4/5/01

C-3 Sampled thru the Ice
Field notes transcribed

@ Sweney ditch structure

~10 ft depth + ice (~3 ft)

O2 Meter readings

from surface of water	O2 (mg/l)	Temp °C	Conductivity u/s
~ 1'	1.5	1.9	77.6
~ 3'	4.2	1.8	67.6
~ 5'	5.2	1.5	67.8
~ 7'	10.2	0.4	69.0

pH measured ~ 1.9°C 5.8

ph measured @ room temp ~22°C	-	6.82
Conductivity		126 u/s
Alkalinity		59 mg/l
Iron		0.94 mg/l
Color @ 450		67
@ 860		20

Second sample
Sample thru Ice @ ~ 4 ft depth

From bottom	O2 mg/l	Temp °C	Conductivity	pH
1'	5.1	0.6	69.1	6.7
2'	7.9	0.5	67.6	6.7
at room temp ~22			131	6.98

Field Notes (original)

4/16/01 C-3 pool — Snow light on ground

	Staffgage upper	Staffgage lower	Cond (µS)	pH	Temp (°C)	O_2	Temp	Alk (mg/l)	Iron (mg/l)
C-3 @ Marsh Creek Bridge, strong flow	1.95	.6	~~46.0~~ 47.2	7.22	5.4				
C-3 @ Walsh Creek new structure, mod flow	.63		47.2	7.2	5.3				
C-3 @ Sweeney Ditch structure, strong flow	~~[illegible]~~ 6.15	0.42	(38.6) 36.0	7.07	6.0	(12.31)	(5.7)	15	0.80
M-28 @ Marsh Creek Bridge, mod flow	.7		(31.2) 31.3	6.32	5.6	(13.25)	(5.5)		
Ducy M-28, running full ~1 ft below bridge	no gage(?)		(39.7) 39.5	6.34	5.2	(12.65)	(5.5)	13	0.10
Walsh Creek, strong flow	1.0		(36.6) 35.9	6.54	4.9	(12.35)	(5.1)		
Driggs M-28, strong flow	1.45		(76.9) 76.8	6.53	4.2	(12.30)	(4.3)		
Holland M-28, level below gage, strong flow			56.4 (55.9)	6.53	5.9	(11.80)	(6.1)	16	.28
Clark Ditch M-28, level below gage, mod flow			(56.2) 51.5	6.44	5.5	(10.3)	(5.6)		

Snow water Conductivity/pH 12.2 5.39 @ 24.3 °C

Numbers in ( ) are from O_2 meter

EJ Collier

4-17/01

Field notes (original)

Strong water flow through Unit 1
Clear color

	J-1	I-1	F-1	G-D	C-B	D	B	A
pH	6.82	6.94	6.97	7.22	7.28	7.23	7.16	7.31
Temp °C	5.8	4.8	6.0	7.0	7.6.	6.3	7.4	7.9
Cond μS	55.9	49.2	48.9	54.5	51.5	48.9	52.4	54.2
Temp °C	4.4	4.1	4.8	~~6.8~~	6.8			6.7
Cond μS	54.7	56.0	51.4	~~[illegible]~~	52.2			54.0
O_2 mg/l	(1?) 100%	13.25	13.7					(121 %)
Iron mg/l	.23					.46		.26
Tannic Acid	1.2							

4/18/01

	A2	Cc	M2	T2	7.2 West
pH	7.08	7.28	7.01	7.49	7.03
Temp	6.6	6.4	7.1	6.0	7.6
Cond	42.7	45.4	43.1	31.0	37.4
Temp	4.9	5.6	5.9	4.9	
Cond	43.1	44.6	43.1	31.3	
O_2	14.2	13.6	15.9	13.2	
Iron	.31			.52	
Tannic Acid				2.1	
Water	Lowe level	High	Very high	low	low

Acid Base Scale

Base

14

Lye 13

Ammonia 12

11

Milk of Magnesia

10

9

8

Sea water, Baking Soda
Blood

7 NEUTRAL

6

Clean Rain

5

Tomato Juice

4 Acid Rain

Apple juice 3
Vinegar

2

Battery Acid 1

0

Acid

SAMPLE SITE J-1 INLET

DATE	TEMP C	pH	CONDUCTIVITY	ALKALINITY	TURBIDITY	IRON
May-95	13.6	6.7	110	34	nr	1.68
June/July 95	18.4	7.5	172	73	57	1.3
Aug-95	23.9	7.3	185	84	83	1.3
Sept/Oct 95	17.9	7.2	172	70	85	>1.3
May-96	11.6	6.9	96	30	13	1.01
Aug-96	20.1	7.8	134	57	97	nr
Jun-97	16.7	6.8	174	74	35	>5,2
Sep-97	17.2	8.0	158	68	59	>1.3
May-98	10.1	7.8	153	47	22	1.3
Sep-99	15.2	7.1	174	62	37	>1.3
May-00	19.8	6.6	175	72	3	>1.3

SAMPLE SITE - J 1 - I 1 SPILLWAY

DATE	TEMP C	pH	CONDUCTIVITY	ALKALINITY	TURBIDITY	IRON
May-95	15.5	6.9	98	28	nr	0.87
June/July 95	22.0	7.7	130	58	33	0.98
Aug-95	nr	nr	151	nr	nr	nr
Sep/Oct 95	15.5	7.9	150	66	23	>1.3
May-96	12.7	6.8	69	38	26	1.05
Aug-96	21.4	8.7	162	68	67	nr
Jun-97	19.9	7.1	138	57	25	1.55
Sep-97	14.4	9.0	129	60	10	0.31
May-98	14.2	7.9	112	38	18	1
Sep-99	16.2	9.4	137	48	26	0.26
May-00	17.6	6.9	154	64	10	1.39
Apr-01	5.8	6.8	55.9	nr	nr	0.23

SAMPLE SITE I 1- F 1

DATE	TEMP C	pH	CONDUCTIVITY	ALKALINITY	TURBIDITY	IRON
May-95	17.9	6.8	80	150*	nr	1.00
Jun/Jul 95	21.0	7.4	121	60	56	1.20
Aug-95	24.5	7.7	121	53	33	1.30
Sep/Oct 95	15.0	8.4	110	52	20	0.44
May-96	12.9	6.8	74	25	20	1.08
Aug-96	22.1	8.1	160	60	102	nr
Jun-97	21.3	7.1	108	53	24	1.40
Sep-97	14.5	8.2	132	42	2	0.25
May-98	15.7	7.7	85	35	9	0.52
Sep-99	16.6	9.4	112	35	1	0.27
May-00	16.8	7.3	121	48	4	0.54
Apr-01	4.8	6.9	49.2	nr	nr	nr

SAMPLE SITE F 1- E 1

DATE	TEMP C	pH	CONDUCTIVITY	ALKALINITY	TURBIDITY	IRON
May-95	12.7	6.6	274*	40	nr	0.57
Jun/Jul 95	22.0	7.7	119	52	52	1.20
Aug-95	26.7	8.9	125	58	25	0.87
Sep/Oct 95	11.6	8.3	121	47	22	0.28
May-96	14.8	7.1	69	26	19	1.01
Aug-96	21.8	8.9	149	64	77	nr
Jun-97	21.1	6.9	104	48	19	1.11
Sep-97	14.8	8.6	116	68	1	0.25
May-98	16.0	7.8	81	30	8	0.83
Sep-99	17.1	9.3	100	31	3	0.35
May-00	13.5	7.4	104	38	7	0.61
Apr-01	6.0	7.0	48.9	nr	nr	nr

Site 5

SAMPLE SITE H 1-E 1

DATE	TEMP C	pH	CONDUCTIVITY	ALKALINITY	TURBIDITY	IRON
May-95	12.9	8.4	105	40	nr	0.53
Jun/Jul 95	21.5	8.0	128	56	10	0.5
Aug-95	nr	nr	nr	nr	nr	nr
Sep/Oct 9	12.1	8.5	143	56	0	0.13
May-96	17.1	6.7	66	24	10	nr
Aug-96	22.6	8.9	137	56	18	nr
Jun-97	22.0	6.7	125	67	10	0.44
Sep-97	13.1	7.7	145	44	15	0.64
May-98	18.5	7.6	106	33	13	0.78
Sep-99	15.6	9.5	118	44	10	0.18
May-00	14.1	7.2	115	40	11	0.16

SAMPLE SITE E 1 - C 1

DATE	TEMP C	pH	CONDUCTIVITY	ALKALINITY	TURBIDITY	IRON
May-95	15.8	7.1	104	125*	nr	0.31
Jun/Jul 95	19.0	7.7	111	54	6	0.31
Aug-95	nr	nr	nr	nr	nr	nr
Sep/Oct 95	11.1	8.0	115	46	2	0.10
May-96	nr	nr	nr	nr	nr	nr
Aug-96	22.7	8.4	146	59	54	nr
Jun-97	24.8	7.7	91	40	10	0.37
Sep-97	12.8	8.5	105	44	0	0.48
May-98	22.1	7.9	84	30	6	0.17
Sep-99	16.3	9.5	95	43	5	nr
May-00	14.6	7.9	102	40	nr	nr

SAMPLE SITE C 1 - B 1

DATE	TEMP C	pH	CONDUCTIVITY	ALKALINITY	TURBIDITY	IRON
May-95	15.9	7.2	106	43	nr	0.52
Jun/Jul 95	22.0	7.9	132	58	6	0.34
Aug-95	29.9	8.5	113	44	14	0.38
Sep/Oct 95	9.4	7.7	126	49	0	0.16
May-96	19.1	7.1	62	21	16	nr
Aug-96	22.7	8.3	136	50	38	nr
Jun-97	24.3	7.4	101	46	18	0.27
Sep-97	13.8	7.8	109	44	1	0.16
May 98	21.1	7.7	76	25	17	0.26
Sep 99	17.6	8.1	110	29	10	0.07
May-00	15.2	6.8	94	34	30	0.17
Apr-01	7.0	7.2	54.5	nr	nr	nr

SAMPLE SITE B 1 - A 1

DATE	TEMP C	pH	CONDUCTIVITY	ALKALINITY	TURBIDITY	IRON
May-95	14.5	7.2	84	28	nr	0.30
Jun/Jul 95	20.0	7.9	101	45	9	0.51
Aug-95	27.4	9.6	97	38	11	nr
Sep/Oct 95	12.2	7.6	106	42	5	0.18
May-96	15.1	7.1	53	15	12	nr
Aug-96	23.4	8.1	128	57	24	nr
Jun-97	22.9	7.7	81	39	7	0.51
Sep-97	13.8	8.9	84	34	2	0.25
May-98	18.3	8.5	69	21	8	0.19
Sep-99	16.7	9.2	78	33	5	nr
May-00	14.6	8.4	80	17	4	0.18
Apr-01	7.4	7.2	52.4	nr	nr	nr

SAMPLE SITE A -1

DATE	TEMP C	pH	CONDUCTIVITY	ALKALINITY	TURBIDITY	IRON
May-95	13.5	6.9	95	37	nr	0.31
Jun/Jul 95	20.0	7.4	116	60	10	0.56
Aug-95	26.1	7.6	113	50	11	nr
Sep/Oct 95	12.5	7.6	102	40	27	0.28
May-96	15.1	6.7	54	18	13	nr
Aug-96	23.2	7.7	126	56	28	nr
Jun-97	23.8	7.4	91	42	7	0.42
Sep-97	13.8	7.3	92	43	11	0.36
May-98	20.2	7.5	72	27	18	0.34
Sep-99	16.4	8.6	122	51	1	0.67
May-00	15.8	8.0	86	21	1	0.3
Apr-01	7.9	7.3	54.2	nr	nr	0.26

SAMPLE SITE G 1- D 1

DATE	TEMP C	pH	CONDUCTIVITY	ALKALINITY	TURBIDITY	IRON
May-95	15.1	8.0	87	26	nr	0.94
Jun/Jul 95	21.0	7.9	106	46	7	0.85
Aug-95	nr	nr	nr	nr	nr	nr
Sep/Oct 95	12.0	8.1	114	46	4	0.22
May-96	18.3	6.9	54	21	13	nr
Aug-96	22.5	7.9	179	80	58	nr
Jun-97	22.6	7.2	75	42	10	0.44
Sep-97	13.7	6.7	110	53	9	0.44
May-98	18.5	7.5	58	10	16	0.45
Sep-99	17.1	9.1	102	30	1	0.08
May-00	14.5	7.0	73	20	0	0.12
Apr-01	7.0	7.2	54.5	nr	nr	nr

SAMPLE SITE D 1

DATE	TEMP C	pH	CONDUCTIVITY	ALKALINITY	TURBIDITY	IRON
May-95	15.0	7.3	72	23	nr	0.24
Jun/Jul 95	22.5	7.3	84	32	0	0.28
Aug-95	25.3	9.0	79	30	22	0.23
Sep/Oct 95	12.5	7.7	82	31	0	0.09
May-96	15.9	6.7	44	14	14	nr
Aug-96	22.3	8.7	108	44	8	nr
Jun-97	22.5	7.5	65	28	5	0.23
Sep-97	14.3	8.8	65	28	2	0.09
May-98	19.8	7.8	54	14	10	0.18
Sep-99	16.9	9.4	82	35	6	0.05
May-00	14.8	8.7	68	25	22	0.09
Apr-01	6.3	7.2	48.9	nr	nr	0.46

SAMPLE SITE A 2 SPILLWAY

DATE	TEMP C	pH	CONDUCTIVITY	ALKALINITY	TURBIDITY	IRON
May-95	15.9	6.9	62	18	nr	0.66
Jun/Jul 95	24.0	7.8	88	40	11	1.14
Sep/Oct 95	12.0	7.9	100	46	24	0.83
May-96	14.8	6.9	62	21	29	nr
Aug-96	21.7	7.5	186	82	214	nr
Jun-97	21.9	7.2	86	39	26	1.68
Sep-97	14.9	7.8	92	41	16	0.47
May-98	17.2	7.8	72	20	17	0.92
Sep-99	18.2	7.7	93	37	9	0.33
May-00	14.8	8.0	90	19	12	0.44
Apr-01	6.6	7.1	42.7	nr	nr	0.31

Site 13

SAMPLE SITE C 2 SPILLWAY

DATE	TEMP C	pH	CONDUCTIVITY	ALKALINITY	TURBIDITY	IRON
May-95	15.9	7.2	63	20	nr	0.57
Jun/Jul 95	24.0	7.5	78	41	14	0.63
Sep/Oct 9	12.0	7.8	93	36	0	0.11
May-96	14,3	6.7	48	12	22	nr
Aug-96	22.9	7.9	140	64	61	nr
Jun-97	22.0	7.9	67	27	16	0.31
Sep-97	15.6	7.8	69	36	9	0.28
May-98	17.1	7.7	55	14	11	0.46
Sep-99	18.5	8.0	78	32	5	nr
May-00	15.3	7.9	70	17	10	0.29
Apr-01	5.4	7.3	45.4	nr	nr	nr

SAMPLE SITE M 2 SPILLWAY

DATE	TEMP C	pH	CONDUCTIVITY	ALKALINITY	TURBIDITY	IRON
May-95	17.4	7.7	54	14	nr	0.67
Jun/Jul 95	23.0	6.7	72	30	15	0.95
Sep/Oct 9	12.0	7.7	69	27	4	0.33
May-96	15.7	6.8	42	16	19	nr
Aug-96	22.8	7.7	104	36	47	nr
Jun-97	22.2	7.5	59	26	17	1.11
Sep-97	14.9	7.8	62	32	12	0.30
May-98	16.5	7.7	42	10	10	0.46
Sep-99	18.0	8.2	80	34	8	nr
May-00	14.8	8.0	59	9	10	0.32
Apr-01	7.1	7.0	43.1	nr	nr	nr

SAMPLE SITE T 2 SPILLWAY

DATE	TEMP C	pH	CONDUCTIVITY	ALKALINITY	TURBIDITY	IRON
May-95	16.1	7.2	35	5	nr	0
Jun/Jul 95	22.5	7.1	44.0	28	6	0.23
Sep/Oct 95	12.1	7.3	33.0	8	10	0.07
May-96	17.1	6.9	19.0	4	21	nr
Aug-96	23.6	7.5	28.0	5	15	nr
Jun-97	22.5	7.6	24.0	5	22	0.49
Sep-97	16.1	7.1	41.0	7	21	0.16
May-98	17.7	7.3	28.0	2	17	0.21
Sep-99	17.5	7.2	28.0	17	8	0.29
May-00	16.1	7.7	29.0	5	11	0.26
Apr-01	6	7.5	31.0	nr	nr	0.52

SAMPLE SITE C 3 SPILLWAY

DATE	TEMP C	pH	CONDUCTIVITY	ALKALINITY	TURBIDITY	IRON
Jun/Jul 95	22.0	8.2	122	40	17	0.48
Sep/Oct 9	11.9	8.1	139	56	8	0.55
May-96	14.4	6.9	71	28	21	nr
Aug-96	24.1	8.0	106	44	26	nr
Jun-97	21.7	6.9	159	76	14	1.39
Sep-97	18.1	8.4	147	68	0	0.36
May-98	14.6	7.6	79	26	6	0.47
May-00	14.3	8.0	134	51	7	0.42
Apr-01	6.0	7.1	36	15	nr	0.8

SAMPLE SITE CLARK DITCH

DATE	TEMP C	pH	CONDUCTIVITY	ALKALINITY	TURBIDITY	IRON
8/6/96	20.3	7.52	150	52	198	.1.3
5/14/97	7.7	7,50	100	35	57	>5.3
9/18/97	14.6	7.18	126	47	67	>1.3
4/30/98	9.6	6.85	118	40	61	>1.3
6/22/99	20.6	6.43	170	80	nr	nr
9/16/99	ns	ns	ns	ns	ns	nr
5/15/00	16.3	7.49	159	64	22	>1.3
4/16/01	5.5	6.44	052	nr	nr	nr

SAMPLE SITE HOLLAND DITCH

DATE	TEMP C	pH	CONDUCTIVITY	ALKALINITY	TURBIDITY	IRON
8/6/96	19.3	7.93	118	48	63	>1.3
5/14/97	7.6	7.2	85	42	20	1.65
9/18/97	13.7	7.74	171	64	22	>1.3
4/30/98	7.9	7.22	144	58	21	0.93
6./22/99	13.9	7.43	140	75	nr	nr
9/16/99	14.1	7.77	160	54	68	>1.3
5/15/00	14.1	8.09	166	69	7	>1.3
4/16/01	5.9	6.53	56.4	nr	nr	0.28

SAMPLE SITE DRIGGS RIVER

DATE	TEMP C	pH	CONDUCTIVITY	ALKALINITY	TURBIDITY	IRON
8/6/96	19.3	7.92	105	40	52	>1.3
5/14/97	7.2	7.10	72	26	56	1.8
9/18/97	13.7	7.87	132	56	15	0.65
4/30/98	10.4	7.37	120	46	1	1.1
6/22/99	18.0	7.38	129	56	nr	nr
9/16/99	14.6	7.78	137	61	39	0.8
5/15/00	14.3	8.08	135	62	2	1.02
4/16/01	4.2	6.53	76.8	nr	nr	nr

sited

SAMPLE SITE WALSH CREEK

DATE	TEMP C	pH	CONDUCTIVITY	ALKALINITY	TURBIDITY	IRON
8/6/96	19.2	7.87	63	42	39	0.66
5/14/97	6.8	6.90	59	17	17	nr
9/18/97	14.3	7.43	144	62	33	>1.3
4/30/98	9.3	7.17	103	37	22	>1.3
6/22/99	18.6	7.36	142	74	nr	nr
9/16/99	10.3	7.99	173	78	164	nr
5/15/00	14.5	7.76	124	51	16	>1.3
4/16/01	4.9	6.54	35.9	nr	nr	nr