we energies

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January 15, 2004

Ms. Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

ORIGINAL
023

RE: Peavy Falls Hydroelectric Project - FERC No. 11830-000
Article 407 -Year 2003 - Water Quality Monitoring Report

Wisconsin Electric (WE) doing business as We-Energies, is hereby filing one original and eight additional copies of the results of water quality monitoring for the above identified Project performed during 2003 in fulfillment of the monitoring plan approved and incorporated in the article identified above by FERC for this project.

The Commission issued a new license for the above Project on January 12, 2001 and by Order issued March 9, 2001 clarified certain Water Quality Monitoring requirements. The approved monitoring plan assures that the discharges from the above Project meet the state's water quality standards for temperature and dissolved oxygen (DO). The applicable mean temperature standards for the months during which continuous monitoring takes place are shown in the table below:

Month	June	July	August	September
°F	80	83	81	74
°C	26.7	28.3	27.2	23.3

The applicable D.O. standard is 5.0 mg/l at all times.

The Plan as approved by FERC order dated January 12, 2001 was subsequently modified by WE, with approval of consulted state agencies. The modified plan was filed with FERC in correspondence dated May 20, 2003. The modified plan now requires continuous monitoring of temperature and dissolved oxygen for the next three years at only those projects where problems in meeting the water quality standards were encountered during the previous two year (2001-2002) period. Peavy Falls was one among three projects where problems were encountered.

In addition, the modified plan also requires the collection of vertical profile measurements in the flowage upstream of any project when continuous monitoring is being conducted in the tailrace waters.

The results of our 2003 monitoring for the Peavy Falls Project are as follows:

I. Continuous water quality monitoring

Appendix A contains summary tables for the continuous monitoring data. In 2003, continuous monitoring at Peavy Falls was conducted to ascertain the downstream extent of low DO regions in the river segment that connects Peavy discharge with Michigamme Falls flowage. Appendix A also contains a description of this river segment as well as the monitoring work that was conducted in 2003.

Temperature and DO were monitored continuously from mid-July through the end of September at five locations (Figure A-1). As in previous years, the Peavy Falls Project tailrace area failed to meet the dissolved oxygen standard for periods ranging from a few hours to nearly 24-hours during selected days in the immediate area of the tailrace. In the tailrace location, approximately 12.6% of all hourly

DO readings were less than 5.0 mg/l during the entire monitoring period. However, at the more downstream locations, the percentage of time DO was below 5.0 mg/l dropped to less than 3% (Table A-1).

Table A-2 contains the annual monitoring summaries as well as data recovery statistics, by location for each of the multi-function data sondes.

II. Flowage measurements

Appendix B contains the results of the vertical profile measurements made in 2003 for the project. Patterns observed in Peavy Falls flowage were very similar to measurements made during the two previous years.

Consideration of Corrective Measures

The work conducted in 2003 represent WE's latest efforts to understand the extent of the low DO problem that was identified during the initial two-year monitoring period specified by the initial Water Quality Monitoring Plan for this Project. The low DO problems encountered at Peavy Falls during 2001 and 2002 were expected, due to the nature of operations and the location of the intake relative to historic flowage thermocline. Low DO in the tailrace was again encountered during the warmer months in 2003. Our analysis indicates that the Plant's intake structure opening is situated near or below the hypolimnion, which is largely devoid of oxygen during the warmest part of summer. When the plant is operating, water richer in oxygen is pulled from a portion of the hypolimnion as well as from the upper portions of the water column in the flowage, which is well oxygenated. However, when the plant is offline, leakage flow through the plant's wicket gates, which originate in the hypolimnion, dominate the flow released to the tailrace area. The monitoring data showed that the vast majority of time (90 or more percent) when low DO conditions in the tailrace were detected, occurred while the plant was off-line. However, the monitoring conducted during 2003 showed that this leakage flow did not cause the entire river segment to be out of compliance with the DO standard of 5.0mg/l. Most significantly, the total amount of time the discharge was below 4.0 mg/l was less than 1.0 percent in the tailrace and at or near zero% at the more downstream stations.

Given the apparent limited nature of the stream segment in which sub-standard DO levels were detected in 2003, WE is proceeding with discussions involving the state regulatory agencies as to what further studies / mitigation strategies may be justified for the Peavy Fall Project.

As part of this filing, a diskette containing all the raw data and accompanying explanatory sheets are being submitted to the agencies for their use.

Enclosed is a proof of service to the agencies listed on the copy list.

Please call me at (414) 221-2413, if you have questions on this matter.

Sincerely,

William Rauscher

William Rauscher

Manager, Hydroelectric Operations

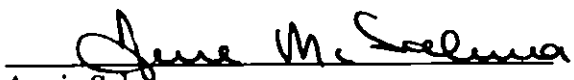
Enclosures

cc: Mr. Thomas Meronek, WDNR
w/diskette
Ms. Jessica Mistak, MDNR w/ diskette
Mr. Larry Thompson, USFWS
Mr. John Suppnick, MDEQ

Certificate of Service

I hereby certify that I have this day served the foregoing document upon all entities specified in the order to issue license to be consulted on matters related to the Commission filing. Service was done pursuant to Rule 2010 of FERC's Rules of Practice and Procedure 18 CFR, Section 385.2010

Dated this day Thursday, January 15, 2004



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APPENDIX A

Water Quality Monitoring Conducted at Peavy Falls Project
During 2003

Description of River Segment

The river segment, as depicted in Figure A-1, ranges in depth between two and three meters, except in the immediate vicinity of the turbine discharge area, where it is approximately four meters deep. The habitat in this segment (total length of river segment between the tailrace and the downstream-most station was approximately 1300 ft.) would best be described as riverine, with a few sandy areas interspersed among many boulders, gravel and bedrock.

Monitoring Strategy

The purpose of the monitoring program during 2003 was to determine the downstream extent of the low DO water released from the plant. To accomplish this , arrays of continuous recording data sondes were deployed at two location located approximately 700 ft (T-1) and 1300 ft (T-2)downstream of the tailrace monitoring location, which was the site of all data sonde placements in previous years. Since the discharge flow could have been slightly cooler than the water present in the river segment separating Peavy tailrace and Michigamme Falls flowage, the discharge could have become stratified in the river segment. It was subsequently decided to place two sondes at each of the two downstream locations; one near the surface and one near the bottom to make sure that the effect of the discharge was well characterized.

During each sonde change out, vertical profile measurements were made at all three locations in the river segment as a quality control check for the data sondes.

Monitoring Results

Table A-1 provides a frequency of occurrence analysis of the continuous recording data base for each location. By hour of the day, the number of hours during which DO was less than 5.0, 4.0, or 3.0 mg /l during the entire study period (mid-July through end of September). As can be seen, in the immediate area of the tailrace, DO was less than 5.o mg / l approximately 231 hours or 12.6% of the time during this study. By contrast, at T-2 (1700 ft downstream), DO was below 5.0 mg/l 2.6 to 0.3 % of the time.

Our analysis of plant operating data revealed that DO levels less than 5.0 mg/l were associated with the times the plant was off-line (Table A-1). only one reading below 3.0 mg/l out of 1838 hourly measurements was observed in the tailrace; none were observed at any other monitoring location.

Table A-2 provides the summary statistics for each of the monitoring locations. No violations of the state's temperature standard were observed at any location. There was no evidence of stratification (as inferred by temperature) at any monitoring location.

Appendix B

Vertical Profile Results

Tables B-1 through B-3 provide the results of vertical profile measurement made in Peavy Flowage during 2001 through 2003, respectively. For each measurement, the Table contains the corresponding tailrace measurement for temperature and DO taken by the continuous recording data sondes during the same hour on the same day when the vertical profile measurement was taken. This comparison allows one to observe how operating conditions result in the discharge being in compliance with the DO standard in spite of intense thermal and DO stratification conditions that exist in the flowage during the warmest time of the summer months.

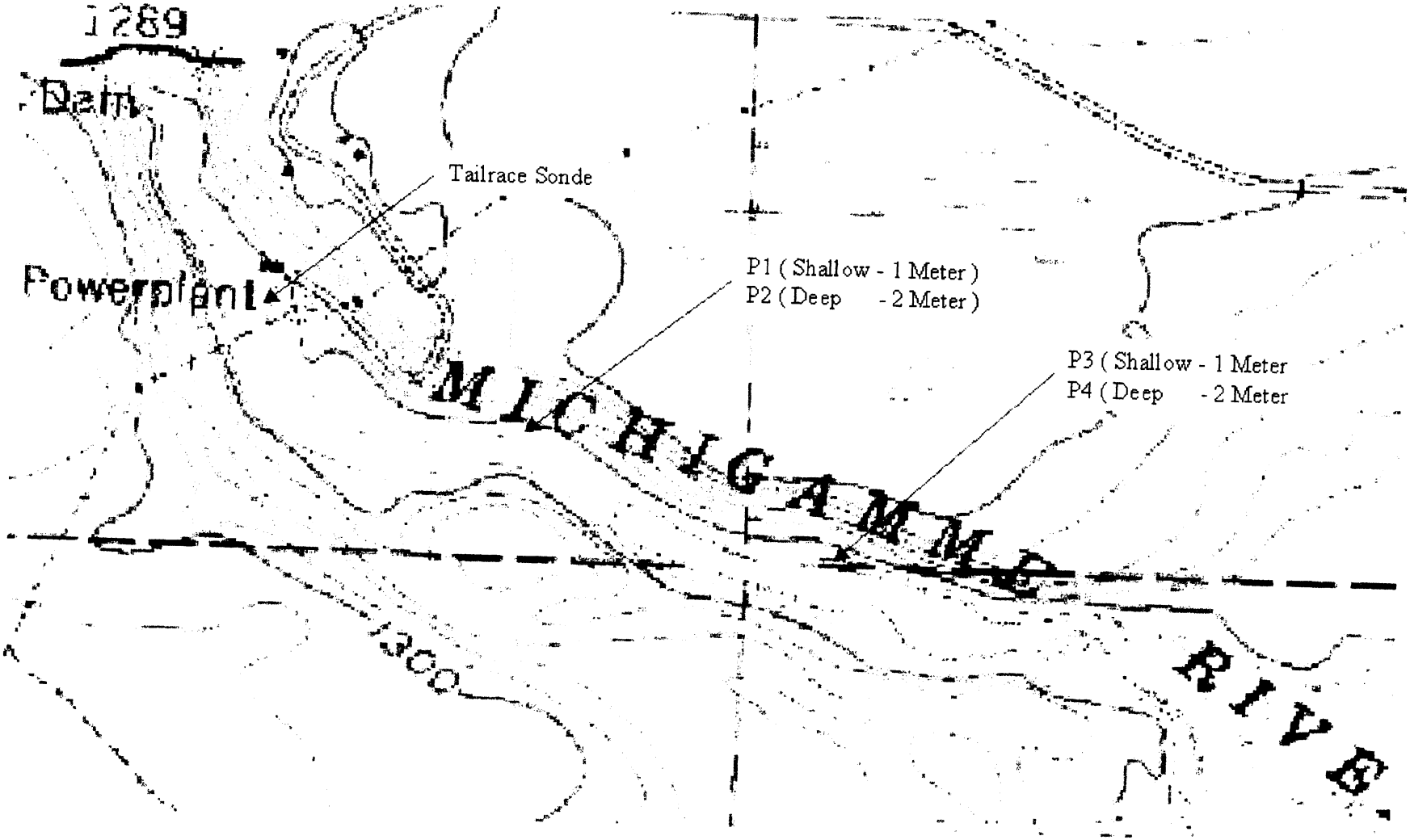
Table B-4 provides the results of vertical profile measurements made in the Peavy Tailrace as well as in the downstream river segment near continuous monitoring stations T-1 and T-2. In addition, vertical profile measurements were taken near the spillway discharge channel which is situated west of the tailrace.

These measurements clearly show the D.O. tends to be stratified near the tailrace, but less so at the more downstream monitoring locations. Most significantly, on the days these measurements were taken, we see no D.O. levels less than 5.0 mg/l at the downstream locations even if less than 5.0 mg/l conditions are found near the tailrace.

Measurements taken near stations T-1 and T-2, during the 30 July through the 10 August surveys, show that there was no significant difference in temperature or D.O. distribution across the river.

Figure A-1

Peavy Tailrace Study - 2003



Map Scale: 1" = Approx. 275'

FERC Project No. 1183-000

Table A - 1
Peavy 2003 Monitoring Data - Frequency Table
Data from July 16 - Sept 30, 2003

Hour of	Peavy Tailrace				P1 - Shallow Set				P2 - Deep Set				P3 - Shallow Set				P4 Deep Set			
Reading	< 5	< 4	< 3	Units Off-line	< 5.0	< 4	< 3	Units Off-line	< 5	< 4	< 3	Units Off-line	< 5	< 4	< 3	Units Off-line	< 5	< 4	< 3	Units Off-line
0	15	0	0	15	17	0	0	16	0	0	0	0	0	0	0	0	2	0	0	1
100	13	1	0	13	14	1	0	13	2	0	0	2	0	0	0	0	1	0	0	1
200	13	1	0	13	16	0	0	16	2	0	0	2	0	0	0	0	0	0	0	0
300	14	1	0	14	15	0	0	15	2	0	0	2	0	0	0	0	1	0	0	1
400	11	1	0	11	14	0	0	14	1	0	0	1	0	0	0	0	3	0	0	3
500	14	0	0	14	12	0	0	12	2	0	0	2	0	0	0	0	2	0	0	2
600	16	0	0	16	8	0	0	8	2	0	0	2	0	0	0	0	3	0	0	3
700	15	0	0	15	6	0	0	6	1	0	0	1	0	0	0	0	2	0	0	2
800	15	0	0	15	6	0	0	6	2	0	0	2	0	0	0	0	4	0	0	4
900	13	0	0	12	7	0	0	7	2	0	0	2	0	0	0	0	5	0	0	5
1000	11	2	1	10	3	0	0	3	2	0	0	2	0	0	0	0	5	0	0	5
1100	10	3	0	9	0	0	0	0	2	0	0	2	0	0	0	0	2	0	0	2
1200	3	1	0	3	0	0	0	0	1	0	0	1	0	0	0	0	3	1	0	3
1300	6	0	0	4	3	0	0	0	1	0	0	1	0	0	0	0	3	0	0	3
1400	3	0	0	1	3	1	0	2	2	0	0	0	1	0	0	0	1	0	0	1
1500	3	1	0	1	4	0	0	3	2	0	0	1	1	0	0	0	2	0	0	1
1600	3	0	0	0	6	0	0	5	2	0	0	0	1	0	0	0	1	0	0	0
1700	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800	2	0	0	0	5	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0
1900	6	0	0	2	6	0	0	4	0	0	0	0	0	0	0	0	2	0	0	1
2000	9	0	0	7	12	0	0	10	1	0	0	1	0	0	0	0	1	0	0	1
2100	8	1	0	7	14	1	0	12	1	0	0	0	0	0	0	0	1	0	0	1
2200	13	0	0	12	15	0	0	14	0	0	0	0	1	0	0	0	1	0	0	1
2300	14	1	0	13	13	0	0	11	0	0	0	0	1	0	0	1	0	0	0	0
Totals>	231	13	1	207	202	3	0	181	30	0	0	24	5	0	0	1	45	1	0	41
	% of readings while plant offline			90%	% of readings while plant offline			90%	% of readings while plant offline			80%	% of readings while plant offline			20%	% of readings while plant offline			91%
Total Observations				1838			1748				1734				1780				1760	
Percent of Total Obs Below 5 mg/l				12.6%			11.6%				1.7%				0.3%				2.6%	
Percent of Total Obs Below 4 mg/l				0.7%			0.2%				0%				0%				0.06%	

Units Off-line: For each hourly grouping, this is the number of hours the units were off line compared to the total number of hourly readings < 5.0 mg/l..
At the bottom of the Unit Off-line column is the percent of time the < 5.0 mg/l reading occurred while the units were off line.

	% Data Recovery	All but one lost data point was during September
PV- Tailrace	100.0	1838 of 1838
P1 - Shallow Set of 1st set downstream	95.3	1748 of 1834
P2 - Deep Set of 1st set downstream	94.5	1734 of 1834
P3 -Shallow Set of 2nd set downstream	97.1	1780 of 1833
P4 - Deep Set of 2nd set downstream	96.0	1760 of 1833

Stirrer malfunction on sondes at Peavy tailrace (7/16-7/29) and P1 (7/16 - 7/30) may have negatively impacted the dissolved oxygen readings.

10/27/03 R. Rick

Table A - 2

We Energies Peavy Falls 2003 Hydro Monitoring Data Summary

Temperature and Dissolved Oxygen (D.O.) Stations

Dissolved Oxygen Limit 5.0 mg/l

Monthly Average Temperature Limits:	Degree F	Degree C
July	83	28.3
August	81	27.2
Sept	74	23.3

Peavy Tailrace - 2003 Data Summary

Month	OBS	Temperature (Degrees C)			DO % Saturation			Dissolved Oxygen (mg/l)		
		Mean	Max	Min	Mean	Max	Min	Mean	Max	Min
Jul	374	20.7	23.2	18.2	66.2	93.6	35.6	5.8	8.1	3.27
Aug	744	21.8	25.9	19.3	67.4	89.6	31.3	5.7	7.6	2.77
Sep	720	18.3	22.2	12.8	74.8	90.9	46.6	6.8	9.2	4.12

100% Data Recovery

Station P1 2003 Data Summary

Month	OBS	Temperature (Degrees C)			DO % Saturation			Dissolved Oxygen (mg/l)		
		Mean	Max	Min	Mean	Max	Min	Mean	Max	Min
Jul	370	21.1	24.4	19.5	65.0	99.1	43.4	5.6	8.3	3.85
Aug	744	22.2	25.5	20.3	70.4	91.0	46.8	6.0	7.6	3.96
Sep	634	18.1	22.9	12.7	75.2	88.6	54.3	7.0	9.1	4.95

95.3% Data Recovery
Bad batteries caused a data loss of 86 observations from 9/8/03 @ 0000 - 9/11/03 @ 1300

Station P2 2003 Data Summary

Month	OBS	Temperature (Degrees C)			DO % Saturation			Dissolved Oxygen (mg/l)		
		Mean	Max	Min	Mean	Max	Min	Mean	Max	Min
Jul	370	20.9	22.2	19.5	77.7	93.1	58.1	6.8	8.0	5.18
Aug	744	21.9	23.7	20.3	72.6	92.6	47.6	6.2	7.8	4.12
Sep	620	17.9	21.3	12.7	78.8	91.2	55.5	7.4	9.4	5.05

94.5% Data Recovery
Bad batteries caused a data loss of 100 observations from 9/7/03 @ 1100 - 9/11/03 @ 1400

Station P3 2003 Data Summary

Month	OBS	Temperature (Degrees C)			DO % Saturation			Dissolved Oxygen (mg/l)		
		Mean	Max	Min	Mean	Max	Min	Mean	Max	Min
Jul	369	21.5	23.6	19.6	85.8	103.4	61.9	7.4	8.7	5.54
Aug	744	22.5	25.7	20.7	77.3	99.9	56.0	6.5	7.9	4.67
Sep	667	18.5	22.8	12.8	78.0	87.4	57.8	7.2	8.8	5.24

97.1% Data Recovery
Bad batteries caused a data loss of 53 observations from 9/9/03 @ 1000 - 9/11/03 @ 1400

Station P4 2003 Data Summary

Month	OBS	Temperature (Degrees C)			DO % Saturation			Dissolved Oxygen		
		Mean	Max	Min	Mean	Max	Min	Mean	Max	Min
Jul	369	21.2	23.0	19.5	77.9	100.5	51.9	6.7	8.5	4.43
Aug	743	22.0	24.4	20.5	73.5	91.6	47.0	6.2	7.7	3.97
Sep	648	18.2	21.5	12.7	79.2	90.0	59.4	7.4	9.3	5.29

96.0% Data Recovery
Bad batteries caused a data loss of 72 observations from 9/8/03 @ 1500 - 9/11/03 @ 1400

Appendix Table B-1
Peavy 2001 Hydroelectric Project
Vertical Profile Data -

7-Jun-01

Approximate air temp: 18 C

Secci Depth: 5.5 ft. water depth 60 to 66' Time:1130

Light variable winds 30% clouds

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	17.3	9.4	100.4	93	7.4
0.5	17.1	9.5	101.1	93	7.4
1.0	15.8	9.5	95.5	93	7.4
1.5	15.2	9.4	98.2	93	7.4
2.0	14.9	9.4	95.2	94	7.4
2.5	14.8	9.2	93.1	95	7.4
3.0	14.8	9.1	92.0	96	7.4
3.5	14.8	9.0	91.8	95	7.4
4.0	14.8	9.0	90.5	75	7.4
4.5	14.6	8.9	90.0	95	7.4
5.0	14.6	8.9	89.6	96	7.4
5.5	14.5	8.8	89.3	95	7.4
6.0	14.4	8.8	89.2	96	7.3
6.5	14.4	8.8	88.6	96	7.3
7.0	14.3	8.8	87.9	97	7.3
7.5	14.2	8.8	88.3	97	7.3
8.0	14.2	8.6	85.9	96	7.4
8.5	14.2	8.5	85.2	96	7.3
9.0	14.0	8.5	84.5	95	7.3
9.5	13.9	8.4	83.5	99	7.3
10.0	13.8	8.3	82.3	105	7.2
10.5	13.6	8.3	81.4	107	7.2
11.0	13.4	8.2	79.9	109	7.2
11.5	13.1	7.7	75.9	109	7.2
12.0	12.5	6.3	61.8	102	7.1
12.5	11.9	5.9	57.6	101	7.0
13.0	11.6	4.8	46.1	91	6.9
13.5	11.1	4.8	44.4	91	6.9
14.0	10.8	4.7	43.0	91	6.8
14.5	10.7	4.6	42.4	92	6.8
15.0	10.5	4.6	41.6	91	6.8
15.5	10.2	4.5	40.5	91	6.8
16.0	10.0	4.4	40.2	94	6.8
16.5	9.5	4.3	38.1	94	6.8
17.0	9.2	4.3	37.9	93	6.8
17.5	9.1	4.2	37.3	95	6.8
18.0	8.9	4.0	35.7	96	6.8
18.5	8.8	4.0	35.1	99	6.8
19.0	8.5	3.9	33.2	100	6.8
19.5	8.2	2.9	25.6	103	6.8
19.8					

21-Jun-01

Approximate air temp: 22 C

Secci Depth: 5.5 ft water depth 62to 67' Time:0830

calm winds 100% overcast

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	19.6	8.6	96.5	106	7.4
0.5	19.6	8.6	95.8	106	7.4
1.0	19.6	8.6	96.2	105	7.4
1.5	19.5	8.5	95.2	106	7.5
2.0	19.5	8.3	93.5	105	7.4
2.5	19.5	8.3	92.7	106	7.4
3.0	19.3	8.2	91.2	105	7.4
3.5	19.2	7.9	87.6	104	7.3
4.0	19.0	7.9	87.1	103	7.3
4.5	18.8	7.8	85.2	102	7.2
5.0	18.7	7.7	84.5	102	7.2
5.5	18.6	7.4	81.6	100	7.2
6.0	18.3	7.4	80.9	100	7.1
6.5	18.1	7.4	80.2	98	7.1
7.0	17.2	6.8	72.5	98	7.0
7.5	16.1	6.6	68.7	94	6.9
8.0	15.5	6.4	65.4	93	7.0
8.5	15.2	6.2	63.9	93	6.9
9.0	14.8	6.0	60.7	94	6.9
9.5	14.3	6.0	60.2	94	6.8
10.0	14.0	5.9	58.9	93	6.8
10.5	13.7	5.9	58.2	94	6.8
11.0	13.4	5.8	57.4	94	6.8
11.5	13.1	5.5	53.9	94	6.8
12.0	13.1	5.4	52.6	93	6.9
12.5	12.8	4.9	49.4	96	6.8
13.0	12.4	4.6	44.0	98	6.8
13.5	12.2	4.4	41.7	98	6.8
14.0	11.9	4.1	38.7	100	6.8
14.5	11.7	3.9	36.3	99	6.8
15.0	11.5	3.5	33.1	100	6.7
15.5	11.1	3.3	30.5	99	6.7
16.0	10.9	3.0	28.0	100	6.7
16.5	10.4	2.8	25.4	100	6.7
17.0	10.0	2.5	22.5	99	6.7
17.5	10.0	2.3	21.1	99	6.7
18.0	9.5	1.9	17.1	101	6.6
18.5	9.5	1.8	16.5	100	6.6
19.0	9.4	1.8	15.5	104	6.6
19.5	9.3	1.6	13.8	105	6.7
19.6	bottom				

11-Jul-01

Approximate air temp: 21 C

Secci Depth:7.0 ft water depth 62to 66' Time: 1000

NNW winds 10% clouds

8-12 mph

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	22.7	8.8	104.2	115	8.0
0.5	22.7	8.8	105.3	115	8.0
1.0	22.5	8.9	105.9	115	8.0
1.5	22.4	8.9	104.9	115	8.0
2.0	22.4	8.8	104.1	115	7.9
2.5	22.3	8.7	103.0	115	7.9
3.0	22.3	8.7	102.9	115	7.9
3.5	22.3	8.6	101.9	115	7.9
4.0	22.3	8.7	102.5	114	7.9
4.5	22.3	8.7	102.6	115	7.9
5.0	22.3	8.6	101.9	115	7.9
5.5	22.0	8.4	99.4	115	7.8
6.0	21.6	8.0	92.6	114	7.6
6.5	20.5	6.9	79.3	112	7.3
7.0	19.9	6.6	76.2	111	7.2
7.5	19.5	6.3	69.4	109	7.1
8.0	18.9	5.4	63.5	107	7.0
8.5	18.4	5.4	58.7	103	7.0
9.0	17.6	4.6	48.6	99	6.8
9.5	17.5	4.4	47.9	99	6.8
10.0	16.6	4.3	44.4	96	6.8
10.5	16.2	4.0	42.3	93	6.8
11.0	15.7	3.9	40.1	93	6.7
11.5	14.9	3.7	37.2	92	6.7
12.0	14.1	3.3	32.1	93	6.7
12.5	13.7	3.1	31.1	91	6.7
13.0	13.0	3.1	30.2	93	6.7
13.5	12.9	3.2	31.3	93	6.8
14.0	12.5	2.9	27.8	96	6.8
14.5	12.2	2.8	26.8	97	6.8
15.0	11.8	2.6	23.7	95	6.7
15.5	11.5	2.2	20.6	97	6.7
16.0	11.2	1.7	15.9	99	6.7
16.5	10.6	1.3	11.0	102	6.6
17.0	10.5	1.0	9.5	102	6.7
17.5	10.5	1.0	9.5	105	6.7
18.0	10.2	0.8	7.3	104	6.7
18.5	9.9	0.7	5.9	105	6.7
19.0	9.8	0.5	4.5	111	6.7
19.5	9.6	0.5	4.5	111	6.7
19.6	bottom				

Highlighted Depth: Opening of the intake forebay (2 to 10 m)

Tailrace data for same time period as vertical profile on 6/7/01

Time	Temp C	D.O. mg/l	D.O. % Sat	Cond	pH
1100	14.8	9.0	90.3	91	n/a
1200	14.8	9.0	90.1	91	n/a
1300	14.9	9.0	90.4	92	n/a

Tailrace data for same time period as vertical profile on 6/21/01

Time	Temp C	D.O. mg/l	D.O. % Sat	Cond	pH
800	18.2	7.8	84.3	97	n/a
900	18.1	7.8	84.1	97	n/a
1000	18.1	7.8	84.5	97	n/a

Tailrace data for same time period as vertical profile on 7/11/01

Time	Temp C	D.O. mg/l	D.O. % Sat	Cond	pH
1000	21.0	6.8	76.9	109	n/a
1100	21.3	7.2	82.4	110	n/a
1200	21.3	7.3	82.8	109	n/a

n/a - no data available

Appendix Table B-1

Peavy 2001 Hydroelectric Project
Vertical Profile Data -

26-Jul-01

Approximate air temp. 21 C
Secci Depth:6.0 ft. water depth 60to 65' *Time. 1015*
NE winds 12-18 mph *10% clouds*
breezy *Bright Sun*

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	23.7	7.9	95.6	127	8.0
0.5	23.7	7.8	94.9	127	8.0
1.0	23.7	7.8	94.9	126	8.0
1.5	23.7	7.8	94.4	126	8.0
2.0	23.7	7.7	93.3	126	8.0
2.5	23.6	7.6	92.2	125	7.9
3.0	23.6	7.6	91.3	125	7.9
3.5	23.5	7.4	90.6	126	7.9
4.0	23.5	7.4	90.0	126	7.8
4.5	23.5	7.4	89.6	126	7.9
5.0	23.5	7.3	88.0	126	7.9
5.5	23.4	7.1	85.3	125	7.8
6.0	23.4	7.2	87.4	124	7.8
6.5	22.9	6.1	84.4	117	7.4
7.0	20.8	4.4	48.9	104	7.1
7.5	19.6	3.6	38.1	104	6.8
8.0	19.1	3.7	35.1	103	6.8
8.5	18.8	2.9	32.0	101	6.8
9.0	17.7	2.8	27.1	96	6.7
9.5	17.0	2.3	22.5	95	6.7
10.0	15.9	1.9	18.7	91	6.7
10.5	15.1	1.6	15.9	88	6.6
11.0	14.3	1.5	15.1	88	6.6
11.5	13.8	1.5	14.8	89	6.6
12.0	13.4	1.5	14.3	87	6.6
12.5	12.9	1.4	13.5	89	6.5
13.0	12.7	1.3	12.6	89	6.5
13.5	12.4	1.2	11.7	91	6.5
14.0	12.1	1.2	10.7	91	6.5
14.5	12.1	1.4	12.7	91	7.0
15.0	11.7	1.0	8.1	93	6.8
15.5	11.3	0.5	4.4	93	6.6
16.0	11.1	0.5	3.9	98	6.6
16.5	10.8	0.4	3.3	102	6.6
17.0	10.7	0.3	3.0	101	6.7
17.5	10.4	0.3	3.0	103	6.7
18.0	10.3	0.3	2.9	107	6.7
18.5	10.1	0.3	3.1	109	6.7
19.0	9.9	0.3	3.1	111	6.7
19.5	9.8	0.3	3.1	103	6.7

8-Aug-01

Approximate air temp 32 C
Secci Depth. 7.5 ft. water depth 65' to 66 *Time. 1400*
southernly winds light variable *100% clouds*
Hot and muggy

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	29.3	7.8	103.4	137	8.1
0.5	29.3	7.8	103.7	137	8.1
1.0	28.2	7.8	102.3	137	8.1
1.5	28.0	7.7	100.5	137	8.1
2.0	27.4	7.5	97.0	138	8.0
2.5	26.8	7.6	96.5	137	8.0
3.0	25.9	7.4	91.5	133	7.8
3.5	24.8	7.0	85.8	130	7.6
4.0	23.9	6.3	75.0	128	7.4
4.5	23.0	5.8	67.2	126	7.3
5.0	22.4	5.3	62.7	124	7.1
5.5	21.9	4.8	54.6	121	7.1
6.0	21.6	4.4	50.2	120	7.0
6.5	21.1	3.8	42.4	118	6.9
7.0	20.8	3.3	37.8	116	6.8
7.5	20.3	2.4	26.1	115	6.8
8.0	20.0	2.0	22.3	114	6.7
8.5	19.6	1.8	18.7	112	6.7
9.0	19.2	1.5	16.1	110	6.7
9.5	18.6	1.3	14.3	107	6.6
10.0	16.8	0.6	6.4	100	6.6
10.5	15.9	0.5	4.6	97	6.6
11.0	15.2	0.4	4.4	96	6.6
11.5	14.5	0.4	4.6	94	6.6
12.0	14.0	0.5	5.0	93	6.6
12.5	13.5	0.5	4.6	93	6.5
13.0	12.7	0.5	4.3	95	6.5
13.5	12.5	0.4	4.2	96	6.5
14.0	12.2	0.4	4.2	95	6.5
14.5	12.0	0.4	4.1	95	6.4
15.0	11.7	0.4	4.0	96	6.5
15.5	11.5	0.4	4.0	101	6.5
16.0	11.2	0.4	3.9	102	6.5
16.5	10.9	0.4	3.8	105	6.5
17.0	10.8	0.4	4.0	106	6.5
17.5	10.6	0.4	3.8	107	6.5
18.0	10.4	0.4	3.9	110	6.6
18.5	10.1	0.4	3.9	114	6.6
19.0	9.8	0.4	3.8	124	6.6
19.4	bottom				

22-Aug-01

Approximate air temp. 24 C
Secci Depth.7.0 ft. water depth 65' to 66' *Time: 1400*
Partly Cloudy

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	22.3	7.3	85.5	123	7.4
0.5	22.0	7.4	86.0	123	7.5
1.0	21.6	7.1	83.6	122	7.5
1.5	21.3	7.2	82.8	122	7.5
2.0	21.2	7.2	81.7	124	7.6
2.5	21.1	7.1	80.5	124	7.6
3.0	21.1	6.9	77.3	123	7.6
3.5	21.0	6.6	74.5	124	7.6
4.0	21.0	6.5	73.2	123	7.6
4.5	20.9	6.4	72.6	122	7.6
5.0	20.9	6.4	72.1	123	7.6
5.5	20.9	6.3	72.6	122	7.6
6.0	20.8	6.2	70.3	123	7.6
6.5	20.8	6.1	69.2	123	7.5
7.0	20.8	6.1	68.7	124	7.5
7.5	20.7	6.0	67.4	127	7.5
8.0	20.5	5.8	64.0	127	7.5
8.5	20.4	5.4	60.6	129	7.5
9.0	20.4	5.3	59.0	129	7.5
9.5	19.6	3.4	37.1	126	7.3
10.0	18.8	2.2	24.3	119	7.3
10.5	17.6	0.5	4.9	110	7.1
11.0	15.4	0.3	3.3	99	7.1
11.5	14.3	0.3	2.9	97	7.0
12.0	13.7	0.3	2.8	96	7.0
12.5	13.1	0.3	2.7	97	7.0
13.0	12.9	0.3	2.6	97	7.0
13.5	12.5	0.3	2.6	98	6.9
14.0	12.3	0.3	2.6	100	6.9
14.5	12.1	0.3	2.5	101	6.9
15.0	11.9	0.3	2.4	101	6.9
15.5	11.3	0.3	2.5	105	6.9
16.0	10.9	0.3	2.4	113	6.9
16.5	10.5	0.3	2.4	117	6.8
17.0	10.4	0.3	2.5	119	6.9
17.5	10.1	0.3	2.4	122	6.9
18.0	9.9	0.3	2.2	128	0.3
18.5	9.7	0.3	2.2	135	6.9
19.0	9.5	0.3	2.2	144	6.9
19.4	9.5	0.3	2.8	390	7.2

Highlighted Depth Opening of the intake forebay (2 to 10 m)

Tailrace data for same time period as vertical profile on 7/26/01

Time	Temp C	D.O. mg/l	D.O. % Sat	Cond	pH
1000	22.1	6.8	79.7	125	n/a
1100	22.1	6.7	78.9	124	n/a
1200	22.2	6.8	79.6	124	n/a

Tailrace data for same time period as vertical profile on 8/8/01

Time	Temp C	D.O. mg/l	D.O. % Sat	Cond	pH
1400	23.7	5.7	68.3	125	n/a
1500	23.6	5.7	69.2	125	n/a
1600	23.5	5.7	68.4	125	n/a

Tailrace data for same time period as vertical profile on 8/22/01

Time	Temp C	D.O. mg/l	D.O. % Sat	Cond	pH
1400	21.1	6.6	74.9	126	n/a
1500	21.2	6.6	75.6	125	n/a
1600	21.4	5.8	66.4	124	n/a

n/a - no data available

Appendix Table B- 1
Peavy 2001 Hydroelectric Project
Vertical Profile Data -

18-Sep-01

Approximate air temp. 10 C

Secci Depth 7.0 ft. water depth 65' to 66' — *Time: 1445*

Winds S SE breeze — *100% clouds*

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	18.3	7.6	82.8	136	7.8
0.5	18.2	7.5	81.9	135	7.8
1.0	18.2	7.4	80.6	135	7.8
1.5	18.2	7.3	7.8	135	7.8
2.0	18.2	7.1	79.9	134	7.7
2.5	18.1	7.1	76.9	134	7.7
3.0	18.1	7.0	76.1	135	7.7
3.5	18.1	7.2	77.7	135	7.7
4.0	18.1	7.1	77.6	135	7.7
4.5	18.1	7.0	76.6	135	7.7
5.0	18.1	7.0	75.3	135	7.7
5.5	18.1	6.9	74.6	135	7.7
6.0	18.1	6.8	74.2	136	7.7
6.5	18.1	6.8	73.4	135	7.6
7.0	18.0	6.6	71.8	137	7.6
7.5	18.0	6.7	72.3	137	7.6
8.0	17.9	6.6	71.7	136	7.6
8.5	17.9	6.6	71.3	137	7.6
9.0	17.8	6.5	70.7	140	7.6
9.5	17.8	6.5	69.8	141	7.6
10.0	17.5	6.4	68.1	140	7.5
10.5	17.3	5.9	63.5	142	7.5
11.0	17.1	5.6	59.2	146	7.5
11.5	16.9	4.1	44.3	136	7.3
12.0	16.4	1.6	16.2	123	7.2
12.5	16.0	0.6	6.0	115	7.1
13.0	15.0	0.5	4.7	105	7.0
13.5	14.1	0.5	4.7	103	7.0
14.0	13.4	0.5	4.6	102	7.0
14.5	12.9	0.5	4.6	103	7.0
15.0	12.5	0.5	4.4	104	7.0
15.5	12.2	0.5	4.5	105	7.0
16.0	11.7	0.5	4.4	108	7.0
16.5	11.3	0.5	4.3	117	7.0
17.0	10.8	0.5	4.3	121	7.0
17.5	10.4	0.5	4.3	127	7.0
18.0	10.2	0.5	4.1	131	7.1
18.5	10.1	0.5	4.2	139	7.1
19.0	19.0	0.5	4.1	14.6	7.1
19.5	9.6	0.5	4.1	152	7.2

3-Oct-01

Approximate air temp: 10 C

Secci Depth: 8.0 ft. water depth 65' to 66' — *Time: 0845*

North winds 4-7 mph — *100% clouds*

foggy, misty

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	14.8	9.4	94.3	131	8.0
0.5	14.8	9.3	94.3	131	8.0
1.0	14.8	9.3	94.3	131	8.0
1.5	14.7	9.3	93.7	131	8.0
2.0	14.7	9.3	93.6	131	8.0
2.5	14.7	9.3	93.4	131	8.0
3.0	14.6	9.3	93.3	131	8.0
3.5	14.6	9.3	93.3	131	8.0
4.0	14.6	9.3	92.9	131	8.0
4.5	14.6	9.2	92.3	131	8.0
5.0	14.6	8.9	90.2	132	8.0
5.5	14.3	8.7	86.7	132	7.9
6.0	14.2	8.6	85.5	133	7.9
6.5	14.2	8.5	85.5	133	7.9
7.0	14.2	8.5	84.7	133	7.9
7.5	14.2	8.5	84.8	132	7.9
8.0	14.1	8.5	84.8	133	7.9
8.5	14.1	8.5	84.9	133	7.9
9.0	14.1	8.5	84.9	133	7.9
9.5	14.1	8.5	85.0	133	7.9
10.0	14.0	8.5	84.5	136	7.9
10.5	13.9	8.5	84.3	141	7.9
11.0	13.8	8.5	84.1	147	7.9
11.5	13.7	8.5	83.9	148	7.9
12.0	13.6	8.5	83.3	152	7.9
12.5	13.4	8.4	81.6	167	7.9
13.0	13.4	8.3	81.6	164	7.9
13.5	13.4	8.3	81.4	161	7.9
14.0	13.4	8.3	81.4	168	7.9
14.5	13.3	8.3	81.0	174	7.9
15.0	13.2	8.3	81.1	158	7.9
15.5	13.1	8.3	80.8	155	7.9
16.0	13.1	8.2	80.1	164	7.9
16.5	13.0	8.1	78.3	173	7.9
17.0	13.0	8.2	79.5	174	7.9
17.5	12.9	7.6	75.3	174	7.8
18.0	12.8	7.3	70.3	165	7.8
18.5	12.8	7.1	68.0	158	7.8
19.0	12.6	6.7	64.0	175	7.7
19.5	12.6	6.5	62.6	164	7.7

Highlighted Depth: Opening of the intake forebay (2 to 10 m)

Tailrace data for same time period as vertical profile on 9/18/01

Time	Temp C	D.O. mg/l	D.O. % Sat	Cond	pH
1400	18.0	6.9	73.7	131	n/a
1500	18.0	6.9	73.9	131	n/a
1600	18.0	6.9	74.4	131	n/a

Tailrace data for same time period as vertical profile on 10/3/01

Time	Temp C	D.O. mg/l	D.O. % Sat	Cond	pH
800	14.1	7.6	75.4	134	n/a
900	14.2	7.4	73.4	133	n/a
1000	14.3	7.6	75.2	132	n/a

n/a - no data available

Appendix Table B-2

Peavy 2002 Hydroelectric Project
Vertical Profile Data -

6-Jun-02						20-Jun-02						2-Jul-02					
Approximate air temp: 21 C						*Approximate air temp: 29 C*						*Approximate air temp: 26.6 C*					
Secci Depth:6.0 ft. water depth 65 to 66'				*Time:1130*		*Secci Depth. 5.0 ft. water depth 62to 67'*				*Time: 1230*		*Secci Depth:6.0 ft. water depth 62to 66'*				*Time: 1130*	
WSW winds 8-12 mph				*blue sky*		*westerly 8-12 mph*				*10% clouds blue sky*		*strong 12-18 mph westerly*				*60% clouds*	
Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)	Depth (m)	Temp (C)	D.O. (mg/l)	D.O. % Saturation	Cond (uS/cm)	pH (S.U.)	Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	18.8	8.5	93.9	88	7.3	0.0	19.2	8.1	89.4	98	7.4	0.0	26.2	7.5	94.8	104	7.7
0.5	18.3	8.8	92.8	88	7.3	0.5	19.1	8.1	90.2	98	7.4	0.5	26.2	7.6	95.9	104	7.6
1.0	16.0	8.7	90.5	86	7.3	1.0	18.8	8.2	89.9	98	7.4	1.0	26.0	7.6	96.1	104	7.6
1.5	15.9	8.6	88.9	87	7.3	1.5	18.7	8.1	89.2	98	7.4	1.5	25.9	7.6	94.0	104	7.6
2.0	15.6	8.6	88.7	86	7.3	2.0	18.4	8.1	88.6	97	7.4	2.0	25.4	7.5	92.8	103	7.6
2.5	15.5	8.6	88.6	87	7.3	2.5	18.3	8.2	88.6	97	7.4	2.5	25.1	7.4	91.2	102	7.5
3.0	15.4	8.6	87.8	87	7.3	3.0	18.3	8.2	88.9	97	7.4	3.0	25.0	7.4	90.6	102	7.5
3.5	15.2	8.5	86.7	86	7.3	3.5	18.2	8.2	88.2	97	7.4	3.5	24.7	7.1	87.3	101	7.4
4.0	14.5	8.5	84.6	82	7.3	4.0	17.9	8.1	87.1	97	7.4	4.0	22.5	6.6	77.4	96	7.3
4.5	13.9	8.3	81.9	82	7.3	4.5	17.7	8.0	85.4	96	7.4	4.5	21.9	6.2	72.0	96	7.3
5.0	13.4	8.3	81.7	79	7.2	5.0	17.7	7.9	84.9	95	7.3	5.0	21.2	6.2	70.7	95	7.2
5.5	12.8	8.3	80.3	78	7.2	5.5	17.3	7.8	87.7	95	7.3	5.5	20.6	6.0	67.6	94	7.2
6.0	11.9	8.5	80.7	75	7.2	6.0	16.9	7.4	78.3	94	7.3	6.0	19.0	5.8	63.9	91	7.2
6.5	11.7	8.5	79.9	75	7.2	6.5	16.8	7.2	75.0	96	7.3	6.5	18.8	5.8	63.8	90	7.2
7.0	11.6	8.5	79.3	74	7.1	7.0	16.3	7.0	71.9	95	7.2	7.0	18.3	5.8	62.6	89	7.1
7.5	11.5	8.5	79.0	74	7.1	7.5	16.0	6.8	70.3	94	7.2	7.5	17.6	5.5	59.4	89	7.1
8.0	11.4	8.4	78.6	73	7.1	8.0	15.8	6.8	70.1	91	7.2	8.0	17.2	5.3	55.9	89	7.1
8.5	11.4	8.4	78.6	73	7.1	8.5	15.3	6.9	70.3	87	7.1	8.5	16.6	5.2	53.9	88	7.2
9.0	11.1	8.5	79.0	74	7.2	9.0	15.5	6.8	69.9	89	7.2	9.0	16.1	5.1	52.6	86	7.2
9.5	11.0	8.4	77.3	73	7.2	9.5	14.7	6.7	67.1	85	7.2	9.5	15.0	5.1	51.5	83	7.2
10.0	10.9	8.3	76.7	73	7.2	10.0	14.1	6.4	63.6	82	7.3	10.0	13.3	4.8	47.6	80	7.1
10.5	10.8	8.2	76.3	73	7.1	10.5	12.3	6.2	60.0	77	7.1	10.5	12.3	4.8	45.7	78	7.1
11.0	10.8	8.2	75.9	74	7.1	11.0	12.0	6.3	59.7	75	7.1	11.0	11.9	4.8	45.0	78	7.1
11.5	10.6	8.2	75.5	74	7.1	11.5	11.6	6.3	59.0	73	7.0	11.5	11.6	4.8	44.6	75	7.0
12.0	10.5	8.1	74.2	73	7.1	12.0	11.3	6.2	58.3	75	7.0	12.0	11.2	4.7	43.2	75	7.0
12.5	10.4	8.0	73.4	73	7.1	12.5	11.1	6.1	57.1	74	7.0	12.5	11.0	4.6	42.6	75	7.0
13.0	10.3	8.0	72.7	72	7.0	13.0	10.8	6.0	55.8	74	7.0	13.0	10.9	4.6	42.1	75	7.0
13.5	10.3	7.9	72.2	72	7.0	13.5	10.7	6.0	55.3	73	6.9	13.5	10.8	4.6	41.7	74	7.0
14.0	10.2	7.9	71.6	73	7.1	14.0	10.6	6.0	55.0	72	6.9	14.0	10.7	4.5	41.7	74	6.9
14.5	10.1	7.9	71.4	72	7.0	14.5	10.5	6.0	54.6	74	6.9	14.5	10.6	4.5	41.3	74	6.9
15.0	10.1	7.8	71.2	74	7.0	15.0	10.4	5.9	54.3	75	6.9	15.0	10.5	4.5	41.3	74	6.9
15.5	9.9	7.8	70.6	73	7.0	15.5	10.3	5.9	54.0	75	6.9	15.5	10.5	4.5	40.9	75	6.9
16.0	9.8	7.7	69.2	72	7.0	16.0	10.2	5.9	53.8	75	6.9	16.0	10.4	4.4	40.3	75	6.9
16.5	9.7	7.4	66.3	72	7.0	16.5	10.0	5.7	52.4	75	6.9	16.5	10.3	4.4	39.9	75	6.9
17.0	9.6	7.3	65.3	74	7.0	17.0	9.8	5.2	48.1	74	6.9	17.0	10.1	4.2	37.9	75	6.8
17.5	9.5	7.2	64.3	74	7.0	17.5	9.6	5.1	48.4	78	6.9	17.5	10.1	4.0	35.9	75	6.8
18.0	9.4	6.8	60.8	74	7.0	18.0	9.3	4.2	38.2	76	6.9	18.0	9.9	3.5	32.4	75	6.8
18.5	9.3	6.1	54.5	76	6.9	18.5	9.3	4.1	37.0	80	6.9	18.5	9.9	3.2	30.0	76	6.8
19.0	9.2	5.9	52.4	75	6.9	19.0	9.2	3.8	35.2	78	6.9	19.0	9.8	2.9	26.9	78	6.8
19.5	9.1	5.7	50.2	75	6.9	19.5	9.2	3.6	31.6	83	7.0	19.5	9.5	2.8	24.8	80	6.8
19.8												19.8	9.6	2.8	25.5	80	6.8

Highlighted Depth. Opening of the intake forebay (2 to 10 m)

Tailrace data for same time period as vertical profile on 6/6/02

Time	Temp C	D.O. mg/l	D.O. % Sat	Cond	pH
1100	13.8	8.9	87.5	80	n/a
1200	13.9	8.9	87.9	80	n/a
1300	13.7	9.0	87.9	80	n/a

n/a - no data available

Tailrace data for same time period as vertical profile on 6/20/02

Time	Temp C	D.O. mg/l	D.O. % Sat	Cond	pH
1200	17.2	8.1	85.4	85	n/a
1300	17.5	8.2	86.7	87	n/a
1400	17.6	8.0	85.2	85	n/a

Tailrace data for same time period as vertical profile on 7/2/02

Time	Temp C	D.O. mg/l	D.O. % Sat	Cond	pH
1100	21.8	6.8	78.4	99	n/a
1200	21.8	6.8	78.4	99	n/a
1300	21.8	6.6	76.4	99	n/a

Appendix Table B-2
Peavy 2002 Hydroelectric Project
Vertical Profile Data -

18-Jul-02

Approximate air temp: 23 C
Secci Depth 6.0 ft. water depth 64 to 67' *Time: 1200*
NNE winds *general overcast*
8-12 mph *60 % clouds*

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	26.1	7.3	91.8	104	8.0
0.5	26.1	7.3	91.0	103	8.0
1.0	25.9	7.4	92.5	103	8.0
1.5	25.9	7.4	92.4	103	8.0
2.0	25.8	7.2	90.7	103	7.9
2.5	25.6	7.1	89.3	103	7.9
3.0	25.8	7.2	89.3	103	7.9
3.5	25.8	7.0	88.4	103	7.8
4.0	25.5	7.0	87.0	103	7.7
4.5	25.1	6.4	74.4	101	7.5
5.0	22.5	5.2	60.9	96	7.1
5.5	22.2	5.1	58.5	96	7.0
6.0	21.7	4.8	54.7	95	7.0
6.5	21.4	4.7	53.5	94	6.9
7.0	21.0	4.4	50.7	94	6.9
7.5	20.8	4.2	48.6	94	6.9
8.0	20.4	3.8	42.9	93	6.9
8.5	19.9	3.2	36.3	93	6.9
9.0	19.0	2.7	29.7	92	6.9
9.5	18.2	2.5	26.5	91	6.9
10.0	16.9	2.5	26.6	89	6.9
10.5	14.7	2.7	27.8	83	6.9
11.0	13.1	2.9	28.4	78	6.8
11.5	12.4	3.0	28.6	77	6.8
12.0	11.9	3.1	28.9	75	6.8
12.5	11.5	3.1	28.9	75	6.8
13.0	11.2	3.1	28.0	75	6.8
13.5	10.9	3.1	28.3	74	6.8
14.0	10.8	3.1	28.3	74	6.8
14.5	10.5	2.8	25.7	75	6.9
15.0	10.5	2.5	23.2	76	6.8
15.5	10.4	2.5	22.0	76	6.9
16.0	10.3	2.3	21.6	77	6.9
16.5	10.2	2.2	19.8	78	6.9
17.0	10.1	2.2	20.2	76	6.9
17.5	10.0	2.1	17.4	80	7.0
18.0	9.8	1.5	14.0	82	7.1
18.5	9.7	1.4	12.9	84	7.2
19.0	9.7	1.4	12.4	86	7.2
19.5	9.5	1.3	12.1	86	7.2

29-Jul-02

Approximate air temp: 26.6 C
Secci Depth 5.0 ft. water depth 65' to 66' *Time: 1400*
NNW winds *20 % clouds*
4-7 mph

Depth (m)	Temp (C)	D.O (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	25.7	7.9	99.0	116	8.0
0.5	25.7	7.9	98.1	115	7.9
1.0	25.6	7.8	97.2	115	7.9
1.5	25.5	7.7	95.1	115	7.9
2.0	25.2	7.6	94.0	115	7.9
2.5	25.2	7.6	93.7	115	7.8
3.0	24.8	7.4	90.2	115	7.7
3.5	24.8	7.3	87.8	114	7.7
4.0	24.1	7.0	84.6	113	7.6
4.5	23.8	6.9	81.8	113	7.6
5.0	23.1	6.2	73.1	112	7.5
5.5	23.0	6.1	72.1	111	7.4
6.0	22.8	5.8	67.6	111	7.4
6.5	22.6	5.4	62.5	111	7.3
7.0	22.2	4.8	54.0	111	7.2
7.5	21.9	4.3	50.2	110	7.2
8.0	21.3	3.7	40.2	107	7.1
8.5	20.9	2.9	31.3	104	7.1
9.0	20.4	2.3	25.1	102	7.0
9.5	19.0	1.8	19.4	97	7.0
10.0	17.4	1.7	17.4	93	7.0
10.5	15.7	1.6	16.1	89	7.0
11.0	14.7	1.6	16.0	87	7.0
11.5	13.9	1.8	18.5	83	7.0
12.0	12.9	1.8	17.2	81	6.8
12.5	12.5	1.9	18.0	80	6.8
13.0	12.0	2.0	19.0	79	6.8
13.5	11.6	1.9	18.4	78	6.8
14.0	11.4	2.0	18.2	79	6.8
14.5	11.3	2.1	19.1	78	6.7
15.0	11.1	2.0	18.8	78	6.8
15.5	11.0	2.0	18.4	78	6.8
16.0	10.7	1.8	16.7	79	6.8
16.5	10.4	1.5	13.2	81	6.8
17.0	10.4	1.5	13.6	81	6.8
17.5	10.1	1.5	13.8	81	6.7
18.0	10.2	1.3	11.6	84	6.8
18.5	10.0	1.0	9.3	85	6.9
19.0	9.9	0.8	8.0	85	6.9
19.5	9.8	0.8	7.4	82	6.9
20.0	9.7	0.8	8.2	91	6.9

15-Aug-02

Approximate air temp: 24 C
cci Depth:7.0 ft. water depth 65' to *Time: 1230*
southerly 8-12 mph *20% clouds*
gusty and variable *mostly clear*

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	23.6	7.2	87.4	111	7.5
0.5	23.7	7.2	84.8	111	7.5
1.0	22.9	7.3	84.9	111	7.5
1.5	22.8	7.3	84.4	111	7.4
2.0	22.6	6.9	80.0	111	7.4
2.5	22.5	6.5	76.4	111	7.4
3.0	22.5	6.5	75.8	111	7.3
3.5	22.4	6.6	75.7	111	7.3
4.0	22.1	5.4	62.5	109	7.2
4.5	21.9	4.6	53.3	108	7.1
5.0	21.8	4.6	52.5	108	7.1
5.5	21.7	4.5	51.7	108	7.1
6.0	21.6	4.1	46.1	108	7.1
6.5	21.5	4.0	45.2	108	7.0
7.0	21.5	3.8	42.7	108	7.1
7.5	21.4	3.5	40.4	108	7.0
8.0	21.3	3.5	38.8	108	7.0
8.5	21.0	3.2	35.7	108	7.0
9.0	20.8	3.1	34.3	107	6.9
9.5	20.6	2.7	30.3	107	6.9
10.0	19.3	2.2	20.8	103	6.9
10.5	15.9	0.4	3.8	94	6.7
11.0	14.0	0.4	4.0	89	6.7
11.5	13.2	0.6	5.2	86	6.7
12.0	12.5	0.6	5.9	83	6.7
12.5	12.1	0.7	5.9	83	6.8
13.0	11.8	0.7	6.3	82	6.8
13.5	11.5	0.7	6.4	82	6.8
14.0	11.4	0.7	6.4	82	6.8
14.5	11.0	0.6	5.4	82	6.8
15.0	10.8	0.5	4.6	82	6.9
15.5	10.6	0.4	4.1	83	6.9
16.0	10.4	0.4	3.9	86	6.9
16.5	10.3	0.5	4.0	88	7.0
17.0	10.2	0.5	4.1	91	7.0
17.5	10.0	0.5	4.4	92	7.1
18.0	10.0	0.6	4.9	94	7.1
18.5	10.0	0.6	5.4	95	7.1
18.8	bottom				

Highlighted Depth Opening of the intake forebay (2 to 10 m)

Tailrace data for same time period as vertical profile on 7/18/02

Time	Temp C	D.O. mg/l	D.O. % Sat	Cond	pH
1200	23.0	6.3	72.1	104	n/a
1300	22.9	6.2	70.9	104	n/a
1400	22.9	6.1	70.4	104	n/a

Tailrace data for same time period as vertical profile on 7/29/02

Time	Temp C	D.O. mg/l	D.O. % Sat	Cond	pH
1400	23.3	5.9	69.4	113	n/a
1500	23.4	6.0	69.8	113	n/a
1600	23.4	6.0	70.5	113	n/a

Tailrace data for same time period as vertical profile on 8/15/02

Time	Temp C	D.O. mg/l	D.O. % Sat	Cond	pH
1200	22.0	4.6	51.6	110	n/a
1300	21.9	4.6	52.0	110	n/a
1400	21.8	4.2	47.7	110	n/a

n/a - no data available

Appendix Table B-2
Peavy 2002 Hydroelectric Project
Vertical Profile Data -

29-Aug-02

Approximate air temp. 21° C

Secci Depth 6.5 ft. water depth 65' to 67' *Time: 1100*

easterly 4-7 mph *no clouds*

100 % clear

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	21.9	7.3	84.8	114	7.4
0.5	21.9	7.3	84.0	114	7.4
1.0	21.4	7.4	83.6	114	7.4
1.5	21.2	7.3	83.0	114	7.4
2.0	21.2	7.3	82.8	114	7.4
2.5	21.2	7.4	83.9	113	7.4
3.0	21.1	7.4	83.4	113	7.4
3.5	21.1	7.2	82.0	113	7.4
4.0	21.1	7.2	82.1	113	7.4
4.5	21.0	6.7	75.6	113	7.4
5.0	20.9	6.2	69.9	114	7.3
5.5	20.8	6.2	69.6	114	7.3
6.0	20.7	6.0	67.4	115	7.2
6.5	20.6	5.9	66.2	115	7.2
7.0	20.6	5.8	64.8	116	7.2
7.5	20.6	5.7	64.2	117	7.2
8.0	20.4	5.7	64.2	119	7.2
8.5	20.2	5.7	63.4	125	7.2
9.0	20.1	5.7	63.1	128	7.2
9.5	20.0	5.7	63.0	129	7.2
10.0	19.7	5.6	61.5	133	7.2
10.5	19.2	5.1	56.0	133	7.2
11.0	18.4	3.6	38.0	125	7.0
11.5	16.7	0.9	8.6	102	6.8
12.0	14.6	0.9	8.6	92	6.8
12.5	13.3	0.9	8.5	89	6.8
13.0	12.5	0.9	8.4	86	6.8
13.5	11.9	0.9	8.2	86	6.8
14.0	11.6	0.9	8.0	86	6.8
14.5	11.4	0.9	8.0	85	6.8
15.0	11.1	0.9	7.8	84	6.8
15.5	10.8	0.8	7.7	85	6.7
16.0	10.5	0.9	7.6	90	6.7
16.5	10.2	0.9	7.7	94	6.7
17.0	10.0	0.9	7.6	99	6.7
17.5	10.0	0.9	7.7	103	6.8
18.0	9.8	0.9	7.5	102	6.8
18.5	9.6	0.9	7.5	108	6.8
19.0	9.5	0.9	7.5	110	6.8

12-Sep-02

Approximate air temp. 18.3 C

Secci Depth 5.5 ft. water depth 65' to 66' *Time: 1130*

North West Winds 13-18 mph *clear blue sky*

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	21.3	7.8	87.7	123	7.6
0.5	21.4	7.8	88.3	123	7.5
1.0	21.3	7.8	87.5	122	7.6
1.5	21.3	7.8	87.7	122	7.6
2.0	21.2	7.8	88.7	122	7.5
2.5	21.2	7.7	88.3	122	7.5
3.0	21.0	7.5	81.3	123	7.5
3.5	20.8	7.0	81.0	123	7.4
4.0	20.7	6.7	73.9	123	7.3
4.5	20.7	6.7	74.9	124	7.3
5.0	20.7	6.6	73.0	124	7.3
5.5	20.7	6.5	71.5	123	7.4
6.0	20.6	6.2	69.0	124	7.3
6.5	20.5	6.0	66.7	124	7.3
7.0	20.3	5.7	62.5	124	7.3
7.5	20.2	5.4	59.0	124	7.2
8.0	20.2	5.3	57.6	124	7.2
8.5	20.2	5.1	54.2	124	7.1
9.0	19.9	4.6	49.0	124	7.1
9.5	19.8	4.3	46.2	123	7.1
10.0	19.6	4.1	44.3	123	7.1
10.5	19.4	4.0	41.6	123	7.0
11.0	19.0	3.0	33.0	121	6.9
11.5	18.2	2.6	25.6	119	6.9
12.0	15.2	0.8	6.6	106	6.8
12.5	14.7	0.6	5.7	99	6.8
13.0	13.3	0.5	5.3	94	6.8
13.5	12.6	0.6	5.3	92	6.8
14.0	12.5	0.6	5.2	93	6.8
14.5	12.1	0.6	5.1	93	6.8
15.0	11.7	0.5	4.6	91	6.7
15.5	11.1	0.5	4.6	90	6.8
16.0	10.8	0.5	4.7	96	6.8
16.5	10.7	0.5	4.8	96	6.8
17.0	10.4	0.5	4.8	101	6.8
17.5	10.2	0.5	4.8	103	6.8
18.0	9.9	0.6	4.9	107	6.8
18.5	9.8	0.6	4.8	112	6.8
19.0	9.7	0.6	5.1	115	6.8
19.3	9.6	0.6	5.2	121	6.8

17-Oct-02

Approximate air temp. 9.2 C

Secci Depth 6.0 ft. water depth 60' to 67' *Time: 1100*

North West Winds 4-7 mph *30 % clouds*

slight breeze

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	9.5	9.7	84.7	112	7.7
0.5	9.5	9.7	84.5	112	7.7
1.0	9.5	9.7	85.1	112	7.6
1.5	9.5	9.7	84.6	112	7.6
2.0	9.5	9.7	83.7	112	7.6
2.5	9.4	9.7	84.3	112	7.6
3.0	9.4	9.7	84.2	112	7.6
3.5	9.4	9.6	83.6	112	7.6
4.0	9.4	9.6	84.0	112	7.6
4.5	9.4	9.7	83.9	112	7.6
5.0	9.4	9.6	83.9	112	7.6
5.5	9.4	9.6	83.6	112	7.6
6.0	9.4	9.6	83.5	112	7.6
6.5	9.4	9.6	83.3	112	7.6
7.0	9.4	9.6	83.3	112	7.6
7.5	9.4	9.5	82.8	112	7.6
8.0	9.4	9.5	82.9	112	7.6
8.5	9.4	9.5	82.7	112	7.6
9.0	9.4	9.5	83.0	112	7.6
9.5	9.4	9.6	83.3	111	7.5
10.0	9.4	9.6	83.2	111	7.5
10.5	9.4	9.6	82.8	111	7.5
11.0	9.2	9.6	82.6	109	7.5
11.5	9.2	9.4	81.3	110	7.5
12.0	9.0	9.4	80.8	106	7.5
12.5	8.7	9.5	81.0	104	7.5
13.0	8.6	9.6	82.2	106	7.5
13.5	8.8	9.6	82.2	105	7.5
14.0	8.6	9.6	82.3	103	7.5
14.5	8.5	9.7	82.2	102	7.5
15.0	8.4	9.6	81.5	101	7.5
15.5	8.4	9.6	81.7	101	7.4
16.0	8.4	9.6	81.4	101	7.4
16.5	8.3	9.6	81.5	100	7.4
17.0	8.3	9.6	81.4	100	7.5
17.5	8.3	9.6	81.2	100	7.5
18.0	8.2	9.6	81.0	100	7.5
18.5	8.2	9.7	81.7	100	7.4
19.0	8.2	9.6	81.3	100	7.5
19.3	8.2	9.5	80.3	100	7.5

Highlighted Depth: Opening of the intake forebay (2 to 10 m)

Tailrace data for same time period as vertical profile on 8/29/02

Time	Temp C	D.O. mg/l	D.O. % Sat	Cond	pH
1100	20.4	4.2	46.0	111	n/a
1200	20.5	4.2	46.2	111	n/a
1300	20.6	4.3	48.0	111	n/a

n/a - no data available

Tailrace data for same time period as vertical profile on 9/12/02

Time	Temp C	D.O. mg/l	D.O. % Sat	Cond	pH
1100	20.7	5.6	62.0	119	n/a
1200	20.9	6.3	70.0	119	n/a
1300	20.9	5.9	65.0	119	n/a

No tailrace data available.

Appendix Table B- 3
Peavy 2003 Hydroelectric Project
Vertical Profile Data

7/16/2003
John Hrobar and Russ Rick

7/30/2003
John Hrobar and Russ Rick

8/9/2003
John Hrobar and Noel Cutright

16-Jul-03

Approximate air temp: 23.8 C
Secci Depth 7.0 ft water depth 64 to 67' Time: 1030
nnw winds 4-7 increasing 100% blue sky
Taken in fowage

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	22.6	8.2	97.3	106	7.0
0.5	22.6	8.2	97.2	106	7.0
1.0	21.6	8.2	95.6	106	7.1
1.5	21.2	8.2	94.5	105	7.5
2.0	21.2	7.9	91.4	106	7.4
2.5	21.1	7.9	91.0	105	7.4
3.0	21.1	7.9	90.4	105	7.4
3.5	21.0	7.8	89.9	106	7.4
4.0	20.9	7.7	88.2	106	7.7
4.5	20.8	7.4	85.5	106	7.4
5.0	20.6	7.5	85.2	105	7.4
5.5	20.4	6.8	76.7	105	7.3
6.0	19.7	5.7	63.9	104	7.3
6.5	19.3	5.0	57.4	103	7.2
7.0	18.5	4.5	49.5	103	7.2
7.5	18.2	4.1	44.3	101	7.1
8.0	17.5	3.6	38.2	99	7.1
8.5	17.1	3.2	34.3	98	7.1
9.0	16.6	3.1	32.5	97	7.0
9.5	16.4	2.9	30.0	97	7.0
10.0	16.1	2.9	29.8	96	7.0
10.5	15.6	2.8	29.0	94	7.0
11.0	15.1	2.8	28.6	94	7.0
11.5	14.4	2.8	28.1	92	7.0
12.0	13.7	2.7	26.8	91	7.0
12.5	13.2	2.7	26.2	91	7.0
13.0	12.5	2.6	25.1	89	7.0
13.5	12.1	2.5	23.1	91	7.0
14.0	11.8	2.3	22.0	92	7.0
14.5	11.5	2.4	23.0	89	7.0
15.0	11.1	2.5	23.0	89	7.0
15.5	10.9	2.5	23.2	88	7.0
16.0	10.8	2.5	23.0	89	7.0
16.5	10.3	2.1	18.4	92	6.9
17.0	10.1	1.6	14.4	92	6.9
17.5	9.9	1.4	12.5	95	6.8
18.0	9.7	1.3	10.9	97	6.8
18.5	9.7	1.1	8.8	99	6.8
19.0	9.5	0.6	5.7	100	6.8
	bottom				

30-Jul-03

Approximate air temp: 23.8 C
Secci Depth: 8.0 ft water depth 64 to 67' Time: 1400
W SW winds 4-7 mph 95 % cloudy
Taken in flowage

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	23.4	8.2	98.8	102	7.4
0.5	23.6	8.2	98.8	102	7.4
1.0	22.7	8.2	97.5	102	7.5
1.5	22.6	8.3	97.7	102	7.6
2.0	22.5	8.3	97.9	102	7.6
2.5	22.5	8.2	96.9	102	7.6
3.0	22.3	7.9	92.1	102	7.7
3.5	22.2	7.6	88.8	102	7.6
4.0	22.0	7.3	84.4	102	7.6
4.5	21.9	7.2	83.4	103	7.5
5.0	21.8	6.8	79.7	102	7.6
5.5	21.7	6.7	78.6	103	7.5
6.0	21.3	5.8	67.0	103	7.5
6.5	20.9	5.2	58.7	102	7.4
7.0	20.1	4.2	47.3	101	7.4
7.5	19.6	3.8	41.8	100	7.3
8.0	19.3	3.3	36.5	100	7.2
8.5	18.5	2.3	24.6	99	7.2
9.0	16.9	1.4	14.1	94	7.2
9.5	15.9	1.2	12.2	93	7.2
10.0	15.0	1.0	10.3	91	7.2
10.5	14.3	1.0	9.5	90	7.1
11.0	13.8	0.9	9.2	89	7.1
11.5	13.4	1.0	9.4	87	7.1
12.0	12.9	1.0	10.1	87	7.1
12.5	12.5	1.1	10.3	8.5	7.1
13.0	12.2	1.0	9.8	84	7.1
13.5	11.8	1.0	9.3	85	7.1
14.0	11.5	1.0	8.9	84	7.1
14.5	11.4	0.9	8.3	86	7.1
15.0	11.1	0.9	8.4	87	7.1
15.5	10.7	0.7	6.4	86	7.0
16.0	10.3	0.5	3.8	88	6.9
16.5	10.1	0.2	1.9	87	6.9
17.0	10.1	0.2	1.5	91	6.9
17.5	10.0	0.1	1.2	90	6.9
18.0	9.8	0.1	1.2	95	6.8
18.5	9.7	0.1	1.2	95	6.9
19.0	9.7	0.1	0.9	99	6.9
19.5	9.5	0.1	1.0	101	6.9

9-Aug-03

Approximate air temp: 29.4 C
Secci Depth 8.5 ft. water depth 64 to 67' Time: 1530
wind is near calm
Taken in flowage

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	26.7	8.2	104.0	109	8.1
0.5	25.3	8.4	104.0	109	8.2
1.0	24.0	8.5	103.0	106	8.3
1.5	23.3	8.5	101.0	104	8.3
2.0	23.0	8.5	101.0	106	8.3
2.5	22.7	8.3	97.0	106	8.3
3.0	22.5	7.8	91.0	106	8.3
3.5	22.4	7.7	89.0	107	8.3
4.0	22.4	7.6	90.0	106	8.2
4.5	22.3	7.8	91.0	106	8.2
5.0	22.2	7.5	87.0	107	8.2
5.5	22.1	7.4	85.0	108	8.1
6.0	22.0	7.0	79.0	103	8.1
6.5	21.1	5.7	54.0	121	8.0
7.0	20.6	3.7	42.0	119	7.9
7.5	20.1	3.1	35.0	116	7.8
8.0	19.7	2.5	27.0	111	7.7
8.5	19.1	2.0	20.0	101	7.7
9.0	18.4	1.3	14.0	101	7.7
9.5	17.1	0.8	8.0	97	7.7
10.0	15.6	0.5	4.0	93	7.7
10.5	14.9	0.3	3.0	91	7.7
11.0	14.3	0.3	3.0	88	7.7
11.5	13.6	0.3	3.0	88	7.7
12.0	13.3	0.3	3.0	88	7.6
12.5	12.8	0.3	3.0	88	7.6
13.0	12.4	0.3	3.0	87	7.5
13.5	12.0	0.3	3.0	88	7.4
14.0	11.8	0.3	3.0	85	7.5
14.5	11.6	0.3	3.0	88	7.4
15.0	11.4	0.3	3.0	89	7.4
15.5	11.0	0.3	3.0	94	7.3
16.0	10.7	0.3	2.0	94	7.3
16.5	10.4	0.3	2.0	95	7.3
17.0	10.2	0.3	3.0	95	7.5
17.5	10.0	0.3	3.0	96	7.5
18.0	9.9	0.3	3.0	97	7.4
18.5	9.7	0.3	3.0	102	7.3
19.0	9.6	0.3	2.0	104	7.3
19.4	9.5	0.3	2.0	107	7.3

Highlighted Depth: Opening of the intake forebay (2 to 10 m)

Tailrace data for same time period as vertical profile on 7/16/03

Time	Temp C	D.O. mg/l	D.O. % Sat	Cond	pH
1000	19.7	6.3	70.8	102	n/a
1100	20.0	7.2	80.8	102	n/a
1200	19.5	6.4	71.3	100	n/a

n/a - no data available

Tailrace data for same time period as vertical profile on 7/30/03

Time	Temp C	D.O. mg/l	D.O. % Sat	Cond	pH
1400	22.0	7.2	86.5	103	n/a
1500	22.5	7.3	88.6	102	n/a
1600	21.0	6.3	74.0	102	n/a

Tailrace data for same time period as vertical profile on 8/9/03

Time	Temp C	D.O. mg/l	D.O. % Sat	Cond	pH
1500	21.6	6.0	76.1	106	n/a
1600	21.7	6.2	73.2	106	n/a
1700	22.9	6.0	71.4	106	n/a

Appendix Table B- 3
Peavy 2003 Hydroelectric Project
Vertical Profile Data

8/27/2003
John Hrobar and Bill Braunschweig

9/11/2003
John Hrobar and Russ Rick

9/25/2003
John Hrobar and Bill Braunschweig

27-Aug-03

Approximate air temp 21.1C
Secci Depth 7.5 ft water depth 64 to 67'
Northerly 8 12 mph
Taken in fowage
Time: 1400
30% clouds
Sunny

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	24.5	8.2	100.4	115	8.0
0.5	24.3	8.2	99.8	114	8.0
1.0	24.1	8.2	99.4	114	8.0
1.5	24.1	8.1	98.4	115	8.0
2.0	23.9	8.1	97.4	114	8.0
2.5	23.9	8.1	97.5	114	8.0
3.0	23.9	8.0	97.2	114	8.0
3.5	23.9	8.0	96.8	114	8.0
4.0	23.9	8.0	96.8	114	8.0
4.5	23.9	8.0	96.2	113	8.0
5.0	23.9	7.9	95.4	114	7.9
5.5	23.7	7.7	92.3	114	7.9
6.0	23.6	7.5	89.7	114	7.9
6.5	23.4	7.1	84.0	114	7.9
7.0	22.6	4.6	55.9	115	7.6
7.5	21.8	3.0	35.8	115	7.4
8.0	21.8	3.0	35.6	115	7.4
8.5	21.4	2.5	28.4	114	7.3
9.0	20.8	1.6	17.5	114	7.2
9.5	19.7	0.7	8.1	113	7.2
10.0	18.7	0.5	4.8	109	7.2
10.5	17.4	0.4	3.9	106	7.2
11.0	15.7	0.4	3.9	102	7.2
11.5	14.8	0.4	3.4	97	7.2
12.0	14.2	0.3	3.2	98	7.2
12.5	13.4	0.5	4.7	95	7.5
13.0	12.7	0.4	3.5	93	7.3
13.5	12.4	0.3	3.0	92	7.3
14.0	12.0	0.3	2.8	91	7.3
14.5	11.9	0.3	2.7	92	7.2
15.0	11.7	0.3	2.7	93	7.2
15.5	11.4	0.3	2.6	96	7.2
16.0	11.1	0.3	2.4	94	7.2
16.5	11.0	0.3	2.5	94	7.1
17.0	10.7	0.3	2.3	95	7.1
17.5	10.4	0.4	3.5	102	7.1
18.0	10.1	0.4	3.6	105	7.1
18.5	10.1	0.3	2.9	103	7.1
19.0	9.9	0.3	2.6	107	7.1
19.5	9.8	0.3	2.5	111	7.0

11-Sep-03

Approximate air temp 23.8C
Secci Depth 10.5 ft water depth 64 to 67'
SSW 8-12 mph gusty
Taken in flowage
Time. 1130
50% overcast

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	20.2	7.2	80.5	120	7.2
0.5	20.2	7.2	80.3	120	7.2
1.0	20.0	7.1	79.0	120	7.2
1.5	19.9	7.0	78.4	120	7.2
2.0	19.9	6.8	76.4	120	7.2
2.5	19.9	6.7	75.1	120	7.3
3.0	19.9	6.7	74.3	120	7.3
3.5	19.8	6.2	68.7	120	7.2
4.0	19.8	6.1	67.6	119	7.2
4.5	19.7	6.0	66.8	119	7.2
5.0	19.7	6.0	66.2	119	7.2
5.5	19.7	5.9	65.3	119	7.2
6.0	19.7	5.8	64.0	120	7.2
6.5	19.6	5.7	63.3	119	7.2
7.0	19.6	5.7	63.2	119	7.2
7.5	19.5	5.5	61.7	119	7.1
8.0	19.3	5.3	58.7	118	7.1
8.5	19.1	4.8	53.2	117	7.1
9.0	18.9	4.6	49.8	117	7.1
9.5	18.5	3.5	37.6	117	7.1
10.0	18.1	2.5	26.9	116	7.0
10.5	16.8	0.4	3.7	112	6.9
11.0	15.3	0.3	3.1	110	6.9
11.5	14.5	0.3	2.5	107	6.9
12.0	14.0	0.3	2.5	107	6.9
12.5	13.3	0.2	2.2	103	6.9
13.0	12.9	0.2	2.2	101	6.9
13.5	12.6	0.2	2.2	102	6.9
14.0	12.0	0.2	1.6	100	6.8
14.5	11.7	0.2	1.6	98	6.8
15.0	11.5	0.2	1.6	99	6.8
15.5	11.1	0.2	1.6	102	6.9
16.0	10.8	0.2	1.6	103	6.9
16.5	10.6	0.2	1.5	106	6.9
17.0	10.4	0.2	1.7	107	6.9
17.5	10.2	0.2	1.7	110	6.9
18.0	10.1	0.2	1.7	117	6.9
18.5	9.9	0.2	1.9	121	6.9
19.0	9.7	0.2	1.9	125	6.9
19.5	9.6	0.2	2.0	131	6.9
20.0	9.5	0.2	2.2	131	6.8

25-Sep-03

Approximate air temp 7.2C
Secci Depth: 8 ft. water depth 60'
WNW 12-18 mph
Taken in flowage
Time. 1100
90% overcast
misty rain

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	16.0	8.3	85.2	123	7.6
0.5	16.0	8.2	84.2	122	7.6
1.0	16.0	8.2	83.8	122	7.6
1.5	16.0	8.2	83.7	122	7.6
2.0	16.0	8.1	83.6	122	7.6
2.5	16.0	8.1	83.3	122	7.6
3.0	16.0	8.1	83.6	122	7.6
3.5	15.9	8.1	83.6	122	7.6
4.0	15.9	8.1	83.3	122	7.6
4.5	15.9	8.1	83.2	122	7.6
5.0	15.9	8.1	83.1	122	7.6
5.5	15.9	8.1	83.0	123	7.6
6.0	15.9	8.1	83.1	122	7.5
6.5	15.9	8.1	83.5	122	7.5
7.0	15.9	8.1	82.9	122	7.5
7.5	15.9	8.0	82.6	122	7.5
8.0	15.8	8.1	82.8	122	7.5
8.5	15.8	8.1	83.2	121	7.5
9.0	15.8	8.1	83.1	121	7.5
9.5	15.8	8.1	82.8	122	7.5
10.0	15.8	8.1	82.7	123	7.5
10.5	15.8	8.1	82.7	122	7.5
11.0	15.7	8.1	82.8	121	7.5
11.5	15.7	8.1	82.2	121	7.5
12.0	15.7	8.1	82.4	123	7.5
12.5	15.6	8.0	80.7	122	7.5
13.0	15.7	8.1	82.5	121	7.5
13.5	15.7	8.1	82.6	123	7.5
14.0	15.7	8.1	82.7	121	7.5
14.5	15.6	8.1	82.7	122	7.5
15.0	15.5	6.5	63.8	113	7.5
15.5	13.8	3.1	23.7	113	7.3
16.0	11.4	0.6	4.8	112	7.1
16.5	11.0	0.4	3.6	113	7.1
17.0	10.7	0.3	3.0	116	7.0
17.5	10.5	0.3	2.6	117	7.0
18.0	10.2	0.3	2.5	120	7.0
18.5	10.1	0.3	2.3	125	7.0

Highlighted Depth: Opening of the intake forebay (2 to 10 m)

Tailrace data for same time period as vertical profile on 8/27/03

Time	Temp C	D.O. mg/l	D.O. % Sat	Cond	pH
1400	21.7	4.4	52.1	115	n/a
1500	23.3	5.9	71.1	116	n/a
1600	23.2	5.8	70.2	116	n/a

Tailrace data for same time period as vertical profile on 9/11/03

Time	Temp C	D.O. mg/l	D.O. % Sat	Cond	pH
1100	19.7	5.7	64.5	118	n/a
1200	19.7	5.8	66.2	118	n/a
1300	20.5	6.4	74.0	119	n/a

Tailrace data for same time period as vertical profile on 9/25/03

Time	Temp C	D.O. mg/l	D.O. % Sat	Cond	pH
1100	15.9	7.3	76.0	122	n/a
1200	16.0	7.5	78.2	122	n/a
1300	16.0	8.3	87.8	122	n/a

Appendix Table B- 3
Peavy 2003 Hydroelectric Project
Vertical Profile Data

10/2/2003
John Hrobar and Russ Rick

2-Oct-03

Approximate air Temp 0 9C
Secci Depth 10.5 ft water depth 60' — *Time 0900*
NW winds 0-3 mph — *Clear sunny*
Taken in flowage — *Snow on ground*

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	11.8	9.8	92.9	123	7.6
0.5	11.8	9.8	92.2	123	7.7
1.0	11.8	9.8	91.7	123	7.7
1.5	11.8	9.7	91.2	123	7.7
2.0	11.8	9.7	90.9	123	7.7
2.5	11.8	9.7	90.6	123	7.7
3.0	11.8	9.6	90.2	123	7.7
3.5	11.8	9.6	89.7	123	7.7
4.0	11.8	9.5	89.3	123	7.7
4.5	11.8	9.5	89.1	123	7.7
5.0	11.8	9.5	89.0	123	7.7
5.5	11.8	9.5	88.7	123	7.7
6.0	11.8	9.5	88.7	123	7.7
6.5	11.8	9.5	88.6	123	7.7
7.0	11.7	9.5	88.5	122	7.7
7.5	11.7	9.4	88.4	122	7.7
8.0	11.7	9.4	88.3	123	7.7
8.5	11.8	9.4	88.0	122	7.7
9.0	11.8	9.4	88.0	121	7.7
9.5	11.7	9.4	88.0	125	7.7
10.0	11.7	9.4	87.8	123	7.7
10.5	11.7	9.4	87.9	124	7.7
11.0	11.7	9.4	87.6	122	7.7
11.5	11.7	9.4	87.6	122	7.7
12.0	11.7	9.4	87.6	123	7.7
12.5	11.7	9.4	87.6	123	7.7
13.0	11.7	9.4	87.4	123	7.6
13.5	11.7	9.4	87.3	122	7.7
14.0	11.7	9.3	87.4	124	7.7
14.5	11.7	9.3	87.2	124	7.7
15.0	11.7	9.3	87.2	123	7.7
15.5	11.7	9.3	87.1	122	7.7
16.0	11.7	9.3	87.3	122	7.7
16.5	11.6	9.3	86.9	123	7.6
17.0	11.7	9.3	87.0	123	7.6
17.5	11.7	9.3	87.0	123	7.6
18.0	11.7	9.3	87.0	122	7.6
18.5	11.6	9.3	86.8	121	7.6
19.0	11.6	9.3	86.5	122	7.6

Highlighted Depth: Opening of the intake forebay (2 to 10 m)

Tailrace data for same time period as vertical profile on 10/2/03

Time	Temp C	D.O. mg/l	D.O. % Sat	Cond	pH
900	11.5	9.0	86.3	124	n/a
1000	11.5	9.1	86.9	124	n/a
1100	11.6	9.2	88.8	124	n/a

16-Jul-03

Approximate air temp: 18.3 C

Time: 1630

Vertical Profile taken near Peavy tailrace station

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	21.0	7.1	82.8	104	7.8
0.5	21.0	7.0	82.2	104	7.9
1.0	21.0	7.0	81.9	104	7.9
1.5	21.0	7.0	81.9	104	7.9

16-Jul-03

Approximate air temp: 18.3 C

Time: 1635

Vertical profile taken near Station T-1

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	21.1	7.0	82.7	104	7.7
0.5	21.1	7.0	82.5	104	7.7
1.0	21.1	7.0	82.3	104	7.7
1.5	21.1	7.0	82.2	104	7.7
2.0	21.1	7.0	82.2	104	7.7
2.5	21.1	7.0	82.0	104	7.7
2.7	bottom				

16-Jul-03

Approximate air temp: 18.3 C

Time: 1437

Vertical profile taken near station T-2

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	20.8	7.4	82.6	104	7.0
0.5	20.8	7.2	82.6	104	7.1
1.0	20.8	7.1	82.1	104	7.1
1.5	20.8	7.1	81.8	104	7.1
2.0	20.8	7.1	81.1	104	7.1
2.5	20.8	7.0	80.2	103	7.1
3.0	20.8	7.0	79.8	104	7.1
3.5	20.8	7.0	79.5	103	7.1
4.0	20.8	6.8	78.8	104	7.1
4.2	bottom				

30-Jul-03

Approximate air temp: 23.8 C

Vertical Profile taken near Peavy tailrace plant off line

Time: 1105
100% clouds
threat of rain

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	22.5	7.8	91.7	102	7.0
0.5	22.4	7.7	90.6	102	7.1
1.0	21.2	6.8	78.7	101	7.2
1.5	19.3	4.4	46.1	98	7.2
2.0	18.5	3.8	41.0	98	7.1
2.5	18.5	3.7	40.3	98	7.1
3.0	18.5	3.7	40.0	98	7.1
3.5	18.4	3.6	39.6	101	7.1

30-Jul-03

Approximate air temp: 23.8 C

Vertical profile taken on west side of river near station T-1

Time: 1130
rain
100% cloud

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	23.1	7.8	93.3	102	7.5
0.5	22.8	7.6	89.7	101	7.5
1.0	22.3	7.3	86.3	102	7.5
1.5	21.4	6.2	75.9	101	7.5
2.0	20.5	5.7	64.5	100	7.5
2.5	20.4	5.6	63.0	101	7.4

30-Jul-03

Approximate air temp: 23.8 C

Vertical profile taken on west side of river near station T-2

Time: 1150
rain
100% clouds

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	23.4	8.0	95.7	102	7.6
0.5	23.4	8.0	95.5	102	7.6
1.0	22.9	7.8	93.1	102	7.7
1.5	22.7	7.5	88.7	103	7.7
2.0	22.4	7.3	85.1	102	7.6
2.5	21.1	5.8	66.8	101	7.5
3.0	21.0	5.8	66.0	101	7.5
3.5	20.9	5.7	65.5	101	7.5
4.0	20.9	5.7	65.3	101	7.4

30-Jul-03

Approximate air temp: 23.8 C

Vertical Profile taken in Peavy Tainter Channel

Time: 1115
100% clouds
raining

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	22.7	7.9	93.7	102	7.2
0.5	22.4	7.8	90.4	101	7.3
1.0	20.7	6.9	78.0	103	7.3
1.5	19.2	4.2	46.2	99	7.2
2.0	18.8	4.0	43.9	98	7.2
2.5	18.7	3.9	42.8	97	7.2

30-Jul-03

Approximate air temp: 23.8 C

Vertical profile taken on east side of river near station T-1

Time: 1130
rain
100% clouds

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond (uS/cm)	pH (S.U.)
0.0	23.0	7.9	93.9	102	7.5
0.5	22.9	7.8	93.1	102	7.5
1.0	21.5	6.9	79.5	101	7.5
1.5	20.8	6.2	70.6	101	7.5
2.0	20.4	5.4	61.0	100	7.5
2.5	20.3	5.3	60.2	100	7.4

Opening of the intake forebay (2 to 10 m)

30-Jul-03

Approximate air temp: 23.8 C

Vertical profile taken on east side of river near station T-2

Time: 1200
rain
100% clouds

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	23.1	8.0	95.3	102	7.7
0.5	23.1	8.0	95.2	102	7.7
1.0	23.1	7.9	94.3	102	7.6
1.5	22.9	7.6	91.2	102	7.7
2.0	22.4	7.2	84.9	101	7.7
2.5	21.5	6.6	75.7	101	7.6
3.0	21.0	5.9	67.7	101	7.6
3.5	21.0	5.8	67.0	101	7.5
3.9	20.9	5.8	66.6	101	7.5

10-Aug-03

Approximate air temp: 29.4 C

Time: 1415

Vertical Profile taken near Peavy Tail race station

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	22.8	6.5	77.0	103	7.4
0.5	22.4	6.5	76.0	106	7.4
1.0	21.7	6.4	71.0	106	7.4
1.5	19.4	4.7	43.0	106	7.4
2.0	19.3	3.5	38.0	106	7.3
2.5	19.1	3.2	34.0	107	7.3
3.0	19.1	3.0	33.0	107	7.2
3.5	19.1	3.0	33.0	107	7.2
4.0	19.1	3.0	32.0	107	7.2
4.5	19.1	3.0	32.0	107	7.2

10-Aug-03

Approx mate air temp: 29.4 C

Time: 1440

Vertical profile taken on west side of river near station T-1

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	23.2	6.6	79.0	106	7.3
0.5	23.2	6.7	79.0	106	7.3
1.0	23.0	6.6	78.0	106	7.3
1.5	21.7	6.4	73.0	107	7.4
2.0	21.4	6.3	72.0	107	7.3

10-Aug-03

Approximate air temp: 29.4 C

Time: 1510

Vertical profile taken on west side of river near station T-2

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	24.2	6.9	84.0	109	7.4
0.5	23.9	6.8	82.0	106	7.4
1.0	23.0	6.9	81.0	106	7.4
1.5	22.2	6.7	78.0	108	7.3
2.0	21.9	6.4	74.0	108	7.4
2.5	21.7	6.3	72.0	108	7.4
3.0	21.6	6.2	71.0	108	7.4
3.5	21.6	6.0	69.0	107	7.4
3.7	bottom				

10-Aug-03

Approximate air temp: 29.4 C

Time: 1430

Vertical profile taken in Tainter channel

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond (uS/cm)	pH (S.U.)
0.0	23.5	7.4	88.0	106	7.3
0.5	21.9	6.7	76.0	109	7.4
1.0	20.3	4.6	50.0	106	7.3
1.5	19.7	4.1	42.0	107	7.3
2.0	19.4	3.5	38.0	106	7.2
2.5	19.3	3.4	37.0	107	7.2
2.7	bottom				

10-Aug-03

Approx mate air temp: 29.4 C

Time: 1450

Vertical profile taken on east side of river near station T-1

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	23.6	7.0	84.0	108	7.3
0.5	23.6	6.8	81.0	106	7.4
1.0	23.2	6.7	79.0	106	7.3
1.5	22.0	6.5	75.0	106	7.3
2.0	21.2	6.3	72.0	107	7.4
2.4	21.1	6.3	72.0	107	7.3

10-Aug-03

Approximate air temp: 29.4 C

Time: 1520

Vertical profile taken on east side of river near station T-2

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	24.4	6.8	82.0	108	7.3
0.5	24.4	6.7	82.0	108	7.3
1.0	22.6	6.9	81.0	108	7.4
1.5	22.3	6.8	79.0	108	7.4
2.0	22.0	6.6	77.0	108	7.4
2.5	21.7	6.3	72.0	107	7.4
3.0	21.0	6.0	69.0	106	7.4

11-Sep-03

Approximate air temp 26.6C

Vertical profile taken near Tail Race station

Time: 1500
50% overcast

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	19.6	6.3	70.1	119	7.3
0.5	19.6	6.3	69.8	119	7.4
1.0	19.6	6.3	69.2	119	7.4
1.5	19.6	6.2	68.7	119	7.4
2.0	19.6	6.1	68.0	119	7.4

11-Sep-03

Approximate air temp 26.6C

Vertical profile taken in center of river near Station T-1

Time: 1515
50% overcast

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	19.7	6.0	66.5	119	7.3
0.5	19.7	6.0	66.4	119	7.2
1.0	19.7	6.0	66.5	120	7.3
1.5	19.7	6.0	66.3	119	7.3
2.0	19.7	6.0	66.3	119	7.3
2.5	19.7	6.0	66.2	119	7.2

11-Sep-03

Approximate air temp.26 6C

Vertical profile taken in Tainter channel

Time: 1508
50% overcast

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	21.3	7.6	86.4	121	7.4
0.5	21.3	7.5	86.0	120	7.4
1.0	20.4	6.8	76.1	120	7.4
1.5	20.1	6.7	74.0	120	7.4
2.0	20.1	6.7	74.7	120	7.4
2.5	19.7	6.7	73.6	120	7.4

11-Sep-03

Approximate air temp.26 6C

Vertical profile taken in center of river near station T-2

Time: 1520
50% overcast

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	19.8	6.0	66.9	119	7.3
0.5	19.8	6.0	66.8	119	7.2
1.0	19.8	6.0	66.5	119	7.3
1.5	19.8	6.0	66.7	119	7.2
2.0	19.8	6.0	66.4	119	7.2
2.5	19.8	6.0	66.1	119	7.2
3.0	19.8	6.0	66.3	119	7.2
3.5	19.8	6.0	66.4	119	7.2
4.0	19.8	6.0	66.4	119	7.2

28-Aug-03						28-Aug-03					
Approximate air temp:15.5C				*Time: 1045*		*Approximate air temp:15.5C*				*Time: 1105*	
Vertical profile taken near tail race station				*90% clouds Sunny*		*Vertical profile taken in center of river near T-1 station*				*90% clouds Sunny*	
Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)	Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	20.9	6.1	69.7	114	7.4	0.0	21.9	7.2	82.9	114	7.4
0.5	20.9	6.0	68.8	114	7.4	0.5	21.8	7.0	80.6	114	7.4
1.0	20.9	6.0	68.2	114	7.5	1.0	21.6	6.8	78.1	114	7.4
1.5	20.7	4.7	56.2	113	7.3	1.5	21.4	6.6	75.7	113	7.4
2.0	20.4	3.7	42.0	113	7.3	2.0	21.3	6.4	73.8	114	7.4
2.5	20.3	3.4	38.9	113	7.2	2.5	21.2	6.3	72.7	114	7.4
3.0	20.3	3.4	38.4	113	7.2	2.7	bottom				
3.5	20.3	3.4	38.4	113	7.2						
4.0	20.3	3.4	37.7	113	7.2						
4.5	20.3	3.3	36.8	113	7.1						

28-Aug-03						28-Aug-03					
Approximate air temp:15.5C				*Time: 1050*		*Approximate air temp:15.5C*				*Time: 1115*	
Vertical profile taken in Tainter Channel				*90% clouds Sunny*		*Vertical profile taken in center of river near T-2 station*				*90% clouds Sunny*	
Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)	Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	20.9	7.3	83.1	114	7.4	0.0	22.4	7.2	84.0	114	7.4
0.5	20.9	7.0	79.7	114	7.4	0.5	22.4	7.0	82.4	114	7.4
1.0	20.9	6.8	77.0	114	7.4	1.0	22.3	6.9	81.0	114	7.4
1.5	20.8	6.5	78.7	114	7.4	1.5	22.3	6.9	79.9	114	7.5
2.0	20.7	6.6	74.2	114	7.4	2.0	22.2	6.7	78.2	114	7.5
2.5	20.6	4.7	56.6	114	7.3	2.5	22.1	6.6	77.4	114	7.5
3.0	20.6	4.2	46.1	114	7.2	3.0	22.1	6.5	75.3	114	7.4
						3.5	22.1	6.4	75.0	113	7.4
						4.0	22.0	6.4	74.2	114	7.4

25-Sep-03

Approximate air temp 7.2C

Vertical profile taken near Tailrace station

Time: 1414
70% overcast

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	16.2	9.0	92.7	123	7.7
0.5	16.1	8.8	90.6	127	7.7
1.0	16.1	8.7	89.7	123	7.7
1.5	16.1	8.7	89.7	122	7.7
2.0	16.0	8.6	88.6	122	7.7
2.5	15.9	8.6	88.1	123	7.6

25-Sep-03

Approximate air temp:7.2C

Vertical profile taken in the center of river near station T-1

Time: 1430
70% overcast

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	16.0	8.8	90.1	122	7.5
0.5	16.0	8.6	88.7	123	7.5
1.0	16.0	8.4	86.5	122	7.5
1.5	16.0	8.4	86.4	122	7.6
2.0	16.0	8.4	86.4	123	7.5
2.5	16.0	8.4	86.1	122	7.5
3.0	16.0	8.4	86.0	123	7.5

25-Sep-03

Approximate air temp 7.2C

Vertical profile taken in Tainter channel

Time: 1425
70% overcast

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	16.3	8.9	91.7	123	7.6
0.5	16.2	8.8	90.3	123	7.6
1.0	16.0	8.7	89.2	123	7.6
1.5	15.8	8.5	86.9	123	7.6
2.0	15.7	8.5	86.7	123	7.6
2.4	15.8	8.5	86.9	122	7.6

25-Sep-03

Approximate air temp:7.2C

Vertical profile taken in the center of river near station T-2

Time: 1440
70% overcast

Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	16.0	8.3	85.7	122	7.6
0.5	15.9	8.3	85.7	122	7.6
1.0	16.0	8.3	85.2	122	7.5
1.5	16.0	8.3	85.6	122	7.5
2.0	16.0	8.3	85.7	122	7.5
2.5	15.9	8.3	85.7	122	7.5
3.0	15.9	8.3	85.7	122	7.5
3.5	15.9	8.3	85.5	122	7.5
4.0	15.9	8.3	85.3	121	7.5

2-Oct-03					
Approximate air temp 4.4C				*Time: 1040*	
Vertical profile taken near Tailrace Station				*Clear sunny*	
Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	11.8	9.9	93.1	123	7.7
0.5	11.8	9.9	93.0	123	7.7
1.0	11.8	9.9	92.5	123	7.7
1.5	11.8	9.8	92.1	123	7.7
2.0	11.7	9.8	91.7	122	7.7
2.5	11.7	9.8	91.5	122	7.7
3.0	11.6	9.8	91.2	123	7.7
3.5	11.2	9.2	89.4	123	7.7

2-Oct-03					
Approximate air temp 7.2 C				*Time: 1100*	
Vertical profile taken in the center of river near Station T-1				*Clear sunny*	
Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	11.3	9.8	91.9	123	7.6
0.5	11.2	9.8	90.5	123	7.6
1.0	11.2	9.7	89.7	123	7.6
1.5	11.2	9.7	89.2	122	7.6
2.0	11.2	9.6	88.6	122	7.6
2.5	11.1	9.4	86.7	122	7.6
3.0					

2-Oct-03					
Approximate air temp 4.4C				*Time: 1050*	
Vertical profile taken in Tainter channel				*Clear sunny*	
Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	12.0	9.8	91.8	123	7.6
0.5	11.9	9.6	91.5	123	7.6
1.0	11.5	9.7	90.4	123	7.7
1.5	11.3	9.7	89.6	123	7.7
2.0	11.1	9.6	88.0	123	7.6
2.5	10.6	9.6	87.1	123	7.7
3.0	10.5	9.7	87.6	122	7.6
3.5	10.5	9.7	87.9	123	7.6

2-Oct-03					
Approximate air temp 7.2 C				*Time: 1110*	
Vertical profile taken in the center of river near station T-2				*Clear sunny*	
Depth (m)	Temp. (C)	D.O. (mg/l)	D.O. % Saturation	Cond. (uS/cm)	pH (S.U.)
0.0	11.8	9.5	89.1	123	7.6
0.5	11.8	9.5	88.6	123	7.7
1.0	11.8	9.4	88.0	123	7.6
1.5	11.6	9.4	87.5	123	7.6
2.0	11.6	9.4	87.5	123	7.6
2.5	11.6	9.4	87.3	123	7.6
3.0	11.6	9.4	87.3	123	7.6
3.5	11.5	9.3	86.7	123	7.6
3.8	11.6	9.3	86.2	123	7.6