

**DEEP CREEK HYDROELECTRIC STATION
MARYLAND DEPARTMENT of the ENVIRONMENT
WATER APPROPRIATION PERMIT NO. GA92S009 (02)
GARRETT COUNTY, MARYLAND**

ANNUAL REPORT for 1999

January 2000

BY

**SITHE MARYLAND HOLDINGS, LLC
NEW YORK, NY**

**DEEP CREEK HYDROELECTRIC STATION
MDE WATER APPROPRIATION PERMIT NO. GA92S009 (02)
ANNUAL REPORT PER PERMIT for 1999**

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DEEP CREEK HYDROELECTRIC STATION
MDE WATER APPROPRIATION PERMIT NO. GA92S009 (02)
ANNUAL REPORT for 1999

1.0 SUMMARY

Sithe Maryland Holdings LLC (Permittee) holds Water Appropriation Permit GA92S009(02) issued by the Maryland Department of the Environment (Department). Permit GA92S009(02) provides for the continued operation of the Deep Creek Hydroelectric Station previously owned and operated by Pennsylvania Electric Company (Penelec). Operation of the facility under Sithe ownership commenced on November 24, 1999.

Permit Condition 23 of the permit requires the Permittee to submit an annual report to the Department, including data and information as specified in Permit Conditions 15-19 and 21. This report covers operation of Deep Creek Station under both Penelec and Sithe ownership.

1.1 Lake Level Monitoring

Appendix A contains daily water level data and a plot depicting lake levels for 1999. Lake levels exceeded the Upper Rule Band on 40 days during the months of January (1 day), February (19 days), March (11 days) and April (9 days). The most the lake exceeded the Upper Rule Band was 0.4 feet. The lake level last exceeded the Upper Rule Band on April 28.

The Deep Creek area also suffered through severe drought conditions throughout the summer of 1999. The lake level fell below the Lower Rule Band on June 12 and did not

return to levels above the Lower Rule Band until October 12. Lake levels never dropped below the level of one foot below the Lower Rule Band.

1.2 Temperature Monitoring

The Department approved a "Water Temperature Enhancement Plan" designed to maintain river water temperatures below 25°C in the Youghiogheny River on June 8, 1996. In accordance with the Plan, the Permittee monitored water temperature in the Youghiogheny River at the Sang Run Bridge from June 1 through August 31, 1999.

River water temperatures exceeded 25°C on 13 days in 1999. Temperature data collected during 1999 and copies of the daily log sheets for the 13 days are included in Appendix B.

1.3 Minimum Flow Release Monitoring

Low water conditions in the Youghiogheny River required flow bypass releases on 112 days in 1999. A summary is provided in Appendix C. The Permittee operated the flow bypass in accordance to the "Deep Creek Station Flow Bypass Operation Protocol, May 1995". A record of the U.S. Geological Survey data from the Oakland gaging station also is presented in Appendix C.

1.4 Dissolved Oxygen (DO) Monitoring

The Permittee operated the dissolved oxygen enhancement weir during 1999 in accordance with the "Dissolved Oxygen (DO) Enhancement Operations and Monitoring Protocol" approved by the Department on January 6, 1995. Data obtained from monitoring DO in 1999 is included in Appendix D.

The Permittee operated the tailrace weir with all gates open until DO levels fell below 6.0 mg/l. This occurred on July 23 when the Permittee measured DO levels of 5.89 mg/l. As a result of the low reading, the Permittee operated the weir with two sluice gates closed and two open about one foot. No other DO measurements were below 6.0 mg/l.

1.5 Releases Unsuitable for Whitewater Recreation

Permit Condition 19 requires Permittee to document the "times and dates when generation releases not suitable for whitewater recreation occurred." Such times and dates are presented in Appendix E.

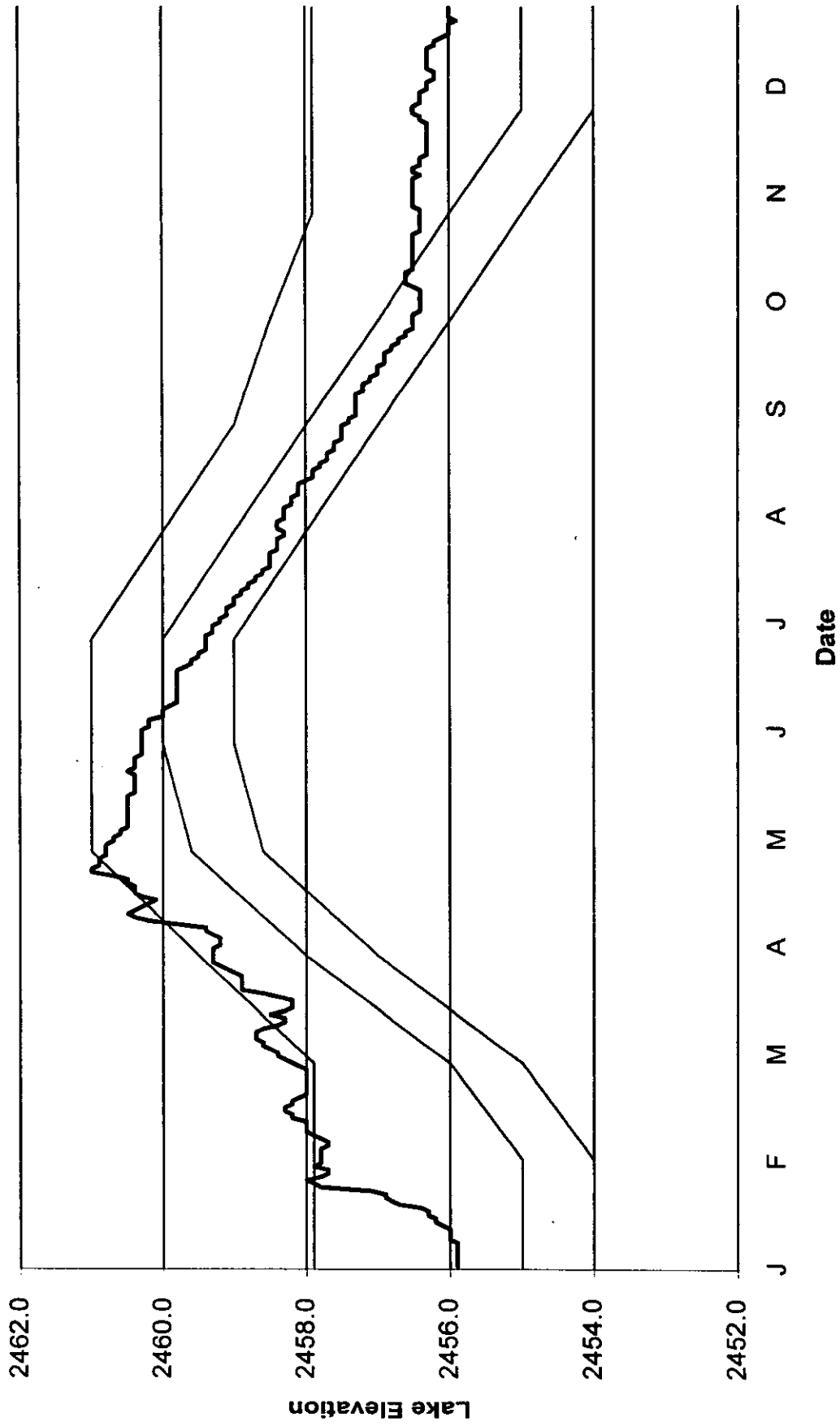
1.6 Zebra Mussel Monitoring

Artificial substrates placed at the station intake area during 1999 showed no signs of the zebra mussel infestation.

APPENDIX A

LAKE LEVEL DATA AND PLOT

Deep Creek Lake Levels and Rule Bands - 1999



Deep Creek Lake Level 1999

Month	Day	Lake Level	Rain Fall	Month	Day	Lake Level	Rain Fall	Month	Day	Lake Level	Rain Fall
Jan	1	2455.9	0.32	Feb	1	2457.8	0.47	Mar	1	2458.2	0.72
	2	2455.9	0.60		2	2457.8	0.07		2	2458.3	0.00
	3	2455.9	0.02		3	2457.8	0.05		3	2458.4	0.75
	4	2455.9	0.03		4	2457.8	0.25		4	2458.4	0.80
	5	2455.9	0.00		5	2457.7	0.00		5	2458.5	0.05
	6	2455.9	0.20		6	2457.7	0.45		6	2458.6	0.62
	7	2455.9	0.30		7	2457.8	1.13		7	2458.6	0.00
	8	2455.9	0.70		8	2457.9	0.32		8	2458.7	0.00
	9	2456.0	1.15		9	2458.0	0.00		9	2458.7	1.05
	10	2456.0	0.03		10	2458.0	0.00		10	2458.7	0.05
	11	2456.0	0.07		11	2458.0	0.07		11	2458.6	0.00
	12	2456.0	0.05		12	2458.0	0.21		12	2458.4	0.00
	13	2456.1	0.22		13	2458.2	0.07		13	2458.3	0.03
	14	2456.2	0.70		14	2458.2	0.00		14	2458.3	1.22
	15	2456.2	0.45		15	2458.3	0.00		15	2458.5	0.02
	16	2456.3	0.13		16	2458.3	0.00		16	2458.3	0.00
	17	2456.3	0.00		17	2458.2	0.07		17	2458.2	0.00
	18	2456.4	0.50		18	2458.2	0.00		18	2458.2	0.00
	19	2456.7	0.05		19	2458.1	0.04		19	2458.2	0.00
	20	2456.8	0.20		20	2458.0	0.03		20	2458.4	0.00
	21	2456.9	0.17		21	2458.0	0.05		21	2458.6	0.68
	22	2456.9	0.05		22	2458.0	0.00		22	2458.9	0.07
	23	2457.1	0.40		23	2458.0	0.00		23	2458.9	0.00
	24	2457.8	0.38		24	2458.0	0.00		24	2458.9	0.08
	25	2457.9	0.27		25	2458.0	0.10		25	2458.9	0.00
	26	2458.0	0.00		26	2458.0	0.00		26	2458.9	0.00
	27	2457.8	0.00		27	2458.0	0.90		27	2459.0	0.00
	28	2457.7	0.12		28	2458.1	0.10		28	2459.1	0.00
	29	2457.7	0.00						29	2459.2	0.00
	30	2457.9	0.00						30	2459.3	0.00
	31	2457.8	0.00						31	2459.3	0.00
Total		7.11					4.38				6.14

Deep Creek Lake Level 1999

Month	Day	Lake Level	Rain Fall	Month	Day	Lake Level	Rain Fall	Month	Day	Lake Level	Rain Fall
Apr	1	2459.3	0.12	May	1	2460.8	0.00	Jun	1	2460.3	0.00
	2	2459.3	0.03		2	2460.8	0.00		2	2460.3	0.73
	3	2459.3	0.05		3	2460.8	0.00		3	2460.3	0.00
	4	2459.2	0.20		4	2460.7	0.00		4	2460.3	0.00
	5	2459.2	0.12		5	2460.7	0.02		5	2460.3	0.00
	6	2459.2	0.05		6	2460.6	0.00		6	2460.2	0.00
	7	2459.3	0.00		7	2460.6	0.00		7	2460.2	0.00
	8	2459.4	0.00		8	2460.5	0.12		8	2460.2	0.00
	9	2459.4	1.82		9	2460.5	0.00		9	2460.0	0.00
	10	2459.8	0.06		10	2460.5	0.00		10	2460.0	0.00
	11	2460.2	0.65		11	2460.5	0.00		11	2460.0	0.00
	12	2460.4	0.53		12	2460.5	0.00		12	2459.9	0.00
	13	2460.5	0.00		13	2460.5	0.22		13	2459.8	0.00
	14	2460.4	0.00		14	2460.5	0.00		14	2459.8	0.50
	15	2460.3	0.47		15	2460.5	0.00		15	2459.8	0.00
	16	2460.2	0.17		16	2460.5	0.00		16	2459.8	0.05
	17	2460.1	0.20		17	2460.5	0.00		17	2459.8	0.60
	18	2460.3	0.55		18	2460.4	0.35		18	2459.8	0.00
	19	2460.4	0.35		19	2460.4	0.15		19	2459.8	0.00
	20	2460.4	0.22		20	2460.4	0.00		20	2459.8	0.00
	21	2460.4	0.25		21	2460.4	0.00		21	2459.8	0.00
	22	2460.5	0.00		22	2460.4	0.97		22	2459.8	0.00
	23	2460.5	1.03		23	2460.4	0.10		23	2459.7	0.00
	24	2460.7	0.00		24	2460.5	0.35		24	2459.6	0.00
	25	2461.0	0.00		25	2460.4	0.00		25	2459.6	0.00
	26	2461.0	0.00		26	2460.4	0.00		26	2459.5	0.00
	27	2460.9	0.00		27	2460.4	0.00		27	2459.5	0.05
	28	2460.9	0.00		28	2460.4	0.00		28	2459.4	0.25
	29	2460.9	0.00		29	2460.3	0.00		29	2459.4	0.70
	30	2460.8	0.00		30	2460.3	0.00		30	2459.4	0.00
		6.87				2.28				2.88	
Total											

Deep Creek Lake Level 1999

Month	Day	Lake Level	Rain Fall	Month	Day	Lake Level	Rain Fall	Month	Day	Lake Level	Rain Fall
Jul	1	2459.4	0.40	Aug	1	2458.3	1.22	Sep	1	2457.5	0.00
	2	2459.4	0.10		2	2458.4	0.00		2	2457.4	0.00
	3	2459.3	0.00		3	2458.4	0.00		3	2457.4	0.00
	4	2459.3	0.00		4	2458.4	0.00		4	2457.3	0.20
	5	2459.3	0.00		5	2458.3	0.05		5	2457.3	0.22
	6	2459.2	0.00		6	2458.3	0.00		6	2457.3	0.45
	7	2459.2	0.00		7	2458.3	0.00		7	2457.3	0.00
	8	2459.1	0.00		8	2458.3	0.35		8	2457.3	0.00
	9	2459.1	0.00		9	2458.2	0.00		9	2457.3	0.00
	10	2459.1	0.65		10	2458.2	0.00		10	2457.3	0.00
	11	2459.0	0.00		11	2458.2	0.00		11	2457.2	0.00
	12	2459.0	0.00		12	2458.1	0.00		12	2457.2	0.00
	13	2459.0	0.00		13	2458.1	0.00		13	2457.2	0.00
	14	2458.9	0.00		14	2458.1	0.00		14	2457.1	0.02
	15	2458.9	0.00		15	2458.1	0.00		15	2457.1	0.00
	16	2458.8	0.00		16	2458.0	0.00		16	2457.0	0.90
	17	2458.8	0.00		17	2457.9	0.00		17	2457.0	0.00
	18	2458.7	0.00		18	2457.9	0.00		18	2457.0	0.00
	19	2458.7	0.00		19	2457.9	0.00		19	2456.9	0.00
	20	2458.6	0.00		20	2457.8	0.00		20	2456.9	0.12
	21	2458.6	0.00		21	2457.8	0.00		21	2456.9	0.14
	22	2458.5	0.17		22	2457.7	0.00		22	2456.9	0.00
	23	2458.5	0.00		23	2457.7	0.00		23	2456.8	0.00
	24	2458.5	1.52		24	2457.7	0.02		24	2456.8	0.00
	25	2458.5	0.00		25	2457.6	0.25		25	2456.7	0.00
	26	2458.5	0.00		26	2457.6	0.15		26	2456.7	0.00
	27	2458.4	0.00		27	2457.6	0.16		27	2456.6	0.03
	28	2458.4	1.45		28	2457.5	0.00		28	2456.6	0.07
	29	2458.4	0.80		29	2457.5	0.00		29	2456.5	0.92
	30	2458.4	0.00		30	2457.5	0.00		30	2456.5	0.10
	31	2458.3	0.00		31	2457.5	0.00				
Total			5.09				2.2				3.17

Deep Creek Lake Level 1999

Month	Day	Lake Level	Rain Fall	Month	Day	Lake Level	Rain Fall	Month	Day	Lake Level	Rain Fall	Month	Day	Lake Level	Rain Fall	
Oct	1	2456.5	0.00	Nov	1	2456.4	0.00	Dec	1	2456.5	0.00	Year Total				
	2	2456.5	0.00		2	2456.4	2.15		2	2456.5	0.00		2	2456.5	0.00	2.83
	3	2456.5	0.00		3	2456.5	0.15		3	2456.4	0.00		3	2456.4	0.00	51.89
	4	2456.4	0.56		4	2456.5	0.00		4	2456.4	0.27		4	2456.4	0.05	
	5	2456.4	0.00		5	2456.5	0.00		5	2456.4	0.05		5	2456.4	0.05	
	6	2456.4	0.00		6	2456.5	0.00		6	2456.4	0.05		6	2456.4	0.05	
	7	2456.4	0.00		7	2456.5	0.00		7	2456.3	0.05		7	2456.3	0.05	
	8	2456.4	0.00		8	2456.5	0.00		8	2456.3	0.00		8	2456.3	0.00	
	9	2456.4	0.50		9	2456.5	0.00		9	2456.3	0.00		9	2456.3	0.00	
	10	2456.4	1.37		10	2456.5	0.10		10	2456.2	0.82		10	2456.2	0.82	
	11	2456.5	0.07		11	2456.5	0.00		11	2456.2	0.02		11	2456.2	0.02	
	12	2456.6	0.00		12	2456.4	0.00		12	2456.2	0.00		12	2456.2	0.00	
	13	2456.6	0.20		13	2456.5	0.00		13	2456.3	0.27		13	2456.3	0.27	
	14	2456.6	0.05		14	2456.5	0.00		14	2456.3	0.67		14	2456.3	0.67	
	15	2456.6	0.00		15	2456.4	0.00		15	2456.3	0.00		15	2456.3	0.00	
	16	2456.5	0.00		16	2456.4	0.25		16	2456.3	0.05		16	2456.3	0.05	
	17	2456.5	0.00		17	2456.4	0.00		17	2456.3	0.00		17	2456.3	0.00	
	18	2456.5	0.00		18	2456.3	0.00		18	2456.3	0.00		18	2456.3	0.00	
	19	2456.5	0.12		19	2456.3	0.00		19	2456.3	0.00		19	2456.3	0.00	
	20	2456.5	0.10		20	2456.3	0.40		20	2456.2	0.06		20	2456.2	0.06	
	21	2456.5	0.00		21	2456.3	0.00		21	2456.2	0.05		21	2456.2	0.05	
	22	2456.5	0.00		22	2456.3	0.27		22	2456.1	0.00		22	2456.1	0.00	
	23	2456.5	0.68		23	2456.3	0.00		23	2456.0	0.00		23	2456.0	0.00	
	24	2456.5	0.00		24	2456.3	0.13		24	2456.0	0.00		24	2456.0	0.00	
	25	2456.5	0.00		25	2456.3	0.82		25	2456.0	0.02		25	2456.0	0.02	
	26	2456.5	0.00		26	2456.3	0.87		26	2456.0	0.10		26	2456.0	0.10	
	27	2456.4	0.00		27	2456.3	0.00		27	2455.9	0.11		27	2455.9	0.11	
	28	2456.4	0.00		28	2456.4	0.00		28	2456.0	0.16		28	2456.0	0.16	
	29	2456.4	0.00		29	2456.4	0.05		29	2456.0	0.08		29	2456.0	0.08	
	30	2456.4	0.00		30	2456.5	0.10		30	2456.0	0.00		30	2456.0	0.00	
	31	2456.4	0.00		31	2456.5	0.10		31	2456.0	0.00		31	2456.0	0.00	
Total			3.65				5.29					Year Total			2.83	51.89

APPENDIX B

TEMPERATURE MONITORING AND RELEASE REPORTS

MAXIMUM DAILY RIVER WATER TEMPERATURES

Daily maximum river water temperatures in the Youghiogheny River at Sang Run are presented on the following table. The data were collated and provided by Versar, Inc., consultant to the MDNR Power Plant Assessment Division (PPAD).

The column labeled "SMAX" lists the arithmetic means of the daily maximum water temperatures, in degrees C, measured by two "Tempmentors" placed in the river by the MDNR. The column labeled "PenMAX" lists the maximum water temperatures, in degrees C, measured by the Permittee's temperature monitor at the Sang Run Bridge. PPAD and Versar analyze the data to evaluate the Water Temperature Enhancement Plan used by the Permittee to determine the need and timing of daily temperature releases.

Temperatures at Sang Run exceeded 25°C on 13 days during 1999. Copies of the temperature enhancement data sheets for the 13 days are enclosed. Days when temperatures exceeded 25 C are summarized in the following table.

**Deep Creek Station
Youghiogheny River Temperature Data - 1999**

<u>June</u>	<u>Smax</u>	<u>PenSmax</u>	<u>July</u>	<u>Smax</u>	<u>PenSmax</u>	<u>August</u>	<u>Smax</u>	<u>PenSmax</u>
1	21.6	19.7	1	25.0	25.3	1	23.0	23.3
2	23.6	23.1	2	21.9	22.6	2	24.3	24.5
3	18.6	18.9	3	22.8	23.4	3	25.7	25.8
4	20.1	20.9	4	24.9	24.5	4	25.9	26.2
5	21.5	20.4	5	25.8	25.4	5	24.0	24.9
6	24.7	25.0	6	24.8	24.8	6	22.2	23.3
7	19.5	19.5	7	24.7	24.4	7	24.4	24.8
8	22.9	22.7	8	24.7	25.3	8	20.8	21.5
9	26.0	25.3	9	22.3	23.0	9	24.2	25.0
10	25.7	24.9	10	21.4	21.7	10	20.8	20.9
11	22.6	23.4	11	25.2	25.7	11	23.7	24.7
12	22.5	22.9	12	19.8	20.6	12	25.9	26.1
13	22.9	23.4	13	23.6	24.0	13	23.1	23.8
14	20.4	20.6	14	21.9	22.9	14	24.1	24.5
15	21.3	21.9	15	25.2	25.6	15	19.4	19.8
16	17.4	18.1	16	22.6	23.4	16	25.3	26.0
17	17.6	17.7	17	22.9	22.3	17	23.5	22.8
18	18.6	19.1	18	25.3	25.5	18	22.1	22.5
19	21.5	22.0	19	21.8	22.4	19	24.1	24.7
20	22.6	23.2	20	24.2	25.0	20	21.3	22.1
21	22.6	23.3	21	23.1	22.9	21	20.9	21.4
22	22.8	23.3	22	21.9	22.4	22	23.3	24.3
23	25.2	25.8	23	23.4	24.2	23	23.2	23.5
24	23.9	24.4	24	23.9	24.6	24	22.8	23.2
25	21.5	22.3	25	22.9	23.7	25	19.2	20.0
26	23.8	23.3	26	23.5	23.6	26	21.3	21.9
27	24.4	23.6	27	26.5	26.9	27	20.0	20.6
28	23.1	23.7	28	21.7	21.9	28	23.7	24.5
29	21.6	21.9	29	24.4	24.9	29	22.8	24.1
30	24.3	24.8	30	23.5	24.5	30	21.7	22.8
			31	25.0	24.5	31	22.1	22.1

Summary of Temperatures Exceeding 25 C

Date	Start Time	Duration	Max Temp (C)
June 9	1440	Instantaneous	25.3
June 23	1700	2 h, 30minutes	25.8
July 1	1700	2 h, 20 m	25.3
July 5	1250	10 m	25.4
July 8	1740	20 m	25.3
July 11	1700	2 h, 30 m	25.7
July 15	1650	2 h, 50 m	25.6
July 18	1530	40 m	25.5
July 27	1440	1 h, 30 m	26.9
Aug 3	1530	40 m	25.8
Aug 4	1530	2 h	26.2
Aug 12	1550	1 h, 30 m	26.1
Aug 16	1630	3 h, 20 m	26.0

Youghiogheny River Water Temperature Enhancement Plan

09-Jun-99

21.0 = CFS River Flow at Oakland

Time	Oakland Flow CFS	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	> 30 < =30	24.90 24.54	Check again at 0900 Check again at 0900
0900	> 30 < =30	24.79 24.43	Check again at 1100 Check again at 1100
1100	All	26.52	Release at 1230 for 2 hours
1200	All	4.29	No further predictions necessary today
1400	All	6.82	No further predictions necessary today
1500	All	4.63	No further predictions necessary today

Youghiogeny River Water Temperature Enhancement Plan

23-Jun-99

11.0 = CFS River Flow at Oakland

Time	Oakland Flow CFS	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	> 30	24.07	Check again at 0900
	< = 30	23.31	Check again at 0900
0900	> 30	23.26	Check again at 1100
	< = 30	22.50	No further predictions necessary today
1100	All	23.30	Check again at 1200
1200	All	23.65	Check again at 1400
1400	All	24.12	Check again at 1500
1500	All	25.06	No further predictions necessary today

Youghiogeny River Water Temperature Enhancement Plan

01-Jul-99

21.0 = CFS River Flow at Oakland

Time	Oakland Flow CFS	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	> 30	23.41	Check again at 0900
	< = 30	23.05	Check again at 0900
0900	> 30	23.27	Check again at 1100
	< = 30	22.91	No further predictions necessary today
1100	All	-3.86	No further predictions necessary today
1200	All	1.84	No further predictions necessary today
1400	All	6.08	No further predictions necessary today
1500	All	4.28	No further predictions necessary today

Youghiogheny River Water Temperature Enhancement Plan

05-Jul-99

14.0 = CFS River Flow at Oakland

Time	Oakland Flow CFS	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	> 30	27.68	Release at 1100 for 2 hours
	< =30	27.04	Release at 1100 for 2 hours
0900	> 30	2.01	No further predictions necessary today
	< =30	1.37	No further predictions necessary today
1100	All	13.57	No further predictions necessary today
1200	All	12.03	No further predictions necessary today
1400	All	7.05	No further predictions necessary today
1500	All	4.74	No further predictions necessary today

Youghiogheny River Water Temperature Enhancement Plan

08-Jul-99

32.0 = CFS River Flow at Oakland

Time	Oakland Flow CFS	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	> 30 < = 30	24.11 24.19	Check again at 0900 Check again at 0900
0900	> 30 < = 30	23.50 23.59	Check again at 1100 Check again at 1100
1100	All	24.25	Check again at 1200
1200	All	24.23	Check again at 1400
1400	All	24.62	Check again at 1500
1500	All	24.83	No further predictions necessary today

Youghiogheny River Water Temperature Enhancement Plan

11-Jul-99

14.0 = CFS River Flow at Oakland

Time	Oakland Flow CFS	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	> 30	22.09	No further predictions necessary today
	< =30	21.45	No further predictions necessary today
0900	> 30	21.35	No further predictions necessary today
	< =30	20.71	No further predictions necessary today
1100	All	-1.42	No further predictions necessary today
1200	All	3.03	No further predictions necessary today
1400	All	5.91	No further predictions necessary today
1500	All	4.20	No further predictions necessary today

Youghiogeny River Water Temperature Enhancement Plan

15-Jul-99

32.0 = CFS River Flow at Oakland

Time	Oakland Flow CFS	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	> 30 < = 30	23.33 23.41	Check again at 0900 Check again at 0900
0900	> 30 < = 30	22.77 22.85	No further predictions necessary today No further predictions necessary today
1100	All	23.79	Check again at 1200
1200	All	24.24	Check again at 1400
1400	All	23.99	Check again at 1500
1500	All	24.33	No further predictions necessary today

Youghiogheny River Water Temperature Enhancement Plan

18-Jul-99

20.0 = CFS River Flow at Oakland

Time	Oakland Flow CFS	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	> 30 < = 30	18.73 18.33	No further predictions necessary today No further predictions necessary today
0900	> 30 < = 30	38.76 38.36	Release at 1100 for 2 hours Release at 1100 for 2 hours
1100	All	24.30	Check again at 1200
1200	All	24.25	Check again at 1400
1400	All	25.26	Release ASAP - not later than 1430 for 1 hour
1500	All	-1.83	No further predictions necessary today

Youghiogheny River Water Temperature Enhancement Plan

27-Jul-99

12.0 = CFS River Flow at Oakland

Time	Oakland Flow CFS	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	> 30 < =30	25.64 24.92	Check again at 0900 Check again at 0900
0900	> 30 < =30	25.40 24.68	Check again at 1100 Check again at 1100
1100	All	24.66	Check again at 1200
1200	All	24.51	Check again at 1400
1400	All	26.25	Release ASAP - not later than 1430 for 1 hour
1500	All	-2.19	No further predictions necessary today

Youghiogeny River Water Temperature Enhancement Plan

03-Aug-99

42.0 = CFS River Flow at Oakland

Time	Oakland Flow CFS	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	> 30 < =30	23.22 23.70	Check again at 0900 Check again at 0900
0900	> 30 < =30	22.52 23.00	No further predictions necessary today No further predictions necessary today
1100	All	23.69	Check again at 1200
1200	All	23.41	Check again at 1400
1400	All	25.85	Release ASAP - not later than 1430 for 1 hour
1500	All	-1.75	No further predictions necessary today

Youghiogheny River Water Temperature Enhancement Plan

04-Aug-99

45.0 = CFS River Flow at Oakland

Time	Oakland Flow CFS	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	> 30 < = 30	22.97 23.57	No further predictions necessary today Check again at 0900
0900	> 30 < = 30	22.61 23.21	No further predictions necessary today Check again at 1100
1100	All	23.89	Check again at 1200
1200	All	24.20	Check again at 1400
1400	All	24.64	Check again at 1500
1500	All	25.68	Release ASAP - not later than 1530 for 1 hour

Youghiogeny River Water Temperature Enhancement Plan

12-Aug-99

10.0 = CFS River Flow at Oakland

Time	Oakland Flow CFS	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	> 30	24.97	Check again at 0900
	< = 30	24.17	Check again at 0900
0900	> 30	23.80	Check again at 1100
	< = 30	23.00	Check again at 1100
1100	All	24.06	Check again at 1200
1200	All	24.07	Check again at 1400
1400	All	24.87	Check again at 1500
1500	All	25.27	Release ASAP - not later than 1530 for 1 hour

Youghiogheny River Water Temperature Enhancement Plan

16-Aug-99

UA = CFS River Flow at Oakland

Time	Oakland Flow CFS	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	> 30	24.80	Check again at 0900
	< =30	23.60	Check again at 0900
0900	> 30	24.46	Check again at 1100
	< =30	23.26	Check again at 1100
1100	All	24.14	Check again at 1200
1200	All	24.22	Check again at 1400
1400	All	24.02	Check again at 1500
1500	All	24.30	No further predictions necessary today

APPENDIX C

FLOW BYPASS OPERATION RECORD

FLOW BYPASS OPERATION

The flow bypass protocol requires the Permittee to maintain a minimum flow of 40 cfs in the Youghiogheny River immediately downstream of the tailrace. Starting June 1 and continuing through November 30, the Permittee monitors the river flows at the Oakland gage. When flows at the Oakland gage fall below 26 cfs, the Permittee opens a bypass valve to release enough water to maintain 40 cfs in the river immediately below the tailrace.

Table 1 summarizes flow bypass data for June through November 1999, when flows in the Youghiogheny River were less than 26 cfs. Flow data were obtained from the USGS recording at the Oakland gage, direct readings from the USGS Oakland gage or from the tailrace gage at the station per guidance provided in the protocol. Valve opening was determined from Table 3 of the protocol based on station operating status.

Data from the USGS gaging station at Oakland also are provided. Data for the period of October 1, 1999 through the end of the year are provisional data. USGS data represent daily mean flows and may not agree with instantaneous data collected by the Permittee throughout the year.

**Deep Creek Station
Flow Bypass Operation - 1999**

			Bypass Operation	
Month	Day	Flow at Oakland	Bypass Flow	% Open
June	7	24	0	CLOSED
June	8	21	0	CLOSED
June	9	21	0	CLOSED
June	10	19	2	22
June	11	17	5	26
June	12	16	6	27
June	13	14	9	32
June	14	14	9	32
June	15	14	9	32
June	16	17	5	26
June	17	16	6	27
June	19	25	0	CLOSED
June	20	17	5	26
June	21	14	9	32
June	22	14	9	32
June	23	11	14	39
June	24	10	15	40
June	25	10	15	40
June	26	5.8	23	51
June	27	5.8	23	51
June	28	10	15	40
June	29	11	14	39
June	30	23	0	CLOSED
July	1	21	0	CLOSED
July	2	25	0	CLOSED
July	5	14	9	32
July	6	14	9	32
July	7	11	14	39
July	8	5.3	23	51
July	9	4.9	25	54
July	10	5.3	23	51
July	11	14	9	32
July	12	13	11	35
July	13	6.4	21	48

**Deep Creek Station
Flow Bypass Operation - 1999**

			Bypass Operation	
Month	Day	Flow at Oakland	Bypass Flow	% Open
July	14	5.8	23	51
July	15	5.3	23	51
July	16	4.9	25	54
July	17	5.3	23	51
July	18	20	0	CLOSED
July	19	16	6	27
July	20	11	14	39
July	21	11	14	39
July	22	13	11	35
July	23	12	12	36
July	27	12	12	36
July	28	10	15	40
Aug	1	21	0	CLOSED
Aug	5	20	0	CLOSED
Aug	6	13	11	35
Aug	7	11	14	39
Aug	8	11	14	39
Aug	9	13	11	35
Aug	10	21	0	CLOSED
Aug	11	13	11	35
Aug	12	10	15	40
Aug	13	10	15	40
Aug	14	6.4	21	48
Aug	16	4.9	25	54
Aug	17	4.4	25	54
Aug	18	3.3	26	55
Aug	20	10	15	40
Aug	21	3.3	26	55
Aug	22	4	25	54
Aug	23	4.9	25	54
Aug	24	4.4	25	54
Aug	25	5.3	23	51
Aug	26	13	11	35
Aug	27	12	12	36

**Deep Creek Station
Flow Bypass Operation - 1999**

			Bypass Operation	
Month	Day	Flow at Oakland	Bypass Flow	% Open
Aug	28	10	15	40
Aug	29	12	12	36
Aug	30	10	15	40
Aug	31	4	25	54
Sept	1	0	21	48
Sept	2	2.9	28	60
Sept	3	2.9	28	60
Sept	4	0	31	64
Sept	5	24	0	CLOSED
Sept	9	24	0	CLOSED
Sept	10	14	9	32
Sept	11	10	15	40
Sept	12	4.9	25	54
Sept	13	4.4	25	54
Sept	14	4	25	54
Sept	15	3.6	26	55
Sept	16	3.3	26	55
Sept	17	5.3	23	51
Sept	18	4.9	25	54
Sept	19	5.8	23	51
Sept	20	4.9	25	54
Sept	21	5.8	23	51
Sept	22	5.3	23	51
Sept	23	5.3	23	51
Sept	24	5.3	23	51
Sept	25	5.8	23	51
Sept	26	10	15	40
Sept	27	2.6	23	60
Sept	28	5.8	23	51
Sept	29	11	14	39
Sept	30	25	0	CLOSED
Oct	3	17	5	26
Oct	9	23	0	CLOSED
Oct	18	23	0	CLOSED

**Deep Creek Station
Flow Bypass Operation - 1999**

			Bypass Operation	
Month	Day	Flow at Oakland	Bypass Flow	% Open
Oct	19	21	0	CLOSED
Oct	20	21	0	CLOSED
Oct	21	23	0	CLOSED
Oct	22	25	0	CLOSED
Oct	23	24	0	CLOSED
Oct	24	24	0	CLOSED
Oct	30	21	0	CLOSED
Oct	31	20	0	CLOSED
Nov	1	19	2	22
Nov	2	19	2	22

PRIMARY COMPUTATIONS OF GAGE HEIGHT AND DISCHARGE RATINGS USED

DATE PROCESSED: 01-25-2000 @ 10:28 BY Jeffries STNRD 18.0 03/18/1999 (2315)

03075500 YOUNGBLOCHNEY R RR OAKLAND, MD TEST DIFF: ***** PUNCH INTERVAL: 60 MIN

OUTPUT PARAMETER 00060 . STORE STATISTIC(S) 00003

PROVISIONAL DATA FOR WATER YEAR ENDING SECT. 30, 2000 INPUT DD: SAT-CMT

DATE	MAX /DISCH <TIME>	MIN /DISCH <TIME>	MEAN CH	MEAN DISCH	SHIFT ADJ	STAGE, IN HUNDRETHS OF FEET, AT INDICATED HOURS	TEST DIFF	PUNCH INTERVAL
10/31/1999	54 2.16	31 2.02	2.09	42	0.00W	0100 216 216 215 214 213 212 211 211 211 210 209	*****	60 MIN
10/02/1999	<0000>	<2100>		25	0.00W	0200 208 207 207 206 205 204 203 203 203 202 202		
10/03/1999	31 2.02	22 1.92	1.96	21	0.00W	0300 195 195 195 194 194 193 193 192 192 192 192		
10/04/1999	<0000>	<2100>		32	0.00W	0400 192 191 191 191 191 191 191 191 191 191 191		
10/05/1999	87 2.31	46 2.12	2.23	69	0.00W	0500 192 191 191 192 194 194 195 198 199 200 200		
10/06/1999	<1200>	<0300>		50	0.00W	0600 202 203 206 206 207 210 211 212 212 212 213 213		
10/07/1999	66 2.22	38 2.07	2.14	32	0.00W	0700 222 221 220 219 219 218 216 216 215 215 214		
10/08/1999	<0000>	<2300>		26	0.00W	0800 213 212 211 211 211 210 210 209 208 208 207 207		
10/09/1999	38 2.07	28 1.99	2.03	24	0.00W	0900 207 206 206 206 206 205 204 204 204 204 203 203		
10/10/1999	<0000>	<2000>		213	0.00W	1000 203 202 202 202 201 200 200 199 199 199 199		
10/11/1999	28 1.99	25 1.96	1.97	200	0.00W	1100 199 199 199 199 199 199 198 198 198 198 198		
10/12/1999	<0000>	<1600>		24	0.00W	1200 197 197 197 196 196 196 196 196 196 196 196		
10/13/1999	28 1.99	23 1.94	1.95	213	0.00W	1300 196 196 195 195 195 195 194 194 194 194 194		
10/14/1999	<2400>	<0700>		200	0.00W	1400 194 194 194 194 195 195 195 195 195 196 196		
10/15/1999	393 3.07	28 1.99	2.62	200	0.00W	1500 202 202 212 212 223 229 232 234 241 247 253 268		
10/11/1999	337 2.97	243 2.43	2.66	200	0.00W	1600 284 287 294 297 300 306 306 307 305 303 300 297		
10/12/1999	<0000>	<2400>		96	0.00W	1700 295 292 288 285 282 279 276 273 271 268 266 263		
10/13/1999	118 2.43	64 2.21	2.30	51	0.00W	1800 261 259 257 255 253 251 250 248 247 245 244 243		
10/14/1999	<0000>	<2400>		50	0.00W	1900 242 240 239 238 237 236 235 234 233 232 231 230		
10/15/1999	54 2.16	45 2.11	2.15	44	0.00W	2000 229 227 226 226 225 214 223 223 223 222 221 221		
	<0000>	<1800>		50	0.00W	2100 220 220 219 219 218 216 216 215 215 214 214 214		
	54 2.16	45 2.11	2.14	50	0.00W	2200 213 213 213 212 212 211 211 211 211 211 211 212		
	<1300>	<0100>		44	0.00W	2300 211 211 211 211 211 211 211 211 211 211 211 211		
	50 2.14	36 2.06	2.11	44	0.00W	2400 216 216 216 216 216 216 216 216 215 215 215 214		
	<0000>	<2400>		44	0.00W	2500 214 214 214 214 214 214 214 214 213 213 212 211		
	50 2.14	36 2.06	2.11	44	0.00W	2600 211 210 209 209 208 208 207 207 207 207 207 206		
	<0000>	<2400>		44	0.00W	2700 211 210 209 209 208 208 207 207 207 207 207 206		

Provisional

10
5

DATE	MAX GH	MIN GH	MEAN	MEAN	MEAN	SHIFT	STAGES	STAGES	STAGES	STAGES	STAGES							
-----	/DISCH	/DISCH	/DISCH	GH	DISCH	ADJ	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200
-----	<TIME>	<TIME>	<TIME>	GH	DISCH		1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400
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	23	22					194	193	193	193	193	193	193	193	193	193	193	193
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11/01/1999	1.95	1.93	1.94	1.94	23	0.00W	193	193	193	193	194	194	194	194	194	194	195	195
	24	22					193	194	194	194	194	193	193	193	193	193	193	193
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11/02/1999	3.59	1.93	2.21	2.21	105	0.00W	193	193	193	193	193	193	193	195	195	195	195	195
	791	22					196	196	201	223	232	236	251	260	270	300	339	359
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	952	353					334	331	327	323	319	316	313	310	308	305	303	300
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11/04/1999	3.00	2.69	1.79	1.79	249	0.00W	297	294	292	289	287	285	284	281	280	278	277	276
	353	207					274	273	272	271	270	269	269	269	269	270	272	272
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11/05/1999	2.73	2.61	1.66	1.66	197	0.00W	273	273	273	272	271	270	269	269	268	268	267	266
	224	177					265	264	263	263	262	261	261	261	261	262	262	262
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11/06/1999	2.63	2.55	2.60	2.60	174	0.00W	263	263	263	263	263	263	263	263	263	262	262	261
	184	155					261	260	260	259	259	258	257	257	256	255	255	255
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11/07/1999	2.55	2.43	2.48	2.48	134	0.00W	254	253	253	252	252	251	251	251	250	249	249	248
	155	118					248	247	247	246	245	245	244	244	244	243	243	243
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11/08/1999	2.43	2.35	2.38	2.38	105	0.00W	242	242	241	241	240	240	240	240	239	239	239	238
	118	97					238	237	237	237	236	236	236	236	235	235	235	235
	<0000>	<2100>																
11/09/1999	2.35	2.28	2.31	2.31	88	0.00W	235	234	234	234	233	233	233	233	232	232	232	232
	97	80					232	231	231	230	230	229	229	229	229	228	228	228
	<0000>	<2200>																
11/10/1999	2.28	2.24	2.26	2.26	75	0.00W	228	228	228	228	228	227	227	227	227	227	227	227
	80	70					226	226	225	225	225	224	224	224	224	224	224	224
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11/11/1999	2.24	2.22	2.24	2.24	70	0.00W	224	224	224	224	224	224	224	224	224	224	224	224
	70	66					224	224	224	224	224	224	223	223	223	223	222	222
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11/12/1999	2.22	2.17	2.19	2.19	60	0.00W	222	221	221	220	220	220	220	220	220	220	220	220
	66	56					220	220	219	218	218	217	217	217	217	217	217	217
	<0000>	<1800>																
11/13/1999	2.17	2.15	2.16	2.16	54	0.00W	217	217	217	217	217	216	216	216	216	216	216	216
	56	52					216	216	216	216	215	215	215	215	215	215	215	215
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11/14/1999	2.15	2.12	2.13	2.13	49	0.00W	215	215	215	215	215	214	214	214	214	214	214	213
	52	46					213	213	212	212	212	212	212	212	212	212	212	212
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Provisional

Provisional

03075100 YOUNGBOGHEBY R MR OAKLAND, MD STORE STATISTIC(S) 00003

OUTPUT PARAMETER 00060 STAGE STATISTIC(S) 00003

PROVISIONAL DATA FOR WATER YEAR ENDING SEPT. 30, 2000

DATE	MAX G/H	MIN G/H	MEAN G/H	MEAN DISCH	SHIFT ADJ	DATUM CORR	STAGE, IN HUNDRETHS OF FEET, AT INDICATED HOURS	RATINGS USED
	<TIME>	<TIME>	<TIME>				0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100 1200	
							1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400	
11/15/1999	2.12	2.11	2.12	46	0.00W	0.00	212 212 212 212 212 212 212 212 212 212 212 212	212 212 211 211 211 211 211 211 211 211 211 211
	46	45						
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11/16/1999	2.11	2.09	2.10	43	0.00W	0.00	211 211 210 210 210 210 210 210 210 210 210 210	210 210 211 211 210 210 210 210 210 210 210 210
	45	41						
	<0000>	<0900>						
11/17/1999	2.10	2.08	2.09	40	0.00W	0.00	210 209 209 209 209 209 209 209 209 209 208 208	209 209 208 208 208 208 208 208 208 208 208 208
	43	39						
	<0000>	<0900>						
11/18/1999	2.08	2.07	2.07	39	0.00W	0.00	208 208 208 208 207 207 207 207 207 207 207 207	207 207 208 208 208 208 208 208 208 208 208 208
	39	38						
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11/19/1999	2.08	2.05	2.06	37	0.00W	0.00	208 208 208 207 207 207 207 207 207 207 207 207	207 207 205 205 205 205 205 205 205 205 205 205
	39	35						
	<0000>	<1400>						
11/20/1999	2.12	2.04	2.06	37	0.00W	0.00	205 204 204 204 204 204 204 204 204 204 204 204	204 204 208 208 208 208 208 208 208 208 208 208
	46	33						
	<2400>	<0200>						
11/21/1999	7.24	2.12	2.21	64	0.00W	0.00	213 215 217 219 220 222 223 223 223 223 223 223	224 224 223 223 223 222 222 221 221 220 220 220
	70	46						
	<1300>	<0000>						
11/22/1999	2.20	2.16	2.17	56	0.00W	0.00	220 219 219 219 218 218 217 217 217 217 216 216	216 216 216 216 216 217 217 217 217 217 216 216
	62	54						
	<0000>	<0900>						
11/23/1999	2.17	2.16	2.16	54	0.00W	0.00	216 216 216 216 216 216 216 216 216 216 216 216	216 216 216 216 216 216 216 216 216 216 216 216
	56	54						
	<0600>	<0000>						
11/24/1999	2.16	2.13	2.14	50	0.00W	0.00	216 215 215 215 215 215 215 215 215 214 214 214	214 214 213 213 213 213 213 213 213 213 213 214
	54	48						
	<0000>	<1500>						
11/25/1999	2.69	2.14	2.29	87	0.00W	0.00	214 214 215 215 216 216 216 217 217 219 220 222 224	225 227 229 232 234 238 243 248 254 258 263 269
	207	50						
	<2400>	<0000>						
11/26/1999	4.28	2.69	3.41	658	0.00W	0.00	276 283 291 298 304 308 310 311 312 317 321 324	332 340 351 364 372 381 392 401 411 419 424 428
	1290	207						
	<2400>	<0000>						
11/27/1999	4.28	3.45	3.86	987	0.00W	0.00	428 427 424 419 414 408 403 399 394 389 388 384	379 375 372 369 365 362 359 356 353 351 348 345
	1290	667						
	<0000>	<2400>						
11/28/1999	3.45	3.04	3.22	493	0.00W	0.00	343 340 338 336 334 332 330 328 327 324 323 320	319 317 315 314 312 311 310 308 307 306 305 304
	667	375						
	<0000>	<2400>						
11/29/1999	3.04	2.81	2.91	309	0.00W	0.00	302 301 300 299 297 296 296 295 293 292 291	290 289 288 288 287 285 285 284 284 283 282 281
	375	259						
	<0000>	<2400>						

PROVISIONAL

PROVISIONAL

03075500 UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY - WATER RESOURCES DIVISION STATE 24 DIST 24
 YOUGHIOGHENY R NR OAKLAND, MD PRIMARY COMPUTATIONS OF GAGE HEIGHT AND DISCHARGE RATINGS USED --
 OUTPUT PARAMETER 00060 DATE PROCESSED: 01-25-2000 @ 10:28 BY Jeffries STNRD 18.0 03/18/1999 (2315)
 PROVISIONAL DATA FOR WATER YEAR ENDING SEPT. 30, 2000 INPUT DD: SAT-GET TEST DIFF:***** PUNCH INTERVAL: 60 MIN

DATE	MAX GH /DISCH <TIME>	MIN GH	MEAN GH	MBAM DISCH	SHIPT ADJ	DATUM CORR	STAGE, IN HUNDRETHS OF FEET, AT INDICATED HOURS	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	
11/30/1999	2.81	2.68	2.74	228	0.00W	0.00	280	280	279	278	277	277	277	277	276	276	275	275	275	274
	259	203					273	273	272	272	272	271	270	269	269	268	268	268	268	268
	<0000>	<2200>																		
11/01/1999	2.68	2.56	2.61	177	0.00W	0.00	267	267	266	265	264	264	263	262	262	261	261	261	260	260
	203	159					260	260	259	259	258	258	258	257	257	256	256	256	256	256
	<0000>	<2200>																		
11/02/1999	2.56	2.47	2.52	146	0.00W	0.00	256	255	255	254	253	252	251	249	248	247	248	248	253	253
	159	130					254	254	254	254	253	252	251	251	251	250	250	250	250	250
	<0000>	<1000>																		
12/03/1999	2.50	2.45	2.47	131	0.00W	0.00	250	249	249	249	248	248	248	248	248	248	248	248	248	248
	139	123					247	247	246	246	246	246	246	245	245	245	245	245	245	245
	<0000>	<2000>																		
12/04/1999	2.52	2.45	2.48	133	0.00W	0.00	245	245	245	245	245	246	247	246	246	247	247	247	247	247
	145	123					248	248	249	249	250	251	251	251	252	252	252	252	252	252
	<2000>	<0000>																		
12/05/1999	2.52	2.44	2.48	133	0.00W	0.00	252	252	252	251	251	251	251	251	250	249	249	248	248	248
	145	120					248	247	247	247	246	246	245	245	245	244	244	244	244	244
	<0000>	<2200>																		
12/06/1999	2.46	2.44	2.45	122	0.00W	0.00	244	244	244	244	244	244	244	244	244	244	244	244	244	244
	126	120					244	244	245	245	245	245	245	245	245	246	246	246	246	246
	<2100>	<0000>																		
12/07/1999	2.48	2.43	2.46	126	0.00W	0.00	247	247	247	247	247	247	247	247	247	247	247	247	247	247
	133	118					247	246	246	245	245	244	244	244	244	244	244	244	244	243
	<0700>	<2400>																		
12/08/1999	2.43	2.39	2.40	110	0.00W	0.00	243	243	243	242	242	242	241	241	241	240	240	240	240	240
	118	106					240	240	239	239	239	239	239	239	239	239	239	239	239	239
	<0000>	<1500>																		
12/09/1999	2.40	2.37	2.39	106	0.00W	0.00	239	239	239	239	239	239	239	239	239	239	239	239	239	239
	109	101					238	238	238	237	237	237	237	237	237	237	237	237	237	237
	<2000>	<1600>																		
12/10/1999	3.57	2.37	2.82	322	0.00W	0.00	238	238	238	237	237	237	237	237	237	237	237	237	237	237
	772	101					267	279	292	308	325	316	343	349	354	357	357	357	357	357
	<2200>	<0400>																		
12/11/1999	3.57	3.10	3.31	563	0.00W	0.00	356	354	352	349	347	344	341	339	336	334	332	329	329	329
	772	410					327	325	323	321	320	318	316	315	314	312	311	310	310	310
	<0000>	<2400>																		
12/12/1999	3.10	2.91	2.99	350	0.00W	0.00	309	308	307	306	305	304	303	302	301	300	299	299	299	299
	410	306					297	297	296	296	295	294	293	293	292	292	291	291	291	291
	<0000>	<2300>																		
12/13/1999	3.24	2.87	2.97	345	0.00W	0.00	290	289	289	288	288	288	287	287	287	287	287	287	287	288
	504	287					289	291	293	297	300	306	313	320	323	324	323	322	322	322
	<2200>	<0600>																		
12/14/1999	4.19	3.16	3.51	719	0.00W	0.00	322	321	320	319	317	316	316	316	316	316	317	319	323	328
	1230	449					333	343	355	368	380	392	401	408	414	417	418	418	418	419
	<2400>	<0600>																		

PROVISIONAL

PROVISIONAL

03075500
 YOUGHIOCHENY R BR OAKLAND, MD
 OUTPUT PARAMETER 00060 STORE STATISTIC(S) 00003
 PROVISIONAL DATA FOR WATER YEAR ENDING SEPT. 30, 2000

DATE	MAX /DISCH	MIN /DISCH	MEAN GH	MEAN DISCH	SHIFT ADJ	DATUM CORR	STAGE, IN HUNDRETHS OF FEET, AT INDICATED HOURS	RATINGS USED
12/15/1999	4.19	3.60	3.87	1000	0.00W	0.00	416 415 411 408 405 402 400 396 393 390 388 385 382 380 377 375 373 370 368 367 365 363 361 360	
	<0000>	<2400>						
12/16/1999	3.60	3.25	3.41	637	0.00W	0.00	358 356 354 352 351 349 348 346 344 343 342 340 339 337 336 335 334 332 330 329 328 327 325	
	<0000>	<2400>						
12/17/1999	3.25	3.01	3.11	422	0.00W	0.00	324 323 322 320 319 318 317 315 313 312 311 310 309 308 307 306 305 304 304 303 303 302 301	
	<0000>	<2400>						
12/18/1999	3.01	2.86	2.93	317	0.00W	0.00	300 300 299 299 298 297 296 296 295 294 293 293 292 292 291 290 289 289 288 288 287 287 286	
	<0000>	<2400>						
12/19/1999	2.86	2.75	2.80	254	0.00W	0.00	285 285 284 284 284 283 282 282 282 281 280 280 280 279 279 278 277 277 277 276 276 276 275 275	
	<0000>	<2300>						
12/20/1999	2.75	2.70	2.72	219	0.00W	0.00	274 273 273 273 273 272 272 272 272 272 272 272 272 272 271 271 271 271 271 271 271 271 270 270	
	<0000>	<2200>						
12/21/1999	2.70	2.61	2.66	196	0.00W	0.00	270 269 269 269 269 268 268 268 268 268 267 267 267 267 266 266 265 265 264 264 263 263 262 261 261	
	<0000>	<2300>						
12/22/1999	2.61	2.54	2.58	167	0.00W	0.00	261 261 261 260 260 260 260 260 260 260 259 259 259 259 258 258 258 257 257 256 256 255 255 255	
	<0000>	<2400>						
12/23/1999	2.54	2.48	2.51	141	0.00W	0.00	254 254 253 253 253 252 252 252 252 252 252 252 252 252 251 251 251 249 249 249 249 248 248 248	
	<0000>	<2000>						
12/24/1999	2.48	2.39	2.43	119	0.00W	0.00	247 246 247 245 243 243 241 240 240 240 239 239 239 239 239 239 239 239 239 239 239 239 239 239 239	
	<0000>	<1000>						
12/25/1999	2.43	2.36	2.39	107	0.00W	0.00	242 240 239 238 238 238 237 237 237 237 237 237 237 237 236 236 236 236 236 236 236 236 236 236 236	
	<0000>	<1000>						
12/26/1999	2.39	2.36	2.37	102	0.00W	0.00	237 236 236 236 236 236 236 236 236 236 236 236 236 236 236 236 236 236 236 236 236 236 236 236 236	
	<1500>	<0200>						
12/27/1999	2.39	2.38	2.38	104	0.00W	0.00	239 238 238 238 238 238 238 238 238 238 238 238 238 238 238 238 238 238 238 238 238 238 238 238 238	
	<0000>	<0300>						
12/28/1999	2.38	2.37	2.38	104	0.00W	0.00	238 238 238 238 238 238 238 238 238 238 238 238 238 238 238 238 238 238 238 238 238 238 238 238 238	
	<0000>	<0300>						
12/29/1999	2.37	2.32	2.35	97	0.00W	0.00	237 237 237 237 237 237 237 237 237 237 237 237 237 237 237 237 237 237 237 237 237 237 237 237 237	
	<0000>	<2150>						

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Provisional

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY - WATER RESOURCES DIVISION STATE 24 DIST 24
 PRIMARY COMPUTATIONS OF GAGE HEIGHT AND DISCHARGE RATINGS USED --
 DATE PROCESSED: 01-25-2000 @ 10:28 BY Jeffries STNRD 18.0 03/18/1999 (2115)
 INPUT DD: SAT-GFT TEST DIFF:***** PUNCH INTERVAL: 60 MIN
 YOUGBLOGHERY R NR OAKLAND, MD STORE STATISTIC(S) 00003
 OUTPUT PARAMETER 00069
 PROVISIONAL DATA FOR WATER YEAR ENDING SEPT. 30, 2000

DATE	MAX GH	MIN GH	MEAN GH	MEAN DISCH	SHIFT ADJ	DATUM CORR	STAGE, IN HUNDRETHS OF FEET, AT INDICATED HOURS
12/30/1999	4.33	2.31	2.31	98	0.00W	0.00	0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400
	92	87					232 231 231 231 231 231 231 231 231 231 231 231
	<1359>	<0300>					
12/31/1999	4.36	2.31	2.34	93	0.00W	0.00	0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400
	99	87					232 232 232 232 232 232 232 232 232 232 232 232
	<2400>	<0000>					

PERIOD 4.28 1.91
 1290 21
 TIME CORRECTION 0.0

NOTE. SYMBOLS USED ABOVE HAVE THE FOLLOWING MEANINGS:
 W - SHIFT VARIES BY TIME AND VALUE - V SHIFT

OCT. 1 - Dec. 31, 1999

Provisional

Provisional

APPENDIX D

RECORD OF
DISSOLVED OXYGEN MONITORING

— 1999 —

DEEP CREEK STATION
DISSOLVED OXYGEN MONITORING LOG

(Instrument Calibrated to 2000 ft. MSL.)

DATE	INSTRUMENT CALIBRATION		DOWNSTREAM FROM WEIR		NO. UNITS GENERATING	TIMES OF GENERATION	SLUICE GATE POSITION	DO MEASUREMENTS UPSTREAM FROM WEIR		NON-OPERATING TAILRACE ELEV	OPERATING TAILRACE ELEV
	TIME	TEMP °C	DO (mg/l)	TEMP °C				DO (mg/l)	TIME		
6-21-99						NONE	ALL OPEN			B1-PASSING	
22					2 @ 100%	UNSCHE DULIED 08:04 TO 08:39	"			B1-PASSING	2028.1
23						NONE	"			B1-PASSING	
24						NONE	"			B1-PASSING	
25	10:30	26.0	7.52	10:35	2 @ 100%	10:00 TO 13:00	"			B1-PASSING	
26				Not Attended	2 @ 100%	Temp. Enhancement 13:30 TO 14:30	"			B1-PASSING	2028.1
27				"	2 @ 100%	Temp. Enhancement 13:30 TO 14:30	"			B1-PASSING	"
28						NONE	"			B1-PASSING	"
29						NONE	"			B1-PASSING	
30						NONE	"			B1-PASSING	
7-1-99						NONE	"			2021.6	
2	10:25	25.0	7.02	10:35	2 @ 100%	10:00 TO 13:00	"			2021.6	
3				Not Attended	2 @ 100%	10:00 TO 13:00	"			2021.6	2028.1
4				"	2 @ 100%	11:00 TO 13:00 TEMP. ENHANCEMENT	"				"
5				"	2 @ 100%	11:00 TO 13:00 TEMP. ENHANCEMENT	"				"
6					2 @ 100%	UNSCHE DULIED	"			B1-PASSING	"
7					2 @ 100%	TEMP. ENHANCEMENT UNSCHE DULIED (TEMP)	"			B1-PASSING	"
8					2 @ 100%	11:00 TO 13:00	"			B1-PASSING	"
9						NONE	"			B1-PASSING	
10				Not Attended	2 @ 100%	UNSCHE DULIED 11:00 TO 13:00 (TEMP)	"			B1-PASSING	"
						NONE	"			B1-PASSING	

1999

DEEP CREEK STATION
DISSOLVED OXYGEN MONITORING LOG

(Instrument Calibrated to 2000 ft. MSL)

DATE	INSTRUMENT CALIBRATION CAL. READINGS		DOWNSTREAM FROM WEIR		NO. UNITS GENERATING	TIMES OF GENERATION	SLUICE GATE POSITION	DO MEASUREMENTS UPSTREAM FROM WEIR		NON-OPERATING TAILRACE ELEV	OPERATING TAILRACE ELEV
	TIME	TEMP °C	DO (mg/l)	TEMP °C				DO (mg/l)	TIME		
7-11-99		Station		Not Attended		NONE	ALL OPEN			B4-PASSING	
12						NONE	"			B4-PASSING	
13						NONE	"			B4-PASSING	
14						NONE	"			B4-PASSING	
15						NONE	"			B4-PASSING	
16	10:30	27.3°	7.05	10:35	16.3°	6.14	"	10:00 To 13:00		B4-PASSING	2028.1
17		Station		Not Attended			"	11:00 To 13:00 TEMP.		B4-PASSING	"
18		"		"	"		"	14:00 To 15:00 TEMP.		B4-PASSING	"
19							"	11:00 To 13:00 TEMP.		B4-PASSING	"
20							"	NONE		B4-PASSING	"
21							"	13:30 To 13:30 TEMP.		B4-PASSING	2028.1
22							"	11:00 To 13:00 TEMP.		B4-PASSING	"
23	10:30	29.5°	6.71	10:35	16.9°	5.89	"	10:00 To 13:00 TEMP.		B4-PASSING	"
24		Station		Not Attended			"	14:20 To 15:20 TEMP.		B4-PASSING	2028.5
25		"		"	"		"	11:00 To 13:00 TEMP.		B4-PASSING	"
26							"	11:00 To 13:00 TEMP.		B4-PASSING	"
27							"	14:00 To 15:30 TEMP.		2021.7	"
28							"	07:10 To 07:25 14:10 To 14:20		2021.6	"
29							"	NONE		B4-PASSING	"
30	10:50	26.4°	6.84	10:35	17.1°	6.44	"	10:00 To 13:00		2021.9	2028.5

— 1999 —

DEEP CREEK STATION
DISSOLVED OXYGEN MONITORING LOG

(Instrument Calibrated to 2000 ft. MSL)

DATE	INSTRUMENT CALIBRATION		DO MEASUREMENTS		NO. UNITS GENERATING	TIMES OF GENERATION	SLUICE GATE POSITION	DO MEASUREMENTS UPSTREAM FROM WEIR		NON-OPERATING TAILRACE ELEV	OPERATING TAILRACE ELEV
	TIME	TEMP °C	DO (mg/l)	TIME				TEMP °C	DO (mg/l)		
7-31-99	Station	Not	Attended		2 @ 100%	10:50 To 13:00 Temp.	2 Closed				2028.5
8-1-99	"	"	"		2 @ 100%	13:30 To 14:30 Temp.	2 Open				"
2						NONE					
3					2 @ 100%	14:00 To 15:00 Temp.				2021.9	
4					2 @ 100%	15:00 To 16:00 Temp.				2021.8	2028.5
5						NONE				2021.7	2028.5
6	10:30	25.4	7.47	10:35	2 @ 100%	10:00 To 13:00				2021.6	
7	Station	Not	Attended			NONE				By Passing	2028.5
8	"	"	"			NONE				By Passing	
9						NONE				By Passing	
10						NONE				By Passing	
11						NONE				By Passing	
12						NONE				By Passing	
13	10:30	25.2	7.36	10:35	2 @ 100%	15:00 To 16:00 Temp.				By Passing	2028.5
14	Station	Not	Attended		2 @ 100%	10:00 To 13:00 Temp.				By Passing	2028.5
15	"	"	"		2 @ 100%	15:00 To 16:00 Temp.				By Passing	2028.5
16						NONE				By Passing	
17						NONE				By Passing	
18					2 @ 100%	13:30 To 14:30 Temp.				By Passing	
19						NONE				By Passing	2028.5

— 1999 —
DEEP CREEK STATION
DISSOLVED OXYGEN MONITORING LOG

(Instrument Calibrated to 2000 ft. MSL)

DATE	INSTRUMENT CALIBRATION		DO MEASUREMENTS			NO. UNITS GENERATING	TIMES OF GENERATION	SLUICE GATE POSITION	DO MEASUREMENTS UPSTREAM FROM WEIR		NON-OPERATING TAILRACE ELEV	OPERATING TAILRACE ELEV
	TIME	TEMP °C	DO (mg/l)	TIME	TEMP °C				DO (mg/l)	TIME		
8-20-99	10:30	26.1°	7.43	10:35	18.7°	6.42	10:00 To 13:00	2 Closed			By-Passing	2028.5
21	Station		Not	ATTENDED			NONE	"			By-Passing	
22	"		"	"			NONE	"			By-Passing	
23							NONE	"			By-Passing	
24							NONE	"			By-Passing	
25							NONE	"			By-Passing	
26							NONE	"			By-Passing	
27	10:30	24.1°	6.94	10:35	18.8°	6.73	10:00 To 13:00	"			By-Passing	
28	Station		Not	ATTENDED			NONE	"			By-Passing	2028.5
29	"		"	"			NONE	"			By-Passing	
30							08:37 To 08:49	"			By-Passing	2028.5
31							NONE	"			By-Passing	
9-1-99							NONE	"			By-Passing	
2							NONE	"			By-Passing	
3	10:30	23.8°	7.61	10:35	19.0°	6.87	NONE	"			By-Passing	
4	Station		Not	ATTENDED			10:00 To 13:00 17:45 To 18:10	"			By-Passing	2028.5
5	"		"	"			NONE	"			By-Passing	
6	"		"	"			NONE	"			By-Passing	
7							15:40 To 16:00	"			By-Passing	2028.5
8							NONE	"			By-Passing	
							NONE	"			2021.8	
							NONE	"			2021.7	

1999

DEEP CREEK STATION
DISSOLVED OXYGEN MONITORING LOG

(Instrument Calibrated to 2000 ft. MSL)

DATE	INSTRUMENT CALIBRATION		DO MEASUREMENTS			NO. UNITS GENERATING	TIMES OF GENERATION	SLUICE GATE POSITION	DO MEASUREMENTS UPSTREAM FROM WEIR		NON-OPERATING TAILRACE ELEV	OPERATING TAILRACE ELEV
	TIME	TEMP °C	DO (mg/l)	TEMP °C	DO (mg/l)				TIME	TEMP °C		
9-9-99							NONE	2 CLOSED			2021.6	
10	10:30	22.9°	7.49	10:35	19.0°	6.54	10:00 To 13:00	"			2021.6	2028.5
11	STATION		Not	ATTENDED			NONE	"			BY-PASSING	
12	"		"	"			NONE	"			BY-PASSING	
13							NONE	"			BY-PASSING	
14							NONE	"			BY-PASSING	
15						2 @ 100%	06:10 To 06:25	"			BY-PASSING	2027.5
16							NONE	"			BY-PASSING	
17							NONE	"			BY-PASSING	
18	STATION		Not	ATTENDED			NONE	"			BY-PASSING	
19	"		"	"			NONE	"			BY-PASSING	
20							NONE	"			BY-PASSING	
21							NONE	"			BY-PASSING	
22						2 @ 100%	09:10 To 09:18 12:31 To 12:45	"			BY-PASSING	2028.5
23							NONE	"			BY-PASSING	
24	10:30	19.8°	7.97	10:35	17.3°	7.89	10:00 To 13:00	"			BY-PASSING	2028.5
25	STATION		Not	ATTENDED			NONE	"			BY-PASSING	
26	"		"	"			NONE	"			BY-PASSING	
27							NONE	"			BY-PASSING	
28						2 @ 100%	00:15 To 00:28	"			BY-PASSING	2028.5

APPENDIX E

REPORT ON RELEASES UNSUITABLE FOR
WHITEWATER RECREATION

REPORT OF RELEASES NOT SUITABLE FOR WHITEWATER RECREATION

Condition 19 outlines several operating rules designed to enhance whitewater boating opportunities in the Youghiogheny River. One operating rule restricts generation during certain hours of the day. The rule requires the Permittee to document those dates and times when releases not suitable for whitewater recreation occurred in an annual report.

The whitewater boating season is defined in Condition 19 as the period from April 15 through October 15. Information in this section is limited to this time period. Normal operating rules also may be modified or suspended during emergency conditions as defined in Condition 14. Releases made from Deep Creek under the provisions of Condition 14 are not included in the following table.

Releases Not Suitable for Whitewater Recreation - 1999

Date	Time	Duration
25-Apr	1600-2000	4 h
27-Apr	1900-2200	3 h
12-May	1955-2135	1 h, 40 m
23-May	2020-2200	1 h, 40 m
6-June	2108-2210	1 h, 2 m