</u>	<u>%</u>	Cover	RWE
7.4	0	0	-	-	-	-	-
7.7	0.30	-0.26	2/1	70	4		
8.3	0.45	-0.26	2/3	60	4		
9.0	0.55	0.09	3/8	60	4		
9.5	0.57	0.63	8/2	70	4		
10.0	0.80	2.01	8/2	90			
10.5	1.05	1.86	8/4	90			
11	1.25	2.31	8/4	90			
11.5	1.20	2.52	8/4	90			
12	1.20	2.59	9/4	80			
12.5	1.25	2.55	8/4	80			
13	1.25	2.45	8/4	80			
14	1.30	2.33	8/4	90			
15	1.20	2.39	8/4	90			
16	1.17	2.34	8/4	90			
17	1.17	2.32	8/4	70			
18	1.20	2.18	8/4	70			
19	1.37	1.73	8/5	60			
19.5	1.37	1.67	8/5	60			
20	1.20	1.49	5/4	60			
20.5	1.10	1.06	4/2	80			
21	1.00	0.58	4/2	60			
21.5	0.90	-0.04	4/4	80			

Notes

Clay bedrock anerofacial



SI-8

Riffle TR I (continued)

6/25/04

<u>STA</u>	<u>D</u>	<u>Y</u>	<u>SUB.</u>	<u>Cover</u>	<u>Note</u>	<u>Notes</u>
22	0.85	-0.02	2/1	90	4	
22.5	0.50	-0.05	2/9	90	4	
23	0.40	-0.05	2/9	90	4	
23.5	0.20	0	2/9	70	4	
24	0.05	0	2/9	70	4	
24.1	0	0	—	—	—	LWE

Riffle TR 2 Bank Survey

SI-8

6/28/04

Notes

<u>St.</u>	<u>BS</u>	<u>HS</u>	<u>FS</u>	<u>Elev</u>	<u>% Snd</u>	<u>Notes</u>
37.4		103.90	6.08		100	LWP
32			6.49		100	
29.5			7.05		100	
26.5			7.25		100	
25.6			7.67		100	
		7.76	96.14			WSE-L (25')
		7.73	96.17			WSE-R
		7.56			100	
		7.16			100	
10.4			6.76		100	
10.0			6.66		100	
7.0			5.13		100	
5.0			-2.0		100	

Small Pine trees 1.0' - 5.0'

Riffle TR 2 Discharge

SI-8 6/25/04

STA	D	V	Q/s	%	cover	Notes
	Ø	Ø	q ₂	80	-	RWE
10.9	0.4	0.1	2 ₄	70	2	
11.0	0.55	0.18	2 ₄	70	2	
11.5	0.80	0.52	2 ₅	60	4	
12	0.80	1.39	5 ₄	70	4	
12.5	0.90	1.91	5 ₄	70	4	
13	0.90	2.23	5 ₄	70	4	
13.5	0.90	2.15	5 ₄	80		
14	0.95	2.42	5 ₈	70		
15	1.00	2.27	5 ₄	80		
16	1.05	2.48	5 ₄	80		
17	1.15	2.56	5 ₄	80		
18	1.10	2.54	5 ₄	70		
19	1.15	2.55	5 ₄	60		
20	1.65	2.53	4 ₅	60		
21	1.00	2.79	4 ₅	60		
22	0.80	2.73	4 ₅	60		
23	0.70	2.06	4 ₅	60		
24	0.55	1.75	4 ₅	60		
24.5	0.50	1.11	2 ₄	90		
25	0.40	0.54	2 ₉	80		
25.5	0.30	0.30	2 ₉	80		LWE

54-8

6/25/04

Riffle TR 3 Bank Survey

STA	BS	HT	FS	ELEV	Sab	%
HP	3.74	102.16		98.42	1	100
1.0			4.10		1	100
9.7			5.10		1	100
			5.64		1	100
			5.92	96.24	—	
			5.91	96.25	—	
			4.71		1	100
			4.24		1	100
			3.85		1	100
			3.36		1	100
			28.5			
			28.9			
			30			
			32.7			
					LWP	

WSE - R

WSE - C

3

RWP

Riffle TR 3 Discharge

SY-8 6/24/04

STN D %_{1/3} cover
 9.8 0.05 1/2 70
 10.0 0.03 0 9/1 80 4
 10.5 0.70 0.57 4/2 60 2
 11.0 0.80 1.35 4/2 90 2
 11.5 0.85 1.50 4/2 90 4

<u>STN</u>	<u>D</u>	<u>%_{1/3}</u>	<u>cover</u>
12	0.85	1.64	4/5 80
13	0.85	1.74	4/5 70
14	0.90	1.81	4/5 60
15	0.90	1.55	4/5 60
16	1.00	1.93	5/4 60
17	1.05	1.94	5/4 70
18	1.20	2.17	5/4 80
19	1.30	1.99	5/4 90
19.5	1.45	2.32	5/4 90
20	1.55	2.03	5/4 90
21	1.65	1.89	5/8 80
22	1.70	1.63	5/4 70
23	1.60	1.06	4/5 60
23.7	1.65	0.68	3/4 70
24	1.60	0.47	2/8 60
24.5	1.30	0.15	2/8 70
25	1.30	0.07	2/8 70
25.5	1.10	0.04	2/3 80

Notes
 RUE

54-8 TR 3 (continued) (5/24/04)

Rifle	#	U	%S	%C	Cover	Comments
26	1.0	-0.03	2/3	80	4	
26.5	0.60	-0.07	2/3	80	4	
27	0.30	0	2/3	70	2	
27.5	0.30	0	2/3	70	2	
28	0.20	0	2/3	70	2	
28.3	0	0	2/3	90	2	LWE

RUN SY-8 Oct 25/04
TR 1 Discharge

<u>STA</u>	D	V	% _s % _c cover
30.2	0	0	4
30	0.1	1/2 90	2
29	1.25	-0.26 4/2 90	2
28	1.63	-0.21 5/2 80	4
27	1.63	-0.02 5/6 60	4
26	1.60	0.18 8/5 70	
25	1.63	1.05 5/6 80	
24	1.65	1.45 5/6 60	
23	1.70	1.41 5/8 80	
22	1.70	1.80 5/6 80	
21	1.65	1.27 5/4 90	
20	1.60	1.00 5/6 70	
19	1.55	1.06 5/6 90	
18	1.55	1.04 5/4 70	
17	1.40	0.97 5/4 70	
16	1.45	0.70 5/4 70	
15	1.40	0.80 5/4 60	
14	1.50	0.60 5/4 60	
13	1.40	0.42 5/4 60	
12	1.42	0.39 5/4 60	
11	1.41	0.14 5/2 80	
10	1.40	0.11 4/2 70	
9	1.75	-0.19 4/4 70	2
8	1.30	-0 2/4 70	2
			EDGE OF BANK

Note: Bank Survey's and
TR 3 Discharge X-sec in
other field Book.

Undercut bank - 1.0' undercut

8.9

SY-8 6/25/04
RUN TR 2. Discharge

SY-8 6/26/04
RUN TR 2 (continued)

STA	Sub.	V	% LWE	Cover	LWE	V	% LWE	Cover
11.3	0	0	0	0	26.5	1.05	1.71	4
11.5	0.1	21.1	80	2	27	1.10	1.64	2
12.5	0.7	21.9	80	2	27.5	1.10	1.71	2
13.5	1.0	0.02	74	70	28.0	1.0	0.64	2
14.5	1.15	0.30	21/4	60				
15.5	1.25	0.43	41/6	70				
16.5	1.40	1.05	41/5	60				
17.5	1.40	1.42	41/5	60				
18.5	1.45	1.76	41/5	60				
19.5	1.40	1.91	51/4	60				
20.0	1.45	1.85	51/4	60				
20.5	1.40	1.97	51/4	60				
21	1.40	2.04	51/4	60				
21.5	1.35	2.02	51/4	60				
22	1.35	1.91	51/4	60				
22.5	1.30	1.84	51/4	60				
23	1.27	1.84	51/4	60				
23.5	1.25	1.68	51/4	60				
24	1.15	1.95	51/4	60				
24.5	1.15	1.70	51/4	60				
25	1.10	1.68	51/4	60				
25.5	1.05	1.61	51/4	60				
26	1.05	1.66	41/5	60				

* Undercut by 0.55'

RWE

SLR-Q

Run STA	TR-3	Sub	06/25/04	Notes
Run STA	V	%	Cover	Notes
7.2	0.57	.14	ST/SO	0.4' veg LWD
8.0	1.18	.05	ST/SO	
9	1.15	.10		
10	1.38	.43		
11	1.58	0.24		
12	1.5	0.26	SO/ST	60
13	1.47	0.66	SO/ST	
14	1.4	0.68	SO/ST	
15	1.51	1.07	ST/ST	
16	1.4	1.14	ST/SO	
17	1.52	1.94	SO/SO	60
18	1.68	1.61	ST/SO	60
19	1.6	1.42	ST/SO	70
20	1.57	1.59	ST/SO	70
21	1.6	1.54	ST/SO	70
22	1.7	1.54	SO/ST	60
23	1.8	1.31	SO/ST	60
24	1.81	1.35	"	60
25	1.7	1.19	"	60
26	1.53	0.50	ST/SO	60
27	1.4	0.23	ST/SO	60
28	1.22	0.05	ST/SO	70 veg
29	0.90	*0.50	ST/SO	80 veg

64-6

Run TR-3 Sub.

Run STA	D	V	%	Cover	Notes
30	0.42	0.0	57/19	60	
31	0.2	0.0	W/F	30	
31.7	0	0	W/L	70	RWE

S4-8

Run TR-1 Bank Survey 06/25/84

S4-8 06/25/84

Run TR-3 Bank Survey

STA	H.T.	F.S.	Eleva	Sub	% Rod	STA	H.T.	F.S.	Eleva	Sub	% Rod
TR-1 H.P.	104.80	4.89	99.81			1.0 Lwp			4.96		
1.0 Lwp.	5.27		Veg/soil 90	"		7.0	Lwp			Veg/soil 80	"
5.0	5.96		"			7.5	LWS/E		97.45	S/ST	60 0.82
8.0	7.26		80	1.31		31.7 RWP			7.54	97.37	"
8.5 Lws	8.96	97.15	Sub 60	1.31		32.5			6.64	"	0.07
30.2 Rws	8.07	97.11	Sub 60	"	38	42.5 RWP			6.34	Veg/ST	80
30.7	7.42		Veg/ST 60			Veg/soil 80				Veg/soil 80	
42.9 Rws	6.38		Veg/soil 80	"							
+6.0	6.35		"								

Run Unit

STA	H.T.	F.S.	Eleva	Sub	% Rod	STA	H.T.	F.S.	Eleva	Sub	% Rod
TR-3 H.P.	104.74	4.54	104.70			~50' vs of TR-3			8.75	97.36	1.43
1.0 Lwp	5.07		Veg/soil 90	"		~40' vs of TR-1			9.76	97.09	2.15
4.0	5.47		"			TR-3 WSE					
10.0	6.03		"			8.98 (97.35) use					
11.2	6.85	97.28	ST/SO	70	0.0						
27.9	7.92	97.27	"	"	1.06						
30.2	6.60		Veg/ST 80								
30.0	5.57		Veg/soil 70	"							
32.2	5.18		"								

5 Run Unit Level Loop 06/25/04

STA BS HI FS Eleva

BM 4.79 104.79

100.00

TR-1 4.98 99.81

5.44 99.35

TR-2 4.63 100.16

TR-3 4.68 104.84

100.16
5.44 99.35

TR-1 5.03 99.81

BM 4.84 100.00

SY-8 Long ck 6/25/04

SY-8 6/25/04 Pool Level Loop

6/25/04

Time	In	Out
	9:50 AM	5 PM
S.G.	6.00	6.00

	STA	BS	H2	FS	ELEV
	BM	4.40	104.40		100.00

Crew: Glen Anderson
Marcus Appy

Equip: Level Nikon AP-7
prop: 3A (181)
Snoffer 3602

TR 1

TR 2

TR 3

TR 3 5.71 104.54

TR 3 5.71 104.54

Sunny & warm (High 85°F)

TR 1

5.30 99.24 ✓

4.96 92.58 ✓

4.53 100.01 ✓

BM

LWF RWF LWS HWS

	LWF	RWF	LWS	HWS
TR-1	35.2	30.5		96.50
TR-2		34.9	16.1	96.49
TR-3	49.6	34.7		96.48

SY - 8 TR 1 Bank Survey

Sub.

<u>STA</u>	<u>BS</u>	<u>HC</u>	<u>FS</u>	<u>Elev</u>	<u>D/S</u>	<u>%</u>	<u>Notes</u>
47.5	104.54	5.57		1	100		LWP
45.4		5.82		1	100		Grazing
44.0		6.44		1	100		
42.5		7.04		1	100		
39.0		7.27		1	100		
38.5		7.56		1	100		
36.5		7.64		1	100		
35.4		7.99		1	100		
35.2		8.03		21	60	LWE	
NA		8.04	96.50	NA		WSE	
20.5		8.04		Y1	90	RWE	
20		7.92		Y2	90		
18		7.69		1	100		Grazing
16.2		7.59		1	100		
14.8		6.93		1	100		
11		7.02		1	100		
7		7.19		1	100		
4.2		7.34		1	100	RWP	Grazing
1.0		6.12		1	100		

SY-8 Long cr. Pool TR 1 Discharge

<u>STA</u>	<u>TR</u>	<u>Sub</u>	<u>15 %</u>	<u>Cover</u>	<u>Notes</u>	<u>Notes</u>	<u>Notes</u>
		D	V	-	1 w/E	1 w/E	1 w/E
35.2	0	0.95	24	90	2		
34.7	1.35	0.95	24	90	4		
34.5	1.52	1.30	24	90	4		
34.6	1.56	1.59	24	60	4		
33.5	1.58	1.75	24	90	4	"	"
33	1.60	1.96	24	90	4	"	"
32.5	1.70	2.06	24	95	4	"	"
32	1.62	1.96	24	80	4	"	"
31.5	1.70	1.95	24	80	4	"	"
31	1.58	1.98	24	75	4	"	"
30.5	1.50	1.84	8/4	75			
30	1.55	1.83	8/4	75			
29.5	1.50	1.82	8/4	75			
28.5	1.55	1.74	8/4	60			
28	1.55	1.65	8/4	60			
27.5	1.50	1.54	8/4	75			
27	1.35	1.43	4/2	90			
26.5	1.30	1.34	4/2	90			
26	1.20	1.29	4/3	80			
25.5	1.10	1.18	4/3	80			
25	1.0	1.14	4/2	80			

GO AHEAD 4 PAGES →
(continues)

Photo Log

Roll #2

- 1 Pool TR 1 L-R Large bug raft
- 2 Pool TR 2 L-R
- 3 Pool TR 1 R-L
- 4 TR 2 R-L
- 5 TR 2 R-L
- 6 Pool U/S
- 7 Pool HC L-R
- 8 Pool U/S (w HC)
- 9 Pool TR 3 L-R
- 10 TR 3 L-R
- 11 Pool O/S
- 12 Riffle TR 1 L-R
- 13 Riffle U/S
- 14 TR 2 L-R
- 15 Riffle U/S R-L
- 16 Riffle U/S between TR 1 & 2
- 17 TR 3 L-R
- 18 " D/S
- 19 "

Pool TR 2 Bank Survey

SY-8 6/25/04

<u>STA</u>	<u>BS</u>	<u>HT</u>	<u>FS</u>	<u>ELEV</u>	<u>Sub</u>	<u>%</u>	<u>Notes</u>
1.0		104.54	6.50	7.09	1	100	RWP
3.0				7.11	1	100	Grass
6.0				7.00	1	100	
9.0				7.05	1	100	
11.0				7.64	1	100	
13.5				8.06	1/2	90	
16.0				8.06	1/2	70	RWE
16.1				8.05	96.49	NA	WSE
34.9				8.02	6/5	80	LWE
35.0				7.83	1	100	— mat of dead bugs.
36.4				7.08	1	100	— small willow from [35'-45']
38.5				7.31	1	100	
41				7.18	1	100	
44.6				6.68	1	100	
45.9				5.80	1	100	
46.6				5.70	1	100	LWP

SV-8 6/23/04
 Pool TR 2 Discharge

STA	D	V	%S	% cover	Notes
16.1	θ	θ	-	-	Rv/E
16.2	0.05	θ	9/2	60	2
17.0	0.45	-0.33	9/2	60	2
17.5	0.65	-0.31	9/2	60	2
18	0.75	-0.42	2/3	90	4
18.5	0.75	0.21	2/3	90	4
19	0.85	0.20	2/3	90	4
19.5	1.10	0.11	2/4	85	4
20	1.20	0.23	2/4	85	4
20.5	1.45	0.45	7/4	60	4
21	1.55	0.49	7/2	60	4
21.5	1.70	0.67	5/4	60	4
22	1.75	0.77	5/8	75	4
23	1.72	0.93	3/8	80	4
24	1.75	1.03	5/8	70	4
25	1.65	1.23	5/8	60	4
26	1.70	1.23	8/5	60	4
27	1.70	1.44	8/5	60	4
28	1.60	1.46	5/8	80	4
29	1.60	1.37	5/6	60	4
30	1.70	1.45	5/6	70	4
31	1.62	1.38	6/5	60	4
32	1.55	1.26	6/5	70	1

27 45° flow negative and at angle
 4 60° "
 4 90° Flow L to transect
 4 45° flow positive and D angle
 4 45° "

Pool TR 2 (continued)

SY-8 6/25/04

<u>STA</u>	<u>0</u>	<u>V</u>	<u>D/S %</u>	<u>Cover</u>	<u>Notes</u>
33	1.55	0.96	9/5	70	1 Velocity Shifter
34	1.40	0.54	9/5	90	1 Next to undercut bank (1.8' undercut)
34.8	1.30	0.78	9/5	80	2 L-Bank Edge
34.9	0	0	—	—	Velocity in Undercut area.

$$V = 0.4 \quad T = 1' = 0$$

POSO

$\cancel{1.8' \pm w}$

SY-8
Pool TR 1 Discharge
(Continued) (Back 4 pages)

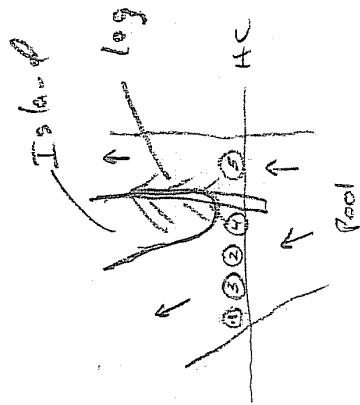
<u>Size</u>	<u>D</u>	<u>V</u>	<u>D/s</u>	<u>%</u>	<u>Cover</u>
24.5	0.85	1.09	4/12	70	4
24	0.80	1.04	4/12	70	4
23.5	0.70	0.92	4/12	60	4
23	0.65	1.00	4/12	60	4
22.5	0.50	0.76	2/4	88	4
22	0.45	0.81	2/4	80	4
21.5	0.25	0.37	2/1	60	1
21	0.23	0.05*	2/1	60	1
20.5	0	0			—

* Estimated

W.W. E.G.

Pool HC Bank Survey

STA	BS	H.E.	ES	ELEV	NOTES
40.8		104.54	6.90	7.39	L.W.P
38					
35				7.92	
34.3				8.29	L.W.E
-				8.28	96.26 WSE (34.0)
34.4				8.26	
				8.18	WSE (25)
				8.20	WSE (30)
				8.14	96.40 WSE (21)
				8.33	WSE (17)
				8.30	R.W.E
				7.90	
				7.29	
				6.89	
				6.12	R.W.P
				1.0	



SY-8
TR 3
Pool

6/25/04
Discharge

STA	P	V	Sub	Cover	Notes	LATE
			%	%		
49.5						
49	0.20	-0.10	2/9	70	1	
48	0.20	-0.90	2/9	70	1	
47.8	0.70	-0.23	2/9	70	1	
47	1.10	-1.12	5/6	70	1	
46	1.25	-0.86	5/4	60	4	
45	1.25	-0.78	5/4	60	4	
44	1.25	-0.68	5/4	70	4	
43	1.35	-0.28	5/4	70	4	
42	1.42	0.08	5/6	60	4	
41	1.60	0.07	5/4	70	4	
40	1.60	0.16	5/4	70	4	
39	1.60	0.79	5/4	70	4	
38	1.70	1.20	5/4	70	4	
37	1.90	1.44	5/4	70	4	
36	1.90	1.57	5/6	60	4	
35	1.90	1.65	5/6	60	4	
34	1.95	1.55	5/6	60	4	
33	1.90	1.45	5/6	60	4	
32	1.95	1.55	5/6	70	4	
31	1.95	1.44	5/4	70	4	
30	2.00	0.72	5/4	60	4	
29	1.75	-0.14	4/5	60	4	

Top of Log (measured to top)
Edge of Log

SI-8
Pool TR 3 (continued) 6/25/04

STA	0	1/2	60	cover
28	1.5	-0.32	40	4
27	1.4	-0.73	90	4
26	1.0	-0.82	90	7
25.4	0.9	-0.10	70	3
24.7	0	-	-	RWE

↖ Estimated rel. (Ag. Veg.)

SR-8 TR 3 Pool

STA	BS	HT	FS	EL	Sub.	%	
59.1		104.54	6.00				LWP
55		6.65			100		Grass
54.4		7.48			100		Small willow
49.5		8.06	96.48	1/2	70		55' - 51'
-		8.06					LWE
-		8.07					WSE (48')
-		8.07	96.47	-			WSE (37')
24.4		8.07		1/2	70		WSE (26')
		7.40					RWE
		6.93			100		Grass
		6.75			100		
		5.94			100		
		1.0					RWF

~ 5.70

18.84 ✓ OK LWP (TR3) - Shot AP to check level
because pool wise's going up (down stream).
Shot good.
Re-shot wise's at other transects, and they were correct. wise's increase over short distance going down stream.

SI-8 Riffle Level Loop

STA	<u>BS</u>	<u>HT</u>	<u>FS</u>	<u>FEU</u>
BM	4.26	104.26		100.00
TR 2		5.45		98.81
TR 1	5.26	104.07	5.45	98.81
TR 3		5.65		98.42
BM	4.375	104.375	4.07	100.00
TR 2			5.56	98.815
TR 1	5.09	103.905	5.56	98.815
TR 3		5.48	98.425	✓

Riffle

	<u>HT</u>	<u>HTS</u>	<u>LWS</u>	<u>RWS</u>
TR 1	24.1	7.4	96.68	96.09
TR 2	25.5	10.9	96.14	96.12
TR 3	28.3	9.8	96.21	96.24

Riffle SY-8 TR 1 Bank Survey

STA	BS	HS	ES	D/S	%	RHP	TR 1	ELEV.
- 5.09	103.40					RWP		
1.0				5.30	1 100			
5.3				5.34	1 100			
5.9				7.39	2/3 90			
6.3				6.72	1 100			
6.9				7.15	1 100			
7.4				7.77	2 100	RWIE		
				7.81	-	RWSE (7.5')		96.09
				7.82	-	LWSE (22')		96.08
				7.82	2/1 80	LWIE		
				7.74	2/1 80			
24.1				7.17	1 100			
25.1				6.84	1 100			
27				6.31	1 100	LWIE		
				37.3				

SP-3
TR (Discharge
Riffle

STA	P	V	Sub 0 1/8 1/4	Cover	RWE	Notes
7.4	Ø	Ø	-	-	-	
7.7	0.30	0.26	2/1	70	4	
8.3	0.45	-0.26	2/3	60	4	
9.0	0.55	0.09	3/8	60	4	
9.5	0.57	0.63	8/2	70	4	
10.0	0.80	2.01	8/2	70		
10.5	1.05	1.86	8/4	90		
11	1.25	2.31	8/4	90		
11.5	1.20	2.52	8/4	90		
12	1.20	2.59	8/4	80		
12.5	1.25	2.55	8/4	80		
13	1.25	2.45	8/4	80		
14	1.30	2.33	8/4	90		
15	1.20	2.39	8/4	90		
16	1.17	2.34	8/4	90		
17	1.17	2.32	8/4	70		
18	1.20	2.18	8/4	70		
19	1.37	1.73	8/5	60		
19.5	1.37	1.67	8/5	60		
20	1.20	1.49	5/4	60		
20.5	1.10	1.06	4/2	80		
21	1.00	0.58	4/2	60		
21.5	0.90	-0.04	4/4	80		

Clay bedrock
unconsolidated

SY-8
Riffle TR 1 (Continued)

6/25/64

Notes

<u>SITE</u>	<u>D</u>	<u>V</u>	<u>Sub.</u>	<u>1/5 %</u>	<u>Cover</u>	<u>Note</u>
22	0.85	-0.02		2/1 90	4	
22.5	0.60	-0.05		2/9 90	4	
23	0.40	-0.05		2/9 90	4	
23.5	0.20	∅		2/9 70	4	
24	0.05	∅		2/9 70	4	
24.1	∅	∅		—	—	LWE

SI-8 TR 2 Discharge

<u>STA</u>	<u>D</u>	<u>V</u>	<u>%</u>	<u>cover</u>	<u>RWE</u>
10.9	∅	∅	92	80	-
11.0	0.4	0.1	2/9	70	2
11.5	0.55	0.18	2/9	70	2
12	0.80	0.52	2/5	60	4
12.5	0.80	1.39	5/4	70	4
13	0.90	1.91	5/4	70	4
13.5	0.90	2.23	5/4	70	(
14	0.95	2.42	5/8	70	
15	1.00	2.15	5/4	80	
16	1.05	2.27	5/4	80	
17	1.15	2.48	5/4	80	
18	1.10	2.56	5/4	80	
19	1.15	2.54	5/4	70	
20	1.05	2.55	5/4	60	
21	1.00	2.53	4/5	60	
22	0.80	2.79	4/5	60	
23	0.70	2.73	4/5	60	
24	0.55	2.06	4/5	60	
24.5	0.50	1.75	4/5	60	
25	0.40	1.11	2/9	90	
25.4	0.30	0.54	2/9	80	
25.5	∅	∅	1/2	80	LWE

Notes

Riffle TR 2 Bank Survey

5/25/01

Notes

<u>#</u>	<u>B5</u>	<u>H2</u>	<u>FS</u>	<u>ELEV</u>	<u>D/S</u>	<u>%</u>	<u>Small</u>	<u>Notes</u>
37.4		103.90	6.08		1	100		LWP
32			6.49		1	100		
29.5			7.05		1	100		
26.5			7.25		1	100		
25.6			7.67		1	100		
			7.76	96.14	—			WSE-L (25')
			7.73	96.17	—			WSE-R
10.4			7.56		1	100		
10.0			7.16		1	100		
7.0			6.76		1	100		Small Pine trees
5.0			6.46		1	100		
-2.0			5.13		1	100		1.0' - 5.0'

54-8

6/25/04

Riffle TR 3

Bank Survey S

STA BS HT FS ELEV %

HP 3.74 102.16

4.10 98.42

1 100

5.10 1 100

5.64 1 100

5.92 96.24 —

5.91 96.25 —

4.71 1 100

4.24 1 100

3.85 1 100

3.36 1 100

Lwp

3

RHF

RWP

TR 3

WSE - R

WSE - L

Riffle TR 3 Discharge

<u>Stn</u>	<u>D</u>	<u>L</u>	<u>Sup %</u>	<u>Cover</u>	<u>Notes</u>
9.8	0.03	0	0/3	—	R.C.W.E
10.0	0.70	0.57	4/2	60	4
10.5	0.80	1.35	4/2	90	2
11.0	0.85	1.50	4/2	90	2
11.5	0.85	1.64	4/5	80	4
12	0.85	1.74	4/5	70	
13	0.90	1.81	4/5	60	
14	0.90	1.81	4/5	60	
15	0.90	1.93	5/4	60	
16	1.00	1.94	5/4	70	
17	1.05	2.17	5/4	80	
18	1.20	2.17	5/4	90	
19	1.30	1.99	5/4	90	
19.5	1.45	2.32	5/4	90	
20	1.55	2.03	5/4	80	
21	1.65	1.89	5/8	80	
22	1.70	1.63	5/4	70	
23	1.60	1.06	4/5	60	
23.7	1.65	0.68	8/4	70	
24	1.60	0.47	2/8	60	
24.5	1.30	0.15	2/8	70	
25	1.30	0.07	4/8	70	
25.5	1.10	0.04	2/3	80	

Riffle TR 3 (continued) 9/29/04

<u>#</u>	<u>D</u>	<u>V</u>	<u>%</u>	<u>%</u>	<u>Cover</u>	<u>Comments</u>
26	1.0	-0.03	2/3	80	4	
26.5	0.60	-0.07	2/3	80	4	
27	0.30	Ø	4/9	70	2	
27.5	0.30	Ø	2/9	70	2	
28	0.20	Ø	3/9	70	2	- LWE
28.3	Ø	Ø	2/1	90	2	

S Run Unit Level Loop 06/25/04
S4-8

STA BS HI FS Eleva

BM 4.79 104.79 100.00

TR-1 4.98 99.81

TR-2 5.44 99.35

TR-3 4.63 100.16

TR-3 4.68 104.84 100.16

TR-2 5.44 99.35

TR-1 5.03 99.81

BM 4.84 100.00

~~100-100~~
RUN TR 1 Discharge

STA	D	Y	% ₃	% ₆	Cover
30.2	0	0	1/2	9/10	.4
30	0.1	0	1/2	9/10	2
29	1.25	-0.26	4/2	9/10	2
28	1.53	-0.21	5/2	8/10	4
27	1.63	-0.02	5/6	6/10	4
26	1.60	0.18	8/5	7/10	
25	1.63	1.05	5/6	8/10	
24	1.65	1.45	5/6	6/10	
23	1.70	1.41	5/8	8/10	
22	1.70	1.86	5/6	8/10	
21	1.65	1.27	5/4	9/10	
20	1.60	1.00	5/6	7/10	
19	1.60	1.06	5/6	9/10	
18	1.55	1.04	5/4	7/10	
17	1.40	0.97	5/4	7/10	
16	1.45	0.70	5/4	7/10	
15	1.40	0.80	5/4	6/10	
14	1.50	0.60	5/4	6/10	
13	1.40	0.42	5/4	6/10	
12	1.42	0.39	5/4	6/10	
11	1.41	0.14	5/2	8/10	
10	1.40	0.11	4/2	7/10	
9	1.35	-0.10	2/4	7/10	2
8.9	1.30	-0	2/4	7/10	2

Note: Bank Survey's and
TR 3 Discharge X-sec in
other field Book.

Undercut bank - 1.0' undercut

EDGE OF BANK

8.9

SY - 8 6/25/04
Run TR 2. Discharge

51-8 (continued)
6/25/04

STA	D	V	Sub.	STA	D	V
	0	0	0/5 2%		26.5	1.05
11.3	0.1	0	2/1 80	27	1.10	1.64
11.5	0.1	0	2/1 80	27.5	1.10	1.71
12.5	0.7	0	2/9 80	28.0	1.0	0.64
13.5	1.0	0.02	4/4 70			
14.5	1.15	0.30	2/4 60			
15.5	1.25	0.43	4/6 70			
16.5	1.40	1.05	4/5 60			
17.5	1.40	1.42	4/5 60			
18.5	1.45	1.76	4/5 60			
19.5	1.40	1.91	5/4 60			
20.0	1.45	1.85	5/4 60			
20.5	1.40	1.97	5/4 60			
21	1.40	2.04	5/4 60			
21.5	1.35	2.02	5/4 60			
22	1.35	1.91	5/4 60			
22.5	1.30	1.84	5/4 60			
23	1.27	1.84	5/4 60			
23.5	1.25	1.68	5/4 60			
24	1.15	1.95	5/4 60			
24.5	1.15	1.70	5/4 60			
25	1.10	1.68	5/4 60			
25.5	1.05	1.61	5/4 60			
26	1.05	1.66	4/5 60			

STA D V Sub.
2/1 80 0/5 2%
2/1 80 2
2/9 80 2
0.02 4/4 70
0.30 2/4 60
0.43 4/6 70

LWE
Undercut by 0.55'
LWE

STA D V Sub.
26.5 1.05 4/5 60
27 1.10 4/5 60
27.5 1.10 5/4 60
28.0 1.0 5/4 60
EDGEE #
OF BANK

Sv - 8

Run TR-1 Bank Survey 06/25/04 Run TR-3 Bank Survey

STA HT FS Elevation Sub % Rod

TR-1 HP	104.80	4.99	99.81	
1.0 Lwp	5.27	Veg/soil 90 "		
5.0	5.96	"		
8.0	7.21	" 80		
8.5 Wsf	8.96	97.15 SWE 60	1.31	
30.2 Rws	8.07	97.11 SWE " 0.38		
30.7	7.48	Vg/soil 60		
42.9 Rws	6.38	Vg/soil 80		
+6.0	6.35	"		

STA HT FS Elevation Sub % Rod

TR-1 HP	104.84		
1.0 Lwp	5.27	Veg/soil 90	
5.0	5.96	"	
8.0	7.21	" 80	
8.5 Wsf	8.96	97.15 SWE 60	1.31
30.2 Rws	8.07	97.11 SWE " 0.38	
30.7	7.48	Vg/soil 60	
42.9 Rws	6.38	Vg/soil 80	
+6.0	6.35	"	

Run TR-2 Bank Survey
STA HT FS Elevation Sub % Rod

TR-2 HP	104.13	4.79	99.35	
1.0 Lwp	5.07	Vg/soil 90		
4.0	5.47	"		
10.0	6.03	"		
11.2	6.85	97.26 SWE 70	0.0	
27.9	7.92	97.27 "	1.06	
30.2	6.60	Vg/soil 80		
30.0	5.57	Vg/soil 90		
32.2	5.18	"		

STA HT FS Elevation Sub % Rod

TR-3 HP	104.70		
		Vg/soil 90	
		"	
		"	

STA HT FS Elevation Sub % Rod

TR-3 HP	104.70		
		Vg/soil 90	
		"	
		"	

Run Unit Bed Slope Survey Elevation Rod

Had to change HT.

Elev. manually in

TR 3 SHEET FOR 6/25/04

54-6

Run STA	TR-3	06/25/04	Run TR-3	Subst.
	V	% Cover	Notes	STA D
7.2	0.57	.14	ST/SD	700.4% cover
8.0	1.18	-.05	ST/SD	-
9	1.15	.10	{	{
10	1.38	.43	{	{
11	1.58	0.24		
12	1.5	0.26	SD/ST	60
13	1.47	0.66	SD/ST	
14	1.4	0.68	SD/ST	
15	1.51	1.07	SD/ST	
16	1.4	1.14	SD/ST	
17	1.52	1.44	SD/SD	60
18	1.68	1.61	SD/SD	60
19	1.6	1.42	SD/SD	70
20	1.57	1.59	SD/SD	70
21	1.6	1.54	SD/SD	70
22	1.7	1.54	SD/ST	60
23	1.8	1.31	SD/ST	60
24	1.81	1.35	"	60
25	1.7	1.19	"	60
26	1.53	0.50	SD/SD	60
27	1.4	0.23	SD/SD	60
28	1.22	0.25	SD/SD	70 veg
29	0.90	0.50	SD/SD	30 veg

Note: Used Marsh Mc Birney

Model 2000

SN: 2005068

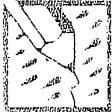
on TR 3 (only)

(Mar 6 03/04)

estimated (Mar 6 03/04)

Ask Mike Sagner what * means here.

GY-
S - 00



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

08/18/04

SY-8 Long Creek

8/18/04

	<u>In</u>	<u>out</u>
Time	9:30	4:30
SG	1.66	1.66

Crew: Glen Anderson
Marcus Avery

Equip: Swaffer 5750
prop. 2A
Level Zeiss Ni 40 (Gedine)

-o- Sun, warm (~90°F High), clear

	STA	BS	NE	FS.	ELEV.
TR1	BIM	4.41	104.41		100.00
TR2				4.84	
TR3	5.67	104.49	5.59	98.82	
TR2				5.27	
TR1				4.92	
BIM				4.49	100.00

	STA	BS	NE	FS.	ELEV.
TR1	LWSE	104.49	8.36	96.13	
TR2	LWSE	8.33		8.36	
TR2	RWSSE	8.35			
TR3	CWSE	8.35			
* TR3	LWSE	8.34			
	RWSSE	8.36			
	CWSE	8.34			

* TR 3 has edges on both
edges - that is why TR 3 USE'S
lower than TR 2 OK ✓
o/a.

SY-8
Photo Log

8/18/04
54-8 Long Creek
Pool TR1 Discharge

STA	D	V
20 TR1 L-R		
19 TR2 R-L		
18 TR1 U/S		
17 TR3 L-R		
16 TR1 L-R		
15 TR2 L-R		
14 TR3 L-R		
13 TR1		
12 TR2 DWN		
11 TR3		
10 TR3 O/S		
21.7	0.1	0.1*
22.5	0.22	0.31
23	0.29	0.38
23.5	0.33	0.43
24	0.41	0.44
24.5	0.59	0.57
25	0.60	0.53
25.5	0.75	0.63
26	0.86	0.61
26.5	0.94	0.66
27	1.01	0.77
27.5	1.17	0.79
28	1.19	0.79
28.5	1.20	0.86
29	1.20	0.92
29.5	1.19	1.00
30	1.20	0.95
30.5	1.17	1.00
31	1.20	1.02
31.5	1.25	1.04
32	1.30	1.07

SY-8
Pool TR1 (continued) 8/18/04

<u>STA</u>	<u>D</u>	<u>V</u>	<u>Comments</u>
32.5	1.30	1.02	
33	1.30	1.05	4 20°
33.5	1.23	0.86	4 25°
34	1.12	0.84	4 30°
34.5	0.93	0.72	4 30°
34.7	0.95	0.59	4 10°
35.1	0	0	LWE
47.5	-	-	LWP

SY-8

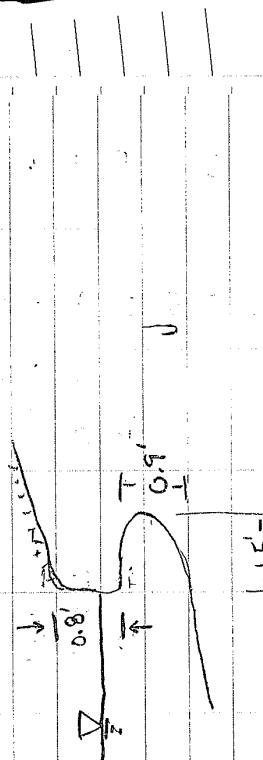
Pool 1 TR2

<u>STA</u>	<u>D</u>	<u>Y</u>	<u>Comments</u>
1.0	-	-	RWP
17.0	0	0	RUNE
17.5	0.28	0	
18	0.40	0	
18.5	0.50	0	
19	0.53	0	
19.5	0.62	0.18	
20	0.90	0.16	
20.5	1.05	0.31	
21	1.23	0.48	
21.5	1.40	0.53	
22	1.45	0.65	
23	1.47	0.68	
24	1.36	0.82	
25	1.35	0.82	
26	1.40	0.70	
27	1.40	0.80	
28	1.33	0.54	
29	1.30	0.55	X 30°
30	1.35	0.24	X 20°
31	1.33	0.45	X 10°
32	1.30	0.34	X 10° { depth 33 1.32 0.15 34 1.10 0.02 LBE (UCB) 34.5 1.05 0.27 - - - LWR}

SY-8

Pool TR2 8/18/04

Left Bank



SY-8 8/18/04
Pool TR 3

<u>STA</u>	<u>D</u>	<u>V</u>	<u>Comments</u>
1.0	-	-	RWP
24.9	0	0	RWE
25.4	0.5	-0.52	grass in channel - vel break
26	0.75	-0.58	
27	1.07	-0.50	
28	1.10	-0.12	
29	1.44	0.10	
30	1.60	0.62	
31	1.70	1.22	
32	1.52	1.27	
33	1.45	1.13	
34	1.62	0.86	
35	1.53	0.29	$\Delta 10^\circ$
36	1.60	0.05	
37	1.50	-0.02	
38	1.40	-0.14	
39	1.23	-0.38	$\Delta 80^\circ$
40	1.28	-0.37	$\Delta 70^\circ$
41	1.18	-0.49	$\Delta 80^\circ$
42	1.00	-0.36	$\Delta 85^\circ$
43	0.95	-0.27	$\Delta 90^\circ$
44	0.98	-0.02	
45	0.98	0	
46	0.80	0	

SY-8
Pool TR 3 (continued) 8/18/04

<u>STA</u>	<u>D</u>	<u>V</u>	<u>Comments</u>
47	0.75	0	
47.8	0.25	0	Woody debris
48	0.10	0	
48.4	0	0	LWE
59.1	-	-	LWP

SY-8	8/18/01	Level	Shots to Connect Pool to Rfl.	
STA	BS	HE	FS	ELEV.
Pool TR3	5.67	104.49		98.82
TP	4.30	105.07	3.72	100.77

BM-Rifle

SY-8
Loop
Rifle

8/18/01

8/18/01

STA	BS	HI	FS	ELEV.
BM-R	2.50	102.50		100.00
TR 1		3.69		98.81
TR 2		3.69		98.81
TR 3		4.07		98.43
TP				
TR 3	4.11	102.54		98.43
TR 2		3.73		98.81
TR 1		3.73		98.81
BM		2.54	103.00	
		102.54		
TR 1	LWSE	6.85	95.69	
	RUSE	6.82		
TR 2	LWSE	6.73	95.81	
	RUSE	6.69		
TR 3	LWSE	6.59	95.95	
	RUSE	6.59		

SY-8

8/18/04

TR 1 Riffle

STA	D	Y
1.0	-	RWF
7.9	⊖	RWE
8.3	0.03	⊖
9	0.12	-0.1
9.5	0.18	-0.05
10	0.40	1.07
10.5	0.63	0.90
11	0.77	1.30
11.5	0.80	1.37
12	0.77	1.96
12.5	0.80	1.90
13	0.90	1.74
14	0.90	1.92
15	0.73	1.93
16	0.70	1.71
17	0.72	1.59
18	0.82	1.23
19	0.93	0.98
19.5	0.90	0.47
20	0.78	0.21
20.5	0.67	⊖
21	0.62	-0.10
21.5	0.52	-0.14
22	0.34	⊖

SY-B

TR 2 Riffle (Good a)

8/18/04

STA	D	V	
1.0	-	-	RWP
10.9	Φ	Φ	RWE
11	0.1	Φ	
11.5	0.33	0.09	
12	0.43	0.63	
12.5	0.50	0.96	
13	0.52	1.20	
13.5	0.55	1.44	
14	0.63	1.45	
15	0.65	1.74	
16	0.75	1.75	
17	0.77	1.69	
18	0.80	1.61	
19	0.80	1.81	
20	0.70	1.88	
21	0.67	1.83	
22	0.48	1.81	
23	0.35	1.46	
24	0.21	0.59	
24.5	0.12	0.10*	E4 - Ag. Veg.
25	0.06	Φ	LWE
34.4	-	-	LWP

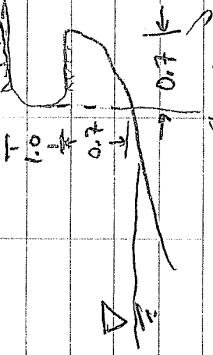
SY-8 8/18/04
TR 3 Riffle

<u>STA</u>	<u>D</u>	<u>V</u>	
1.0	-	-	RWP
10.1	0	0	RWE
10.5	0.30	0.10	
11	0.42	0.55	
11.5	0.50	0.62	
12	0.52	1.00	
13	0.52	1.04	
14	0.52	0.95	
15	0.53	1.10	
16	0.61	1.09	
17	0.70	1.23	
18	0.87	1.12	
19	0.95	1.26	
19.5	1.06	1.20	
20	1.15	1.19	
21	1.28	1.08	
22	1.35	0.86	
23	1.29	0.45	
23.7	1.30	0.28	
24	1.25	0.13	
24.5	1.00	0.13	
25	0.95	0.10	
25.5	0.82	-0.05	

SY-8
Riffle (continued)

<u>STA</u>	<u>D</u>	<u>V</u>	
26	0.58	0	
26.5	0.34	0	
27	0.02	0	
27.2	0	0	LWE
32.7	-	-	LWP

Left Bank



STA 28.5

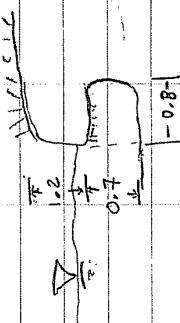
<u>STATION</u>	<u>BS</u>	<u>HI</u>	<u>FS</u>	<u>ELEV.</u>
BM	4.48	104.48	100.00	
TR1		4.65	99.83	
TR2		5.14	99.34	
TR3		4.36	100.12	
TP	TR3	4.12	104.24	100.12
TR2		4.90	99.34	
TR1		4.40	99.84	
BM		4.24	100.00	

<u>STATION</u>	<u>BS</u>	<u>HI</u>	<u>FS</u>	<u>ELEV.</u>
BM - RUN	4.49	104.49	100.00	
HPI - Rif.		6.20	98.29	(98.81)
HPI - Rif.		6.20	98.29	
BM - QSF		79.48	(100.00)	

S4-8 8/18/04
RUN TR 1

STA	Δ	V	LWP
1.0	-	-	
8.2	0.92	-0.10	$\angle 65^\circ$ (ucB)
9	0.97	Θ	
10.0	1.02	0.28	$\neq 45^\circ$
11	1.05	0.25	$\neq 10^\circ$
12	1.05	0.48	
13	1.05	0.53	
14	1.10	0.59	
15	1.04	0.61	
16	1.05	0.65	
17	1.08	0.90	
18	1.12	0.96	
19	1.17	0.81	
20	1.20	0.72	
21	1.28	1.05	
22	1.28	0.75	
23	1.33	0.66	
24	1.33	0.45	\neq very soft silt/clay
25	1.29	Θ	sub. Ann. variation of bed elev. Ave
26	1.25	Θ	to now fair topsoil
27	1.32	-0.05*	rod sinks in sub.
28	1.17	-0.08*	
29	0.90	-0.12*	
30	0.21	Θ *	RWP = 42.9
30.2		Θ	
			RWP = 42.9

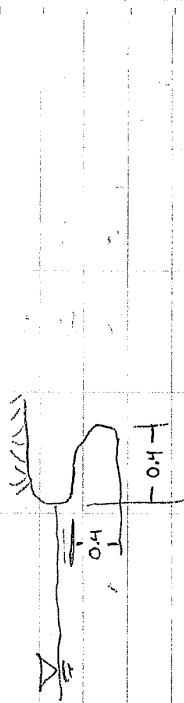
Left Bank



-0.81

<u>SY-8</u>	<u>RUN</u>	<u>TR2</u>	<u>8/18/04</u>
<u>STA</u>	<u>D</u>	<u>V</u>	<u>LWP</u>
1, 0	-	-	LWE
12.0	0.20	0	
13.5	0.50	0	
14.5	0.72	0	
15.5	0.86	0.10	
16.5	0.95	0.43	
17.5	0.95	0.76	
18.5	1.02	1.15	
19.5	1.02	1.35	
20	1.05	1.26	
20.5	1.00	1.17	
21	0.97	1.22	
21.5	0.97	1.14	
22	0.93	1.09	
22.5	0.90	1.17	
23	0.86	1.14	
23.5	0.80	1.10	
24	0.71	1.22	
24.5	0.70	1.11	
25	0.70	1.05	
25.5	0.63	1.02	
26	0.62	1.12	
26.5	0.64	0.96	

Right Bank



SY-8

RUN TR2 (cont.)

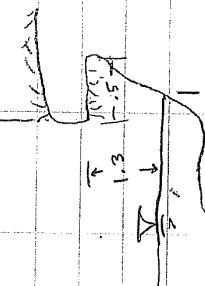
<u>STA</u>	<u>D</u>	<u>V</u>
27	0.69	0.91
27.5	0.70	1.05
28	0.63	0.49
32.2	-	RBE
		RWP
		QJN
TR2,1	L-R	J
TR2,2	L-R	V
TR2,3	L-R	V
TR3,3	D/H	J

SY-8 RUN TR 3 8/18/04

<u>STA</u>	<u>D</u>	<u>V</u>	<u>LWP</u>
1.0	-	-	LWP
7.2	0.10	Ø	LBE (VCB)
8	0.58	Ø	
9	0.80	Ø	
10	0.93	Ø	
11	1.04	0.32	
12	1.00	0.31	
13	0.97	0.36	
14	0.90	0.62	
15	1.03	0.69	
16	1.00	0.58	
17	1.10	0.49	
18	1.10	0.87	
19	1.18	0.75	
20	1.11	0.81	
21	1.18	0.80	
22	1.22	0.76	
23	1.38	0.68	
24	1.35	0.53	
25	1.30	0.44	
26	1.10	0.54	
27	0.97	0.16	↗ 30°
28	0.80	0.02	
29	0.69	Ø	

Left Bank

$$LBE = 7.2$$



$$LWE = 7.05$$

SY-8 8/18/04

RUN TR 3 (cont.)

<u>STA</u>	<u>D</u>	<u>V</u>
29.8	Ø	Ø
42.5	-	LWP