

12-4-2009

Ex. 281-US-430

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Stream: Fort Creek
 Site: WD 4
 Date: 5/14/2004
 Habitat: Rifle

Flow: High

(1) Level Loop Survey (BM & HP)

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	3.19	103.19		100
HP1			5.44	97.75
HP2			3.62	99.57
HP3			2.89	100.3
TP				
HP3	2.29	102.59		99.56
HP2			3.03	97.75
HP1			4.84	100.00
BM			2.59	100.00

Comment:

Date: 6/27/2004
 Habitat: Rifle

Flow: Mid

(1) Level Loop Survey

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	2.82	102.82		100.00
HP1			5.09	97.73
HP2			3.28	99.54
HP3			2.54	100.28
TP				
HP3	2.66	102.94		99.57
HP2			3.37	97.73
HP1			5.21	100.00
BM			2.94	100.00

Comment: Instr moved for TR1 and TR3

Date: 8/19/2004
 Habitat: Rifle

Flow: Low

(1) Level Loop Survey

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	1.30	101.30		100.00
HP3			1.02	100.28
HP2			1.74	99.56
HP2	1.85	101.41		100.00
HP3			1.13	100.28
BM	1.46	101.46		100.00
HP1			3.73	97.73
HP1	3.84	101.57		100.01
BM			1.56	100.01

Comment: Two small loops shot TR2,3, BM, and T1

(2) Water Surface Elevation (WSE) Survey

TR	Sta		Rod (ft)	FS (ft)	HI (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
	L/R bank (ft)	Ave (ft)						
1-L	0	0	0.00	7.69	102.59	94.90	94.90	68.1
1-R	0	0	0.00	7.69	102.59	94.90	94.90	68.1
2-L	230	223	0.00	6.91	102.59	95.68	95.67	58.8
2-R	215	215	0.00	6.93	102.59	95.66	95.66	58.8
3-L	708	705	0.00	5.83	102.98	97.15	97.16	64.0
3-R	701	701	0.00	5.82	102.98	97.16	97.16	64.0

Note: TR3 HI=102.98; MWSE's for each TR; McBmeyer used for TR1
 WSE slope = 0.320%
 Ave Q= 63.6

(2) Water Surface Elevation (WSE) Survey

TR	Sta		Rod (ft)	FS (ft)	HI (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
	L/R bank (ft)	Ave (ft)						
1-L	0	0	0.00	5.93	100.83	94.90	94.91	63.2
1-R	0	0	0.00	5.92	100.83	94.91	94.91	63.2
2-L	230	223	0.00	7.23	102.94	95.71	95.70	60.1
2-R	215	215	0.00	7.25	102.94	95.69	95.69	60.1
3-L	708	705	0.00	6.71	103.84	97.13	97.14	57.4
3-R	701	701	0.00	6.70	103.84	97.14	97.14	57.4

Note: HI different for each TR; additional u/s and d/s pts surveyed
 WSE slope = 0.317%
 Ave Q= 60.2

(2) Water Surface Elevation (WSE) Survey

TR	Sta		Rod (ft)	FS (ft)	HI (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
	L/R bank (ft)	Ave (ft)						
1-L	0	0	0.00	6.64	101.56	94.92	94.93	60.0
1-R	0	0	0.00	6.62	101.56	94.94	94.94	60.0
2-L	230	223	0.00	5.72	101.41	95.69	95.68	60.0
2-R	215	215	0.00	5.75	101.41	95.66	95.66	60.0
3-L	708	705	0.00	6.66	103.80	97.14	97.14	60.0
3-R	701	701	0.00	6.66	103.80	97.14	97.14	60.0

Note: WSE slope = 0.314%
 Ave Q= 60.0

(3) Meter and propeller ID for Velocity Correction

Meter ID: 3602
 Propeller ID: 3a

For TR2-TR3 only

For TR1

Meter ID: 0068
 Propeller ID: NA

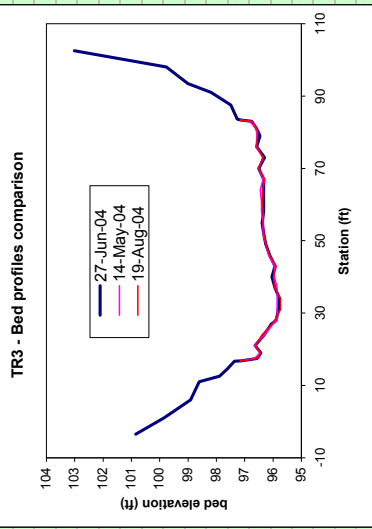
(3) Meter and propeller ID for Velocity Correction

Meter ID: 5750
 Propeller ID: 2a

(3) Meter and propeller ID for Velocity Correction

Meter ID: 5750
 Propeller ID: 2a

Stream: Fort Creek	14-May-04										27-Jun-04										19-Aug-04									
	Site: WD_4	Transsect: 3	Habitat: Rifle	Survey Date	Q (cfs)	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	V _{0.2m6} Vel (ft/s)	V _{0.8} Ave	q (cfs)	substrate	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	V _{0.2m6} Vel (ft/s)	V _{0.8} Ave	q (cfs)	substrate	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	V _{0.2m6} Vel (ft/s)	V _{0.8} Ave	q (cfs)	substrate	
	RWP					-3.5	2.13	100.85		0.00	0.00	0.00	0.00	16.8	17.5	17.5	0.00	0.00	0.00	0.00	0.00	16.8	17.5	17.5	0.00	0.00	0.00	0.00	0.00	
	RWE					1.0	3.99	99.85		0.58	-0.03	-0.02	4.5	17.5	19.0	19.0	0.58	-0.03	-0.02	4.5	17.5	19.0	19.0	0.58	-0.03	-0.02	4.5	17.5	19.0	19.0
	*					6.0	4.93	98.91		0.70	0.09	0.27	4.5	19.0	21.0	21.0	0.70	0.09	0.27	4.5	19.0	21.0	21.0	0.70	0.09	0.27	4.5	19.0	21.0	21.0
						12.6	5.95	97.89		0.50	0.22	0.37	3.4	21.0	24.0	24.0	0.50	0.22	0.37	3.4	21.0	24.0	24.0	0.50	0.22	0.37	3.4	21.0	24.0	24.0
	5/14/2004	102.98	64.0			14.5	6.22	97.62		0.82	0.15	0.53	3.5	24.0	27.0	27.0	0.82	0.15	0.53	3.5	24.0	27.0	27.0	0.82	0.15	0.53	3.5	24.0	27.0	27.0
	6/27/2004	103.84	57.4			16.7	6.48	97.36		1.25	1.16	3.02	5.4	28.0	31.0	31.0	1.25	1.16	3.02	5.4	28.0	31.0	31.0	1.25	1.16	3.02	5.4	28.0	31.0	31.0
	8/19/2004	103.80	60.0			16.8	6.48	97.36		1.32	0.98	4.07	5.4	31.0	34.0	34.0	1.32	0.98	4.07	5.4	31.0	34.0	34.0	1.32	0.98	4.07	5.4	31.0	34.0	34.0
						17.5	6.48	97.36		1.32	1.04	4.27	5.3	34.0	37.0	37.0	1.32	1.04	4.27	5.3	34.0	37.0	37.0	1.32	1.04	4.27	5.3	34.0	37.0	37.0
						19.0	6.48	97.36		1.55	1.39	4.99	5.4	43.0	46.0	46.0	1.55	1.39	4.99	5.4	43.0	46.0	46.0	1.55	1.39	4.99	5.4	43.0	46.0	46.0
						21.0	6.48	97.36		1.62	1.06	3.39	5.4	46.0	49.0	49.0	1.62	1.06	3.39	5.4	46.0	49.0	49.0	1.62	1.06	3.39	5.4	46.0	49.0	49.0
						24.0	6.48	97.36		1.83	0.83	2.31	5.4	49.0	52.0	52.0	1.83	0.83	2.31	5.4	49.0	52.0	52.0	1.83	0.83	2.31	5.4	49.0	52.0	52.0
						27.0	6.48	97.36		1.18	1.23	2.95	3.3	52.0	55.0	55.0	1.18	1.23	2.95	3.3	52.0	55.0	55.0	1.18	1.23	2.95	3.3	52.0	55.0	55.0
						28.0	6.48	97.36		1.21	1.26	2.83	4.5	55.0	58.0	58.0	1.21	1.26	2.83	4.5	55.0	58.0	58.0	1.21	1.26	2.83	4.5	55.0	58.0	58.0
						31.0	6.48	97.36		1.13	1.13	2.71	4.5	58.0	61.0	61.0	1.13	1.13	2.71	4.5	58.0	61.0	61.0	1.13	1.13	2.71	4.5	58.0	61.0	61.0
						34.0	6.48	97.36		1.08	1.08	2.59	4.5	61.0	64.0	64.0	1.08	1.08	2.59	4.5	61.0	64.0	64.0	1.08	1.08	2.59	4.5	61.0	64.0	64.0
						40.0	6.48	97.36		1.02	1.02	2.56	5.4	64.0	67.0	67.0	1.02	1.02	2.56	5.4	64.0	67.0	67.0	1.02	1.02	2.56	5.4	64.0	67.0	67.0
						43.0	6.48	97.36		0.69	0.69	1.38	4.3	67.0	70.0	70.0	0.69	0.69	1.38	4.3	67.0	70.0	70.0	0.69	0.69	1.38	4.3	67.0	70.0	70.0
						46.0	6.48	97.36		0.56	0.56	1.50	4.3	70.0	73.0	73.0	0.56	0.56	1.50	4.3	70.0	73.0	73.0	0.56	0.56	1.50	4.3	70.0	73.0	73.0
						49.0	6.48	97.36		0.52	0.52	1.50	4.3	73.0	76.0	76.0	0.52	0.52	1.50	4.3	73.0	76.0	76.0	0.52	0.52	1.50	4.3	73.0	76.0	76.0
						52.0	6.48	97.36		0.71	0.71	1.01	4.3	76.0	79.0	79.0	0.71	0.71	1.01	4.3	76.0	79.0	79.0	0.71	0.71	1.01	4.3	76.0	79.0	79.0
						55.0	6.48	97.36		0.62	0.62	0.38	3.6	79.0	80.0	80.0	0.62	0.62	0.38	3.6	79.0	80.0	80.0	0.62	0.62	0.38	3.6	79.0	80.0	80.0
						58.0	6.48	97.36		0.77	0.77	0.45	3.4	80.0	81.0	81.0	0.77	0.77	0.45	3.4	80.0	81.0	81.0	0.77	0.77	0.45	3.4	80.0	81.0	81.0
						61.0	6.48	97.36		0.47	0.47	0.01	3.2	81.0	82.0	82.0	0.47	0.47	0.01	3.2	81.0	82.0	82.0	0.47	0.47	0.01	3.2	81.0	82.0	82.0
						64.0	6.48	97.36		0.38	0.38	0.02	3.2	82.0	83.0	83.0	0.38	0.38	0.02	3.2	82.0	83.0	83.0	0.38	0.38	0.02	3.2	82.0	83.0	83.0
						67.0	6.48	97.36		0.00	0.00	0.00	1.2	83.0	83.4	83.4	0.00	0.00	0.00	1.2	83.0	83.4	83.4	0.00	0.00	0.00	1.2	83.0	83.4	83.4
						70.0	6.48	97.36		0.00	0.00	0.00	1.2	83.4	83.6	83.6	0.00	0.00	0.00	1.2	83.4	83.6	83.6	0.00	0.00	0.00	1.2	83.4	83.6	83.6
						73.0	6.48	97.36		0.26	0.26	1.2	1.2	83.6	87.5	87.5	0.26	0.26	1.2	1.2	83.6	87.5	87.5	0.26	0.26	1.2	1.2	83.6	87.5	87.5
						76.0	6.48	97.36		0.49	0.49	1.2	1.2	87.5	91.0	91.0	0.49	0.49	1.2	1.2	87.5	91.0	91.0	0.49	0.49	1.2	1.2	87.5	91.0	91.0
						79.0	6.48	97.36		0.18	0.18	0.00	1.3	91.0	93.5	93.5	0.18	0.18	0.00	1.3	91.0	93.5	93.5	0.18	0.18	0.00	1.3	91.0	93.5	93.5
						81.0	6.48	97.36		0.01	0.01	0.00	1.3	93.5	98.0	98.0	0.01	0.01	0.00	1.3	93.5	98.0	98.0	0.01	0.01	0.00	1.3	93.5	98.0	98.0
						82.0	6.48	97.36		0.00	0.00	0.00	3.1	98.0	102.5	102.5	0.00	0.00	0.00	3.1	98.0	102.5	102.5	0.00	0.00	0.00	3.1	98.0	102.5	102.5
						83.0	6.48	97.36		0.00	0.00	0.00	3.1	102.5	103.01	103.01	0.00	0.00	0.00	3.1	102.5	103.01	103.01	0.00	0.00	0.00	3.1	102.5	103.01	103.01
						83.4	6.48	97.36		0.00	0.00	0.00	3.1	103.01			0.00	0.00	0.00	3.1	103.01			0.00	0.00	0.00	3.1	103.01		



* - Estimated Velocity

* - Estimated Velocity

* - Estimated Velocity

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RUN          MID          TRANSECT 1
IOC          1101100100001000101000
QARD 46.0
QARD 47.0
QARD 48.0
QARD 49.0
QARD 50.0
QARD 51.0
QARD 52.0
QARD 53.0
QARD 54.0
QARD 55.0
QARD 56.0
QARD 57.0
QARD 58.0
QARD 59.0
QARD 60.0
QARD 60.2
QARD 61.0
QARD 62.0
QARD 63.0
QARD 63.6
QARD 64.0
QARD 65.0
QARD 66.0
QARD 67.0
QARD 68.0
QARD 69.0
QARD 70.0
QARD 71.0
QARD 73.0
QARD 75.0
XSEC 0.0          0.0 1.0          93.76 0.00315
      0.0-12.0101.9 -4.0 97.9 1.0 96.9 2.1 96.2 5.5 95.2 7.1 95.2
      0.0 7.3 94.9 8.0 94.3 8.5 94.3 9.0 94.3 11.5 94.1 14.0 94.2
      0.0 17.0 94.0 20.0 93.9 23.0 93.8 26.0 93.9 29.0 94.2 32.0 94.1
      0.0 35.0 94.2 38.0 94.2 41.0 94.1 44.0 94.2 47.0 94.3 50.0 94.1
      0.0 53.0 94.1 56.0 93.9 59.0 94.0 61.0 94.3 63.0 94.4 66.0 94.2
      0.0 69.0 94.3 70.3 94.5 70.6 94.9 70.9 95.0 73.0 95.3 76.5 95.6
      0.0 79.5 95.8 83.0 96.3 86.5 97.4 90.2 98.3100.2100.0
NS 0.0          1.3          1.3          1.3          3.1          1.3          1.3
NS 0.0          1.3          4.3          4.3          4.6          6.5          5.6
NS 0.0          5.4          5.4          5.4          5.4          5.3          4.3
NS 0.0          3.4          3.4          3.4          4.3          4.3          4.5
NS 0.0          5.4          5.6          5.4          3.4          4.3          6.5
NS 0.0          5.4          3.4          1.2          1.2          1.2          1.2
NS 0.0          1.2          1.3          1.3          1.3          1.3          1.3
WSL 0.0          94.81          94.81          94.82          94.83          94.84          94.85
WSL 0.0          94.85          94.86          94.87          94.87          94.88          94.89
WSL 0.0          94.90          94.90          94.91          94.91          94.92          94.92
WSL 0.0          94.93          94.93          94.94          94.94          94.95          94.96
WSL 0.0          94.96          94.97          94.98          94.98          94.99          95.01
CAL1 0.0          94.91          60.2
VEL1 0.0
      0.00 0.23 1.43 1.45 0.96 1.53
VEL1 0.0 1.67 1.36 1.39 1.67 1.82 1.33 1.04 0.76 0.88 0.92 1.16 1.14
VEL1 0.0 0.96 2.15 1.21 0.72 0.92 1.56 0.80 0.01 0.00
VEL1 0.0
CAL2 0.0          94.90          63.6
VEL2 0.0
VEL2 0.0
VEL2 0.0
VEL2 0.0
CAL3 0.0          94.93          60.0
VEL3 0.0
VEL3 0.0
VEL3 0.0
VEL3 0.0
ENDJ

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RUN          MID          TRANSECT 2
IOC          1101100100001000101000
QARD 46.0
QARD 47.0
QARD 48.0
QARD 49.0
QARD 50.0
QARD 51.0
QARD 52.0
QARD 53.0
QARD 54.0
QARD 55.0
QARD 56.0
QARD 57.0
QARD 58.0
QARD 59.0
QARD 60.0
QARD 60.2
QARD 61.0
QARD 62.0
QARD 63.0
QARD 63.6
QARD 64.0
QARD 65.0
QARD 66.0
QARD 67.0
QARD 68.0
QARD 69.0
QARD 70.0
QARD 71.0
QARD 73.0
QARD 75.0
XSEC 0.0      0.0 1.0      94.58 0.00315
      0.0-11.0101.7 -6.0101.1 1.0 98.1 4.0 97.0 7.0 96.2 8.4 96.0
      0.0 8.7 95.7 9.0 95.1 11.0 94.9 13.0 94.9 15.0 94.9 18.0 94.8
      0.0 21.0 94.6 24.0 94.8 27.0 94.6 30.0 94.7 33.0 94.7 36.0 94.8
      0.0 39.0 95.0 42.0 94.9 45.0 94.7 48.0 94.8 51.0 94.9 54.0 94.7
      0.0 57.0 94.8 60.0 94.9 63.0 94.9 66.0 95.0 69.0 95.0 72.0 95.1
      0.0 75.0 95.3 77.0 95.4 79.0 95.5 80.1 95.7 80.5 95.9 83.0 96.1
      0.0 88.0 97.1 93.0 97.7113.0 98.6123.0100.6
NS     0.0      3.1      3.1      1.3      1.3      1.3      1.3
NS     0.0      1.3      3.4      3.4      3.4      3.4      4.5
NS     0.0      5.3      5.4      5.3      3.4      3.4      3.4
NS     0.0      4.3      4.3      5.4      5.4      5.4      5.4
NS     0.0      5.4      5.4      5.4      5.4      4.5      3.4
NS     0.0      3.4      3.4      3.4      1.3      1.3      1.3
NS     0.0      1.3      1.3      3.1      1.3
WSL   0.0     95.59    95.60    95.60    95.61    95.62    95.63
WSL   0.0     95.64    95.64    95.65    95.66    95.67    95.67
WSL   0.0     95.68    95.69    95.69    95.70    95.70    95.71
WSL   0.0     95.71    95.72    95.72    95.73    95.73    95.74
WSL   0.0     95.74    95.75    95.76    95.77    95.78    95.79
CAL1  0.0     95.70    60.2
VEL1  0.0                                0.00 0.28 0.69 0.82 0.85 1.01
VEL1  0.0  1.36 1.51 1.18 1.00 1.08 0.92 1.12 0.66 1.20 1.23 1.52 1.42
VEL1  0.0  0.74 1.32 1.00 0.88 0.78 0.91 0.27 0.46 0.46 0.00
VEL1  0.0
CAL2  0.0     95.67    63.6
VEL2  0.0
VEL2  0.0
VEL2  0.0
VEL2  0.0
CAL3  0.0     95.68    60.0
VEL3  0.0
VEL3  0.0
VEL3  0.0
VEL3  0.0
ENDJ

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RUN	MID	TRANSECT 3
IOC	1101100100001000101000	
QARD	46.0	
QARD	47.0	
QARD	48.0	
QARD	49.0	
QARD	50.0	
QARD	51.0	
QARD	52.0	
QARD	53.0	
QARD	54.0	
QARD	55.0	
QARD	56.0	
QARD	57.0	
QARD	58.0	
QARD	59.0	
QARD	60.0	
QARD	60.2	
QARD	61.0	
QARD	62.0	
QARD	63.0	
QARD	63.6	
QARD	64.0	
QARD	65.0	
QARD	66.0	
QARD	67.0	
QARD	68.0	
QARD	69.0	
QARD	70.0	
QARD	71.0	
QARD	73.0	
QARD	75.0	
XSEC	0.0 0.0 1.0 95.77 0.00315	
	0.0 -3.5100.8 1.0 99.8 6.0 98.9 11.0 98.6 12.6 97.9 14.5 97.6	
	0.0 16.7 97.4 16.8 97.1 17.5 96.6 19.0 96.4 21.0 96.6 24.0 96.3	
	0.0 27.0 96.1 28.0 95.9 31.0 95.8 34.0 95.8 37.0 95.9 40.0 96.0	
	0.0 43.0 95.9 46.0 96.1 49.0 96.3 52.0 96.3 55.0 96.4 58.0 96.3	
	0.0 61.0 96.3 64.0 96.3 67.0 96.3 70.0 96.5 73.0 96.3 76.0 96.6	
	0.0 79.0 96.5 80.0 96.5 81.0 96.6 82.0 96.7 83.0 96.8 83.4 97.1	
	0.0 83.6 97.3 87.5 97.5 91.0 98.2 93.5 99.0 98.0 99.8102.5103.0	
NS	0.0 3.1 3.1 3.1 3.1 3.1 3.1 1.3	
NS	0.0 1.3 1.3 4.5 4.5 3.4 3.5	
NS	0.0 3.4 5.4 5.4 5.3 5.4 5.4	
NS	0.0 5.4 5.4 5.4 3.3 4.5 5.4	
NS	0.0 4.5 4.5 5.4 4.3 4.3 4.3	
NS	0.0 4.3 3.6 3.4 3.2 3.2 1.2	
NS	0.0 1.2 1.2 1.2 1.3 3.1 0.0	
WSL	0.0 97.02 97.03 97.04 97.05 97.06 97.07	
WSL	0.0 97.07 97.08 97.09 97.10 97.10 97.12	
WSL	0.0 97.12 97.13 97.14 97.14 97.14 97.15	
WSL	0.0 97.16 97.16 97.17 97.17 97.18 97.19	
WSL	0.0 97.19 97.20 97.21 97.22 97.23 97.24	
CAL1	0.0 97.14 60.2	
VEL1	0.0 0.00-0.03 0.22 0.30 0.23	
VEL1	0.0 0.44 1.21 1.03 1.04 1.59 1.66 1.39 1.11 0.88 1.23 1.26 1.13	
VEL1	0.0 1.13 1.08 1.07 0.73 0.60 0.56 0.75 0.61 0.81 0.02 0.02 0.00	
VEL1	0.0	
CAL2	0.0 97.16 63.6	
VEL2	0.0	
VEL2	0.0	
VEL2	0.0	
VEL2	0.0	
CAL3	0.0 97.14 60.0	
VEL3	0.0	
VEL3	0.0	
VEL3	0.0	
VEL3	0.0	
ENDJ		