12-8-2009

Ex. 279-US-442

Unknown

Stream: Long Creek
Site: SY-8
Date: 5/13/2004
Habitat: Pool **Flow:** High

(1) Level Loop Survey (BM & HP)

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	4.05	104.05		100.00
HP1			4.48	99.57
HP2			4.83	99.22
HP3			5.23	98.82
TP				
HP3	5.34	104.16		
HP2			4.93	99.23
HP1			4.59	99.57
BM			4.16	100.00

Comment:

(2) Water Surface Elevation (WSE) Survey

TR	River Station L/R bank (ft)	River Station Ave (ft)	HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
1-L	0	0	104.16	7.39	0.00	96.77	96.76	44.6
1-R	0			7.41	0.00	96.75		
2-L	19	12	104.16	7.28	0.00	96.88	96.78	45.9
2-R	5			7.38	0.00	96.78		
3-L	55	33	104.16	7.35	0.00	96.81	96.79	39.5
3-R	11			7.39	0.00	96.77		
							Ave Q=	48.9

Note: HC LWS FS=7.59; RWS FS=7.68; 70' d/s of HC BED=9.72, WSE=7.98
WSE slope = 0.055%

(3) Meter and propeller ID for Velocity Correction

Meter ID: 4099
Propeller ID: 1A

Date: 6/25/2004
Habitat: Pool **Flow:** Mid

(1) Level Loop Survey

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	4.40	104.40		100.00
HP1			4.82	99.58
HP2			5.17	99.23
HP3			5.57	98.83
TP				
HP3	5.71	104.54		
HP2			5.30	99.24
HP1			4.96	99.58
BM			4.53	100.01

Comment:

(2) Water Surface Elevation (WSE) Survey

TR	River Station L/R bank (ft)	River Station Ave (ft)	HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
1-L	0	0	104.54	8.03	0.00	96.51	96.51	26.2
1-R	0			8.04	0.00	96.50		
2-L	19	12	104.54	8.02	0.00	96.52	96.50	27.0
2-R	5			8.06	0.00	96.48		
3-L	55	33	104.54	8.06	0.00	96.48	96.48	19.1
3-R	11			8.07	0.00	96.47		
							Ave Q=	27.8

Note: WSE's increases going downstream, use slope of Zero.
WSE slope = -0.055%

(3) Meter and propeller ID for Velocity Correction

Meter ID: 3602
Propeller ID: 3a

Date: 8/18/2004
Habitat: Pool **Flow:** Low

(1) Level Loop Survey

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	4.41	104.41		100.00
HP1			4.84	99.57
HP2			5.19	99.22
HP3			5.59	98.82
TP				
HP3	5.67	104.49		
HP2			5.27	99.22
HP1			4.92	99.57
BM			4.49	100.00

Comment:

(2) Water Surface Elevation (WSE) Survey

TR	River Station L/R bank (ft)	River Station Ave (ft)	HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
1-L	0	0	104.49	8.36	0.00	96.13	96.13	10.6
1-R	0			8.36	0.00	96.13		
2-L	19	12	104.49	8.33	0.00	96.16	96.15	11.2
2-R	5			8.35	0.00	96.14		
3-L	55	33	104.49	8.34	0.00	96.15	96.14	7.3
3-R	11			8.36	0.00	96.13		
							Ave Q=	11.6

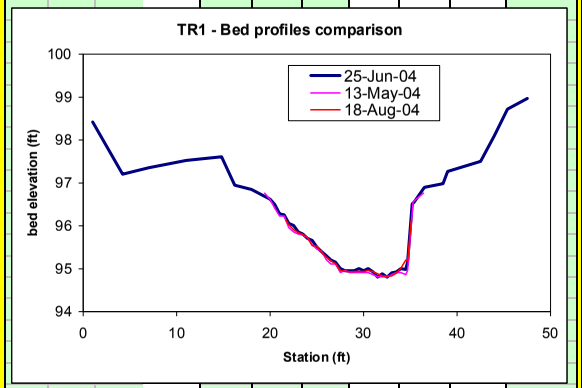
Note: HC LWSE FS=8.46; RWSE FS=8.43
WSE slope = 0.018%

Note: HC WSE's FS=8.28; 8.18; 8.2; 8.14; 8.33 *see field notes

(3) Meter and propeller ID for Velocity Correction

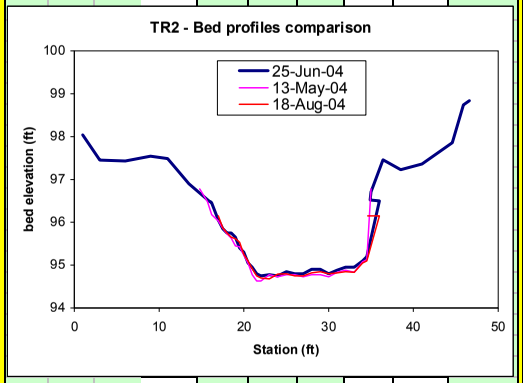
Meter ID: 5750
Propeller ID: 2A

Stream:	Long Creek		13-May-04										25-Jun-04										18-Aug-04									
Site:	SY-8			Sta	FS	Ground	Depth	Vel (ft/s)			Angle	q		Sta	FS	Ground	Depth	Vel (ft/s)			Angle	q			Sta	FS	Ground	Depth	Vel (ft/s)			Angle	q	
Transect:	1			(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(deg)	(cfs)	substrate	(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(deg)	(cfs)	substrate		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(deg)	(cfs)	substrate
Habitat:	Pool																															
			RWP										RWP	1.0	6.12	98.42							1.1										
														4.2	7.34	97.20							1.1										
Survey	HI	Q	RWE	19.4		96.76	0.00	0.00		0.00		0.00		7.0	7.19	97.35							1.1										
Date	(ft)	(cfs)		20.0		96.61	0.15	0.10		0.18		0.02		11.0	7.02	97.52							1.1										
5/13/2004	104.16	44.6		20.5		96.41	0.35	0.07		0.15		0.03		14.8	6.93	97.61							1.1										
6/25/2004	104.54	26.2		21.0		96.23	0.53	0.02		0.04		0.01		16.2	7.59	96.95							1.1										
8/18/2004	104.49	10.6		21.5		96.23	0.53	1.09		1.14		0.30		18.0	7.69	96.85							1.1										
				22.0		95.96	0.80	1.35		1.41		0.56		20.0	7.92	96.62							1.2										
				22.5		95.86	0.90	1.43		1.49		0.67	RWE	20.5	8.04	96.50	0.00	0.00		0.00		0.00	2.1										
				23.0		95.81	0.95	1.62		1.69		0.80		21.0		96.28	0.23	0.05		0.15		0.02	2.1										
				23.5		95.79	0.97	1.60		1.67		0.81		21.5		96.26	0.25	0.37		0.40		0.05	2.1	RWE	21.7		96.13	0.00	0.00		0.00		0.00	
				24.0		95.73	1.03	1.76		1.83		0.94		22.0		96.06	0.45	0.81		0.83		0.19	2.4	*	22.0		96.03	0.10	0.10		0.23		0.01	
				24.5		95.56	1.20	1.81		1.88		1.13		22.5		96.01	0.50	0.76		0.78		0.20	2.4		22.5		95.91	0.22	0.31		0.38		0.04	
				25.0		95.46	1.30	1.83		1.90		1.24		23.0		95.86	0.65	1.00		1.03		0.33	4.2		23.0		95.84	0.29	0.38		0.44		0.06	
				25.5		95.41	1.35	1.79		1.86		1.26		23.5		95.81	0.70	0.92		0.95		0.33	4.2		23.5		95.80	0.33	0.43		0.49		0.08	
				26.0		95.21	1.55	2.06		2.14		1.66		24.0		95.71	0.80	1.04		1.07		0.43	4.2		24.0		95.72	0.41	0.44		0.50		0.10	
				26.5		95.11	1.65	1.96		2.04		1.68		24.5		95.66	0.85	1.09		1.12		0.48	4.2		24.5		95.54	0.59	0.57		0.61		0.18	
				27.0		95.11	1.65	2.08		2.16		1.78		25.0		95.51	1.00	1.14		1.17		0.58	4.2		25.0		95.53	0.60	0.53		0.57		0.17	
				27.5		94.91	1.85	2.13		2.21		2.05		25.5		95.41	1.10	1.18		1.21		0.66	4.3		25.5		95.38	0.75	0.63		0.67		0.25	
				28.0		94.96	1.80	2.17		2.25		2.03		26.0		95.31	1.20	1.29		1.32		0.79	4.3		26.0		95.27	0.86	0.61		0.65		0.28	
				28.5		94.91	1.85	2.26		2.34		2.17		26.5		95.21	1.30	1.34		1.37		0.89	4.2		26.5		95.19	0.94	0.66		0.70		0.33	
				29.0		94.91	1.85	2.22		2.30		2.13		27.0		95.16	1.35	1.43		1.46		0.98	4.2		27.0		95.12	1.01	0.77		0.81		0.41	
				29.5		94.91	1.85	2.35		2.44		2.25		27.5		95.01	1.50	1.54		1.57		1.18	4.2		27.5		94.96	1.17	0.79		0.83		0.49	
				30.0		94.91	1.85	2.38		2.47		2.28		28.0		94.96	1.55	1.54		1.57		1.22	8.4		28.0		94.94	1.19	0.79		0.83		0.50	
				30.5		94.91	1.85	2.36		2.45		2.26		28.5		94.96	1.55	1.65		1.68		1.30	8.4		28.5		94.93	1.20	0.86		0.91		0.54	
				31.0		94.86	1.90	2.21		2.29		2.18		29.0		94.96	1.55	1.74		1.77		1.37	8.4		29.0		94.93	1.20	0.92		0.97		0.58	
				31.5		94.81	1.95	2.36		2.45		2.38		29.5		95.01	1.50	1.82		1.85		1.39	8.4		29.5		94.94	1.19	1.00		1.05		0.62	
				32.0		94.81	1.95	2.36		2.45		2.38		30.0		94.96	1.55	1.83		1.86		1.44	8.4		30.0		94.93	1.20	0.95		1.00		0.60	
				32.5		94.81	1.95	2.29		2.37		2.31		30.5		95.01	1.50	1.84		1.87		1.40	8.4		30.5		94.96	1.17	1.00		1.05		0.61	
				33.0		94.86	1.90	2.27		2.35		2.24		31.0		94.93	1.58	1.98		2.01		1.59	2.5		31.0		94.93	1.20	1.02		1.07		0.64	
				33.5		94.91	1.85	1.97		2.05	30	1.64		31.5		94.81	1.70	1.95		1.98	10	1.66	2.5		31.5		94.88	1.25	1.04		1.09		0.68	
				34.0		94.91	1.85	1.79		1.86	30	1.49		32.0		94.89	1.62	1.96		1.99	20	1.51	2.5		32.0		94.83	1.30	1.09		1.14		0.74	
				34.5		94.86	1.90	1.51		1.57	30	0.91		32.5		94.81	1.70	2.06		2.09	30	1.54	2.4		32.5		94.83	1.30	1.02		1.07		0.69	
				34.7		94.96	1.80	1.42		1.48	30	0.92		33.0		94.91	1.60	1.96		1.99	30	1.38	2.4		33.0		94.83	1.30	1.05		1.10	20	0.67	
				35.3		96.56	0.20	0.34		0.42		0.07		33.5		94.93	1.58	1.75		1.78	30	1.22	2.4		33.5		94.90	1.23	0.86		0.91	25	0.50	
			LWE	36.4		96.76	0.00	0.00		0.00		0.00		34.0		95.01	1.50	1.59		1.62	30	1.05	2.4		34.0		95.01	1.12	0.84		0.89	30	0.43	
			LWP											34.5		94.99	1.52	1.30		1.33	30	0.61	2.4		34.5		95.20	0.93	0.72		0.76	30	0.21	
														34.7		95.16	1.35	0.95		0.98	30	0.40	2.4		34.7		95.18	0.95	0.59		0.63	10	0.18	
													LWE	35.2	8.03	96.51	0.00	0.00		0.00		0.00	2.1	LWE	35.1		96.13	0.00	0.00		0.00		0.00	
														35.4	7.99	96.55							1.1										
														36.5	7.64	96.90							1.1										
														38.5	7.56	96.98							1.1										
														39.0	7.27	97.27							1.1										
														42.5	7.04	97.50							1.1										
														44.0	6.44	98.10							1.1										
														45.4	5.82	98.72							1.1										
													LWP	47.5	5.57	98.97							1.1										

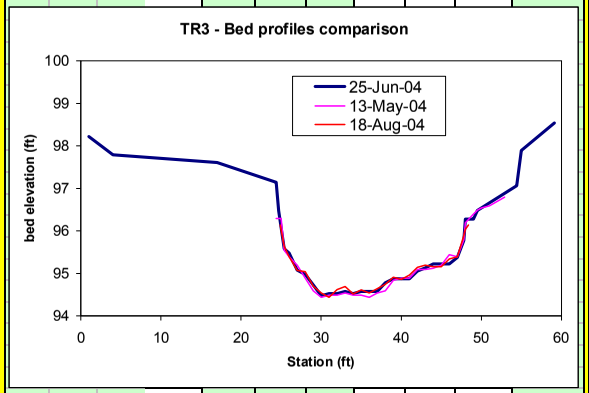


* - Velocity Estimated

Stream:	Long Creek		13-May-04										25-Jun-04												18-Aug-04										
Site:	SY-8			Sta	FS	Ground	Depth	Vel (ft/s)			q			Sta	FS	Ground	Depth	Vel (ft/s)			Angle	q			Sta	FS	Ground	Depth	Vel (ft/s)			Angle	q	
Transect:	2			(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(deg)	(cfs)	substrate		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(deg)	(cfs)	substrate
Habitat:	Pool												RWP	1.0	6.50	98.04							1.1											
														3.0	7.09	97.45							1.1											
Survey	HI	Q	RWE	14.8		96.78	0.00	0.00		0.00	0.00			6.0	7.11	97.43							1.1											
Date	(ft)	(cfs)		15.7		96.48	0.30	0.01		0.02	0.00			9.0	7.00	97.54							1.1											
5/13/2004	104.16	45.9		16.2		96.18	0.60	-0.09		-0.18	-0.07			11.0	7.05	97.49							1.1											
6/25/2004	104.54	27.0		17.0		96.03	0.75	-0.18		-0.27	-0.13			13.5	7.64	96.90							1.1											
8/18/2004	104.49	11.2		17.5		95.86	0.92	-0.04		-0.09	-0.04			16.0	8.06	96.48							1.2											
				18.0		95.73	1.05	0.25		0.34	0.18		RWE	16.1	8.06	96.48	0.00	0.00		0.00		0.00	1.2											
				18.5		95.63	1.15	0.40		0.47	0.27			16.2		96.45	0.05	0.01		0.03		0.00	9.2											
				19.0		95.45	1.33	0.50		0.56	0.37			17.0		96.05	0.45	-0.33		-0.36	45	-0.07	9.2	RWE	17.0		96.15	0.00	0.00		0.00		0.00	
				19.5		95.43	1.35	0.66		0.71	0.48			17.5		95.85	0.65	-0.31		-0.34	45	-0.08	9.2		17.5		95.87	0.28	0.01		0.03		0.00	
				20.0		95.23	1.55	0.81		0.86	0.67			18.0		95.75	0.75	-0.42		-0.45	60	-0.08	2.3		18.0		95.75	0.40	0.01		0.03		0.01	
				20.5		95.05	1.73	0.95		1.00	0.86			18.5		95.75	0.75	0.21		0.26	90	0.00	2.3		18.5		95.65	0.50	0.01		0.03		0.01	
				21.0		94.78	2.00	1.21		1.27	1.27			19.0		95.65	0.85	0.20		0.25	90	0.00	2.3		19.0		95.62	0.53	0.01		0.03		0.01	
				21.5		94.63	2.15	1.26		1.32	1.42			19.5		95.40	1.10	0.11		0.16	45	0.06	2.4		19.5		95.53	0.62	0.18		0.26		0.08	
				22.0		94.63	2.15	1.39		1.45	2.34			20.0		95.30	1.20	0.23		0.28	45	0.12	2.4		20.0		95.25	0.90	0.16		0.24		0.11	
				23.0		94.78	2.00	1.50		1.56	3.13			20.5		95.05	1.45	0.45		0.47		0.34	2.4		20.5		95.10	1.05	0.31		0.38		0.20	
				24.0		94.73	2.05	1.51		1.57	3.23			21.0		94.95	1.55	0.49		0.51		0.39	4.2		21.0		94.92	1.23	0.48		0.53		0.33	
				25.0		94.78	2.00	1.71		1.78	3.56			21.5		94.80	1.70	0.67		0.69		0.59	5.4		21.5		94.75	1.40	0.53		0.57		0.40	
				26.0		94.78	2.00	1.66		1.73	3.46			22.0		94.75	1.75	0.72		0.74		0.97	5.8		22.0		94.70	1.45	0.65		0.69		0.75	
				27.0		94.73	2.05	1.84		1.91	3.92			23.0		94.78	1.72	0.93		0.96		1.64	5.8		23.0		94.68	1.47	0.68		0.72		1.06	
				28.0		94.78	2.00	1.84		1.91	3.83			24.0		94.75	1.75	1.03		1.06		1.85	5.8		24.0		94.79	1.36	0.82		0.86		1.18	
				29.0		94.78	2.00	1.73		1.80	3.60			25.0		94.85	1.65	1.23		1.26		2.08	5.8		25.0		94.80	1.35	0.82		0.86		1.17	
				30.0		94.73	2.05	1.67		1.74	3.57			26.0		94.80	1.70	1.23		1.26		2.14	8.5		26.0		94.75	1.40	0.70		0.74		1.04	
				31.0		94.83	1.95	1.44		1.50	2.93			27.0		94.80	1.70	1.44		1.47		2.50	8.5		27.0		94.75	1.40	0.80		0.84		1.18	
			*	32.0		94.88	1.90	1.35		1.41	2.68			28.0		94.90	1.60	1.46		1.49		2.38	5.8		28.0		94.82	1.33	0.54		0.58		0.77	
			*	33.0		94.83	1.95	0.95		1.00	1.94			29.0		94.90	1.60	1.37		1.40		2.24	5.6		29.0		94.85	1.30	0.55		0.59	30	0.67	
				34.0		95.08	1.70	1.24		1.30	1.65			30.0		94.80	1.70	1.45		1.48		2.51	5.6		30.0		94.80	1.35	0.24		0.32	20	0.40	
				34.5		95.13	1.65	0.96		1.01	0.83			31.0		94.88	1.62	1.38		1.41		2.28	6.5		31.0		94.82	1.33	0.45		0.51	10	0.66	
			LWE	35.0		96.78	0.00	0.00		0.00	0.00			32.0		94.95	1.55	1.26		1.29		2.00	6.5		32.0		94.85	1.30	0.34		0.41	10	0.52	
														33.0		94.95	1.55	0.96		0.99		1.53	6.5		33.0		94.83	1.32	0.15		0.23		0.31	
														34.0		95.10	1.40	0.54		0.56		0.59	6.5		34.0		95.05	1.10	0.02		0.05		0.04	
													LBE	34.5		95.20	1.30	0.78		0.80		1.04	6.5	LBE	34.5		95.10	1.05	0.27		0.34		0.36	
													UCB	36.0		96.50	0.00	0.40		0.43		0.00	6.5	UCB	36.0		96.15	0.00	0.00		0.00		0.00	
													LWE	34.9	8.02	96.52	0.00	0.00		0.00		0.00	6.5	LWE	34.6		96.15	0.00	0.00		0.00		0.00	
														35.0	7.83	96.71							1.1											
														36.4	7.08	97.46							1.1											
														38.5	7.31	97.23							1.1											
														41.0	7.18	97.36							1.1											
														44.6	6.68	97.86							1.1											
														45.9	5.80	98.74							1.1											
													LWP	46.6	5.70	98.84							1.1											



Stream:	Long Creek		13-May-04											25-Jun-04											18-Aug-04										
Site:	SY-8			Sta	FS	Ground	Depth	Vel (ft/s)			Angle	q			Sta	FS	Ground	Depth	Vel (ft/s)			q			Sta	FS	Ground	Depth	Vel (ft/s)			Angle	q	
Transect:	3			(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(deg)	(cfs)	substrate		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(deg)	(cfs)	substrate
Habitat:	Pool														1.0	5.94	98.22						1.1											
															4.0	6.75	97.79						1.1											
Survey	HI	Q	RWP												17.0	6.93	97.61						1.1											
Date	(ft)	(cfs)	RWE	24.4		96.29	0.50	0.00		0.00		0.00			24.4	7.40	97.14						1.1											
5/13/2004	104.16	39.5		25.0		96.29	0.50	-0.23		-0.32		-0.08		RWE	24.7	8.07	96.47	0.00	0.00		0.00	0.00	1.2	RWE	24.9		96.14	0.00	0.00		0.00		0.00	
6/25/2004	104.54	19.1		25.4		95.54	1.25	-0.14		-0.23		-0.14			25.4		95.58	0.90	-0.10		-0.16	-0.09	2.9		25.4		95.64	0.50	-0.52		-0.56		-0.16	
8/18/2004	104.49	7.3		26.0		95.39	1.40	-0.68		-0.73		-0.82			26.0		95.48	1.00	-0.82		-0.84	-0.68	2.9		26.0		95.39	0.75	-0.58		-0.62		-0.37	
				27.0		95.19	1.60	0.42		0.49		0.79			27.0		95.08	1.40	-0.73		-0.75	-1.05	2.4		27.0		95.07	1.07	-0.50		-0.55		-0.59	
				28.0		94.89	1.90	0.13		0.22		0.42			28.0		94.98	1.50	-0.32		-0.35	-0.53	4.2		28.0		95.04	1.10	-0.12		-0.23		-0.25	
				29.0		94.59	2.20	1.18		1.23		2.71			29.0		94.73	1.75	-0.14		-0.19	-0.34	4.5		29.0		94.70	1.44	0.10		0.23		0.33	
				30.0		94.44	2.35	1.84		1.91		4.50			30.0		94.48	2.00	0.72		0.74	1.49	5.4		30.0		94.54	1.60	0.62		0.66		1.06	
				31.0		94.49	2.30	1.64		1.71		3.93			31.0		94.53	1.95	1.44		1.47	2.86	5.4		31.0		94.44	1.70	1.22		1.27		2.16	
				32.0		94.49	2.30	1.8		1.87	30	3.73			32.0		94.53	1.95	1.55		1.58	3.08	5.6		32.0		94.62	1.52	1.27		1.32		2.00	
				33.0		94.54	2.25	2.22		2.30	30	4.49			33.0		94.58	1.90	1.45		1.48	2.81	5.6		33.0		94.69	1.45	1.13		1.18		1.71	
				34.0		94.49	2.30	2.31		2.39	30	4.77			34.0		94.53	1.95	1.55		1.58	3.08	5.6		34.0		94.52	1.62	0.86		0.91		1.47	
				35.0		94.49	2.30	2.02		2.10	30	4.18			35.0		94.58	1.90	1.65		1.68	3.19	5.6		35.0		94.61	1.53	0.29		0.36	10	0.54	
				36.0		94.44	2.35	1.91		1.99	30	4.04			36.0		94.58	1.90	1.57		1.60	3.04	5.6		36.0		94.54	1.60	0.05		0.13		0.21	
				37.0		94.54	2.25	1.71		1.78	30	3.47			37.0		94.58	1.90	1.44		1.47	2.79	5.4		37.0		94.64	1.50	-0.02		-0.05		-0.08	
				38.0		94.59	2.20	1.94		2.02	30	3.84			38.0		94.78	1.70	1.20		1.23	2.09	5.4		38.0		94.74	1.40	-0.14		-0.22		-0.31	
				39.0		94.84	1.95	2.08		2.16	30	3.65			39.0		94.88	1.60	0.79		0.81	1.30	5.4		39.0		94.91	1.23	-0.38		-0.44	80	-0.09	
				40.0		94.89	1.90	1.39		1.45		2.76			40.0		94.88	1.60	0.16		0.21	0.34	5.4		40.0		94.86	1.28	-0.37		-0.43	70	-0.19	
				41.0		94.89	1.90	0.84		0.89		1.69			41.0		94.88	1.60	0.07		0.16	0.26	5.4		41.0		94.96	1.18	-0.49		-0.54	80	-0.11	
				42.0		95.09	1.70	-0.16		-0.25		-0.43			42.0		95.06	1.42	0.08		0.14	0.20	5.6		42.0		95.14	1.00	-0.36		-0.43	85	-0.04	
				43.0		95.09	1.70	-0.44		-0.51		-0.87			43.0		95.13	1.35	-0.28		-0.32	-0.43	5.4		43.0		95.19	0.95	-0.27		-0.34	90	0.00	
				44.0		95.12	1.67	-0.80		-0.85		-1.42			44.0		95.23	1.25	-0.68		-0.70	-0.88	5.4		44.0		95.16	0.98	-0.02		-0.05		-0.05	
				45.0		95.19	1.60	-1.16		-1.21		-1.94			45.0		95.23	1.25	-0.78		-0.80	-1.00	5.4		45.0		95.16	0.98	0.01		0.03		0.03	
				46.0		95.44	1.35	-0.94		-0.98		-1.33			46.0		95.23	1.25	-0.86		-0.89	-1.11	5.4		46.0		95.34	0.80	0.01		0.03		0.02	
				47.0		95.39	1.40	-0.99		-1.04		-1.31			47.0		95.38	1.10	-1.12		-1.15	-1.14	5.6		47.0		95.39	0.75	0.01		0.03		0.02	
				47.8		95.79	1.00	-0.44		-0.51		-0.25			47.8		95.78	0.70	-0.23		-0.28	-0.10	2.9		47.8		95.89	0.25	0.01		0.03		0.00	
				48.0		96.19	0.60	-1.25		-1.31		-0.47			48.0		96.28	0.20	-0.90		-0.93	-0.11	2.9		48.0		96.04	0.10	0.01		0.03		0.00	
				49.0		96.39	0.40	-0.84		-0.89		-0.27			49.0		96.28	0.20	-0.10		-0.16	-0.02	2.9	LWE	48.4		96.14	0.00	0.00		0.00		0.00	
				49.5		96.49	0.30	-0.20		-0.29		-0.04		LWE	49.5	8.06	96.48	0.00	0.00		0.00	0.00	1.2											
				50.0		96.54	0.25	-0.15		-0.24		-0.05			54.4	7.48	97.06						1.1											
				51.0		96.59	0.20	-0.01		-0.02		-0.01			55.0	6.65	97.89						1.1											
			LWE	52.9		96.79	0.00	0.00		0.00		0.00		LWP	59.1	6.00	98.54						1.1											
			LWP																															



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          Long Creek SY_8 05/13/04
Pool                        HGH                                    TRANSECT 1
IOC       11000001000010001010000
QARD   6.0
QARD   8.0
QARD  11.5
QARD  15.0
QARD  20.0
QARD  25.0
QARD  28.1
QARD  30.0
QARD  32.5
QARD  35.0
QARD  37.5
QARD  40.0
QARD  42.5
QARD  45.0
QARD  48.0
QARD  50.0
QARD  52.5
QARD  55.0
QARD  60.0
QARD  65.0
QARD  70.0
QARD  75.0
QARD  80.0
QARD  85.0
QARD  90.0
QARD  95.0
QARD 100.0
QARD 105.0
QARD 110.0
QARD 120.0
XSEC   0.0       0.0 1.0     94.81   0.00055
       0.0  1.0 98.4  4.2 97.2  7.0 97.3 11.0 97.5 14.8 97.6 16.2 96.9
       0.0 18.0 96.8 19.4 96.8 20.0 96.6 20.5 96.4 21.0 96.2 21.5 96.2
       0.0 22.0 96.0 22.5 95.9 23.0 95.8 23.5 95.8 24.0 95.7 24.5 95.6
       0.0 25.0 95.5 25.5 95.4 26.0 95.2 26.5 95.1 27.0 95.1 27.5 94.9
       0.0 28.0 95.0 28.5 94.9 29.0 94.9 29.5 94.9 30.0 94.9 30.5 94.9
       0.0 31.0 94.9 31.5 94.8 32.0 94.8 32.5 94.8 33.0 94.9 33.5 94.9
       0.0 34.0 94.9 34.5 94.9 34.7 95.0 35.3 96.6 36.4 96.8 36.5 96.9
       0.0 38.5 97.0 39.0 97.3 42.5 97.5 44.0 98.1 45.4 98.7 47.5 99.0
NS     0.0       1.1       1.1       1.1       1.1       1.1       1.1
NS     0.0       1.1       1.2       2.1 .03   2.1 .035  2.1       2.1
NS     0.0       2.4       2.4       4.2       4.2       4.2       4.2
NS     0.0       4.2       4.3       4.3       4.2       4.2       4.2
NS     0.0       8.4       8.4       8.4       8.4       8.4       8.4
NS     0.0       2.5       2.5       2.5       2.4       2.4       2.4
NS     0.0       2.4       2.4       2.4       2.1       1.1       1.1
NS     0.0       1.1       1.1       1.1       1.1       1.1       1.1
WSL    0.0     95.90     95.99     96.12     96.22     96.33     96.43
WSL    0.0     96.48     96.51     96.55     96.58     96.62     96.65
WSL    0.0     96.68     96.71     96.74     96.76     96.79     96.81
WSL    0.0     96.86     96.90     96.95     96.98     97.02     97.05
WSL    0.0     97.09     97.12     97.15     97.18     97.20     97.26
CAL1   0.0     96.76      48.0
VEL1   0.0                                        0.00 0.18 0.15 0.04 1.14
VEL1   0.0 1.41 1.49 1.69 1.67 1.83 1.88 1.90 1.86 2.14 2.04 2.16 2.21
VEL1   0.0 2.25 2.34 2.30 2.44 2.47 2.45 2.29 2.45 2.45 2.37 2.35 2.05
VEL1   0.0 1.86 1.57 1.48 0.42 0.00
CAL2   0.0     96.51      28.1
VEL2   0.0
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     96.13      11.5
VEL3   0.0
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
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          Long Creek SY_8 05/13/04
Pool                        HGH                                    TRANSECT 2
IOC       11000001000010001010000
QARD   6.0
QARD   8.0
QARD  11.5
QARD  15.0
QARD  20.0
QARD  25.0
QARD  28.1
QARD  30.0
QARD  32.5
QARD  35.0
QARD  37.5
QARD  40.0
QARD  42.5
QARD  45.0
QARD  48.0
QARD  50.0
QARD  52.5
QARD  55.0
QARD  60.0
QARD  65.0
QARD  70.0
QARD  75.0
QARD  80.0
QARD  85.0
QARD  90.0
QARD  95.0
QARD 100.0
QARD 105.0
QARD 110.0
QARD 120.0
XSEC   0.0       0.0 1.0     94.81   0.00055
       0.0  1.0 98.0  3.0 97.4  6.0 97.4  9.0 97.5 11.0 97.5 13.5 96.9
       0.0 14.8 96.8 15.7 96.5 16.2 96.2 17.0 96.0 17.5 95.9 18.0 95.7
       0.0 18.5 95.6 19.0 95.4 19.5 95.4 20.0 95.2 20.5 95.1 21.0 94.8
       0.0 21.5 94.6 22.0 94.6 23.0 94.8 24.0 94.7 25.0 94.8 26.0 94.8
       0.0 27.0 94.7 28.0 94.8 29.0 94.8 30.0 94.7 31.0 94.8 32.0 94.9
       0.0 33.0 94.8 34.0 95.1 34.5 95.1 35.0 96.8 36.4 97.5 38.5 97.2
       0.0 41.0 97.4 44.6 97.9 45.9 98.7 46.6 98.8
NS     0.0       1.1       1.1       1.1       1.1       1.1       1.1
NS     0.0       1.2       1.2       9.2       9.2       9.2       2.3
NS     0.0       2.3       2.3       2.4       2.4       2.4       4.2
NS     0.0       5.4       5.8       5.8       5.8       5.8       8.5
NS     0.0       8.5       5.8       5.6       5.6       6.5       6.5
NS     0.0       6.5       6.5       6.5       6.5       1.1       1.1
NS     0.0       1.1       1.1       1.1       1.1
WSL    0.0     95.91     96.00     96.13     96.24     96.36     96.46
WSL    0.0     96.51     96.55     96.59     96.63     96.66     96.70
WSL    0.0     96.73     96.76     96.80     96.83     96.86     96.88
WSL    0.0     96.94     96.99     97.04     97.08     97.13     97.17
WSL    0.0     97.21     97.24     97.28     97.32     97.35     97.42
CAL1   0.0     96.78      48.0
VEL1   0.0                                0.00 0.02-0.18-0.27-0.09 0.34
VEL1   0.0 0.47 0.56 0.71 0.86 1.00 1.27 1.32 1.45 1.56 1.57 1.78 1.73
VEL1   0.0 1.91 1.91 1.80 1.74 1.50 1.41 1.00 1.30 1.01 0.00
VEL1   0.0
CAL2   0.0     96.50      28.1
VEL2   0.0
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     96.15      11.5
VEL3   0.0
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
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           Long Creek SY_8 05/13/04
Pool                       HGH                                      TRANSECT 3
IOC       1100000100001000101000
QARD   6.0
QARD   8.0
QARD  11.5
QARD  15.0
QARD  20.0
QARD  25.0
QARD  28.1
QARD  30.0
QARD  32.5
QARD  35.0
QARD  37.5
QARD  40.0
QARD  42.5
QARD  45.0
QARD  48.0
QARD  50.0
QARD  52.5
QARD  55.0
QARD  60.0
QARD  65.0
QARD  70.0
QARD  75.0
QARD  80.0
QARD  85.0
QARD  90.0
QARD  95.0
QARD 100.0
QARD 105.0
QARD 110.0
QARD 120.0
XSEC   0.0       0.0 1.0     94.81   0.00055
       0.0  1.0 98.2  4.0 97.8 17.0 97.6 24.4 96.3 25.0 96.3 25.4 95.5
       0.0 26.0 95.4 27.0 95.2 28.0 94.9 29.0 94.6 30.0 94.4 31.0 94.5
       0.0 32.0 94.5 33.0 94.5 34.0 94.5 35.0 94.5 36.0 94.4 37.0 94.5
       0.0 38.0 94.6 39.0 94.8 40.0 94.9 41.0 94.9 42.0 95.1 43.0 95.1
       0.0 44.0 95.1 45.0 95.2 46.0 95.4 47.0 95.4 47.8 95.8 48.0 96.2
       0.0 49.0 96.4 49.5 96.5 50.0 96.5 51.0 96.6 52.9 96.8 54.4 97.1
       0.0 55.0 97.9 59.1 98.5
NS     0.0       1.1       1.1       1.1       1.1       1.2       2.9
NS     0.0       2.9       2.4       4.2       4.5       5.4       5.4
NS     0.0       5.6       5.6       5.6       5.6       5.6       5.4
NS     0.0       5.4       5.4       5.4       5.4       5.6       5.4
NS     0.0       5.4       5.4       5.4       5.6       2.9       2.9
NS     0.0       2.9       1.2       1.2       1.2       1.1       1.1
NS     0.0       1.1       1.1
WSL    0.0     95.91     96.01     96.14     96.24     96.36     96.47
WSL    0.0     96.52     96.56     96.60     96.64     96.68     96.71
WSL    0.0     96.75     96.78     96.82     96.85     96.88     96.91
WSL    0.0     96.96     97.02     97.07     97.12     97.16     97.21
WSL    0.0     97.25     97.29     97.33     97.37     97.41     97.48
CAL1   0.0     96.79      48.0
VEL1   0.0                0.00-0.32-0.23-0.73 0.49 0.22 1.23 1.91 1.71
VEL1   0.0 1.87 2.30 2.39 2.10 1.99 1.78 2.02 2.16 1.45 0.89-0.25-0.51
VEL1   0.0-0.85-1.21-0.98-1.04-0.51-1.31-0.89-0.29-0.24-0.02 0.00
VEL1   0.0
CAL2   0.0     96.48      28.1
VEL2   0.0
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     96.14      11.5
VEL3   0.0
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
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Stream: Long Creek
Site: SY_8
Date: 5/13/2004
Habitat: Run **Flow:** High

(1) Level Loop Survey (BM & HP)

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	4.90	104.90		100.00
HP3			4.79	100.11
HP2			5.57	99.33
HP1			5.07	99.83
TP				
HP1	5.02	104.85		
HP2			5.52	99.33
HP3			4.73	100.12
BM			4.85	100.00

Comment: Turned on HP1.

(2) Water Surface Elevation (WSE) Survey

TR	River Station L/R bank (ft)	River Station Ave (ft)	HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
1-L	0	0	104.82	7.21	0.00	97.61	97.61	41.7
1-R	0			7.22	0.00	97.60		
2-L	68	64	104.58	6.86	0.00	97.72	97.73	50.9
2-R	59			6.84	0.00	97.74		
3-L	111	103	104.58	6.73	0.00	97.85	97.81	49.4
3-R	94			6.81	0.00	97.77		
							Ave Q=	48.9

Note: 60' d/s wse FS=7.37; bed FS=8.60; TR3 mwse FS=6.75
WSE slope = 0.185%

(3) Meter and propeller ID for Velocity Correction

Meter ID: 0068
Propeller ID: na

Date: 6/25/2004
Habitat: Run **Flow:** Mid

(1) Level Loop Survey

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	4.79	104.79		100.00
HP1			4.98	99.81
HP2			5.44	99.35
HP3			4.63	100.16
TP				
HP3	4.68	104.84		
HP2			5.49	99.35
HP1			5.03	99.81
BM			4.84	100.00

Comment:

(2) Water Surface Elevation (WSE) Survey

TR	River Station L/R bank (ft)	River Station Ave (ft)	HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
1-L	0	0	104.80	8.96	1.31	97.15	97.13	22.4
1-R	0			8.07	0.38	97.11		
2-L	68	64	104.13	6.85	0.00	97.28	97.28	27.5
2-R	59			7.92	1.06	97.27		
3-L	111	103	104.84	8.21	0.82	97.45	97.41	35.0
3-R	94			7.54	0.07	97.37		
							Ave Q=	27.8

Note: 50' u/sTR3 FS=8.75, Rod=1.43; 40 d/sTR1 FS=9.76, Rod=2.15
WSE slope = 0.252%

(3) Meter and propeller ID for Velocity Correction

Meter ID: 3602
Propeller ID: 3a

TR 3 (Changed Meters):
Meter ID: 0068
Propeller ID: na

Date: 8/18/2004
Habitat: Run **Flow:** Low

(1) Level Loop Survey

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	4.48	104.48		100.00
HP1			4.65	99.83
HP2			5.14	99.34
HP3			4.36	100.12
TP				
HP3	4.12	104.24		
HP2			4.90	99.34
HP1			4.40	99.84
BM			4.24	100.00

Comment: Run BM 0.52' higher than Rif BM

(2) Water Surface Elevation (WSE) Survey

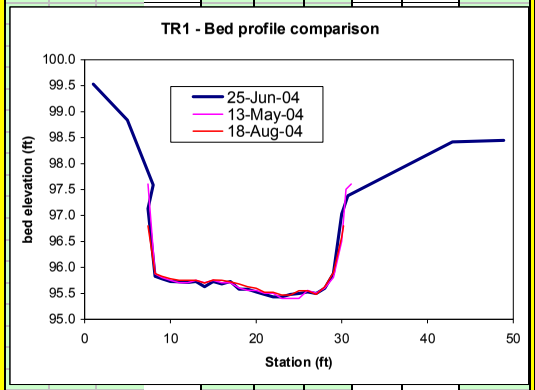
TR	River Station L/R bank (ft)	River Station Ave (ft)	HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
1-L	0	0	104.49	7.68	0.00	96.81	96.80	11.3
1-R	0			7.70	0.00	96.79		
2-L	68	64	104.49	7.59	0.00	96.90	96.90	11.4
2-R	59			7.59	0.00	96.90		
3-L	111	103	104.24	7.30	0.00	96.94	96.94	12.0
3-R	94			7.31	0.00	96.93		
							Ave Q=	11.6

Note:
WSE slope = 0.122%

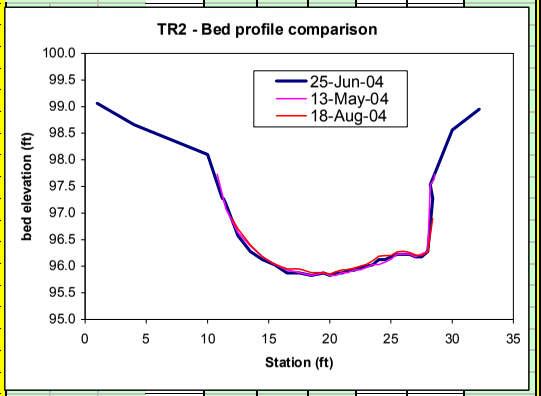
(3) Meter and propeller ID for Velocity Correction

Meter ID: 5750
Propeller ID: 2a

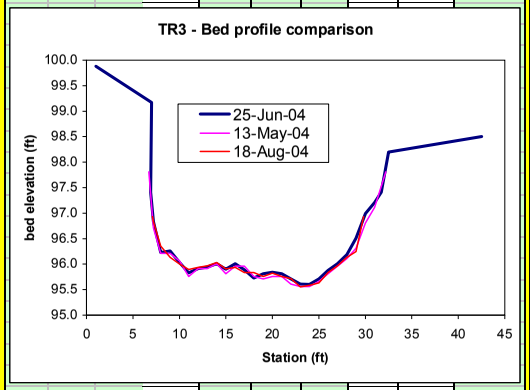
Stream:	Long Creek		13-May-04										25-Jun-04										18-Aug-04										
Site:	SY_8			Sta	FS	Ground	Depth	Vel (ft/s)			q			Sta	FS	Ground	Depth	Vel (ft/s)			q			Sta	FS	Ground	Depth	Vel (ft/s)			Angle	q	
Transect:	1			(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(deg)	(cfs)	substrate
Habitat:	Run																															
Survey	HI	Q																														
Date	(ft)	(cfs)											LWP	1.0	5.27	99.53					1.2											
5/13/2004	104.82	41.7	UCB	7.4		97.61	0.00	0.00		0.00	0.00			5.0	5.96	98.84					1.2											
6/25/2004	104.80	22.4	LBE	8.2		95.88	1.73	0.00		0.01	0.01			8.0	7.21	97.59					1.2											
8/18/2004	104.49	11.3		9.0		95.81	1.80	-0.14		-0.21	-0.34		UCB	7.4		97.13	0.00	0.00		0.00	0.00	2.4	UCB	7.4		96.80	0.00	0.00		0.00		0.00	
				10.0		95.76	1.85	-0.43		-0.53	-0.98		LBE	8.2		95.83	1.30	0.00		0.01	0.01	2.4	LBE	8.2		95.88	0.92	-0.10		-0.23		-0.17	
				11.0		95.71	1.90	-0.18		-0.25	-0.48			9.0		95.78	1.35	-0.19		-0.24	-0.29	2.4		9.0		95.83	0.97	0.00		0.01		0.01	
				12.0		95.71	1.90	0.25		0.33	0.63			10.0		95.73	1.40	0.11		0.16	0.22	4.2		10.0		95.78	1.02	0.28		0.35	45	0.25	
				13.0		95.76	1.85	0.20		0.28	0.51			11.0		95.72	1.41	0.14		0.19	0.27	5.2		11.0		95.75	1.05	0.25		0.32	10	0.34	
				14.0		95.71	1.90	0.29		0.37	0.71			12.0		95.71	1.42	0.39		0.42	0.60	5.4		12.0		95.75	1.05	0.48		0.53		0.56	
				15.0		95.76	1.85	0.32		0.41	0.75			13.0		95.73	1.40	0.42		0.45	0.63	5.4		13.0		95.75	1.05	0.58		0.62		0.65	
				16.0		95.71	1.90	0.47		0.57	1.09			14.0		95.63	1.50	0.60		0.62	0.93	5.4		14.0		95.70	1.10	0.59		0.63		0.70	
				17.0		95.71	1.90	0.87		1.02	1.93			15.0		95.73	1.40	0.80		0.82	1.15	5.4		15.0		95.76	1.04	0.61		0.65		0.68	
				18.0		95.61	2.00	0.87		1.02	2.03			16.0		95.68	1.45	0.70		0.72	1.05	5.4		16.0		95.75	1.05	0.65		0.69		0.73	
				19.0		95.56	2.05	0.82		0.96	1.97			17.0		95.73	1.40	0.97		1.00	1.40	5.4		17.0		95.72	1.08	0.90		0.95		1.02	
				20.0		95.56	2.05	0.79		0.93	1.90			18.0		95.58	1.55	1.04		1.07	1.65	5.4		18.0		95.68	1.12	0.96		1.01		1.13	
				21.0		95.51	2.10	0.76		0.89	1.88			19.0		95.58	1.55	1.06		1.09	1.69	5.6		19.0		95.63	1.17	0.81		0.85		1.00	
				22.0		95.51	2.10	1.10		1.28	2.69			20.0		95.53	1.60	1.00		1.03	1.64	5.6		20.0		95.60	1.20	0.72		0.76		0.91	
				23.0		95.41	2.20	2.19		2.52	5.54			21.0		95.48	1.65	1.27		1.30	2.14	5.4		21.0		95.52	1.28	1.05		1.10		1.41	
				24.0		95.41	2.20	2.31		2.66	5.84			22.0		95.43	1.70	1.86		1.89	3.21	5.6		22.0		95.52	1.28	0.75		0.79		1.01	
				25.0		95.41	2.20	2.08		2.39	5.26			23.0		95.43	1.70	1.41		1.44	2.45	5.8		23.0		95.47	1.33	0.66		0.70		0.93	
				26.0		95.56	2.05	2.00		2.30	4.72			24.0		95.48	1.65	1.45		1.48	2.44	5.6		24.0		95.47	1.33	0.45		0.51		0.67	
				27.0		95.51	2.10	1.39		1.61	3.38			25.0		95.50	1.63	1.05		1.08	1.76	5.6		25.0		95.55	1.25	0.01		0.03		0.03	
				28.0		95.61	2.00	0.85		0.99	1.99			26.0		95.53	1.60	0.18		0.23	0.37	8.5		26.0		95.55	1.25	0.01		0.03		0.03	
				29.0		95.81	1.80	0.34		0.43	0.77			27.0		95.50	1.63	-0.02		-0.06	-0.09	5.6		27.0		95.48	1.32	-0.05		-0.13		-0.17	
				30.0		96.51	1.10	-0.11		-0.17	-0.14			28.0		95.60	1.53	-0.21		-0.26	-0.39	5.2		28.0		95.63	1.17	-0.08		-0.21		-0.25	
				30.5		97.51	0.10	-0.05		-0.08	0.00			29.0		95.88	1.25	-0.26		-0.30	-0.38	4.2		29.0		95.90	0.90	-0.12		-0.23		-0.21	
			RWE	31.1		97.61	0.00	0.00		0.00	0.00			30.0		97.03	0.10	0.01		0.03	0.00	1.2		30.0		96.59	0.21	0.01		0.03		0.00	
			RWP										RWE	30.2		97.13	0.00	0.00		0.00	0.00	1.2	RWE	30.2		96.80	0.00	0.00		0.00		0.00	
														30.7	7.42	97.38						1.2										
													RWP	42.9	6.38	98.42						1.2										
														48.9	6.35	98.45						1.2										



Stream:	Long Creek		13-May-04									25-Jun-04									18-Aug-04								
Site:	SY_8			Sta	FS	Ground	Depth	Vel (ft/s)			q		Sta	FS	Ground	Depth	Vel (ft/s)			q			Sta	FS	Ground	Depth	Vel (ft/s)			q	
Transect:	2			(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate	(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate
Habitat:	Run																													
			LWP									LWP	1.0	5.07	99.06					1.2										
Survey	HI	Q	LWE	10.8		97.73	0.00	0.00		0.00	0.00		4.0	5.47	98.66					1.2										
Date	(ft)	(cfs)		11.5		97.08	0.65	0.01		0.02	0.01		10.0	6.03	98.10					1.2										
5/13/2004	104.58	50.9		12.5		96.63	1.10	0.11		0.17	0.19		11.2	6.85	97.28					2.3										
6/25/2004	104.13	27.5		13.5		96.38	1.35	0.35		0.44	0.60	LWE	11.3		97.28	0.00	0.00		0.00	0.00	2.1	LWE	12.0		96.90	0.00	0.00		0.00	0.00	
8/18/2004	104.49	11.4		14.5		96.18	1.55	0.56		0.67	1.04		11.5		97.18	0.10	0.01		0.03	0.00	2.1		12.5		96.70	0.20	0.00		0.01	0.00	
				15.5		96.03	1.70	0.77		0.91	1.54		12.5		96.58	0.70	0.01		0.03	0.02	2.9		13.5		96.40	0.50	0.00		0.01	0.01	
				16.5		95.93	1.80	1.10		1.28	2.30		13.5		96.28	1.00	0.02		0.06	0.06	2.4		14.5		96.18	0.72	0.00		0.01	0.01	
				17.5		95.88	1.85	1.33		1.54	2.85		14.5		96.13	1.15	0.30		0.34	0.39	2.4		15.5		96.04	0.86	0.10		0.23	0.20	
				18.5		95.83	1.90	1.88		2.17	4.12		15.5		96.03	1.25	0.43		0.46	0.57	4.6		16.5		95.95	0.95	0.43		0.49	0.46	
				19.5		95.88	1.85	2.43		2.79	3.88		16.5		95.88	1.40	1.05		1.08	1.51	4.5		17.5		95.95	0.95	0.76		0.80	0.76	
				20.0		95.83	1.90	2.5		2.88	2.73		17.5		95.88	1.40	1.42		1.45	2.03	4.5		18.5		95.88	1.02	1.15		1.20	1.22	
				20.5		95.83	1.90	2.57		2.96	2.81		18.5		95.83	1.45	1.76		1.79	2.59	4.5		19.5		95.88	1.02	1.35		1.40	1.07	
				21.0		95.88	1.85	2.54		2.92	2.70		19.5		95.88	1.40	1.91		1.94	2.03	5.4		20.0		95.85	1.05	1.26		1.31	0.69	
				21.5		95.88	1.85	2.48		2.85	2.64		20.0		95.83	1.45	1.85		1.88	1.36	5.4		20.5		95.90	1.00	1.17		1.22	0.61	
				22.0		95.93	1.80	2.35		2.70	2.43		20.5		95.88	1.40	1.97		2.00	1.40	5.4		21.0		95.93	0.97	1.22		1.27	0.61	
				22.5		95.93	1.80	2.25		2.59	2.33		21.0		95.88	1.40	2.04		2.07	1.45	5.4		21.5		95.93	0.97	1.14		1.19	0.58	
				23.0		95.98	1.75	2.45		2.82	2.47		21.5		95.93	1.35	2.02		2.05	1.38	5.4		22.0		95.97	0.93	1.09		1.14	0.53	
				23.5		96.03	1.70	2.35		2.70	2.30		22.0		95.93	1.35	1.91		1.94	1.31	5.4		22.5		96.00	0.90	1.17		1.22	0.55	
				24.0		96.03	1.70	2.17		2.50	2.12		22.5		95.98	1.30	1.84		1.87	1.21	5.4		23.0		96.04	0.86	1.14		1.19	0.51	
				24.5		96.08	1.65	2.11		2.43	2.00		23.0		96.01	1.27	1.84		1.87	1.19	5.4		23.5		96.10	0.80	1.10		1.15	0.46	
				25.0		96.13	1.60	1.79		2.07	1.65		23.5		96.03	1.25	1.68		1.71	1.07	5.4		24.0		96.19	0.71	1.22		1.27	0.45	
				25.5		96.23	1.50	1.81		2.09	1.57		24.0		96.13	1.15	1.95		1.98	1.14	5.4		24.5		96.20	0.70	1.11		1.16	0.41	
				26.0		96.23	1.50	1.75		2.02	1.52		24.5		96.13	1.15	1.70		1.73	0.99	5.4		25.0		96.20	0.70	1.05		1.10	0.38	
				26.5		96.23	1.50	1.89		2.18	1.63		25.0		96.18	1.10	1.68		1.71	0.94	5.4		25.5		96.27	0.63	1.02		1.07	0.34	
				27.0		96.18	1.55	1.89		2.18	1.69		25.5		96.23	1.05	1.61		1.64	0.86	5.4		26.0		96.28	0.62	1.12		1.17	0.36	
				27.5		96.23	1.50	2.01		2.31	1.74		26.0		96.23	1.05	1.66		1.69	0.89	4.5		26.5		96.26	0.64	0.96		1.01	0.32	
				28.0		96.28	1.45	0.07		0.11	0.06		26.5		96.23	1.05	1.71		1.74	0.91	4.5		27.0		96.21	0.69	0.91		0.96	0.33	
				28.2		97.53	0.20	0.05		0.08	0.00		27.0		96.18	1.10	1.64		1.67	0.92	4.5		27.5		96.20	0.70	1.05		1.10	0.38	
				28.5		97.63	0.10	0.05		0.08	0.00		27.5		96.18	1.10	1.71		1.74	0.96	5.4	RBE	28.0		96.27	0.63	0.49		0.54	0.15	
			RWE	28.6		97.73	0.00	0.00		0.00	0.00	RBE	28.0		96.28	1.00	0.64		0.66	0.30	5.4	UCB	28.4		96.90	0.00	0.00		0.00	0.00	
												UCB	28.4		97.28	0.00	0.00		0.00	0.00	5.4										
		NOTE											28.2	6.60	97.53					1.2										
		EXCELLENT Q											30.0	5.57	98.56					1.2										
		TRANSECT										RWP	32.2	5.18	98.95					1.2										



Stream:	Long Creek		13-May-04									25-Jun-04										18-Aug-04											
Site:	SY_8			Sta	FS	Ground	Depth	Vel (ft/s)			q			Sta	FS	Ground	Depth	Vel (ft/s)			q				Sta	FS	Ground	Depth	Vel (ft/s)			Angle	q	
Transect:	3			(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate			(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(deg)	(cfs)	substrate
Habitat:	Run																																
			LWP	1.0	4.96	99.88						1.1																					
Survey	HI	Q											LWE	7.0	5.67	99.17						1.1	LWE	7.1		96.94	0.00	0.00		0.00		0.00	
Date	(ft)	(cfs)	LWE	6.7		97.81	0.00	0.00		0.00	0.00		LBE	6.9		97.41	0.00	0.00		0.00	0.00	2.3	LBE	7.2		96.84	0.10	0.00		0.01		0.00	
5/13/2004	104.58	49.4	LBE	7.2		96.71	1.10	-0.25		-0.33	-0.24		LBE	7.2		96.84	0.57	-0.14		-0.21	-0.06	2.3		8.0		96.36	0.58	0.00		0.01		0.01	
6/25/2004	104.84	35.0		8.0		96.21	1.60	-0.25		-0.33	-0.48			8.0		96.23	1.18	-0.05		-0.08	-0.08	2.3		9.0		96.14	0.80	0.00		0.01		0.01	
8/18/2004	104.24	12.0		9.0		96.21	1.60	-0.16		-0.23	-0.37			9.0		96.26	1.15	0.10		0.16	0.18	2.3		10.0		96.01	0.93	0.00		0.01		0.01	
				10.0		96.06	1.75	-0.12		-0.18	-0.32			10.0		96.03	1.38	0.43		0.53	0.73	2.3		11.0		95.90	1.04	0.32		0.39		0.40	
				11.0		95.76	2.05	-0.03		-0.05	-0.10			11.0		95.83	1.58	0.24		0.32	0.51	2.3		12.0		95.94	1.00	0.31		0.38		0.38	
				12.0		95.91	1.90	0.21		0.29	0.55			12.0		95.91	1.50	0.26		0.34	0.52	3.2		13.0		95.97	0.97	0.36		0.43		0.41	
				13.0		95.91	1.90	0.41		0.51	0.96			13.0		95.94	1.47	0.66		0.78	1.15	4.2		14.0		96.04	0.90	0.62		0.66		0.60	
				14.0		96.01	1.80	1.03		1.20	2.16			14.0		96.01	1.40	0.69		0.82	1.14	4.2		15.0		95.91	1.03	0.69		0.73		0.75	
				15.0		95.81	2.00	0.98		1.14	2.28			15.0		95.90	1.51	1.07		1.24	1.88	4.2		16.0		95.94	1.00	0.58		0.62		0.62	
				16.0		95.96	1.85	1.28		1.49	2.75			16.0		96.01	1.40	1.14		1.32	1.85	2.4		17.0		95.84	1.10	0.49		0.54		0.59	
				17.0		95.96	1.85	1.33		1.54	2.85			17.0		95.89	1.52	1.44		1.67	2.54	2.4		18.0		95.84	1.10	0.87		0.92		1.01	
				18.0		95.76	2.05	1.46		1.69	3.47			18.0		95.73	1.68	1.61		1.86	3.13	2.4		19.0		95.76	1.18	0.75		0.79		0.94	
				19.0		95.71	2.10	1.95		2.25	4.72			19.0		95.81	1.60	1.42		1.64	2.63	2.4		20.0		95.83	1.11	0.81		0.85		0.95	
				20.0		95.76	2.05	1.82		2.10	4.30			20.0		95.84	1.57	1.59		1.84	2.89	2.4		21.0		95.76	1.18	0.80		0.84		1.00	
				21.0		95.76	2.05	1.77		2.04	4.19			21.0		95.81	1.60	1.54		1.78	2.85	2.4		22.0		95.72	1.22	0.76		0.80		0.98	
				22.0		95.61	2.20	1.92		2.21	4.87			22.0		95.71	1.70	1.54		1.78	3.03	4.2		23.0		95.56	1.38	0.68		0.72		0.99	
				23.0		95.56	2.25	1.77		2.04	4.60			23.0		95.61	1.80	1.39		1.61	2.90	4.2		24.0		95.59	1.35	0.53		0.57		0.77	
				24.0		95.56	2.25	1.84		2.12	4.77			24.0		95.60	1.81	1.35		1.57	2.83	4.2		25.0		95.64	1.30	0.44		0.50		0.65	
				25.0		95.66	2.15	1.88		2.17	4.66			25.0		95.71	1.70	1.19		1.38	2.35	4.2		26.0		95.84	1.10	0.54		0.58		0.64	
				26.0		95.81	2.00	1.39		1.61	3.22			26.0		95.88	1.53	0.50		0.60	0.92	2.4	*30	27.0		95.97	0.97	0.16		0.24	30	0.20	
				27.0		95.96	1.85	0.57		0.68	1.26			27.0		96.01	1.40	0.23		0.31	0.44	2.4		28.0		96.14	0.80	0.02		0.05		0.04	
				28.0		96.11	1.70	-0.09		-0.14	-0.24			28.0		96.19	1.22	0.05		0.08	0.10	2.4		29.0		96.25	0.69	0.00		0.01		0.01	
				29.0		96.31	1.50	-0.07		-0.11	-0.16		*	29.0		96.51	0.90	0.50		0.60	0.54	2.3	RWE	29.8		96.94	0.00	0.00		0.00		0.00	
				30.0		96.81	1.00	-0.10		-0.16	-0.16			30.0		96.99	0.42	0.00		0.01	0.00	2.1											
				31.0		97.11	0.70	-0.08		-0.12	-0.10			31.0		97.21	0.20	0.00		0.01	0.00	1.2											
				32.2		97.81	0.00	0.00		0.00	0.00		RWE	31.7		97.41	0.00	0.00		0.00	0.00	1.2											
														32.5	6.64	98.20						1.2										
													RWP	42.5	6.34	98.50						1.1										



Note: Velocity equation changed to reference correct velocity meter.

* = Velocity estimated

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           Long Creek SY_8 05/13/04
Run                          HGH                                    TRANSECT 1
IOC       11000001000010001010000
QARD   6.0
QARD   8.0
QARD  11.5
QARD  15.0
QARD  20.0
QARD  25.0
QARD  28.1
QARD  30.0
QARD  32.5
QARD  35.0
QARD  37.5
QARD  40.0
QARD  42.5
QARD  45.0
QARD  48.0
QARD  50.0
QARD  52.5
QARD  55.0
QARD  60.0
QARD  65.0
QARD  70.0
QARD  75.0
QARD  80.0
QARD  85.0
QARD  90.0
QARD  95.0
QARD 100.0
QARD 105.0
QARD 110.0
QARD 120.0
XSEC   0.0       0.0 1.0     95.41   0.00185
       0.0  1.0 99.5  5.0 98.8  7.4 97.6  8.2 95.9  9.0 95.8 10.0 95.8
       0.0 11.0 95.7 12.0 95.7 13.0 95.8 14.0 95.7 15.0 95.8 16.0 95.7
       0.0 17.0 95.7 18.0 95.6 19.0 95.6 20.0 95.6 21.0 95.5 22.0 95.5
       0.0 23.0 95.4 24.0 95.4 25.0 95.4 26.0 95.6 27.0 95.5 28.0 95.6
       0.0 29.0 95.8 30.0 96.5 30.5 97.5 31.1 97.6 42.9 98.4 48.9 98.4
NS     0.0       1.2       1.2       2.4       2.4       2.4       4.2
NS     0.0       5.2       5.4       5.4       5.4       5.4       5.4
NS     0.0       5.4       5.4       5.6       5.6       5.4       5.6
NS     0.0       5.8       5.6       5.6       8.5       5.6       5.2
NS     0.0       4.2 .14   1.2 .10   1.2 .12   1.2 .14   1.2       1.2
WSL    0.0     96.55     96.61     96.75     96.85     96.98     97.10
WSL    0.0     97.15     97.19     97.26     97.32     97.37     97.43
WSL    0.0     97.48     97.54     97.61     97.65     97.70     97.76
WSL    0.0     97.86     97.97     98.06     98.15     98.24     98.32
WSL    0.0     98.40     98.47     98.55     98.62     98.68     98.81
CAL1   0.0     97.61      48.0
VEL1   0.0           0.00 0.01-0.21-0.53-0.25 0.33 0.28 0.37 0.41 0.57
VEL1   0.0 1.02 1.02 0.96 0.93 0.89 1.28 2.52 2.66 2.39 2.30 1.61 0.99
VEL1   0.0 0.43-0.17-0.08 0.00
CAL2   0.0     97.13      28.1
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     96.80      11.5
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
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          Long Creek SY_8 05/13/04
Run                         HGH                                    TRANSECT 2
IOC       11000001000010001010000
QARD   6.0
QARD   8.0
QARD  11.5
QARD  15.0
QARD  20.0
QARD  25.0
QARD  28.1
QARD  30.0
QARD  32.5
QARD  35.0
QARD  37.5
QARD  40.0
QARD  42.5
QARD  45.0
QARD  48.0
QARD  50.0
QARD  52.5
QARD  55.0
QARD  60.0
QARD  65.0
QARD  70.0
QARD  75.0
QARD  80.0
QARD  85.0
QARD  90.0
QARD  95.0
QARD 100.0
QARD 105.0
QARD 110.0
QARD 120.0
XSEC   0.0       0.0 1.0     95.83   0.00185
       0.0  1.0 99.1  4.0 98.7 10.0 98.1 10.8 97.7 11.5 97.1 12.5 96.6
       0.0 13.5 96.4 14.5 96.2 15.5 96.0 16.5 95.9 17.5 95.9 18.5 95.8
       0.0 19.5 95.9 20.0 95.8 20.5 95.8 21.0 95.9 21.5 95.9 22.0 95.9
       0.0 22.5 95.9 23.0 96.0 23.5 96.0 24.0 96.0 24.5 96.1 25.0 96.1
       0.0 25.5 96.2 26.0 96.2 26.5 96.2 27.0 96.2 27.5 96.2 28.0 96.3
       0.0 28.2 97.5 28.5 97.6 28.6 97.7 30.0 98.6 32.2 98.9
NS     0.0       1.2       1.2       1.2       2.3 0.3   2.1 0.3   2.9
NS     0.0       2.4       2.4       4.6       4.5       4.5       4.5
NS     0.0       5.4       5.4       5.4       5.4       5.4       5.4
NS     0.0       5.4       5.4       5.4       5.4       5.4       5.4
NS     0.0       5.4       4.5       4.5       4.5       5.4 .06   5.4
NS     0.0 .07   5.4 .08   5.4       1.2       1.2       1.2
WSL    0.0     96.73     96.79     96.91     97.01     97.14     97.25
WSL    0.0     97.30     97.34     97.39     97.45     97.51     97.56
WSL    0.0     97.61     97.67     97.73     97.77     97.83     97.88
WSL    0.0     97.98     98.08     98.17     98.26     98.35     98.43
WSL    0.0     98.51     98.58     98.66     98.72     98.79     98.92
CAL1   0.0     97.73      48.0
VEL1   0.0                0.00 0.02 0.17 0.44 0.67 0.91 1.28 1.54 2.17
VEL1   0.0 2.79 2.88 2.96 2.92 2.85 2.70 2.59 2.82 2.70 2.50 2.43 2.07
VEL1   0.0 2.09 2.02 2.18 2.18 2.31 0.11 0.08 0.08 0.00
CAL2   0.0     97.28      28.1
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     96.90      11.5
VEL3   0.0
VEL3   0.0
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VEL3    0.0
ENDJ
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          Long Creek SY_8 05/13/04
Run                          HGH                                    TRANSECT 3
IOC       11000001000010001010000
QARD   6.0
QARD   8.0
QARD  11.5
QARD  15.0
QARD  20.0
QARD  25.0
QARD  28.1
QARD  30.0
QARD  32.5
QARD  35.0
QARD  37.5
QARD  40.0
QARD  42.5
QARD  45.0
QARD  48.0
QARD  50.0
QARD  52.5
QARD  55.0
QARD  60.0
QARD  65.0
QARD  70.0
QARD  75.0
QARD  80.0
QARD  85.0
QARD  90.0
QARD  95.0
QARD 100.0
QARD 105.0
QARD 110.0
QARD 120.0
XSEC   0.0       0.0 1.0     95.83   0.00185
       0.0  1.0 99.9  6.7 97.8  7.2 96.7  8.0 96.2  9.0 96.2 10.0 96.1
       0.0 11.0 95.8 12.0 95.9 13.0 95.9 14.0 96.0 15.0 95.8 16.0 96.0
       0.0 17.0 96.0 18.0 95.8 19.0 95.7 20.0 95.8 21.0 95.8 22.0 95.6
       0.0 23.0 95.6 24.0 95.6 25.0 95.7 26.0 95.8 27.0 96.0 28.0 96.1
       0.0 29.0 96.3 30.0 96.8 31.0 97.1 32.2 97.8 32.5 98.2 42.5 98.5
NS     0.0       1.1       1.1       2.3       2.3       2.3       2.3
NS     0.0       2.3       3.2       4.2       4.2       4.2       2.4
NS     0.0       2.4       2.4       2.4       2.4       2.4       4.2
NS     0.0       4.2       4.2       4.2       2.4       2.4 .18   2.4
NS     0.0 .20   2.3 .25   2.1 .25   1.2       1.2       1.2       1.1
WSL    0.0     96.78     96.84     96.97     97.07     97.20     97.32
WSL    0.0     97.37     97.41     97.47     97.53     97.58     97.64
WSL    0.0     97.69     97.75     97.81     97.86     97.91     97.96
WSL    0.0     98.07     98.17     98.26     98.35     98.44     98.52
WSL    0.0     98.60     98.68     98.75     98.82     98.89     99.02
CAL1   0.0     97.81      48.0
VEL1   0.0      0.00-0.33-0.33-0.23-0.18-0.05 0.29 0.51 1.20 1.14 1.49
VEL1   0.0 1.54 1.69 2.25 2.10 2.04 2.21 2.04 2.12 2.17 1.61 0.68-0.14
VEL1   0.0-0.11-0.16-0.12 0.00
CAL2   0.0     97.41      28.1
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     96.94      11.5
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
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Stream: Long Creek
Site: SY_8
Date: 5/13/2004
Habitat: Riffle **Flow:** High

(1) Level Loop Survey (BM & HP)

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	4.13	104.13		100.00
HP1			5.32	98.81
HP2			5.32	98.81
HP3			5.70	98.43
TP				
HP3	5.59	104.02		
HP2			5.20	98.82
HP1			5.21	98.81
BM			4.02	100.00

Comment:

(2) Water Surface Elevation (WSE) Survey

TR	River Station L/R bank (ft)	River Station Ave (ft)	HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
1-L	0	0	104.02	7.61	0.00	96.41	96.46	50.8
1-R	0			7.51	0.00	96.51		
2-L	21	37	104.02	7.49	0.00	96.53	96.56	48.4
2-R	52			7.44	0.00	96.58		
3-L	66	82	104.02	7.36	0.00	96.66	96.66	52.3
3-R	98			7.36	0.00	96.66		
							Ave Q=	48.9

Note: 60' d/s of TR1wse FS=7.69, bed FS=10.13
WSE slope = 0.303%

(3) Meter and propeller ID for Velocity Correction

Meter ID: 4099
Propeller ID: 1a

Date: 6/25/2004
Habitat: Riffle **Flow:** Mid

(1) Level Loop Survey

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	4.26	104.26		100.00
HP2			5.45	98.81
HP1			5.45	98.81
TP				
HP1	5.26	104.07		
HP3			5.65	98.42
BM			4.07	100.00
TP				
BM	4.38	104.38		
HP2			5.56	98.82
HP1			5.56	98.82
TP				
HP1	5.09	103.91		
HP3			5.48	98.43

Comment:

(2) Water Surface Elevation (WSE) Survey

TR	River Station L/R bank (ft)	River Station Ave (ft)	HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
1-L	0	0	103.90	7.82		96.08	96.09	29.2
1-R	0			7.81		96.09		
2-L	21	37	103.90	7.76		96.14	96.16	28.8
2-R	52			7.73		96.17		
3-L	66	82	102.16	5.91		96.25	96.25	28.4
3-R	98			5.92		96.24		
							Ave Q=	27.8

Note:
WSE slope = 0.242%

(3) Meter and propeller ID for Velocity Correction

Meter ID: 3602
Propeller ID: 3A

Date: 8/18/2004
Habitat: Riffle **Flow:** Low

(1) Level Loop Survey

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	2.50	102.50		100.00
HP1			3.69	98.81
HP2			3.69	98.81
HP3			4.07	98.43
TP				
HP3	4.11	102.54		
HP2			3.73	98.81
HP1			3.73	98.81
BM			2.54	100.00

Comment: BM (riffle)=101.02 in pool loop datu

(2) Water Surface Elevation (WSE) Survey

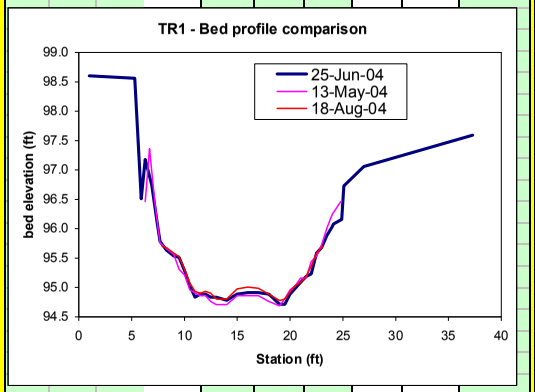
TR	River Station L/R bank (ft)	River Station Ave (ft)	HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
1-L	0	0	102.54	6.85		95.69	95.71	12
1-R	0			6.82		95.72		
2-L	21	37	102.54	6.73		95.81	95.83	12.6
2-R	52			6.69		95.85		
3-L	66	82	102.54	6.59		95.95	95.95	11.4
3-R	98			6.59		95.95		
							Ave Q=	11.6

Note:
WSE slope = 0.371%

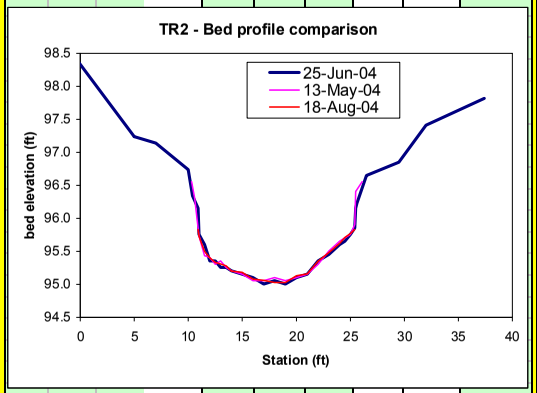
(3) Meter and propeller ID for Velocity Correction

Meter ID: 5750
Propeller ID: 2a

Stream:	Long Creek		13-May-04										25-Jun-04										18-Aug-04										
Site:	SY_8			Sta	FS	Ground	Depth	Vel (ft/s)			q			Sta	FS	Ground	Depth	Vel (ft/s)			q			Sta	FS	Ground	Depth	Vel (ft/s)			Angle	q	
Transect:	1			(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(deg)	(cfs)	substrate
Habitat:	Riffle																															
			RWP										RWP	1.0	5.30	98.60					1.1											
Survey	HI	Q	RWE	6.3		96.46	0.00	0.00		0.00	0.00			5.3	5.34	98.56					1.1											
Date	(ft)	(cfs)		6.7		97.36	-0.90							5.9	7.39	96.51					2.3											
5/13/2004	104.02	50.8		7.2		96.46	0.00	0.00		0.00	0.00			6.3	6.72	97.18					1.1											
6/25/2004	103.90	29.2		7.7		95.76	0.70	0.19		0.28	0.11			6.9	7.15	96.75					1.1											
8/18/2004	102.54	11.9		8.3		95.66	0.80	0.53		0.58	0.30		RWE	7.4	7.77	96.13	0.00	0.00		0.00	0.00	2.2										
				9.0		95.56	0.90	0.41		0.48	0.26			7.7		95.79	0.30	-0.26		-0.30	-0.04	2.1	RWE	7.9		95.71	0.00	0.00		0.00		0.00	
				9.5		95.31	1.15	2.10		2.18	1.25			8.3		95.64	0.45	-0.26		-0.30	-0.09	2.8		8.3		95.68	0.03	0.01		0.03		0.00	
				10.0		95.21	1.25	2.74		2.83	1.77			9.0		95.54	0.55	0.09		0.15	0.05	2.8		9.0		95.59	0.12	-0.10		-0.23		-0.02	
				10.5		94.96	1.50	2.46		2.55	1.91			9.5		95.52	0.57	0.63		0.65	0.19	8.2		9.5		95.53	0.18	-0.05		-0.13		-0.01	
				11.0		94.91	1.55	2.85		2.94	2.28			10.0		95.29	0.80	2.01		2.04	0.82	8.2		10.0		95.31	0.40	1.09		1.14		0.23	
				11.5		94.86	1.60	3.03		3.13	2.50			10.5		95.04	1.05	1.86		1.89	0.99	8.4		10.5		95.08	0.63	0.90		0.95		0.30	
				12.0		94.86	1.60	3.12		3.22	2.57			11.0		94.84	1.25	2.31		2.34	1.46	8.4		11.0		94.94	0.77	1.30		1.35		0.52	
				12.5		94.76	1.70	3.04		3.14	2.67			11.5		94.89	1.20	2.52		2.55	1.53	8.4		11.5		94.91	0.80	1.37		1.42		0.57	
				13.0		94.71	1.75	2.73		2.82	3.70			12.0		94.89	1.20	2.59		2.62	1.57	8.4		12.0		94.94	0.77	1.96		1.99		0.77	
				14.0		94.71	1.75	2.70		2.79	4.89			12.5		94.84	1.25	2.55		2.58	1.61	8.4		12.5		94.91	0.80	1.90		1.93		0.77	
				15.0		94.86	1.60	2.81		2.90	4.65			13.0		94.84	1.25	2.45		2.48	2.33	8.4		13.0		94.81	0.90	1.74		1.77		1.20	
				16.0		94.86	1.60	2.61		2.70	4.32			14.0		94.79	1.30	2.33		2.36	3.07	8.4		14.0		94.81	0.90	1.92		1.95		1.76	
				17.0		94.86	1.60	2.67		2.76	4.42			15.0		94.89	1.20	2.39		2.42	2.91	8.4		15.0		94.98	0.73	1.93		1.96		1.43	
				18.0		94.76	1.70	2.60		2.69	4.57			16.0		94.92	1.17	2.34		2.37	2.77	8.4		16.0		95.01	0.70	1.71		1.74		1.22	
				19.0		94.69	1.77	2.50		2.59	3.43			17.0		94.92	1.17	2.32		2.35	2.75	8.4		17.0		94.99	0.72	1.59		1.63		1.17	
				19.5		94.81	1.65	2.00		2.08	1.71			18.0		94.89	1.20	2.18		2.21	2.65	8.4		18.0		94.89	0.82	1.23		1.28		1.05	
				20.0		94.96	1.50	1.70		1.77	1.33			19.0		94.72	1.37	1.73		1.76	1.81	8.5		19.0		94.78	0.93	0.98		1.03		0.72	
				20.5		95.03	1.43	1.60		1.67	1.19			19.5		94.72	1.37	1.67		1.70	1.16	8.5		19.5		94.81	0.90	0.47		0.52		0.24	
				21.0		95.16	1.30	1.06		1.11	0.72			20.0		94.89	1.20	1.49		1.52	0.91	5.4		20.0		94.93	0.78	0.21		0.29	30	0.10	
				21.5		95.16	1.30	0.45		0.52	0.34			20.5		94.99	1.10	1.06		1.09	0.60	4.2		20.5		95.04	0.67	0.01		0.03		0.01	
				22.0		95.44	1.02	-0.01		-0.02	-0.01			21.0		95.09	1.00	0.58		0.60	0.30	4.2		21.0		95.09	0.62	-0.10		-0.23		-0.07	
				22.5		95.53	0.93	-0.01		-0.02	-0.01			21.5		95.19	0.90	-0.04		-0.12	-0.05	2.4		21.5		95.19	0.52	-0.14		-0.22		-0.06	
				23.0		95.73	0.73	-0.05		-0.11	-0.04			22.0		95.24	0.85	-0.02		-0.06	-0.02	2.1		22.0		95.37	0.34	0.01		0.03		0.00	
				23.5		96.01	0.45	-0.16		-0.25	-0.06			22.5		95.59	0.50	-0.05		-0.15	-0.04	2.9		22.5		95.59	0.12	0.01		0.03		0.00	
				24.0		96.24	0.22	-0.14		-0.23	-0.03			23.0		95.69	0.40	-0.05		-0.15	-0.03	2.9		23.0		95.69	0.02	0.01		0.03		0.00	
			LWE	24.8		96.46	0.00	0.00		0.00	0.00			23.5		95.89	0.20	0.01		0.03	0.00	2.9	LWE	23.1		95.71	0.00	0.00		0.00		0.00	
			LWP											24.0		96.04	0.05	0.01		0.03	0.00	2.9											
													LWE	24.1	7.82	96.08	0.00	0.00		0.00	0.00	2.1											
														24.9	7.74	96.16					2.1											
														25.1	7.17	96.73					1.1											
														27.0	6.84	97.06					1.1											
													LWP	37.3	6.31	97.59					1.1											

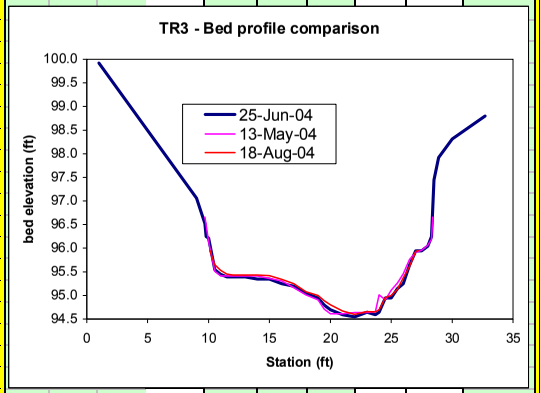


Stream:	Long Creek		13-May-04									25-Jun-04									18-Aug-04									
Site:	SY_8			Sta	FS	Ground	Depth	Vel (ft/s)			q			Sta	FS	Ground	Depth	Vel (ft/s)			q			Sta	FS	Ground	Depth	Vel (ft/s)			q	
Transect:	2			(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate
Habitat:	Riffle		RWP										-2.0	5.13	98.77						1.1										
			RWE	10.3		96.56	0.00	0.00		0.00	0.00		5.0	6.66	97.24						1.1										
Survey	HI	Q		10.6		96.31	0.25	0.25		0.34	0.03		7.0	6.76	97.14						1.1										
Date	(ft)	(cfs)		11.0		95.74	0.82	0.01		0.02	0.01		10.0	7.16	96.74						1.1										
5/13/2004	104.02	48.4		11.5		95.44	1.12	0.38		0.45	0.25		10.4	7.56	96.34						1.1										
6/25/2004	103.90	28.8		12.0		95.41	1.15	1.06		1.11	0.64		RWE	10.9		96.16	0.00	0.00		0.00	0.00	9.2	RWE	10.9		95.83	0.00	0.00		0.00	0.00	
8/18/2004	102.54	12.6		12.5		95.31	1.25	1.81		1.89	1.18			11.0		95.76	0.40	0.10		0.16	0.02	2.9		11.0		95.73	0.10	0.01		0.03	0.00	
				13.0		95.36	1.20	2.45		2.54	1.52			11.5		95.61	0.55	0.18		0.23	0.06	2.9		11.5		95.50	0.33	0.09		0.22	0.04	
				13.5		95.26	1.30	2.59		2.68	1.74			12.0		95.36	0.80	0.52		0.54	0.22	2.5		12.0		95.40	0.43	0.63		0.67	0.14	
				14.0		95.21	1.35	2.77		2.86	2.90			12.5		95.36	0.80	1.39		1.42	0.57	5.4		12.5		95.33	0.50	0.96		1.01	0.25	
				15.0		95.16	1.40	2.37		2.46	3.44			13.0		95.26	0.90	1.91		1.94	0.87	5.4		13.0		95.31	0.52	1.20		1.25	0.32	
				16.0		95.06	1.50	2.54		2.63	3.94			13.5		95.26	0.90	2.23		2.26	1.02	5.4		13.5		95.28	0.55	1.44		1.48	0.41	
				17.0		95.06	1.50	2.96		3.06	4.58			14.0		95.21	0.95	2.42		2.45	1.75	5.8		14.0		95.20	0.63	1.45		1.49	0.71	
				18.0		95.11	1.45	3.11		3.21	4.65			15.0		95.16	1.00	2.15		2.18	2.18	5.4		15.0		95.18	0.65	1.74		1.77	1.15	
				19.0		95.06	1.50	3.15		3.25	4.87			16.0		95.11	1.05	2.27		2.30	2.42	5.4		16.0		95.08	0.75	1.75		1.78	1.34	
				20.0		95.11	1.45	2.82		2.91	4.22			17.0		95.01	1.15	2.48		2.51	2.89	5.4		17.0		95.06	0.77	1.69		1.73	1.33	
				21.0		95.16	1.40	2.89		2.98	4.18			18.0		95.06	1.10	2.56		2.59	2.85	5.4		18.0		95.03	0.80	1.61		1.65	1.32	
				22.0		95.31	1.25	2.70		2.79	3.49			19.0		95.01	1.15	2.54		2.57	2.96	5.4		19.0		95.03	0.80	1.81		1.84	1.47	
				23.0		95.51	1.05	2.87		2.96	3.11			20.0		95.11	1.05	2.55		2.58	2.71	5.4		20.0		95.13	0.70	1.88		1.91	1.34	
				24.0		95.66	0.90	2.64		2.73	1.84			21.0		95.16	1.00	2.53		2.56	2.56	4.5		21.0		95.16	0.67	1.83		1.86	1.25	
				24.5		95.71	0.85	2.10		2.18	0.93			22.0		95.36	0.80	2.79		2.82	2.26	4.5		22.0		95.35	0.48	1.81		1.84	0.88	
				25.0		95.76	0.80	1.61		1.68	0.60			23.0		95.46	0.70	2.73		2.76	1.93	4.5		23.0		95.48	0.35	1.46		1.50	0.53	
				25.4		95.91	0.65	1.34		1.40	0.23			24.0		95.61	0.55	2.06		2.09	0.86	4.5		24.0		95.62	0.21	0.59		0.63	0.10	
				25.5		96.41	0.15	0.10		0.18	0.01			24.5		95.66	0.50	1.75		1.78	0.44	4.5	*	24.5		95.71	0.12	0.10		0.23	0.01	
			LWE	26.1		96.56	0.00	0.00		0.00	0.00			25.0		95.76	0.40	1.11		1.14	0.20	2.9		25.0		95.77	0.06	0.01		0.03	0.00	
			LWP											25.4		95.86	0.30	0.54		0.56	0.04	2.9	LWE	25.4		95.83	0.00	0.00		0.00	0.00	
													LWE	25.5		96.16	0.00	0.00		0.00	0.00	1.2										
														25.6	7.67	96.23						1.1										
														26.5	7.25	96.65						1.1										
														29.5	7.05	96.85						1.1										
														32.0	6.49	97.41						1.1										
													LWP	37.4	6.08	97.82						1.1										



* - Estimated velocity

Stream:	Long Creek		13-May-04										25-Jun-04										18-Aug-04									
Site:	SY_8			Sta	FS	Ground	Depth	Vel (ft/s)			q			Sta	FS	Ground	Depth	Vel (ft/s)			q			Sta	FS	Ground	Depth	Vel (ft/s)			q	
Transect:	3			(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate
Habitat:	Riffle												RWP	1.0	4.10	99.92					1.1										
			RWP											9.0	5.10	97.06					1.1										
Survey	HI	Q	RWE	9.7		96.66	0.00	0.00		0.00	0.00			9.7	5.64	96.52					1.1										
Date	(ft)	(cfs)		10.0		96.14	0.52	0.16		0.25	0.05		RWE	9.8		96.25	0.00	0.00		0.00	0.00	1.2									
5/13/2004	104.02	52.3		10.5		95.51	1.15	1.24		1.30	0.75			10.0		96.22	0.03	0.01		0.03	0.00	9.1	RWE	10.1		95.95	0.00	0.00		0.00	0.00	
6/25/2004	102.16	28.4		11.0		95.41	1.25	1.92		2.00	1.25			10.5		95.55	0.70	0.57		0.59	0.21	4.2		10.5		95.65	0.30	0.10		0.23	0.03	
8/18/2004	102.54	11.4		11.5		95.41	1.25	2.02		2.10	1.31			11.0		95.45	0.80	1.35		1.38	0.55	4.2		11.0		95.53	0.42	0.55		0.59	0.12	
				12.0		95.41	1.25	2.11		2.19	2.05			11.5		95.40	0.85	1.50		1.53	0.65	4.2		11.5		95.45	0.50	0.62		0.66	0.17	
				13.0		95.41	1.25	2.15		2.23	2.79			12.0		95.40	0.85	1.64		1.67	1.06	4.5		12.0		95.43	0.52	1.00		1.05	0.41	
				14.0		95.41	1.25	2.29		2.37	2.97			13.0		95.40	0.85	1.74		1.77	1.50	4.5		13.0		95.43	0.52	1.04		1.09	0.57	
				15.0		95.36	1.30	2.49		2.58	3.35			14.0		95.35	0.90	1.81		1.84	1.65	4.5		14.0		95.43	0.52	0.95		1.00	0.52	
				16.0		95.31	1.35	2.73		2.82	3.81			15.0		95.35	0.90	1.55		1.58	1.42	4.5		15.0		95.42	0.53	1.10		1.15	0.61	
				17.0		95.16	1.50	2.73		2.82	4.23			16.0		95.25	1.00	1.93		1.96	1.96	5.4		16.0		95.34	0.61	1.09		1.14	0.69	
				18.0		95.01	1.65	2.84		2.93	4.84			17.0		95.20	1.05	1.94		1.97	2.07	5.4		17.0		95.25	0.70	1.23		1.28	0.89	
				19.0		94.91	1.75	3.05		3.15	4.13			18.0		95.05	1.20	2.17		2.20	2.64	5.4		18.0		95.08	0.87	1.12		1.17	1.02	
				19.5		94.71	1.95	2.99		3.09	3.01			19.0		94.95	1.30	1.99		2.02	1.97	5.4		19.0		95.00	0.95	1.26		1.31	0.93	
				20.0		94.61	2.05	3.02		3.12	4.79			19.5		94.80	1.45	2.32		2.35	1.70	5.4		19.5		94.89	1.06	1.20		1.25	0.66	
				21.0		94.61	2.05	2.56		2.65	5.43			20.0		94.70	1.55	2.03		2.06	2.39	5.4		20.0		94.80	1.15	1.19		1.24	1.07	
				22.0		94.64	2.02	2.00		2.08	4.20			21.0		94.60	1.65	1.89		1.92	3.16	5.8		21.0		94.67	1.28	1.08		1.13	1.44	
				23.0		94.64	2.02	1.20		1.25	2.15			22.0		94.55	1.70	1.63		1.66	2.82	5.4		22.0		94.60	1.35	0.86		0.91	1.22	
				23.7		94.66	2.00	0.86		0.91	0.91			23.0		94.65	1.60	1.06		1.09	1.48	4.5		23.0		94.66	1.29	0.45		0.51	0.55	
				24.0		95.01	1.65	0.35		0.43	0.28			23.7		94.60	1.65	0.68		0.70	0.58	8.4		23.7		94.65	1.30	0.28		0.35	0.23	
				24.5		94.91	1.75	0.29		0.38	0.33			24.0		94.65	1.60	0.47		0.49	0.31	2.8		24.0		94.70	1.25	0.13		0.23	0.11	
				25.0		95.11	1.55	0.09		0.18	0.14			24.5		94.95	1.30	0.15		0.20	0.13	2.8		24.5		94.95	1.00	0.13		0.23	0.11	
				25.5		95.26	1.40	0.06		0.13	0.09			25.0		94.95	1.30	0.07		0.16	0.11	2.8		25.0		95.00	0.95	0.10		0.23	0.11	
				26.0		95.46	1.20	-0.15		-0.24	-0.14			25.5		95.15	1.10	0.04		0.12	0.06	2.3		25.5		95.13	0.82	-0.05		-0.13	-0.05	
				26.5		95.76	0.90	-0.17		-0.26	-0.12			26.0		95.25	1.00	-0.03		-0.09	-0.04	2.3		26.0		95.37	0.58	0.01		0.03	0.01	
				27.0		95.91	0.75	-0.11		-0.20	-0.07			26.5		95.65	0.60	-0.07		-0.16	-0.05	2.3		26.5		95.61	0.34	0.01		0.03	0.00	
				27.5		95.96	0.70	-0.25		-0.34	-0.12			27.0		95.95	0.30	0.01		0.03	0.00	2.9		27.0		95.93	0.02	0.01		0.03	0.00	
				28.0		96.06	0.60	-0.12		-0.21	-0.05			27.5		95.95	0.30	0.01		0.03	0.00	2.9	LWE	27.2		95.95	0.00	0.00		0.00	0.00	
			LBE	28.3		96.19	0.47	-0.08		-0.18	-0.02			28.0		96.05	0.20	0.01		0.03	0.00	2.9										
			LWE	28.4		96.66	0.00	0.00		0.00	0.00		LWE	28.3		96.25	0.00	0.00		0.00	0.00	2.1										
			LWP											28.5	4.71	97.45					1.1										
														28.9	4.24	97.92					1.1										
														30.0	3.85	98.31					1.1										
													LWP	32.7	3.36	98.80					1.1										



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          Long Creek SY_8 05/13/04
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QARD  80.0
QARD  85.0
QARD  90.0
QARD  95.0
QARD 100.0
QARD 105.0
QARD 110.0
QARD 120.0
XSEC   0.0       0.0 1.0     95.10   0.00303
       0.0  1.0 98.6  5.3 98.6  5.9 96.5  6.3 96.5  6.7 97.4  7.2 96.5
       0.0  7.7 95.8  8.3 95.7  9.0 95.6  9.5 95.3 10.0 95.2 10.5 95.0
       0.0 11.0 94.9 11.5 94.9 12.0 94.9 12.5 94.8 13.0 94.7 14.0 94.7
       0.0 15.0 94.9 16.0 94.9 17.0 94.9 18.0 94.8 19.0 94.7 19.5 94.8
       0.0 20.0 95.0 20.5 95.0 21.0 95.2 21.5 95.2 22.0 95.4 22.5 95.5
       0.0 23.0 95.7 23.5 96.0 24.0 96.2 24.8 96.5 24.9 96.2 25.1 96.7
       0.0 27.0 97.1 37.3 97.6
NS     0.0       1.1       1.1       2.3       1.1       1.1       2.2
NS     0.0       2.1 .07   2.8 .070  2.8       8.2       8.2       8.4
NS     0.0       8.4       8.4       8.4       8.4       8.4       8.4
NS     0.0       8.4       8.4       8.4       8.4       8.5       8.5
NS     0.0       5.4       4.2       4.2       2.4       2.1       2.9
NS     0.0       2.9       2.9       2.9       2.1       2.1       1.1
NS     0.0       1.1       1.1
CAL1   0.0     96.46      48.0
VEL1   0.0                0.00      0.00 0.28 0.58 0.48 2.18 2.83 2.55
VEL1   0.0 2.94 3.13 3.22 3.14 2.82 2.79 2.90 2.70 2.76 2.69 2.59 2.08
VEL1   0.0 1.77 1.67 1.11 0.52-0.02-0.02-0.11-0.25-0.23 0.00
VEL1   0.0
CAL2   0.0     96.09      28.1
VEL2   0.0
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     95.71      11.5
VEL3   0.0
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
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          Long Creek SY_8 05/13/04
Riffle                      HGH                                    TRANSECT 2
IOC       11000001000010001010000
QARD   6.0
QARD   8.0
QARD  11.5
QARD  15.0
QARD  20.0
QARD  25.0
QARD  28.1
QARD  30.0
QARD  32.5
QARD  35.0
QARD  37.5
QARD  40.0
QARD  42.5
QARD  45.0
QARD  48.0
QARD  50.0
QARD  52.5
QARD  55.0
QARD  60.0
QARD  65.0
QARD  70.0
QARD  75.0
QARD  80.0
QARD  85.0
QARD  90.0
QARD  95.0
QARD 100.0
QARD 105.0
QARD 110.0
QARD 120.0
XSEC   0.0       0.0 1.0     95.10   0.00303
       0.0 -2.0 98.8  5.0 97.2  7.0 97.1 10.0 96.7 10.3 96.6 10.6 96.3
       0.0 11.0 95.7 11.5 95.4 12.0 95.4 12.5 95.3 13.0 95.4 13.5 95.3
       0.0 14.0 95.2 15.0 95.2 16.0 95.1 17.0 95.1 18.0 95.1 19.0 95.1
       0.0 20.0 95.1 21.0 95.2 22.0 95.3 23.0 95.5 24.0 95.7 24.5 95.7
       0.0 25.0 95.8 25.4 95.9 25.5 96.4 26.1 96.6 26.5 96.7 29.5 96.8
       0.0 32.0 97.4 37.4 97.8
NS     0.0       1.1       1.1       1.1       1.1       1.1       9.2
NS     0.0 0.1   2.9       2.9       2.5       5.4       5.4       5.4
NS     0.0       5.8       5.4       5.4       5.4       5.4       5.4
NS     0.0       5.4       4.5       4.5       4.5       4.5       4.5
NS     0.0       2.9       2.9 .04   1.2 .04   1.1 .04   1.1 .06   1.1
NS     0.0       1.1       1.1
WSL    0.0     95.70     95.76     95.86     95.94     96.05     96.14
WSL    0.0     96.19     96.23     96.28     96.32     96.37     96.41
WSL    0.0     96.45     96.48     96.53     96.56     96.60     96.64
WSL    0.0     96.71     96.78     96.85     96.91     96.97     97.03
WSL    0.0     97.09     97.15     97.21     97.26     97.32     97.43
CAL1   0.0     96.56      48.0
VEL1   0.0                    0.00 0.34 0.02 0.45 1.11 1.89 2.54 2.68
VEL1   0.0 2.86 2.46 2.63 3.06 3.21 3.25 2.91 2.98 2.79 2.96 2.73 2.18
VEL1   0.0 1.68 1.40 0.18 0.00
CAL2   0.0     96.16      28.1
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     95.83      11.5
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
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          Long Creek SY_8 05/13/04
Riffle                     HGH                                    TRANSECT 3
IOC       110000100001000101000
QARD   6.0
QARD   8.0
QARD  11.5
QARD  15.0
QARD  20.0
QARD  25.0
QARD  28.1
QARD  30.0
QARD  32.5
QARD  35.0
QARD  37.5
QARD  40.0
QARD  42.5
QARD  45.0
QARD  48.0
QARD  50.0
QARD  52.5
QARD  55.0
QARD  60.0
QARD  65.0
QARD  70.0
QARD  75.0
QARD  80.0
QARD  85.0
QARD  90.0
QARD  95.0
QARD 100.0
QARD 105.0
QARD 110.0
QARD 120.0
XSEC   0.0       0.0 1.0     95.10   0.00303
       0.0  1.0 99.9  9.0 97.1  9.7 96.7 10.0 96.1 10.5 95.5 11.0 95.4
       0.0 11.5 95.4 12.0 95.4 13.0 95.4 14.0 95.4 15.0 95.4 16.0 95.3
       0.0 17.0 95.2 18.0 95.0 19.0 94.9 19.5 94.7 20.0 94.6 21.0 94.6
       0.0 22.0 94.6 23.0 94.6 23.7 94.7 24.0 95.0 24.5 94.9 25.0 95.1
       0.0 25.5 95.3 26.0 95.5 26.5 95.8 27.0 95.9 27.5 96.0 28.0 96.1
       0.0 28.3 96.2 28.4 96.7 28.5 97.4 28.9 97.9 30.0 98.3 32.7 98.8
NS     0.0 0.30  1.1  .05  1.1 0.05  1.1 0.05  9.1       4.2       4.2
NS     0.0       4.2       4.5       4.5       4.5       4.5       5.4
NS     0.0       5.4       5.4       5.4       5.4       5.4       5.8
NS     0.0       5.4       4.5       8.4       2.8       2.8       2.8
NS     0.0       2.3       2.3       2.3       2.9       2.9       2.9
NS     0.0       2.1       1.1       1.1       1.1       1.1       1.1
WSL    0.0     95.76     95.82     95.92     96.01     96.12     96.22
WSL    0.0     96.28     96.32     96.37     96.41     96.46     96.51
WSL    0.0     96.55     96.59     96.64     96.67     96.71     96.75
WSL    0.0     96.83     96.90     96.97     97.03     97.10     97.16
WSL    0.0     97.22     97.28     97.34     97.39     97.45     97.55
CAL1   0.0     96.66      48.0
VEL1   0.0          0.00 0.25 1.30 2.00 2.10 2.19 2.23 2.37 2.58 2.82
VEL1   0.0 2.82 2.93 3.15 3.09 3.12 2.65 2.08 1.25 0.91 0.43 0.38 0.18
VEL1   0.0 0.13-0.24-0.26-0.20-0.34-0.21-0.18 0.00
CAL2   0.0     96.25      28.1
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     95.95      11.5
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
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